ARTEMIS GOLD INC | Blackwater Mine

2025 Follow-up Programs for Condition 3.15 of the Blackwater Gold Project Decision Statement Issued Under Section 54 of the Canadian *Environmental Assessment Act, 2012*

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Work Instructions

2025 Follow-up Programs for Condition 3.15 of the Blackwater Gold Project Decision Statement Issued under Section 54 of the *Canadian Environmental Assessment Act, 2012*

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Acronyms and Abbreviations

AEMP	Aquatic Effects Monitoring Program
Artemis	Artemis Gold Inc.
AL	Aquatic Life
BACI	before-after-control-impact
BC	British Columbia
BC ENV	BC Ministry of Environment and Climate Change Strategy (2017–2024) BC Ministry of Environment and Parks (2024–present)
Mine, the	Blackwater Mine
BW Gold	BW Gold LTD.
CCME	Canadian Council of Ministers of the Environment
CEA Agency	Canadian Environmental Assessment Agency
°C	degrees Celsius
CIFN	Construction Instream Flow Needs
CSR	Contaminated Sites Regulation
CSR-AL	Contaminated Sites Regulations Aquatic Life
DFO	Fisheries and Oceans Canada
DL	detection limit
DS	Decision Statement
EA	Environmental Assessment
EAC	Environmental Assessment Certificate
EAO	Environmental Assessment Office
ECD	Environmental Control Dam
ECCC	Environment and Climate Change Canada
EMA	*Environmental Management Act*
EMC	Environmental Monitoring Committee
EMLI	Ministry of Energy, Mines and Low Carbon Innovation
FSR	Forest Service Road
FWR	Freshwater Reservoir
GMP	Groundwater Monitoring Program
Joint MA/EMA Application	Joint Application for *Mines Act* and *Environmental Management Act* Permits Application

IFN	instream flow needs
Indigenous nations	Indigenous nations include: Lhoosk'uz Dené Nation, Ulkatcho First Nation, Nadleh Whut'en First Nation, Stellat'en First Nation, Saik'uz First Nation and Nazko First Nation (as defined in the Project's Environmental Assessment Certificate #M19-01)
km	kilometre
KP	Knight Piésold Ltd.
LGO	Low-Grade Ore
m	metre
masl	metres above sea level
mbgs	metres below ground surface
MDMER	*Metal and Diamond Mining Effluent Regulations*
µS/cm	microsiemens per centimetre
mg/mL	milligrams per millilitre
MSDP	Mine Site Water and Discharge Monitoring and Management Plan
Mt	million tonnes
Mtpa	million tonnes per annum
MWLAP	Ministry of Water, Land and Air Protection
NTU	nephelometric turbidity unit
POC	parameter of concern
POPC	parameter of potential concern
QA/QC	Quality Assurance and Quality Control
QRP	Qualified Registered Professional
ROC	receptor of concern
SBEB	Science-Based Environmental Benchmark
SCP	Sediment Control Pond
t	tonne
TDS	total dissolved solids
tpd	tonnes per day
TOC	total organic carbon
TRP	Trigger response plan
TSF	Tailings Storage Facility
TSS	total suspended solids

WMP	Water Management Pond
WQG-AL	water quality guideline for the protection of aquatic life
WQG-WL	water quality guidelines or standards for the protection of wildlife and livestock
WTP	water treatment plant
YDWL	Yinka Dene Water Law

1.0 Introduction

The Blackwater Mine (the Mine) received a Decision Statement (DS) on April 15, 2019, under the *Canadian Environmental Assessment Act, 2012* (CEA Agency 2019) and an Environmental Assessment Certificate #M19 01 on June 21, 2019, under the *2002 Environmental Assessment Act* (EAO 2019).

Condition 3.15 of the DS requires Blackwater Gold (BW Gold) to develop a follow-up program to verify the accuracy of the Environmental Assessment and determine the effectiveness of the mitigation measures as it pertains to adverse environmental effects of the Mine on fish habitat in Davidson Creek, Creek 661, and Chedakuz Creek. The condition is as follows:

> *The Proponent shall develop, in consultation with Indigenous groups and other relevant authorities, a follow-up program to verify the accuracy of the Environmental Assessment and determine the effectiveness of the mitigation measures as it pertains to adverse environmental effects of the Designated Project on fish habitat in Davidson Creek, Creek 661 and Chedakuz Creek. The Proponent shall develop the follow-up program prior to construction and shall implement the follow-up program during all phases of the Designated Project. The Proponent shall apply conditions 2.9 and 2.10 when implementing the follow-up program. As part of the follow-up program, the Proponent shall:*
>
> - *monitor water flows in Davidson Creek during the open water season from construction until decommissioning, and temperature continuously from construction until decommissioning [3.15.1];*
> - *monitor water quality in Davidson Creek, Creek 661 and Chedakuz Creek for contaminants of potential concern, including those identified in Table 5 of the Environmental Assessment report, during all phases of the Designated Project [3.15.2]; and*
> - *monitor, during all phases of the Designated Project, groundwater quality and quantity downstream of the tailings storage facility site D, open pit, west waste rock dump and low-grade ore stockpile to confirm that groundwater quantity and quality parameters are at or below the values identified by the Proponent in the modelled predictions in Section 5 of Blackwater Gold Project: Additional Water Quality Model Sensitivity Scenario (July 20, 2017) and Section 3 of Blackwater Gold Project: Water Treatment Responses for Comments 1266, 1270, 1271, 1272, and 1273 (February 15, 2017) for nitrite and contaminants of potential concern, and to verify the effectiveness of water management measures [3.15.3].*

Conditions 2.9 and 2.10 are as follows:

> *2.9 The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement:*
>
> - *conduct the follow-up program according to the information determined pursuant to condition 2.5 [2.9.1];*
> - *undertake monitoring and analysis to verify the accuracy of the Environmental Assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measure(s) [2.9.2];*
> - *determine whether modified or additional mitigation measures are required based on the monitoring and analysis undertaken in accordance with condition 2.9.2 [2.9.3]; and*
> - *if modified or additional mitigation measures are required pursuant to condition 2.9.3, develop and implement these mitigation measures in a timely manner and monitor them in accordance with condition 2.9.2 [2.9.4].*

2.10 Where consultation with Indigenous groups is a requirement of a follow-up program, the Proponent shall discuss the follow-up program with Indigenous groups and determine, in consultation with Indigenous groups, opportunities for their participation in the implementation of the follow-up program, including the analysis of the follow-up results and whether modified or additional mitigation measures are required, as set out in condition 2.9.

The Federal DS also requires that each follow-up program required by the DS also includes adaptive management (DS Condition 2.5) where the Proponent is required to have a Qualified Professional, where such a qualification exists for the subject matter of the follow-up program, determine, as part of the development of each follow-up program and in consultation with the party or parties being consulted during the development, the following information:

- *the follow-up activities that must be undertaken by a qualified individual [2.5.1];*
- *the methodology, location, frequency, timing and duration of monitoring associated with the follow-up program [2.5.2];*
- *the scope, content, format and frequency of reporting of the results of the follow-up program [2.5.3];*
- *the levels of environmental change relative to baseline conditions that would require the Proponent to implement modified or additional mitigation measure(s), including instances where the Proponent may require Designated Project activities to be stopped [2.5.4]; and*
- *the technically and economically feasible mitigation measures to be implemented by the Proponent if monitoring conducted as part of the follow-up program shows that the levels of environmental change referred to in condition 2.5.4 have been reached or exceeded [2.5.5].*

An Aquatic Effects Monitoring Program (AEMP) Plan has been developed for the Mine to monitor the aquatic receiving environment (ERM 2025). The purpose of the AEMP is to provide the information on the aquatic receiving environment necessary to achieve the following objectives during Construction (October 2022 to December 2024) and Operations (2025):

- Detect Mine-related effects on the aquatic ecosystem components (including surface water quality).
- Confirm water quality predictions as presented in Lorax (2022a), and effects assessments as presented in the *Joint Mines Act* and *Environmental Management Act* Permits Application (Joint MA/EMA Application; Chapter 6 of BW Gold 2022).
- Meet permit and regulatory requirements for effluent and receiving environment water quality.
- Assess the performance of mitigation and management measures.
- Provide the necessary feedback and information for the adaptive management of potential Mine-related effects.

The reporting period for the purpose of evaluating effects is Year 1 of Operations, January 1 to December 31, 2025.

Section 2.0 and 3.0 of this report summarizes the monitoring and reporting components of the AEMP Plan (ERM 2025) that will address DS Condition 3.15.1 and 3.15.2 and the associated follow-up program DS Conditions 2.5, 2.6, 2.9, and 2.10.

The Mine Site Water and Discharge Monitoring and Management Plan (MSDP) details groundwater quantity and quality monitoring to be completed during the Construction and Operations phases. The results of the groundwater monitoring program completed during the reporting period are summarized in Section 4.0 to address DS Condition 3.15.3.

1.1 Construction Activities

Operations at the Mine began in 2025 and included continued development of the open pit using conventional drill, blast, load and haul techniques, and operations of the mill. Several significant milestones were achieved in Q1 2025 including the commencement of mill operations (January 22), initial deposition of tailings (January 25), and placement of Low Grade Ore (LGO) on the LGO Stockpile (March 14).

By May 2025 commercial production was achieved, and operations continued through the year.

Construction activities continued through 2025 as well with a focus on those activities outlined below:

- Continued development of TSF Dam C
- Development of the LGO stockpile foundation panels
- Construction of water management infrastructure
- Establishing ancillary buildings and associated facilities

Tree clearing and soil salvage occurred where needed to support those activities.

No works occurred on the Mine Access Road, Upper or Lower Waste Rock Stockpiles, Fresh Water Supply System (FWSS) (excluding the Freshwater Reservoir), or Northern Diversion System.

To support water management at the Mine operation and construction of water management infrastructure occurred in 2025. No effluent was discharged in 2025, as this water was pumped to the mill as make-up water to support production, instead discharges from the mine in 2025 were diverted sources.

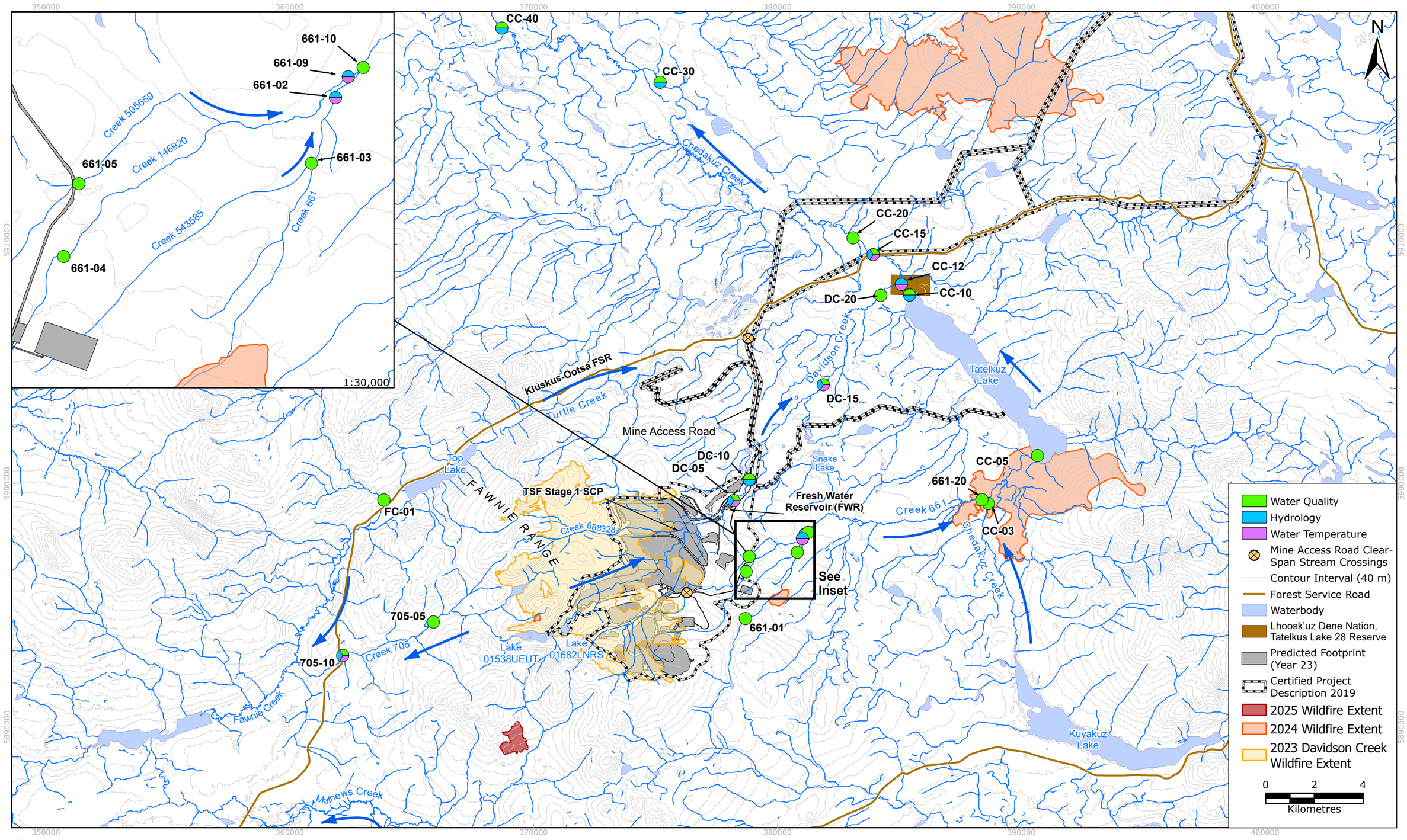
1.2 Wildfires

Several wildfires occurred in the vicinity of the Mine in 2025, however construction, operations and monitoring activities at the Mine were less impacted when compared to wildfire activity occurring in 2023 and 2024 (Figure 1.2-1). No evacuations occurred, no fires intercepted the mine site, Forest Service Road, transmission line, or planned offsetting sites, and the timing and completion of AEMP monitoring was not impacted. Smoke produced from the 2025 fires did impact air quality at the Mine during the summer months.

There was extensive wildfire activity in the mine area in 2023, and 2024 (Figure 1.2-1). No additional water quality stations have been added in response to the wildfires because the purpose of the AEMP is to assess mine-related effects. In addition, Davidson Creek upstream of the Mine receiving environment has already been affected by wildfires and/or is planned to be affected by future Mine activities. However, given the potential for long-term effects of the wildfires (i.e., soil mobilization to the receiving environment as a result of the loss in vegetation) the potential effects of the 2023 and 2024 wildfires were considered in the evaluation of effects.

Potential effects of the 2023 and 2024 wildfire on water quality in streams immediately downstream of the extent include erosion of sediments and deposition of ash and debris into surface waters. Thus, greater TSS concentrations or turbidity in streams following the wildfire can be attributed to the wildfire and not Mine-related effects; however, observed magnitude and timing of the increase will also be related to burn intensity, stream flows, and precipitation events. Nutrients, sulphate, pH, total dissolved solids, chloride, and organic carbon may also increase in waters post-wildfire as a result of the deposition of ash and soil erosion (Water Research Foundation 2013; BC Health 2024). Similar to TSS and turbidity, the magnitude of the change is related to amount and intensity of precipitation events post-fire. An increase in metals in the particulate form may also be observed however the peak and magnitude depends on the mobilization to surface water and therefore may not be observed immediately after the wildfire.

FIGURE 1.2-1 2023, 2024, AND 2025 WILDFIRE EXTENTS AND SURFACE WATER QUALITY MONITORING PROGRAM SAMPLING SITES



ERM

CLIENT: BW Gold LTD.
GIS NUMBER: BLW-14-300-01

DATE: 03/30/2026

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:145,000 when printed at 11x17

Given there were no authorized mine discharges to the receiving environment in 2025, the aquatic effects analysis attempted to differentiate Mine-related effects from the effects from the 2023 and 2024 wildfires. Wildfire potential effects are discussed as follows:

- Non-contact water diversions of overland flow from the 2023 fire-impacted upper Davidson Creek watershed contributing to increases in TSS and total metals in Davidson Creek when diverted water was returned to the former Davidson Creek downstream of the IECD either directly via the CDS or from the WMP.
- Greater concentrations of TSS and total metals may be directly related to the 2023 fire-impacted upper Davidson Creek watershed. Thus, with the 2025 snowmelt beginning in late March and freshet conditions (and associated overland flow over the burned topsoil and burned organic matter), there may be greater contributions of particulate-bound metals to Davidson Creek not observed at control sites.
- The 2023 fire-impacted Creek 661 tributaries located within the Mine site may also contribute greater concentrations of TSS and particulate-bound metals not observed at control sites beginning with the 2025 snowmelt in late March and freshet conditions (and associated overland flow over the burned topsoil and burned organic matter).

Greater concentrations of TSS and total metals beginning with the 2025 snowmelt in late March and freshet conditions may be directly related to the 2024 fire-impacted Creek 661, Tatelkuz Lake, and potentially Chedakuz Creek sites downstream of Tatelkuz Lake.

2.0 Monitoring Flows and Temperature in Davidson Creek (3.15.1)

2.1 Decision Statement Condition Requirements

Condition 3.15.1 requires the monitoring of monitor water flows in Davidson Creek during the open water season from construction until decommissioning, and temperature continuously from construction until decommissioning.

Surface water flows (hydrology) and temperature in Davidson Creek were monitored during the open water season during the reporting period in accordance with the AEMP Plan (Section 4.3 and Section 4.4 of the AEMP Plan). The results of the 2025 hydrology and surface water temperature monitoring program are reported in the 2025 Hydrology and Water Temperature Annual Report (Appendix A). A summary of those 2025 results is presented in this section.

2.2 Field Methods

Surface water flows and temperature in Davidson Creek were monitored during the open water season beginning in Construction as indicated in Table 2.2-1 and Table 2.2-2 (locations shown in Figure 2.2-1). Monitoring at each of the sites was conducted in accordance with the AEMP Plan (Section 4.3 and Section 4.4 of the AEMP Plan), with additional information provided in the 2025 Hydrology and Water Temperature Annual Report (Appendix A).

Table 2.2-1: Davidson Creek Surface Water Flow Monitoring Locations

Station ID	Surface Water Flow[1]
DC-05	✓
DC-10	✓ (manual)
DC-15	✓

[1] A continuous hydrology monitoring station will be installed at selected locations unless indicated as manual flow measurements.

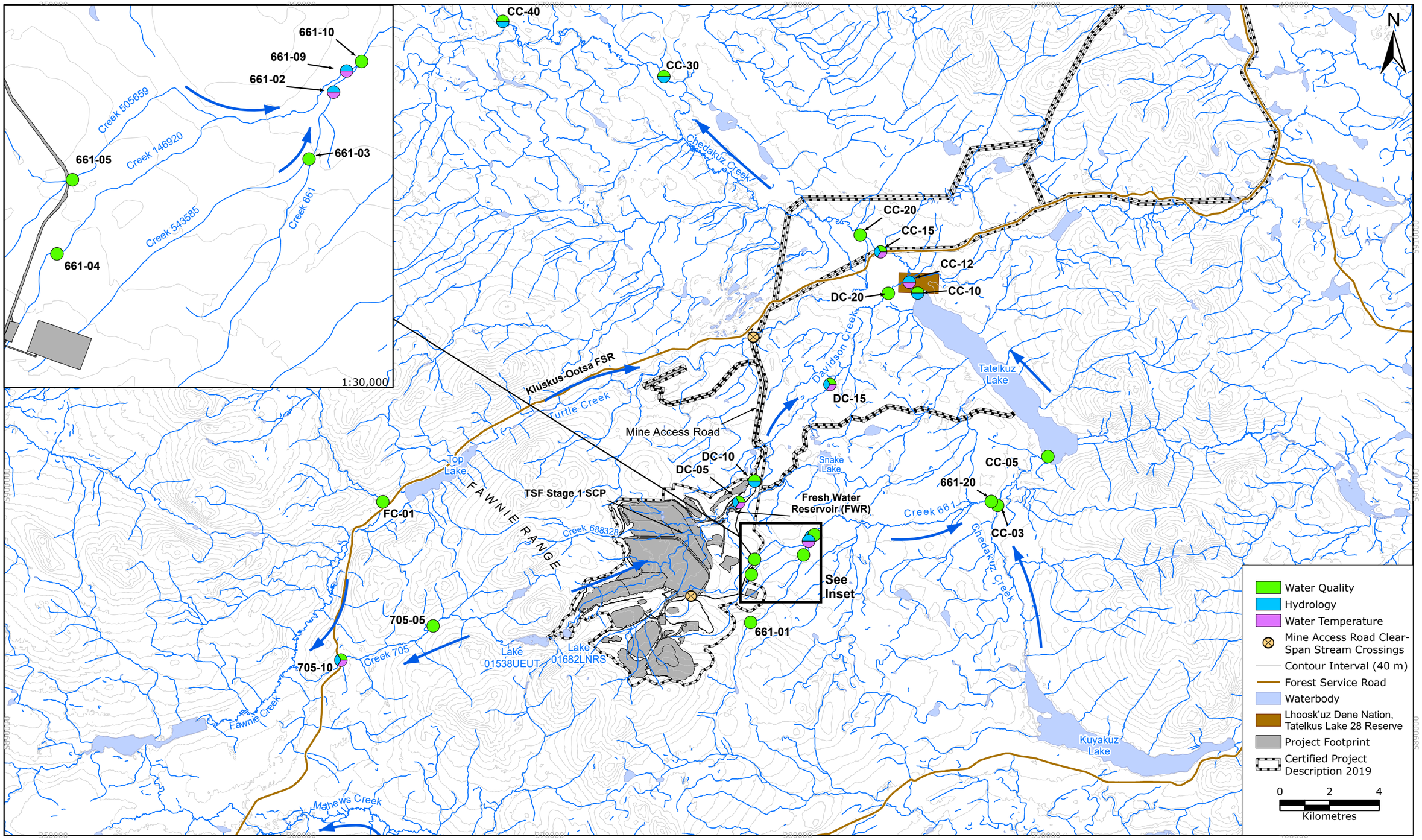
Table 2.2-2: Davidson Creek Surface Water Temperature Monitoring Locations

Station ID	Surface Water Temperature
DC-05	✓
DC-15	✓

DC-05 Station

The DC-05 station, previously named H2B, was installed in the upper reaches of Davidson Creek on May 23, 2018. The station consists of a Solinst Levelogger 5 paired with a Solinst LevelSender (for telemetry capabilities) installed inside a protective aluminum pipe that is secured to a rock on the bank of the creek. An OTT ecoLog 1000 vented sensor was installed at DC-05 in September of 2025, with the intention of replacing the Solinst Levelogger 5 sensor. The new ecoLog 1000 sensor is not currently used as the primary sensor as a stable offset has not yet been established. The Levelogger 5 was historically removed each year during the winter months to avoid damage from ice. The station was then re-installed during the start of the open water season, when it was safe to do so. Beginning in fall 2023, the DC-05 station remains operational year-round as the sensor is winterized during the fall site visits. The ecoLog 1000 is equipped with a telemetry logger. When the ecoLog 1000 sensor becomes the primary sensor for this station will provide access to real-time water level data.

FIGURE 2.2-1 AQUATIC EFFECTS MONITORING PROGRAM SAMPLING LOCATIONS, FEDERAL DECISION STATEMENT CONDITION 3.15.1 AND 3.15.2



ERM

CLIENT: BW Gold LTD.
GIS NUMBER: BLW-14-294-02

DATE: 06/27/2025

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:145,000 when printed at 11x17

DC-10 Station

The DC-10 location is in Upper Davidson Creek approximately 1.1 km downstream of DC-05. The location was established for water quality monitoring and instantaneous discharge measurements are collected manually. Flows are collected at least five times per year, including one winter measurement.

DC-15 Station

The DC-15 station, previously named H4B, was installed on Davidson Creek on May 9, 2012, replacing the H4 station that was decommissioned at the end of 2011. The H4 station was operated during 2011 only. The H4 water level data, stage-discharge measurements, and associated rating curve for 2011 are included in the 2016 Hydrology Baseline Report (KP, 2018).

The DC-15 station consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured to the bank of the creek. The sensor is removed each year during the winter months to avoid damage from ice. The station is then re-installed during the start of the open water season, when it is safe to do so.

2.3 Data Analysis

2.3.1 Davidson Creek Flows – Annual Monitoring

Methods

Rating curves were developed at each surface water monitoring station in Davidson Creek and these will be applied to the respective continuous water level records to derive continuous stream flow records at each station.

Winter discharge will be estimated by linearly interpolating between winter streamflow measurements where reasonable to do so. Mean monthly discharge will be calculated for stations using these discharge records when a minimum of 20 days is available (Section 4.3.4 of the AEMP Plan).

Annual water temperature records will be compiled and graphically presented to examine seasonal trends. Comparison to the nearest hydrology station discharge record will also be completed using graphical analysis to determine if water temperature trends are related to water flows and depth (Section 4.4.1 of the AEMP Plan).

DC-05 Flow Monitoring Results

Ten (10) stage-discharge measurements and eight (8) discharge measurements were collected at this site in 2025. The paired stage-discharge and individual discharge measurements from 2025 are summarized in Table 2.3-1.

Upon inspection, it was determined that the previously established 2023-2024 rating curve was not representative of the stage-discharge relationship in either year. Additionally, measurements collected in 2025 plotted to the right of the existing curve, and although field notes and photographs did not corroborate a specific change in hydraulic control, a consistent relationship was not apparent across the three years. Therefore, it was decided that the most reasonable action was to establish three separate rating curves, one for each year. While establishing annual rating curves is not ideal, in this case the three rating curves are more representative of the streamflow data for each year given that the stage-discharge relationship has changed in each of the past three years. The preliminary 2023, 2024, and 2025 rating curves are included on Figure 2.3-1.

Table 2.3-1: 2025 DC-05 Summary of Discharge Measurements

Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge	Calculated Discharge	Gauge Height	Corrected Water Level	Stage Method Used	Measurement Uncertainty	
			(m^3/s)	(m^3/s)	(m)	(m)		Discharge (%)	Gauge Height (m)
14-Jan-25	2	Current Meter	0.100	-	See Note 4			10%	-
21-Apr-25	2	Current Meter	0.607	0.899	1.549	1.511	Corrected Water Level	10%	0.002
10-May-25	2	Current Meter	0.521	0.866	1.508	1.518	Corrected Water Level	10%	0.005
14-May-25	2	Current Meter	0.526	0.879	1.516	1.531	Corrected Water Level	10%	0.01
24-May-25	2	Current Meter	0.624	0.892	1.548	1.544	Corrected Water Level	10%	0.005
20-Jun-25	2	Current Meter	0.286	0.825	1.333	1.477	Corrected Water Level	10%	0.01
26-Jun-25	2	Current Meter	0.420	0.834	1.495	1.486	Corrected Water Level	10%	0.01
20-Jul-25	2	Current Meter	0.122	0.745	1.294	1.397	Corrected Water Level	10%	0.01
23-Sep-25	2	Current Meter	0.075	0.692	1.273	1.344	Corrected Water Level	10%	0.01
11-Nov-25	2	Current Meter	0.138	0.734	1.249	1.386	Corrected Water Level	10%	0.02
14-Nov-25	2	Current Meter	0.074	0.71	1.362	-	Gauge Height	10%	0.01
19-Nov-25	2	Current Meter	0.046	-	See Note 5			10%	-
27-Nov-25	2	Current Meter	0.055	-				10%	-
05-Dec-25	2	Current Meter	0.044	-				10%	-
11-Dec-25	2	Current Meter	0.035	-				10%	-
17-Dec-25	2	Current Meter	0.089	-				10%	-
20-Dec-25	2	Current Meter	0.074	-				10%	-
27-Dec-25	2	Current Meter	0.047	-				10%	-

Notes:

[1] Number of gaugings refers to the number of gaugings averaged to produce one rating point.

[2] Discharge uncertainty refers to the in situ measurement error estimated by the field engineer.

[3] Stage uncertainty is based on a visual assessment of the wave amplitude in the gauge pool.

[4] Winter low flow discharge measurement only. No gauge height measurements conducted during winter low flow site visits.

[5] Faa compliance discharge measurement in lieu of logger data.

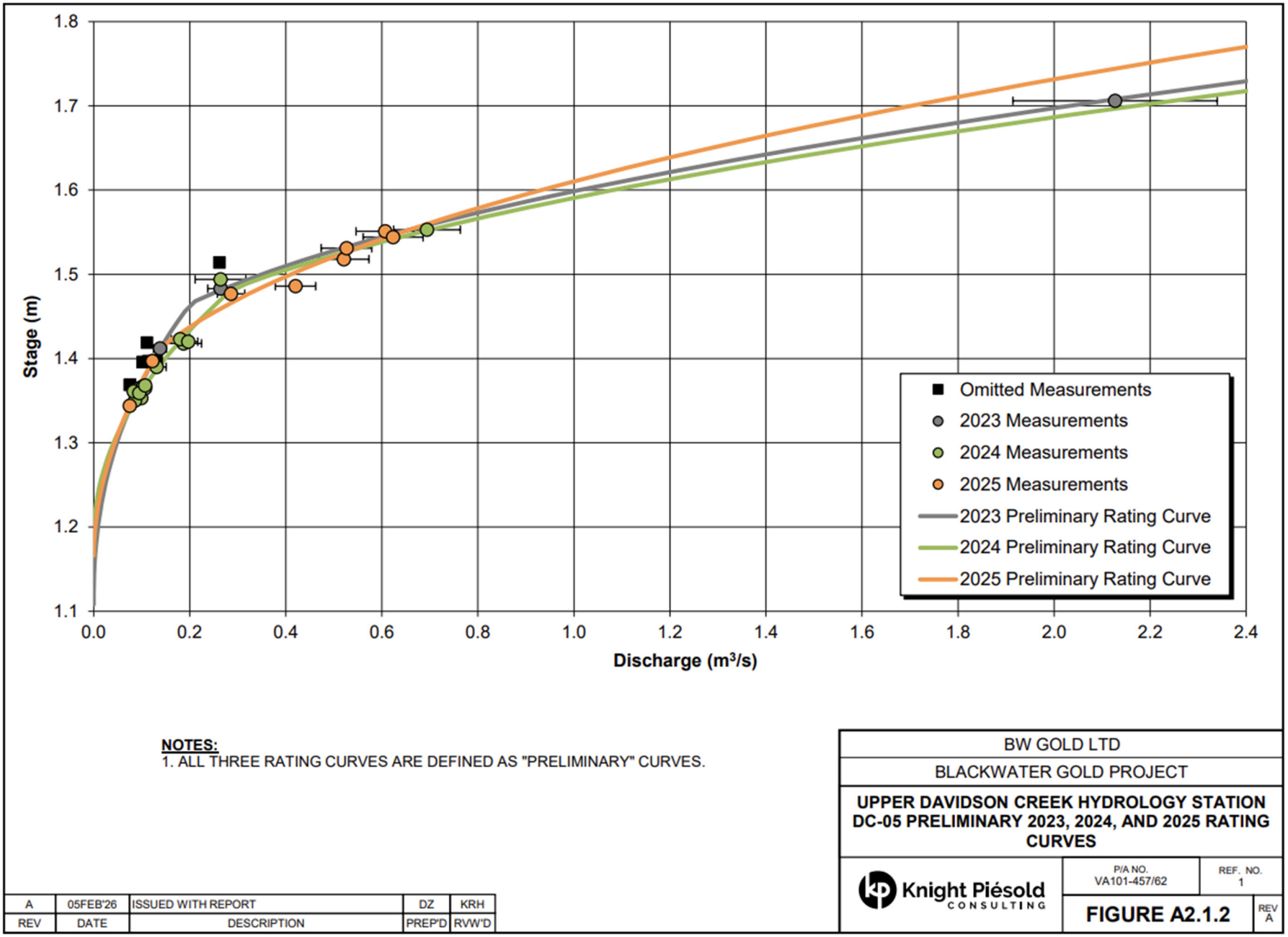


Figure 2.3-1: Upper Davidson Creek Hydrology Station DC-05 Preliminary 2023, 2024, and 2025 Rating Curves

Of the ten (10) stage-discharge measurements collected at this site in 2025, all ten (10) were used to develop the most recent 2025 rating curve. The 2025 rating curve is defined as preliminary as the minimum number of stage-discharge measurements to establish a two-part rating curve has not yet been passed, which is fourteen (14) (RISC, 2018) with seven (7) in each section of the rating curve. The preliminary 2025 rating curve is included on Figure 2.3-2.

The maximum reliable measured discharge and maximum extrapolated discharge for the individual rating curves are summarized below:

- Preliminary 2023 rating curve: the maximum measured discharge was 2.13 m³/s and the maximum extrapolated discharge is 4.60 m³/s.
- Preliminary 2024 rating curve: the maximum measured discharge was 0.69 m³/s and the maximum extrapolated discharge is 1.58 m³/s.
- Preliminary 2025 rating curve: the maximum measured discharge was 0.63 m³/s and the maximum extrapolated discharge is 1.76 m³/s

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, there is increased uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the rating curves to the stage record produced the discharge hydrograph for this site, which is included on Figure 2.3-3. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for DC-05 were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to DC-05 due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. Once a stable offset is established at DC-05 using the ecoLog 1000 sensor, the Grade for instrumentation would be B, resulting in the overall Grade for the station to be Grade B.

DC-10 Flow Monitoring Results

A total of five (5) discharge measurements were collected at the station in 2025. No associated stage values were recorded. The discharge measurements collected in 2025 are summarized in Table 2.3-2. When compared against the RISC hydrometric standards (2018) the 2025 discharge data for DC-10 were determined to generally be of good quality, with Grades ranging from A to B. DC-10 was assigned an overall Grade B.

Table 2.3-2: 2025 DC-10 Summary of Discharge Measurements

Date	Number of Discharge Measurements	Discharge Measurement Method	Discharge	Measurement Uncertainty
			(m^3/s)	Discharge (%)
14-May-25	2	Current Meter	0.591	10%
24-Jun-25	2	Current Meter	0.325	10%
20-Jul-25	2	Current Meter	0.145	10%
20-Sep-25	2	Current Meter	0.077	10%
14-Nov-25	2	Current Meter	0.112	10%

Notes:

Number of gaugings refers to the number of gaugings averaged to produce one rating point.

Discharge uncertainty refers to the in situ measurement error estimated by the field engineer.

Stage uncertainty is based on a visual assessment of the wave amplitude in the gauge pool.

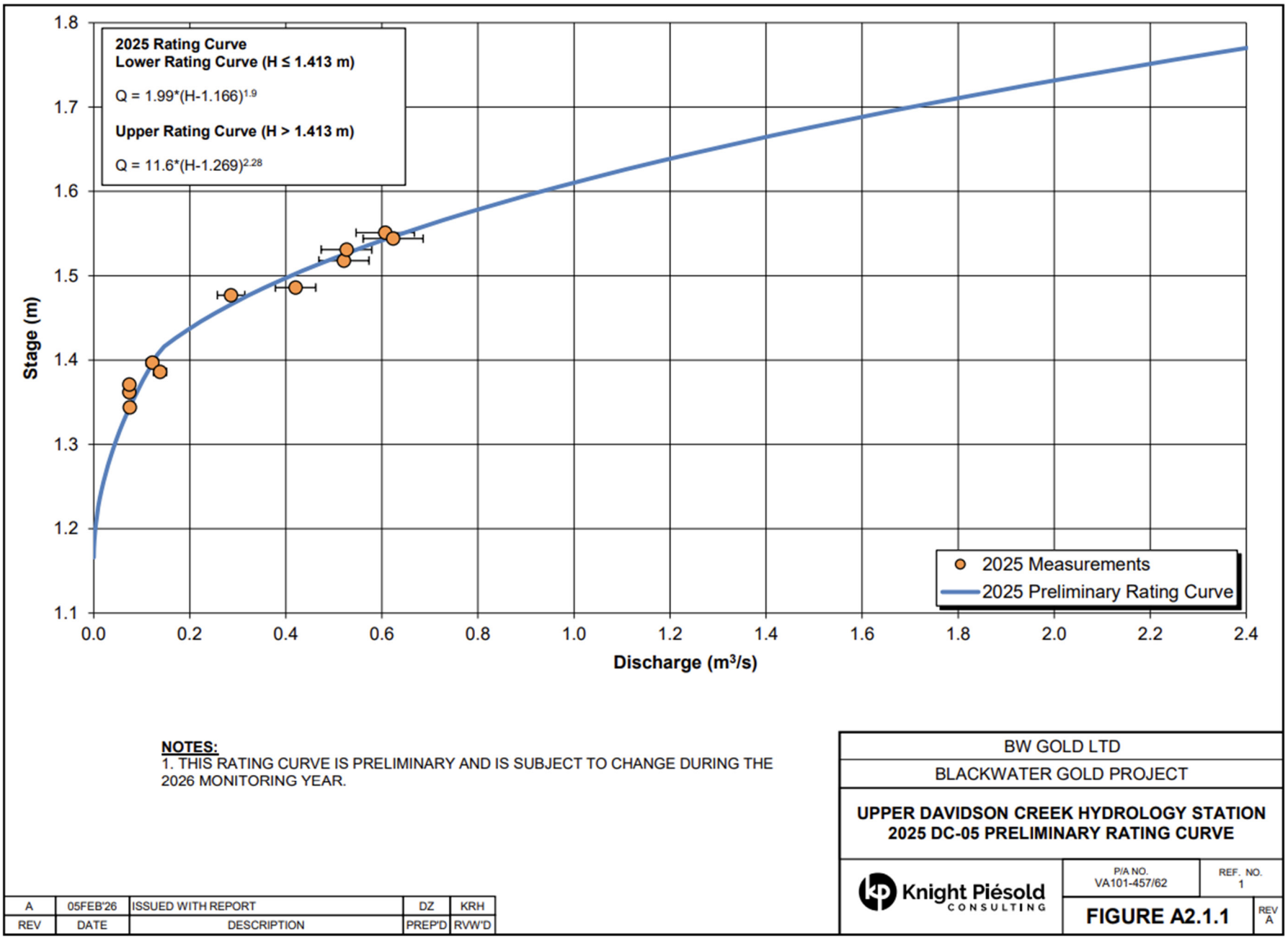


Figure 2.3-2: Upper Davidson Creek Hydrology Station 2025 DC-05 Preliminary Rating Curve

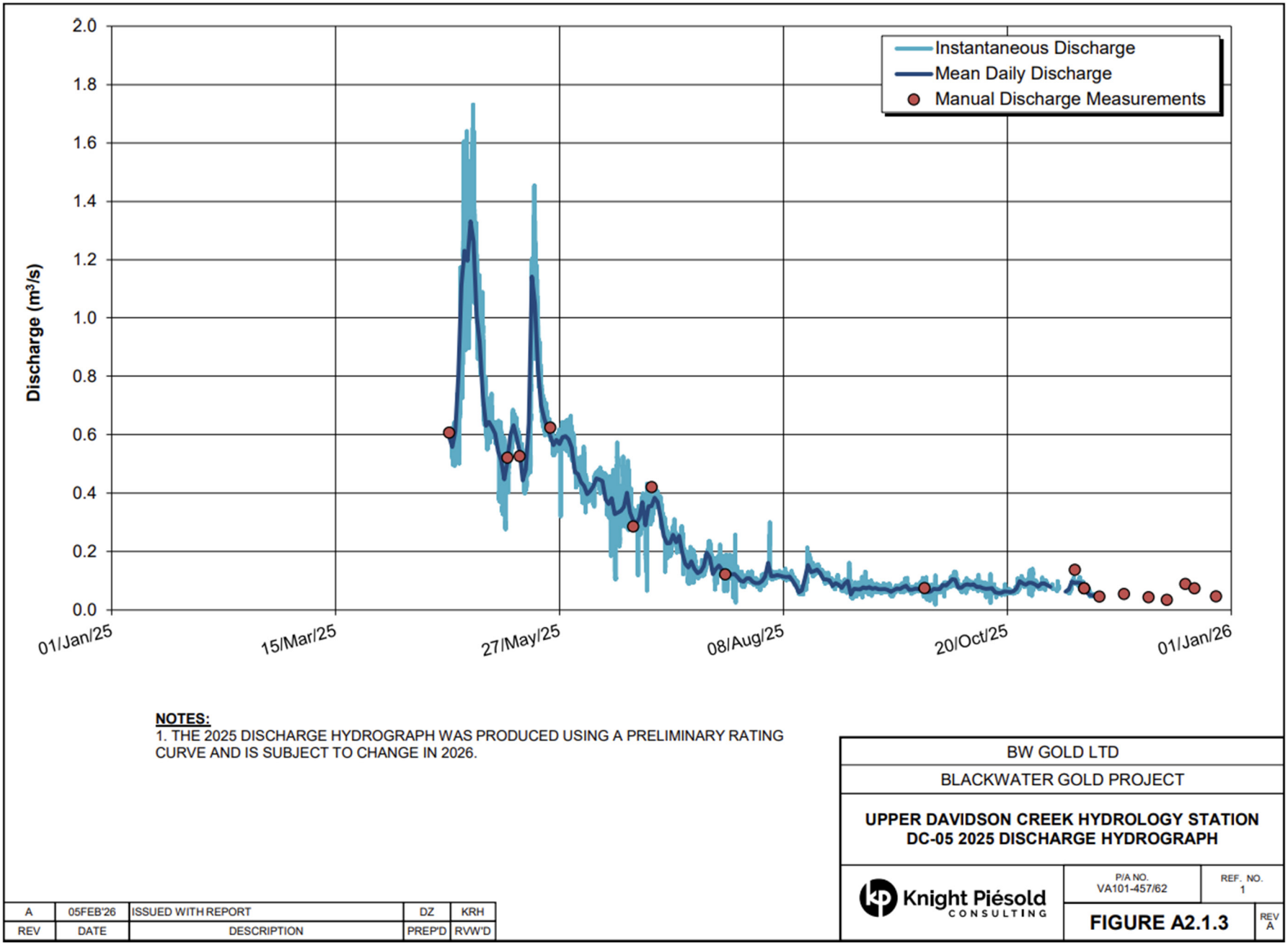


Figure 2.3-3: Upper Davidson Creek Hydrology Station DC-05 Discharge Hydrograph

DC-15 Flow Monitoring Results

Three (3) stage-discharge measurements were collected at this site in 2025. The paired stage-discharge measurements collected from 2025 are summarized in Table 2.3-3.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2018 to 2024. However, the 2018-2024 rating curve was adjusted and shifted in the high-flow region to better represent the stage-discharge relationship and supersedes any rating curves issued prior to this report. The 2018-2025 DC-15 Rating Curve is included on Figure 2.3-4. The highest measured discharge with an associated stage measurement is 2.20 m^3/s, and the highest extrapolated discharge is 10.98 m^3/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, such as for the 2018-2025 rating curve, there is increased uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the rating curves to the stage record produced the discharge hydrograph for this site, which is included on Figure 2.3-5. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for DC-15 were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to DC-15 due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. There are plans to replace the sensor at DC-15 with a Grade A sensor in 2026, which would increase the overall RISC Grade of the station.

2.3.2 Davidson Creek Temperature – Annual Monitoring

Methods

Annual water temperature records are compiled and graphically presented to examine seasonal trends. Comparison to the nearest hydrology station discharge records are also completed using graphical analysis to determine if water temperature trends are related to water flows and depth (Section 4.4.1 of the AEMP Plan).

Table 2.3-4 summarizes those temperature monitoring stations in Davidson Creek where data were collected. The ST stations consist of an Onset TidbiT v2 temperature data logger held in the center of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth.

The DC-05 station consists of a Solinst Levelogger 5 paired with a Solinst LevelSender (for telemetry capabilities) installed inside a protective aluminum pipe that is secured to a rock on the bank of the creek. An OTT ecology 1000 vented sensor was installed at DC-05 in September of 2025, with the intention of replacing the Solinst Levelogger 5 sensor. The ecology 1000 sensor is not currently used as the primary sensor as a stable offset has not yet been established. When the ecology 1000 sensor becomes the primary sensor for this station, the station will provide access to real-time water level and water temperature data.

The DC-15 station consists of a Levelogger water level data logger enclosed in a protective aluminum pipe secured to the bank of the creek. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season.

Table 2.3-3: 2025 DC-15 Summary of Discharge Measurements

Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge	Calculated Discharge	Gauge Height	Corrected Water Level	Stage Method Used	Measurement Uncertainty	
			(m^3/s)	(m^3/s)	(m)	(m)		Discharge (%)	Gauge Height (m)
21-May-25	2	Current Meter	0.865	0.842	10.463	10.473	Corrected Water Level	10%	0.005
07-Jul-25	2	Current Meter	0.219	0.197	-	10.346	Corrected Water Level	10%	-
10-Jul-25		See Note 4		-	10.349	-	Gauge Height	-	0.005
03-Nov-25	2	Current Meter	0.096	0.124	10.32	10.32	Corrected Water Level	10%	0.005

Notes:

[1] Number of gaugings refers to the number of gaugings averaged to produce one rating point.

[2] Discharge uncertainty refers to the in situ measurement error estimated by the field engineer.

[3] Stage uncertainty is based on a visual assessment of the wave amplitude in the gauge pool.

[4] Discharge measurements not conducted during the July 10, 2025 site visit.

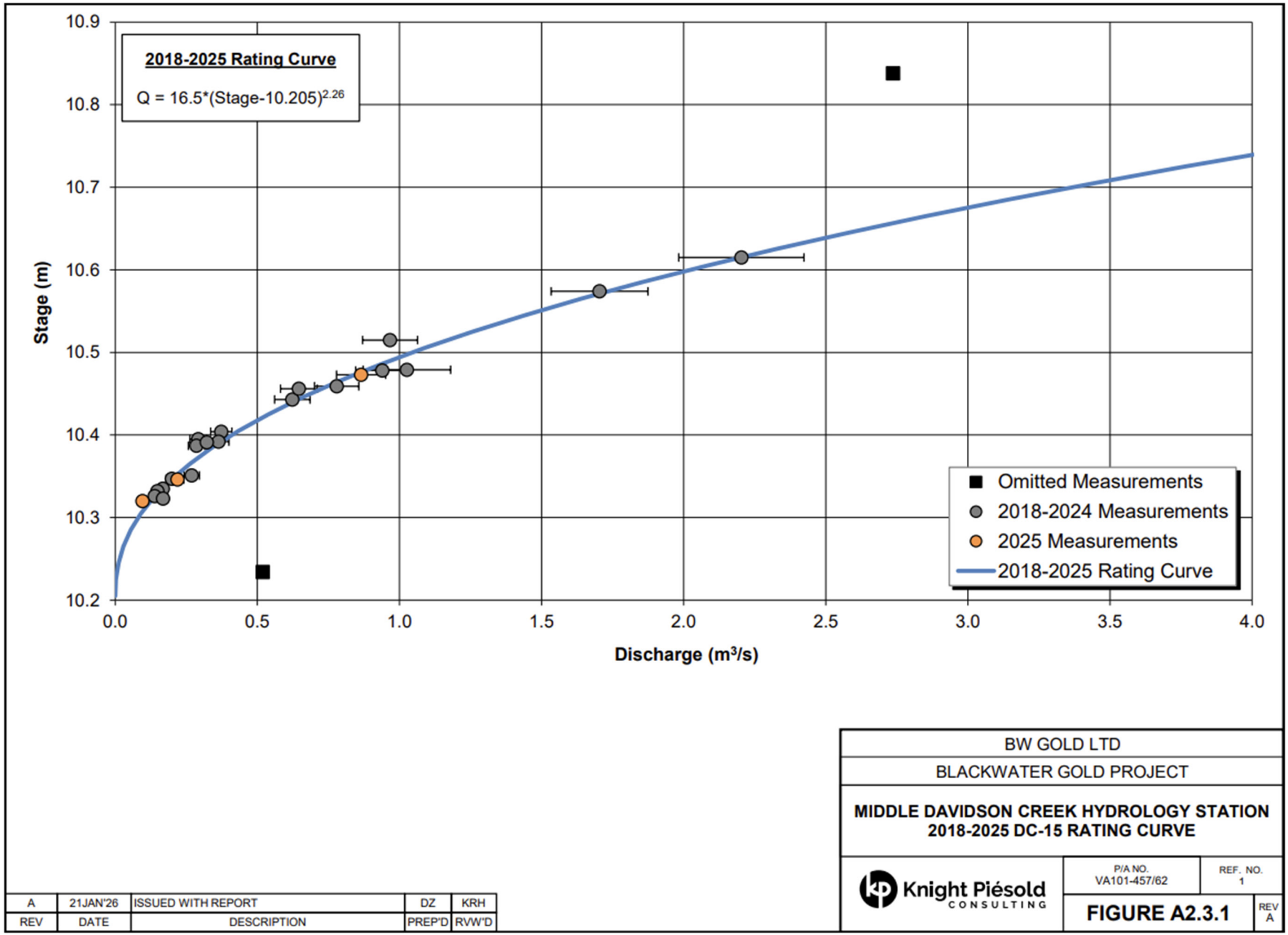


Figure 2.3-4: Middle Davidson Creek Hydrology Station 2018-2025 DC-15 Rating Curve

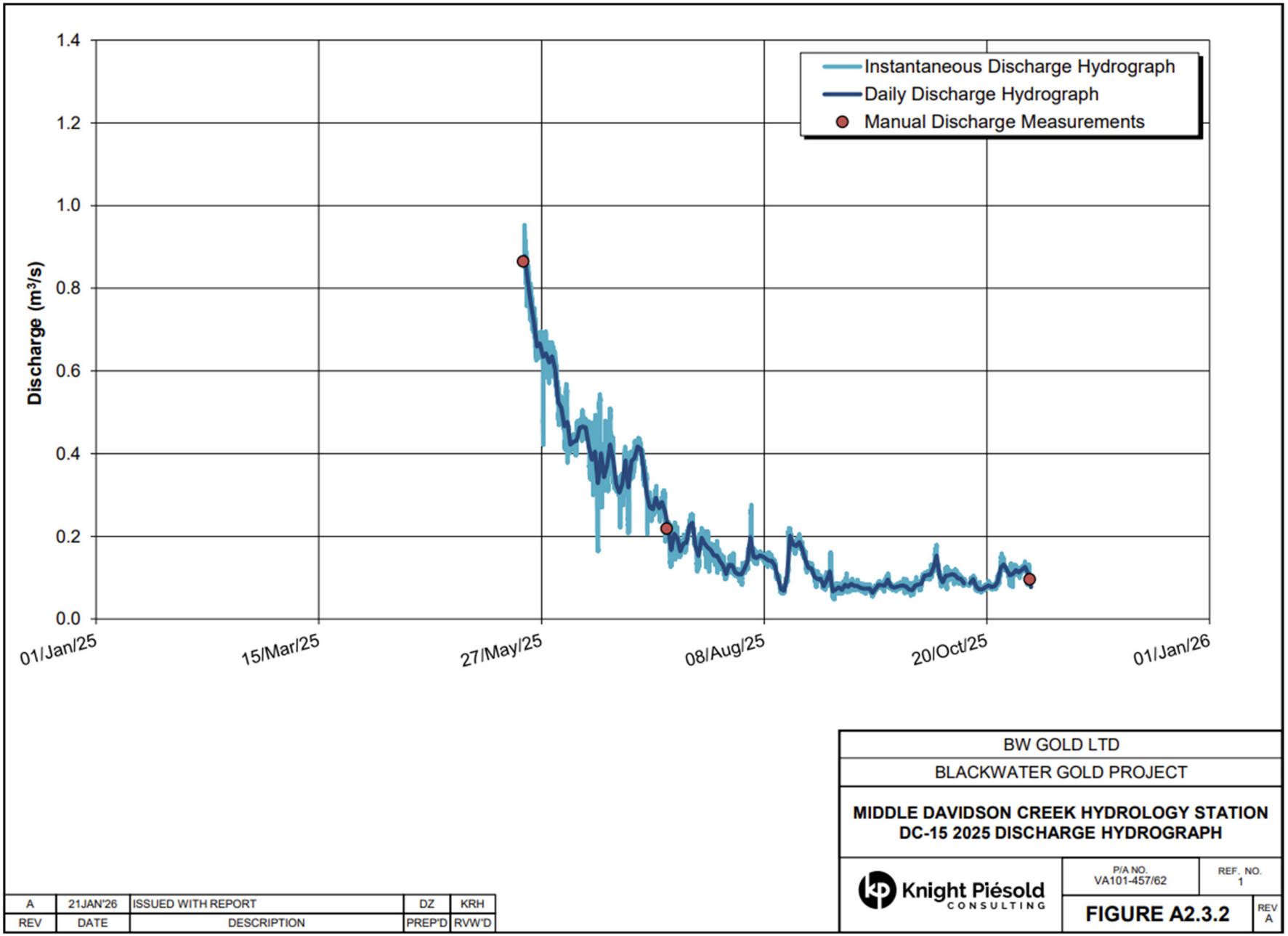


Figure 2.3-5: Middle Davidson Creek Hydrology Station DC-15 2025 Discharge Hydrograph

Table 2.3-4: Davidson Creek Temperatures Monitoring Stations (ºC)

Location	Station Name	Installed	Easting	Northing
Upper Davidson Creek	ST-10 DEEP	November 5, 2015	377,397	5,798,485
	DC-05	February 14, 2018	378,205	5,899,299
	ST-18 DEEP	November 5, 2015	379,497	5,900,454
Middle Davidson Creek	ST-17 DEEP	November 5, 2015	381,891	5,904,060
	DC-15	May 9, 2012	381,893	5,904,051
Lower Davidson Creek	ST-08 DEEP	November 4, 2015	384,257	5,907,788
	ST-14 DEEP	November 4, 2015	384,028	5,907,510
	ST-16 DEEP	November 5, 2015	383,130	5,906,413

Results

The DC-05 station is installed in the upper reaches of Davidson Creek, downstream of the Fresh Water Reservoir (FWR) embankment which was under construction in 2025. The water temperature time series recorded are presented on Figure 2.3-6.

The data indicates a strong inverse relationship between stream discharge and water temperature during the snowmelt-driven open-water period (approximately April to July). As shown on Figure 2.3-7, when discharge is low (below 0.2 m^3/s), water temperatures exhibit high variability and can reach maximum values of approximately 15-16°C. Conversely, at higher discharge rates (above 0.6 m^3/s), water temperatures consistently remain low, typically below 8°C. This negative correlation is further demonstrated on Figure 2.3-8, where peak discharge events during late spring (May-June) coincide with the lowest water temperatures, while the declining discharge through summer and fall corresponds with a progressive warming trend, reaching maximum temperatures of approximately 15°C during late summer. This pattern is characteristic of snowmelt-dominated streams, where increased discharge from cold meltwater depresses stream temperatures, while lower baseflow conditions during warmer months allow for greater solar heating and reduced thermal buffering, resulting in elevated water temperatures.

The DC-15 station is installed in the middle reaches of Davidson Creek. The water temperature time series recorded are presented on Figure 2.3-9.

As at DC-05, the data indicate a strong inverse relationship between stream discharge and water temperature during the snowmelt-driven open-water period (approximately April to July). As shown on Figure 2.3-10, when discharge is low (below 0.1 m^3/s), water temperatures exhibit high variability and can reach maximum values of approximately 12-13°C. The negative correlation observed at DC-05 is also at DC-15 on Figure 2.3-11, where peak discharge events correspond to lower water temperatures, while the declining discharge through summer and fall corresponds with a progressive warming trend, reaching maximum temperatures of approximately 12°C during late summer.

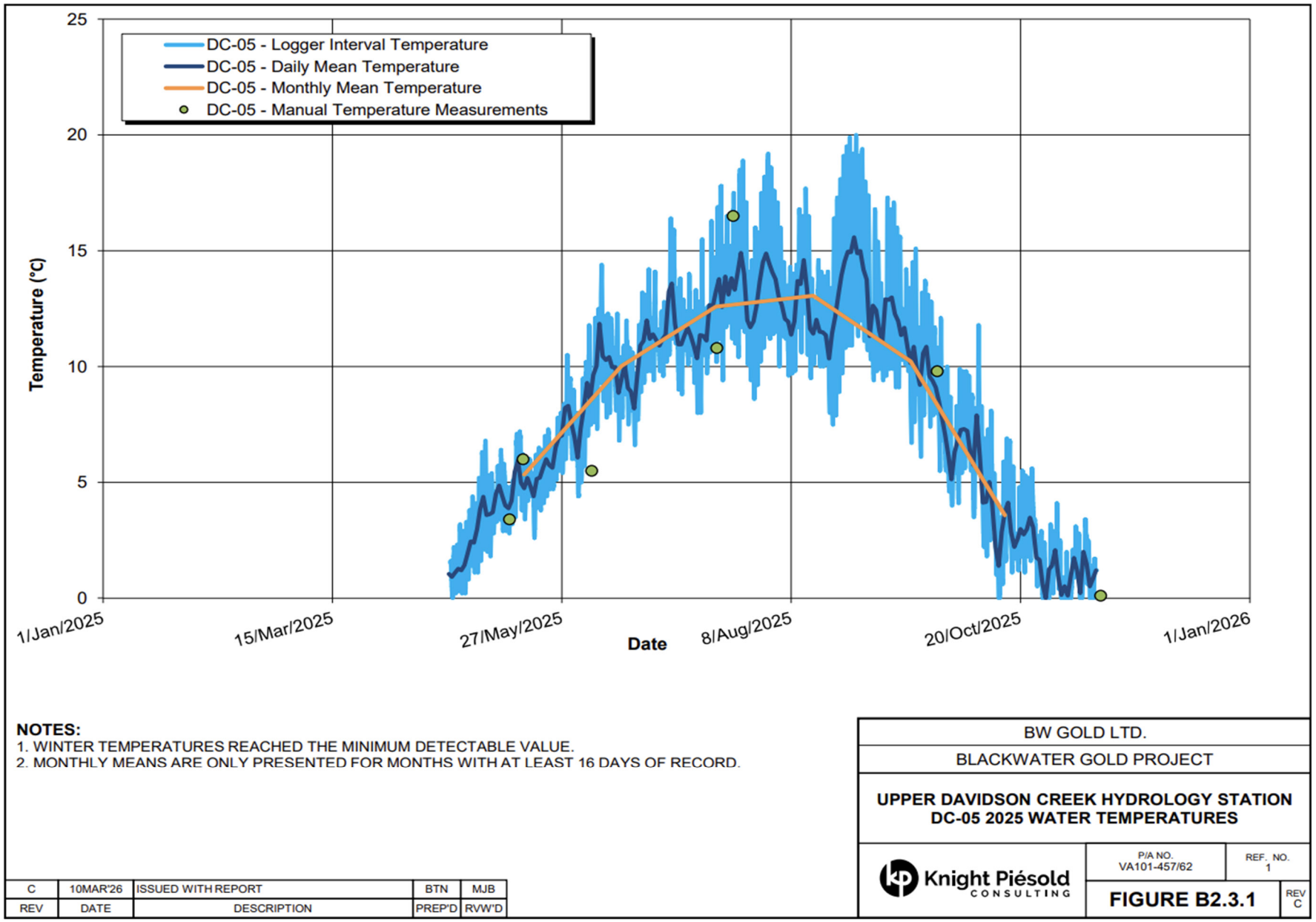


Figure 2.3-6: Upper Davidson Creek Hydrology Station DC-05 2025 Water Temperatures

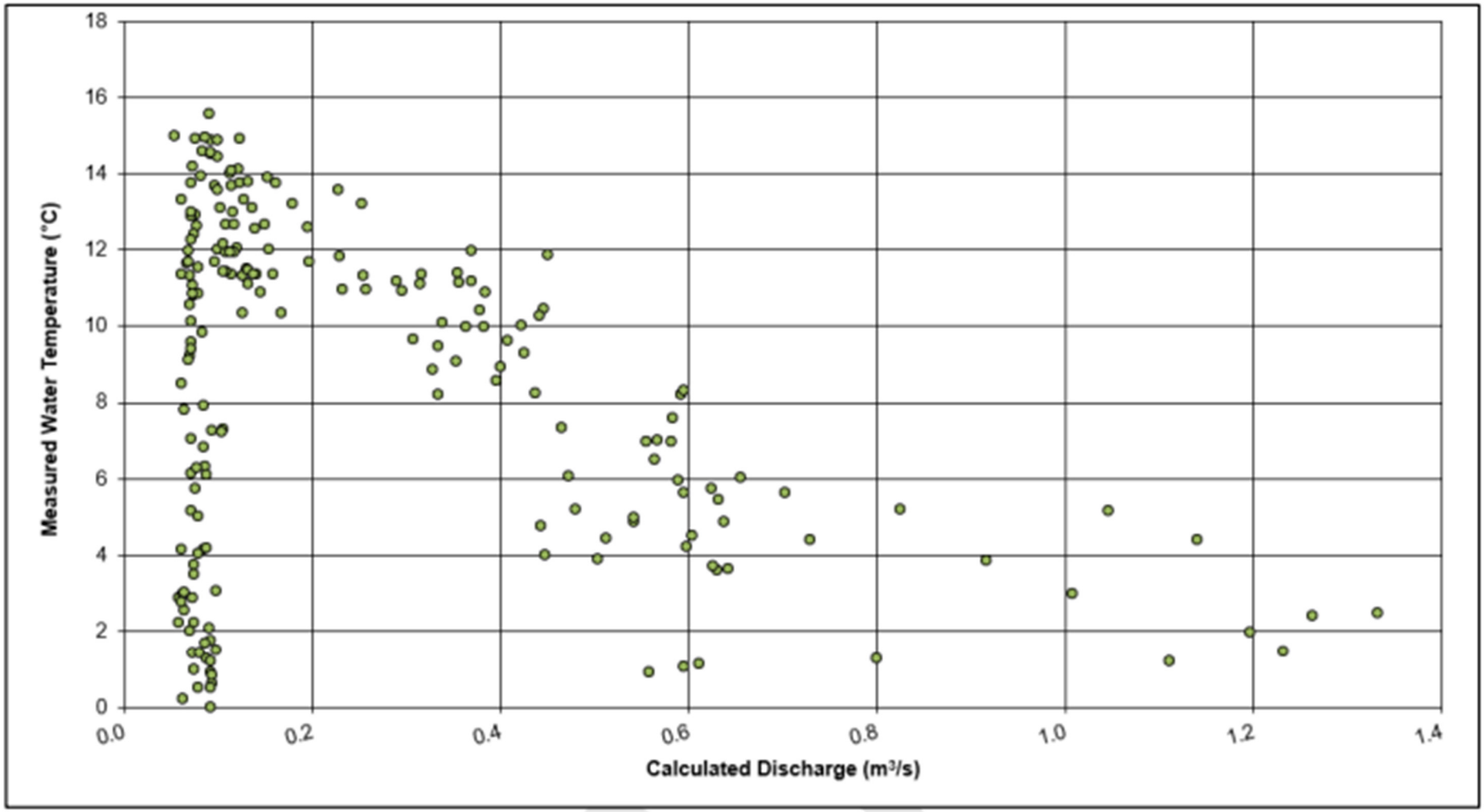


Figure 2.3-7: Water Temperature vs. Measured Discharge at DC-05

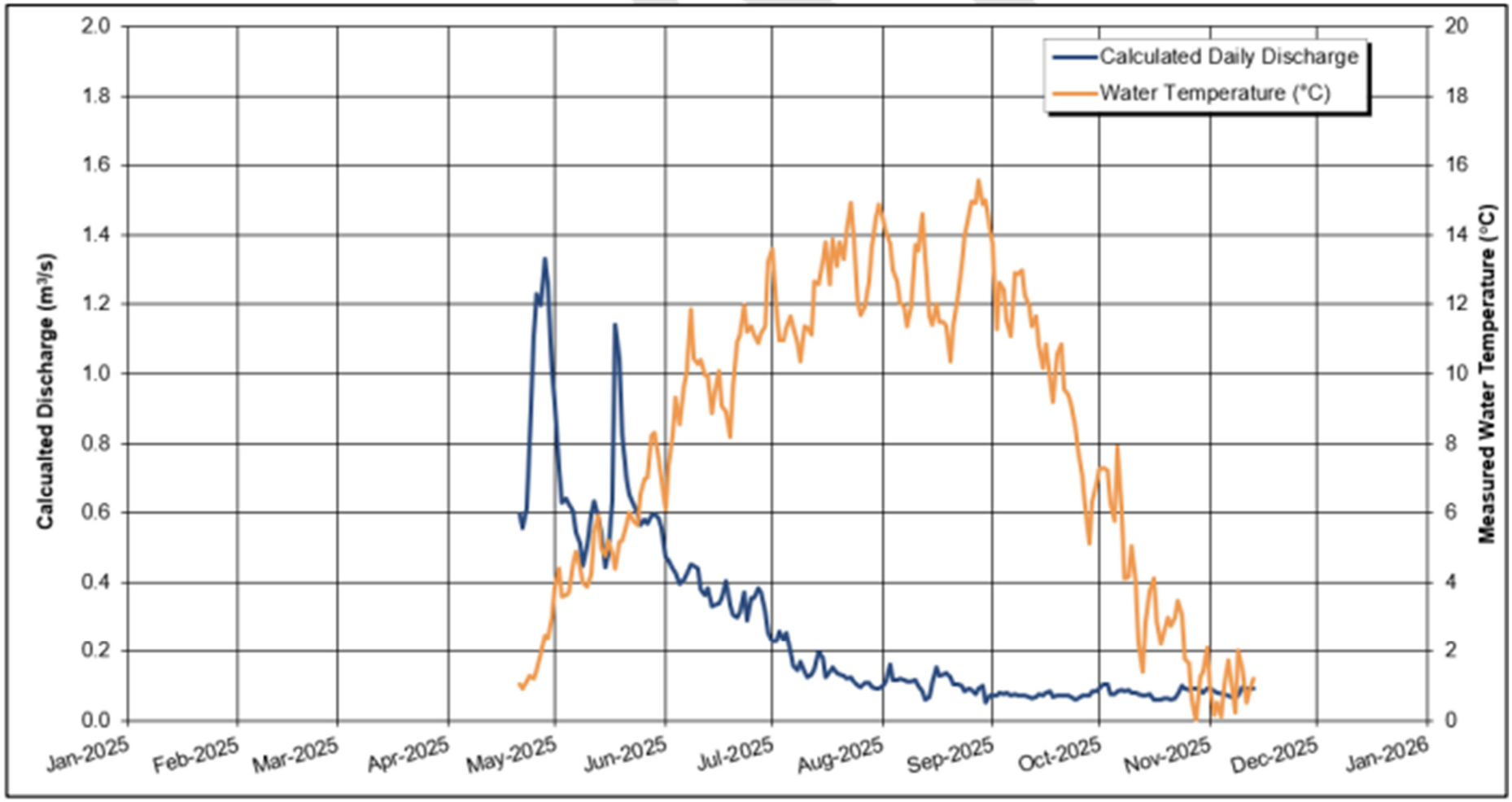


Figure 2.3-8: 2025 DC-05 Daily Average Discharge and Water Temperature Time Series

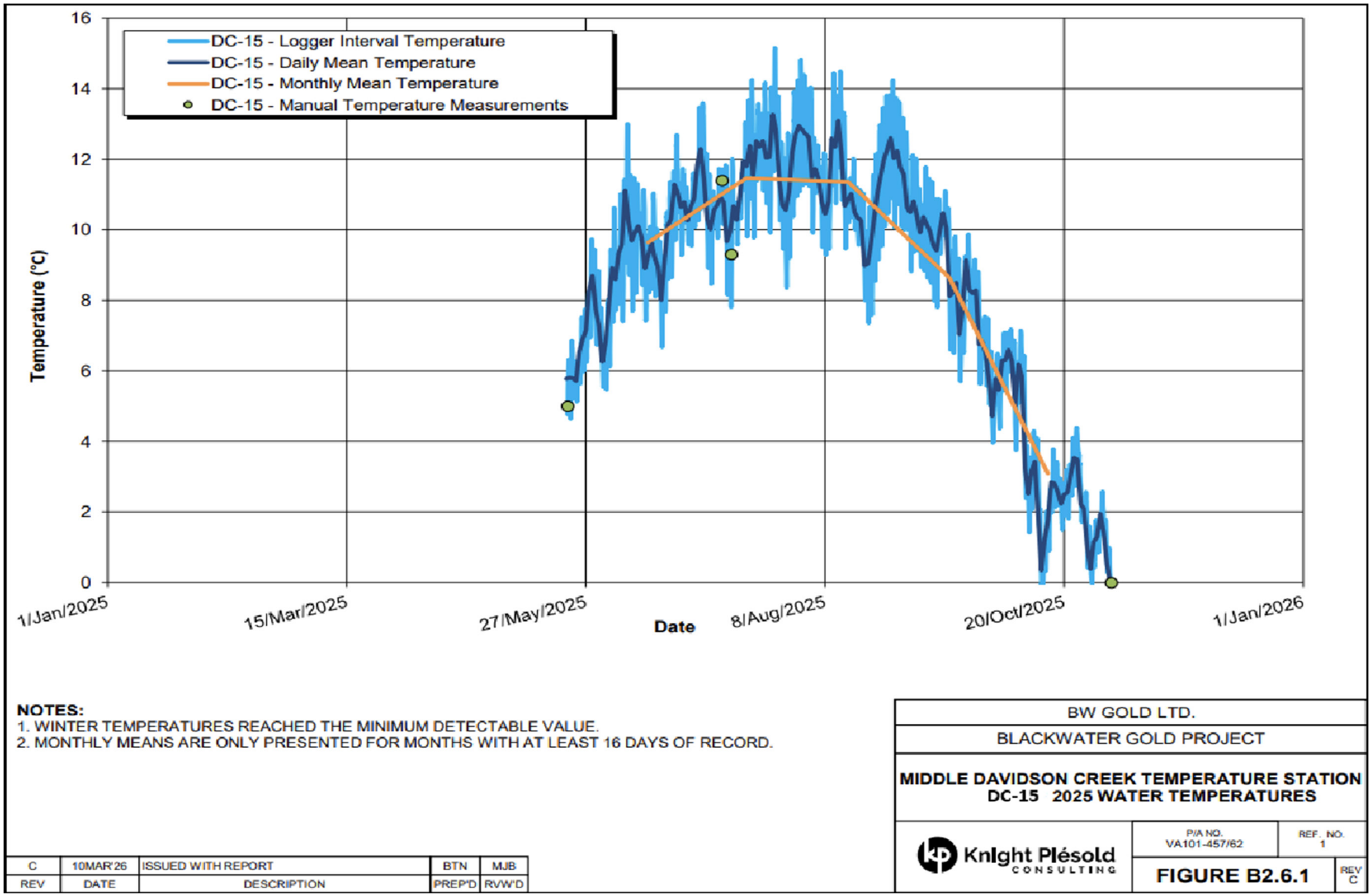


Figure 2.3-9: Middle Davidson Creek Temperature Station DC-15 2025 Water Temperatures

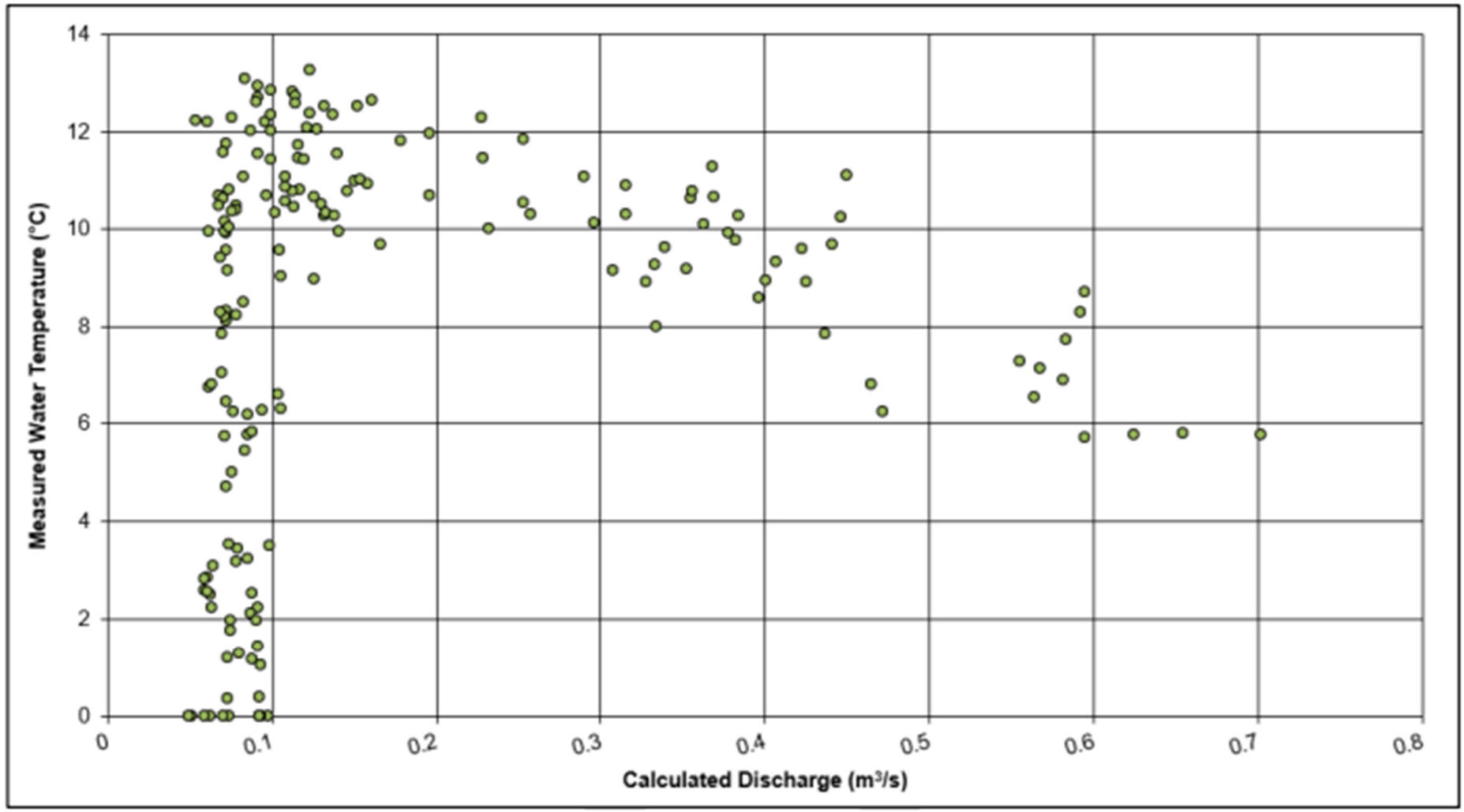


Figure 2.3-10: Water Temperature vs. Measured Discharge at DC-15

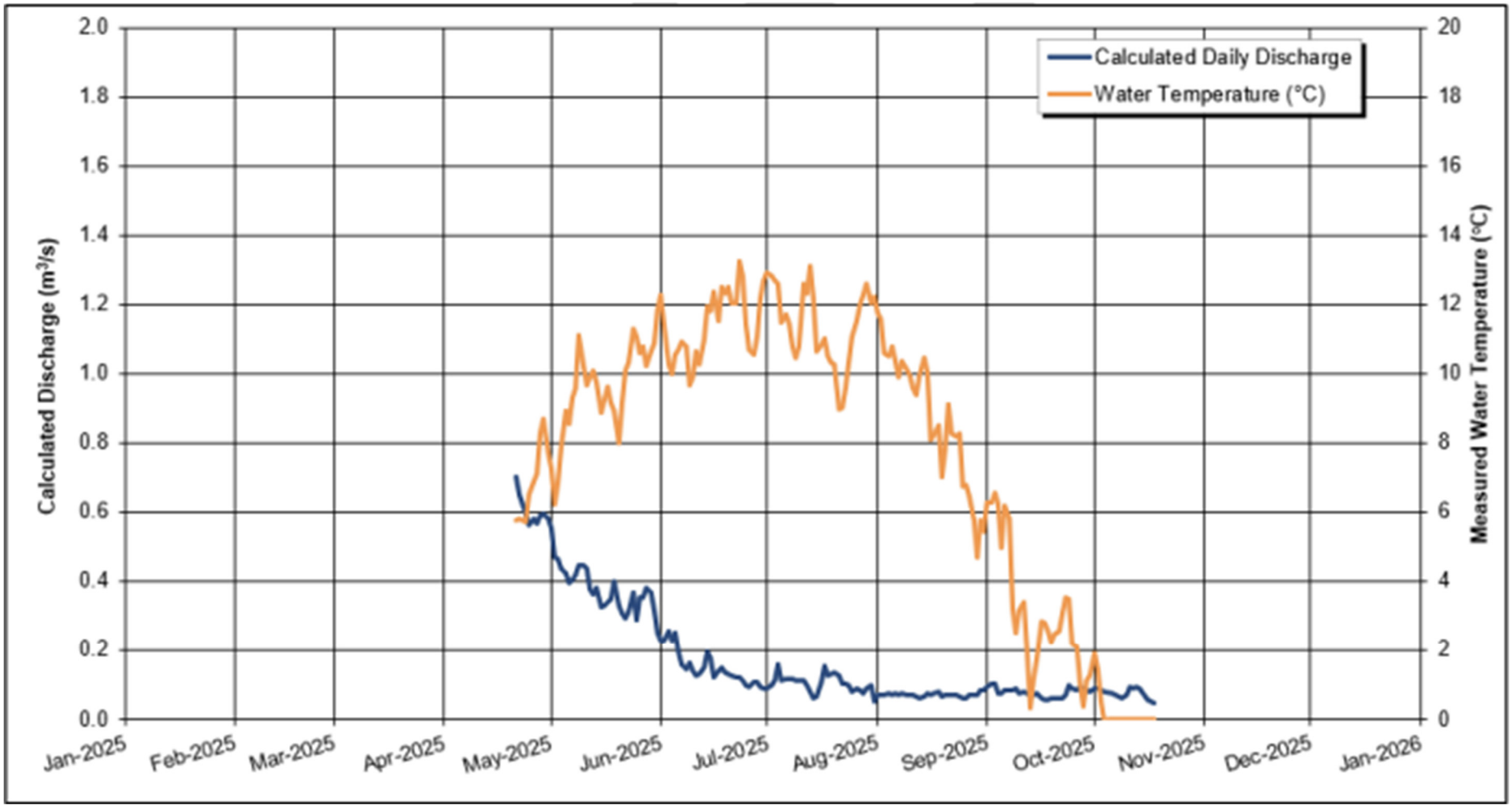


Figure 2.3-11: 2025 DC-15 Daily Average Discharge and Water Temperature Time Series

2.3.3 Davidson Creek Flows – Comparison to Environmental Assessment

Methods

The DS Condition 2.9 requires the Proponent to "undertake monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measure(s)" (Table 2.3-5).

Table 2.3-5: Davidson Creek Monthly Mean Water Temperatures (ºC)

Month-Year	ST-10 DEEP	ST-18 DEEP	ST-17 DEEP	ST-16 DEEP	ST-15 DEEP	ST-14 DEEP	ST-08 DEEP
Nov-15	0.3	0.2	0.3	0.3	0.3	0.3	0.3
Dec-15	0.2	0.1	0.1	0.1	0.0	0.1	0.1
Jan-16	0.2	0.1	0.1	0.1	0.0	0.1	0.0
Feb-16	0.5	0.2	0.3	0.2	0.1	0.1	0.1
Mar-16	0.7	0.4	0.5	0.4	0.3	0.3	0.3
Apr-16	1.5	1.7	2.0	2.2	2.2	2.3	2.3
May-16	5.0	5.3	5.7	6.0	6.2	6.3	6.0
Jun-16	7.7	8.0	8.3	8.7	9.0	9.1	9.2
Jul-16	6.9	9.9	10.2	10.0	10.6	10.7	10.9
Aug-16	10.1	10.5	10.7	10.9	11.2	11.7	11.8
Sep-16	6.5	6.7	6.9	7.5	7.5	7.3	7.4
Oct-16	2.3	2.4	2.6	3.2	3.1	2.8	2.8
Nov-16	1.3	1.2	1.3	1.3	1.3	1.3	1.3
Dec-16	0.2	0.1	0.0	0.1	0.0	0.1	0.0
Jan-17	0.4	0.4	0.3	0.2	0.1	0.1	0.1
Feb-17	0.2	0.2	0.1	0.1	0.0	0.1	0.0
Mar-17	0.5	0.4	0.4	0.3	0.2	0.2	0.2
Apr-17	1.0	0.7	0.8	0.6	0.6	0.6	0.5
May-17	1.9	2.1	2.7	3.1	3.2	3.1	3.4
Jun-17	6.4	6.7	7.1	7.5	7.6	7.0	7.9
Jul-17	9.3	9.5	9.1	10.2	10.6	10.7	10.9
Aug-17	9.5	10.1	10.3	11.0	11.7	11.9	11.9
Sep-17	6.9	7.3	7.4	7.7	8.3	8.4	8.5
Oct-17	2.5	2.6	2.8	2.9	3.1	3.1	3.1
Nov-17	0.4	0.2	0.1	0.1	0.1	0.1	-
Dec-17	0.2	0.1	0.1	0.1	0.0	0.1	-
Jan-18	0.3	0.1	0.1	0.1	0.0	0.1	-
Feb-18	0.1	0.1	0.1	0.1	0.0	0.1	-
Mar-18	0.5	0.2	0.2	0.1	0.0	0.1	-

Month-Year	ST-10 DEEP	ST-18 DEEP	ST-17 DEEP	ST-16 DEEP	ST-15 DEEP	ST-14 DEEP	ST-08 DEEP
Apr-18	0.7	0.4	0.4	0.3	0.1	0.1	-
May-18	2.9	3.0	3.5	3.8	3.8	4.0	-
Jun-18	7.2	7.4	7.7	8.1	8.2	8.4	-
Jul-18	9.9	10.3	10.5	11.1	11.4	11.6	-
Aug-18	9.4	9.9	10.1	10.5	10.9	11.0	-
Sep-18	5.1	5.4	5.6	5.8	6.2	6.2	-
Oct-18	2.0	2.2	2.3	2.3	2.5	2.4	-
Nov-18	0.7	0.7	0.7	0.8	0.8	0.7	-
Dec-18	0.2	0.1	0.0	0.1	0.0	0.1	-
Jan-19	0.4	0.2	0.1	0.1	0.0	0.0	-
Feb-19	0.1	0.1	0.0	0.1	0.0	0.0	-
Mar-19	0.4	0.2	0.1	0.1	0.0	0.0	-
Apr-19	0.8	0.8	1.0	0.9	0.9	0.9	-
May-19	3.2	3.5	4.2	4.5	4.7	4.8	-
Jun-19	7.4	7.6	8.1	8.4	8.6	8.8	-
Jul-19	9.0	9.2	9.7	10.1	10.3	10.4	-
Aug-19	9.1	9.3	9.7	10.0	10.2	10.2	-
Sep-19	6.9	7.1	7.4	7.6	7.8	7.9	-
Oct-19	2.2	2.3	2.5	2.5	2.5	2.6	-
Nov-19	1.2	1.3	1.3	-	1.3	1.3	-
Dec-19	0.4	0.1	0.0	-	0.0	0.0	0.1
Jan-20	0.3	0.1	0.0	-	0.0	0.1	0.1
Feb-20	0.5	0.3	0.3	-	0.0	0.1	0.1
Mar-20	0.3	0.1	0.1	-	0.0	0.1	0.1
Apr-20	0.5	0.4	0.4	-	0.5	0.6	0.6
May-20	2.9	3.2	3.7	-	4.2	4.3	4.4
Jun-20	6.4	6.6	7.1	-	7.6	7.8	7.8
Jul-20	8.8	-	9.4	10.3	10.0	10.2	10.3
Aug-20	8.7	-	9.1	9.5	9.7	10.0	10.2
Sep-20	7.6	-	7.9	8.2	8.4	8.7	8.8
Oct-20	3.2	-	3.4	3.5	3.5	3.6	3.7
Nov-20	0.7	0.2	0.6	0.5	0.5	0.6	0.6
Dec-20	0.4	0.2	0.1	0.0	0.0	0.0	0.0
Jan-21	0.3	0.2	0.1	0.0	0.0	0.0	0.0
Feb-21	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Mar-21	0.6	0.4	0.4	0.2	0.2	0.2	0.2

Month-Year	ST-10 DEEP	ST-18 DEEP	ST-17 DEEP	ST-16 DEEP	ST-15 DEEP	ST-14 DEEP	ST-08 DEEP
Apr-21	0.6	0.6	0.7	0.8	0.8	0.9	1.0
May-21	2.9	3.1	3.6	3.5	3.5	3.9	4.2
Jun-21	7.9	8.2	8.6	9.1	8.4	9.2	9.7
Jul-21	10.9	11.3	11.6	12.3	12.8	13.1	13.4
Aug-21	9.9	10.4	10.6	11.2	11.6	12.0	12.2
Sep-21	6.6	6.9	7.2	7.5	7.8	8.0	8.1
Oct-21	2.2	2.3	2.6	2.7	2.7	2.8	2.9
Nov-21	0.4	0.3	0.2	0.2	0.1	0.1	0.1
Dec-21	0.1	0.1	0.0	-0.2	0.0	0.0	0.0
Jan-22	0.2	0.0	0.0	-0.2	0.0	0.0	-0.1
Feb-22	0.4	0.2	0.2	0.0	0.0	0.0	-0.3
Mar-22	0.7	0.5	0.4	0.2	0.2	0.2	0.0
Apr-22	0.7	0.6	0.6	0.5	0.8	1.0	1.1
May-22	1.3	1.5	2.2	2.3	2.5	2.7	2.8
Jun-22	4.7	5.0	5.6	6.1	6.3	6.4	6.4
Jul-22	9.2	9.5	10.0	10.5	10.1	10.9	10.7
Aug-22	10.5	10.8	11.2	11.8	12.2	12.7	13.0
Sep-22	6.9	7.2	7.4	7.1	8.2	8.5	8.7
Oct-22	4.2	4.4	4.5	3.7	4.7	4.8	4.9
Nov-22	0.2	0.1	0.0	-	0.0	0.0	0.0
Dec-22	0.1	0.0	0.0	-	0.0	0.0	0.0
Jan-23	0.5	0.1	0.0	-	0.0	0.0	0.0
Feb-23	0.3	0.1	0.1	-	0.0	0.0	0.0
Mar-23	0.3	0.0	0.0	-	0.0	0.0	0.0
Apr-23	1.0	0.5	0.4	0.2	0.1	0.2	0.1
May-23	3.7	4.0	4.5	4.8	5.1	5.2	5.2
Jun-23	8.2	8.7	8.9	9.4	10.0	10.4	10.5
Jul-23	9.9	10.3	10.4	10.9	11.5	11.9	12.1
Aug-23	10.8	10.9	10.8	11.1	11.5	11.7	11.9
Sep-23	7.4	7.5	7.4	7.7	8.2	8.4	8.5
Oct-23	3.8	3.8	3.7	5.1	4.2	4.1	4.1
Nov-23	0.8	0.5	-	0.2	0.2	0.2	0.2
Dec-23	-	-	-	-	0.0	-	-
Jan-24	0.2	0.0	-0.1	0.0	0.0	0.0	0.0
Feb-24	0.3	0.1	0.0	0.1	0.0	0.0	0.0
Mar-24	0.5	0.1	0.0	0.0	0.0	0.0	0.0

Month-Year	ST-10 DEEP	ST-18 DEEP	ST-17 DEEP	ST-16 DEEP	ST-15 DEEP	ST-14 DEEP	ST-08 DEEP
Apr-24	1.2	1.4	1.4	1.3	-	0.9	1.3
May-24	5.5	5.5	5.4	5.6	5.6	5.9	5.9
Jun-24	-	-	-	-	-	-	9.9
Jul-24	-	-	-	-	-	-	14.0
Aug-24	-	-	-	-	-	-	12.9
Sep-24	-	-	-	-	-	-	9.6
Oct-24	-	-	-	-	-	-	3.9
Nov-24	-	-	-	-	-	-	-
Dec-24	-	-	-	-	-	-	0.0
Jan-25	0.5	0.0	1.0	0.1	0.0	0.0	0.0
Feb-25	0.0	0.0	5.3	0.1	-	0.0	0.0
Mar-25	1.1	0.1	9.5	0.1	0.0	0.0	0.0
Apr-25	1.9	0.8	10.8	0.8	0.9	0.8	0.8
May-25	6.6	5.4	-	5.6	6.0	6.0	6.0
Jun-25	11.3	9.9	-	9.9	10.7	10.7	10.7
Jul-25	-	-	-	-	-	-	13.0
Aug-25	-	-	-	-	-	-	13.1
Sep-25	-	-	-	-	-	-	9.8
Oct-25	-	-	-	-	-	-	3.3
Nov-25	-	-	-	-	-	-	0.4
Dec-25	-	-	-	-	-	-	-

Potential changes in streamflow were predicted in Davidson Creek, Creek 661, Chedakuz Creek, and Creek 705 as a result of water diversions, alteration of watershed areas (and subsequent runoff volumes), and capture of run-off by various infrastructure components required for the Project (see Appendix 5.1.2.6D in New Gold 2015). Thus, flow needs (IFN) were developed for Davidson Creek to address potential effects on fish and fish habitat. During all phases of the Project, streamflow is expected to be monitored to maintain the IFN in Davidson Creek as defined in Appendix 5.1.2.6D in New Gold (2015), unless otherwise authorized by Fisheries and Oceans Canada (as per DS Condition 3.8). The DS Condition 3.8 is as follows:

> *The Proponent shall develop, prior to construction, measures to maintain instream flow needs in Davidson Creek. The Proponent shall maintain instream flow needs in Davidson Creek during all phases of the Designated Project at a minimum within flow rates recommended by the Proponent in Appendix 5.1.2.6D of the Environmental Impact Statement, unless otherwise authorized by Fisheries and Oceans Canada*

Additional hydrometric data for Davidson Creek was collected following the calculation of the IFN values in 2015. The data were used to update the baseline hydrology and the amount of fish habitat available under baseline conditions; therefore, the IFN values from New Gold (2015) were updated as part of the submission of the *Fisheries Act* Authorization Application (Appendix C of Palmer 2022). *Fisheries Act* authorization 21-HPAC-01447 was issued June 20, 2023 with Construction IFNs (CIFN) defined in condition 2.2.9.1 for application prior to the operation of the Freshwater Reservoir (FWR). The FWR was

not in construction or operations during the reporting period, so those CIFN values presented in Table 2.3-6 were applicable for 2025. These are the flows "*otherwise authorized by Fisheries and Oceans Canada*" referred to in DS Condition 3.8 and replace the IFN values previously identified in the Assessment Report (CEA Agency 2019). Therefore, the weekly mean streamflow measured at site DC-05 in upper Davidson Creek, immediately downstream of the freshwater reservoir (FWR), will be assessed against the CIFN values defined in the *Fisheries Act* Authorization (Table 2.3-6).

Table 2.3-6: Davidson Creek Construction Instream Flow Needs Authorized by Fisheries and Oceans Canada

Period	Construction Instream Flow Needs (m^3/s)
August 31 – May 14	0.07
May 15 – June 30 (min. 21 days)	0.56
May 15 – June 30 (remaining)	0.35
July 1 – July 15	0.30
July 16 – August 31	0.15

Flow measurements were taken at DC-05 using a SonTek FlowTracker2 flow meter with top-set wading rod. Discharge was collected using the area-velocity method, following the Manual of British Columbia Hydrometric Standards.

Results

Flow data for DC-05 are presented in Table 2.3-1. Instances where the CIFN were not met are summarized in Table 2.3-7 below.

Table 2.3-7: Instances Where Construction Instream Flow Needs Was Not Met at DC-05

Date	Discharge (m^3/s)	Construction Instream Flow Needs (m^3/s)
24-Jan-25	0.04	0.07
14-Mar-25	0.05	
15-Mar-25	0.06	

January 2025

DC-05 flow was measured below IFN on January 24th due to pump failure at the Central Water Transfer Pond (CWTP). After pump failure, pump maintenance was required and discharge pipeline needed to be cleared of ice before discharge could resume from the CWTP into Davidson Creek. Flow measurement above IFN was recorded at DC-05 on January 27th. Fish stranding surveys were done with winter conditions and ice buildup and no strandings were observed. The risk of fish stranding was low during the low flow period as fish overwintering habitat is identified within overwintering pools.

March 2025

DC-05 flow was measured under IFN on March 14th and 15th. A water treatment system was initiated on March 7th to treat and discharge Water Management Pond water to achieve IFN compliance.
This discharge pump supplemented natural Davidson flows to achieve IFN compliance on March 8th.
A return to colder temperatures in Mid-March reduced natural flow in Davidson Creek and its tributaries

and showed lower total flows below IFN on March 14th. Discharge pump throttle and RPM were adjusted, and IFN was measured again on March 15th. Due to inconsistencies with water quality results and inability to support IFN compliance this treatment system was discontinued. The Central Water Transfer Pond pump was back online after pipeline upgrades and maintenance on March 17th and Davidson Creek flows over IFN thresholds was measured on March 18th.

2.3.4 Davidson Creek Temperature – Comparison to Environmental Assessment

Methods

This section reports on Davidson Creek water temperature compliance with *Fisheries Act* authorization (FAA) 21-HPAC-01447 (issued June 20, 2023 by Fisheries and Oceans Canada) Condition 2.2.9.5, which prescribes that downstream flows to Davidson Creek be maintained at all times during construction and commissioning of mine infrastructure, including diversion channels, reservoirs, and the freshwater supply system (FWSS), such that death of fish is avoided and impacts to fish habitat are limited to what is authorized, including:

> *2.2.9.5 The average daily temperature shall be maintained within ±1°C of baseline daily average maximum and minimum temperatures at the selected sites.*

It is noted the above condition and corresponding temperature evaluation presented below has links to Decision Statement Condition 3.9, which states:

> *The Proponent shall maintain water temperature in Davidson Creek, as described by the Proponent in Section 5 of Appendix A (Blackwater Gold Project – Assessment of Flows from the Water Treatment Plant and North and South Diversions on Davidson Creek Temperatures. Knight Piésold. Memorandum VA16-01038) of Appendix C-1 of the Environmental Impact Statement Supplemental Report Assessment of Effects Related to Project Changes (August 2016), unless otherwise authorized by Fisheries and Oceans Canada.*

As background, surface water temperature modelling was completed during the Environmental Assessment (EA, prepared in support of the proponent's application for an Environmental Assessment Certificate) for two locations in Davidson Creek – at the mine access road crossing and site H4B (now identified as DC-15). The predicted surface water temperature indicated that the flows in Davidson Creek augmented by the FWSS, would be within 1°C of simulated baseline water temperature when water is discharged from the FWR except for the months of September and October (Appendix C-1 of ERM 2016a).

During the *Fisheries Act* Authorization application process, deviation of the modeled operational temperatures from the modeled baseline temperature was subsequently calculated and assessed (Palmer 2022). This work was done as the BC WQG for temperature are not comparable with the temperature ranges in Davidson Creek that support Kokanee and Rainbow Trout populations. The outcome of that modelling and assessment formed the basis of FAA Condition 2.2.9.5 discussed in the present section.

Regarding stream temperature evaluations under FAA Condition 2.2.9.5, Lorax (2025a) presents a screening methodology to evaluate compliance with FAA Condition 2.2.9.5, which BW Gold currently uses. To support the derivation of the screening methodology, Lorax (2025a) reviews relevant site-specific and regional climate, streamflow and stream temperature data for the Blackwater mine site. Available data are assessed in Lorax (2025a) to understand baseline conditions for the mine site, as well as any patterns and emerging trends in site monitoring data (e.g., wildfire, land cover change and climate change).

Screened stream temperature results for the ST-08 DEEP monitoring station using the screening methodology presented in Lorax (2025a) are presented in part below, and in full in Lorax (2025b), to demonstrate the degree of BW Gold Ltd.'s compliance with FAA Condition 2.2.9.5. Lorax 2025b includes three data appendices, with results presented in Appendix A for 2023, in Appendix B for 2024, and in

Appendix C for 2025 based on data available at the time of writing. The ST-08 DEEP monitoring station has formed the focus of BW Gold's stream temperature monitoring and reporting activities since August 2024 (e.g., see Artemis, 2024). The ST-08 DEEP monitoring station is in lower Davidson Creek and high-frequency stream temperature data have been collected at this location since November 2015.

Results

Annual and monthly plots showing the available baseline stream temperature data for ST-08 DEEP, period of record daily stream temperature statistics (i.e., average, minimum and maximum) for ST-08 DEEP, as well as the computed ±1°C screening thresholds for ST-08 DEEP based on a record extension and running minima/maxima methodology are presented in Lorax (2025b). By convention, annual plots span the period January 1 through December 31 for a given year, while monthly plots in Lorax (2025b) are presented for April, May, June, July, August, September, October and November (e.g., see Figure 2.3-1).

Presented this way, measured stream temperature data plotting either above the +1°C screening threshold (solid orange line) or below the -1°C screening threshold (solid blue line) as prescribed in FAA Condition 2.2.9.5 and shown in Figure 2.3-12, where applicable, are flagged in the screening exercise for supplementary investigation. Data appendices in Lorax (2025b) also include detailed tables summarizing the occurrence of daily average stream temperature measurements plotting above (or below) proposed FAA screening thresholds at the ST-08 DEEP monitoring station, if any. Further, if a daily average stream temperature measurement plots outside the proposed FAA screening thresholds, the magnitude that the measurement plots above (or below) the screening threshold is also recorded in these summary tables.

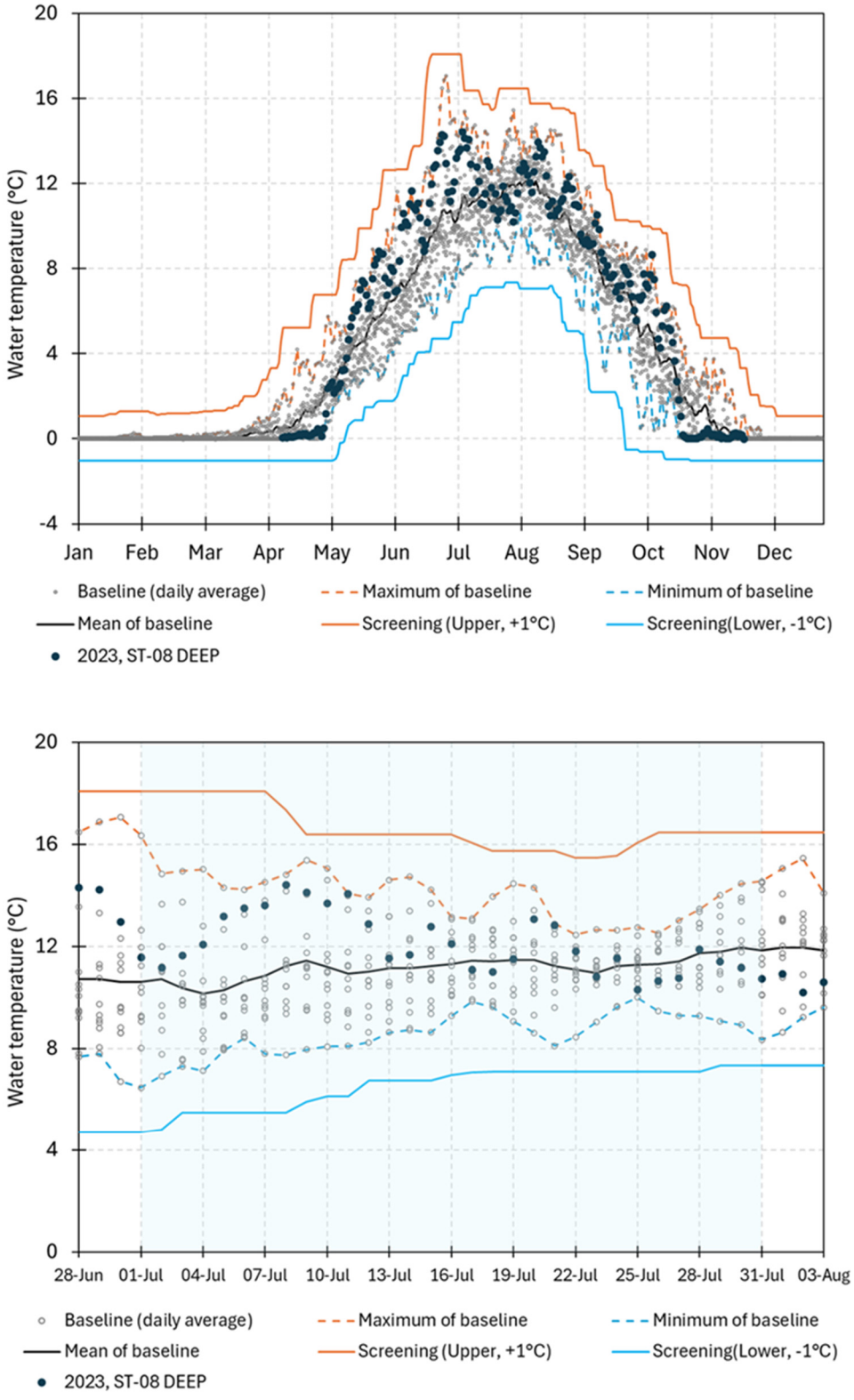
A high-level summary of the temperature screening assessment presented in Lorax (2025b) is shown in Table 2.3-8. Stream temperature measurements were beyond the screening thresholds on eight occasions only between January 2023 and July 2025. On each occasion, measured stream temperature values plotted above (i.e., warmer or elevated) than the screening thresholds for the ST-08 DEEP station. Furthermore, all eight events at ST-08 DEEP occurred in 2024, with five of the events realized between July 17 and July 21, and the remainder realized between September 23 and September 25.

Table 2.3-8: Daily Stream Temperature Measurements at ST-08 DEEP Screening Outside the ±1°C Screening Thresholds per FAA Condition 2.2.9.5

Year	Count (n)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2023	0	0	0	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	5*	0	3*	0	0	0	8
2025	0	0	0	0	0	0	0	0	-	-	-	-	-

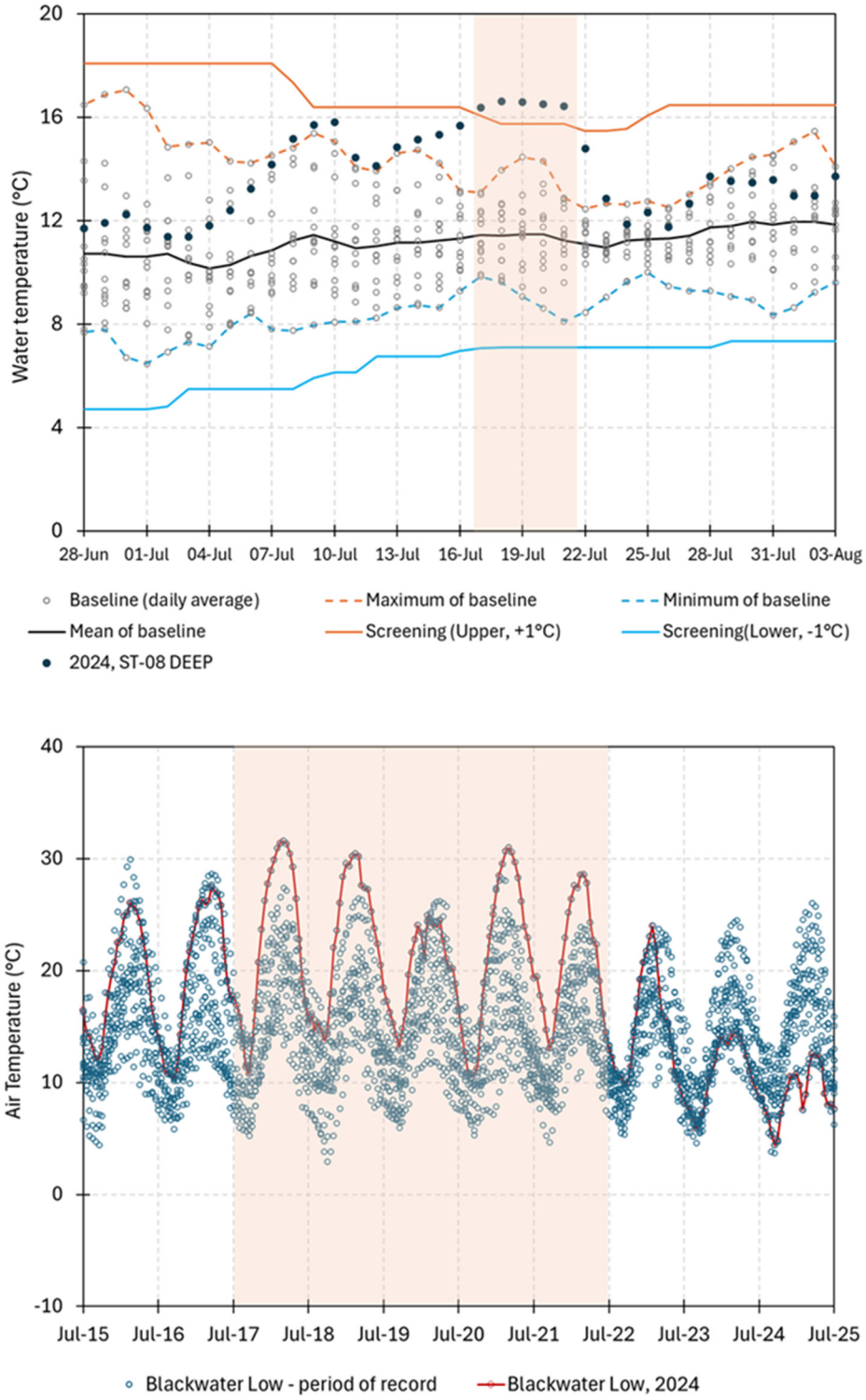
** Carried forward for further investigation to evaluate potential and relative influence of mine development and natural conditions (see Figure 2.3-12 below and Lorax (2025b) for full details).*

Based on supplementary data and analysis presented in Lorax (2025b), the eight stream temperature events flagged by the screening process for 2024 are interpreted with a high level of confidence as being climate-induced and within the natural range of variability for stream temperatures in lower Davidson Creek. Local climate data collected at the mine site clearly indicates that period of record high air temperature conditions coincided with the occurrence of these flagged stream temperature events. This is demonstrated in Figure 2.3-13 for July 2024, with similar plotting presented in Lorax (2025b) for September 2024. The reader is directed to Lorax (2025b) Appendix B generally, and Table B.1-1, Figure B.1-1, Figure B.1-5 and Figure B.1-7, specifically, for further detail regarding July and September stream temperature readings at ST-08 DEEP in 2024.



Plots and summaries for other months and years are provided in Lorax (2025b).

Figure 2.3-12: Example Annual (Upper) and Monthly (Lower, July) Screening Plots for ST-08 DEEP, 2023



Corresponding time periods on the two plots are indicated using orange shading.

Figure 2.3-13: Stream Temperature Screening at ST-08 DEEP for July 2024 (Upper Panel) and Air Temperature Summary at Blackwater Low Climate Station (Lower Panel)

2.3.5 Effectiveness of Mitigation Measures and Adaptive Management

Provided that IFN and temperature requirements described in the FAA are met, mitigation measures are considered effective.

As summarized in Section 2.3.3, observations of flows below the applicable CIFN occurred in January and March of the reporting period. Those instances were reviewed, mitigative actions taken, and learnings adopted to prevent re-occurrence where possible. These events were not the result of water usage, or storage, to support construction or operations, but the result of conditions (i.e.: low water level, malfunction of the pump operating system, and freezing conditions) encountered while operating the DCDS. Actions taken to address those conditions proved to be effective, as they resulted in flows meeting CIFN.

As summarized in Section 2.3.4, eight daily stream temperature readings measured beyond the ±1°C thresholds established for ST-08 DEEP and were flagged for supplementary analysis. The eight stream temperature readings occurred in July and September 2024 and coincided with period of record elevated air temperature conditions at the Blackwater mine site. Following a resumption of typical- to cooler air temperature conditions at the mine site, significant cooling of stream temperatures at ST-08 DEEP was observed in both July and September 2024. Accordingly, the eight stream temperatures in 2024 that were flagged by the screening process are interpreted as being climate-induced and within the natural range of variability for stream temperatures in lower Davidson Creek.

Reporting completed to date for the ST-08 DEEP station (see Lorax 2025b) demonstrates the effectiveness of the screening method being used to evaluate temperature data as prescribed under FAA Condition 2.2.9.5. Per Lorax (2025a), the method considers a technically robust baseline dataset and methodology that reasonably captures the baseline range and natural variability of stream temperature, while remaining sensitive enough to flag measurements that warrant further investigation as a potential mine effect. In the case of the eight events flagged in the 2024 dataset, further investigation concluded the values are reasonably attributable to non-mine conditions.

3.0 Monitoring Water Quality in Davidson Creek, Creek 661, and Chedakuz Creek for Contaminants of Potential Concern (3.15.2)

3.1 Decision Statement Condition Requirements

Condition 3.15.2 requires the monitoring of water quality in Davidson Creek, Creek 661, and Chedakuz Creek for contaminants of potential concern (COPCs[1]), including those identified in Table 5 of the EA report (CEA Agency 2019), during all phases of the Mine.

3.2 Field Methods

Surface water quality samples were collected at sites downstream from the Mine site, as indicated in Table 3.2-1 and at three regional control sites in Creek 705 (705-05 and 705-10) and Fawnie Creek (FC-01; Figure 2-1). Water quality samples in 2025 were collected at each of the sites in accordance with the AEMP Plan (Section 4.4.2.2; ERM 2025) with the following exceptions:

- Two monthly sampling events (February and March) at 661-01 because the site was frozen to ground (February 3 and March 18, 2025).
- Two monthly sampling events (February and March) at 661-03 because the site was frozen to ground (February 18 and March 10, 2025).
- One monthly sampling event (August) at 661-03 because the water was stagnant.
- One 5-in-30 sampling event at 661-10 on October 7 because of safety concerns related to Danger Trees in the area.
- Two monthly sampling events at 661-03 because the stream was dry on October 7 and because the stream was frozen on December 12.
- On occasion, field measurements were not collected (e.g., dissolved oxygen, field pH, conductivity, and turbidity) because of probe issues, lack of a turbidimeter, or operator error.

The quality assurance and quality control (QA/QC) principles for surface water quality sampling and analysis followed those outlined in guidance documents and procedures indicated in Section 4.4.2.2 of the AEMP Plan (ERM 2025).

[1] The federal DS uses the terminology “contaminant of potential concern” or COPC, while provincially the term “parameter of concern” or POC is used. COPC and POC are defined as parameters with concentrations greater than water quality guidelines or parameters that have been identified as “special-case” parameters. For simplicity, COPC is the terminology used in this report.

Table 3.2-1: Surface Water Quality Monitoring Locations and Sampling Frequency in Davidson Creek, Creek 661, and Chedakuz Creek

Watershed	2019 Water Quality Model Site ID[1]	2022 Water Quality Model Site ID[2]	AEMP Plan Site ID	Monthly	Quarterly	5-in-30[3]
Davidson Creek	n/a	WQ28	DC-05	✓	-	✓
	n/a	WQ27	DC-10	✓	-	-
	WQ26	WQ26	DC-15	✓	-	-
	WQ7	WQ7	DC-20	✓	-	✓
Creek 661	n/a	n/a	661-01	✓	-	✓
	n/a	n/a	661-03	✓	-	-
	n/a	n/a	661-04	✓	-	-
	n/a	n/a	661-05	✓	-	-
	WQ5-US	WQ5	661-10	✓	-	✓
	WQ5-DS	CK661	661-20	-	✓	-
Chedakuz Creek	n/a	n/a	CC-03	✓	-	✓
	n/a	n/a	CC-05	-	✓	-
	WQ8	WQ8	CC-10	-	✓	-
	WQ9	WQ9	CC-15	✓	-	✓
Chedakuz Creek (cont'd)	n/a	WQ13	CC-20	✓	-	✓
	n/a	Chedakuz Midway	CC-30	-	✓	✓
	n/a	Chedakuz Outlet	CC-40	✓	-	✓

Notes:

[1] Figure 4 in CEA Agency (2019).

[2] Lorax (2022a).

[3] 5-in-30 water sampling refers to the collection of 5 water samples in 30 days during spring freshet and fall rains and replaces the monthly or quarterly sample during the three months when the 5-in-30 samples are collected.

n/a = not applicable because the site was not included in the 2019 or 2022 water quality modelling and predicted water quality is not available for this site.

Dashes indicate sampling component is not completed at that site.

3.3 Laboratory Analysis

Water quality samples were collected for analysis of general physical/ion parameters, nutrients and organics, cyanide, and total and dissolved metals at ALS Laboratory (ALS; Burnaby, BC), a CALA certified laboratory for analysis. The water quality parameters were analyzed using standard methodologies, as recommended in BC Ministry of Environment (BC MOE; 2016a). Targeted detection limits (DLs) for parameters were at least 10 times lower than water quality guidelines or standards, where available, consistent with recommendations in BC MOE (2016a). Parameters analyzed are provided in Table 3.3-1.

Table 3.3-1: Analyzed Water Quality Parameters

Physical Parameters and Dissolved Anions	Nutrients/Cyanides/Organic Carbon	Metals (Total and Dissolved)	
• temperature (field) • dissolved oxygen (field) • pH (field and laboratory) • total alkalinity (as $CaCO_3$) • acidity (as $CaCO_3$) • conductivity (field and laboratory) • hardness (as $CaCO_3$) • total dissolved solids • turbidity (field and laboratory) • total suspended solids • bromide • chloride • fluoride • sulphate	• ammonia-N • nitrate-N • nitrite-N • Total Kjeldahl Nitrogen • total phosphorous • ortho-phosphorus • total cyanide • cyanide, weak acid dissociable • thiocyanate • total organic carbon • dissolved organic carbon	• aluminum • antimony • arsenic • barium • beryllium • bismuth • boron • cadmium • calcium • chromium • cobalt • copper • iron • lead • lithium • magnesium	• manganese • mercury • molybdenum • nickel • potassium • selenium • silicon • silver • sodium • strontium • thallium • tin • titanium • uranium • vanadium • zinc

3.4 Data Analysis

In 2025, surface water quality data were analyzed as outlined in Section 4.4.2.3 of the AEMP Plan (ERM 2025). For the purpose of data analysis and presentation, if a concentration is below the DL, then half the DL was used during calculations of summary statistics (BC MOE 2016b).

Surface water quality was evaluated with one or more assessment endpoints (i.e., graphical analysis, statistical analysis, and comparison to water quality guidelines) at each of the monitoring locations on an annual basis for the following parameters: pH, alkalinity, TSS, total dissolved solids (TDS), chloride, fluoride, sulphate, ammonia as nitrogen (-N), nitrate-N, nitrite-N, total phosphorus, total organic carbon (TOC), dissolved organic carbon (DOC), cyanide (total and weak acid dissociable [WAD]), total aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, thallium, uranium, vanadium, and zinc, and dissolved aluminum, cadmium, copper, iron, manganese, and zinc.

3.4.1 Annual Monitoring

The January to December 2025 surface water quality laboratory results for stream sites are provided in Appendix B-1 and field in situ water measurements are provided in Appendix B-2.

3.4.1.1 Graphical Analysis

The following discussion provides a review of the water quality at monitored sites during Construction and Operations with a focus on the January to December 2025 reporting period as well as a comparison to baseline monitoring period (2016 to September 30, 2023). Time series plots for each of the surface water quality parameters assessed are provided in Appendix C.

Hydrology can be an important driver of stream water quality, as snowmelt or storm runoff can transport sediment into surface water bodies. High rainfall or snowmelt can also result in dilution, decreasing concentrations of dissolved solids. The 2025 stream hydrology is summarised in Section 2.0 of this report

and detailed in the *Hydrology and Water Temperature Annual Report* (KP 2026a; Appendix A). Stream water quality is also linked to stream flows, where relevant, in the following sections.

Potential effects of the 2023, 2024, and 2025 wildfires on water quality in streams immediately downstream of the extent include erosion of sediments and deposition of ash and debris into surface waters. Thus, greater TSS concentrations or turbidity in streams following the wildfire may be attributed to the wildfire and not Mine-related effects; however, observed magnitude and timing of the increase will also be related to burn intensity, stream flows, and precipitation events. Nutrients, sulphate, pH, total dissolved solids, chloride, and organic carbon may also increase in waters post-wildfire as a result of the deposition of ash and soil erosion (Water Research Foundation 2013; BC Health 2024). Similar to TSS and turbidity, the magnitude of the change is related to amount and intensity of precipitation events post-fire. An increase in metals in the particulate form may also be observed however the peak and magnitude depends on the mobilization to surface water and therefore may not be observed immediately after the wildfire.

Physical Parameters

pH and Alkalinity

Stream sites were typically near-neutral to moderately alkaline, with laboratory pH ranging from 6.82 (661-01 in May) to 8.69 (CC-10 in August; Figure C.1) and field pH similarly ranging from 6.69 (661-01 in September) to 9.13 (CC-10 in August; Figure D.1a). Most stream sites had a low sensitivity to acid inputs (total alkalinity > 20 mg/L as $CaCO_3$) throughout the year, except for site 661-01 which ranged from 6.0 to 17.9 mg/L as $CaCO_3$ and had a moderate to high sensitivity to acid inputs (Figure C.2). Alkalinity was seasonally variable in monitored streams and was typically inversely related to stream flows; the lowest mean alkalinity values were measured during freshet in May. At most sites, pH and alkalinity values observed during in 2025 were typically within the range observed during baseline years.

Hardness

Throughout the year in 2025 and similar to baseline observations, stream hardness was typically: soft (< 60 mg/L as $CaCO_3$) at all regional control sites, Davidson Creek sites, Creek 661 sites except for 661-20 and moderately hard (61 to 120 mg/L as $CaCO_3$) at site 661-20 in Creek 661 and all Chedakuz Creek sites (Figure C.4). Upstream site CC-03 in Chedakuz had hard water (< 120 mg/L as $CaCO_3$) in some months (e.g., January, February, September, and December). Hardness concentrations followed a similar spatial and temporal pattern to alkalinity; hardness concentrations were lowest during freshet and highest during low flow winter months.

Hardness values observed in 2025 were typically within the range observed during baseline years at all monitored sites.

Suspended Material

Total suspended solids and turbidity (laboratory and field) were typically low in monitored streams in 2025 except for freshet and fall rains (Figures C.5, C.6, D.1c, D.2c, D.3c, D.4c, and D.5c). Suspended material was associated with the hydrological regime, with TSS generally below the DL and relatively elevated TSS concentrations corresponding to elevated stream flows in April through June, depending on the year, representing freshet. Total suspended solids and turbidity were typically low in streams in 2025, with an average of 2.5 mg/L and a max of 47.9 mg/L for TSS and an average of 2.52 NTU and a max of 24.8 NTU (661-05 in April) for turbidity. Field-measured turbidity was similar in 2025, with an average of 2.58 NTU and a max of 22.3 NTU (661-05 in April). TSS observed in 2025 at monitored sites were within the range of baseline values. Laboratory turbidity values were higher than the baseline range at Davidson Creek and Creek 661, turbidity was not measured in the field during baseline years.

Total Dissolved Solids

Total dissolved solids generally followed the same pattern as hardness and alkalinity (Figure C.7). Lower TDS values during freshet and other high flow periods was most pronounced at the Davidson Creek sites when compared to Creek 661, Chedakuz Creek, and regional control sites. The TDS seasonal pattern can be attributed to greater volumes of water related to snowmelt and rainfall runoff inputs to the streams. TDS values observed in 2025 at monitored sites were similar to the observed baseline range.

Major Anions

Overall, the 2025 concentrations of major anions (i.e., bromide, chloride, fluoride, and sulphate) were low in streams (frequently less than the DL; Figures C.8 to C.11).

Bromide concentrations were less than the DL in all monitored streams and years (Figure C.8).

Chloride concentrations were typically less than the DL during baseline years and have remained low but have increased since Year 1 of Construction and in 2025 were greater than the DL (0.5 mg/L) in all samples from Davidson Creek sites (DC-05, DC-10, DC-15) except for one in DC-20 (June) and more than half the samples from Creek 661 sites 661-04 and 661-10 (Figure C.9). Chedakuz Creek sites upstream of CC-10 were less than DL and sites CC-15, CC-20, CC-30, and CC-40 had 25% to 50% detectable concentrations in 2025. However, chloride concentrations have remained low compared to the WQG-AL in the monitored sites and generally less than five time the DL, with a maximum of 2.62 mg/L at 661-05 in September 2023 and a 2025 maximum of 1.93 mg/L at DC-05 and DC-10 in September. There was also a higher percentage of samples with detectable concentrations of chloride at the regional control sites 705-05 and 705-10 in 2025. Chloride concentrations were higher during the Construction period in Davidson Creek, Creek 661, and Chedakuz Creek sites and have decreased slightly but remain elevated when compared to the concentrations measured during baseline and at the control sites.

Fluoride concentrations were seasonally variable with lowest concentrations observed at freshet and were lowest at the regional control sites and highest at the Chedakuz Creek sites (Figure C.10). Fluoride concentrations were similar to baseline ranges at all sites.

The 2025 sulphate concentrations were typically below 5 mg/L at sampled sites, except at sites DC-05, DC-10, and CC-03 where monthly mean sulphate concentrations were frequently observed to be above 5 mg/L (Figure C.11). Sulphate concentrations were also seasonally variable with greater concentrations observed in the winter months. Sulphate concentrations were greater than baseline conditions for all Davidson Creek sites (DC-05, DC-10, DC-15, and DC-20) and 661-03, 661-04, and 661-20 sites in Creek 661.

Nutrients and Organic Carbon

The nitrogen species assessed in streams included total ammonia-N, nitrate-N, and nitrite-N (Figures C.12 to C.14). Total ammonia-N concentrations were generally higher and more variable through all monitoring periods at Chedakuz Creek sites compared to other sites where concentrations were typically less than 0.015 mg/L with some exceptions (Figure C.12). Overall, total ammonia-N concentrations were similar to baseline concentrations or the range observed in control sites in 2025 except for at site 661-10 where concentrations were frequently higher than the observed baseline range.

Nitrate-N and nitrite-N concentrations were seasonally variable, with greater concentrations typically observed during low-flow/winter months (Figure C.13 and C.14). Nitrate-N concentrations in 2025 were similar to the baseline ranges observed except at Davidson Creek sites and sites 661-04 and 661-10 where concentrations more variable and peak concentrations observed during the high flow and in the late fall/early winter months when compared to baseline (Figures C.13 to C.13). Nitrite-N concentrations were typically less than the DL (0.001 mg/L), or similar to the baseline ranges, at all sites in 2025 except for more detectable concentrations in DC-05, DC-10, and 661-10 in 2025 (Figure C.14). However, mean nitrite-N

concentrations for the detectable nitrite-N samples in 2025 at sites DC-05, DC-10, and 661-10 remained low (less than 2.2 times the DL).

Total phosphorus concentrations varied by site and season (Figure C.15). Sites fell within the oligotrophic to meso-eutrophic range (0.02 to 0.035 mg/L), except for site 661-05 which was eutrophic (0.035 to 0.1 mg/L) and 661-10 which was predominately meso-eutrophic to eutrophic (0.02 to 0.1 mg/L) in 2025.
Total phosphorus concentrations generally increased at all sites and peaked sometime between March and June, temporarily increasing one to two trophic ranges at some sites. Total phosphorus concentrations were greater than the baseline years in Davidson Creek sites, particularly DC-05 and DC-10, and were also slightly greater than the baseline years in regional control site 705-05 in 2025. Ortho-phosphorus concentration trends were similar to total phosphorus that they varied by site, with site 661-05 having relatively higher concentrations (greater than 0.02 mg/L) than observed at the other sites. Seasonal variability (peak concentrations observed in the spring at freshet) was observed at some sites and generally ortho-phosphorus concentrations were similar to the baseline years at all sites (Figure C.16).

Similar to total phosphorus, organic carbon concentrations (total [TOC] and dissolved [DOC]) generally varied by site in each watershed and had seasonal variability with peak concentrations observed in the spring at freshet (Figure C.17 and C.18). Organic carbon was predominantly observed as DOC. The TOC concentrations were marginally lower than baseline years at most sites in Davidson and Chedakuz creeks (Figure C.17).

Cyanides

Observed total and weak acid dissociable (WAD) cyanide and thiocyanate concentrations during Operations in 2025 were similar to baseline concentrations at all sites (Figures C.19 to C.21).
Monthly mean total and WAD cyanide and thiocyanate concentrations were typically less than DL at all stream sites in 2025 and during baseline. In 2025, for sites with detectable concentrations of thiocyanate mean monthly concentrations were low (0.6 to 2.9 times the DL) and observed infrequently at impact and control sites. Detections were predominately measured in March (DC-05, DC-10, DC-15, and 661-05), April (DC-15, 661-03, 661-20, CC-15, 705-10, and 705-05), and May (661-03, DC-05, and 705-10) as well as one observation in January (DC-05) and November (661-04).

Total and Dissolved Metals

For most metals, dissolved concentrations constituted a substantial proportion of the total concentration, indicating that metals were frequently in dissolved rather than particulate form (Figures C.22 to C.69). This is to be expected due to the low concentrations of TSS in streams and high TDS concentrations. Therefore, metal concentrations followed a similar temporal pattern to that observed for TDS (Figures C.5, C.7, and C.46 to C.69). The main exception was aluminum, where both total aluminum concentrations were elevated across all sites, a substantial proportion of aluminum was in the particulate form and aluminum therefore typically followed the same pattern as TSS (Figure C.22 and C.5).
Copper, iron, and lead concentrations also tended to follow a similar seasonal pattern to that observed for TSS (i.e., tend to be particulate form; Figures C.31 to C.33 and C.5).

Metals in monitored catchments may stem from natural sources (e.g., weathering of soil and rock, atmospheric precipitation/fallout, forest fires, etc.) as well as anthropogenic sources (e.g., mine Construction and Operation activities, forest harvesting activities, road/trail networks, etc.). Geochemical and biological processes may also be the source for annual variability in metal concentrations. For example, magnesium, potassium, and sodium can be considered conservative and undergo relatively minor changes from natural geochemical and biological processes whereas calcium can be more reactive and are strongly influenced by geochemical and biological processes. Alternatively, metals including iron, silicon, and sulfur can be greatly influenced by microbial activity.

Geographical influences have been observed in the trends and distribution of guideline exceedances (see Section 3.4.2) for total and dissolved metal; consequently, individual watersheds are discussed independently in the following sections.

Davidson Creek Watershed

Davidson Creek is a small headwater stream directly downgradient of Construction and Operation activities.

Consistent with baseline concentrations, total and dissolved aluminum and total iron concentrations were elevated throughout Davidson Creek compared to the observed concentrations of other metals (Figures C.22 to C.69). Total aluminum, arsenic, cadmium, copper, iron, and lead followed a similar temporal pattern to TSS where concentrations were typically higher at freshet and during high streamflow periods (Figure C.5), where other metals were dominated by the dissolved fraction and typically were higher in winter months. Mean monthly concentrations were greater than concentrations observed during baseline years at Davidson Creek sites to varying spatial and temporal extents, for the majority of metal parameters, with the exception of boron, lithium, molybdenum, and selenium in 2025. For most parameters relatively elevated concentrations in 2025 compared to baseline were observed at sites DC-05 and DC-10. Total and dissolved uranium (Figure C.43 and C.67) and zinc (Figure C.45 and C.69) were elevated downstream to site DC-15. Total and dissolved barium (Figure C.25 and C.49), cobalt (Figure C.30 and C.54), and total lead (Figure C.33) were elevated downstream to site DC-20. Greater concentrations were observed at DC-20 but not upstream s for dissolved iron (Figure C.56) and manganese (Figure C.59). For some parameters, concentrations were relatively elevated in the Construction monitoring years (2023 and 2024) but had comparatively decreased in 2025 and were more similar to baseline concentrations. This included total nickel (Figure C.38), thallium (Figure C.42), beryllium (Figure C.26), iron (Figure C.32) and manganese (Figure C.35) at site DC-15; and total and dissolved vanadium (Figure C.44 and C.68) at sites DC-15 and DC-20.

Many higher metal concentrations observed at freshet and rainfall events (aligned with TSS) where runoff from wildfire impacted land was a contributor to observed stream metal concentrations, however temporal increases in parameters observed in 2025 were associated with mine-related activities such as the March 2025 TSS laden water release, May and June 2025 clearing activities, and diversions from the non-contact water during Q1 and unrecovered seepage form the TSF-C in Q3 and Q4; see Section 3.4.1.2 for more details.

Metals that have remained consistent with baseline concentrations (i.e., less than the DL or within the observed range) through time include: total boron (Figure C.27) and lithium (Figure C.34) and dissolved antimony (Figure C.47), beryllium (Figure C.50), boron (Figure C.51), chromium (Figure C.53), lithium (Figure C.58), mercury (Figure C.60), molybdenum (Figure C.61), nickel (Figure C.62), and selenium (Figure C.63).

Creek 661 Watershed

Creek 661 runs south of the footprint of the mine and a tributary of Creek 661 is located within the footprint of mining facilities, including a portion of the proposed Open Pit and potentially may receive seepage from the TSF.

Many of the total metal concentrations in Creek 661 were higher in the Construction period and 2025 when compared to baseline. Total metal concentrations that were higher than baseline in Creek 661 sites included: total aluminum (Figure C.22), antimony (Figure C.23), arsenic (Figure C.24), barium (Figure C.25), beryllium (Figure C.26), cadmium (Figure C.28), chromium (Figure C.29), cobalt (Figure C.30), copper (Figure C.31), iron (Figure C.32), lead (Figure C.33), manganese (Figure C.35), nickel (Figure C.38), selenium (C.39), silver (Figure C.40), vanadium (Figure C.44), and zinc

(Figure C.45). Higher concentrations were predominately observed at sites 661-04, 661-05, and 661-10 though total aluminum, beryllium, cadmium, copper, iron, manganese, mercury, and vanadium concentrations were higher at sites 661-01 and/or 661-03 during the spring/freshet period compared to the previous monitoring years. Baseline data collection was initiated in July 2022 for sites 661-01, 661-03, and 661-04 and thus there is uncertainty for this visual analysis of trends in Construction and Operation (October 2022 to December 2025) when compared to baseline.

Dissolved metal concentrations were typically similar to baseline concentrations except for: detectable concentrations of antimony (Figure C.47) as sites 661-04 and 661-10 (Figure C.47); uranium and vanadium in Q1 at site 661-05 (Figure C.67 and C.68); zinc at sites 661-04, 661-05, and 661-10 (Figure C.69); and arsenic (Figure C.48), cadmium (Figure C.52), cobalt (Figure C.54), copper (Figure C.55), iron (Figure C.56), manganese (Figure C.59), nickel (Figure C.62), selenium (Figure C.63) at site 661-10. Baseline monitoring for dissolved metals at sites 661-01, 661-03, and 661-04 initiated in August 2022 therefore baseline freshet and high streamflow concentrations are not available; however, relative to the trends in other sites and available (2023 and 2024) data dissolved metal concentrations were relatively high for dissolved aluminum at sites 661-01, 661-03, and 661-04 (Figure C.46); dissolved iron at site 661-01 and 661-03 (Figure C.56); dissolved manganese at site 661-03 (Figure C.60); and dissolved silver at sites 661-03 and 661-04 (Figure C.64).

Overall, all parameter concentrations in 2025 were lower when compared to the Construction period (2023 and 2024) and similar to baseline at Creek 661 sites with few exceptions for 661-10 (e.g., total and dissolved manganese; Figure C.35 and C.59). Higher metal concentrations in Creek 661 sites may partly be attributed to the wildfire activity that occurred in the watershed, particularly those that align with greater concentrations of TSS beginning with the 2025 snowmelt in late March and freshet conditions. Mine-related contributors to higher metal concentrations in Creek 661 in 2025 included ongoing Construction activities which included discharge to the ground from the PS-SCP and an ore stockpile dust event that occurred in Q1 2025; see Section 3.4.1.2 for more details of Mine-related effects.

Chedakuz Creek Watershed

Chedakuz Creek is a larger watercourse and influenced by several anthropogenic sources along its length (e.g. forest harvesting activities, road/trail networks, cattle grazing).

Similar to the other monitored watersheds, total and dissolved aluminum concentrations followed a similar temporal pattern to TSS, unlike other metals which were dominated by the dissolved fraction (Figures C.22 to C.69 and C.5). For many metals, concentrations remain low and appear similar across all sites; for others a downstream spatial gradient was observed (e.g., arsenic, barium, copper, iron, manganese). Throughout the Construction and Operations (since 2023), total and dissolved iron and molybdenum appear to have increased at site CC-40 (Figures C.32, C.56, C.37, and C.61). Total and dissolved uranium have also increased at site CC-40, and CC-30 to a lessor extent, however uranium concentrations have also increased at upstream sites CC-03 and CC-05 and there is no distinct spatial pattern in the Chedakuz Creek sites (Figure C.43 and C.67). Some metals were observed to be greater than baseline during the Construction period but are generally lower in 2025 when compared to the 2024 observations (e.g., aluminum, total barium, total lead).

Regional Control Sites

The 2025 mean monthly metal concentrations and seasonal trends at the regional control sites, 705-05 and 705-10 on Creek 705 and FC-01 on Fawnie Creek tributary, have typically been consistent through time (Figures C.22 to C.69). One exception is total and dissolved manganese at site 705-05 which appears to have increased in 2025 compared to the baseline and Construction monitoring periods (Figure C.35 and C.59). Similar to the other monitored watersheds, total and dissolved aluminum concentrations followed a similar temporal pattern to TSS, unlike other metals which were dominated by the dissolved fraction.

Concentrations of metals at regional control sites were similar across sites or higher in Creek 705 than at FC-01, with the exception of total and dissolved arsenic, cadmium, and vanadium which were typically higher in FC-01. Concentrations of metals at regional control sites were lower or similar to concentrations observed at monitored impact sites in Davidson Creek, Creek 661, and Chedakuz Creek.

3.4.1.2 Comparison to Baseline

Methods

Field Measurements

To assess Mine-related effects on field measured surface water quality parameters, the measured values during Construction (October 2022 to December 2024) and Operations (2025) monitoring periods were compared to available baseline measurements (2016 to September 30, 2022).

Before-After-Control-Impact Statistical Analysis

A before-after-control-impact (BACI) analysis was completed on the surface water quality laboratory results for sites and water quality parameters to determine if there were Mine-related effects in surface water quality at potential impact sites downstream of Construction activities. Analysis was performed using R statistical computing package (R Core Team 2025).

Data transformations (e.g., log transformation) were completed if determined to be appropriate (e.g., to achieve random distribution of residuals). For all effects analyses, statistical results were considered unreliable if more than 70% of the values in the dataset for a parameter are below analytical DLs (i.e., highly censored data).

The BACI analysis introduces a class effect to a mixed model Analysis of Variance (ANOVA), which is based on the classification of a site as an impact or a control site. The mixed model ANOVA also included the fixed effect of period (before versus after), and random effects of year, month, and site to account for variability across sites and season in water quality data. For the period effect, data were grouped into one of two periods: before the start of Construction activities (2016 to September 2022) or after (October 2022 onwards).

A significant interaction between the (time) period and class effects reveals whether any before (baseline) - after (Construction and Operation phases) change in the mean parameter concentration that occurred in the exposure site has not occurred in the control site. The overall site (control versus impact) and period (before versus after) interaction significance (p-value less than significance level [α] of 0.05) was assessed using an F test. To reduce the number of false positives (Type I error) due to the large number of statistical tests conducted, a multiple test correction was applied to the significance level of 0.05.

It is hypothesized that if Mine-related activities affected surface water quality, then there would be a significant change in surface water quality at near-field impact sites in comparison with baseline concentrations or control sites. However, if a change in the mean is detected by the before-after comparison, but the BACI analysis indicates that a parallel change also occurred at the control site (control versus impact), it is reasonable to conclude that this change is likely a natural phenomenon or unrelated to Mine-related activities. Similarly, if a change is detected at mid- or far-field sites but not at near-field sites or the control site, it is reasonable to conclude that this change is likely the result of non-Mine related activities (e.g., wildfire, or forestry or agricultural activities downstream of the Mine and upstream of the sampling site).

To support the interpretation of the mixed model ANOVA, a post-hoc power analysis was conducted to determine the observed power for the fixed effects in the repeated-measures ANOVA at a 95% significance level (alpha = 0.05). In this statistical framework, “power” refers to the model’s capacity to accurately reject a false null hypothesis.

A precautionary approach was used to determine if an effect is attributable to the Mine-related activities in cases of unexplained significant interactions using professional judgement, and/or field data to confirm significantly greater or lower concentrations.

Results

Field Measurements

Where baseline data was available, stream field measurements generally fell within their baseline conditions or reference ranges for pH, temperature, conductivity, and dissolved oxygen (Appendix D). On occasion, field measurements were observed to deviate from this range, however, these deviations were not consistent and likely due to the inherent high natural variability in freshwaters.

Before-After-Control-Impact Statistical Analysis

A BACI analysis was completed for water quality parameters to determine if there were Mine-related effects during the Construction and Operation period downstream of Mine-related activities. The BACI analyses was completed for the downstream impact sites in Davidson Creek, Creek 661, and Chedakuz Creek watersheds.

The BACI analyses was completed for the water quality parameters that were greater than the baseline period (2016 to September 2022) benchmark (i.e., 95th percentile concentrations plus 20%) during the Construction and Operations period for two or more consecutive months (i.e., not indicative of a spurious observation). The comparison of the Construction and Operations period monthly means to the baseline benchmark (i.e., 95th percentile baseline concentration plus 20%) for the Davidson Creek, Creek 661, and Chedakuz Creek watershed sites DC-05, DC-10, DC-15, DC-20, 661-05, 661-10, 661-20, CC-15, CC-20, CC-30, and CC-40 are provided in Appendix E-1.

Water quality parameters selected for BACI analysis for each of the watersheds were:

- Davidson Creek - TSS, turbidity, chloride, sulphate, ammonia-N, nitrate-N, nitrite-N, total phosphorus, total aluminum, antimony, arsenic, barium, cadmium, chromium, cobalt, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, silver, strontium, thallium, uranium, vanadium, and zinc; and dissolved aluminum, cadmium, iron, manganese and zinc. Dissolved cobalt was also included in response to the Level 3 trigger concentrations established in the Draft Groundwater Trigger Response Plan for Non-Point Source Discharges to Ground.
- Creek 661 - pH, TSS, turbidity, TDS, chloride, sulphate, ammonia-N, nitrate-N, total phosphorus, ortho-phosphorus, total aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, strontium, uranium, vanadium, and zinc; and dissolved aluminum, cadmium, iron, copper, manganese, and zinc.
- Chedakuz Creek: pH, turbidity, chloride, sulphate, ammonia-N, nitrate-N, total aluminum, arsenic, cadmium, cobalt, iron, lead, manganese, nickel, and uranium; and dissolved iron, manganese and zinc.

However, because 70% of the observations were less than the analytical detection limit, the BACI analyses were not completed for some parameters (Appendix E-2).

Davidson Creek

In lieu of the BACI analyses (that could not be completed), graphical analysis (i.e., a visual assessment) of the plots provided in Appendix C indicated that the greater concentrations in 2025 at Davidson Creek sites when compared to baseline (that was not observed at regional control sites) were likely associated with construction activities, the 2023 wildfire, and/or 2025 Mine activities. The parameters with 2025 concentrations greater than baseline at one or more sites (based on graphical analysis) and the activity likely related to the increase are described below.

The 2023 Wildfire, March 2025 TSS Laden Water Release, and May and June 2025 Clearing Activities

TSS (Figure C-5), chloride (Figure C-9), total ammonia-N (Figure C-12), nitrate-N (Figure C-13), nitrite-N (Figure C-14), total antimony (Figure C-23), total and dissolved cadmium (Figure C-28 and Figure C-52), total chromium (Figure C-29), total and dissolved lead (Figure C-33 and Figure C-57), total mercury (Figure C-36), total vanadium (Figure C-44), and total and dissolved zinc (Figure C-45 and Figure C-69) increases in 2025 are likely related to the water in the WMP that was conveyed intermittently throughout 2025 to the former Davidson Creek upstream of the future FWR. Water conveyed from the WMP was collected from the from the non-contact water diversions of overland flow from the 2023 fire-impacted upper Davidson Creek watershed via the CDS and the Creek 688 watershed. The March 2025 release of TSS laden water into Davidson Creek also likely contributed to elevated TSS, turbidity, nitrogen species, and total metals in Q1 2025 when compared to baseline. The tree clearing that was completed upstream of Davidson Creek in May/June 2025 also likely contributed to elevated TSS, turbidity, and total metals in Q2 and Q3 2025 when compared to baseline. The 2025 discharge records in Davidson Creek indicated short-duration flow fluctuations associated with the Mine water management/pumping activities and the largest prolonged rainfall event recorded in August 2025 (KP 2026a). The fluctuations and precipitation events typically lead to increased runoff of TSS laden water and associated total metals (e.g., total aluminum). Other 2025 high rainfall events recorded at the Mine meteorology stations occurred during the period of May 17 and 18, and July 30. The site also experienced warmer (above 0°C) in December 2025 (KP 2026a). Thus, elevated metal concentrations in Q3 and Q4 when compared to baseline (e.g., total zinc) may be related to rainfall events and warmer temperatures in December contributing to a snowmelt.

Unrecovered Seepage from TSF C in Q3 and Q4 2025

Total ammonia-N (Figure C-12), nitrate-N (Figure C-13), nitrite-N (Figure C-14), total and dissolved cobalt (Figure C-30 and Figure C-54), total and dissolved copper (Figure C-31 and Figure C-55a), and total and dissolved silver (Figure C-40 and Figure C-64) concentrations were greater (or were detectable) when compared to the Q3 and Q4 baseline concentrations at DC-05 and DC-10. Concentrations at DC-15 and DC-20 for some metals (i.e., total and dissolved cobalt) were also greater in Q3 and Q4 2025 when compared to baseline however the level of change was not as large when compared to DC-05. The Q4 groundwater concentrations in monitored groundwater wells downstream of the TSF C were greater than predicted (Year 1 TSF Seepage Predictions) for sulphate, nitrogen species, dissolved cobalt, chromium, nickel, silver, copper, and WAD cyanide (Section 4.3.2.3). Thus, greater concentrations of those parameters in surface water when compared to baseline indicate that they are likely associated with unrecovered seepage from TSF C.

2024 Construction Activities

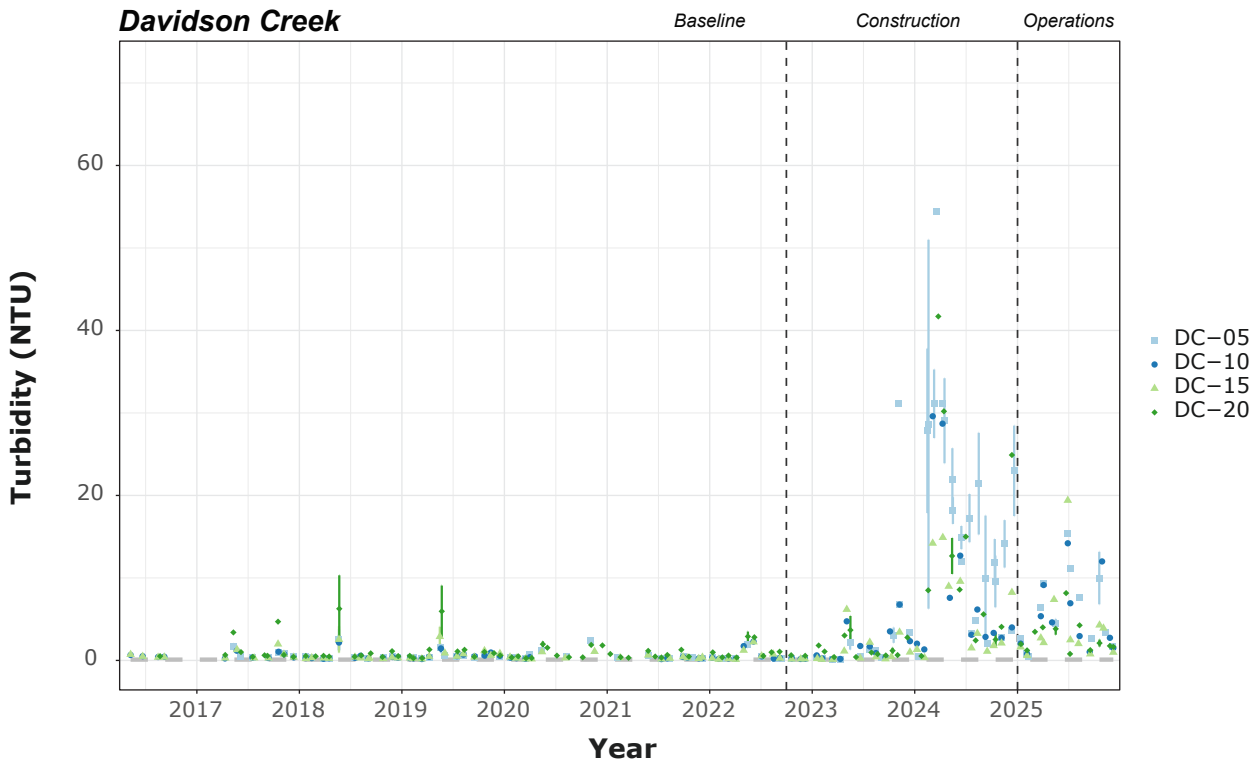
Total thallium (Figure C-42) concentrations were typically lower when compared to 2024 and similar to baseline suggesting no Mine-related effects in 2025.

Results of the BACI analysis are provided in Appendix E-2 and summarized below. Water quality parameters with a significant ($p < 0.05$) “class” (control versus impact) and “period” (before versus after) interaction indicated that changes in the parameter concentrations at monitored impact sites before and after September 2022 were significantly different from the change at the control sites. Davidson Creek water quality parameters with a significant “class:period” interaction indicating that increases are likely related to Mine activities (during construction and/or Year 1 of operations) were turbidity, sulphate, total phosphorus, total aluminum, total arsenic, total barium, total and dissolved iron, total manganese, total molybdenum, total strontium, total uranium. For all other Davidson Creek water quality parameters, the BACI analysis results indicated a non-significant “class:period” interaction; therefore, changes were observed at both control and impact sites and is likely a natural phenomenon or unrelated to the Mine activities.

Water quality parameters with significant “class:period” interactions observed for Davidson Creek sites were plotted to show monthly mean concentrations through baseline years (2016 to September 2022), construction Year 1 (October 2022 to 2023), construction Year 2 (2024) and operations (2025; Figures 3.4-1 to Figure 3.4-22) and discussed below:

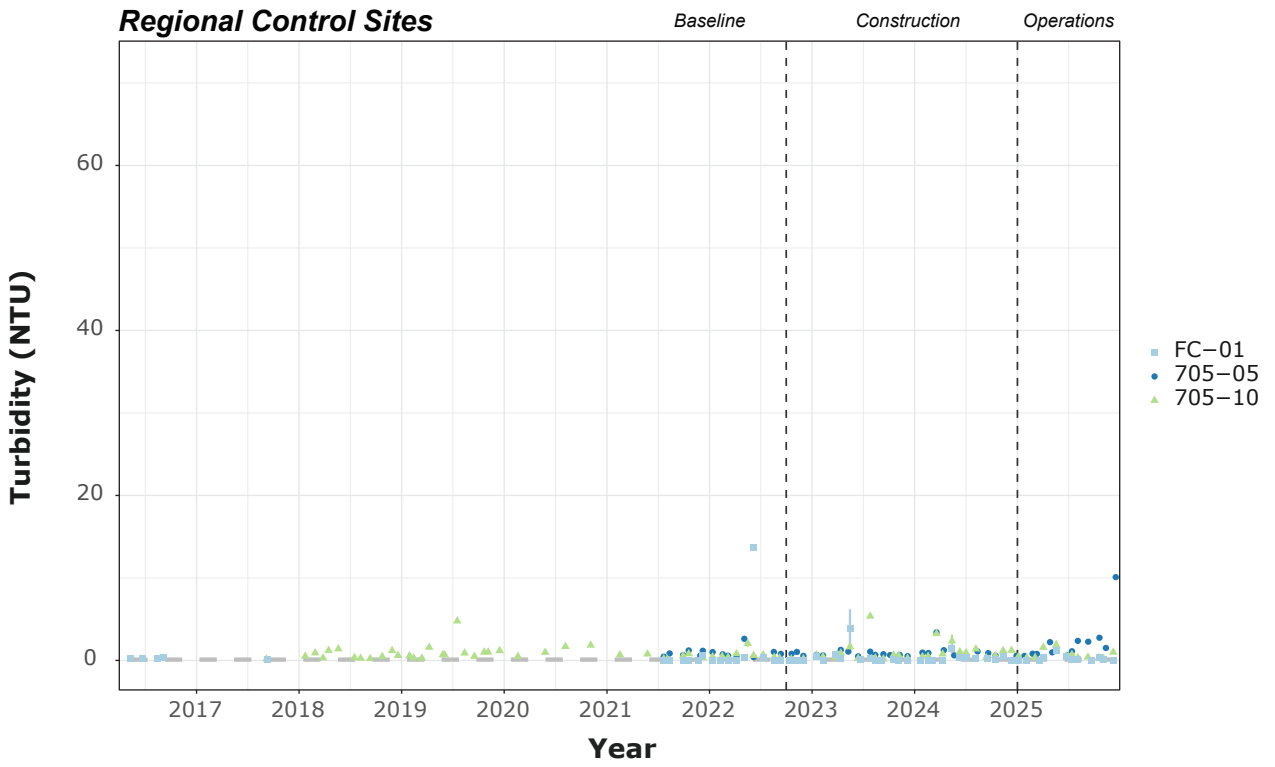
- Turbidity (Figure 3.4-1 and Figure 3.4-2), total phosphorus (Figure 3.4-5 and Figure 3.4-6), and total aluminum (Figure 3.4-7 and Figure 3.4-8): The Q1 to Q3 2025 turbidity, total phosphorus, and total aluminum monthly mean concentrations were greater than concentrations observed during the baseline period at Davidson Creek sites. Differences between the baseline concentrations and the 2025 concentrations beginning in Q1 and Q2 was likely associated with the non-contact water diversions of overland flow from the 2023 fire-impacted upper Davidson Creek watershed via the CDS to the WMP (and conveyed intermittently throughout 2025 to the former Davidson Creek upstream of the future FWR). The March 2025 release of TSS laden water into Davidson Creek also likely contributed to elevated concentrations in Q1 2025 when compared to baseline. The tree clearing that was completed upstream of Davidson Creek in May/June 2025 also likely contributed to elevated concentrations in Q2 and Q3 2025 when compared to baseline. Increases in turbidity and TSS associated total phosphorus and aluminum are also related to the short-duration flow fluctuations associated with the Mine water management/pumping activities and the largest prolonged rainfall event recorded in August 2025 (KP 2026a). Other 2025 high rainfall events recorded at the Mine meteorology stations occurred during the period of May 17 -18, and July 30 corresponding to increases in TSS. There was also a decreasing trend with downstream distance supporting the conclusion the increases are related to the 2025 Mine activities. However, the 2025 monthly concentrations were typically lower when compared to 2024 indicating the statistically significant result is largely related to activities occurring in 2024 (i.e., the TSFC-SCP discharge).
- Total barium (Figure 3.4-11 and Figure 3.4-12): The 2025 total barium concentrations at Davidson Creek sites were generally lower when compared to 2024 concentrations but greater than baseline. This trend suggests the statistically significant effect is largely attributed to the 2024 activities (i.e., initiation of discharge from TSFC-SCP to Davidson Creek). Similar trends were observed in 2023, and there is no consistent trend of increases with downstream distance therefore the greater total barium concentrations are attributed to construction activities and not discharges to Davidson Creek.
- Sulphate (Figure 3.4-3 and Figure 3.4-4), and: The 2025 sulphate mean concentrations observed in Q3 and Q4 were greater than concentrations observed during the baseline period at Davidson Creek sites DC-05 and DC-10. At regional control sites, sulphate was generally similar among monitored years in both the before and after periods. The statistically significant difference is likely associated with TSF C seepage because the increase occurred later in 2025 and the elevated total concentrations were predominantly in the dissolved form (i.e., associated with groundwater seepage).
- Total arsenic (Figure 3.4-9 and Figure 3.4-10): The Q3 mean monthly total and dissolved arsenic concentrations were greater than baseline and are potentially related to the 2025 construction activities (i.e., similar increases in concentrations were observed in 2023 and 2024 although not as large). As observed during the 2023 and 2024 construction period, total and dissolved arsenic concentration in Q4 2025 were similar to baseline concentrations. Thus, any Mine-related effects were limited to Q3 2025.
- Total uranium (Figure 3.4-21 and Figure 3.4-22). The Q1 to Q3 2025 mean monthly total uranium concentrations were greater than baseline and can be attributed to the 2023 wildfire, the TSS laden water release in March 2025 and the tree clearing completed upstream of Davidson Creek in May/June 2025. Greater dissolved uranium in Q3 and Q4 2025 when compared to baseline may be potentially related to groundwater. However, groundwater well concentrations downstream of the TSF C did not have elevated uranium concentrations (Section 4.3.2.3).

FIGURE 3.4-1 MONTHLY MEAN TURBIDITY CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



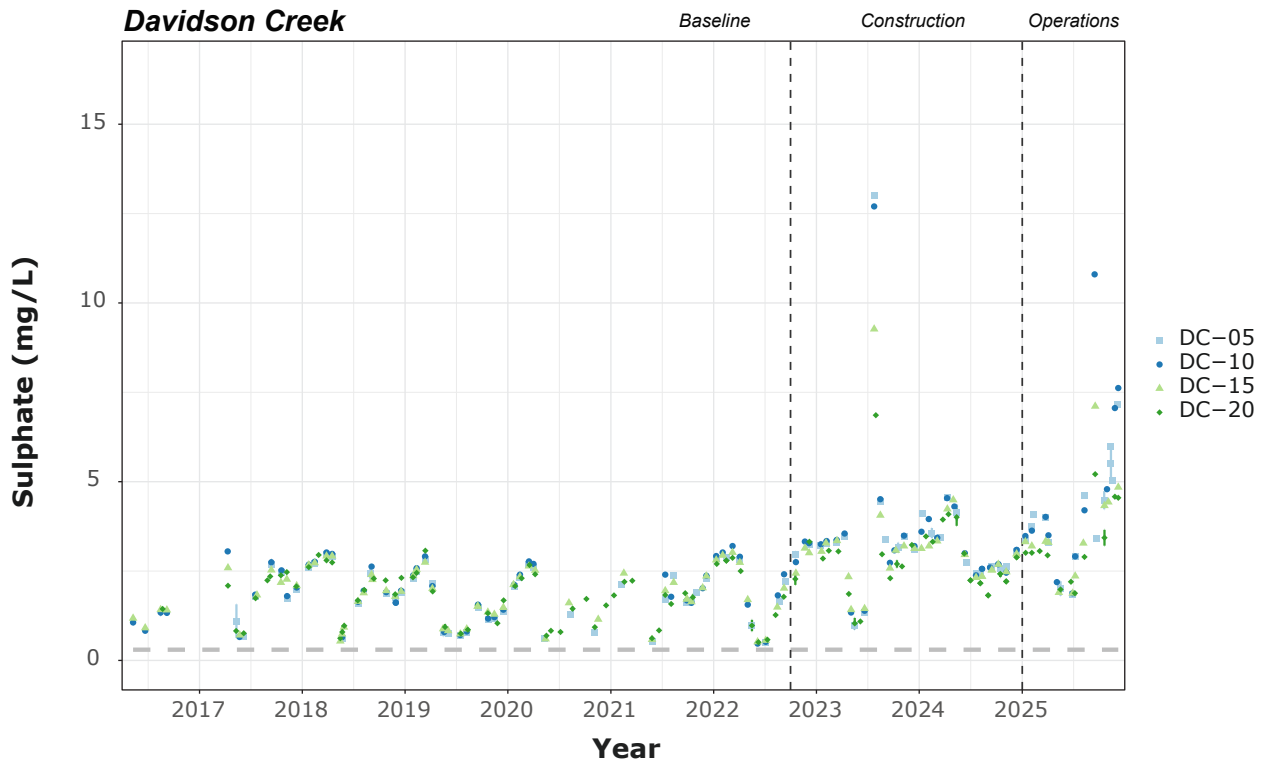
Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
WQGs-AL for turbidity are dependent on background levels.
Proposed YDWL Standard for DC–05 is the BC WQG–AL.

FIGURE 3.4-2 MONTHLY MEAN TURBIDITY CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



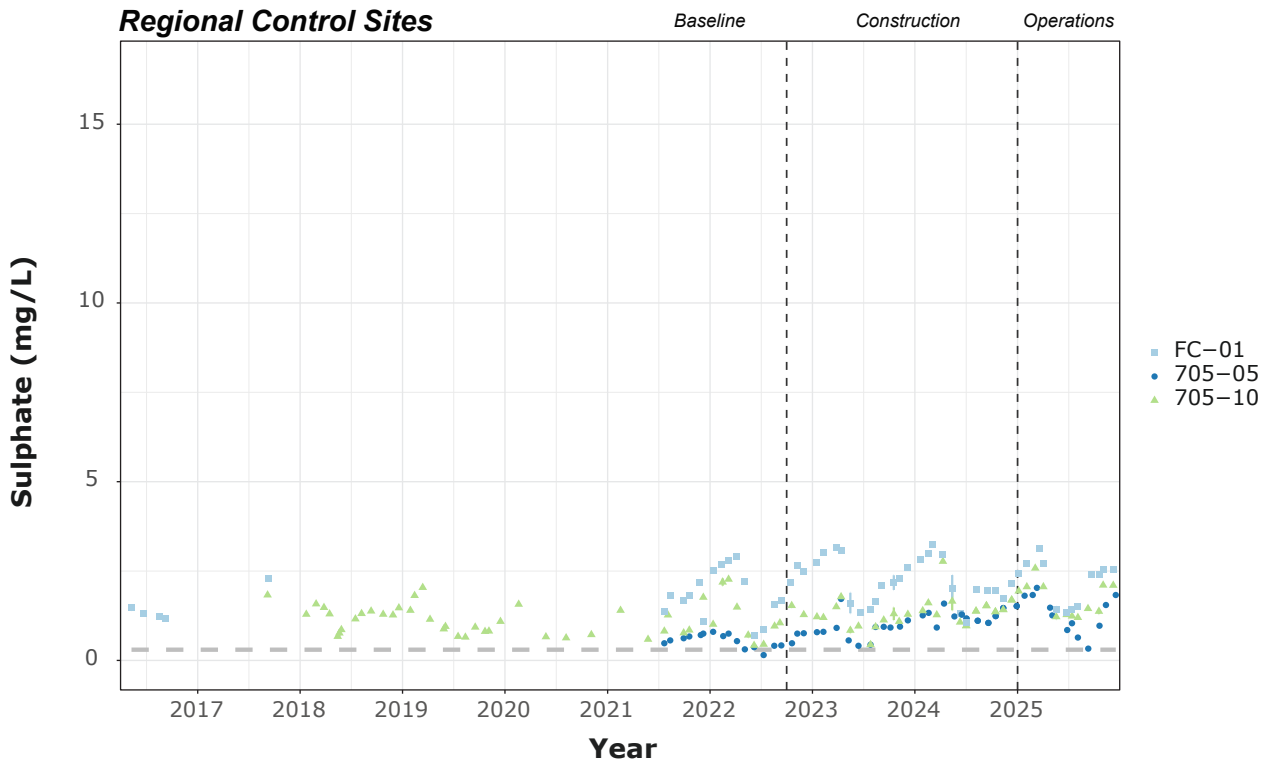
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
WQGs-AL for turbidity are dependent on background levels.

FIGURE 3.4-3 MONTHLY MEAN SULPHATE CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



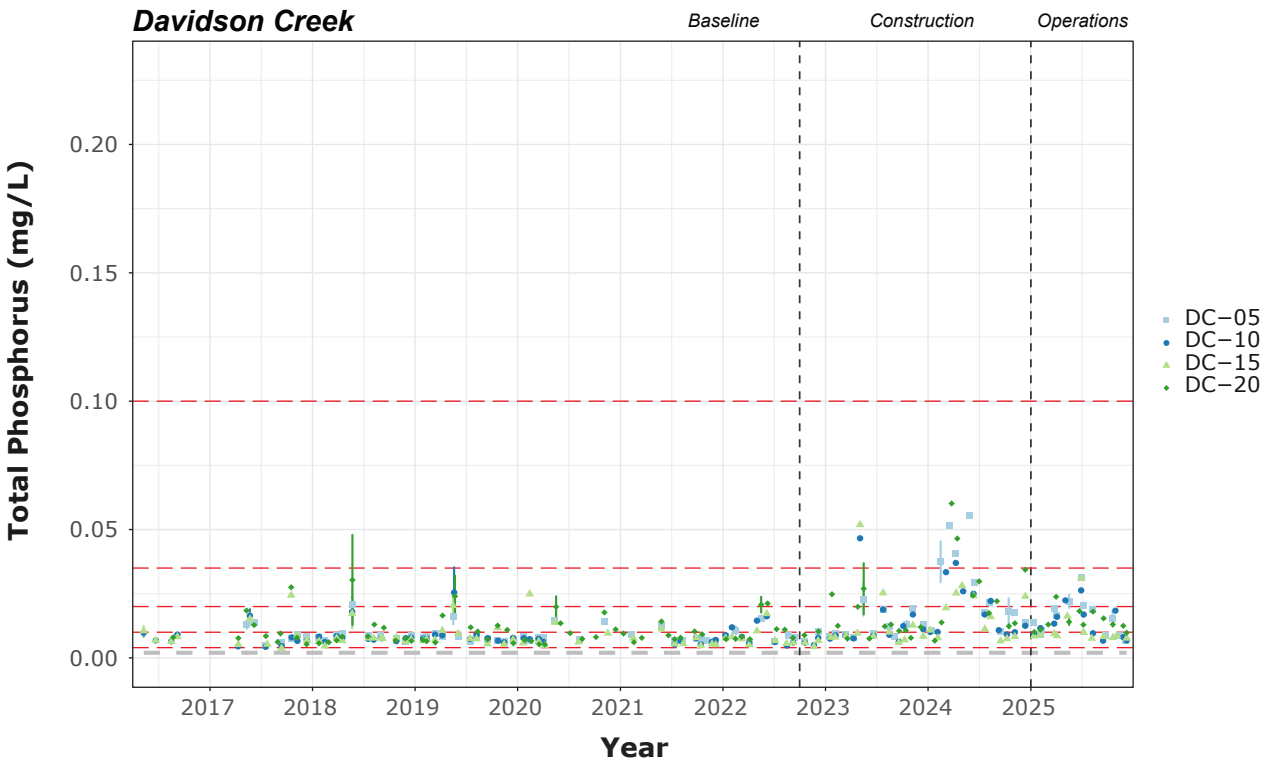
Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC long–term WQG–AL for sulphate is hardness dependent; the minimum calculated value was 128 mg/L.
Proposed YDWL Standard for sulphate at DC–05 is 218 mg/L.

FIGURE 3.4-4 MONTHLY MEAN SULPHATE CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



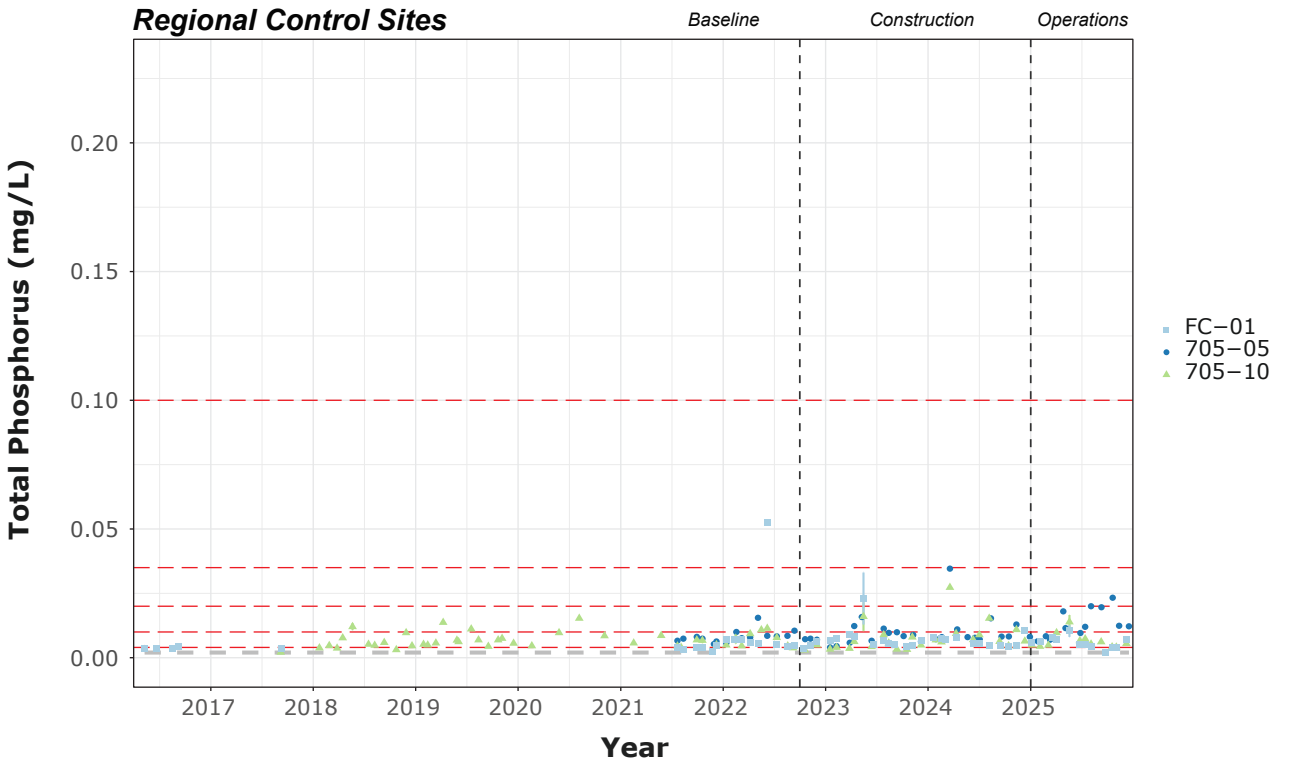
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC long−term WQG−AL for sulphate is hardness dependent; the lowest long−term guideline value is 128 mg/L.

FIGURE 3.4-5 MONTHLY MEAN TOTAL PHOSPHORUS CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



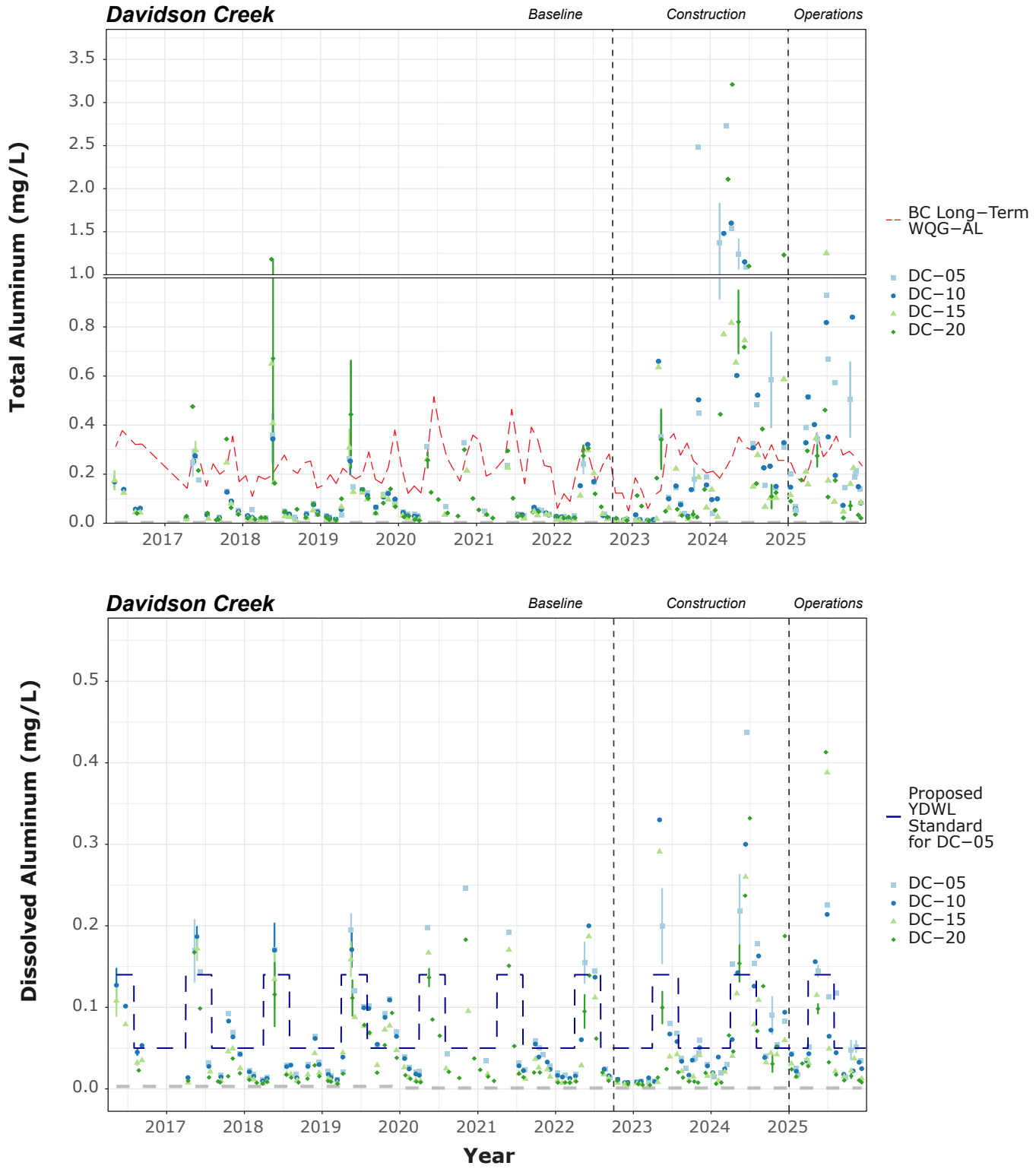
Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Red dashed lines indicate CCME trigger ranges for total phosphorus: Hyper–eutrophic > 0.1 mg/L; Eutrophic 0.035 to 0.1 mg/L; Meso–eutrophic 0.02 to 0.035 mg/L; Mesotrophic 0.01 to 0.02 mg/L; Oligotrophic 0.004 to 0.01 mg/L; Ultra–oligotrophic < 0.004 mg/L.

FIGURE 3.4-6 MONTHLY MEAN TOTAL PHOSPHORUS CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Red dashed lines indicate CCME trigger ranges for total phosphorus: Hyper−eutrophic > 0.1 mg/L; Eutrophic 0.035 to 0.1 mg/L; Meso−eutrophic 0.02 to 0.035 mg/L; Mesotrophic 0.01 to 0.02 mg/L; Oligotrophic 0.004 to 0.01 mg/L; Ultra−oligotrophic < 0.004 mg/L.

FIGURE 3.4-7 MONTHLY MEAN ALUMINUM CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC WQG–AL long–term guideline for total aluminum is pH, hardness, and DOC dependent; the monthly mean calculated guideline is plotted.
Proposed YDWL Standard for dissolved aluminum at DC–05 is 0.14 mg/L (April to July) / 0.05 mg/L (August to December).
SBEBs for Davidson Creek site is dependent on month.

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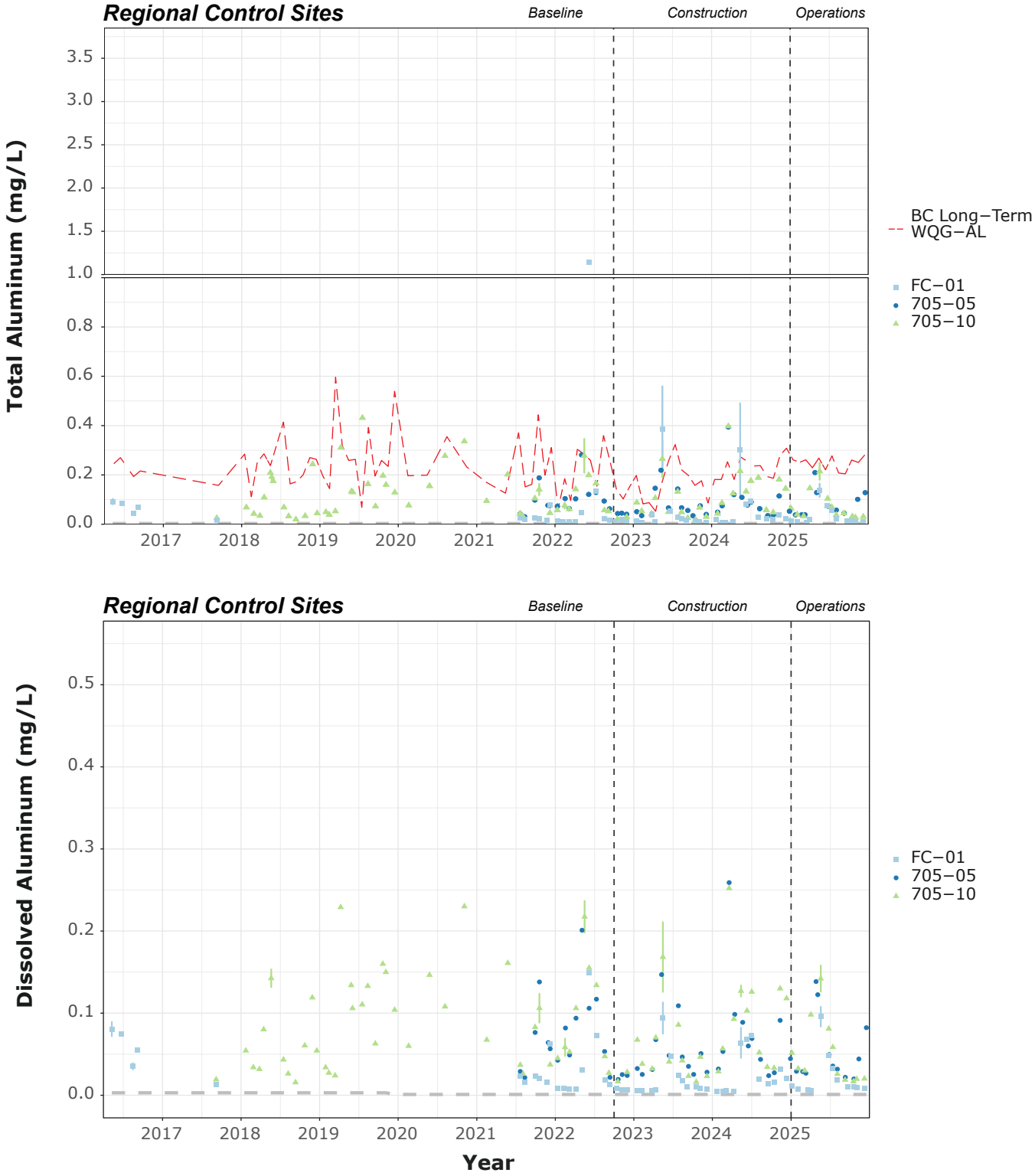
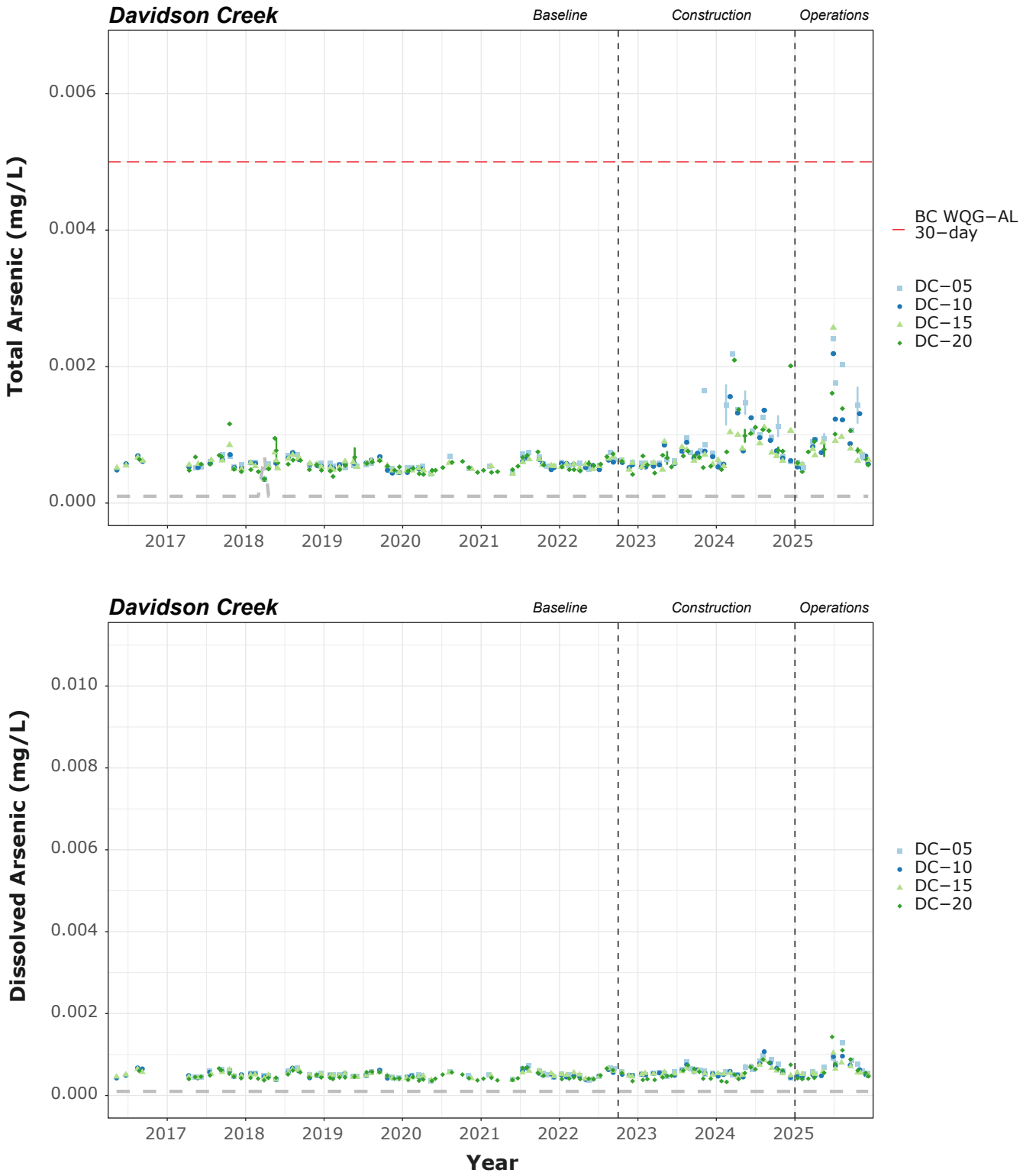
FIGURE 3.4-8 MONTHLY MEAN ALUMINUM CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



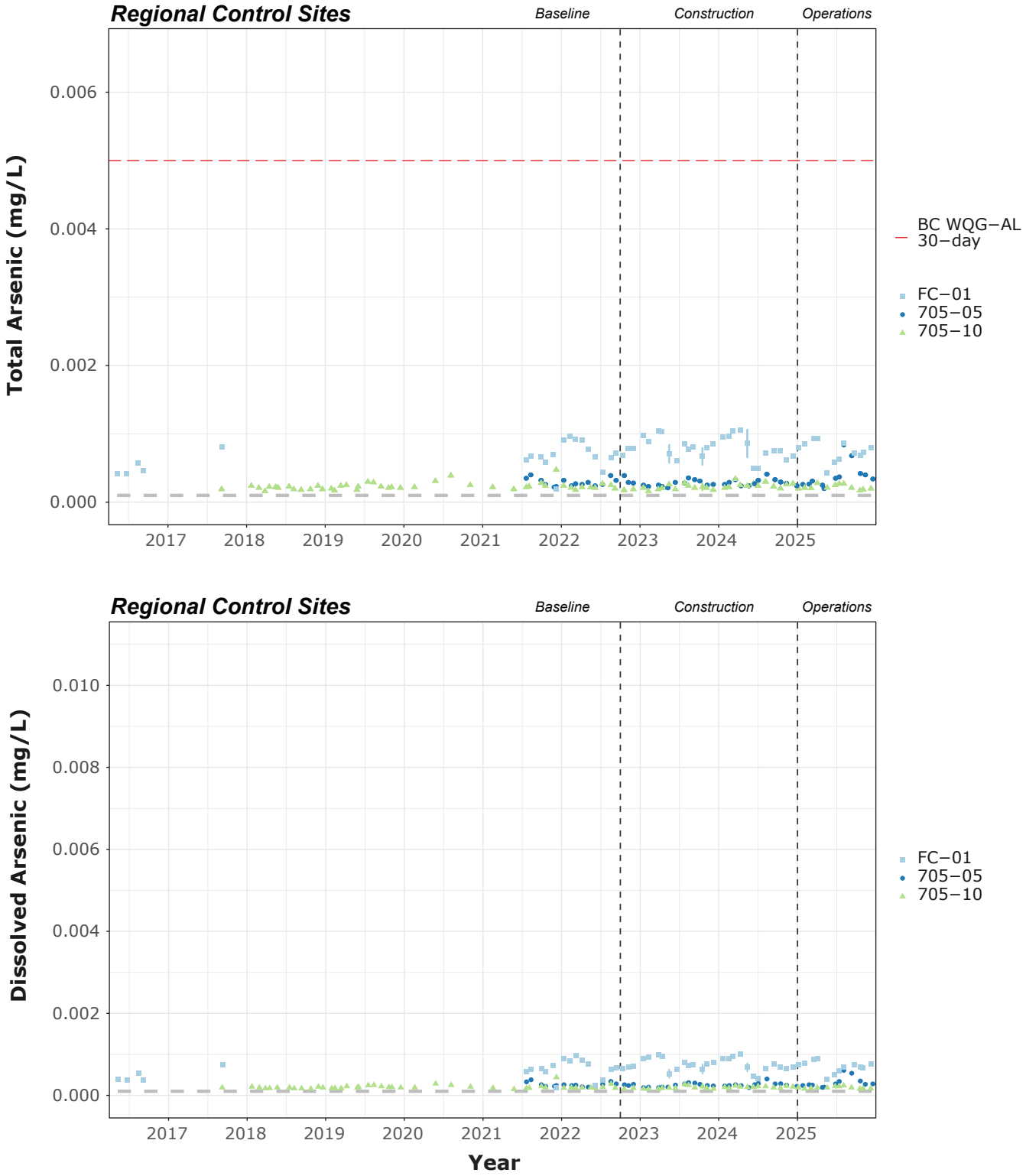
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term guideline for total aluminum is pH, hardness, and DOC dependent; the monthly mean calculated guideline is plotted.

FIGURE 3.4-9 MONTHLY MEAN ARSENIC CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



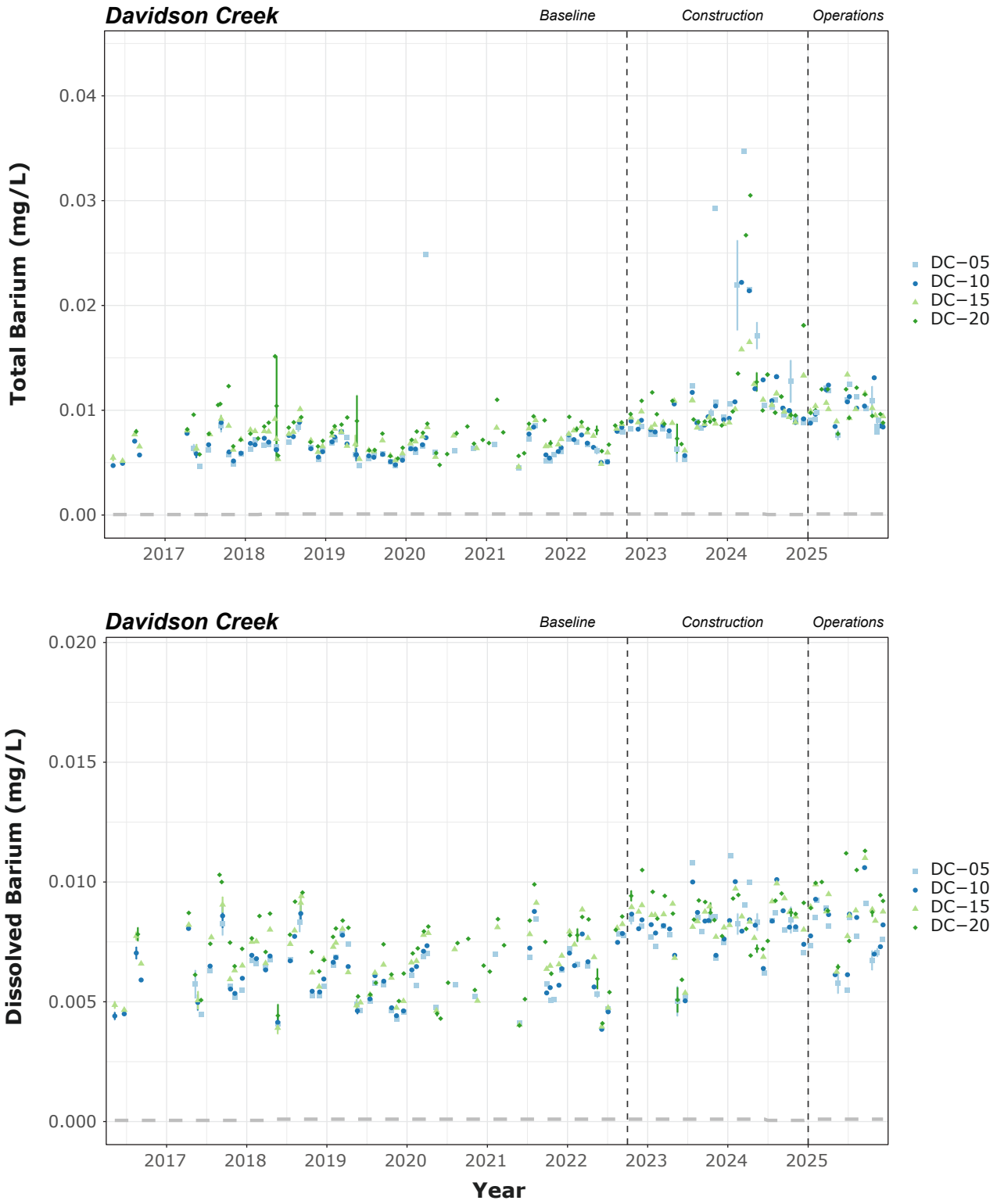
Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term guideline for total arsenic is 0.005 mg/L for a 30–day period.

FIGURE 3.4-10 MONTHLY MEAN ARSENIC CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



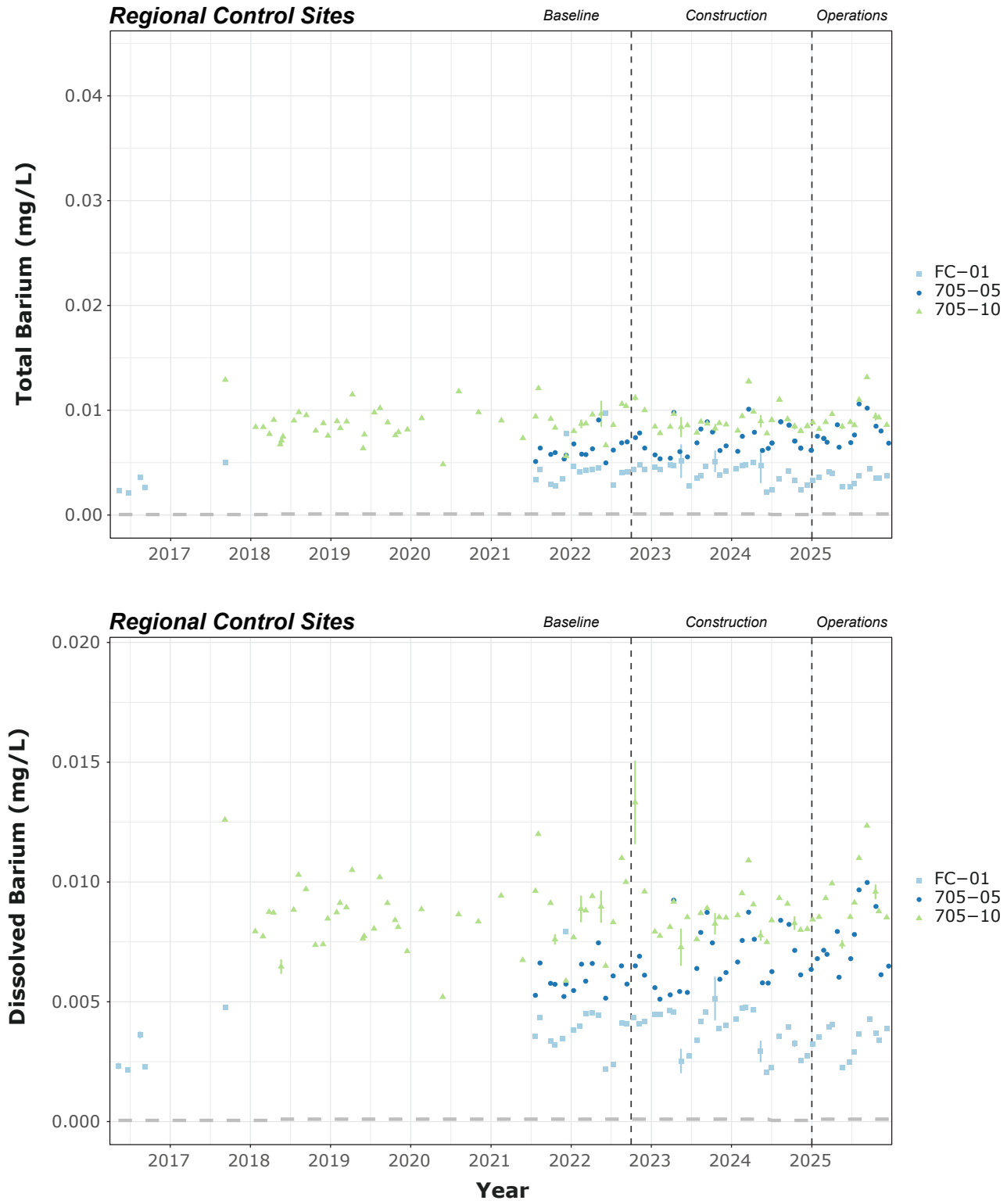
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total arsenic is 0.005 mg/L for a 30−day period.

FIGURE 3.4-11 MONTHLY MEAN BARIUM CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



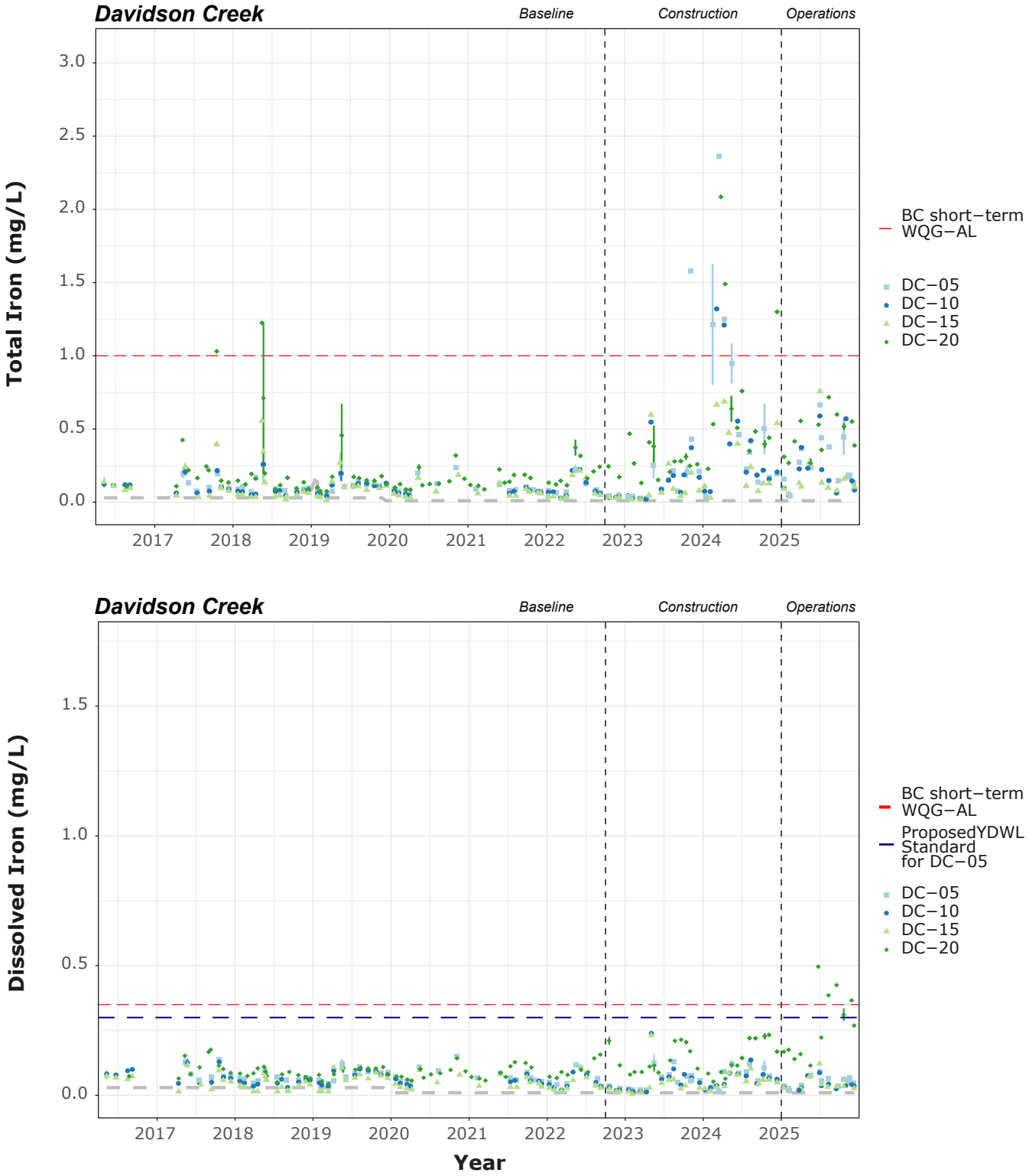
Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term working guideline for total barium is 1 mg/L.

FIGURE 3.4-12 MONTHLY MEAN BARIUM CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term working guideline for total barium is 1 mg/L.

FIGURE 3.4-13 MONTHLY MEAN IRON CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL short–term maximum guideline for total iron is 1.0 mg/L.
BC WQG–AL short–term guideline for dissolved iron is 0.35 mg/L.
Proposed YDWL Standard for dissolved iron at DC–05 is 0.3 mg/L.

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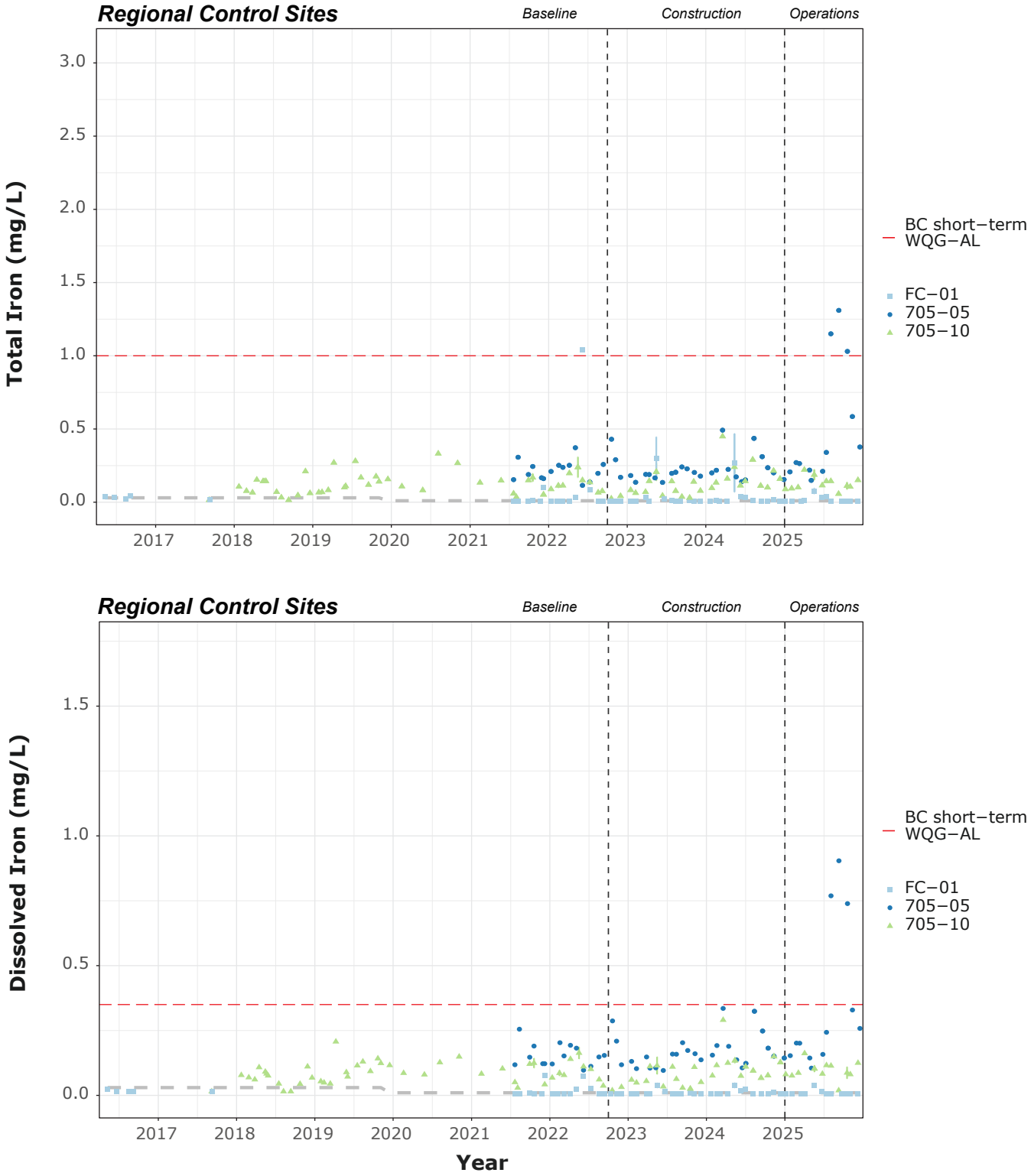
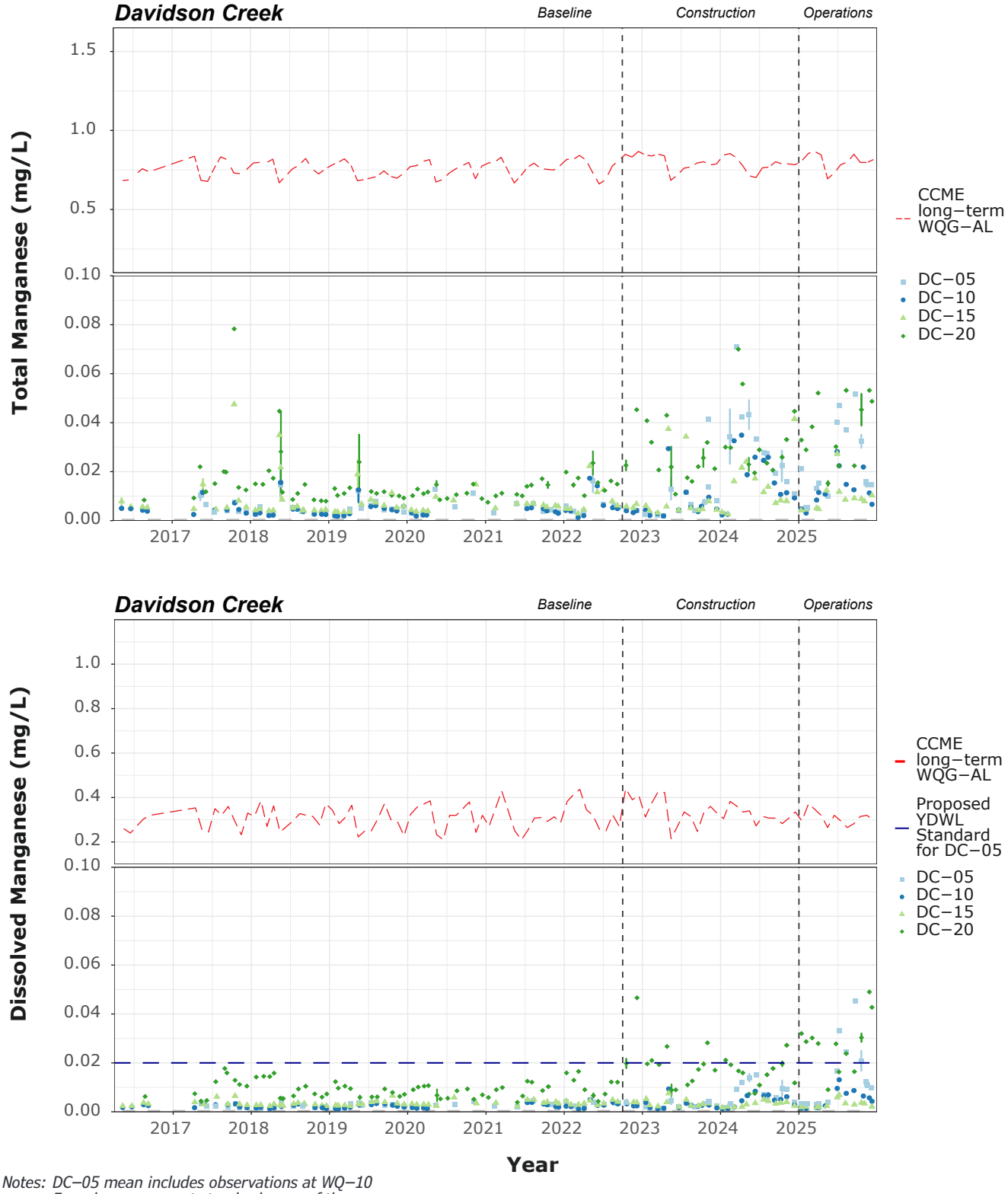
FIGURE 3.4-14 MONTHLY MEAN IRON CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



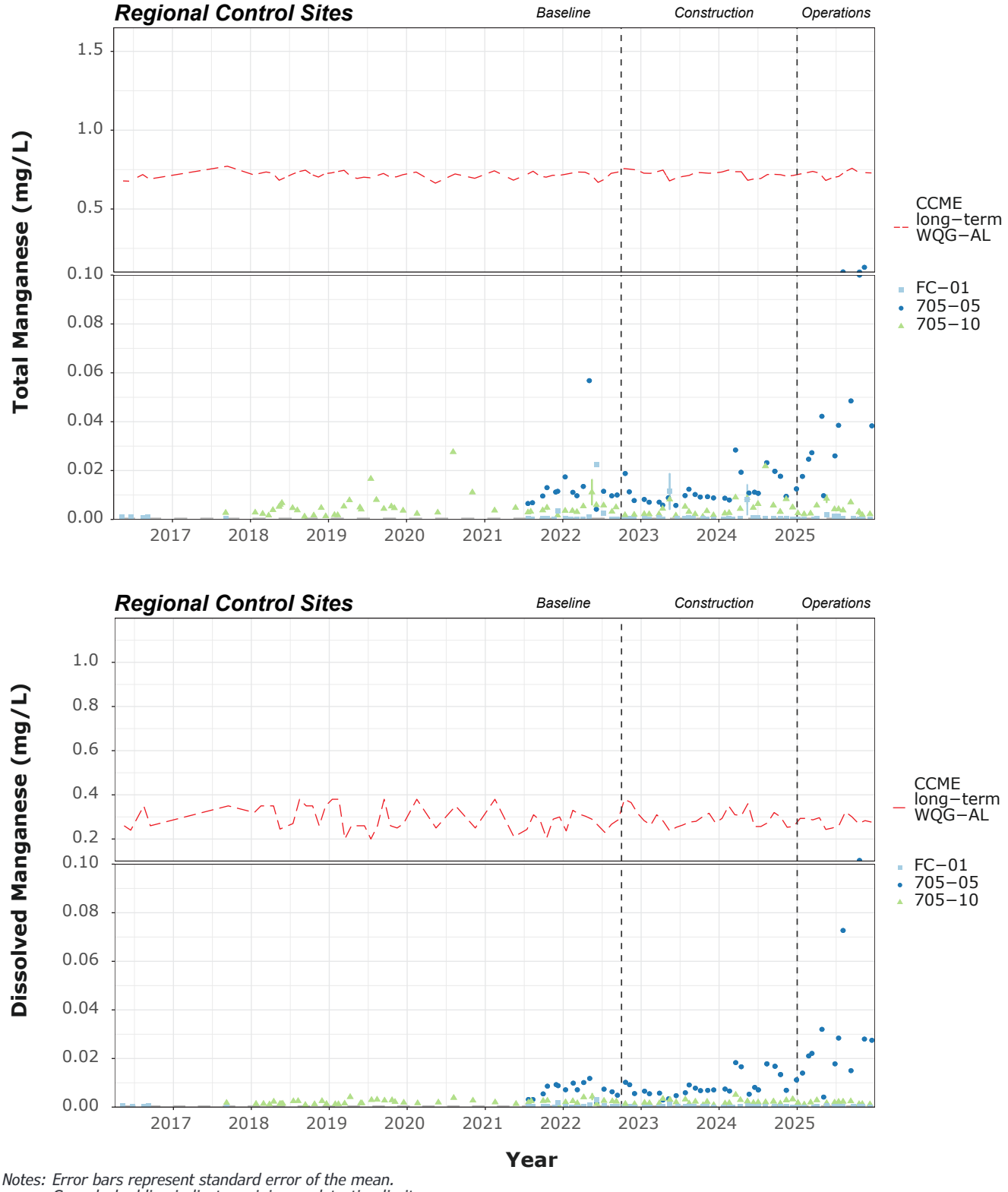
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL short−term maximum guideline for total iron is 1.0 mg/L.
BC WQG−AL short−term guideline for dissolved iron is 0.35 mg/L.

FIGURE 3.4-15 MONTHLY MEAN MANGANESE CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



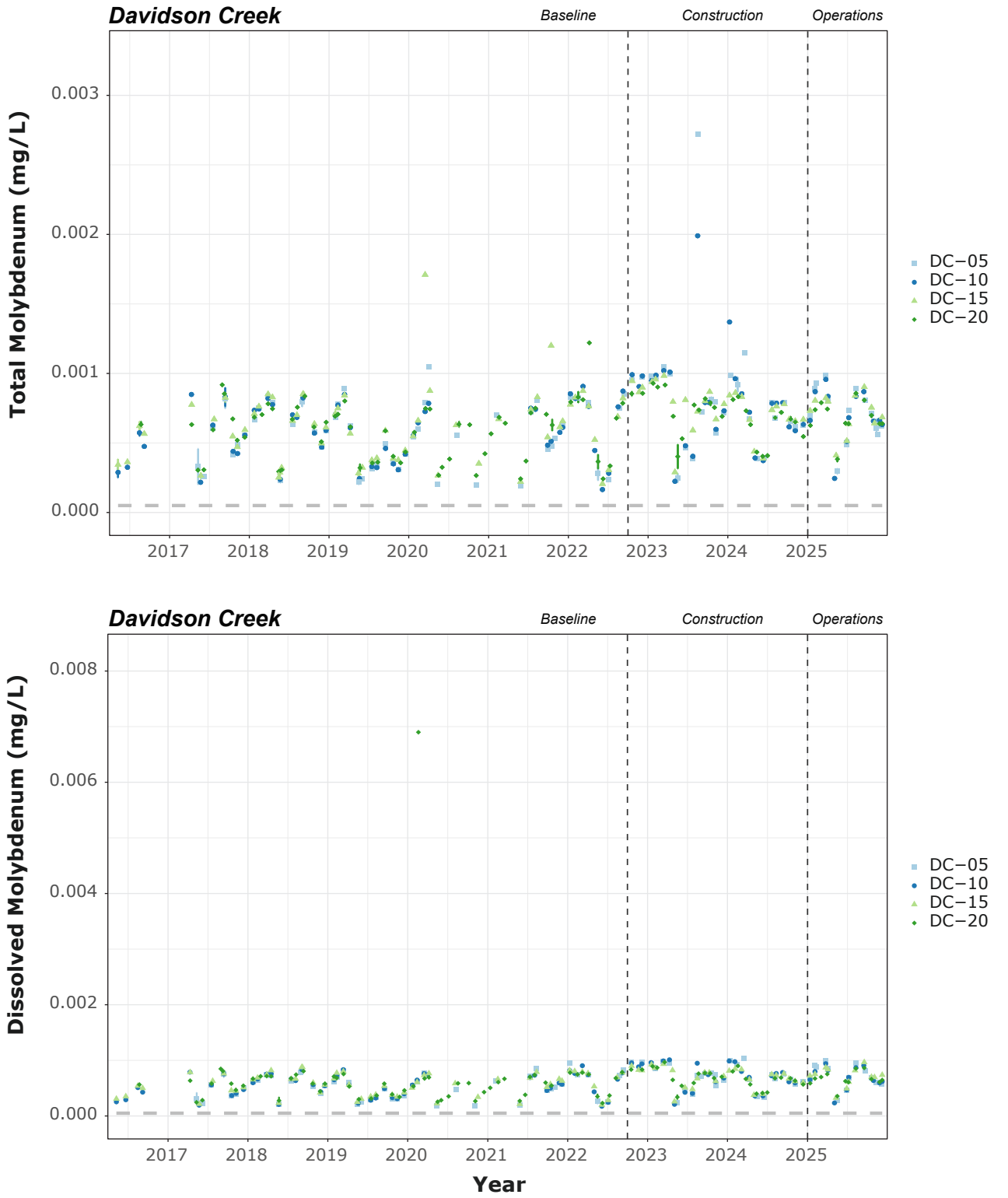
Notes: DC–05 mean includes observations at WQ–10
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC WQG–AL long–term guideline for total manganese is hardness dependent; the monthly mean calculated guideline is plotted.
CCME WQG–AL long–term guideline for dissolved manganese is pH and hardness–dependent; the monthly mean calculated guideline is plotted.
Proposed YDWL Standard for dissolved manganese at DC–05 is 0.02 mg/L.

FIGURE 3.4-16 MONTHLY MEAN MANGANESE CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



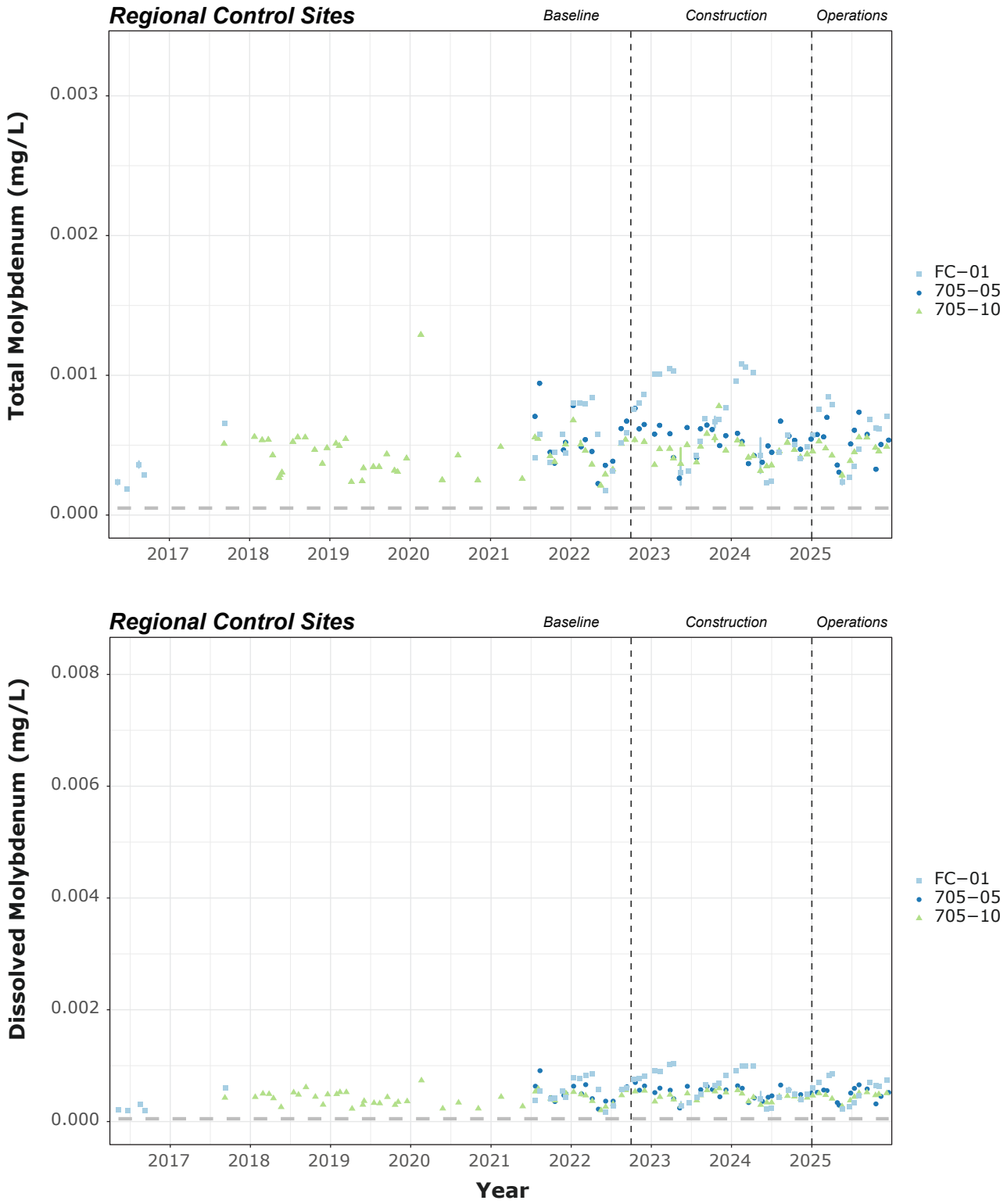
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC WQG–AL long–term guideline for total manganese is hardness dependent; the monthly mean calculated guideline is plotted.
CCME WQG–AL long–term guideline for dissolved manganese is pH and hardness–dependent; the monthly mean calculated guideline is plotted.

FIGURE 3.4-17 MONTHLY MEAN MOLYBDENUM CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



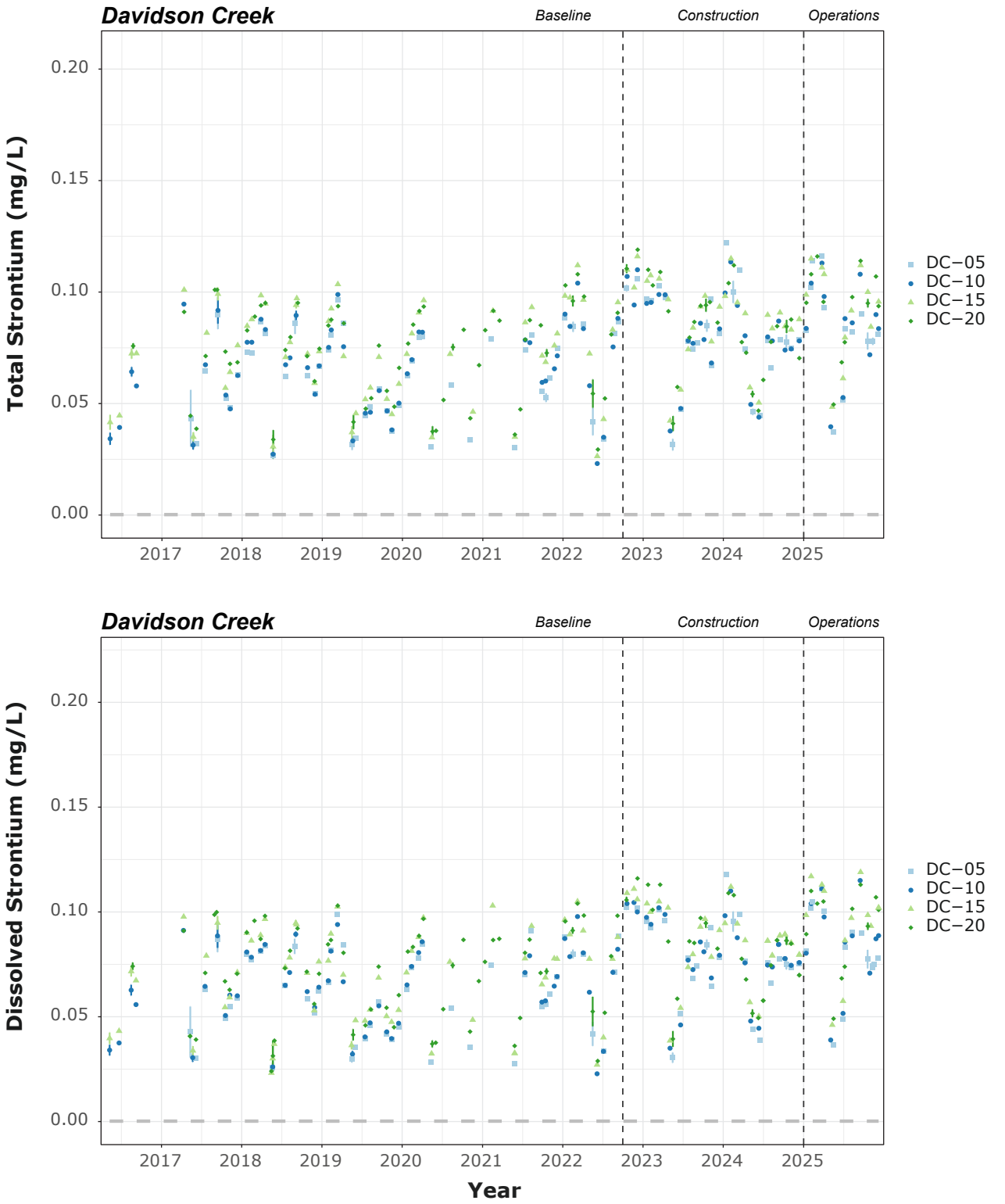
Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL 30–day long–term guideline for total molybdenum is 7.61 mg/L.

FIGURE 3.4-18 MONTHLY MEAN MOLYBDENUM CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



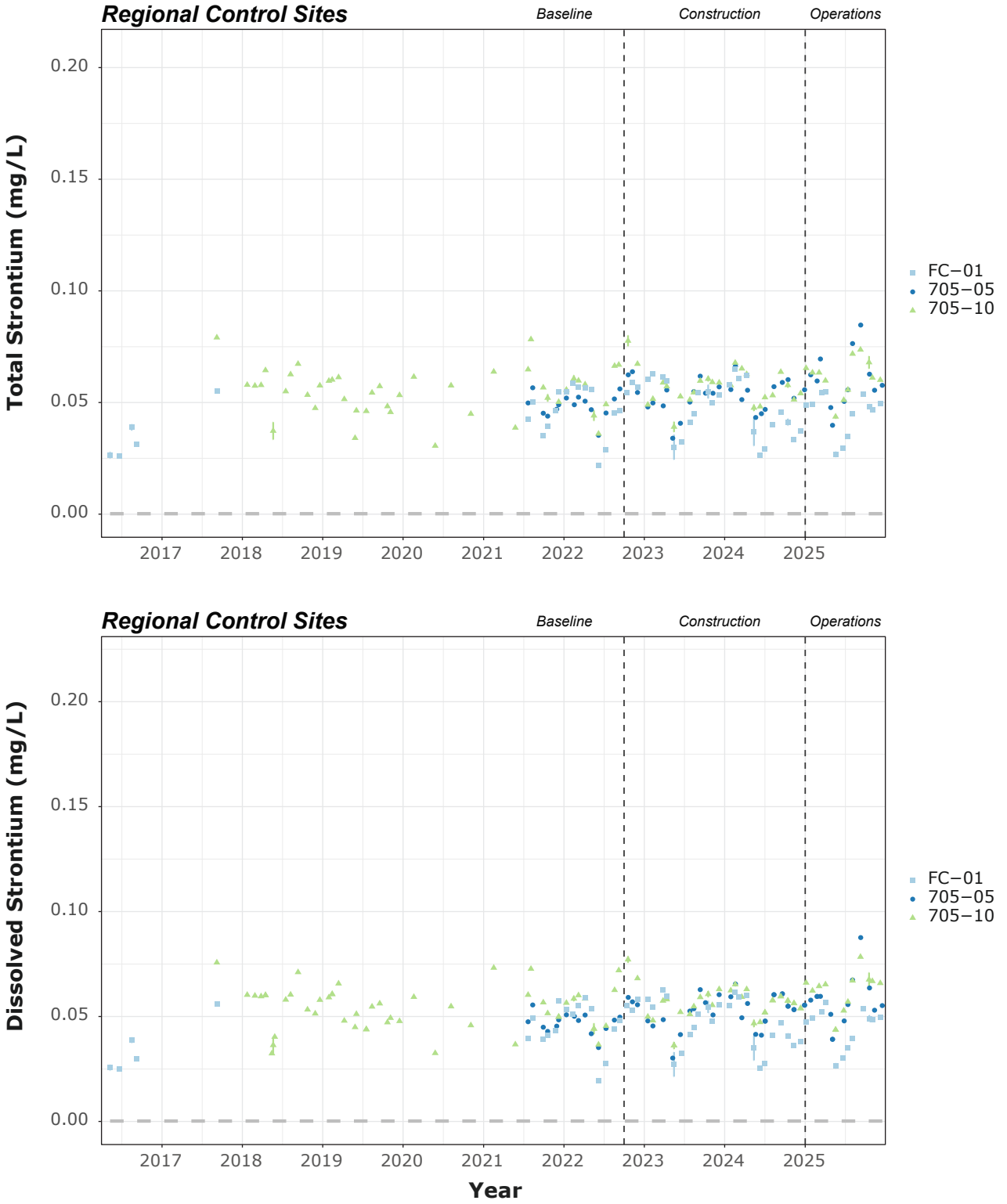
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL 30–day long–term guideline for total molybdenum is 7.61 mg/L.

FIGURE 3.4-19 MONTHLY MEAN STRONTIUM CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



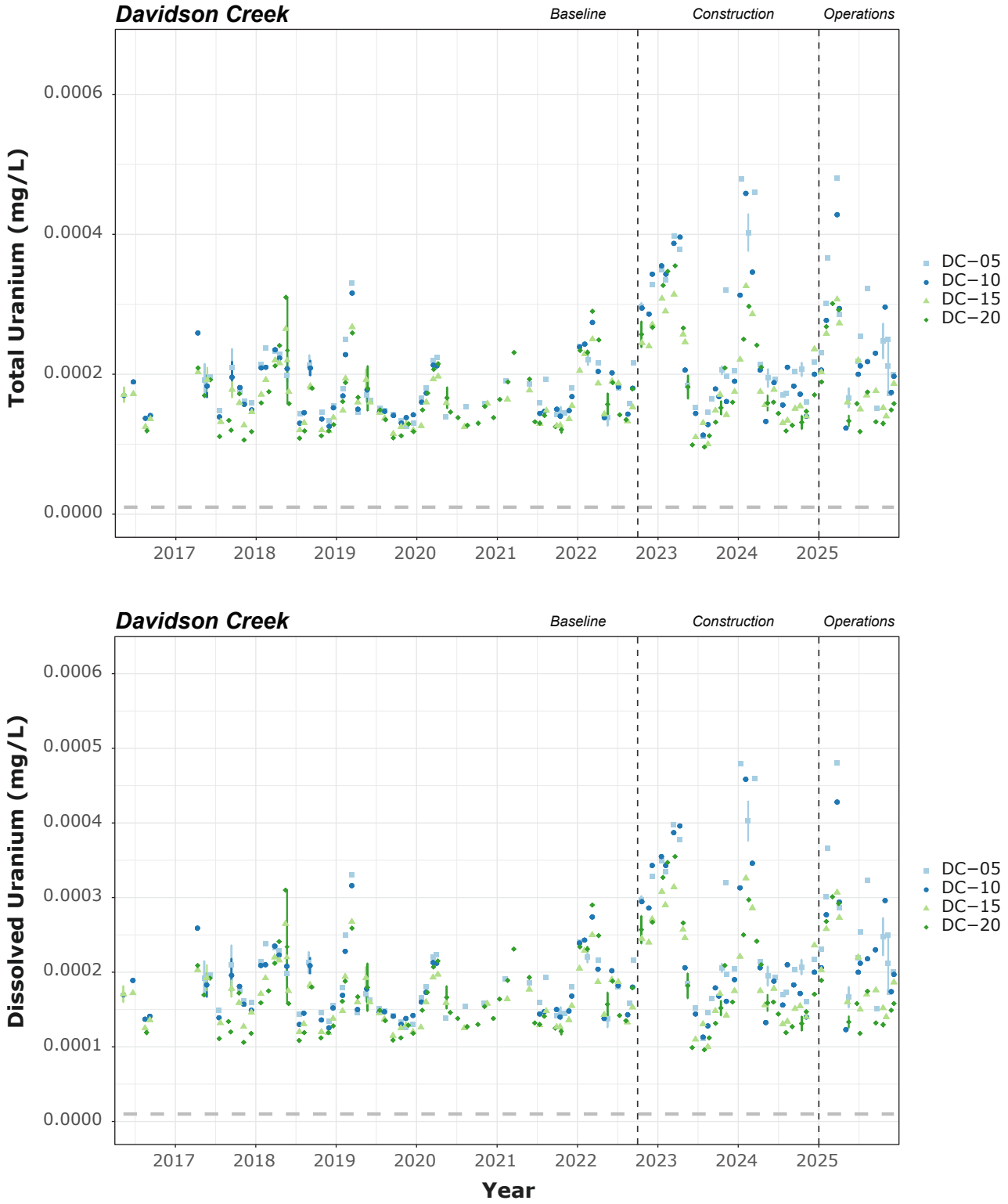
Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term guideline for dissolved strontium is 1.25 mg/L.

FIGURE 3.4-20 MONTHLY MEAN STRONTIUM CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term guideline for dissolved strontium is 1.25 mg/L.

FIGURE 3.4-21 MONTHLY MEAN URANIUM CONCENTRATIONS AT DAVIDSON CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: DC–05 mean includes observations at WQ–10.
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL working long–term guideline for total uranium is 0.0085 mg/L.
BC WQG–AL long–term guideline for dissolved uranium is 0.0075 mg/L.

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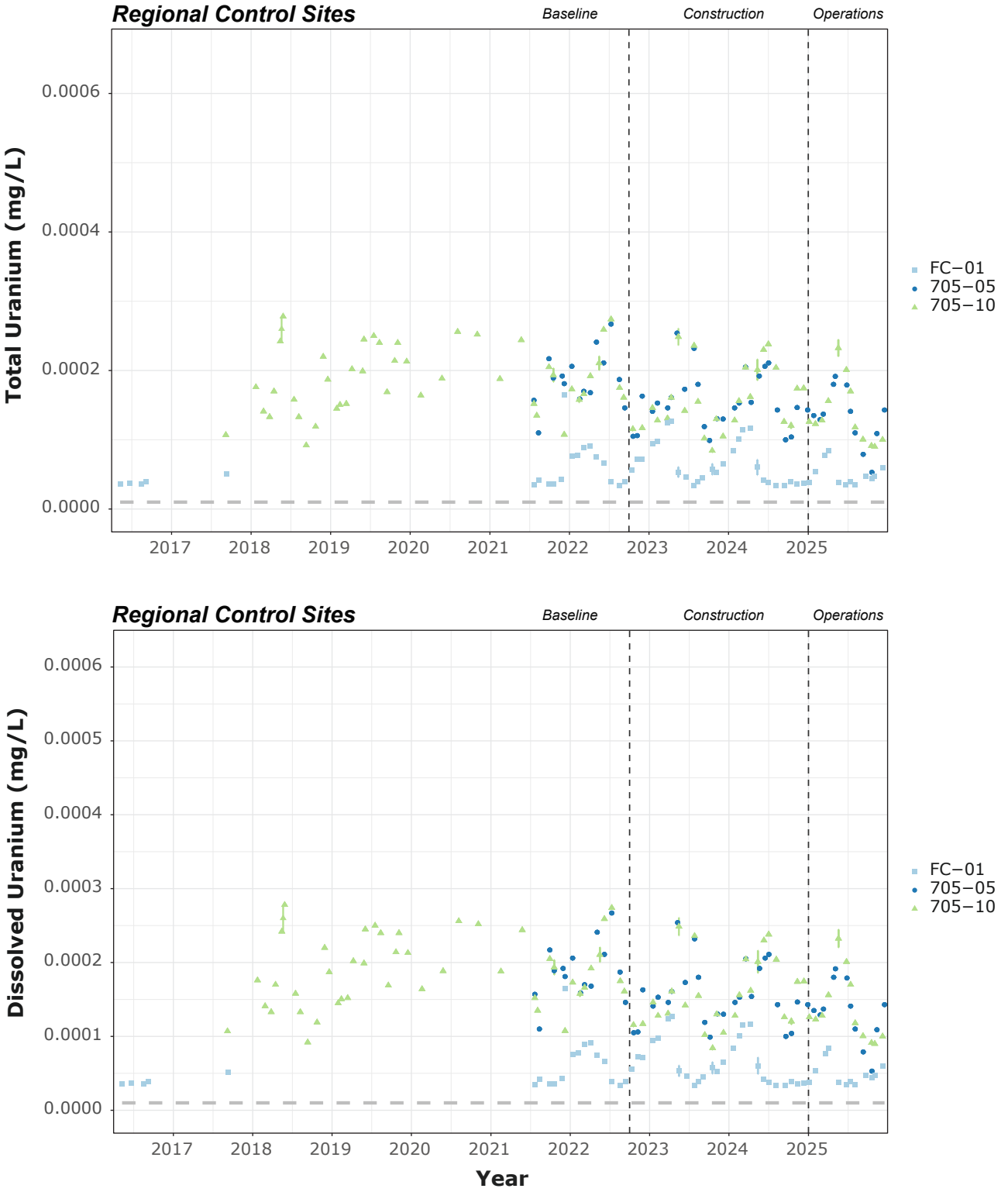
FIGURE 3.4-22 MONTHLY MEAN URANIUM CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL working long–term guideline for total uranium is 0.0085 mg/L.

- Total and dissolved iron (Figure 3.4-13 and Figure 3.4-14): The 2025 total and dissolved iron at Davidson Creek sites were generally lower when compared to 2024 concentrations and similar to baseline. This trend suggests the statistically significant effect is largely attributed to the 2024 activities (i.e., initiation of discharge from TSFC-SCP to Davidson Creek). The significance also had relatively low power (8%) attributed to the variability through all monitoring years. Greater total and dissolved iron concentrations were observed at DC-20 when compared to upstream sites indicating that the 2025 concentrations at DC-20 is not entirely related to construction activities (a similar conclusion was made in 2024 with iron concentrations associated with cattle grazing occurring adjacent to the site).
- Total and dissolved manganese (Figure 3.4-15 and Figure 3.4-16): The Q3 and Q4 2025 mean monthly total manganese concentrations were greater than baseline and can be attributed to the tree clearing that was completed upstream of Davidson Creek in May/June 2025 and the discharge from the WMP. The 2025 discharge records in Davidson Creek indicated short-duration flow fluctuations associated with the Mine water management/pumping activities and the largest prolonged rainfall event recorded in August 2025 (KP 2026a). The fluctuations and precipitation events typically lead to increased runoff of TSS laden water and associated total metals. Other 2025 high rainfall events recorded at the Mine meteorology stations occurred during the period of May 17 and 18, and July 30. The site also experienced warmer (above 0°C) in December 2025 (KP 2026a). Thus, elevated manganese concentrations in Q3 and Q4 when compared to baseline may be related to rainfall events and warmer temperatures in December contributing to a snowmelt. In addition, the greater total and dissolved manganese concentrations at DC-20 when compared to upstream sites and baseline concentrations are indicative of anthropogenic sources that may contribute to DC-20 water quality (e.g., cattle grazing) based on the adjacent cattle ranch and not mine impact related.
- Total molybdenum (Figure 3.4-17 and Figure 3.4-18): The 2025 total molybdenum at Davidson Creek sites were generally lower when compared to 2024 concentrations and similar to baseline. This trend suggests the statistically significant effect is largely attributed to the 2024 activities (i.e., initiation of discharge from TSFC-SCP to Davidson Creek).
- Total strontium (Figure 3.4-19 and Figure 3.4-20): There was an increase in total strontium concentrations at Davidson Creek sites beginning in construction when compared to the baseline period that was not observed at the regional control sites. The elevated total strontium at the Davidson Creek sites were restricted to sites further downstream (i.e., DC-20), therefore not attributed to 2025 Mine Activities.

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Although BACI analyses could not be completed, graphical analysis (Appendix C) indicates that there was a greater proportion of detectable concentrations and/or greater concentrations observed in 2025 when compared to baseline years for the following parameters:

- TSS (661-03, 661-10; Figure C-5)
- Chloride (661-04, 661-05, 661-10; Figure C-9)
- Total ammonia-N (661-10; Figure C-12)
- Total nitrate-N (661-04, 661-10; Figure C-13)
- Total antimony (661-04, 661-05, 661-10; Figure C-23)
- Total beryllium (661-04, 661-05, 661-10; Figure C-26)
- Total cadmium (661-04, 661-05, 661-10; Figure C-28)
- Total chromium (661-04, 661-05, 661-10; Figure C-29)

- Total cobalt (661-04, 661-05, 661-10; Figure C-30)
- Total copper (661-04, 661-05, 661-10; Figure C-31)
- Total lead (661-04, 661-05, 661-10; Figure C-33)
- Total nickel (661-05; Figure C-38)
- Total selenium (661-05; Figure C-39)
- Total silver (661-05; Figure C-40)
- Total vanadium (661-04, 661-05; Figure C-44)
- Total zinc (661-04, 661-05; Figure C-45)
- Dissolved cadmium (661-04, 661-10; Figure C-52)
- Dissolved zinc (661-04, 661-05, 661-10; Figure C-69)

Greater concentrations were typically observed in 2024 (and to some extent 2023) when compared to 2025 and baseline years at near-field sites thus increases could be related to construction related activities (including the discharge to ground from the PS-SCP; KP 2025b). However, it is also likely that 2025 construction activities were attributed to the greater concentrations in 2025 when compared to baseline.

The 2023 and 2024 wildfires occurred in areas of upstream of Creek 661 and in the immediate vicinity of site 661-20. Thus, changes in water quality are also likely related to the wildfires when it cannot be confirmed they were related to construction or 2025 Mine activities. This includes the observed increase in total phosphorus, TDS, and chloride post-wildfire likely as a result of the deposition of ash (Water Research Foundation 2013; BC Health 2024). In addition, greater concentrations of TSS and total metals (i.e., total aluminum, total arsenic, total copper, total nickel, total silver) beginning with the 2025 snowmelt in late March and freshet conditions may be directly related to the 2023 and 2024 fire-impacted Creek 661.

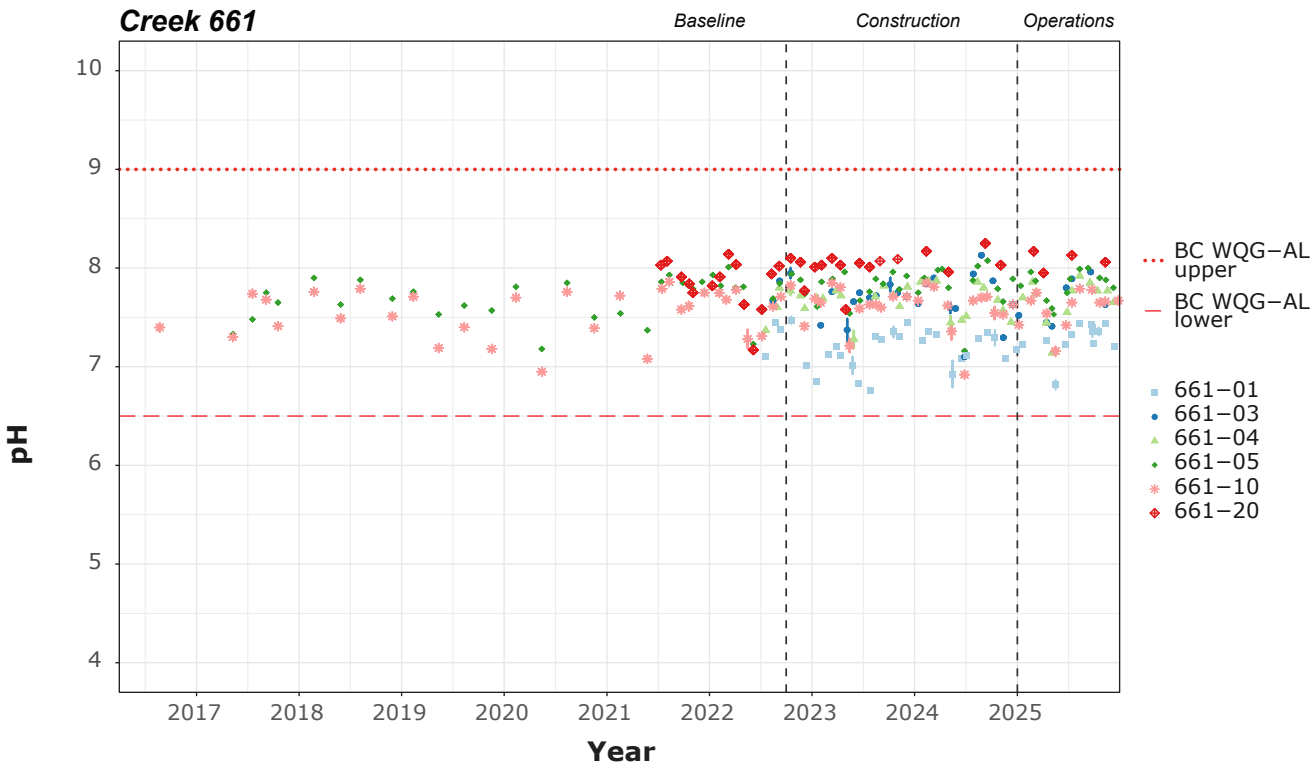
Surface water quality monitoring data obtained at site 661-04 at tributary Creek 146920 and 661-05 at tributary Creek 505659 and the downstream site 661-10 was also reviewed to investigate if ore stockpile dust event that occurred in Q1 2025 affected metal concentrations in surface water in Creek 661. Comparison of the May 2025 to the May 2024 water quality at sites 661-04, 661-05 indicated that some metals (total and dissolved cadmium, total and dissolved copper, and total and dissolved zinc) were elevated as a result of the dust event (Figures C-28, C-52, C-31, C-55, C-45, C-69; Lorax 2025c). There was no or minimal impact of the dust event on site 661-10 water quality in May 2025 and concentrations at 661-04 and 661-05 were at concentrations that were not expected to have long-term effects to aquatic life (Lorax 2025c). However, sediments and benthic invertebrate community and tissue monitoring were completed in early September 2025 at 661-04 (immediately downstream of the dust event) to assess if effects were observed (see Section 4.4 and Section 6.4 of the AEMP; ERM 2026).

Significant “class:period” BACI analysis results were detected for turbidity (Appendix E-2; Figure 3.4-25 and Figure 3.4-2), total aluminum (Figure 3.4-29 and Figure 3.4-8), arsenic (Figure 3.4-30 and Figure 3.4-10), and barium (Figure 3.4-31 and Figure 3.4-12). For all parameters, concentrations in Q3 and Q4 2025 were similar to baseline years indicating the influence from the 2023 and 2024 wildfires upstream of Creek 661 sites in addition to 2025 construction activities and not likely to affect aquatic life during the highest period of productivity in late August/early September.

Other water quality parameters with significant “class:period” interactions observed for Creek 661 sites were plotted to show monthly mean concentrations through baseline years (2016 to September 2022), construction Year 1 (October 2022 to 2023), construction Year 2 (2024) and operations (2025) are discussed below:

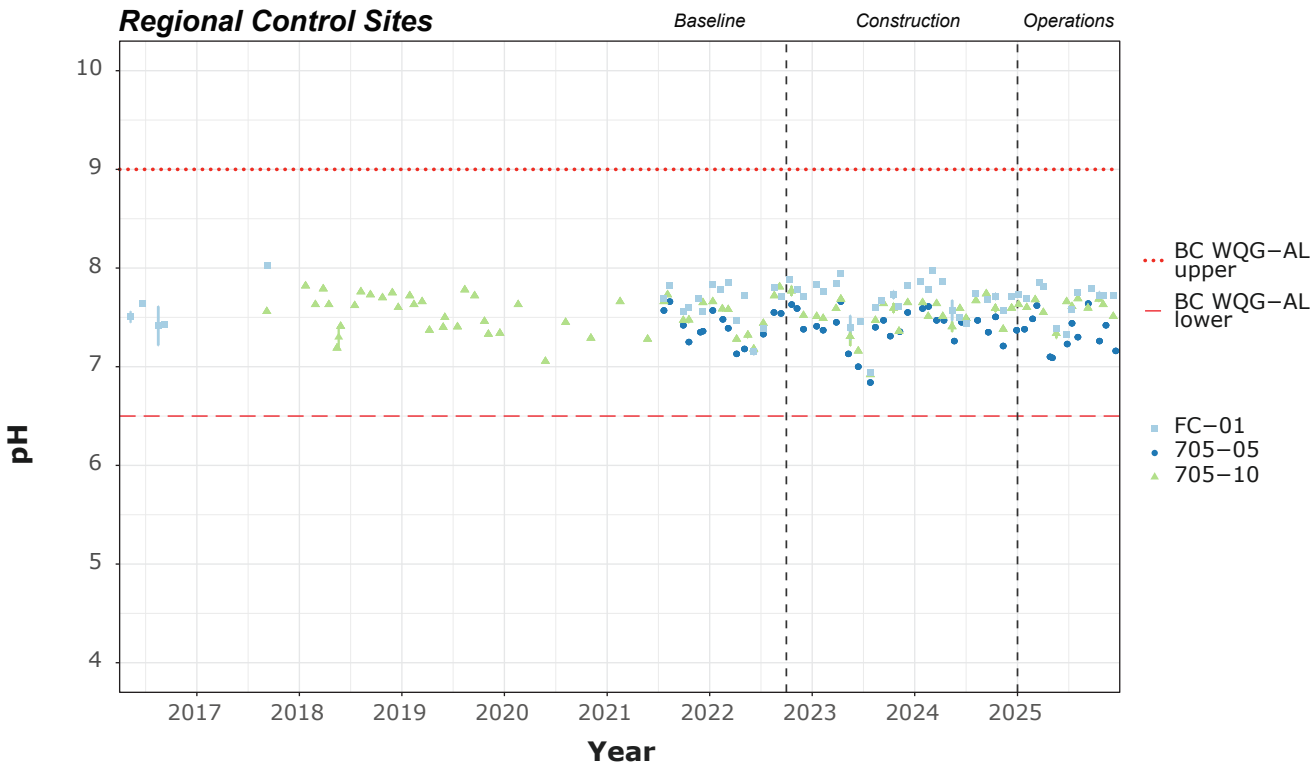
- pH (Figure 3.4-23 and Figure 3.4-24): The pH observed during construction and 2025 were greater than or similar to concentrations observed during the baseline period at all Creek 661 sites. At the regional control sites, pH was variable in both the before and after periods. Graphical analysis indicates no temporal or spatial trends therefore the statistically significant increase is not considered to be a Mine-related effect.
- TDS (Figure 3.4-26 and Figure 3.4-27): Total dissolved solids concentration was elevated in Q1 2025, suggesting that there may be impacts on surface water from dissolved parameters, potentially from groundwater discharging to Creek 661 and its tributaries. However, with the exception of nitrate, the Q1 2025 measured concentrations of parameters in groundwater, including TDS, downgradient of the plant site tended to be similar to or lower than previous monitoring results (the number of samples and monitoring years differed among monitoring wells; Section 4.3.2.3). Thus, it cannot be confirmed the increase in TDS is a Mine-related effect.
- total phosphorus (Figure 3.4-28 and Figure 3.4-6): Total phosphorus concentrations at Creek 661 sites were greater in construction and operations when compared to the baseline period. At the regional control sites and the upstream control site (661-01), total phosphorus was variable (similar or greater) in both the before and after periods. The increase in total phosphorus concentrations at 661-05 and 661-10 coincide with the initiation of construction and Q1 2025 Mine activities and concentrations tend to decrease with downstream distance to site 661-20 in most months. Thus, statistical and graphical analysis indicate the increase in total phosphorus in Q1 is likely a Mine-related effect (construction activities) and associated with the 2023 and 2024 wildfires. However, the sporadic elevated concentrations observed at 661-10 in August and September 2025 are not likely related to the Mine activities (i.e., not observed at upstream 661-04, 661-03, and 661-05 sites).
- total strontium (Figure 3.4-32 and Figure 3.4-20) and total uranium (Figure 3.4-33 and Figure 3.4-22): There was an increase in total strontium and uranium concentrations at all Creek 661 impact sites during construction and operation periods when compared to the baseline period that was not observed at 661-01 and the regional control sites. Based on graphical analysis the greatest elevated total strontium and uranium concentrations were restricted to site 661-20 (and not the near-field sites) and in all months when compared to the monthly concentrations observed during baseline years. Therefore, the statistically significant increase at 661-04, 661-05 and 661-10 is likely associated with 2024 and 2025 construction activities. The greater total strontium and uranium concentrations at site 661-20 in 2025 is not related to Mine activities and may be associated with effects of the 2024 wildfire that occurred in the vicinity of the site.
- dissolved iron (Figure 3.4-34 and Figure 3.4-14): The significant increase in dissolved iron is associated with the elevated dissolved iron concentrations observed at 661-10 in Q3 of 2025 that was also observed at the regional control sites and not observed at the upstream sites. Dissolved iron was similar between the baseline, construction, operations periods at all other impact sites, indicating there was no Mine-related effect.

FIGURE 3.4-23 MONTHLY MEAN PH (LABORATORY) AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONS TRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



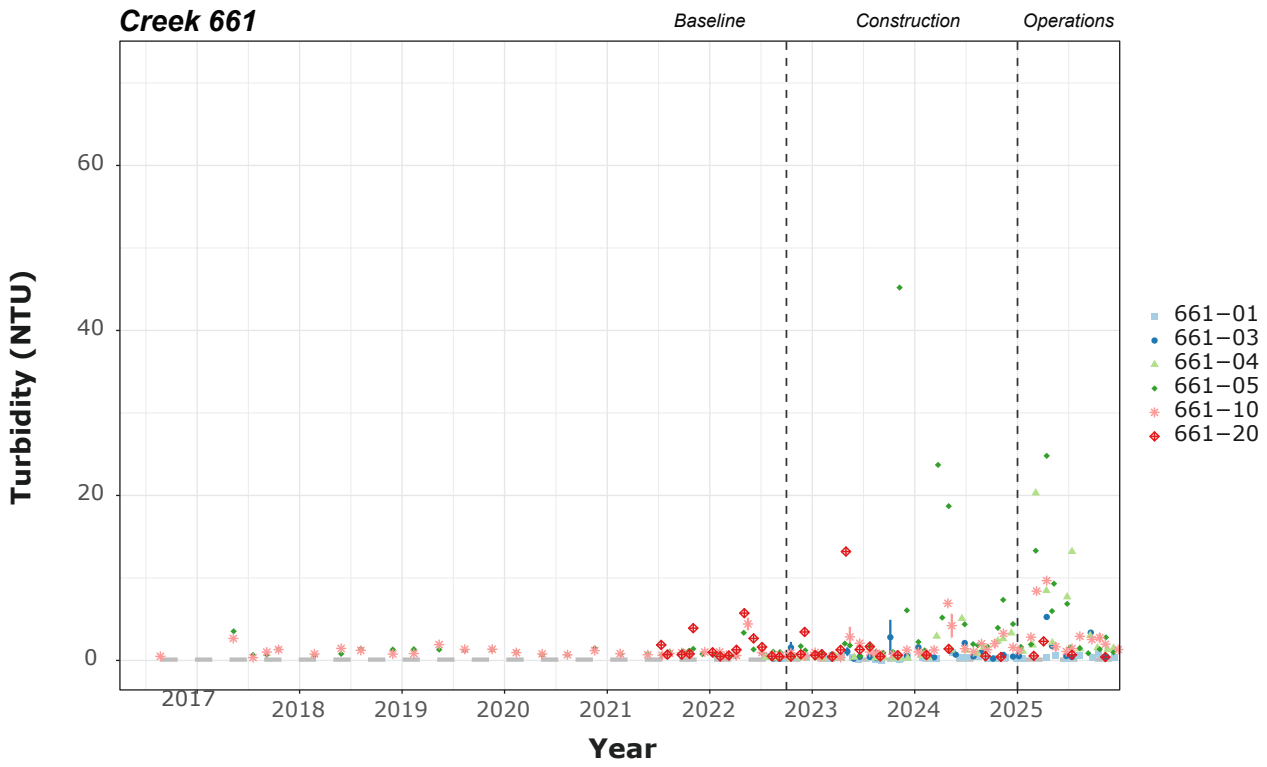
Notes: Error bars represent standard error of the mean.
BC WQG–AL upper limit is 9.0 pH units and lower limit is 6.5 pH units.

FIGURE 3.4-24 MONTHLY MEAN PH (LABORATORY) AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



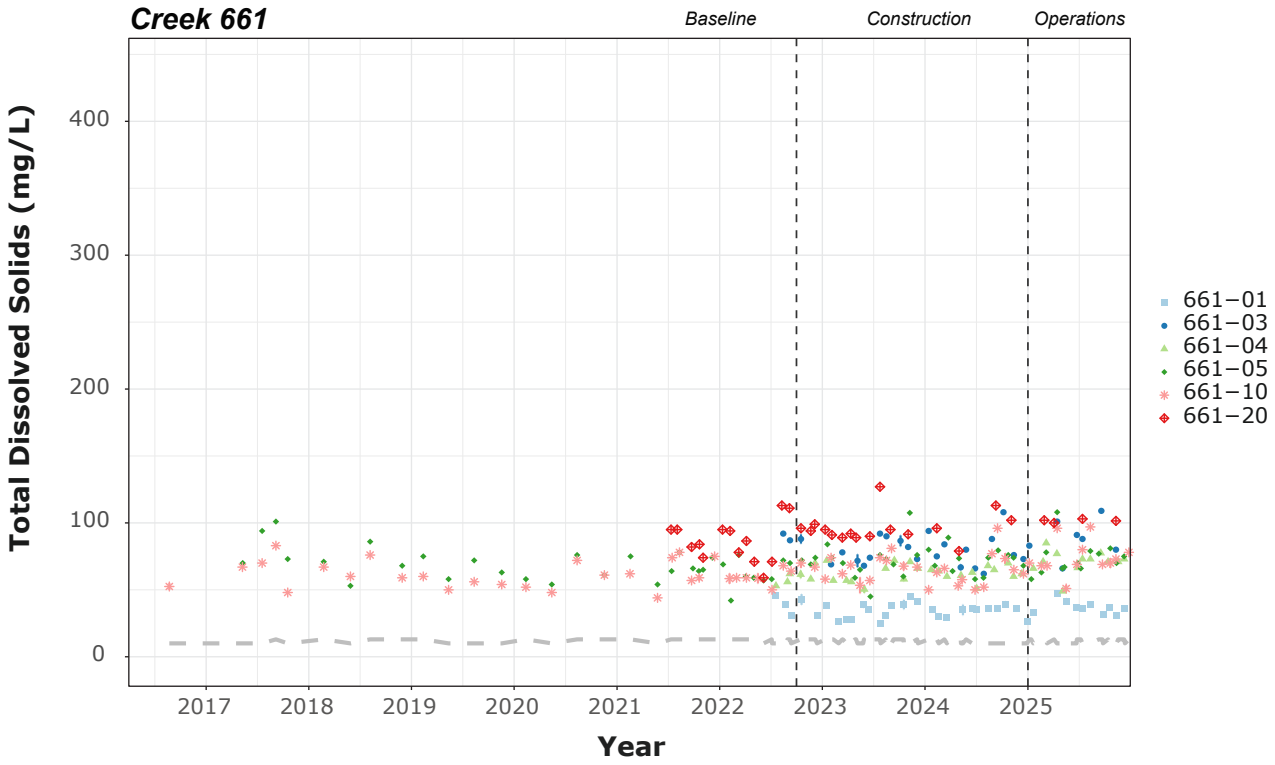
Notes: Error bars represent standard error of the mean.
BC WQG–AL upper limit is 9.0 pH units and lower limit is 6.5 pH units.

FIGURE 3.4-25 MONTHLY MEAN TURBIDITY AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



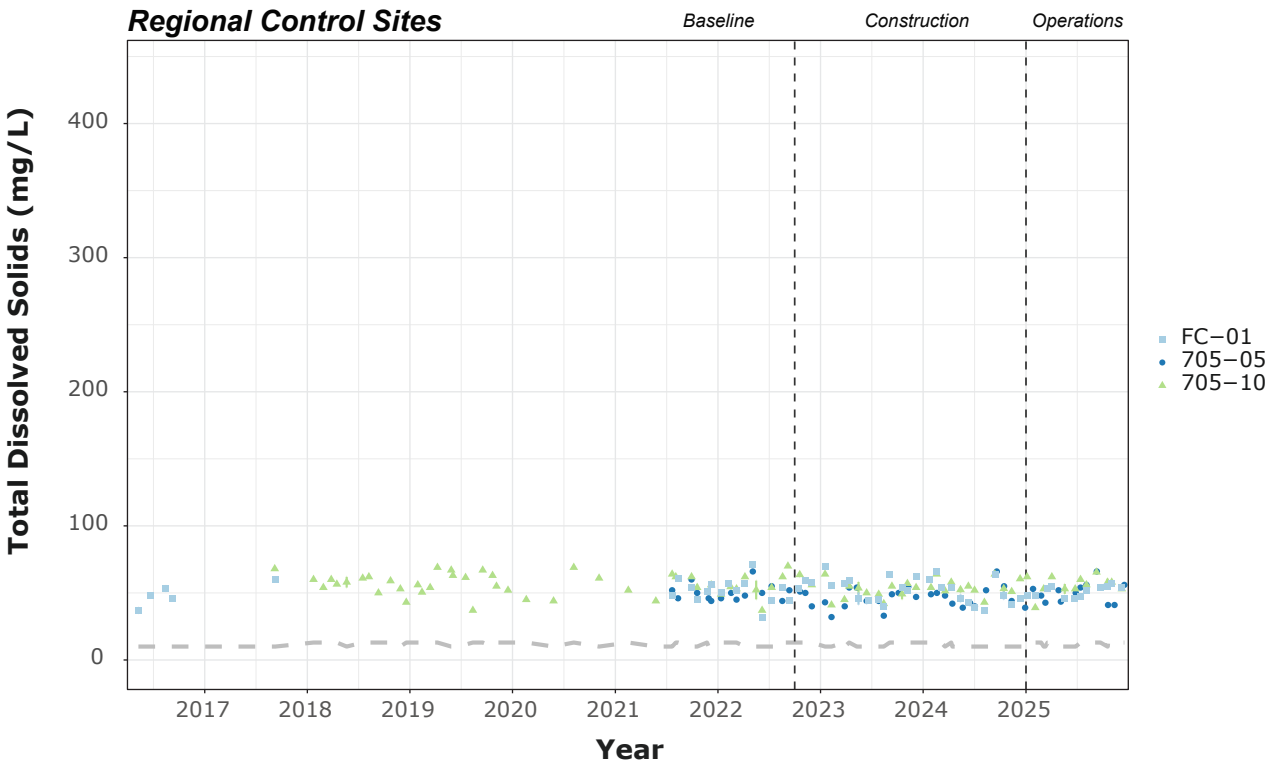
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
WQGs-AL for turbidity are dependent on background levels.

FIGURE 3.4-26 MONTHLY MEAN TOTAL DISSOLVED SOLIDS CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



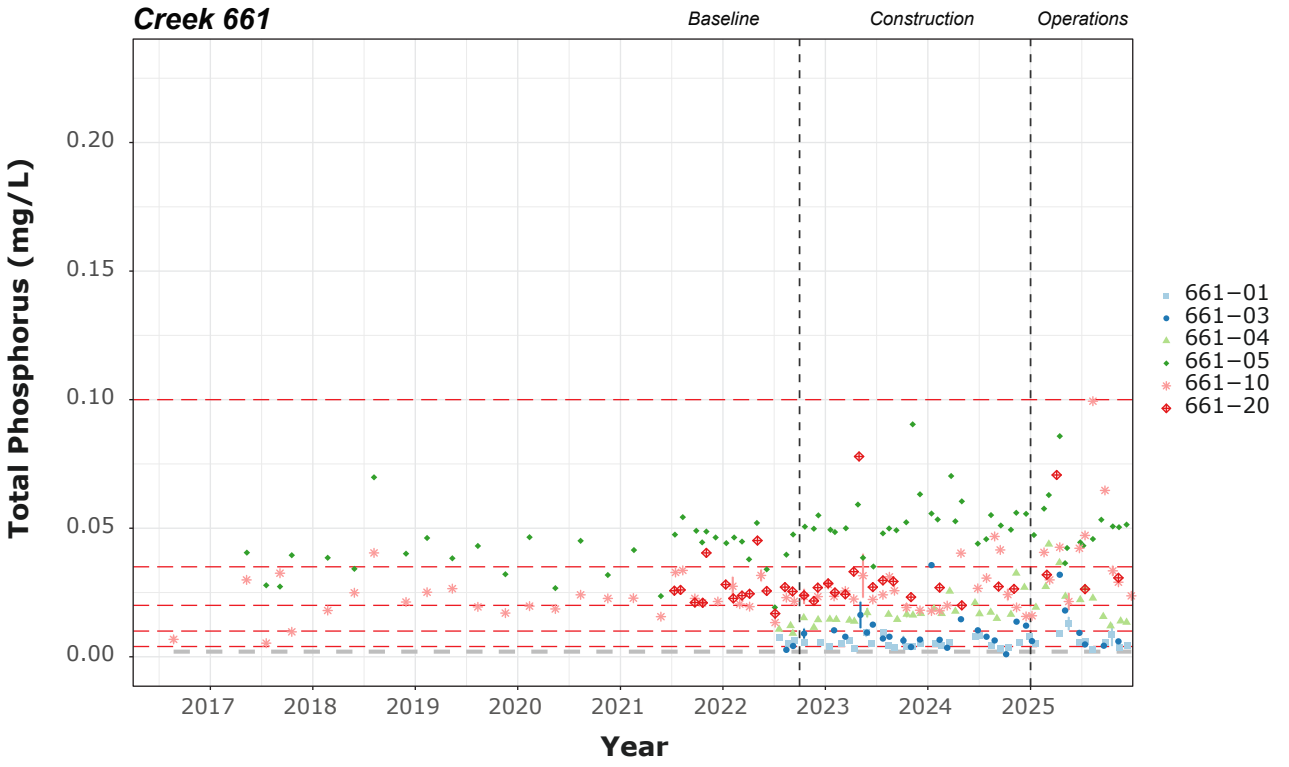
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
No WQG–AL guideline is available; a benchmark of 500 mg/L will be used as identified in the effects assessment for the Joint MA/EMA Application (BW Gold

FIGURE 3.4-27 MONTHLY MEAN TOTAL DISSOLVED SOLIDS CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



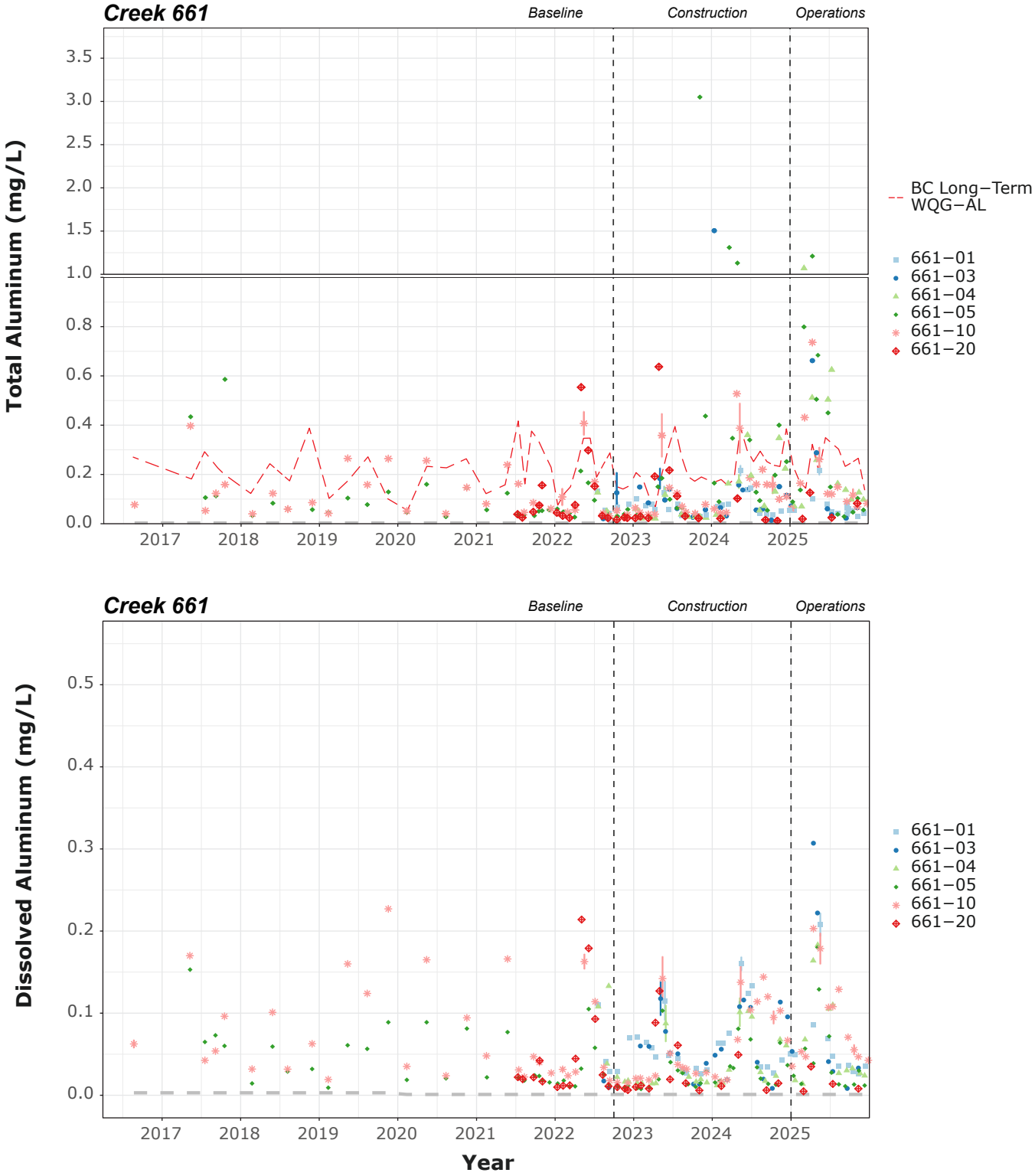
Notes: Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
No WQG−AL guideline is available; a benchmark of 500 mg/L will be used as identified in the effects assessment for the Joint MA/EMA Application (BW Gold 2022).

FIGURE 3.4-28 MONTHLY MEAN TOTAL PHOSPHORUS CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



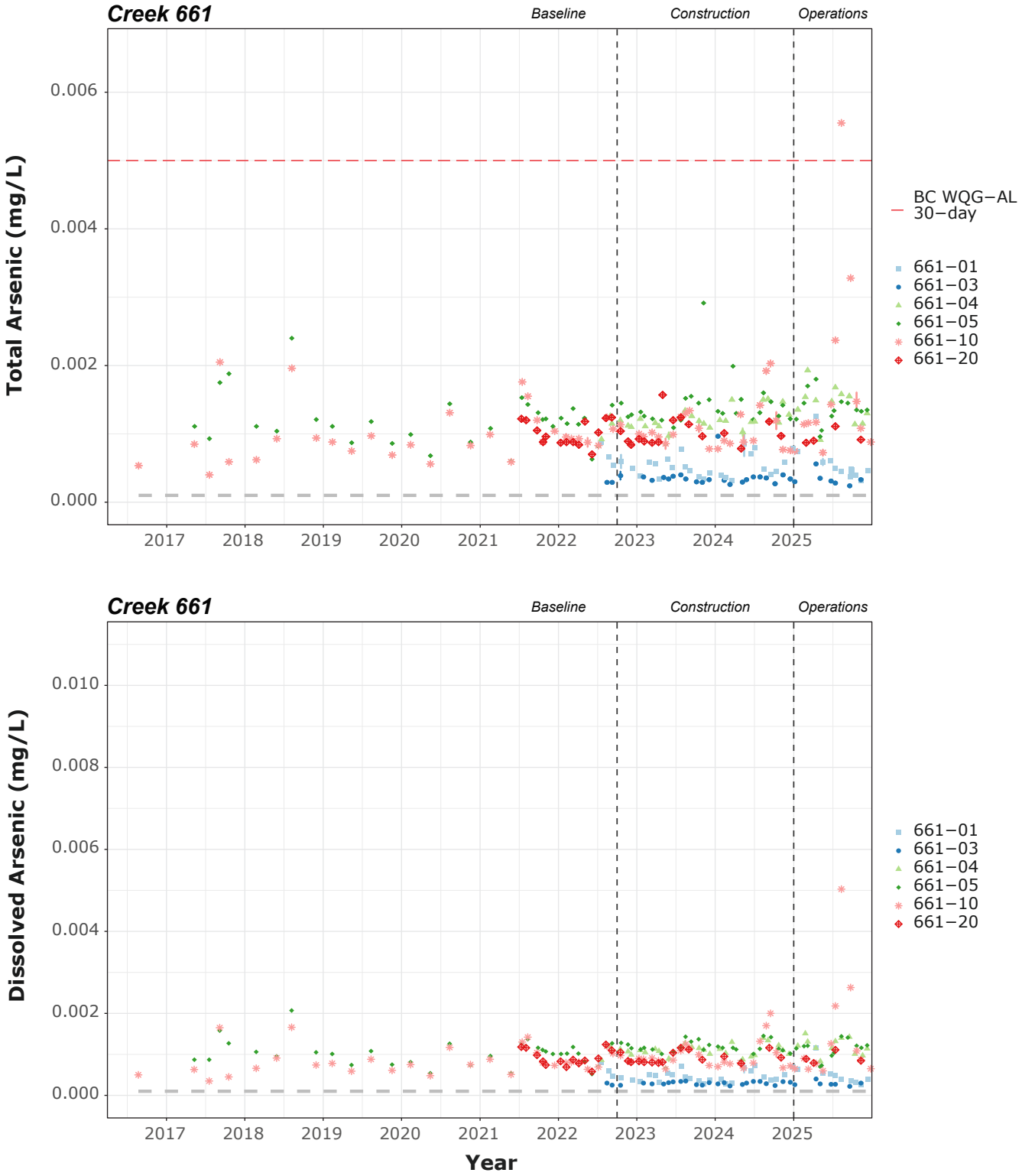
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Red dashed lines indicate CCME trigger ranges for total phosphorus: Hyper−eutrophic > 0.1 mg/L; Eutrophic 0.035 to 0.1 mg/L; Meso−eutrophic 0.02 to 0.035 mg/L; Mesotrophic 0.01 to 0.02 mg/L; Oligotrophic 0.004 to 0.01 mg/L; Ultra−oligotrophic < 0.004 mg/L.

FIGURE 3.4-29 MONTHLY MEAN ALUMINUM CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



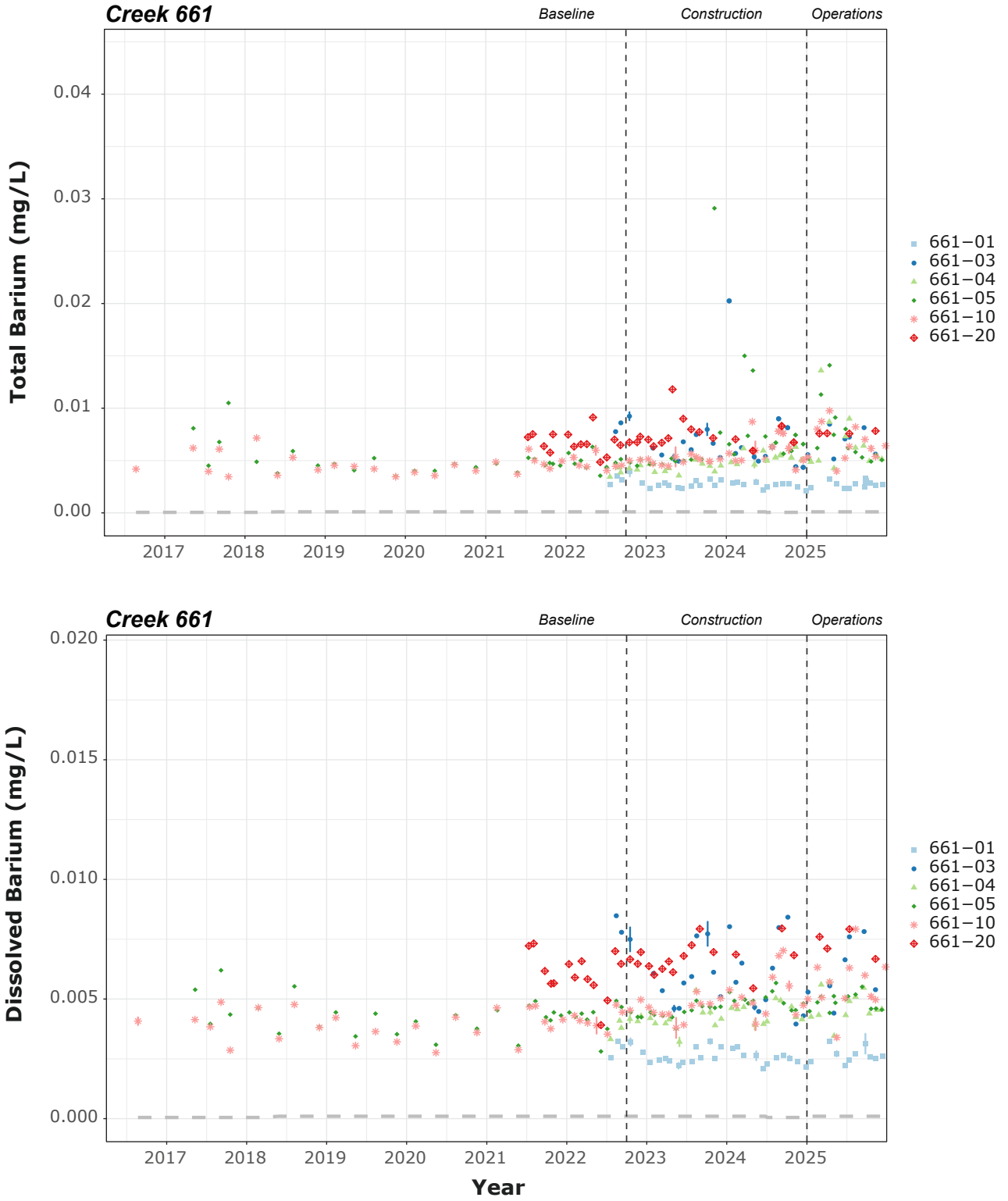
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total aluminum is pH, hardness, and DOC dependent; the monthly mean calculated guideline is plotted

FIGURE 3.4-30 MONTHLY MEAN ARSENIC CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



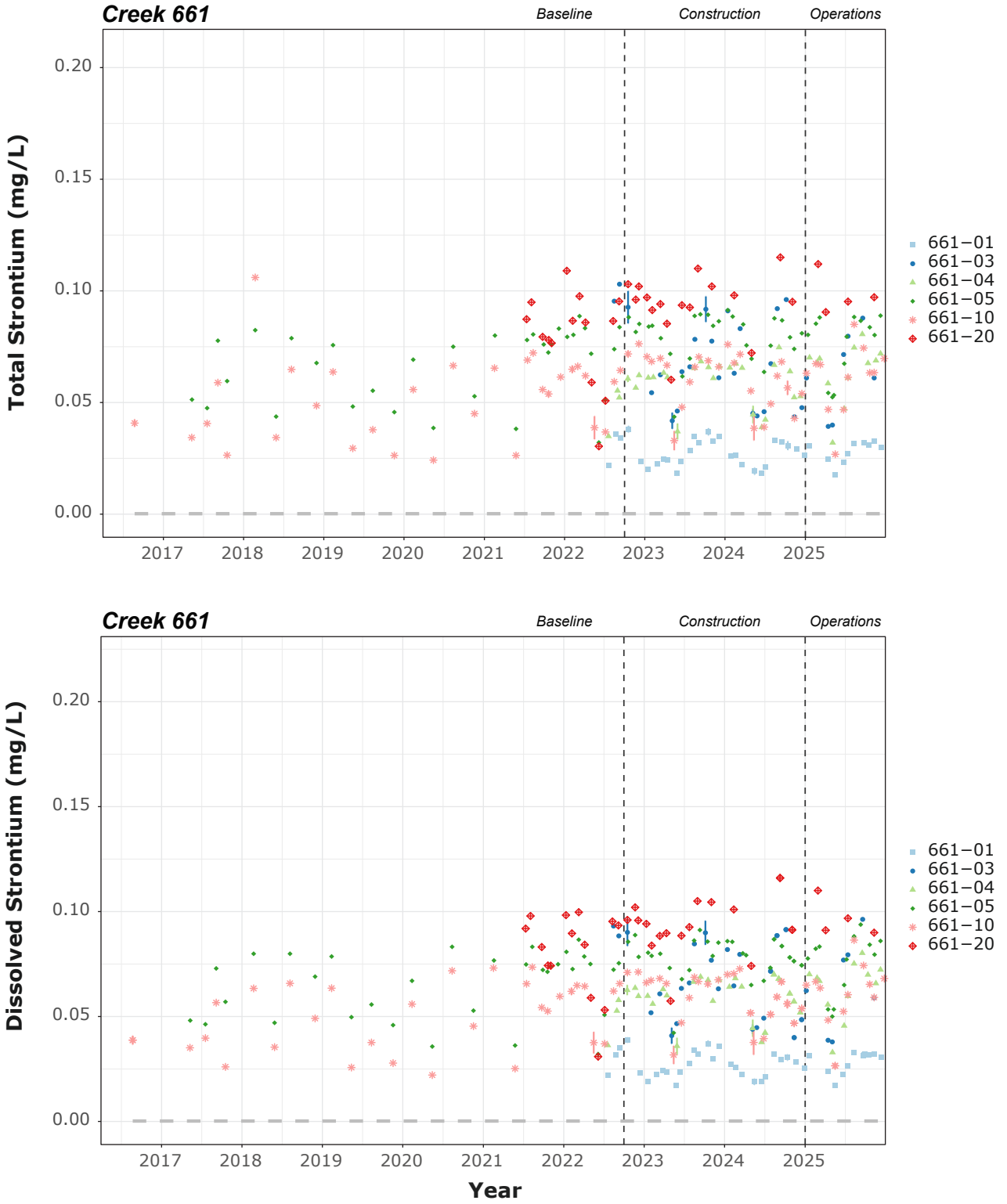
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term guideline for total arsenic is 0.005 mg/L for a 30–day period.

FIGURE 3.4-31 MONTHLY MEAN BARIUM CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



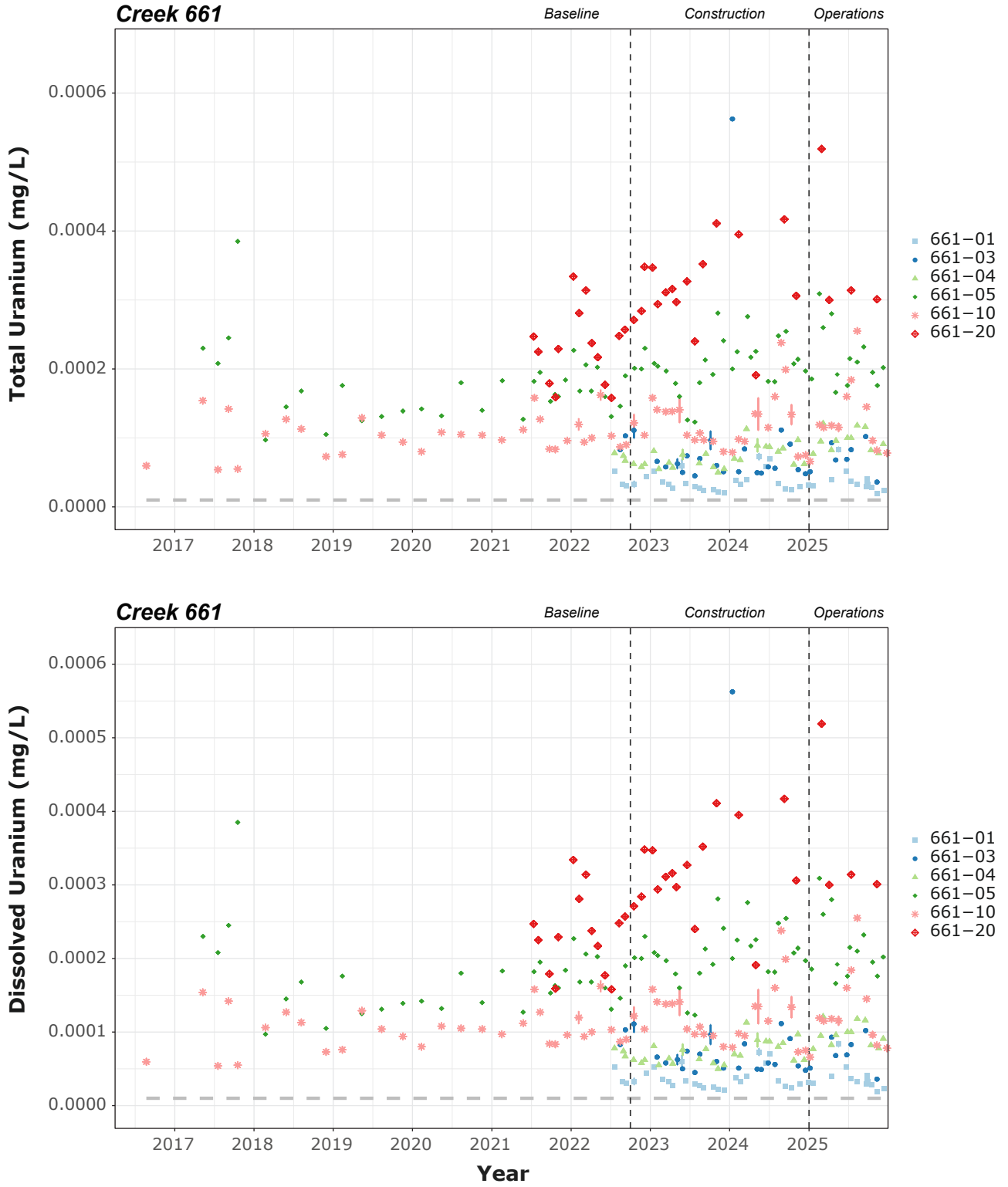
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection
BC WQG–AL long–term working guideline for total barium is 1 mg/L.

FIGURE 3.4-32 MONTHLY MEAN STRONTIUM CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



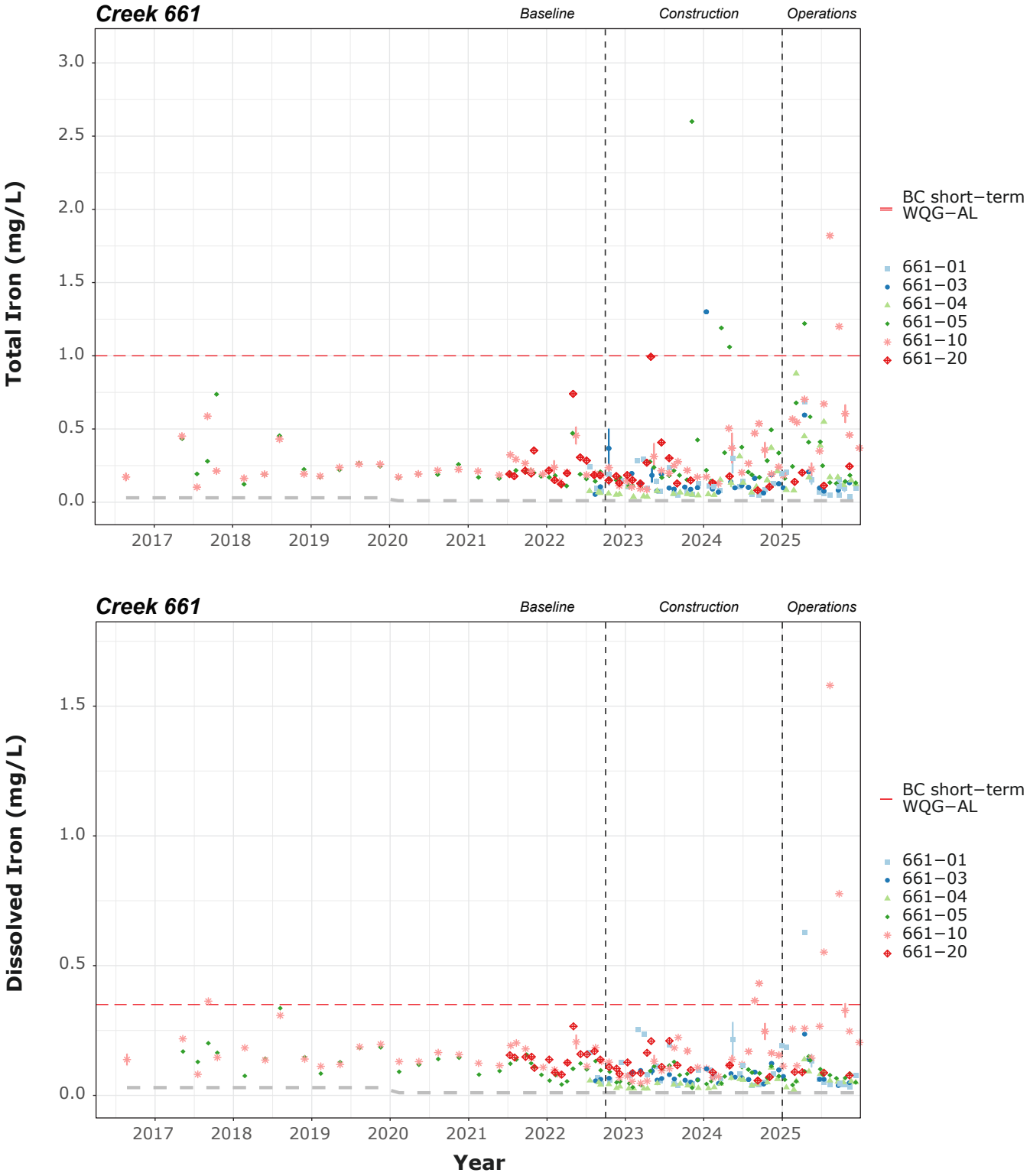
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term guideline for dissolved strontium is 1.25 mg/L.

FIGURE 3.4-33 MONTHLY MEAN URANIUM CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL working long–term guideline for total uranium is 0.0085 mg/L.
BC WQG–AL long–term guideline for dissolved uranium is 0.0075 mg/L.

FIGURE 3.4-34 MONTHLY MEAN IRON CONCENTRATIONS AT CREEK 661 SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL short−term maximum guideline for total iron is 1.0 mg/L.
BC WQG−AL short−term guideline for dissolved iron is 0.35 mg/L.

Chedakuz Creek

Although BACI analyses could not be completed, graphical analysis (Appendix C) indicates that there was a greater proportion of detectable concentrations and/or greater concentrations observed in 2025 for the following parameters:

- Chloride (CC-15, CC-20, CC-40; Figure A7-9)
- Nitrate-N (CC-15, CC-20, CC-40; Figure A7-13)
- Total cadmium (CC-15, CC-40; Figure A7-29)
- Total cobalt (CC-15, CC-20, CC-40; Figure A7-30)
- Total lead (CC-15, CC-20, CC-40; Figure A7-33)
- Total nickel (CC-15, CC-20, CC-40; Figure A7-38)
- Dissolved zinc (CC-15, CC-05; Figure A7-69)

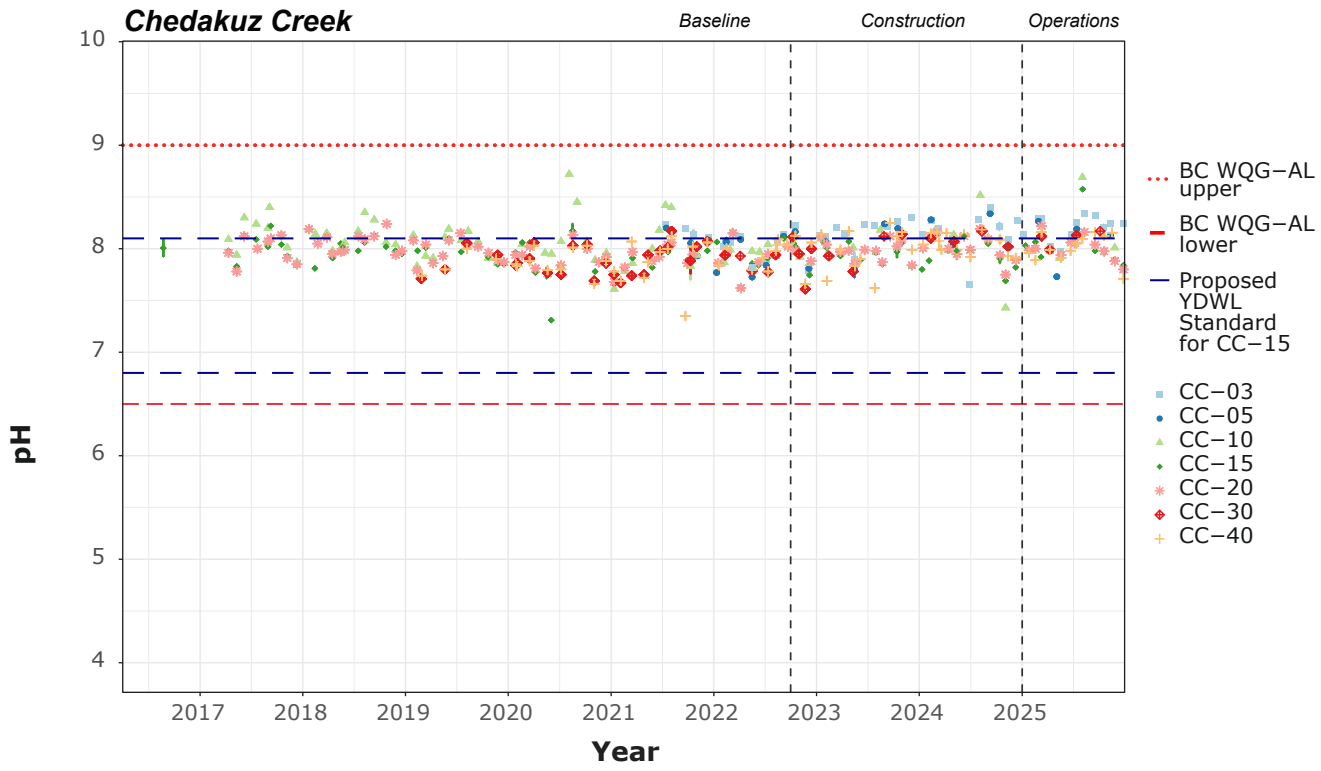
The 2025 concentrations were generally lower than when compared to 2024 concentrations which were likely attributed to construction activities. However, there is no decreasing trend with downstream distance and changes cannot be entirely attributed to the Mine and instead attributed to other anthropogenic sources that may contribute to Chedakuz Creek water quality (e.g., forest harvesting activities, road/trail networks, cattle grazing).

Water quality parameters with significant “class:period” interactions observed for Chedakuz Creek sites (Appendix E-2) were detected for:

- pH (Figure 3.4-35 and Figure 3.4-24): The monthly mean pH at CC-05 and CC-10 was greater in July 2025 when compared to baseline. The 2025 monthly mean pH at all other sites were generally similar to the construction period and baseline with exception of the upstream control site CC-03. Thus, changes in pH were not Mine-related at Chedakuz Creek sites.
- Turbidity (Figure 3.4-36 and Figure 3.4-2): The 2025 and the monthly mean turbidity during the construction period were greater than levels observed during the baseline period at Chedakuz Creek sites downstream of the confluence with Davidson Creek CC-15, CC-20, CC-40. Similar trends were not observed at regional control sites or the upstream control (CC-03), CC-05, CC-10, and CC-30. Graphical analysis indicates the increase at sites CC-15 and CC-20 may be related to the 2025 Mine activities (i.e., effects observed in Davidson Creek may also extend to those sites downstream of the confluence) but not at CC-40 (i.e., no decreasing trend with downstream distance). The concentrations at DC-20 (upstream of the confluence with Chedakuz Creek) is not entirely related to construction activities and there are several anthropogenic sources that may contribute to Chedakuz Creek water quality (e.g., forest harvesting activities, road/trail networks, cattle grazing). Therefore, increased turbidity at CC-15, CC-20, CC-40 are not entirely related to construction activities.
- Sulphate (Figure 3.4-37 and Figure 3.4-4): Monthly mean sulphate concentrations observed in 2025 were typically greater in Q1 and Q2 of 2025 at all Chedakuz Creek sites when compared to baseline. However, graphical analysis indicates the increases at sites CC-30 and CC-40 were greater when compared to regional control sites, the upstream control (CC-03), CC-05, CC-10, CC-15 and CC-20. Thus, the increases are not related to Mine-related sources.

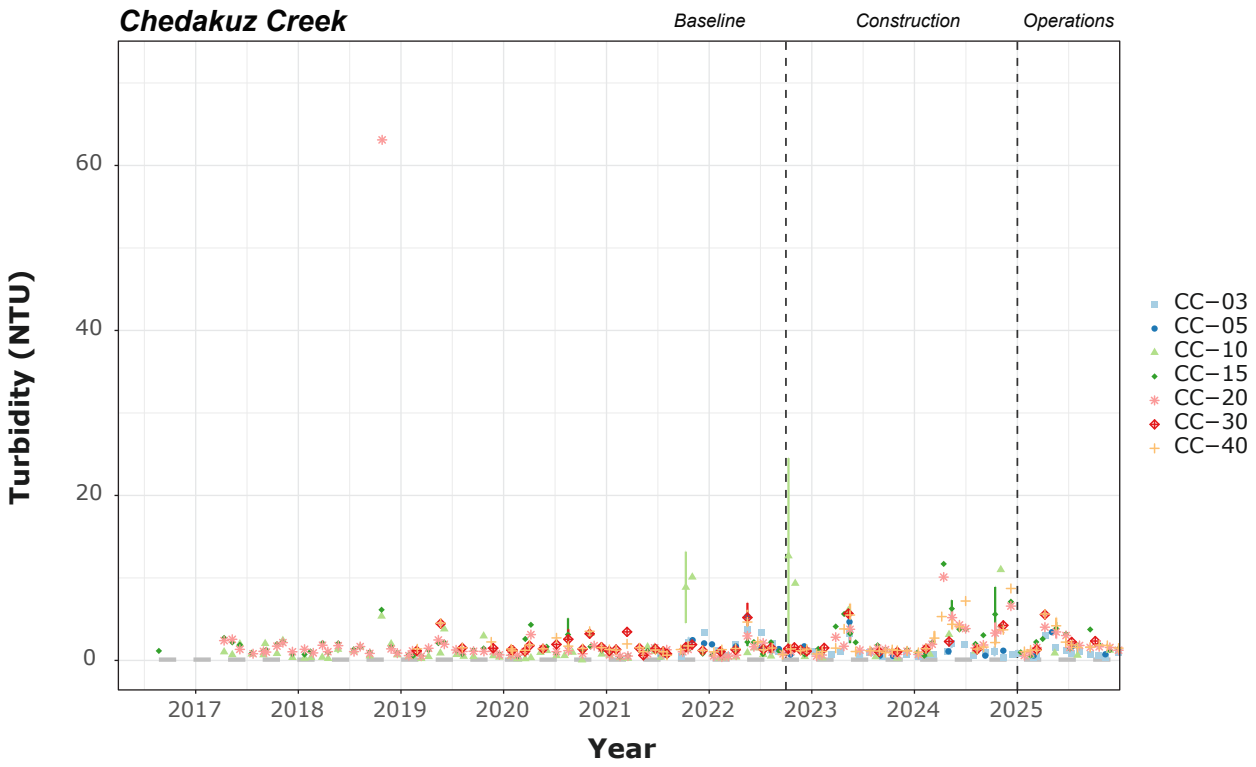
- Total ammonia-N (Figure 3.4-38 and Figure 3.4-39): monthly mean total ammonia-N concentrations observed during construction months (October to December 2024) and Q1 and Q2 2025 were greater than concentrations observed during the baseline period at Chedakuz Creek sites CC-15, CC-20, CC-30, CC-40. Similar trends were not observed at regional control sites, the upstream control (CC-03), CC-05, CC-10. Graphical analysis indicates the increase at sites CC-15 and CC-20 may be related to Mine activities but not at CC-30, CC-40 (i.e., no decreasing trend with downstream distance).
- Total aluminum (Figure 3.4-40 and Figure 3.4-8), and total barium (Figure 3.4-41 and Figure 3.4-12): Monthly mean total aluminum and barium concentrations observed during construction months (April to May and October to December 2024), and April to June 2025 were greater than concentrations observed during the baseline period at Chedakuz Creek sites CC-15, CC-20, CC-40. Similar trends were not observed at regional control sites, the upstream control (CC-03), CC-05, CC-10, or CC-30. Graphical analysis indicates the increase at sites CC-15 and CC-20 may be related to the Mine activities but not at CC-40 (i.e., no decreasing trend with downstream distance). In addition, total aluminum and barium concentrations beginning in July through to December 2025 were similar to baseline at all Chedakuz Creek sites indicating the statistical significance was largely associated with 2024 activities.
- Total iron (Figure 3.4-42 and Figure 3.4-14): There was an increase in total iron concentrations at Chedakuz Creek sites from baseline to construction years and April to June 2025. The greatest difference between baseline and April to June 2025 were typically at CC-30 and CC-40 therefore increase is not Mine-related and likely related to several anthropogenic sources that may contribute to Chedakuz Creek water quality (e.g., forest harvesting activities, road/trail networks, cattle grazing).
- Total and dissolved manganese (Figure 3.4-43 and Figure 3.4-16): Dissolved manganese concentrations at Chedakuz Creek sites CC-15, CC-20, CC-30, and CC-40 were greater during construction months and 2025 when compared to the baseline period. Similar trends were not observed at regional control sites, the upstream control (CC-03), CC-05, or CC-10. Graphical analysis indicates the increase at sites CC-15, CC-20, and CC-30 may be related to the 2024 construction activities but not at CC-40 (i.e., no decreasing trend with downstream distance). The greatest difference between baseline and April to June 2025 were typically at CC-30 and CC-40 therefore increase is not Mine-related and likely related to several anthropogenic sources that may contribute to Chedakuz Creek water quality (e.g., forest harvesting activities, road/trail networks, cattle grazing).
- Total uranium (Figure 3.4-44 and Figure 3.4-22): There was an increase in total uranium concentrations at Chedakuz Creek sites from baseline to construction years. The greatest difference between baseline, construction months, and 2025 were at CC-03 (upstream control) and CC-05 therefore the increase at all sites is not likely related to Mine activities.

FIGURE 3.4-35 MONTHLY MEAN PH (LABORATORY) AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



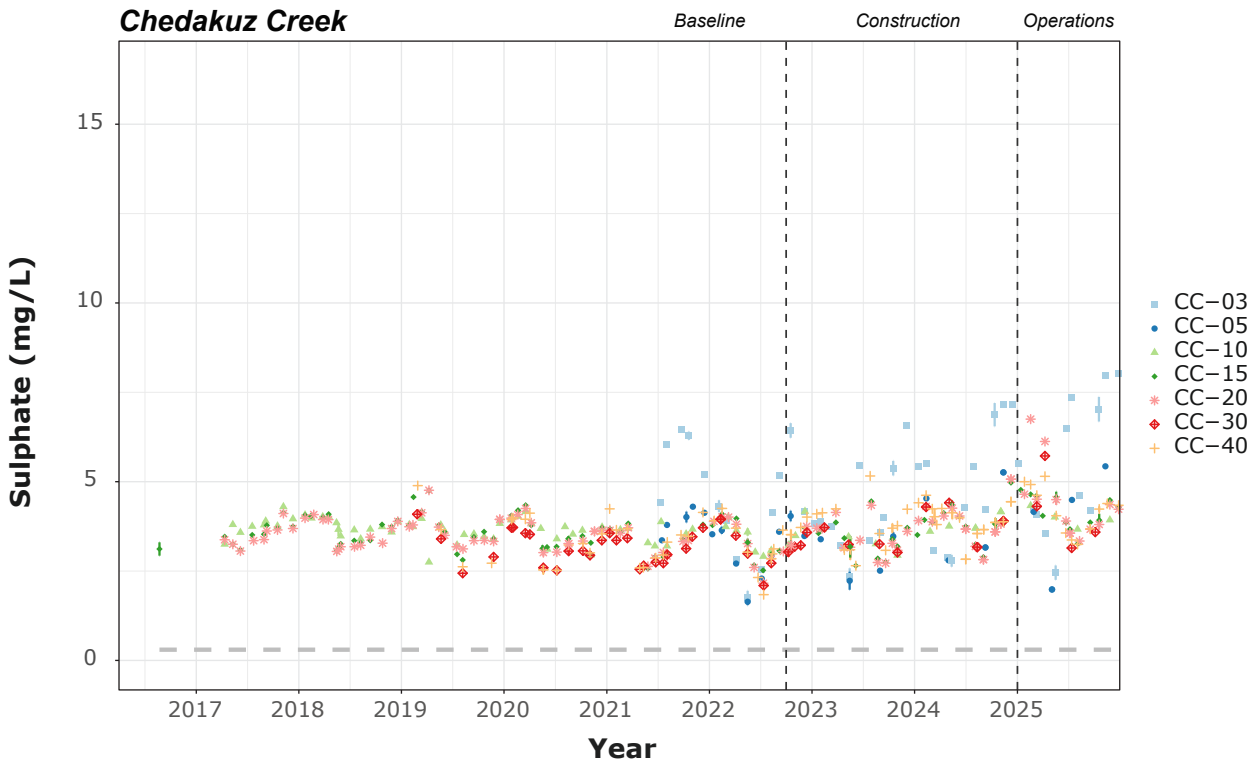
Notes: Error bars represent standard error of the mean.
Proposed YDWL Standard for CC–15 is 6.8 to 8.1 pH units.
BC WQG–AL upper limit is 9.0 pH units and lower limit is 6.5 pH units.

FIGURE 3.4-36 MONTHLY MEAN TURBIDITY AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



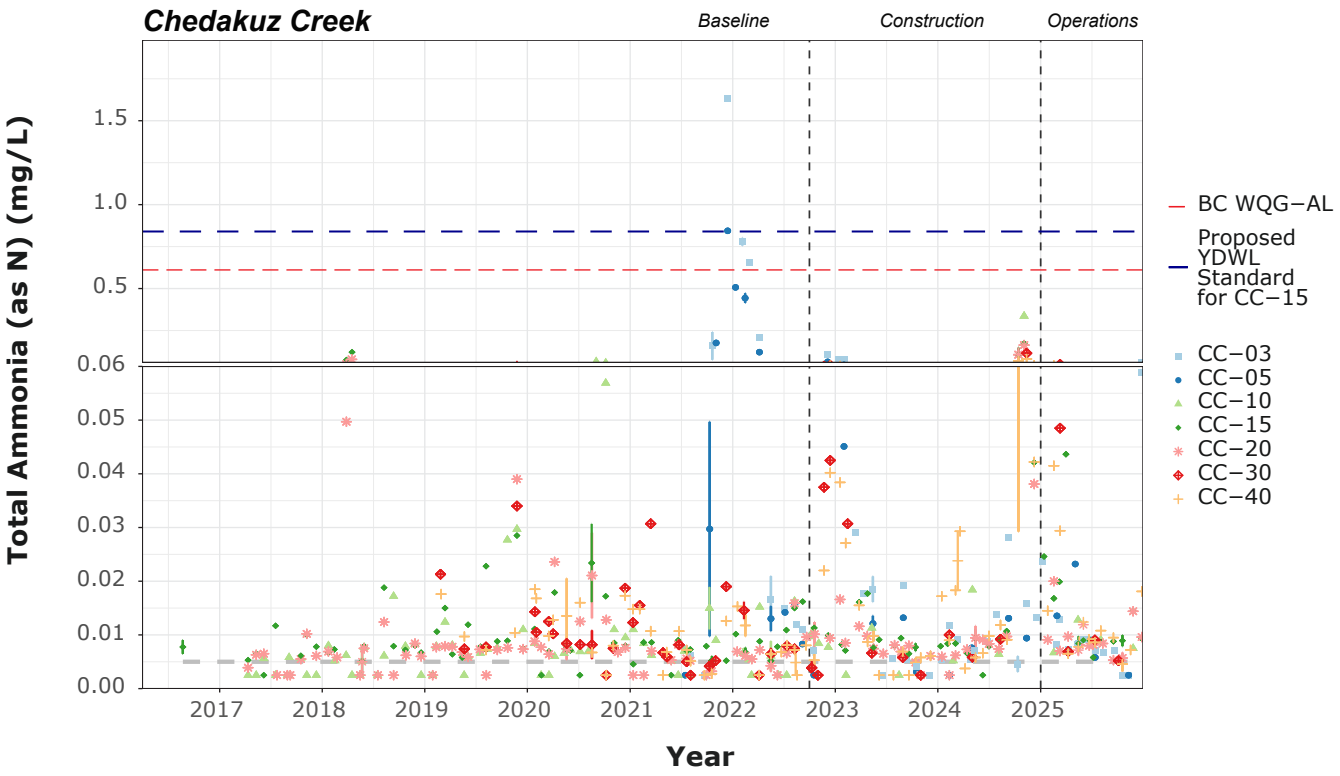
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
WQGs for turbidity are dependent on background levels.

FIGURE 3.4-37 MONTHLY MEAN SULPHATE CONCENTRATIONS AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



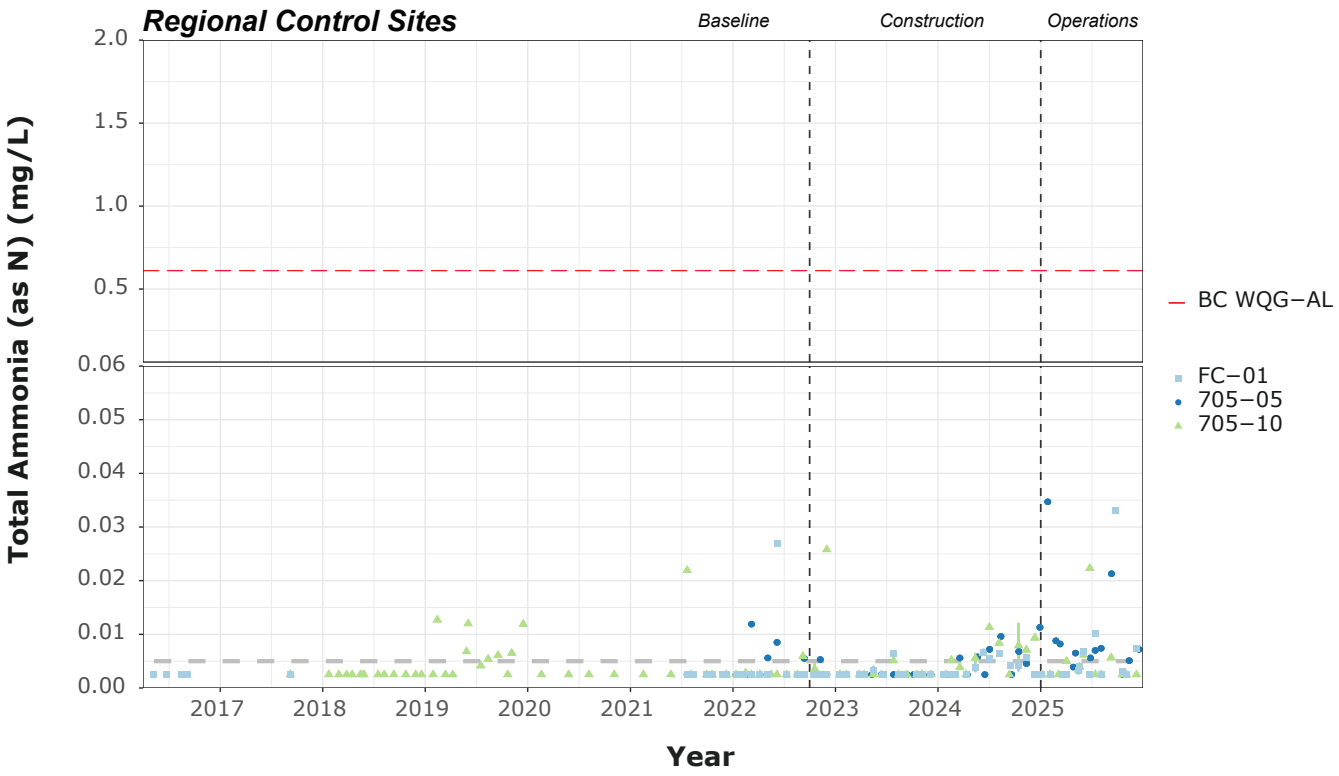
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC long−term WQG−AL for sulphate is hardness dependent; th lowest calculated guideline value is 128 mg/L.
Proposed YDWL Standard for sulphate at CC−15 is 111 mg/L.

FIGURE 3.4-38 MONTHLY MEAN TOTAL AMMONIA-N CONCENTRATIONS AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



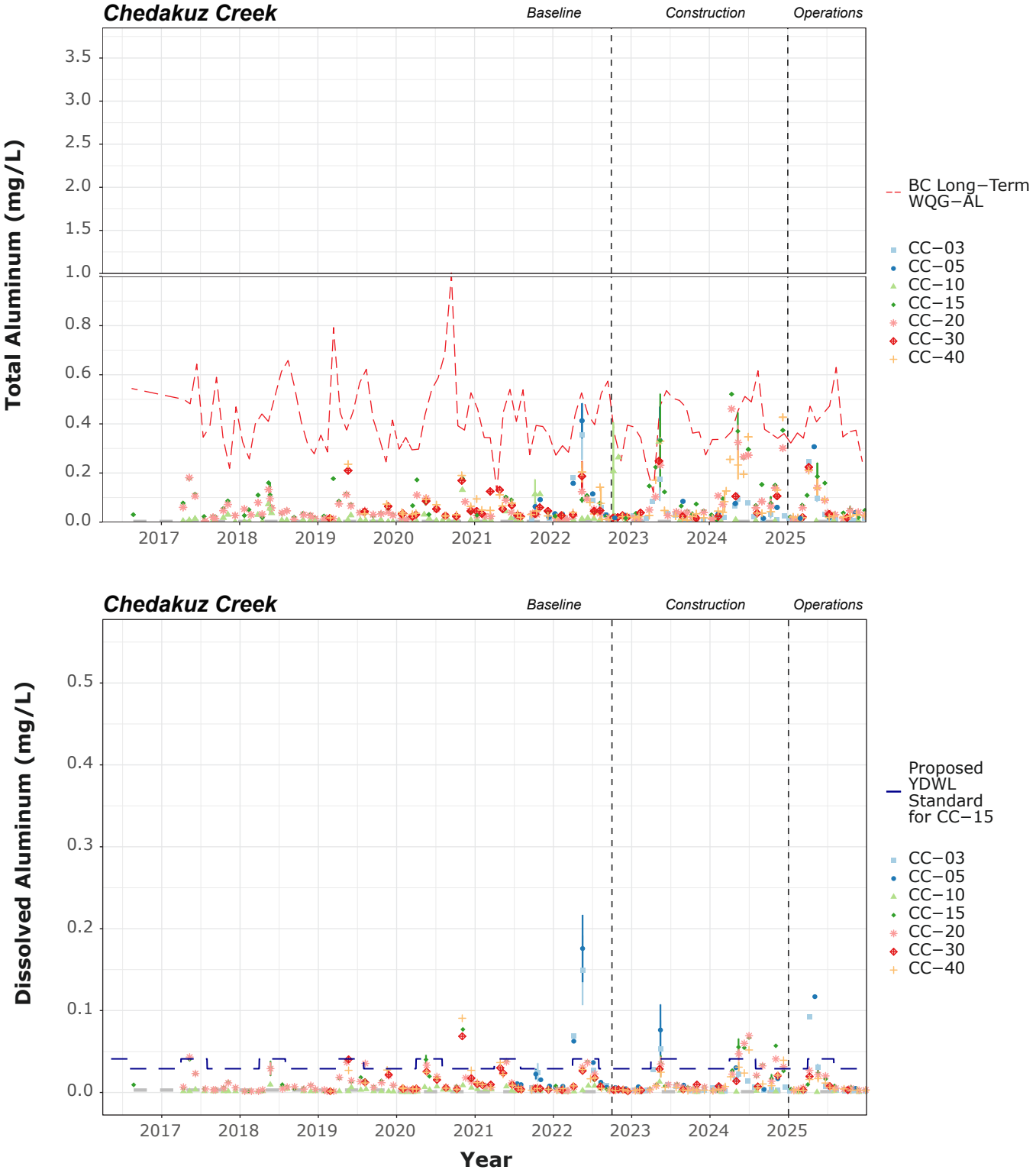
Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Minimum pH and temperature dependent BC WQG−AL long−term guideline for total ammonia−N is 0.611 mg/L.
Proposed YDWL Standard for ammonia−N at CC−15 is 0.84 mg/L.

FIGURE 3.4-39 MONTHLY MEAN TOTAL AMMONIA-N CONCENTRATIONS AT REGIONAL CONTROL SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Minimum pH and temperature dependent BC WQG–AL long–term guideline for total ammonia–N is 0.611 mg/L.

FIGURE 3.4-40 MONTHLY MEAN ALUMINUM CONCENTRATIONS AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS

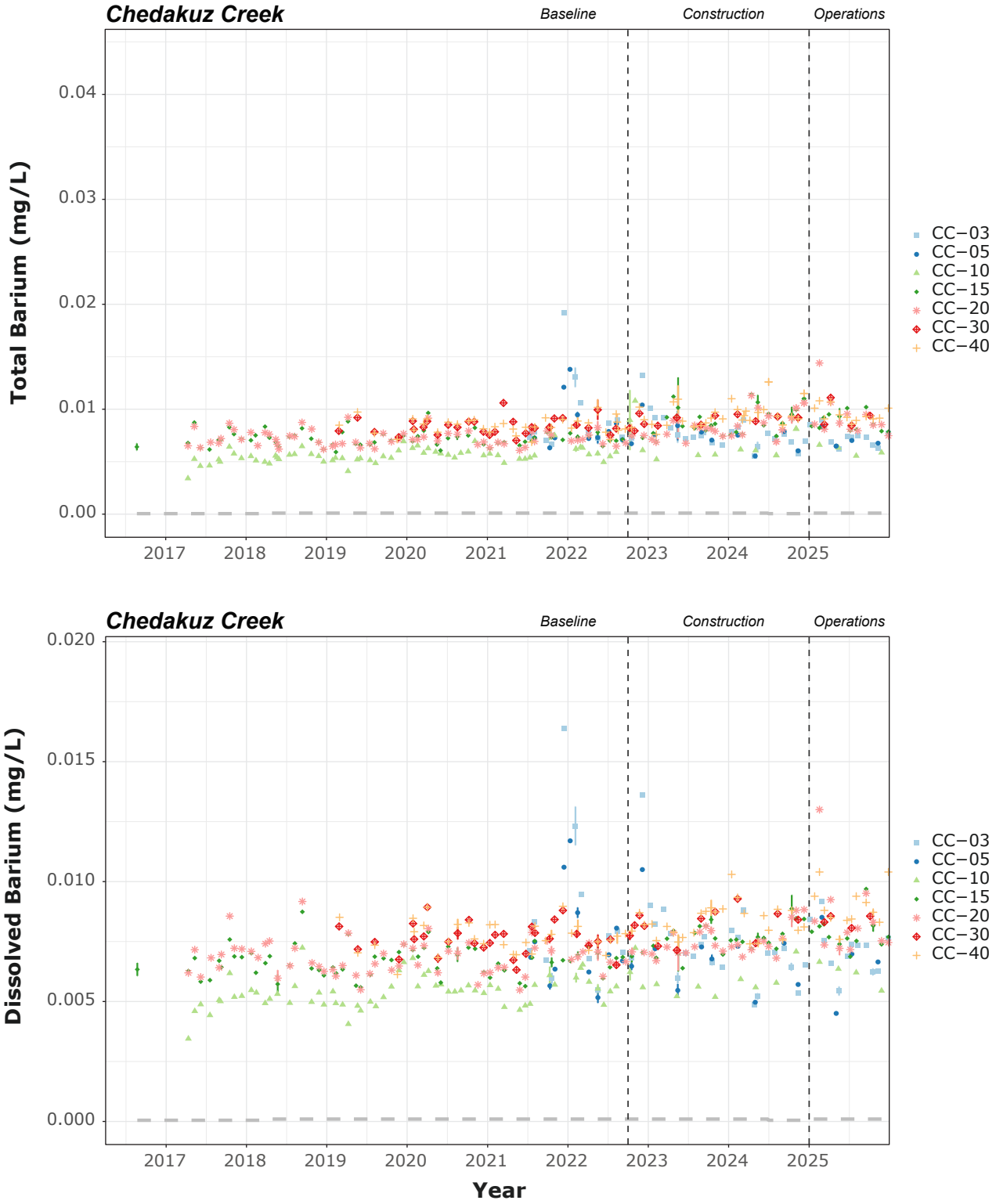


Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term guideline for total aluminum is pH, hardness, and DOC dependent; the monthly mean calculated guideline is plotted.
Proposed YDWL Standard for dissolved aluminum at CC–15 is 0.041 mg/L (April to July) / 0.029 mg/L (August to December).

ERM

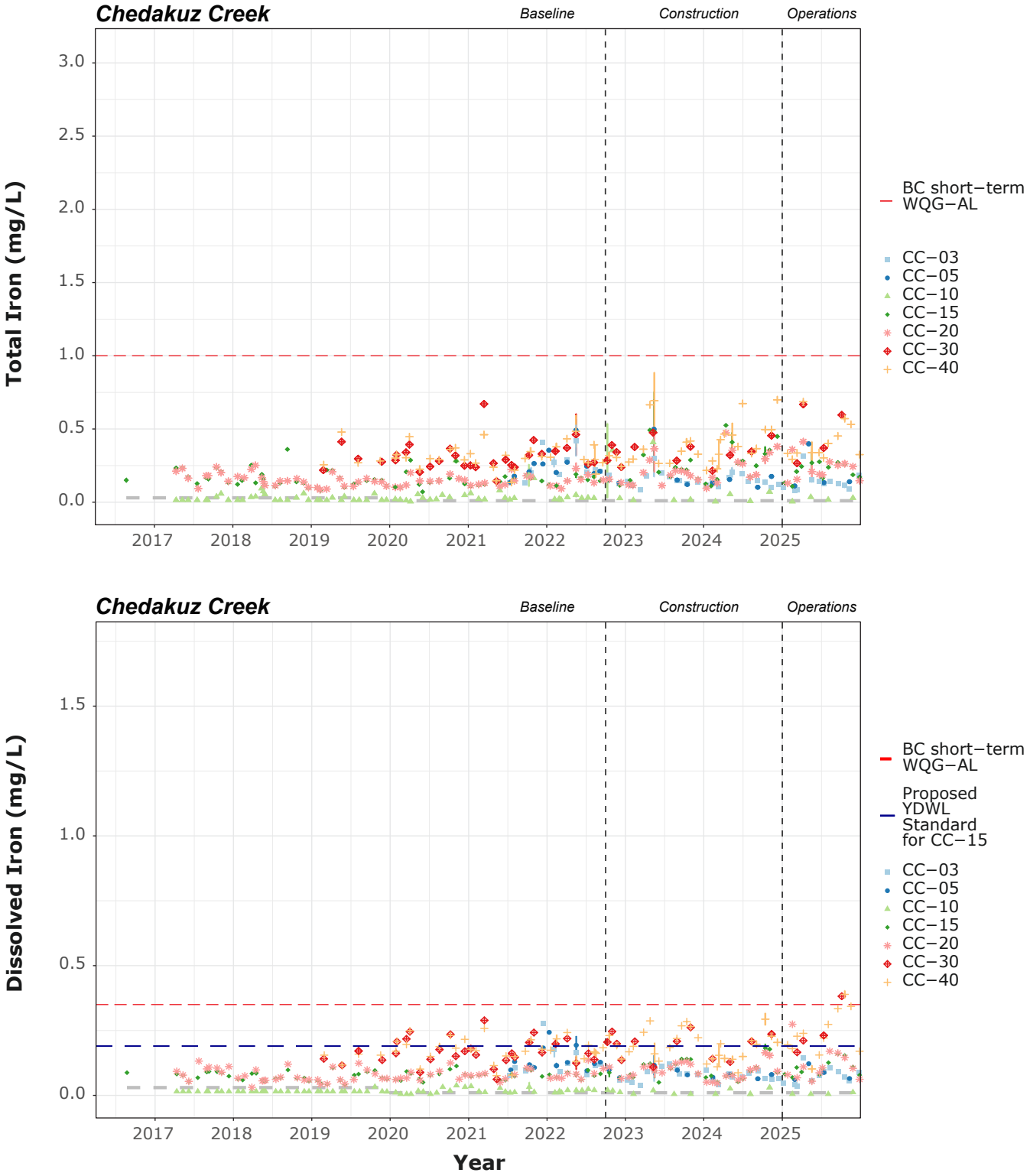
CLIENT: BW Gold LTD.
GRAPHICS NUMBER: BWG-26ERM-021:40

FIGURE 3.4-41 MONTHLY MEAN BARIUM CONCENTRATIONS AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL long–term working guideline for total barium is 1 mg/L.

FIGURE 3.4-42 MONTHLY MEAN IRON CONCENTRATIONS AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL short–term maximum guideline for total iron is 1.0 mg/L.
BC WQG–AL short–term guideline for dissolved iron is 0.35 mg/L.
Proposed YDWL Standard for dissolved iron at CC–15 is 0.19 mg/L.

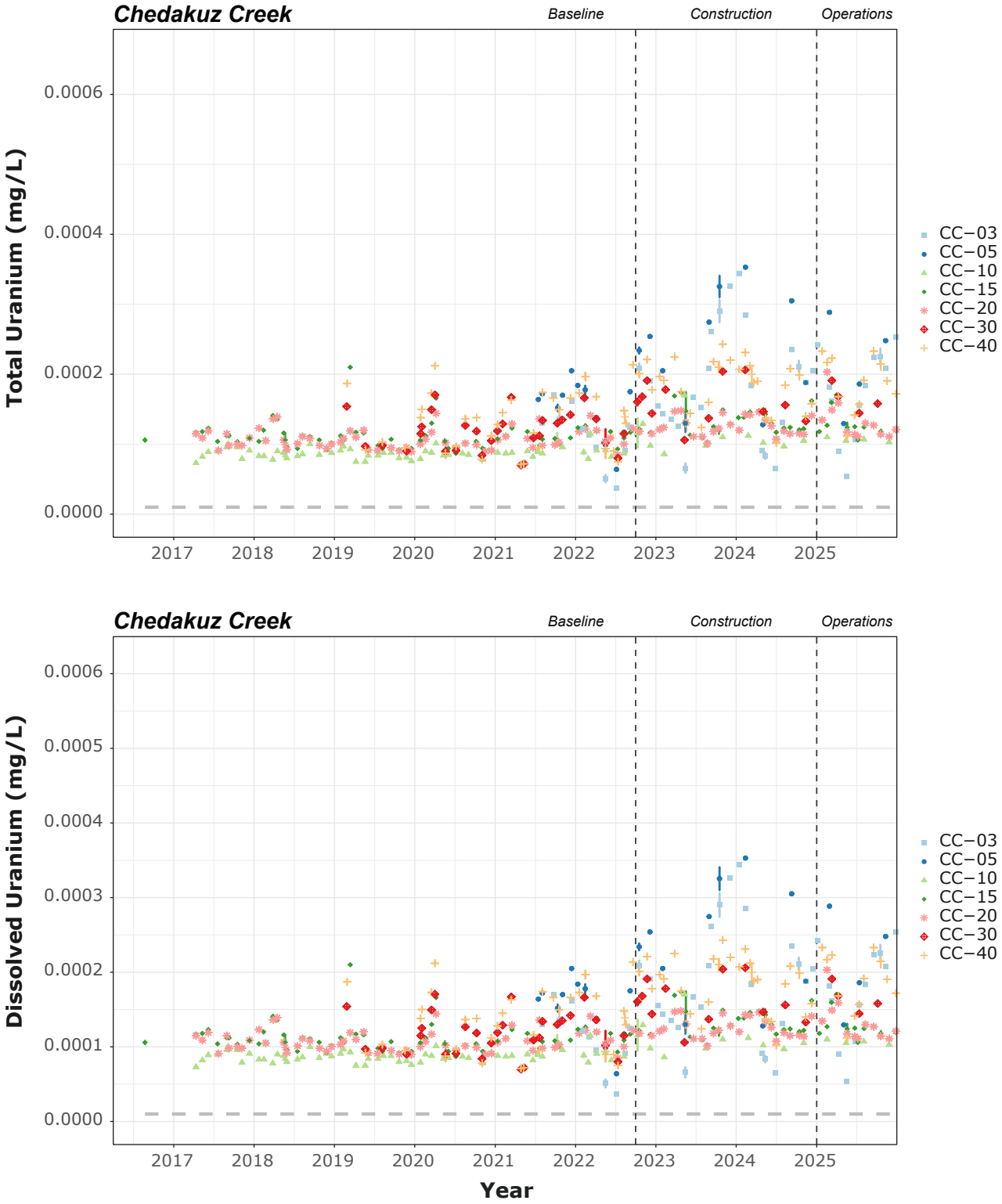
ERM

CLIENT: BW Gold LTD.
GRAPHICS NUMBER: BWG-26ERM-021:42

FIGURE 3.4-43 MONTHLY MEAN MANGANESE CONCENTRATIONS AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS

Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC WQG−AL long−term guideline for total manganese is hardness dependent; the monthly mean calculated guideline is plotted.
CCME WQG−AL long−term guideline for dissolved manganese is pH and hardness−dependent.
Proposed YDWL Standard for dissolved manganese at CC−15 is 0.019 mg/L.

FIGURE 3.4-44 MONTHLY MEAN URANIUM CONCENTRATIONS AT CHEDAKUZ CREEK SITES, BASELINE (2016 TO SEPTEMBER 2022), CONSTRUCTION (OCTOBER 2022 TO 2024), OPERATIONS (2025) MONITORING PERIODS



Notes: Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG–AL working long–term guideline for total uranium is 0.0085 mg/L.
BC WQG–AL long–term guideline for dissolved uranium is 0.0075 mg/L.

3.4.1.3 Quality Assurance and Quality Control

Methods

The QA/QC principles for surface water quality sampling and analysis followed those outlined in guidance documents throughout the field sample collection and laboratory analysis phases (BC MOE 2016a; BC MWLAP 2013; BC ENV 2020b). Standard QA/QC practices included: water quality samples were collected by qualified personnel using suitable sampling equipment; Chain-of-Custody (COC) forms were used to track the samples; and analyses were conducted by a laboratory certified by CALA.

The QA/QC procedures for the measurement of field (in situ) parameters included daily calibration of the meter before use, as per the manufacturer's manual and recorded in a calibration log. The meter was allowed to stabilize before taking each reading and the data was reviewed for unreasonable values.

In addition, QA/QC field blanks, travel blanks, and field duplicates were collected for each sampling event. Field blanks are empty sample bottles filled with deionized water at randomly selected stations to assess potential contamination from the surrounding environmental conditions (e.g., aerial particulates) and sample handling techniques. Travel blanks are pre-filled by the analytical laboratory and are not opened in the field to assess potential contamination from travel, storage, or from laboratory handling. Field duplicate samples were collected in the field at randomly selected stations and submitted to the laboratory to indicate the variability inherent in field sampling (i.e., environmental heterogeneity).

A minimum of one field blank and one travel blank were collected per sampling event, and field duplicates were collected to account for approximately 10% of the total number of samples collected.

Laboratory QA/QC measurements and protocols were completed to determine and confirm the accuracy, sensitivity, precision, and comparability of the data, as recommended by BC Ministry of Environment and Climate Change Strategy (BC ENV 2020a). This included the use of method blanks, replicates, laboratory control samples and reference material, and matrix spikes. Method blanks are clean control samples that detect potential contamination during sample preparation and analysis. Laboratory duplicates are field-collected samples split at the laboratory and analyzed separately. These determine the methodological precision. Accuracy was tested using laboratory control samples, reference materials, and matrix spikes. Laboratory control samples are a clean matrix (i.e., distilled, de-ionized water) spiked with test parameters. Reference materials are samples with a known concentration of a parameter. Matrix spikes are field-collected samples that are spiked with test analytes. Anomalous results (for example, detected concentrations in the blanks) were verified by the laboratory with repeated analysis.

Detected concentrations of water quality parameters (concentrations above the DL) were noted for both travel and field blanks to indicate possible contamination.

For each pair of QA/QC field duplicate water samples, the relative percent difference (RPD) was calculated, where:

$$RPD = 100\% \times \left(\frac{|replicate\ 1 - replicate\ 2|}{\frac{replicate\ 1 + replicate\ 2}{2}} \right)$$

The RPD between the field duplicates is a measure of the variability inherent in field sampling (environmental heterogeneity, sampler handling leading to contamination, potential laboratory errors). Water quality parameters where one or both values were less than five times the DL were not included in the RPD calculations because variability near the DL is considered too high (BC MWLAP 2013). The British Columbia Field Sampling Manual Part A Quality Control and Quality Assurance (BC MWLAP 2013) recommends that any field duplicates with RPD values exceeding 20% and 50% should be noted and data should be interpreted accordingly. The results of RPD calculations were examined to detect

patterns of high variation for multiple parameters within sample pairs, indicating possible contamination during field sampling.

Both field and water quality observations were examined for their expected range of values and/or previous results. Based on statistical metrics and professional judgement, outliers indicating an error were removed. A combination of statistical metrics and/or criteria were used to identify potential outliers (e.g., data points outside of the 99th percentile) along with graphical analysis (Gilbert 1987). Professional judgement was also used to determine whether the data are likely to be outliers due to sampling or analysis issues (e.g., unit errors in laboratory report, sample contamination), or whether the data represent the true extreme of natural or expected conditions (e.g., very high concentrations of total suspended solids and metals that may occur during a natural 1 in 100 storm event).

Results

Field and Travel Blanks

Laboratory results of the field and travel blanks are provided in Appendix B-3. Except for pH, concentrations of water quality parameters are expected to be less than the detection limit (DL) in field and travel blanks. Measured parameters greater than the DL in field blanks represent potential sample contamination during sample preservation or contamination during field blank preparation. Measured parameters greater than the DL in travel blanks potentially represent contamination of samples in transit, contamination during laboratory analysis, or contamination during travel blank preparation.

Thirty-nine field blanks and 43 travel blanks were included in the 2025 surface water quality sampling program. Detectable values of acidity were measured in 74% of the field and 70% of the travel blanks with detectable values being equal to or 1.3 times greater than the DL (acidity DL = 2 mg/L). Detections of acidity are common in the field and travel blanks, which reflects dissolved carbon dioxide in the laboratory supplied water and not sample contamination. Overall, other detectable concentrations were rarely observed (< 1% of the 7,544 observations) in the field (10 detections) and travel (7 detections) blanks. All detectable field blank observations, except for one, were less than five times the DL (i.e., within the range of analytical variability): three total alkalinity (1.2 to 1.4 times the DL), four ammonia (1.2 to 2 times the DL), one thiocyanate (1.1 times the DL), and one dissolved aluminum (4.4 times); and one dissolved tin detection that was 8.5 times the DL. Travel blank detections were all less than five times the DL: two total alkalinity (1 and 1.1 times the DL), one nitrite (1.1 times the DL), one thiocyanate (1.1 times the DL), one total chromium (1.4 times the DL) one total manganese (1.3 times the DL), and one dissolved aluminum (equal to the DL). The field and travel blanks results indicate that the field sampling and handling procedures were successful at mitigating sample contamination.

Field Duplicates

The results of the RPD analysis for stream water quality field duplicates collected in Davidson Creek, Creek 661, Chedakuz Creek, and at control sites are provided in Appendix B-4. A total of 52 field duplicates were collected at stream sites and 1,847 RPDs were calculated. Of the calculated RPDs, 2.6% (n = 48) were in the range of 20% to 50%, and 1.1% (n = 21) were greater than 50%. There were 18 parameters with an RPD between 20% and 50%: total alkalinity, conductivity, turbidity, total Kjeldahl nitrogen, total phosphorus, dissolved Ortho-phosphorus, total organic carbon, total aluminum, total barium, total cobalt, total iron, total manganese, total titanium, total uranium, dissolved aluminum, dissolved manganese, dissolved molybdenum and dissolved titanium. The RPDs between 20 and 50% most frequently occurred for total (17%) and dissolved (13%) aluminum and the remaining parameters contributed 2% to 8%. Parameters with RPDs higher than 50% included: nitrate-N, total phosphorus, total aluminum, total iron, total manganese, total titanium, dissolved barium, and dissolved manganese. The RPDs higher than 50% occurred most frequently for total manganese (29%) and total aluminum

(24%), and total iron (19%). Overall, there were no clear temporal and spatial patterns in the RPD calculations greater than 20%. Calculated RPDs between 20% and 50% were present in duplicates collected in each month (3% to 13%), with the exception of December when no RPD was greater than 20%. The RPDs greater than 50% were mostly observed in September (43%), August (14%), November (14%), and December (15%) and occasionally in April, May, and October (5% each). The RPDs between 20% and 50% occurred infrequently (≤10%) at sites 661-01, 661-04, 661-10, 705-05, 705-10, CC-03, CC-05, CC-20, CC-30, CC-40 and 661-20 and more frequently in CC-15 (21%), DC-05 (15%), and DC-20 (15%). The majority (38%) of RPDs greater than 50% occurred at site 661-01 on September 24 and 30. Sites DC-15, DC-20, and 661-20 each accounted for 14% frequency of the RPDs greater than 50% and more infrequently 661-10, 705-10, CC-15, and DC 05 accounted for 5% each.

Although there was some minor heterogeneity of water collected, this is typical of natural water bodies and the field duplicate results indicate that sample collection was reproducible, and the water samples collected during the reporting period were representative of the waterbodies at the time of sampling.

Laboratory

Samples were generally analyzed within their recommended holding times, excluding those parameters with short holding times (e.g., 3 days), which can be logistically challenging to analyze in time for remote projects. Sample exceptions to holding times for 2025 include February equipment blank on workorder VA25A3595, due to personnel error, and February samples 661-10 and 661-05 on workorder VA25A4211 and June samples CC-15, CC-20, CC-40, 705-10, and a travel blank (TB7-WS) on workorder VA25B3822 that were delayed due to logistical errors made by the shipping company. In February, three of the five samples (661-20, CC-03, and CC-05) were discarded and resampled, but two site samples were analyzed (661-10 and 661-05) because the field team was unable to collect more samples due to it being the end of the month. In June, the samples and the travel blank had two additional parameters (total suspended solids and total dissolved solids) exceeding their recommended holding time of 7 days. This is not expected to affect the results, because these hold times are considered conservative, and the reliability of the samples was evaluated with the other field and laboratory QA/QC.

Overall, the laboratory data quality objectives for internal QA/QC were met, and the laboratory reports were issued and distributed without further comment. In some cases, the laboratory noted issues with method blanks, matrix spikes, and laboratory replicates. For method blanks, results were considered reliable if the associated samples were either below detection limits, or greater than five times the concentration detected in the method blanks. For laboratory QA/QC results that were flagged against the laboratory's data quality objectives, results for associated samples, and corresponding field and travel blanks when available, were reviewed against the method blanks, matrix spikes, and laboratory replicate results and it was concluded that reported data was reliable and influence on the sample results and the ability to detect potential Mine-related effects would have been negligible.

Certificates of Analysis, including complete results from laboratory QA/QC checks, can be made available on request.

Outliers

Outliers were identified for removal following review of the 2025 surface water quality based on QA/QC results, professional judgement, and other supporting information (e.g., graphical analysis, summary statistics).

For field measurements, the following 2025 erroneous values (i.e., outliers as a result of operator error or probe issues) were removed from the data analysis:

- 661-10, 10 March 2025, field conductivity = 53,100 µS/cm;
- 661-01, 11 May 2025, field conductivity = 106 µS/cm;
- 661-10, 11 May 2025, field conductivity = 189 µS/cm;
- DC-05, 11 May 2025, field conductivity = 290 µS/cm; and
- DC-15, 11 May 2025, field conductivity = 361 µS/cm.

For laboratory measurements, one total zinc result was removed from the data analysis for sample 661-01 on 13 October 2025 (ALS Sample ID: VA25C7416-001; value = 0.0848 mg/L). The removed result is suspected to be an erroneous value; the removed value was over 28-times the DL when all other observed total zinc concentrations for site 661-01 were less than the DL (0.003 mg/L) in 2025, and there was no indication of potential sources of contamination based on review of the associated sampling event blanks, laboratory QA/QC results, and other parameters (e.g., total suspended solids and other total metals).

3.4.2 Comparisons to Environmental Assessment

Methods

Comparison to Model Predictions

Following the issuance of the CEA Agency (2019) assessment report, an updated water quality model (Lorax 2022) and an updated water balance model (KP 2022) has been completed to reflect Mine optimizations, in addition to an updated baseline water quality dataset (ERM 2023). Generally, parameter concentrations are predicted to be less than water quality guidelines (WQGs) during the Construction and Operations phases. Based on work since the EA, nitrogen forms (nitrate-N, nitrite-N, ammonia-N), total phosphorus, and TDS were water quality parameters identified as the Project-related special-case COPCs for aquatic life in the conceptual site model (CSM; Entia 2022). Dissolved aluminum was also identified as a COPC for aquatic life as both baseline and predicted concentrations were higher than WQGs (Entia 2022). The CSM also recommended the inclusion of total mercury in monitoring due to uncertainties in the geochemical source terms used in water quality predictions. Other than dissolved aluminum, the COPCs identified in the CEA Agency (2019) Assessment Report were no longer identified as COPCs in 2022 because the updated predicted concentrations did not exceed water quality guidelines.

Table 3.4-1 provides the assessment nodes at which water quality was predicted in the EA and in the 2022 update (Lorax 2022), along with the associated baseline and AEMP sampling sites. The monthly predicted concentrations from the CEA Agency report (2019; for the EA) and Lorax (2022) at each of the assessment nodes and the AEMP baseline sampling locations in Davidson Creek and Creek 661 were compared to observed concentrations during Construction and Year +1 of Operations (October 2022 to December 2025). Comparisons were not made for Chedakuz Creek because the CEA Agency report (2019) did not identify any COPCs in Chedakuz Creek during Construction or Operations because the concentrations of all parameters were predicted to remain below WQGs.

Table 3.4-1: Water Quality Model Assessment Nodes, Baseline Sampling Sites, and Aquatic Effects Monitoring Program Sampling Sites

Criteria	EA Water Quality Assessment Nodes[1]	2022 Water Quality Model Assessment Nodes[2]	Baseline Site ID (up to 2021)	AEMP Site ID (2021 Onwards)
Davidson Creek	-	WQ28	WQ-28	DC-05
	-	WQ27	WQ-27	DC-10
	WQ26	WQ26	WQ-26	DC-15
	WQ7	WQ7	WQ-7	DC-20
Creek 661	-	-	WQ-3	661-05
	WQ5_US	WQ5	WQ-5	661-10
	WQ5_DS	WQCk661	WQ-32	661-20

Notes:

AEMP = Aquatic Effects Monitoring Program; EA = Environmental Assessment.

[1] Figure 4 in CEA Agency (2019).

[2] Lorax (2022).

Comparison to Water Quality Guidelines

Station-by-station comparisons of the monthly average water quality at AEMP sites with BC (BC WLRS 2025a and 2025b) or federal (Canadian Council of Ministers of the Environment [CCME] 2025) WQGs (Tables 3.4-2 to 3.4-4) was also completed to verify the accuracy of the EA. Comparison was completed using the WQGs for the protection of aquatic life (WQGs-AL) and BC agriculture-livestock and wildlife guidelines as of December 2025.

Comparisons of measured parameter concentrations to WQG-ALs (Table 3.4-3) follows the hierarchy provided in Technical Guidance 4: Annual Reporting under the *Environmental Management Act* (BC MOE 2016), with WQG-ALs applied in the following order:

1. Use the most current BC Approved WQG-AL (BC WLRS 2025a) or approved SBEBs (BC ENV 2023).
2. If no approved WQG-AL are available, use the most current Working Water Quality Guideline for British Columbia (BC WLRS 2025b).
3. If neither of these has yet been established, use the most current WQG-AL provided by the CCME (2026).

For pH-, hardness-, DOC-, and chloride-dependent WQG-ALs, the sample-specific hardness, pH, DOC, or chloride values was used to calculate the WQG-AL. Concentrations that are less than the DL but greater than the applicable WQG-AL were noted but excluded from WQG-AL exceedance calculations.

Long-term average (“chronic”) WQG-AL were used for initial comparisons. Long-term WQG-AL are the most conservative; consequently, if no exceedances of long-term guidelines are identified for a parameter, no further investigation is necessary. If exceedances of the chronic WQG-AL are noted, concentrations will also be compared to the short-term (“maximum”) WQG-AL, where available. Comparisons to the WQG-AL were done for each sample or for the average of the five weekly (5-in-30) samples, as recommended by BC MOE (2016c).

Table 3.4-2: Water Quality Benchmarks Based on Water Quality Guidelines for the Protection of Aquatic Life, Wildlife, and Agriculture (Livestock)

Parameter	Water Quality Guideline[1]				Proposed Yinka Dene Water Law Standard	
	BC Water Quality Guideline	Type of Guideline	CCME Water Quality Guideline	Type of Guideline	DC-05	CC-15
Physical Parameters and Dissolved Anions						
pH	6.5 to 9 pH units	Aquatic life	6.5 to 9 pH units	Aquatic life	6.5 to 9 pH units (laboratory-measured)	6.8 to 8.1 pH units (laboratory-measured pH)
Total suspended solids	Sample specific[2]	Aquatic life	Sample specific[2]	Aquatic life	BC WQG	BC WQG
Turbidity	Sample specific[2]	Aquatic life	Sample specific[2]	Aquatic life	BC WQG	BC WQG
Total dissolved solids	ng[3]	ng	3,000 mg/L	Livestock	ng[3]	ng
Chloride	150 mg/L	Aquatic life	120 mg/L	Aquatic life	120 mg/L	60 mg/L
Fluoride	Sample specific[2]	Aquatic life	0.12 mg/L	Aquatic life	1 mg/L	0.53 mg/L
Sulphate	Sample specific[2]	Aquatic life	1,000 mg/L	Livestock	218 mg/L	111 mg/L
Nutrients						
Ammonia (as N)	Sample specific[2]	Aquatic life	Sample specific[2]	Aquatic life	1.83 mg/L (BC WQG)	0.84 mg/L
Nitrate (as N)	3 mg/L	Aquatic life	3 mg/L	Aquatic life	3 mg/L	1.5 mg/L
Nitrite (as N)	Sample specific[2]	Aquatic life	0.06 mg/L	Aquatic life	0.02 mg/L (BC WQG)	0.011 mg/L
Total Phosphorous	Sample specific[2]	Aquatic life	Sample specific[2]	Aquatic life	ng	ng
Cyanides						
Total Cyanide	ng	ng	0.005 mg/L (as free cyanide)	Aquatic life	0.2 mg/L	0.1 mg/L
Cyanide, Weak Acid Dissociable	0.005 mg/L	Aquatic life	ng	ng	0.005 mg/L	0.005 mg/L

Parameter	Water Quality Guideline[1]				Proposed Yinka Dene Water Law Standard	
	BC Water Quality Guideline	Type of Guideline	CCME Water Quality Guideline	Type of Guideline	DC-05	CC-15
Total Metals						
Aluminum	Sample specific[2]	Aquatic life	Sample specific[2]	Aquatic life	n/a	n/a
Antimony	0.074 mg/L	Aquatic life	ng	ng	n/a	n/a
Arsenic	0.005 mg/L	Aquatic life	0.005 mg/L	Aquatic life	n/a	n/a
Barium	1 mg/L	Aquatic life	ng	ng	n/a	n/a
Beryllium	0.00013 mg/L	Aquatic life	0.1 mg/L	Livestock	n/a	n/a
Boron	1.2 mg/L	Aquatic life	1.5 mg/L	Aquatic life	n/a	n/a
Cadmium	ng	ng	Sample specific[2]	Aquatic life	n/a	n/a
Chromium[4]	0.0025 mg/L	Aquatic life	0.001 mg/L	Aquatic life	n/a	n/a
Cobalt	1 mg/L	Livestock	1 mg/L	Livestock	n/a	n/a
Copper	300 mg/L	Wildlife	Sample specific[2]	Aquatic life	n/a	n/a
Iron	1 mg/L	Aquatic life	0.3 mg/L	Aquatic life	n/a	n/a
Lead	0.1	Wildlife	Sample specific[2]	Aquatic life	n/a	n/a
Manganese	Sample specific[2]	Aquatic life	ng	ng	ng	ng
Mercury	0.00002 mg/L	Aquatic life	0.000026 mg/L	Aquatic life	n/a	n/a
Molybdenum	0.016 mg/L	Livestock	0.073 mg/L	Aquatic life	n/a	n/a
Nickel	1 mg/L	Livestock	Sample specific[2]	Aquatic life	n/a	n/a
Selenium	0.002 mg/L	Aquatic life	0.001 mg/L	Aquatic life	n/a	n/a
Silver	Sample specific[2]	Aquatic life	0.00025 mg/L	Aquatic life	n/a	n/a
Thallium	0.00003 mg/L	Aquatic life	0.0008 mg/L	Aquatic life	n/a	n/a
Uranium	0.0075 mg/L	Aquatic life	0.015 mg/L	Aquatic life	n/a	n/a
Vanadium	0.06 mg/L	Aquatic life	0.1 mg/L	Livestock	n/a	n/a
Zinc	ng	ng	5 mg/L	Livestock	n/a	n/a

Parameter	Water Quality Guideline[1]				Proposed Yinka Dene Water Law Standard	
	BC Water Quality Guideline	Type of Guideline	CCME Water Quality Guideline	Type of Guideline	DC-05	CC-15
Dissolved Metals						
Aluminum[6]	ng	ng	ng	ng	0.14 mg/L (April to July) / 0.05 mg/L (August to March)	0.041 mg/L (April to July) / 0.029 mg/L (August to March)
Cadmium	Sample specific[2]	Aquatic life	ng	ng	0.00014 mg/L	0.00009 mg/L
Cobalt	Sample specific[2]	Aquatic life	ng	ng	n/a	n/a
Copper	Sample specific[2]	Aquatic life	ng	ng	0.0029 mg/L	0.0026 mg/L
Iron	0.35 mg/L	Aquatic life	ng	ng	0.3 mg/L	0.19 mg/L
Lead	Sample specific[2]	Aquatic life	ng	ng	n/a	n/a
Manganese	ng	ng	Sample specific[2]	Aquatic life	0.02 mg/L	0.019 mg/L
Nickel	Sample specific[2]	Aquatic life	ng	ng	n/a	n/a
Strontium	1.25	Aquatic life	ng	ng	n/a	n/a
Zinc	Sample specific[2]	Aquatic life	Sample specific[2]	Aquatic life	0.04 mg/L	0.017 mg/L

Notes:

n/a = not applicable because the Yinka Dene Water Law Standard is for dissolved or was not calculated; ng = no guideline.

[1] Only the most conservative WQG is shown in the table. Sources of water quality guidelines include:

- *Approved Or Working BC Water Quality Guidelines for the Protection of Aquatic Life, Wildlife, and Agriculture (Livestock; BC WLRS 2025a and 2025b).*
- *Canadian Council of Ministers of the Environment Water Quality Guidelines for the Protection of Aquatic Life or Agriculture (Livestock; CCME 2025).*

[2] This parameter has a water quality guideline based on toxicity modifying factors (e.g., hardness, pH, DOC) and calculated as defined in Table 3.4-3. The guideline will be calculated on a sample-by-sample basis, consistent with guidance in BC MOE (2016).

[3] No water quality guideline for the protection of aquatic life is available for this parameter. A benchmark of 500 mg/L, used in effects assessment for the Joint MA/EMA Application, will be used to confirm the results of the effects assessment.

[4] Based on the guideline for hexavalent chromium, as there is no guideline for total chromium.

[6] The science-based environmental benchmark for dissolved aluminum at Davidson Creek sites is provided in Table 3.4-4.

Table 3.4-3: Water Quality Guidelines for the Protection of Aquatic Life

Parameter	BC Water Quality Guideline[1]	CCME Water Quality Guideline[2]
Physical Parameters and Dissolved Anions		
pH	6.5 to 9.0 pH units	6.5 to 9.0 pH units
Total suspended solids	• Change from background for 24-h period is 25 mg/L and 5 mg/L for 30-day period; • if background is 25 to 100 mg/L then change from background of 10 mg/L; • if background > 100 mg/L then change from background of 10%.	• In clear flow, maximum increase of 25 mg/L from background levels for short-term exposure (e.g., 24-h period). Maximum average increase of 5 mg/L from background levels for long-term exposure. • In high flow, maximum increase of 25 mg/L from background levels between 25 to 250 mg/L. If background is ≥ 250 mg/L, then it should not increase more than 10% of background levels.
Turbidity	• Change from background of 8 NTU at any one time for a duration of 24-h in all waters during clear flows or in clear waters. • Change from background of 2 NTU at any one time for a duration of 30-day in all waters during clear flows or in clear waters. • Change from background of 5 NTU at any time when background is 8 to 50 NTU during high flows or in turbid waters. • Change from background of 10% when background is > 50 NTU at any time during high flows or in turbid waters.	• In clear flow, maximum increase of 8 NTUs from background levels for a short-term exposure (e.g., 24-h period). Maximum average increase of 2 NTUs from background levels for a longer term exposure (e.g., 30-day period). • In high flow or turbid waters, maximum increase of 8 NTUs from background levels at any one time when background levels are between 8 and 80 NTUs. Should not increase more than 10% of background levels when background is > 80 NTUs.
Chloride	• 600 mg/L maximum; • 150 mg/L for 30-day period	• 640 mg/L short-term; • 120 mg/L long-term
Fluoride	• 0.4 mg/L maximum, at hardness ≤ 10 mg/L; • LC50 = -51.73 + 92.57 log10 (hardness) * 0.01 mg/L, at hardness > 10 mg/L	0.12 mg/L (interim guideline)
Sulphate	30-day mean is: • 128 mg/L, at hardness 0 to 30 mg/L; • 218 mg/L, at hardness 31 to 75 mg/L; • 309 mg/L, at hardness 76 to 180 mg/L; • 429 mg/L, at hardness 181 to 250 mg/L; • site-specific guidelines apply at hardness >250 mg/L.	-

Parameter	BC Water Quality Guideline[1]	CCME Water Quality Guideline[2]
Nutrients		
Ammonia-N	30-day mean is pH- and temperature-dependent (see Table 26C in BC ENV 2021a); No more than 1 of 5 of the measured values can exceed 1.5 times the corresponding guideline	pH- and temperature-dependent (long-term)
Nitrate-N	• 32.8 mg/L maximum; • 3.0 mg/L for 30-day period	• 550 mg/L short-term; • 13 mg/L long-term
Nitrite-N	• the maximum concentration is 0.06 mg/L and the 30-day mean is 0.02 mg/L, at chloride < 2 mg/L; • the maximum concentration is 0.12 mg/L and the 30-day mean is 0.04 mg/, at chloride 2 to 4 mg/L • the maximum concentration is 0.06 mg/L and the 30-day mean is 0.18 mg/L, at chloride 4 to 6 mg/L; • the maximum concentration is 0.24 mg/L and the 30-day mean is 0.08 mg/L, at chloride 6 to 8 mg/L; • the maximum concentration is 0.30 mg/L and the 30-day mean is 0.10 mg/L, at chloride 8 to 10 mg/L; • the maximum concentration is 0.60 mg/L and the 30-day mean is 0.20 mg/L, at chloride > 10 mg/L.	0.06 mg/L long-term
Total phosphorous	0.005 to 0.015 mg/L (lakes)	greater than the baseline trophic status characterized as follows: • < 0.004 mg/L ultra-oligotrophic; • 0.004 to 0.01 mg/L oligotrophic; • 0.01to 0.02 mg/L mesotrophic; • 0.02 to 0.035 mg/L meso-eutrophic; • 0.035 to 0.1 mg/L eutrophic; • > 0.1 mg/L hyper-eutrophic.
Cyanides and Carbon		
Total cyanide	-	0.005 mg/L (as free cyanide)
Cyanide, weak acid dissociable	• 0.01 mg/L maximum; • 0.005 mg/L for 30-day period	-
Total organic carbon	the 30-day median ± 20% of the seasonally adjusted median background concentration	-
Dissolved organic carbon	the 30-day median ± 20% of the seasonally adjusted median background concentration	-

Parameter	BC Water Quality Guideline[1]	CCME Water Quality Guideline[2]
Total Metals		
Aluminum	Long-term: e(0.645 * log(DOC) + (2.255 * log(hardness)) + (1.995 * pH) + (-0.284 * (log(hardness) * pH)) - 9.898)) / (3 * 1,000) mg/L	• 0.005 mg/L if pH < 6.5; • 0.1 mg/L if pH ≥ 6.5
Antimony	• 0.25 mg/L short-term; • 0.074 mg/L long-term	-
Arsenic	0.005 mg/L 30-day period	0.005 mg/L long-term
Barium	1 mg/L (working guideline)	-
Beryllium	0.00013 mg/L (working guideline)	-
Boron	1.2 mg/L 30-day period	• 29 mg/L short-term; • 1.5 mg/L long-term
Cadmium	-	Short-term: • 0.00011 mg/L, at hardness is < 5.3 mg/L: • 10^ 1.016[log10(hardness)]-1.71 / 1,000 mg/L, at hardness 5.3 to 360 mg/L; • 0.0077 mg/L, if hardness > 360 mg/L. Long-term: • 0.00004 mg/L at hardness < 17 mg/L; • 10^ 0.83[log10(hardness)]-2.46 / 1,000 mg/L, at hardness 17 to 280 mg/L; • 0.00037 mg/L, at hardness > 280 mg/L.
Chromium	30-day period: • 0.0025 mg/L (hexavalent chromium; Working guideline), • 0.0089 mg/L (trivalent chromium; Working guideline)	Long-term: • 0.001 mg/L (hexavalent chromium); • 0.0089 mg/L (trivalent chromium)
Copper	-	• 0.002 mg/L, if hardness is < 82 mg/L; • e 0.8545[ln(hardness)]-1.465 * 0.0002 mg/L, at hardness 82 to 180 mg/L; • 0.004 mg/L, at hardness > 180 mg/L.
Iron	1 mg/L maximum	0.3 mg/L long-term

Parameter	BC Water Quality Guideline[1]	CCME Water Quality Guideline[2]
Total Metals *(cont'd)*		
Lead	-	• e 1.273[ln(hardness)]-4.705 / 1,000 mg/L, at hardness ≤ 60 mg/L; • 0.001 mg/L, at hardness 60 to 180 mg/L or unknown; • 0.007 mg/L, hardness >180 mg/L.
Manganese	• maximum = 0.01102(hardness)+0.54 mg/L; • 30-day mean concentration = 0.0044(hardness)+ 0.605 mg/L	-
Mercury	• 0.00002 mg/L when MeHg = 0.5% THg • 0.00001 mg/L when MeHg = 1% THg	0.000026 mg/L
Molybdenum	46 mg/L maximum; 7.6 mg/L for 30-day period	0.073 mg/L
Nickel	-	• 0.025 mg/L, at hardness 0 to 60 mg/L; • e(0.76 * ln[hardness]+1.06) / 1,000 mg/L, at hardness 60 to 180 mg/L; • 0.150 mg/L, at hardness >180 mg/L.
Selenium	0.002 mg/L	0.001 mg/L
Silver	• maximum concentration is 0.0001 mg/L and the 30-day mean is 0.00005 mg/L, at hardness ≤ 100 mg/L; • maximum concentration is 0.003 mg/L and the 30-day mean is 0.0015 mg/L, at hardness > 100 mg/L.	0.00025 mg/L long-term
Thallium	0.00003 mg/L (working guideline)	0.0008 mg/L long-term
Uranium	• Long-term: 0.0075 mg/L (working guideline) • Short-term: 0.0165 mg/L (working guideline)	• 0.033 mg/L short-term; • 0.015 mg/L long-term
Vanadium	Long-term: 0.06 mg/L (working guideline)	-

Parameter	BC Water Quality Guideline[1]	CCME Water Quality Guideline[2]
Dissolved Metals		
Cadmium	maximum concentration is: • 0.000038 mg/L, • at hardness < 7 mg/L; • e(1.03 * ln[hardness]-5.274) / 1,000 mg/L at hardness ≥ 7mg/L. 30-day mean concentration is: • 0.0000176, at hardness < 3.4 mg/L; • e(0.736 * ln[hardness]-4.943) / 1,000 mg/L, at hardness ≥ 3.4 mg/L.	-
Cobalt	Long-term: e(0.414 * ln(hardness) – 1.887))/(2 * 1,000) mg/L	-
Copper	British Columbia Copper Biotic Ligand Model	-
Iron	0.35 mg/L maximum	-
Lead	Long-term: exp(0.514[ln(DOC)]+ 0.214*ln(hardness)]+0.4354) / (2 * 1,000) mg/L	-
Manganese	-	• Long-term: use look-up table with hardness and pH as the indices. • Short-term: e(0.878 * ln[hardness]+4.76) / 1,000 mg/L
Nickel	British Columbia Nickel Biotic Ligand Model	-
Strontium	1.25 mg/L (Working guideline)	-
Zinc	• Long-term: exp(0.947[ln(hardness)] − 0.815[pH] + 0.398[ln(DOC)] + 4.625) / (2 * 1,000) mg/L (the equation is valid for hardness from 23.4 and 399 mg/L, pH from 6.5 to 8.13, and DOC from 0.3 to 22.9 mg/L) • Short-term: exp(0.833[ln(hardness)] + 0.240[ln(DOC)] + 0.526) / (2 * 1,000) mg/L (equation is valid for hardness from 13.8 to 250.5 mg/L and DOC from 0.3 to 17.3 mg/L)	• Long-term: exp(0.947[ln(hardness)] - 0.815[pH] + 0.398[ln(DOC)] + 4.625) / 1,000 mg/L • Short-term: exp(0.833[ln(hardness)] + 0.240[ln(DOC)] + 0.526) / 1,000 mg/L

Notes:

Dashes indicate no guideline or proposed standard.

DOC = dissolved organic carbon; NTU = Nephelometric Turbidity unit; MeHg = methylmercury; THg = total mercury.

Hardness is measured as calcium carbonate ($CaCO_3$).

[1] British Columbia Guidelines for the Protection of Freshwater Aquatic Life, approved (BC WLRS 2025a); unless noted otherwise as working (BC WLRS 2025b).

[2] Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CCME 2025).

Table 3.4-4: Site-Specific Calculated Dissolved Aluminum Science-Based Environmental Benchmarks for Davidson Creek

Dates for Comparison[1]	DC-05 (Reach A)	DC-10 (Reach B)	DC-15 (Reach C)	DC-20 (Reach D)
April 1 to July 31	0.28 mg/L	0.26 mg/L	0.25 mg/L	0.23 mg/L
August 1 to December 31	0.13 mg/L	0.11 mg/L	0.090 mg/L	0.079 mg/L

Note:

[1] Water quality samples collected between January 1 and March 31 were compared to the total aluminum water quality guideline for aquatic life indicated in Table 3.4-3.

Guideline exceedances were characterized for each month or 5-in-30 sampling period as a magnitude (factor) of exceedance (i.e., by how much the WQG-AL is exceeded, calculated as the monthly or 5-in-30 average parameter concentration divided by the WQG-AL).

The Yinka Dene ‘Uza’hné Surface Water Management Policy (Nadleh Whut’en and Stellat’en 2016a) describes a system that classifies waters into three categories based on their cultural and ecological significance, including:

- High Cultural or Ecological Significance (Class I Waters);
- Sensitive Waters (Class II Waters); and
- Typical Waters (Class III Waters).

Site specific Yinka Dene Water Law (YDWL) Standards were proposed in 2023 for DC-05 and CC-15 (Artemis Gold 2023). The proposed standards were updated and approved in early 2026 for the Yinka Dene Monitoring Program and were not available at the time of finalizing this report; the approved standards will be presented in future reports. Comparisons of observed water quality to the proposed YDWL Standards are completed for informational purposes only and will not be used to verify the results of the EA because YDWL Standards were not considered in the EA.

Results

Comparison to Model Predictions

The 95th percentile of the monthly predicted concentrations at each of the assessment nodes (for the EA model [CEA Agency 2019] and the 2022 model predictions [Lorax 2022]) and the comparative AEMP sampling site in Davidson Creek, Chedakuz Creek, and Creek 661 sites (Table 3.4-1) were compiled and compared to the observed monthly Construction and Operations period (October 2022 to December 2025) mean concentration (Appendix E-3 and E-4).

Water quality parameters for which the mean monthly concentrations during the Construction and Operations period exceeded the 95th percentile EA model predictions for two or more consecutive months are summarized in Table 3.4-5. Water quality parameters for which the mean monthly concentrations during the Construction and Operations period exceeded the 95th percentile the 2022 model predictions (i.e., the base case) for two or more consecutive months are summarized in Table 3.4-6.

The mean monthly concentrations during the Construction and Operations period to date were greater than model predictions for several water quality parameters at Davidson Creek, Creek 661, and Chedakuz Creek sites (Tables 3.4-5 and 3.4-6). As discussed in Section 3.4.1.2, the greater concentrations than predicted are likely related to the 2024 construction activities (i.e., discharge from TSFC-SCP), the 2023 and 2024 wildfires, and 2025 Mine activities. The potential for Mine-related changes in water quality during construction phase are primarily through increases in TSS and particulate-bound metals due to earthworks activities, which are not accounted for in source terms used in the mass-balance surface water quality model. The TSS and particulate-bound metals associated with the wildfires are also not accounted for in the model. Unrecovered seepage from TSF C (a 2025 Mine source) was predicted to enter Davidson Creek in Year 5 of operations, however the model seepage rate sensitivity scenarios highlighted that additional management, and mitigations may be required to mitigate the potential for WQG-AL exceedances (Lorax 2022). Future updates to the model, are expected to reflect changes in mitigation and management measures and changes in the Mine plan (i.e., delay in the FWR construction and discharge to the receiving environment).

Table 3.4-5: Construction and Operations (October 2022 to December 2025) Water Quality Parameters Greater than Environmental Assessment Model Predictions

Watershed	EA Water Quality Assessment Nodes[1]	Aquatic Effects Monitoring Program Sampling Site	Water Quality Parameters[2]
Davidson Creek	WQ26	DC-15	• Dissolved anions: chloride • Nutrients: nitrate-N • Total metals: aluminum, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, mercury, molybdenum, nickel, strontium, uranium, vanadium • Dissolved metals: aluminum, copper
	WQ7	DC-20	• Dissolved anions: chloride • Nutrients: nitrate-N • Total metals: aluminum, antimony, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, molybdenum, nickel, strontium, uranium, vanadium • Dissolved metals: aluminum, copper, iron
Creek 661	WQ5_US	661-10	• Dissolved anions: chloride • Nutrients: nitrate-N, total phosphorus, ortho-phosphorus • Total metals: aluminum, arsenic, barium, boron, cadmium, chromium, copper, iron, lead, mercury, nickel, zinc • Dissolved metals: aluminum, cadmium, copper, iron, zinc
	WQ5_DS	661-20	• Dissolved anions: chloride, fluoride • Nutrients: total phosphorus, ortho-phosphorus • Total metals: aluminum, antimony, arsenic, barium, boron, cadmium, chromium, copper, iron, manganese, mercury, molybdenum, nickel, strontium, uranium, vanadium • Dissolved metals: iron

Notes:

[1] Figure 4 in CEA Agency (2019).

[2] Mean monthly concentration in two or more consecutive months for the Construction and Operations period was greater than the environmental assessment predicted 95th percentile.

Table 3.4-6: Construction and Operations (October 2022 to December 2025) Water Quality Parameters Greater than 2022 Model Predictions

Watershed	2022 Water Quality Model Assessment Nodes[1]	Aquatic Effects Monitoring Program Sampling Site	Water Quality Parameters[2]
Davidson Creek	WQ28	DC-05	• Dissolved anion: chloride • Total metals: aluminum, arsenic, barium, copper, iron, lead, and uranium • Dissolved metals: aluminum
	WQ27	DC-10	• Dissolved anion: chloride • Total metals: aluminum, barium, copper, iron, lead, uranium, and zinc • Dissolved metals: aluminum

Watershed	2022 Water Quality Model Assessment Nodes[1]	Aquatic Effects Monitoring Program Sampling Site	Water Quality Parameters[2]
Davidson Creek *(cont'd)*	WQ26	DC-15	• Dissolved anion: chloride • Total metals: aluminum, barium, copper, iron, lead, and uranium • Dissolved metals: aluminum
	WQ7	DC-20	• Dissolved anion: chloride • Nutrients: total phosphorus* • Total metals: aluminum, arsenic, barium, chromium, copper, iron, lead, uranium, and zinc • Dissolved metals: aluminum, iron, and zinc
Creek 661	WQ3	661-05	• Dissolved anions: chloride and fluoride • Nutrients: total phosphorus, and ortho-phosphorus • Total metals: aluminum, arsenic, barium, boron, chromium, cobalt, copper, iron, lead, molybdenum, nickel, selenium, strontium, uranium, vanadium, and zinc
	WQ5	661-10	• Dissolved anions: chloride • Nutrients: ammonia, total phosphorus, and ortho-phosphorus • Total metals: aluminum, antimony, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, strontium, uranium, vanadium, and zinc • Dissolved metals: aluminum, cadmium, copper, iron, and zinc
	WQCk661	661-20	• Dissolved anions: chloride, fluoride, and sulphate* • Nutrients: ammonia, total phosphorus and ortho-phosphorus • Total metals: aluminum, arsenic, barium, boron, chromium, cobalt, iron, lead, manganese, mercury, molybdenum, nickel, selenium, strontium, uranium, and vanadium • Dissolved metals: iron
Chedakuz Creek	WQ8	CC-10	• Nutrients: total phosphorus • Total metals: aluminum, arsenic, barium, boron, chromium, cobalt*, copper, iron, lead, mercury*, molybdenum*, nickel*, strontium*, uranium, vanadium* • Dissolved metals: manganese*
	WQ9	CC-15	• Dissolved anion: chloride • Nutrients: total phosphorus • Total metals: aluminum, arsenic, barium, chromium, copper, iron, lead, manganese*, molybdenum*, nickel*, strontium*, and uranium • Dissolved metals: copper*, iron*, and manganese*

Watershed	2022 Water Quality Model Assessment Nodes[1]	Aquatic Effects Monitoring Program Sampling Site	Water Quality Parameters[2]
Chedakuz Creek *(cont'd)*	WQ13	CC-20	• Total metals: aluminum, arsenic, barium, chromium, copper, iron, lead, manganese*, molybdenum*, nickel*, strontium*, and uranium • Dissolved metals: aluminum, copper*, iron*, and manganese*

Notes:

[1] Lorax (2022a).

[2] Mean monthly concentration in two or more consecutive months for the Construction and Operations period was greater than the model predicted 95th percentile.
** Indicates parameter was not observed to be greater than the predicted 95th percentile concentration at near-field sites and therefore are not likely attributed to Mine-related effects.*

Comparison to Water Quality Guidelines

Monthly mean stream water quality concentrations observed during the reporting period (January to December 2025) were compared to WQGs, SBEBs, and YDWL Standards. The exceedance magnitudes (average magnitude of the observed concentrations greater than WQGs, SBEBs, or YDWL Standard concentration) of monthly mean concentrations for parameter that with exceedances are presented in Table 3.4-7 for Davidson Creek sites, Table 3.4-8 for Creek 661 sites, Table 3.4-9 for Chedakuz Creek sites, and Table 3.4-10 for Regional Control sites.

Parameters above WQG-ALs were observed at Davidson Creek sites for total iron (April, June to December) and dissolved cobalt (August to December; Table 3.4-7). Exceedances of the dissolved zinc WQG-AL was observed at DC-05 (February) and DC-20 (February and March), a single instance of total cadmium above the WQG-AL occurred in June at DC-05. Dissolved iron concentrations were above the BC short-term WQG-AL guideline at DC-20 in June, August, September and November. The magnitude of exceedance for total iron ranged from 1.19-times to 2.52-times greater than the WQG-AL. Dissolved cobalt exceedances occurred from August through December at all sites with magnitudes ranging from 1.18-times to 7.25-times greater than the WQG-AL. Short-term dissolved iron exceedances and dissolved zinc exceedances at DC-20 were of low magnitude (less than 3-times the WQG-AL). Except for dissolved cobalt, the magnitude of exceedance at Davidson Creek sites (i.e., less 3-times the WQG-AL) and no trends with downstream distance (e.g., exceedances observed only at DC-20) suggest the exceedance are not Mine related and no adverse effects to aquatic life are expected or additional mitigations are required.

The dissolved cobalt concentration at DC-10 in October 2025 was less than 2.5-times the WQG-AL guideline and was less than the September result (7.25-times the guideline), indicating that the September observation was likely a spurious event with no long-term effects to aquatic life expected. The consistent exceedances at all sites throughout the August to December monitoring period (and typically the greatest magnitude of exceedance at the near-field DC-05 and DC-10 sites) suggest concentrations reflect Mine-related sources. The magnitude of the exceedances at DC-05 and DC-10 in November and December (i.e., greater than four-times the guideline) if persistent, could have the potential for certain limited long-term effects to aquatic life. Dissolved cobalt will continue to be monitored in accordance with regulatory requirements. That said, BW Gold implemented mitigation measures to capture Mine-related sources in late 2025 and early 2026 and is permitted to construct additional structures downstream of the present extent of Mine-related sources of water that are expected to provide further mitigation. BW Gold plans to commence construction of these structures in 2026. These mitigation measures are expected to positively impact water quality in future years.

Table 3.4-7: Magnitude Exceedance of Water Quality Guidelines, Science-Based Environmental Benchmarks, and Yinka Dene Water Law Standards at Davidson Creek Sites, 2025

Parameter	Station	Jan	Feb	Mar	Apr	May (or 5-in-30)	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Aluminum (BC long-term)	DC-05	1.03	-	2.17	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	DC-10	-	-	1.97	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	DC-15	-	-	1.09	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	DC-20	-	-	-	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Dissolved Aluminum (SBEB)	DC-05	n/a	n/a	n/a	-	1.11	-	-	-	-	-	-	-
	DC-10	-	-	-	-	-	-	-	-	-	-	-	-
	DC-15	n/a	n/a	n/a	-	-	1.55	-	-	-	-	-	-
	DC-20	n/a	n/a	n/a	-	1.24	1.8	-	-	-	-	-	-
Dissolved Aluminum (YDWL)	DC-05	-	-	-	-	1.03	1.61	-	2.36	-	-	1.04	-
Total Cadmium (CCME long-term)	DC-05	-	-	-	-	-	1.06	-	-	-	-	-	-
	DC-10	-	-	-	-	-	-	-	-	-	-	-	-
	DC-15	-	-	-	-	-	-	-	-	-	-	-	-
	DC-20	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Cobalt (BC long-term)	DC-05	-	-	-	-	-	-	-	2.62	1.51	2.53	4.38	5.28
	DC-10	-	-	-	-	-	-	-	2.05	7.25	2.41	4.54	5.62
	DC-15	-	-	-	-	-	-	-	1.18	3.85	1.77	1.85	2.46
	DC-20	-	-	-	-	-	-	-	1.23	2.80	1.37	2.05	2.20
Total Iron (CCME long-term)	DC-05	-	-	-	1.22	-	2.21	1.47	1.27	-	1.49	-	-
	DC-10	-	-	-	1.25	-	1.96	-	-	-	1.9	-	-
	DC-15	-	-	-	-	-	2.52	-	-	-	-	-	-
	DC-20	-	-	-	1.85	-	1.76	1.19	2.39	2.00	1.72	1.84	1.29

Parameter	Station	Jan	Feb	Mar	Apr	May (or 5-in-30)	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dissolved Iron (BC short-term)	DC-05	-	-	-	-	-	-	-	-	-	-	-	-
	DC-10	-	-	-	-	-	-	-	-	-	-	-	-
	DC-15	-	-	-	-	-	-	-	-	-	-	-	-
	DC-20	-	-	-	-	-	1.42	-	1.10	1.21	-	1.05	-
Dissolved Manganese (YDWL)	DC-05	-	-	-	-	-	-	1.67	1.23	2.27	1.04	-	-
Dissolved Zinc (BC long-term)	DC-05	-	1.07	-	-	-	-	-	-	-	-	-	-
	DC-10	-	-	-	-	-	-	-	-	-	-	-	-
	DC-15	-	-	-	-	-	-	-	-	-	-	-	-
	DC-20	-	2.28	2.10	-	-	-	-	-	-	-	-	-

Notes:

BC = British Columbia; CCME = Canadian Council of Ministers of the Environment; n/a = WQG comparison not applicable in the indicated month; WQG = water quality guideline; Months: Jan = January, Feb = February, Mar = March, Apr = April, Jun = June, Jul = July, Aug = August, Sep = September, Oct = October, Nov = November, Dec = December.

Dashes (-) indicate the guideline was not exceeded.

Refer to Tables 3.4-2 and 3.4-3 for water quality guideline or YDWL standard value.

Values below detection limit were replaced with half the detection limit for calculations.

Only parameters greater than guidelines or proposed standards in 2025 are included in the table.

Table 3.4-8: Magnitude Exceedance of Water Quality Guidelines at Creek 661 Sites, 2025

Parameter	Station	Jan	Feb	Mar	Apr	May (or 5-in-30)	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Aluminum (BC long-term)	661-01	-	-	-	-	1.53	-	-	-	-	-	-	-
	661-03	-	-	-	1.75	-	-	-	-	-	-	-	-
	661-04	-	-	5.61	1.58	1.05	1.67	1.84	-	-	-	-	-
	661-05	-	-	4.68	3.23	1.3	1.27	-	-	-	-	-	-
	661-10	-	-	1.69	1.76	1.09	-	-	-	-	-	-	-
Total Arsenic (BC long-term)	661-01	-	-	-	-	-	-	-	-	-	-	-	-
	661-03	-	-	-	-	-	-	-	-	-	-	-	-
	661-04	-	-	-	-	-	-	-	-	-	-	-	-
	661-05	-	-	-	-	-	-	-	-	-	-	-	-
	661-10	-	-	-	-	-	-	-	1.11	-	-	-	-
Total Cadmium (CCME long-term)	661-01	-	-	-	-	-	-	-	-	-	-	-	-
	661-03	-	-	-	-	-	-	-	-	-	-	-	-
	661-04	-	-	-	-	-	-	-	-	-	-	-	-
	661-05	-	-	-	-	-	-	-	-	-	-	-	-
	661-10	-	-	-	-	-	-	-	-	-	-	-	-
Total Iron (CCME long-term)	661-01	-	-	-	2.29	-	-	-	-	-	-	-	-
	661-03	-	-	-	1.98	-	-	-	-	-	-	-	-
	661-04	-	-	-	1.5	-	1.29	1.83	-	-	-	-	-
	661-05	-	-	-	4.07	1.37	1.37	-	-	-	-	-	-
	661-10	-	-	-	2.34	-	1.17	2.24	6.07	4.00	-	-	-
Total Iron (BC short-term)	661-01	-	-	-	-	-	-	-	-	-	-	-	-
	661-03	-	-	-	-	-	-	-	-	-	-	-	-
	661-04	-	-	-	-	-	-	-	-	-	-	-	-
	661-05	-	-	-	1.22	-	-	-	-	-	-	-	-
	661-10	-	-	-	-	-	-	-	1.82	1.2	-	-	1.23

Parameter	Station	Jan	Feb	Mar	Apr	May (or 5-in-30)	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dissolved Iron (BC short-term)	661-01	-	-	-	1.79	-	-	-	-	-	-	-	-
	661-03	-	-	-	-	-	-	-	-	-	-	-	-
	661-04	-	-	-	-	-	-	-	-	-	-	-	-
	661-05	-	-	-	-	-	-	-	-	-	-	-	-
	661-10	-	-	-	-	-	-	1.58	4.51	2.22	-	-	-
Total Mercury (BC long-term, 1% MeHg)	661-01	-	-	-	-	-	-	-	-	-	-	-	-
	661-03	-	-	-	1.03	-	-	-	-	-	-	-	-
	661-04	-	-	-	-	-	-	-	-	-	-	-	-
	661-05	-	-	-	-	-	-	-	-	-	-	-	-
	661-10	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Zinc (BC long-term)	661-01	-	-	-	-	-	-	-	-	-	-	-	-
	661-03	-	-	-	-	-	-	-	-	-	-	-	-
	661-04	2.45	2.82	1.98	1.82	1.31	1.83	1.74	1.72	1.02	-	-	1.05
	661-05	-	-	-	-	-	-	-	-	-	-	-	-
	661-10	-	1.74	-	-	-	-	-	-	-	-	-	-

Notes:

BC = British Columbia; CCME = Canadian Council of Ministers of the Environment; WQG = water quality guideline; Months: Jan = January, Feb = February, Mar = March, Apr = April, Jun = June, Jul = July, Aug = August, Sep = September, Oct = October, Nov = November, Dec = December.

Dashes (-) indicate the guideline was not exceeded.

Refer to Tables 3.4-2 and 3.4-3 for water quality guideline or YDWL Standard value.

Values below detection limit were replaced with half the detection limit for calculations.

Only parameters greater than guidelines or proposed standards in 2025 are included in the table.

Table 3.4-9: Magnitude Exceedance of Water Quality Guidelines and Yinka Dene Water Law Standards at Chedakuz Creek Sites, 2025

Parameter	Station	Jan	Feb	Mar	Apr	May (or 5-in-30)	Jun	Jul	Aug	Sep	Oct	Nov	Dec
pH[1] (YDWL, upper 8.1)	CC-15	-	-	-	-	-	-	-	1.06	-	-	-	-
Total Iron (CCME long-term)	CC-03	-	-	-	1.04	-	-	-	-	-	-	-	-
	CC-05	-	-	-	-	1.33	-	-	-	-	-	-	-
	CC-10	-	-	-	-	-	-	-	-	-	-	-	-
	CC-15	-	-	-	-	-	-	-	-	-	-	-	-
	CC-20	-	1.20	-	1.38	-	-	-	-	-	-	-	-
	CC-30	-	-	-	2.23	-	-	1.23	-	-	1.99	-	-
	CC-40	-	-	-	2.29	1.13	1.13	1.01	1.34	1.51	1.90	1.77	1.08
Dissolved Iron (BC short-term)	CC-03	-	-	-	-	-	-	-	-	-	-	-	-
	CC-05	-	-	-	-	-	-	-	-	-	-	-	-
	CC-10	-	-	-	-	-	-	-	-	-	-	-	-
	CC-15	-	-	-	-	-	-	-	-	-	-	-	-
	CC-20	-	-	-	-	-	-	-	-	-	-	-	-
	CC-30	-	-	-	-	-	-	-	-	-	-	1.09	-
	CC-40	-	-	-	-	-	-	-	-	-	-	1.11	-
Dissolved Manganese (YDWL)	CC-15	-	-	1.63	2.10	1.10	-	-	1.03	-	1.12	1.19	-

Notes:

BC = British Columbia; CCME = Canadian Council of Ministers of the Environment; WQG = water quality guideline; Months: Jan = January, Feb = February, Mar = March, Apr = April, Jun = June, Jul = July, Aug = August, Sep = September, Oct = October, Nov = November, Dec = December.

Dashes (-) indicate the guideline was not exceeded.

Refer to Tables 3.4-2 and 3.4-3 for water quality guideline or YDWL Standard value.

Values below detection limit were replaced with half the detection limit for calculations.

Only parameters greater than guidelines or proposed standards in 2025 are included in the table.

[1] Laboratory-measured pH.

Table 3.4-10: Magnitude Exceedance of Water Quality Guidelines at Regional Control Sites, 2025

Parameter	Station	Jan	Feb	Mar	Apr	May (or 5-in-30)	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Iron (CCME long-term)	FC-01	-	-	-	-	-	-	-	-	-	-	-	-
	705-05	-	-	-	-	-	-	1.13	3.83	4.37	3.43	1.95	1.26
	705-10	-	-	-	-	-	-	-	-	-	-	-	-
Total Iron (BC short-term)	FC-01	-	-	-	-	-	-	-	-	-	-	-	-
	705-05	-	-	-	-	-	-	-	1.15	1.31	1.03	-	-
	705-10	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Iron (BC short-term)	FC-01	-	-	-	-	-	-	-	-	-	-	-	-
	705-05	-	-	-	-	-	-	-	2.20	2.58	2.11	-	-
	705-10	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

BC = British Columbia; CCME = Canadian Council of Ministers of the Environment; WQG = water quality guideline; Months: Jan = January, Feb = February, Mar = March, Apr = April, Jun = June, Jul = July, Aug = August, Sep = September, Oct = October, Nov = November, Dec = December.

Dashes (-) indicate the guideline was not exceeded.

Refer to Table 3.4-2 for water quality guideline value.

Values below detection limit were replaced with half the detection limit for calculations.

Only parameters greater than guidelines or proposed standards in 2025 are included in the table.

A comparison to the approved dissolved aluminum SBEB at Davidson Creek sites indicated exceedances at DC-05 and DC-20 in May/June, and at DC-15 in June, with magnitudes ranging from 1.11 to 1.80 (Table 3.4-7). Total aluminum exceedances occurred at DC-05, DC-10, and DC-15 with magnitude range between 1.03 and 2.17 times the WQG-AL. The low frequency and magnitude of exceedances suggest no adverse effects to aquatic life are expected. The dissolved aluminum and dissolved manganese YDWL standard were exceeded at DC-05 (May to November). However, the magnitude of exceedance was low, ranging from 1.03 to 2.36-times the standard thus no adverse effects to aquatic life are expected. No additional mitigation measures are required related to the SBEB and YDWL standard exceedances.

Exceedances of WQG-ALs were observed at Creek 661 sites for total aluminum (March to July) and total iron (April to September; Table 3.4-8). The magnitude of exceedance for total aluminum at 661-10 ranged from 1.05-times to 5.61-times greater than WQG-AL. The magnitude of exceedance for total iron at 661-10 ranged from 1.17-times to 6.07-times greater than the WQG-AL. Dissolved iron exceedances of the BC short-term WQG-AL were observed at site 661-01 (April) and site 661-10 (July to September) and the magnitude of exceedance ranged from 1.58 to 4.51-times the WQG-AL. Exceedance of the long-term total arsenic WQG-AL was observed at 661-10 (August), and an exceedance of the total mercury BC long-term WQG-AL was observed at 661-03 (April). The spurious exceedances are likely not related to the Mine and were also low magnitude (i.e., less than 5% of guideline). In addition, upstream stations (661-03, 661-04, and 661-05) did not show corresponding increases of dissolved iron or total arsenic during these periods, indicating there was no upstream-to-downstream gradient and elevated concentrations at 661-10 are not entirely associated with Mine-related sources.

Dissolved zinc exceedances were observed at 661-04 in most months (January to September, and December) and at 661-10 in February (Table 3.4-8). Dissolved zinc at 661-04 ranged in magnitudes between 1.02-times to 2.82-times the WQG-AL. The surface water quality results indicated there were no or limited long-term effects to aquatic life at most Creek 661 sites because exceedances were low in magnitude and/or also observed at the upstream control site 661-01. Although total and dissolved iron at 661-10 in mid- to late-summer and dissolved zinc at 661-04 exceedances occurred more frequently and at greater magnitude than at 661-01, the available data does not indicate exceedances are entirely Mine-related. The 2022 monitoring data demonstrates that several parameters occurred at or above their respective WQG-ALs during that period, indicating that elevated concentrations of these parameters in 2025 are likely consistent with natural background variability (and the wildfires) rather than entirely Mine-related changes; therefore, no additional mitigations are required.

Exceedances of the total iron long-term WQG-AL were observed at Chedakuz Creek sites CC-03 (April), CC-05 (May), CC-20 (February and April), CC-30 (April, July, and October) and CC-40 (April to December; Table 3.4-9). The exceedance magnitudes were typically low, ranging from approximately 1.01-times to 2.29-times greater than the WQG-AL. There were no exceedances of the total iron short-term WQG-AL at Chedakuz Creek sites. Short-term dissolved iron exceedances were observed in November at CC-30 and CC-40 with low magnitudes (1.09- and 1.11-times the WQG-AL). The surface water quality results indicated there were no or limited long-term effects to aquatic life at Chedakuz Creek sites because exceedances were typically low magnitude, and where frequent, the magnitude was generally less than 2-times greater than the WQG-AL. The 2025 exceedances of the YDWL standards at CC-15 were limited to dissolved manganese in March to May, August, October, and November and pH (upper) standard in August. Exceedances were also low magnitude (less than 3-times the standard).

Exceedances of the WQG-AL were not observed in 2025 at the Fawnie Creek Tributary stream site (FC-01) or site 705-10 in Creek 705 (Table 3.4-10). At regional control site 705-05, exceedances of the long-term WQG-AL were observed for total iron in July through December with magnitudes ranging from 1.13-times to 4.37-times greater than the WQG-AL (Table 3.4-10). Exceedances of the short-term WQG-AL for total iron and dissolved iron were observed at site 705-05 in August to October with

magnitudes of 1.03-times to 2.58-times greater than the WQG-AL (Table 3.4-10). Exceedances of the total and dissolved iron WQG-AL at the regional control site suggest that exceedances at impact sites are related to a regional effect and not Mine-related.

There were no exceedances of the water quality guidelines for the protection of wildlife, and agriculture-livestock at any of the monitoring sites during the reporting period.

3.4.3 Effectiveness of Mitigation Measures and Adaptive Management

Methods

To evaluate the effectiveness of mitigation measures, monthly concentrations of water quality parameters measured in Davidson Creek (DC-05, DC-10, DC-15, DC-20) and Creek 661 (661-05, 661-10, 661-20) were assessed against the WQGs provided Tables 3.4-2 to 3.4-4 and predicted water quality (Appendix E-3 and E-4). Mitigation measures are considered to be effective and performing as expected as long as concentrations remain lower than WQGs and the predicted water quality.

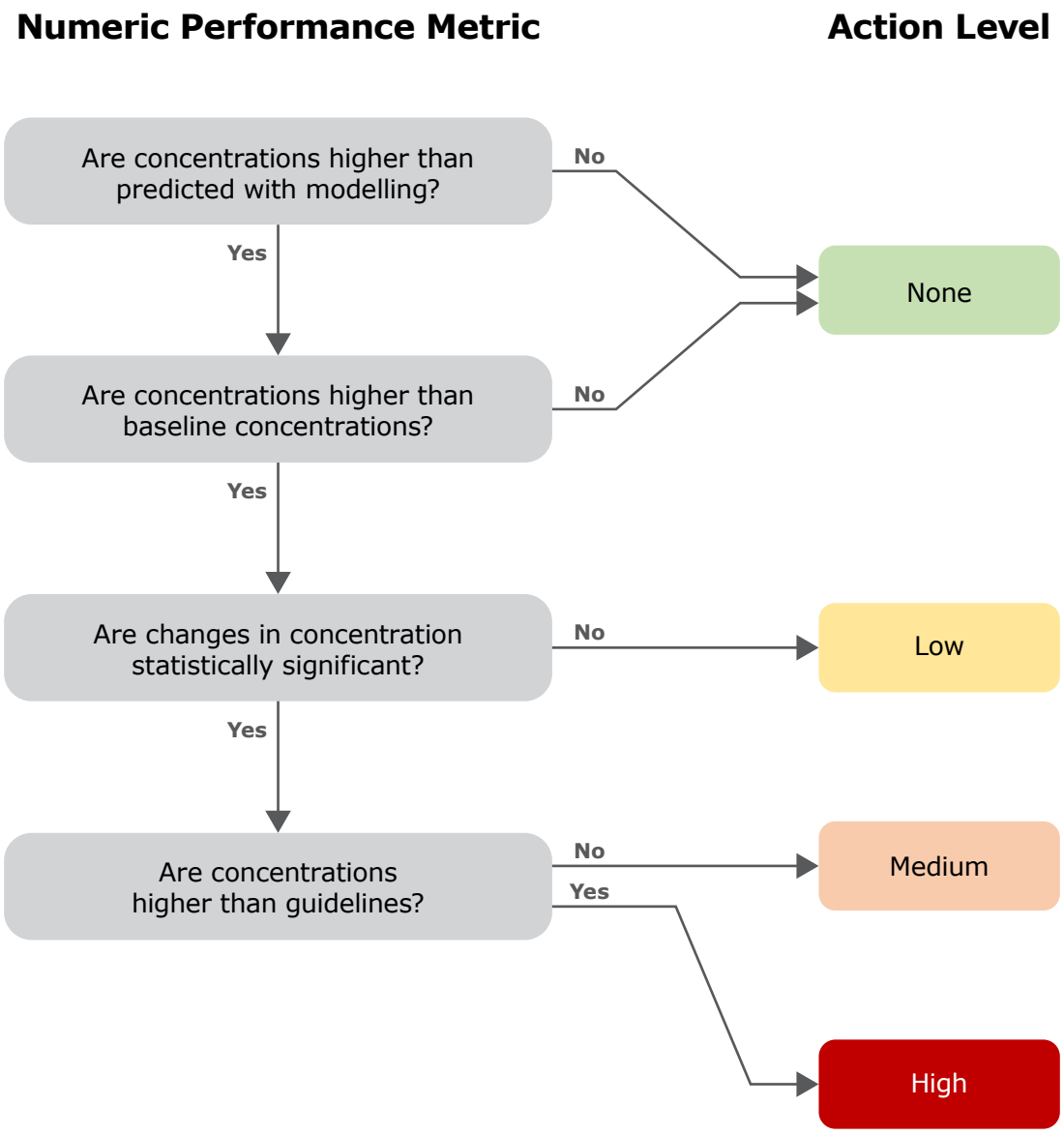
To address DS Condition 2.5, Section 5 (Adaptive Management) of the AEMP Plan (ERM 2025) provides the quantitative triggers to assess the levels of environmental change relative to baseline conditions that would require implementation, modification, or additional mitigation measure(s) (Figure 3.4-45).
In addition, the AEMP Plan (ERM 2025) provides the mechanism for identifying the technically and economically feasible mitigation measures to be implemented by BW Gold if monitoring conducted as part of the AEMP Plan (follow-up program) shows that the levels of environmental change referred to in DS Condition 2.5.4 have been reached or exceeded (DS Condition 2.5.5).

Water quality parameters to be included in the Water Quality Response Framework were selected based on the rationale discussed in the AEMP Plan (ERM 2025):

- Dissolved oxygen;
- pH;
- TSS and TDS;
- Ions: chloride, fluoride, and sulphate;
- Nutrients: total ammonia-N, nitrate-N, nitrite-N, and total phosphorus;
- Total metals: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, thallium, uranium, vanadium, and zinc; and
- Dissolved metals: aluminum, cadmium, copper, iron, manganese, and zinc.

Numeric performance metrics (NPMs) are defined as the thresholds for determining adaptive management action levels (equivalent to “qualitative and quantitative triggers” described in EAC Condition 3(g) for adaptive management). The evaluation of monitoring results against NPMs for water quality was based on near-field sites. The near-field sites represent sites closest to the influence of the Mine discharge points and non-point source seepage.

FIGURE 3.4-45 FLOW DIAGRAM OF NUMERIC PERFORMANCE METRICS AND ACTION LEVELS



For the Construction period, the effects of the Mine on surface water are likely to be most apparent at the near-field sites, including:

- Davidson Creek: DC-05, DC-10, and DC-15; and
- Creek 661: 661-03, 661-04, 661-05 and 661-10.

For the Construction period, the effects of the Mine on nutrients are likely to be most apparent at the near field sites, including:

- Davidson Creek: DC-05 and DC-15; and
- Creek 661: 661-05 and 661-10.

Water quality (excluding nutrients) NPMs and management responses for each action level are provided in Table 5.2-2 of the AEMP Plan (ERM 2025). Nutrient NPMs and management responses for each action level are provided in Table 5.2-4 of the AEMP Plan (ERM 2025). The nutrient response NPMs also consider periphyton biomass (as chlorophyll *a*) which is assessed annually in the AEMP Interpretive Report (ERM 2026). Water quality guidelines for several parameters are based on concentrations of toxicity modifying factors (e.g., hardness, DOC). For these parameters, water quality guidelines were calculated for each sample based on the concentration of the parameter and toxicity modifying factors in the same sample, as recommended by BC MOE (2016).

Results

To meet the “none” NPM for water quality the mean monthly measured water quality parameter concentration meets the following conditions:

- **[Condition 1]** lower than the WQG-AL, Water Quality Guideline for the protection of wildlife (WQG WL) or approved SBEB (BC WLRS 2025a, 2025b, 2023a; CCME 2025a); and
- **[Condition 2]** less than or equal to (a) the 95th percentile of the predicted concentration (base case) in the same month or (b) the 95th percentile baseline concentration plus 20% in the same month.

Water quality concentrations at the near-field sites meeting both conditions indicate that there is no requirement for a change to current mitigation measures. At the “none” action level, water quality concentrations are below levels of concern and water quality is in the range predicted by the surface water quality model or within site specific baseline concentrations.

At each of the evaluated sites (DC-05, DC-10, DC-15, 661-03, 661-04, 661-05, and 661-10) Condition 1 was not met (Section 3.4.2) and Condition 2 (Table 2.3-2 and Appendix E-1) was not met for all measured water quality parameters in one or more months during construction and operation. Therefore, results of the comparison to the “low” NPM for Condition 1, 2a and Condition 2b was completed (Figure 3.4-46).

To exceed the “low” NPM for water quality the mean monthly measured parameter concentrations in water in two or more consecutive months meets the following conditions:

- **[Condition 1]** lower than the WQG-AL, Water Quality Guideline for the protection of wildlife (WQG WL) or approved SBEB (BC ENV 2024a, 2024b, 2023a; CCME 2024a); and
- **[Condition 2]** higher than (a) the 95th percentile of the predicted concentration (base case) in the same month and (b) the 95th percentile baseline concentration plus 20% in the same month; and
- **[Condition 3]** changes in concentration are not statistically significant between near-field and control sites or compared to baseline conditions (BACI analysis).

FIGURE 3.4-46 EVALUATION OF WATER QUALITY NUMERIC PERFORMANCE METRIC CRITERIA AT DAVIDSON CREEK NEAR-FIELD SITES, 2025

Parameter	Numeric Performance Metrics: Guideline DC-05	Guideline DC-10	Guideline DC-15	Predicted DC-05	Baseline DC-05	Predicted DC-10	Baseline DC-10	Predicted DC-15	Baseline DC-15	BACI DC-05	BACI DC-10	BACI DC-15	Action Level DC-05	Action Level DC-10	Action Level DC-15
Dissolved oxygen	Aug	-	-	NP	-	NP	-	NP	-	not completed			None	None	None
pH	-	-	-	NP	-	NP	Oct	NP		not completed			None	None	None
Total suspended solids	-	-	-	NP	Apr, Aug		Jun, Jul, Oct, Dec		Jul, Dec	not completed			None	None	None
Total dissolved solids	NG	NG	NG	NP	Jul, Nov	NP	Nov	NP	Nov	not completed			None	None	None
Chloride	-	-	-	Apr-Sep	Jan-Dec	Apr-Sep	Jan-Dec	Apr-Aug	Jan-Dec	not completed			Low	Low	Low
Fluoride	-	-	-	-	-	-	-	-	-	not completed			None	None	None
Sulphate	-	-	-	-	Jan, Apr-Aug, Oct - Dec	-	Feb, Apr-Dec	-	May-Dec	not completed			None	None	None
Total aluminum	Jan, Mar	Mar	Mar	Jan-Aug, Oct-Dec	Jan-Dec	Mar-Jun, Aug, Oct-Dec	Jan-Apr, Jun-Dec	Jan, Mar-Jun, Nov, Dec	Jan, Mar, Apr, Jun, Aug, Dec	significant			Medium	Medium	Medium
Total antimony	-	-	-	-	Feb-May, Jul-Oct	-	Mar, Apr, Jun, Oct	-	Jun	not completed			None	None	None
Total arsenic	-	-	-	Jun, Jul, Aug	Feb-Nov	Jun	Mar, Apr, Jun-Oct, Dec	Jun	Mar, Apr, Jun-Aug, Dec	significant			Medium	Low	Low
Total barium	-	-	-	Jan-May, Jul, Aug, Oct, Dec	Jan-Mar, May-Jul, Oct-Dec	Feb-Dec	Feb-Jul, Oct-Dec	Jan-Dec	Mar, Apr, Jun, Jul, Nov, Dec	significant			Medium	Medium	Medium
Total beryllium	-	-	-	-	-	-	-	-	-	not completed			None	None	None
Total boron	-	-	-	-	-	-	-	-	-	not completed			None	None	None
Total cadmium	-	-	-	-	Feb-Apr, Jun-Oct, Dec	-	Mar, Jun-Sep, Nov	-	Mar, Jun, Aug	not completed			None	None	None
Total chromium	-	-	-	-	Feb-Apr, Jul, Oct	Apr, Jun	Mar, Apr, Jun, Jul, Dec	-	Mar, Jun, Dec	not completed			None	None	None
Total cobalt	NG	NG	NG	-	Feb-Apr, May-Dec	Sep	Mar, Apr, Jun-Dec	Sep	Mar, Apr, Jun-Dec	not completed			None	None	None
Total copper	-	-	-	Feb-Aug, Oct	Feb, Mar, Apr, Aug	Mar, Apr, May, Jun	Mar, Apr, Jun, Aug, Nov	Mar, Apr, May, Jun	Mar	not completed			Low	Low	None
Total iron	Apr, Jun-Aug, Oct	Apr, Jun, Oct	Jun	Jan-Aug, Oct-Dec	Feb-Aug, Oct	Mar-Jun, Aug, Oct-Dec	Mar, Apr, Jun-Aug, Oct, Nov	Mar-Jun, Nov, Dec	Jan, Mar, Apr, Jun, Aug, Dec	significant			High	Medium	Medium
Total lead	NG	NG	NG	Feb-Aug, Oct	Jan-Dec	Mar-Jul, Oct	Jan, Mar, Apr, Jun-Nov	Mar-Jun	Mar-Aug, Dec	not completed			Low	Low	Low
Total manganese	-	-	-	-	Jan-Apr, Jun-Oct, Dec	-	Mar, Apr, Jun-Nov	-	Mar, Jun, Jul, Dec	significant*			None	None	None
Total mercury	-	-	-	-	Feb, Mar	May	Mar	-	-	not completed			None	None	None
Total molybdenum	-	-	-	Aug	Jun, Aug, Oct, Nov	Aug	Jun, Aug, Oct-Dec	-	Jun	not completed			None	None	None
Total nickel	-	-	-	May	Feb-Jun, Aug, Oct	-	Mar, Apr, Jun, Oct	-	Mar, Apr, May, Dec	not completed			None	None	None
Total selenium	-	-	-	-	-	-	-	-	-	not completed			None	None	None
Total silver	-	-	-	-	Feb, Mar, Apr, Oct	-	Mar, Apr, Oct	-	Jun	not completed			None	None	None
Total strontium	NG	NG	NG	-	Jun, Oct, Nov	-	Feb, Jun, Oct, Nov, Dec	-	Jun, Oct, Dec	significant*			None	None	None
Total thalium	-	-	-	-	Feb-Apr, May, Oct	-	Mar, Apr, May	-	Jun, Dec	not completed			None	None	None
Total uranium	-	-	-	Jan-Mar, Aug	Jan-Mar, Oct-Dec	Jan-Mar	Jan-Mar, Oct-Dec	Jan-Mar	Jan, Feb, Dec	significant			Medium	Medium	Medium
Total vanadium	NG	NG	NG	-	Feb-Oct	-	Mar, Apr, Jun-Aug	-	Mar, Apr, Jun, Dec	not completed			None	None	None
Total zinc	NG	NG	NG	Mar, May, Jun	Mar, Apr, Jul, Nov, Dec	Jun	Mar-Jun, Jul	Jun	Apr, Jun, Dec	not completed			None	None	None
Dissolved aluminum	May (SBEB)	NG	Jun (SBEB)	Mar-Aug	-	-	Mar	Mar-May, Jun	Mar, Jun	significant*			None	None	None
Dissolved cadmium	-	-	-	-	Apr, Jul-Sep, Oct	Mar-Jun	Jun, Jul	-	Jun	not completed			None	None	None
Dissolved cobalt	Aug-Dec	Aug-Dec	Aug-Dec	NP	Jun-Dec	NP	Jul-Dec	NP	Aug-Dec	not completed			High	High	High
Dissolved copper	-	-	-	May	May, Aug		Aug	May	Aug	not completed			None	None	None
Dissolved iron	-	-	-	May	-	May	-	May	-	significant*			None	None	None
Dissolved manganese	-	-	-	-	Mar-Dec	May	May-Dec	-	Jun	significant*			None	None	None
Dissolved zinc	Feb	-	-	-	Feb	-	-	-	-	not completed			None	None	None

Notes: *Dashes indicate: the Construction and Operation mean monthly concentration was less than than the WQG-AL and WQG-WL or approved SBEB (Section 2.4.2); or the Construction and Operation mean monthly concentration was less than the 95th percentile of the predicted concentration (base case) in the same month or less than the corresponding monthly 95th percentile baseline concentration plus 20% (Appendix E-4 and Appendix E-2).*

BACI = Before-after-control-impact; NG = no guideline; SBEB = Science-based Environmental Benchmark; WQG-AL = water quality guideline for the protection of aquatic life; WQG-WL= water quality guideline for the protection of wildlife.

**Significant BACI result but not related to 2025 Mine activities.*

Action Levels None Low Medium High

ERM

CLIENT: BW Gold LTD.

GRAPHICS NUMBER: BWG-26ERM-021:46

Typically, all water quality parameters did not meet all conditions of the low action level indicating that the parameter concentrations have increased when compared to baseline but are below levels of concern (Figure 3.4-46). However at Davidson Creek sites (DC-05, DC-10, DC-15) the following parameters met conditions of the low action level indicating changes are greater than predicted and baseline conditions in the same two or more consecutive months but not statistically significant (BACI results were not significant or not completed) were chloride, total arsenic (DC-10 and DC-15), total copper (DC-05 and DC-15), and total lead (Figure 2.4-1). Parameters meeting Condition 2 (greater than baseline and predicted concentrations in the same two or more consecutive months) and changes were statistically significant (Condition 3) were evaluated as meeting the medium action level. At Davidson Creek sites parameters meeting the medium action level were total aluminum, total arsenic (DC-05), total barium, total iron (DC-10 and DC-15) and total uranium (Figure 3.4-46). Graphical analysis indicates concentrations of parameters meeting the “low” and “medium” action levels were related to the contribution of particulate-bound metals from overland flow from the 2023 fire-impacted upper Davidson Creek watershed to Davidson Creek (either directly or via non-contact water diversions), the March 2025 TSS laden water release into Davidson Creek, and the tree clearing that was completed upstream of Davidson Creek in May/June 2025.

The Q4 groundwater concentrations in monitored groundwater wells downstream of the TSF C were greater than predicted (Year 1 TSF Seepage Predictions) for sulphate, nitrogen species, dissolved cobalt, chromium, nickel, silver, copper, and WAD cyanide (Section 4.3.2.3). Thus, greater concentrations of copper (low action level) are likely associated with unrecovered seepage from TSF C. Cadmium and lead concentrations (medium action level) Q3 and Q4 concentrations were greater than baseline but cannot be confirmed as a Mine-related effect based on the observations in downstream groundwater monitoring wells (Section 4.3.2.3) and more likely related to the wildfire, TSS laden water release, and tree clearing.

The following parameters met conditions of the “low” action level at one or more Creek 661 sites: pH, TSS, TDS, chloride, sulphate, total antimony, beryllium, cadmium, chromium, copper, iron, lead, manganese, molybdenum, nickel, selenium, vanadium, zinc, and dissolved aluminum, cadmium, copper, iron, manganese, and zinc. Although there were significant BACIs for pH, TDS, strontium, and dissolved iron these were not considered medium action levels given the uncertainty in baseline trends at site 661-04 or they were not Mine related (i.e., significance was related to increases observed at downstream sites). Therefore, the Creek 661 site parameters meeting the medium action level were total arsenic (661-04 and 661-05), total barium (661-04 and 661-05), total uranium, and dissolved zinc (661-04; Figure 3.4-47).

Graphical analysis indicated that most metals (total arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, and zinc, and dissolved manganese, and zinc) that were elevated at sites 661-04, 661-05 and 661-10 during Q1 of 2025 were likely related to 2025 construction activities. Greater concentrations are also likely associated with overland flow through the 2023 and 2024 fire-impacted areas around the Creek 661 tributaries located within the Mine site. Following the comparison of May 2025 and 2024 water quality at the Creek 661 sites, it was determined that elevated total and dissolved copper, total and dissolved cadmium, and total and dissolved zinc were likely associated with dust or particle erosion following the ore stockpile dust event (Lorax 2025). BW Gold investigated wind fencing to mitigate dusting from the ore stockpile drop points, but this option was deemed not feasible as the design criteria did not prove to be effective for dust management (Environmental Life of Mine Committee [ELoMC] meeting minutes, August 28th, 2025). Following notification from BC EAO in May 2025, BW Gold implemented mitigation measures to minimize the dust from the ore stockpile (i.e., operational spray bars installed at the primary crusher, the conveyor, and the ore stockpile drop points; the secondary crusher is enclosed, and therefore no spray bars were needed). The 2025 June to December total metal concentrations were typically similar to that observed in the same months during the baseline period. Thus, mitigations appear to be successful. In September 2025 BW Gold announced that it would be constructing a cover on its crushed ore stockpile as part of the Phase 1A expansion. In addition, dusting plumes generated from road use are documented in the visual dust observation log. BW Gold is actively implementing dust mitigation measures (in accordance with the Air Quality and Fugitive Dust Management Plan) in response to dust observations.

FIGURE 3.4-47 EVALUATION OF WATER QUALITY NUMERIC PERFORMANCE METRIC CRITERIA AT CREEK 661 NEAR-FIELD SITES, 2025

Parameter	Guideline				Numeric Performance Metrics								BACI				Action Level			
					Predicted	Baseline	Predicted	Baseline	Predicted	Baseline	Predicted	Baseline	661-03	661-04	661-05	661-10	661-03	661-04	661-05	661-10
	661-03	661-04	661-05	661-10	661-03		661-04		661-05		661-10									
Dissolved oxygen	-	-	-	-	NP	-	NP	-	NP	-	NP	-	not completed							
pH	-	-	-	-	NP	Feb-Aug, Nov, Dec	NP	Feb, Apr, Jun, Aug	NP	Jan, Mar, Jun. Sep	NP	Jan, Mar, Apr, Jun. Sep, Dec	significant*							
Total suspended solids	-	-	Jul	-	NP	Apr, Jun	NP	Oct	NP	Jan, Mar, Apr, Nov, Dec	NP	Mar, Apr	not completed							
Total dissolved solids	NG	NG	NG	NG	NP	-	NP	Mar, Apr	NP	Apr	NP	Apr, Nov	significant*							
Chloride	-	-	-	-	NP	Apr, May, Nov, Dec	NP	Jan-Jun, Oct-Dec	Apr, May, Sep, Oct, Nov	Apr, May, Oct, Nov	Feb-May, Jul-Dec	Jan -May, Jul-Dec	not completed							
Fluoride	-	-	-	-	NP	-	NP	-	Aug, Sep, Oct	Jun	Aug	Jun	not completed							
Sulphate	-	-	-	-	NP	Jul, Aug, Nov, Dec	NP	Jan, Mar-May, Oct-Dec	-	Apr, May, Jun, Oct	Apr, Jul	Feb-Jul, Dec	not significant							
Total aluminum	Apr	Mar-Jul	Mar-Jun	Mar-May	NP	Apr, Aug, Dec	NP	Feb-Apr, Jun, Aug, Oct-Dec	Jan-Aug, Oct-Dec	Jan-Jun, Nov, Dec	Jan-May, Jul-Oct, Dec	Mar, Apr, Dec	significant							
Total antimony	-	-	-	-	NP	-	NP	Jan, Feb, Apr-Jun, Nov	-	Apr, May, Jun	-	Feb-Apr, Jun, Aug	not completed							
Total arsenic	-	-	-	Aug	NP	Apr	NP	Feb, Mar, Apr	Jan-Apr, Jun-Dec	Mar, Apr, Jun, Nov, Dec	Jan, Jun-Oct, Dec	Apr, Jun, Aug, Oct	significant							
Total barium	-	-	-	-	NP	Apr	NP	Feb-Jun, Nov	Feb-Dec	Mar, Apr, Jun, Nov, Dec	Feb, May-Nov	Mar, Apr, Aug, Oct	significant							
Total beryllium	-	-	-	-	NP	Apr	NP	Mar, Apr, Jun	-	Mar, Apr	-	Apr	not completed							
Total boron	-	-	-	-	NP	-	NP	-	Jan, Apr, Jun, Jul, Sep, Dec	-	Jan, Apr, Jun, Jul, Sep, Nov, Dec	-	not completed							
Total cadmium	-	-	-	Aug	NP	Apr, Aug	NP	Mar, Apr, Jun, Nov, Dec	-	Mar, Apr, Dec	Feb- Apr, Jun-Oct	Feb-Apr, Jul -Oct, Dec	not completed							
Total chromium	-	-	-	-	NP	Apr, Jun	NP	Feb-Apr, Jun, Nov	Jan-Dec	Feb, Mar, Jun, Nov, Dec	Jan- Apr, Jun-Oct, Dec	Jan, Mar, Apr, Aug, Oct	not completed							
Total copper	-	-	-	-	NP	Apr, Dec	NP	Mar, Apr, Jun, Nov	Mar-Jun, Nov	Mar, Apr, Nov	Feb, Apr-Oct	Mar, Apr, Aug-Oct, Dec	not completed							
Total iron	Apr	Apr	Apr, May, Jun	Jun-Sep, Dec	NP	Apr, Aug, Dec	NP	Feb-Jun, Aug, Oct-Dec	Mar-Jul, Oct-Dec	Mar- Jun, Nov, Dec	Feb-Dec	Mar, Apr, Jul-Oct	not significant							
Total lead	-	-	-	-	NP	Apr	NP	Feb- Jun, Aug, Oct-Dec	Feb-Jul, Oct-Dec	Jan, Mar-Jul, Nov, Dec	Feb, May, Jun-Aug, Oct	Mar, Apr, Aug, Oct, Dec	not completed							
Total manganese	-	-	-	-	NP	Apr, Jul, Aug	NP	Feb-Jun, Aug, Oct-Dec	Apr, Nov	Mar, Apr, Jun, Jul, Nov	Feb, Apr, Jul, Aug-Oct	Mar, Apr, Oct	not significant							
Total mercury	Apr	-	-	-	NP	Apr	NP	Apr	Apr	Apr	Apr, Aug, Sep	Apr, Aug	not completed							
Total molybdenum	-	-	-	-	NP	Feb, Mar, Jul	NP	-	Jan-Apr, Jun-Dec	Jun	Jan, Mar, Apr, Jun-Dec	Jun, Oct, Nov	not significant							
Total nickel	-	-	-	-	NP	Apr	NP	Mar, Apr, Jun	Mar-May, Sep-Nov	Mar-May, Nov	Jul-Oct	Apr, Jul, Aug, Sep	not significant							
Total selenium	-	-	-	-	NP	Apr, Jun, Jul	NP	Jan, Mar, Apr, Jun, Aug, Nov	Feb- Apr	Mar, Apr	Aug	Jan, Apr, Jun,- Aug, Dec	not significant							
Total silver	-	-	-	-	NP	Apr	NP	Apr, Jun, Nov	Feb	Feb, Mar, Apr	Feb, Aug	Feb, Apr, Jul, Aug	not significant							
Total strontium	NG	NG	NG	NG	NP	Mar	NP	-	Jan-Dec	Jun	Jan-Dec	Jun	significant*							
Total uranium	-	-	-	-	NP	Mar, Apr, Jul, Aug	NP	Feb- Apr, Jun, Aug, Nov, Dec	Jan-Dec	Feb, Apr, Nov	Jan-Dec	Mar, Apr, Aug, Oct	significant							
Total vanadium	NG	NG	NG	NG	NP	Apr	NP	Feb-Apr, Jun, Nov, Dec	Jan-Dec	Mar, Apr, Jun, Nov, Dec	Jan-Dec	Apr, Aug	not significant							
Total zinc	NG	NG	NG	NG	NP		NP	Jan-Jun, Aug, Oct-Dec	Mar, Apr, Jul, Nov, Dec	Mar, Apr, May, Jul, Nov	Feb-Dec	Mar, Apr, Jul, Dec	not significant							
Dissolved aluminum	NG	NG	NG	NG	NP	Apr, Jun, Nov, Dec	NP	Mar, Apr, Jun, Nov, Dec	-	Mar, Apr, Dec	Jul, Aug, Sep	Apr, Dec	not significant							
Dissolved cadmium	-	-	-	-	NP	Apr	NP	Feb, Apr	-	Feb, Dec	Feb, Jun, Jul, Aug, Sep	Jan-Apr, Jul-Oct, Dec	not significant							
Dissolved copper	-	-	-	-	NP	Apr, Jun, Nov, Dec	NP	Mar, Apr, Jun, Nov, Dec	Jun	Apr	Feb, May-Oct	Jan-Apr, Jul-Oct, Dec	not significant							
Dissolved iron	-	-	-	Aug, Sep	NP	Apr, Aug, Dec	NP	Mar, Apr, Jun, Nov, Dec	Jun	Apr	May-Dec	Jul-Dec	not significant							
Dissolved manganese	-	-	-	-	NP	Jul, Aug	NP	Jan-Jun, Aug, Oct-Dec	-	Jun, Sep	-	Feb, Mar, Jun, Sep	not significant							
Dissolved zinc	-	Jan-Sep, Dec	-	Feb	NP	Feb, Mar, Aug, Nov	NP	Jan-Jun, Aug, Oct-Dec	-	Jan, Aug	Feb, Jun-Dec	Jan-Apr, Jul-Oct, Dec	not significant							

Notes: *Dashes indicate: the Construction and Operation mean monthly concentration was less than than the WQG-AL and WQG-WL or approved SBEB (Section 3.4.2); or the Construction and Operation mean monthly concentration was less than the 95th percentile of the predicted concentration (base case) in the same month or less than the corresponding monthly 95th percentile baseline concentration plus 20% (Appendix E-4 and Appendix E-2).*

BACI = Before-after-control-impact; NG = no guideline; SBEB = Science-based Environmental Benchmark; WQG-AL = water quality guideline for the protection of aquatic life; WQG-WL= water quality guideline for the protection of wildlife.

**Significant BACI result but not related to 2025 Mine activities.*

Action Levels *None* *Low* *Medium* *High*

ERM

CLIENT: BW Gold LTD.

GRAPHICS NUMBER: BWG-26ERM-021:47

A high action level (i.e., concentrations have increased in a manner not predicted by the surface water quality model, are higher than baseline concentrations, and are greater than WQG-AL in the same two or more consecutive months) was met for total aluminum (661-04, 661-05 and 661-10), and total iron (DC-05). Dissolved cobalt (DC-05, DC-10, DC-15) was considered to meet the high action level because the 2025 concentrations were higher than baseline concentrations and WQG-AL exceedances were observed in the same months.

As defined in the AEMP Plan (ERM 2025b) responses to triggering a high action level include:

- Actions implemented as defined in the associate separate Trigger Response Plan for Authorized Discharges to Davidson Creek applicable to the discharge and receiving environment as defined in the EAC #M19-01 Condition 26.
- Investigate to confirm root cause of changes in water concentrations.
- Implement new mitigation measures or adjust existing mitigation measures to address root cause.
- Implement a water sampling program to define the magnitude, spatial extent, and reversibility of the effect.
- If metal concentrations are meeting the NPMs for high action levels in water, implement a water-dependent wildlife study and as developed at the medium action level; and
- Implement monitoring to assess effectiveness of mitigation options.

Additional responses may include:

- Evaluate if an ecological risk assessment is required to identify spatial extent, magnitude, and reversibility of the effect.
- Review the water quality guidelines, or approved SBEB and propose a new SBEB, if appropriate.

Graphical analysis indicates concentrations of total iron at Davidson Creek sites were generally lower when compared to 2024 concentrations and similar to baseline. This trend suggests the statistically significant effect is largely attributed to the 2024 activities (i.e., initiation of discharge from TSFC-SCP to Davidson Creek). No effects to aquatic life are expected given acute toxicity thresholds were met, and the magnitude of the total iron WQG-AL exceedances were low at DC-05 (range from 1.22 and 2.21 times the guideline for total iron) and similar exceedances were observed at the regional control site (705-05). Thus, no changes to the current erosion and soil mitigations are required in response to the “high” action exceedance.

Graphical analysis indicates that dissolved cobalt concentrations at Davidson Creek sites are likely associated with unrecovered seepage from the TSF C and this is confirmed with results of the groundwater monitoring program (Section 4.3.2.3). The magnitude of the dissolved cobalt exceedances at DC-05 and DC-10 in November and December 2025 (i.e., greater than four-times the guideline) if persistent, could have the potential for certain limited long-term effects to aquatic life as described below. Dissolved cobalt will continue to be monitored in accordance with regulatory requirements. BW Gold implemented mitigation measures (described below) to capture Mine-related sources downstream of the TSF C in late 2025 and early 2026 and is permitted to construct additional structures downstream of the present extent of Mine-related sources of water that are expected to provide further mitigation. BW Gold plans to commence construction of these structures in 2026. These mitigation measures are expected to positively impact water quality in future years.

The dissolved cobalt WQG-AL (ENV 2025) was calculated from the lowest available toxicity data point from an Environment Canada literature review published in 2017 with a 2-fold assessment factor applied to account for uncertainty in terms of extrapolating from a small number of laboratory test organisms to the broader aquatic community present in the receiving environment. The lowest available toxicity data point was a 28-day Effect Concentration (EC_{10}) for the amphipod, *Hyalella azteca*, followed closely by

EC_{10} for growth of an aquatic plant (duckweed) and an EC_{10} for reproduction of cladocerans. Toxicological thresholds are much higher for species that are more directly representative of the aquatic community in Davidson Creek (i.e., salmonid fish). Thus, the potential adverse effects may be limited to the lower trophic levels (i.e., invertebrates and periphyton). Chronic toxicity testing, periphyton monitoring, and benthic invertebrate monitoring were completed at DC-05 in September 2025 as part of the AEMP and do not suggest impairment in the lower trophic communities that could be associated with dissolved cobalt and there were no effects to fish communities (ERM 2026).

Water-dependent wildlife studies are not required at this time, given the total cobalt BC livestock watering guideline is 1 mg/L (BC WLRS 2025b) and total cobalt concentrations in Davidson Creek ranged from less than the detection limit to 0.001 mg/L.

Monitoring results in Davidson Creek and Chedakuz Creek (downstream of the confluence with Davidson Creek) suggests the spatial extent of the dissolved cobalt increase has extended as far as CC-20 in Chedakuz Creek (Figure A7-44). However, the dissolved cobalt WQG-AL was not exceeded at any of the Chedakuz Creek sites (Table 2.3-5). Continued monitoring at Davidson Creek and Chedakuz Creek sites throughout 2026 will be completed. BW Gold planned/completed mitigations to address the high action level exceedance are:

- Additional monitoring of TSF C seepage flow paths entering the former Davidson Creek upstream of the future FWR footprint.
- Additional monitoring (increase frequency) of installed groundwater wells and installation and monitoring of new groundwater wells downstream of the TSF C to understand seepage flows and flow paths.
- Commencement of operation of two seepage pump back wells in September 2025.
- Capture and pump back of seepage reporting to a topographic low point downstream of TSF C.
- Installation of four additional seepage pump back wells (pumping from three of the wells was initiated at the end of period in February 2026 and one well remains on stand-by pending monitoring results).
- Execution of site investigations and engineering design for the ECD, Northern Diversion, and TSF D which are planned to be constructed in accordance with the mine development sequence (ECD and Northern Diversion in 2026, TSF D commencing in 2027) and are expected to contribute to seepage capture or routing of clean water away from the Mine areas.

Reduction of dissolved cobalt is anticipated with the mitigations however following assessment of the monitoring results in 2026. BW Gold will evaluate if additional mitigations are necessary and/or if a dissolved cobalt SBEB is required.

At 661-04, 661-05 and 661-10, no effects to aquatic life are expected given the frequency and magnitude of the long-term total aluminum WQG-AL exceedances were low (the magnitude ranged from 1.05 to 5.61). The total aluminum concentrations that exceeded the WQG-AL with the greatest magnitude occurred in March and likely associated with the overland flow over the 2023 and 2024 wildfire impacted areas during the spring melt and not a Mine-related effect. Exceedances of the WQG-AL were also observed in 2024 at a greater magnitude, and concentrations in Q3 and Q4 were well below the WQG-AL (Figure 3.4-29). Therefore, it is anticipated that exceedances will be less frequent in future monitoring years as the wildfire impacted areas recover and no additional mitigations are required.

3.5 Summary and Discussion

The October 2022 to December 2025 monitoring results were compared to the 95th percentile of the monthly predicted concentrations at each of the assessment nodes (for the EA model [CEA Agency 2019] and the 2022 model predictions [Lorax 2022]). The mean monthly concentrations during the Construction and Operations period to date were greater than model predictions for several water quality parameters at Davidson Creek, Creek 661, and Chedakuz Creek sites and are likely related to the 2024 construction activities, the 2023 and 2024 wildfires, and 2025 Mine activities. The potential for Mine related changes in water quality during construction are primarily through increases in TSS and particulate-bound metals due to earthworks activities, not accounted for in the water quality model. The TSS and particulate-bound metals associated with the wildfires are also not accounted for in the model. Unrecovered seepage from TSF C (a 2025 Mine source) was accounted for in the 2022 model however, future updates to the model will require the changes in mitigation and management measures that are expected to be reflected in future monitoring results.

The 2025 water quality at Davidson Creek sites indicated that most concentrations were similar or greater than baseline years and below levels of concern. Parameters with concentrations identified as Mine-related significant increases from baseline concentrations (determined by statistical analysis) were total aluminum, arsenic (DC-05), barium, iron (DC-10 and DC-15), and uranium. Graphical analysis indicates concentrations of parameters that have increased when compared to baseline were likely related to the contribution of particulate-bound metals from overland flow from the 2023 fire-impacted upper Davidson Creek watershed to Davidson Creek (either directly or via non-contact water diversions), the March 2025 TSS laden water release to Davidson Creek and the May and June 2025 tree clearing activities adjacent to the FWR. A high action level (i.e., concentrations have increased in a manner not predicted by the surface water quality model, are higher than baseline concentrations, and are greater than WQG-AL in the same two or more consecutive months) was met for total iron (DC-05). Dissolved cobalt (DC-05, DC-10, DC-15) was considered to meet the high action level because the 2025 concentrations were higher than baseline concentrations and WQG-AL exceedances were observed in the same months. Graphical analysis indicates dissolved cobalt concentrations at Davidson Creek sites are likely associated with unrecovered seepage from the TSF C and confirmed based on the groundwater quality monitoring results (Section 4.3.2.3).

No effects to aquatic life are expected given acute toxicity thresholds were met, and the magnitude of the total iron WQG-AL exceedances were low at DC-05 (range from 1.22 and 2.21 times the guideline for total iron) and exceedances have also been observed at the regional control sites. However, the magnitude of the dissolved cobalt exceedances at DC-05 and DC-10 in November and December 2025 (i.e., greater than four-times the guideline) if persistent, could have the potential for certain limited long-term effects to aquatic life. Examination of the toxicity data used to generate the dissolved cobalt WQG-AL suggests that the potential for long-term effects may be limited to the lower trophic levels (i.e., invertebrates and periphyton). Results of September 2025 chronic toxicity testing, periphyton monitoring, and benthic invertebrate monitoring at DC-05 do not suggest impairment in the lower trophic communities that could be associated with dissolved cobalt (ERM 2026). Dissolved cobalt will continue to be monitored in accordance with regulatory requirements. BW Gold implemented mitigation measures to capture Mine-related sources in late 2025 and early 2026 and is permitted to construct additional structures downstream of the present extent of Mine-related sources of water that are expected to provide further mitigation (Section 4.3.4). BW Gold plans to commence construction of these structures in 2026. These mitigation measures are expected to positively impact water quality in future years, and BW Gold will continue to monitor the effectiveness of these actions. Runoff management and erosion and sediment control mitigations in response to turbid water entering Davidson Creek (either as unauthorized discharges or following exceedances of permit limits) will continue to mitigate future high action level exceedances.

The 2025 water quality at Creek 661 sites were typically similar or greater than baseline concentrations and concentrations were below levels of concern. At Creek 661 sites, the parameters meeting the “medium” action level (i.e., greater than baseline and predicted concentration in two or more consecutive months) were total arsenic (661-04 and 661-05), total barium (661-04 and 661-05), total uranium (661-03, 661-04, 661-05, and 661-10), and dissolved zinc (661-04). Graphical analysis did not confirm that increases at Creek 661 sites were entirely related to the 2025 Mine activities. Greater concentrations are also likely associated with overland flow through the 2023 and 2024 fire-impacted areas around the Creek 661 tributaries located within the Mine site. Following the comparison of May 2025 and 2024 water quality at the Creek 661 sites, it was determined that elevated total and dissolved copper, total and dissolved cadmium, and total and dissolved zinc were likely associated with dust or particle erosion following the ore stockpile dust event (Lorax 2025). BW Gold initiated mitigation measures in May 2025 in response to the dust event and water quality at Creek 661 sites in Q3 and Q4 was similar to baseline years indicating the effect was not persistent through 2025. Results of September 2025 chronic toxicity testing (661-10), periphyton monitoring, and benthic invertebrate monitoring at Creek 661 do not suggest effects that could be associated with the changes in water quality (ERM 2026). Continued erosion and sediment control mitigations and dust mitigations implemented or planned to be implemented because of the dust event will continue to be completed through the Operations period.

A “high” action level was met for total aluminum (661-04, 661-05, and 661-10) and was most likely associated with overland flow through the 2023 and 2024 fire-impacted areas around the Creek 661 tributaries located within the Mine site and 2025 Construction activities. Groundwater monitoring results did not indicate effects related to the Mine (Section 4.3.2.3). The greatest frequency and magnitude of WQG-AL exceedances tended to occur in March 2025 (and likely as a result of high TSS). Exceedances of the WQG-AL were also observed in 2024 at a greater magnitude, and concentrations in Q3 and Q4 were well below the WQG-AL. Therefore, it is anticipated that exceedances will be less frequent in future monitoring years as the wildfire impacted areas recover and no additional mitigations are required.

Significant increases from baseline (determined by statistical analysis) in pH, turbidity, sulphate, total ammonia-N, total aluminum, total barium, total iron, total and dissolved manganese, and total uranium tended to be at Chedakuz Creek sites downstream of the confluence with Davidson Creek (CC-15, CC-20, and CC-40 but not CC-30). It was concluded that greater concentrations of turbidity, total aluminum, and total barium at sites CC-15 and CC 20 may be related to 2024 and 2025 Mine activities (i.e., upstream of DC-20). There are several anthropogenic sources that may contribute to Chedakuz Creek water quality and at site DC-20 (e.g., forest harvesting activities, road/trail networks, cattle grazing). Thus, it was concluded that other non-Mine related sources have also contributed to the observed increases in CC-15, CC-20, and CC-40. Mitigation in response to Mine-related changes in water quality identified in Davidson Creek are expected to also address Mine-related increases in Chedakuz Creek.

4.0 Monitoring Groundwater Quality and Quantity

4.1 Decision Statement Condition Requirements

The DS Condition 3.15.3 requires the monitoring of groundwater quality and quantity downstream of Tailings Storage Facility D (TSF D), Open Pit, west waste rock dump, and Low-Grade Ore (LGO) Stockpile. Monitoring results should be compared to "*values identified by the Proponent in the modelled predictions in Section 5 of Blackwater Gold Project: Additional Water Quality Model Sensitivity Scenario (July 20, 2017) and Section 3 of Blackwater Gold Project: Water Treatment Responses for Comments 1266, 1270, 1271, 1272, and 1273 (February 15, 2017) for nitrite and contaminants of potential concern, and to verify the effectiveness of water management measures*".

Note that the west waste rock dump is no longer a mine facility in the optimized mine plan and has been replaced by the Upper and Lower Waste Stockpiles.

4.2 Field Methods

4.2.1 Overview

Requirements of the groundwater monitoring program presented were originally specified in Section 7.3.4 of the Mine Site Water and Discharge Monitoring and Management Plan (MSDP; BW Gold, 2022) version D.1 included as Appendix 9-E of the Joint MA/EMA Application. A Groundwater Monitoring Plan (GMP; KP, 2025a) was subsequently developed to meet Condition 4.7 of permit PE-110652. Adjustments to the groundwater monitoring program were made since issuance of the original MSDP following reviews conducted by BC Ministry of Environment and Parks (BC ENV) and First Nations and to update the monitoring plan as Mine development progressed.

The Non-Point Source Discharge to Ground Trigger Response Plan (TRP; KP, 2024) defines groundwater quality triggers set relative to baseline data and the Contaminated Sites Regulation (CSR) groundwater standards in accordance with PE-110652 (Section 3.5.4a). The purpose of the TRP is to identify preliminary signs of contact water (seepage) in the groundwater system and promote a response or remedial action, if required, to manage and mitigate seepage.

The groundwater monitoring and sampling program outlined in the GMP includes water level monitoring and water quality sampling at monitoring wells, as well as water level monitoring at standpipe piezometers and vibrating wire piezometers (VWPs). Installation details of groundwater monitoring locations included in the GMP are summarized in Tables 4.2-1 and 4.2-2. Groundwater quality data are collected at the sites listed in Table 4.2-1, and water level data are collected at the sites listed in both Tables 4.2-1 and 4.2-2. Groundwater monitoring locations in 2025 are shown on Figure 4.2-1. Instrumentation included in the monitoring network were selected based on location relative to mine infrastructure, including positions upgradient and downgradient of mine facilities and depths within shallow and deep groundwater flow systems.

Sections 4.2.2 and 4.2.3 provide a summary of the groundwater monitoring program methods. Additional detail on the groundwater monitoring program is provided in the GMP.

Table 4.2-1: Groundwater Quality and Quantity Monitoring Locations

Drillhole ID	Location Monitored	Coordinates		Ground Elevation	Top of Screen	Bottom of Screen	PVC Stickup	Required Sampling Frequency	Geologic Unit	Notes
		Easting	Northing							
		(m)	(m)	(masl)	(mbgs)	(mbgs)	(m)			
Monitoring Wells Located Between TSF C and the IECD										
GT20-04	TSF C	376,215	5,898,081	1,214	22.2	27.9	0.44	Quarterly	Glacial Till (Undifferentiated)	Location sampled monthly starting in Q4.
GT21-03S		376,287	5,897,943	1,212	14.4	17.6	0.80	Quarterly	Glaciofluvial	Location sampled monthly starting in Q4.
MW22-02D		376,429	5,897,628	1,244	42.5	45.4	0.97	Quarterly	Glaciofluvial	Location sampled monthly starting in Q4.
MW22-02S		376,432	5,897,619	1,244	14.1	15.5	1.32	Quarterly	Glaciofluvial	Monitoring well is dry.
MW22-03D		376,067	5,897,828	1,229	28.4	31.3	0.95	Quarterly	Glaciofluvial	Location sampled monthly starting in Q4.
MW22-03S		376,059	5,897,829	1,229	7.5	8.9	0.89	Quarterly	Glaciofluvial	Limited water column in well. Groundwater sampling performed only when a sufficient water level is present. Location sampled monthly in Q4.
MW23-05D		375,972	5,898,012	1,232	32.3	35.4	1.17	Quarterly	Glaciofluvial	Location sampled monthly starting in Q4.
MW23-05S		375,972	5,898,012	1,232	5.9	9.0	1.06	Quarterly	Glacial Till	Location sampled monthly starting in Q4.
Monitoring Wells Located Between TSF D and the ECD / Seepage Collection Trenches										
MW12-07D	TSF D	376,395	5,899,440	1,221	35.4	38.6	0.79	Quarterly	Glaciofluvial	
MW12-07S		376,399	5,899,440	1,221	19.8	22.9	0.83	Quarterly	Glaciofluvial	
Monitoring Wells Located at the FWR and Downgradient										
MW12-08D	TSF and ECD	377,889	5,899,192	1,170	32.6	35.6	0.94	Quarterly	Glacial Till	Location sampled monthly starting in Q4.
MW12-08S		377,899	5,899,198	1,170	16.2	19.3	0.84	Quarterly	Glaciofluvial Channel	Location sampled monthly starting in Q4.
MW12-09D		378,334	5,899,688	1,155	30.5	33.6	0.89	Quarterly	Glacial Till	Location sampled monthly starting in Q4.
MW12-09S		378,324	5,899,687	1,155	10.4	15.9	0.89	Quarterly	Glacial Till	Location sampled monthly starting in Q4.
Monitoring Wells Located at the Saddle Dam and Spillway										
MW12-12D	TSF	378,486	5,896,260	1,244	31.2	34.2	0.87	Quarterly	Glacial Till	
MW12-12S		378,493	5,896,256	1,244	11.2	14.2	0.97	Quarterly	Glaciofluvial Channel	
Monitoring Wells Downgradient of Stockpiles Area										
MW23-03D	LGO	374,841	5,894,551	1,430	32.1	35.1	1.24	Quarterly	Highly Weathered Bedrock	
MW23-03S		374,848	5,894,547	1,430	5.5	8.5	0.91	Quarterly	Glaciofluvial	Limited water column in well.
MW24-01D(A)		374,784	5,894,807	1,396	17.8	20.7	0.44	Quarterly	Weathered Bedrock	
MW24-01S		374,793	5,894,814	1,396	10.0	11.5	0.44	Quarterly	Glaciofluvial	
MW25-01		374,837	5,894,556	1,430	36.2	39.3	0.92	Quarterly	Weathered Bedrock	
MW25-02D		374,414	5,894,481	1,408	51.4	54.4	0.75	Quarterly	Weathered Bedrock	
MW25-02S		374,423	5,894,477	1,408	4.0	5.0	0.75	Quarterly	Glacial Till	
MW23-04D	LWS	374,754	5,894,905	1,395	32.5	35.6	1.19	Quarterly	Highly Weathered Bedrock	
MW23-04S		374,749	5,894,900	1,395	14.2	17.3	1.20	Quarterly	Glacial Till	

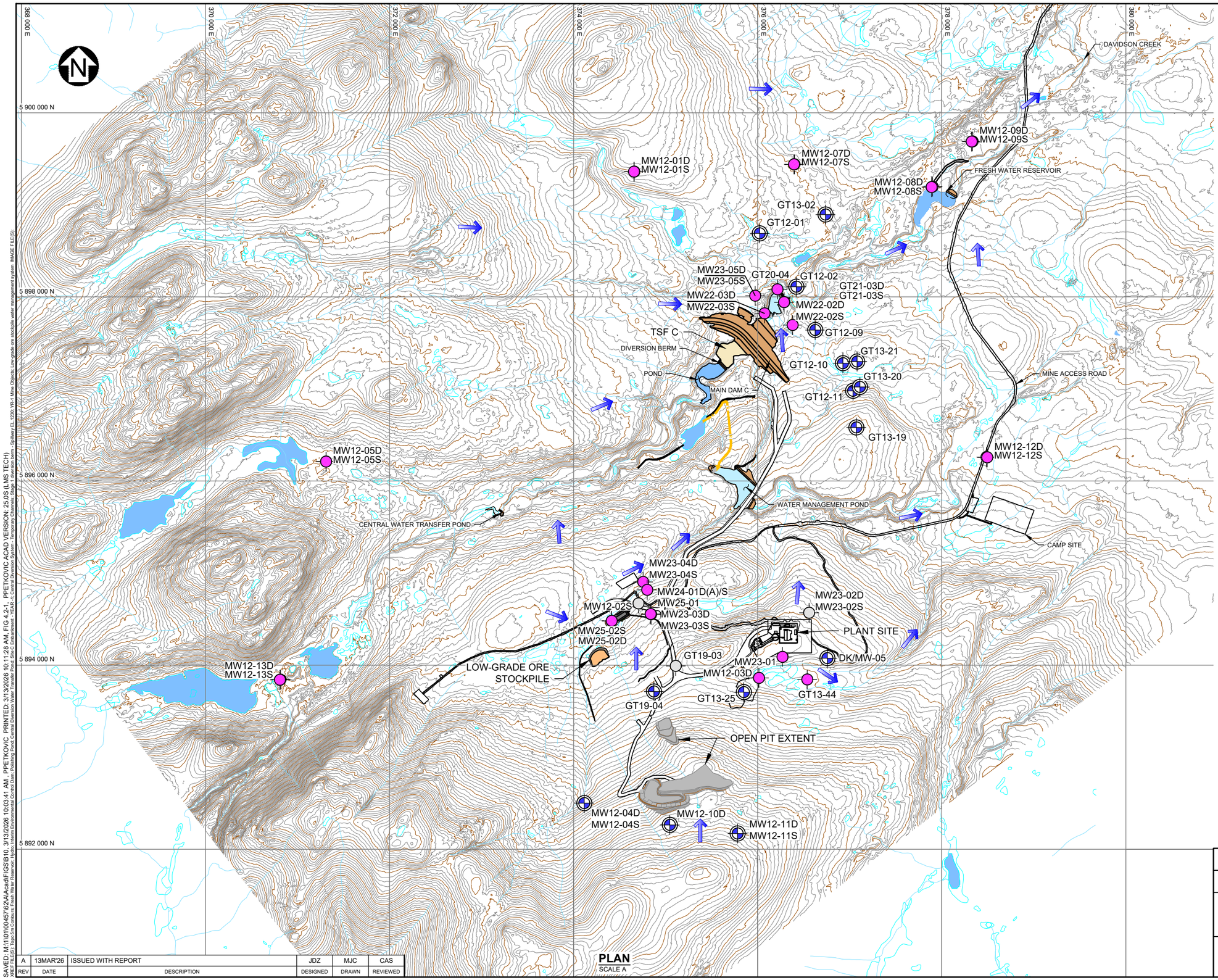
Drillhole ID	Location Monitored	Coordinates		Ground Elevation	Top of Screen	Bottom of Screen	PVC Stickup	Required Sampling Frequency	Geologic Unit	Notes
		Easting	Northing							
		(m)	(m)	(masl)	(mbgs)	(mbgs)	(m)			
Monitoring Wells Downgradient of Deposit Area										
MW12-03D	Open Pit	376,013	5,893,860	1,465	33.5	36.6	0.86	Quarterly	Glacial (Lodgement) Till	
GT13-44		376,538	5,893,844	1,456	61.4	64.4	0.88	Quarterly	Glacial (Lodgement) Till	
Monitoring Wells Downgradient of Plant Site Area										
MW23-01	Plant Site	376,270	5,894,090	1,468	50.1	53.1	1.07	Quarterly	Glacial Till	
MW23-02D	Plant Site RIBs	376,556	5,894,566	1,443	30.2	33.3	1.07	Quarterly	Glacial Till	Location was decommissioned on September 6, 2025, for construction of the Plant Site Metals Water Treatment Pond.
MW23-02S		376,564	5,894,575	1,443	7.9	9.4	1.25	Quarterly	Glacial Till	Location was decommissioned on September 6, 2025, for construction of the Plant Site Metals Water Treatment Pond.
Background Monitoring Wells										
MW12-01D	-	374,655	5,899,360	1,302	36.6	39.6	0.89	Quarterly	Moderately Weathered Bedrock	
MW12-05D	-	371,310	5,896,210	1,373	23.2	26.2	0.81	Annual	Moderately Weathered Andesite	Well plug installed. Manual water level measurements conducted bi-annually.
MW12-05S	-	371,309	5,896,210	1,373	7.6	10.7	0.72	Annual	Glacial (Lodgement) Till	Well plug installed. Manual water level measurements conducted bi-annually.
MW12-13S	-	370,809	5,893,841	1,353	10.0	13.1	0.95	Annual	Glaciofluvial Channel	

Notes:
Coordinates are UTM NAD 83.
All installations are in vertical drillholes
Sentinel Well = Monitoring well is located upgradient of seepage collection measures for the facility and provides an early warning for impacted groundwater.
A paired shallow and deep installation are planned at all proposed monitoring well locations.
masl is metres above sea level; mbgs is metres below ground surface.
TSF = Tailings Storage Facility; ECD = Environmental Control Dam; FWR = Fresh Water Reservoir; LWR = Lower Waste Stockpile; WMP = Water Management Pond; RIBs = Rapid Infiltration Basins; SCP = Sediment Control Pond.

Table 4.2-2: Groundwater Quantity (Flow) Monitoring Locations

Drillhole ID	Installation Type	Coordinates		Ground Surface Elevation	Top of Screen	Bottom of Screen	Well Stickup	VWP Sensor Depth	Required Water Level Measurement / Download Frequency	Notes
		Easting	Northing							
		(m)	(m)	(masl)	(mbgs)	(mbgs)	(m)	(m)		
Water Level Monitoring Locations in the TSF Area										
GT21-03D	SP	376,286	5,897,943	1,212	45	48	1	-	Quarterly	
GT12-01	SP	376,021	5,898,690	1,245	69	72	1	-	Quarterly	
	VWP				-	-	-	24		
GT12-02	VWP	376,420	5,898,110	1,218	-	-	-	95	Quarterly	
GT13-02	VWP	376,737	5,898,895	1,223	-	-	-	87	Quarterly	
GT12-09	SP	376,624	5,897,640	1,239	107	110	1	-	Quarterly	
GT12-10	SP	376,926	5,897,280	1,258	28	31	1	-	Quarterly	
GT12-11	SP	377,036	5,896,980	1,282	12	15	1	-	Quarterly	
GT13-19	SP	377,072	5,896,582	1,332	7	10	1	-	Quarterly	
GT13-20	SP	377,111	5,897,022	1,275	32	35	1	-	Quarterly	
GT13-21	SP	377,080	5,897,297	1,259	69	72	1	-	Quarterly	
Water Level Monitoring Locations in the Open Pit Area										
MW12-04D	SP	374,110	5,892,500	1,558	32	38	1	-	Bi-Annual	
MW12-04S	SP	374,116	5,892,500	1,558	9	15	1	-	Bi-Annual	Well plug installed.
MW12-10D	SP	375,045	5,892,263	1,665	33	42	1	-	Quarterly	
MW12-11D	SP	375,773	5,892,168	1,676	36	47	1	-	Quarterly	
MW12-11S	SP	375,782	5,892,171	1,676	14	20	1	-	Quarterly	
GT13-25	SP	375,849	5,893,706	1,482	25	28	1	-	Quarterly	
GT19-04	VWP	374,872	5,893,713	1,479	-	-	-	16	Quarterly	
DK/MW-05	SP	376,757	5,894,076	1,461	35	38	1	-	Quarterly	
Background Water Level Monitoring Locations										
MW12-01S	SP	374,658	5,899,360	1,302	8	14	1	-	Quarterly	
MW12-13D	SP	370,815	5,893,844	1,353	35	39	1	-	Quarterly	

SP = standpipe piezometer; VWP = vibrating wire piezometer.
Coordinates are UTM NAD 83.
All installations are in vertical drillholes.
masl is metres above sea level; mbgs is metres below ground surface.



LEGEND:

- MINE WATER
- FRESH WATER
- EMBANKMENT FILL
- PAG WASTE ROCK
- WASTE DUMP
- EXISTING MONITORING WELLS
- PROPOSED MONITORING WELLS
- DECOMMISSIONED MONITORING SITE
- EXISTING WATER LEVEL SITE
- INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. COORDINATE GRID IS UTM NAD83 ZONE 10U.
2. NATURAL GROUND CONTOUR INTERVAL IS 5 METRES AND STOCKPILE CONTOUR INTERVAL IS 10 METRES.
3. ELEVATIONS ARE IN METRES, UNLESS NOTED OTHERWISE.
4. GROUND WATER QUALITY AND WATER LEVEL DATA ARE COLLECTED AT EXISTING MONITORING WELLS.

400 200 0 400 800 1200 1600 2000 m
SCALE A

PLAN
SCALE A

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
A	13MAR'26	ISSUED WITH REPORT	JDZ	MJC	CAS

BW GOLD LTD.

BLACKWATER GOLD PROJECT

GROUNDWATER MONITORING LOCATIONS (2025)

Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-457/62	5

FIGURE 4.2-1 REV A

SAVED: M:\101\00457\62\A\Acad\FIGS\B10, 3/13/2026 10:03:41 AM, PPETKOVIC PRINTED: 3/13/2026 10:11:28 AM, FIG 4.2-1, PPETKOVIC ACAD VERSION: 25.0S (LMS TECH)
REF FILES: Topo\Im\Contours_Fresh Water Areas.dwg, Hydro\Catchment Environmental Control Dam, Pumping Pond, Central Diversion Water Transfer Pond, Dam C Embankment, TSF.dwg, Central Diversion System - Improved Channels, Stage Storage Curve.xlsm

4.2.2 Groundwater Quantity Monitoring

Water level conditions are monitored using monitoring wells, standpipe piezometers, and VWPs. Continuous monitoring of groundwater levels at the site is completed using pressure transducers installed in monitoring wells and standpipe piezometers. Manual water level measurements are collected at monitoring wells during groundwater sampling site trips to verify groundwater levels measured with pressure transducers. Pressure transducers are downloaded when the monitoring wells are sampled. Manual water level measurements are taken at every site visit and compared to pressure transducer readings on-site to check that equipment is functioning correctly. A barometric pressure transducer is installed in a standpipe piezometer located near the TSF basin. The barometric data are used to compensate the groundwater elevation time-series data for fluctuations in barometric pressure.

Monitoring of groundwater levels is also completed using VWPs. VWPs were installed in drillholes by attaching the sensors to a PVC pipe that was used as a tremie to backfill the drillhole with grout to ground surface. VWPs installed at each site are connected to a datalogger to continuously record water level data.

4.2.3 Groundwater Quality Monitoring

Groundwater quality samples were collected using methods that are in accordance with the well purging and sampling procedures from the following documents:

- British Columbia Field Sampling Manual. Part E Groundwater (Draft). Edition. Province of British Columbia. 2021; and
- Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. 1996. United States Environmental Protection Agency. Puls, R.W., and M.J. Barcelona. EPA/540/S-95/504 (EPA 1996).

Groundwater samples were submitted to ALS Canada Ltd.'s laboratory, ALS Environmental, in Burnaby, British Columbia. ALS is a Canadian Association for Laboratory Accreditation certified laboratory for analysis with rigorous internal QA/QC procedures. Samples were submitted to ALS for the following analyses:

- Physical Tests – pH, specific conductivity, total dissolved solids (TDS), total suspended solids (TSS), hardness, acidity, alkalinity (bicarbonate, carbonate, and hydroxide), and turbidity.
- Anions – Bromide, chloride, fluoride, and sulphate.
- Nutrients – Ammonia, nitrate, nitrite, total and dissolved phosphorus, dissolved orthophosphate, total Kjeldahl Nitrogen (TKN), and total and dissolved organic nitrogen.
- Cyanide – Total cyanide, free cyanide, weak acid dissociable (WAD) cyanide, cyanate, and thiocyanate.
- Total and Dissolved Metals – Analyzed at low level detection limits with mercury.
- Organics – Total organic carbon (TOC) and dissolved organic carbon (DOC).

The water quality parameters were analyzed using standard methodologies, as recommended in BC Ministry of Environment (BC MOE; 2016). Targeted detection limits (DLs) for parameters were at least 10 times lower than water quality standards, where available, consistent with recommendations in BC MOE (2016).

In addition to monitoring groundwater at wells, groundwater discharging to surface is monitored as part of seep and electrical conductivity surveys, as described in the GMP. Seep surveys are conducted to detect potential influence of contact water quality in seeps located downgradient of mine facilities and to identify potential changes in groundwater flow. Electrical conductivity surveys are completed during dry periods along Mine Area Creek to assess for potential LGO seepage contributions.

4.3 Data Analysis

4.3.1 Groundwater Quantity Results

Overview

Time series groundwater water level plots are provided in Appendices F1 through F3. Changes in groundwater levels recorded in 2025 are summarized in Tables F-4.1 and F-4.2 in Appendix F4. Groundwater level conditions in each mine area in 2025 are described below along with any noted changes from the baseline monitoring period and related model predictions.

TSF Area

Overview

Groundwater level conditions upgradient of the TSF area in 2025 remained consistent with baseline conditions and did not indicate influence from mine development. Artesian conditions and/or an upward hydraulic gradient are present year-round in the upper Davidson Creek catchment at monitoring wells MW12-05D/S and MW12-13D/S located in headwater valleys upstream of the TSF C basin.

Consistent with baseline conditions, groundwater levels downgradient of the TSF evidenced downward vertical hydraulic gradients and/or perched water levels in the overburden sequences due to the presence of lower permeability glaciolacustrine and glacial till deposits overlying more permeable pockets of glacial till and glaciofluvial deposits. These conditions are observed at monitoring well pairs MW22-03D/S and MW23-05D/S located immediately downgradient of Main Dam C. Limited seasonal fluctuation is typical at most monitoring sites but is atypical at monitoring sites MW12-08D/S and MW12-09D/S adjacent to Davidson Creek. Water level fluctuations historically ranged from about 1 to 6 m at the sites adjacent to Davidson Creek, with the highest fluctuations observed at monitoring well MW12-09S. Groundwater level fluctuations of less than 1 m water were observed in 2023, 2024, and 2025 suggest that freshet of these years was drier or generated less recharge to the groundwater regime than typically observed. Drier than average conditions experienced in 2025 are reflected in precipitation data presented in the 2025 Climate Monitoring Program Review (KP, 2026a).

Groundwater level responses at GMP monitoring locations downgradient of the TSF in 2025 are identified below according to operational activity.

<u>Responses to Impoundment of Water and Tailings</u>

Groundwater level increases ranging from approximately 1.1 to 4.6 m were observed downgradient of TSF C in 2025 in response to impoundment of water and tailings in the facility at monitoring locations included in the GMP. The baseline groundwater report and numerical modelling for the Joint *Mines Act* / *Environmental Management Act* Application (KP, 2021a, 2021b) identified a buried glaciofluvial channel deposit as a potential seepage pathway. Groundwater level responses recorded in overburden materials were the greatest at sites screened in the buried glaciofluvial channel deposit (GT21-03S, MW22-03D, and MW23-05D). Responses were also observed in other overburden materials at monitoring sites near the TSF including glaciofluvial channel deposits, glacial till, and reworked regolith.

The largest recorded water level increases generally occurred at monitoring locations closest to the TSF, with the exception of a 4.2 m increase recorded at standpipe piezometer GT12-01. The GT12-01 site is located approximately 1 km downgradient of the TSF and is screened in bedrock within an inferred fault zone encountered from 69.5 to 71.5 m. The standpipe is collocated with a shallow VWP sensor installed in glacial till (at 23.6 mbgs), which has not shown a corresponding response.

No water level responses were recorded in monitoring wells MW22-03S and MW23-05S monitoring the shallow water bearing horizon, indicating these shallow units are not hydraulically connected to the deeper buried glaciofluvial deposit.

Water level increases in response to impoundment of water in TSF C were not observed at monitoring wells furthest downgradient in the areas of the proposed Environmental Control Dam (ECD) and FWR (MW12-07D/S, MW12-08D/S, and MW12-09D/S).

Responses to Pumping Well Operation

Groundwater pumping wells PW24-01 and PW24-02 have operated continuously since late-October 2025 to capture seepage downgradient of TSF C. Monthly average pumping rates of the wells reached a combined capacity of 130 m^3/hr in November and December.

Groundwater levels at nearby sites declined in response to pumping at the two wells, with the largest drawdowns observed at monitoring wells screened in the buried glaciofluvial channel deposit (GT21-03S, MW22-03D, and MW23-05D). Drawdowns in this material ranged from approximately 1.8 to 5.7 m, with smaller responses observed at monitoring locations outside the inferred channel deposits.

Response to FWR Construction

Groundwater levels decreased approximately 1 m at monitoring locations MW12-08D/S on November 1 and stabilized in late-November during stripping and preparation of the FWR basin. Construction water management during this period was conducted using temporary sumps to remove water from inside the basin footprint. Additional pumps were installed on November 1 to increase capacity of construction water management.

A groundwater level increase was recorded at monitoring wells MW12-09D/S beginning on November 25, with water levels beginning to decline on December 22. Water levels increased by 5 m at the shallow location and 1.1 m at the deep location. The magnitude of the increase is within the range of historical freshet responses. However, climate records for this period do not indicate conditions consistent with snowmelt or a significant precipitation event. No corresponding change in Davidson Creek streamflows was observed, and no construction activities were underway in the vicinity of the monitoring well during this time.

TSF Embankment Drain Flow Rates

Discharge from the TSF embankment drains was estimated during routine inspections by visual observation of flows at weirs installed near the drain outlets. Flow from the embankment drains was negligible at the start of 2025 and increased to about 5 L/s by mid-July and remained at about 5 L/s through the end of the year (Appendix F-5, Table F-5.1).

A seepage assessment for Early Operations (Year 5) presented in the Numerical Groundwater Modelling Report (KP, 2021b; Appendix 5-F of the Joint MA/EMA Application) estimated TSF seepage discharges of approximately 1.1 L/s to the embankment drains. The modelled seepage rate does not account for additional contributions from non-contact groundwater inflows external to the TSF. The flow rates observed at the embankment drains in 2025 are considered consistent with expectations given the potential for additional non-seepage flow contributions.

Interim Environmental Control Dam Flow Rates

Water contributing to the Interim Environmental Control Dam (IECD) consists of seepage from TSF C, groundwater discharge, and surface water runoff from Main Dam C and the area upslope of the IECD. Recovered flows are pumped to the TSF C pond. Water volumes managed by the pump back system have been monitored since August using a flow meter. Monthly average pumping rates are presented in Table F-5.2 (Appendix F-5) and ranged from 39 to 77 L/s. For the same period, predicted IECD pump back rates in the Life of Mine Water Balance (KP, 2021c; Appendix 5-B of the Joint MA/EMA Application) ranged from 8 to 18 L/s under average climate conditions and 7 to 33 L/s under variable climate conditions.

The groundwater capture wells adjacent to the IECD (PW24-01 and PW24-02) were operated starting late August 2025 to supply water for the Mill and starting in October to collect TSF seepage. Monthly average pumping rates at the groundwater wells ranged up to 36 L/s (130 m^3/hr) and were responsible for the flows to the IECD being higher than predictions in the LOM WBM.

Stockpiles Area

Consistent with 2024, groundwater levels measured at monitoring sites installed in the Stockpiles area in 2025 indicate the water table is shallow. Groundwater levels measured at shallow monitoring sites are within 1 to 2 metres of ground surface at MW24-01S and within 3 to 4 metres at MW23-03S and MW23-04S. Groundwater levels at deeper monitoring wells installed in the underlying highly weathered bedrock are about 15 mbgs (MW23-03D and MW23-04D). Downward vertical hydraulic gradients were observed at all monitoring sites with paired installations (MW12-02D/S, MW23-03D/S, MW23-04D/S, and MW24-01D(A)/S).

Groundwater levels in 2025 at monitoring MW23-04D/S and MW24-01D/S suggest influence from the supply well installed near kilometre marker 15 (Well 3) along the mine access road. Water level decreases of up to 1 m were recorded in 2025, consistent with trends observed in previous years.

Groundwater level increases were recorded at GT19-04 in response to stockpiling of LGO material in 2025. The GT19-04 site is located at the upslope edge of the LGO Stockpile and two VWP sensors are installed in the drillhole in the completely weathered bedrock horizon. Water level increases at GT19-04 were first observed in March 2025 during placement of LGO on Panel 1 of the low permeability stockpile liner. Pore pressures subsequently decreased and stabilized following LGO placement on the Panel 1 liner. Pore pressures of up to 9.3 m above background conditions were recorded in May during ongoing placement of LGO material on Panel 2, with water levels showing an overall decreasing trend since with short term responses to subsequent stockpiling.

Plant Site and Operations Campsite Area

Groundwater levels recorded at locations in the Plant Site and Operations Campsite areas were consistent with observations in previous years.

The Plant Site is located along a topographic high at the headwaters of the Creek 661 catchment. Groundwater levels measured at monitoring sites located south of the Plant Site in 2025 were approximately 26 to 36 mbgs in the upgradient area nearer the deposit (monitoring wells MW12-03D and GT13-44) and increase in depth to 43 mbgs downgradient at monitoring well MW23-01. Seasonal water level fluctuations at sites south of the Plant Site (MW12-03D, MW23-01, GT13-44) were less than 1 m. Downslope, at the base of Mt. Davidson where topography becomes flatter near the operations camp, measured water levels are within 2 metres of ground surface (monitoring wells MW12-12D/S).

Perched water levels exist in the overburden due to the presence of low-permeability geologic units, such as glaciolacustrine units and glacial till deposits, overlying coarser and more permeable pockets of glacial till and glaciofluvial deposits. This is evident at the former monitoring well pair MW23-02D/S located downstream (north) of the Plant Site SCP, where the water level in the shallow well ranged 2.0 to 6.4 mbgs and the deep well (screened from 30.2 to 33.2 mbgs) having been dry since installation.

Deposit Area

Water level drawdowns resulting from dewatering of the Open Pit were not observed at GMP monitoring locations in 2025. The deposit area is located at the headwaters of the Davidson Creek and Creek 661 catchments. Water levels in 2025 in the deposit area ranged from slightly artesian (MW12-04S) to 8 to 11 mbgs (MW12-10D and MW12-11D). Available water levels in the upslope deposit area indicate that the vertical hydraulic gradient and vertical direction of groundwater flow is typically downward, and the area is a groundwater recharge zone (MW12-04D/S, MW12-10D/S, and MW12-11D/S). At the downslope area of the deposit, water levels are seasonally artesian (MW12-04S and GT19-04) and a wetland is present at the start of the small tributary at the north end of the deposit.

Open Pit Dewatering Rate

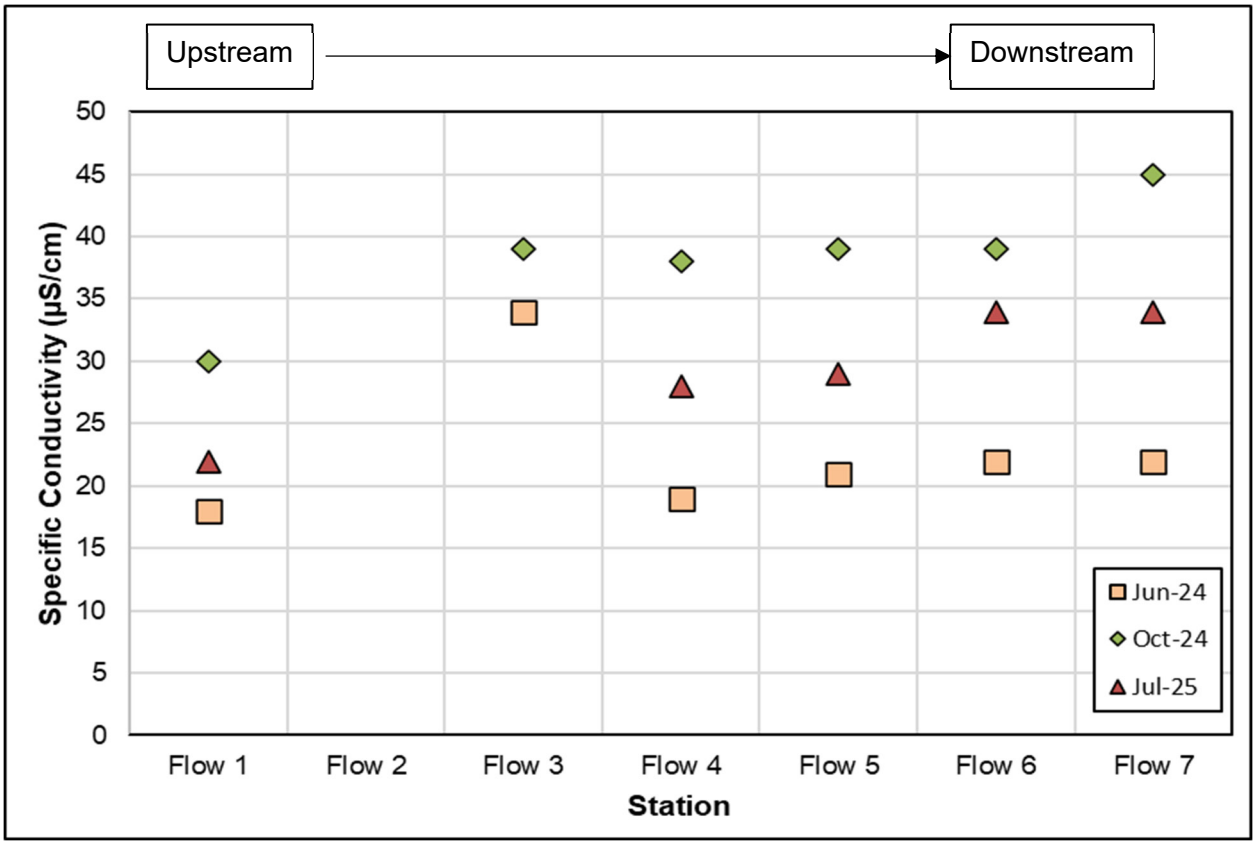
Groundwater dewatering using pumping well PW13-1 in the Open Pit began in January 2025, with water directed to the Process Plant for use in ore processing. Pumping from dewatering wells PW25-02 and PW25-03 began in November and December, respectively. Average monthly pumping rates from the groundwater wells in 2025 are presented in Table F-5.3 (Appendix F-5) and ranged from 13 to 38 L/s.

The Open Pit groundwater dewatering at the pumping wells was specified in the LOM WBM (KP, 2021c;) at a rate to meet the Mill freshwater requirement (i.e., 10% of the Mill water demand for ore processing), which was equivalent to 20 L/s during Year 1. Pumping rates in the Open Pit in 2025 are considered consistent with expectations for the facility.

Electrical Conductivity Survey

An electrical conductivity survey was completed along Mine Area Creek during a period of dry weather on July 9, 2025. Survey locations, photos, and data collected are provided in Appendix F-6.

Estimated streamflow and in-situ water quality parameters were recorded at survey locations Flow 1 (704-01) through Flow 7 (704-03), progressing downstream along Mine Area Creek toward the WMP. Consistent with measurements collected in 2024, specific conductivity values in 2025 increased with downstream distance, ranging from 22 to 34 µS/cm. All 2025 measurements fall in the range of values recorded in 2024, as shown on Figure 4.3-1.Measurements could not be completed at Flow 2 and Flow 3 in 2025. At Flow 2, Mine Area Creek flows underground. At Flow 3, readings were not collected by the field crew due to the lack of visible flow in the wetland.



Note(s):

[1] Flow 1 is on Mine Area Creek upstream of the Stockpiles area; Flow 7 is on Mine Area Creek downstream of the LGO Collection Pond.

[2] Conductivity measurements are difficult at Flow 2 due to consistent low streamflow.

Figure 4.3-1: Mine Area Creek Electrical Conductivity Survey

Site-Wide Groundwater Seep Survey

A groundwater seep survey was completed in the areas of the Open Pit, Mine Area Creek, and the TSF, during a dry period in late summer (August 30 to September 1). Seventy-seven locations were visited during the survey and water quality parameters and a sample were collected at five locations. Details of the seep survey are provided in Appendix F-7.

4.3.2 Groundwater Quality Results

4.3.2.1 Annual Monitoring

A total of 130 groundwater samples were collected at 31 monitoring wells in 2025. Sampling in 2025 included quarterly sampling per the GMP as well as monthly sampling at select wells to augment the background dataset in advance of substantial construction in the vicinity of recently installed monitoring wells. Monthly groundwater sampling was also conducted at monitoring wells located downgradient of TSF C starting in Q4-2025 to monitor TSF C seepage conditions. Groundwater samples collected at the Mine in 2025 are summarized in Table 4.3-1.

The results of all groundwater quality data collected since 2016 are illustrated in time series plots displaying temporal variation in parameter concentrations in Appendix G-1. Sample results are presented as graphs of annual mean concentrations in Appendix G-2.

Groundwater quality in situ and analytical results for all groundwater samples collected in 2025 are presented in Appendix H-1. Summary statistics for groundwater sample results are provided by monitoring well location in tables in Appendix H-2, including minimum, mean, 95th percentile, and maximum concentrations. Summary statistics (mean and 95th percentile concentrations) for groundwater quality during the baseline period (2016 through 2022) and mean values for 2023 and 2024 are also presented in tables in Appendix H-2. Parameter concentrations reported as less than the DL are included in the summary statistics tables and time series plots as half the DL value for the purpose of data analysis and presentation (BC MOE 2016b).

Groundwater quality results were screened against aquatic life (AL) standards defined in the *Environmental Management Act*'s Contaminated Sites Regulation (CSR) Schedule 3.2 (BC EMA, 2025) in Appendix H-3.

A discussion on groundwater quality sample results in 2025 is provided below.

4.3.2.2 Quality Assurance and Quality Control

A quality assurance / quality control (QA/QC) program was implemented at the onset of groundwater data collection at the Mine to help identify sources of systematic and random error associated with the collection and analysis of groundwater samples (Province of British Columbia 2013). The quality of the dataset was assessed in 2025 based on adherence to pre-set data quality objectives (DQOs). DQOs provide a means of assessing the QA/QC data and determining whether the data in question are precise, accurate, representative, and complete. The results from quality control (QC) samples (travel blanks, field blanks, and duplicate samples) were reviewed to determine if sample contamination occurred, and these data were further used to determine if contamination occurred during collection, handling, storage, or shipping.

Table 4.3-1: Groundwater Sample Summary

Well ID	Location (Facility)	Sample Method	GMP Sampling Requirement[1]	Q4 Sampling Frequency	Samples Collected in 2025	2025 Sample Collection Summary				Comments
						Q1	Q2	Q3	Q4	
MW12-01D	Background	Low Flow	Quarterly	Quarterly	4	1	1	1	1	
MW12-03D	Downgradient of Deposit	Low Flow	Quarterly	Quarterly	4	1	1	1	1	
MW12-05D	Davidson Creek Headwaters	Low Flow	Annual	Annual	1	0	0	1	0	
MW12-05S	Davidson Creek Headwaters	Low Flow	Annual	Annual	1	0	0	1	0	
MW12-07D	Downgradient of TSF	Low Flow	Quarterly	Quarterly	4	1	1&D	1	1	
MW12-07S	Downgradient of TSF	Low Flow	Quarterly	Quarterly	4	1	1	1	1	
MW12-08D	Downgradient of ECD	Low Flow	Quarterly	Monthly	5	1	1	1	2	
MW12-08S	Downgradient of ECD	Low Flow	Quarterly	Monthly	5	1	1	1&D	2	
MW12-09D	Downgradient of ECD/FWR	Low Flow	Quarterly	Monthly	5	1	1	1	2	
MW12-09S	Downgradient of ECD/FWR	Low Flow	Quarterly	Monthly	5	1	1	1	2	
MW12-12D	Downgradient TSF and Camp	Low Flow	Quarterly	Quarterly	4	1	1	1	1	
MW12-12S	Downgradient TSF and Camp	Low Flow	Quarterly	Quarterly	4	1	1	1	1	
MW12-13S	Background	Low Flow	Annual	Annual	1	1	0	0	0	
GT13-44[2]	Downgradient of Deposit	3 Well Volumes (or More)[2]	Quarterly	Quarterly	4	1&D	1	1	1	
GT20-04	ECD	Low Flow	Quarterly	Monthly	5	1	1&D	1	2	
GT21-03S	ECD	Low Flow	Quarterly	Monthly	5	1	1	1	2	
MW22-02D	Downgradient of TSF C	Low Flow	Quarterly	Monthly	7	2&D	1	1	3&D	
MW22-02S	Downgradient of TSF C	-	Quarterly	Monthly	0	0	0	0	0	Well is dry.
MW22-03D	Downgradient of TSF C	Low Flow	Quarterly	Monthly	6	1	1&D	1	3	
MW22-03S	Downgradient of TSF C	Low Flow	Quarterly	Monthly	8	1	1	3	3	
MW23-01	Downgradient of Plant Site	Low Flow	Quarterly	Quarterly	4	1&D	1	1&D	1	
MW23-02D	Downgradient of Plant Site RIBs	-	Quarterly	Quarterly	0	0	0	0	-	Well historically dry. Decommissioned Sept. 6, 2025 to accommodate construction of the Plant Site Metals Water Treatment Pond.
MW23-02S	Downgradient of Plant Site RIBs	Low Flow	Quarterly	Quarterly	4	2	1	1	-	Decommissioned Sept. 6, 2025 to accommodate construction of the Plant Site Metals Water Treatment Pond.
MW23-03D[3]	Downgradient of LGO Stockpile	Low Flow/Purge and Return	Quarterly	Quarterly	4	1	1	1	1	
MW23-03S	Downgradient of LGO Stockpile	Low Flow	Quarterly	Quarterly	4	1	0	0	3	Q3 sample was collected October 2, 2025.
MW23-04D	Downgradient of Lower Waste Stockpile	Low Flow	Quarterly	Quarterly	3	0	1	1	1	No sample collected Q1 due to the transducer cable being frozen in the well and preventing access.
MW23-04S[3]	Downgradient of Lower Waste Stockpile	Low Flow	Quarterly	Quarterly	4	1	1	1	1	
MW23-05D	Downgradient of TSF C	Low Flow	Quarterly	Monthly	5	1	1	1	2	
MW23-05S	Downgradient of TSF C	Low Flow	Quarterly	Monthly	6	**2**	1	1	2	

Well ID	Location (Facility)	Sample Method	GMP Sampling Requirement[1]	Q4 Sampling Frequency	Samples Collected in 2025	2025 Sample Collection Summary				Comments
						Q1	Q2	Q3	Q4	
MW24-01D	Downgradient of LGO Stockpile	Low Flow	Quarterly	Quarterly	7	**2**	1	3	1&D	Q1 samples influenced by drilling conditions and excluded from dataset.
MW24-01S	Downgradient of LGO Stockpile	Low Flow	Quarterly	Quarterly	7	**2**	1	3	1	

Notes:

"D" indicates duplicate sample collected at well.

"Q" indicates quarterly sampling event

Samples are totalled by quarter (Q). Duplicate samples are excluded from sample count in table.

Grey shading indicates a sample was collected from the well but was excluded from the dataset.

Bold font indicates additional samples collected to augment baseline dataset prior to substantial development in area.

[1] Quarterly and annual sampling requirements are outlined in the Groundwater Monitoring Program (KP, 2025).

[2] Water in monitoring well GT13-44 has high pH and a greater volume of water is recommended to be purged from the well prior to sampling rather than using a low flow method.

[3] Monitoring well MW23-03D sampled in Q1 and Q2 by purging the water level during an initial visit and sampling using low flow methods a subsequent day. Well is slower to recharge and has elevated pH.

Upon receipt from the laboratory, the data were uploaded to KP's in-house data management system, FULCRUM, along with copies of field notes, photos, Microsoft Excel data, and Certificates of Analysis. The data were then compared to the DQOs in a timely manner. Data that did not meet the respective DQO were flagged. Flagged data were investigated and may be excluded from the data set, depending on the level of the deviation from the acceptable limits and on the suspected reason for that deviation. Data management QA/QC measures included the following additional comparisons in addition to the blank and duplicate samples:

- Comparison of dissolved and total fractions of parameters.
- Calculation of ion balance to detect error associated with the analysis of the major ionic constituents.
- Turbidity as a criterion for representative groundwater samples.

The total number of QC samples (blanks plus duplicates) is recommended to represent a minimum of 10% of the total number of samples (e.g., 1 in 10 samples) based on guidance by Canadian Council of Ministers of the Environment (CCME, 2011). A total of 130 groundwater samples and 23 QC samples (blanks plus duplicates) were collected during the groundwater sampling events conducted in 2025, which represents 15% of the total number of samples. All samples were submitted to ALS Environmental in Burnaby, BC for analysis. Results of the 2025 QAQC analysis are described briefly below and presented in detail in Appendix C of the 2025 Annual Report – Hydrogeology (KP 2026b).

- A total of seven field blank and five travel blank samples were collected in 2025 during the groundwater sampling program. At least one field and one travel blank were collected during each quarter except in Q4 a travel blank was not collected. Nitrogen (dissolved), DOC, and total silver concentrations were reported above detection in one field blank each, however detected concentrations were lower than five times the laboratory DL. No parameters were reported in any field or travel blank sample at a concentration exceeding the DQO of five times the DL.
- A total of 11 duplicate samples were collected in 2025, including three in Q1, three in Q2, two in Q3, and three in Q4. The DQO was met for all general and dissolved parameter concentrations reported in duplicate samples. The DQO was not met for total metals concentrations in fives duplicate/sample pairs, including:
  - Total aluminum, cadmium, iron, manganese, and titanium (67 to 74%) at MW12-07D in June.
  - Total manganese (MW22-02D in January and December; GT20-04 in June).
  - Total aluminum (MW24 01D in December).
- Total concentrations are expected to exhibit some variation due to differences in suspended sediment in the sampled water. No samples or parameters were rejected from the dataset based on the duplicate sample analysis.
- Ion balances were calculated for all samples. The calculated ion balances for all groundwater samples were below the DQO of 10%, except for the Q3 sample from MW24-01S. The ion balance was 12.4% slightly exceeding the target criterion of less than 10%. The sample was not excluded due to the low magnitude of the exceedance and the absence of other QA/QC concerns.
- Dissolved and total metals and organic carbon concentrations in all samples were compared and highlighted if the reported concentration of a dissolved analyte is greater than the concentration of the total analyte. Results that were outside the historical range of concentrations and excluded following the QA/QC review include:
  - GT13-44, Q3 sample – Dissolved barium, chromium, and molybdenum.
  - MW24-01S, Q3 sample – Dissolved titanium and zirconium.

  - MW24-01S, Q4 sample – Dissolved and total concentrations of molybdenum, titanium and zirconium. Sample results were influenced by elevated turbidity (as discussed below), and all dissolved and total metals results were excluded.

- The accepted methods for groundwater quality sampling (BC ENV, 2016) indicate low turbidity (i.e., less than 50 NTU) as a criterion for representative groundwater samples. The following samples reported in-situ or laboratory turbidity values above the DQO of 50 NTU:
  - The Q3 sample collected from monitoring well MW24-01D reported a laboratory turbidity value above the DQO of 50 NTU; however, the in-situ turbidity measurement was below 50 NTU. Samples collected from MW24-01D in 2025 reported increasing concentrations of dissolved iron (increasing from < 1 mg/L to 6 mg/L), which are the highest concentrations reported in samples from groundwater monitoring wells at the Mine. The elevated laboratory turbidity is suspected to be caused by precipitation of iron (and possibly other metals) in the unpreserved general chemistry sample bottle resulting in laboratory turbidity values higher than the corresponding in situ measurements of <10 NTU. No analytical results from MW24-01D were excluded based on the laboratory turbidity values.
  - Water purged from monitoring well MW24-01S typically has *in situ* turbidity ranging from 15 to 35 NTU. The Q3 sample collected from monitoring well MW24-01S reported a laboratory turbidity value above the DQO of 50 NTU and an in-situ turbidity measurement below 50 NTU. The *in situ* and laboratory turbidity values for the Q4 sample were 75 and 94 NTU, respectively. Several total and dissolved metals results in the Q4 sample were reported at concentrations higher than the typical historic range and as a result all total and dissolved metals Q4 sample results were excluded from the dataset based on the elevated *in situ* and laboratory turbidity values. Field staff were unaware of a cause for the elevated turbidity. Results from the Q3 sample were not excluded from the dataset.
  - The December 2025 sample from MW22-03S was collected using a bailer, with only 3 litres purged prior to sampling. This sampling method may have disturbed bottom sediments, resulting in elevated turbidity in the sample. Several total and dissolved metals results were elevated above historic concentrations and were excluded from the dataset based on the elevated *in situ* and laboratory turbidity values.
- High groundwater pH values (in situ and laboratory values greater than 10) typically indicate grout contamination of the well. Several wells have reported elevated in-situ pH values and additional efforts have been made to purge water from the wells to reduce the pH. The December sample from monitoring well MW23-03D reported an *in situ* pH above 10 at the time of sample collection; however, the laboratory pH remained below 10. This monitoring well displays effects of grout contamination and as a result a larger volume of water than the minimum volume for low flow sampling typically needs to be purged from the well for the pH to decrease to approximately 8.5. The December sample was collected when the pH was still decreasing. Dissolved metals parameter concentrations are within the historic range and were not excluded from the dataset. Concentrations of alkalinity, calcium, and magnesium were lower than the historic range and have been flagged for review against future samples.

The following additional parameters or sample results were flagged or excluded from the dataset as part of the QA/QC review of the groundwater quality data:

- The Q1 and Q2 2025 samples collected from monitoring well MW24-01D were excluded from the dataset. The water quality of the samples appears to be influenced by the water used during drilling and installation of the well. The two samples collected in 2024 (November and December), shortly after installation of the monitoring well, were also excluded from the data set as part of this review.
- In 2022, zinc contamination was identified in monitoring wells and was attributed to the use of galvanized cables and fittings to suspend pressure transducers in monitoring wells. These non-stainless steel

materials were present in monitoring wells installed in 2019 and in wells equipped with seasonally installed Well Buster plugs to prevent freezing. All identified non-stainless steel materials were replaced with stainless steel components in March 2023. Total and dissolved zinc results in samples collected from monitoring well MW12-05D in 2025 are excluded from the dataset due to the continued presence of elevated zinc concentrations consistent with previously identified contamination sources.

- Zinc contamination was identified in the following additional isolated samples collected in 2025:
  - Groundwater samples collected on March 30, 31, and April 27 (MW12-01D, MW23-01, and MW23-02S) reported total and dissolved zinc concentrations above the typical range at each well and results appear to be influenced by a source of zinc contamination. The duplicate sample collected from MW23-01 during this sample event (March 30) also reported elevated concentrations of total and dissolved zinc. Total and dissolved zinc concentrations for the Q1 samples from MW12-01D, MW23-01, and MW23-02S were excluded from the dataset.
  - The dissolved zinc concentration reported in the December 8 sample from MW23-01 was excluded from the dataset. The result was excluded due to an RPD of 17% between total and dissolved zinc and because the dissolved zinc concentration was higher than the historical range observed at this monitoring well.

4.3.2.3 Trends in Groundwater Concentration

Trends in measured water quality were assessed visually using the time series graphs of parameter concentrations in Appendix G-1 and graphs of annual mean concentrations in Appendix G-2. A summary of the trend analysis results is provided in Table 4.3-2. Results are discussed in the sections that follow.

The following discussion provides a review of the water quality at monitored sites with a focus on samples collected in the 2025 reporting period as well as a discussion of trends since the baseline monitoring period (2016 through 2022).

Parameters reported at concentrations exceeding CSR-AL standards are identified below and listed in Table 4.3-2.

Physical Parameters and Major Ion Chemistry

Background groundwater in the Mine area varies from slightly acidic to slightly basic, soft to very hard, and with low to high alkalinity. Samples from shallow monitoring wells screened near the water table generally report lower pH, hardness, alkalinity, and TDS than deeper monitoring wells.

The mean *in situ* pH at monitoring sites in 2025 ranged from 5.6 to 8.4. Exceptions include monitoring wells GT13-44, MW23-03D, and MW23-04S where elevated pH in samples is attributed to impacts from drilling. Consistent with 2024, lower values of in situ pH (at or below 6) in groundwater were reported at several shallow monitoring wells where the depth to water is a few metres below ground surface, including MW23-02S and MW23-03S.

Table 4.3-2: Summary of Trends in Groundwater

Mine Area	Monitoring Well	2025 Sample Count	Major Ion Trends in 2025	Dissolved Metals Trends in 2025	2025 Parameters Above CSR-AL[2,3]	Notes
Background	MW12-01D	4	No trend	No Trend	-	-
	MW12-05D	1	No trend	No trend	-	One single sample collected in 2025.
	MW12-05S	1	No trend	Decreasing Co since installation.	-	One single sample collected in 2025.
	MW12-13S	1	No trend	No trend	-	One single sample collected in 2025.
Stockpiles	MW23-03D	4	Decreasing Total Alkalinity, SO_4, Ca since installation	Increasing for Ba and decreasing for U since installation.	-	Trending parameters are measured at the same range in concentration as other monitoring wells in the Stockpiles Area and are not considered elevated.
	MW23-03S	4	Increasing for Cl since installation. Increased in October then decreasing for acidity, NO_3, SO_4, Na. Decreased DOC	Decreasing in As, Co, Mn. Increased in October then decreasing for Ba, Sr.	-	-
	MW23-04D	3	No trend	No trend	-	-
	MW23-04S	4	No trend	No trend	-	-
	MW24-01D(A)	7	< 1 Year Record (Decreasing NH_3)	< 1 Year Record (Increasing Fe. Decreasing Mn)	-	Sampling began Nov. 2024. Shift in water quality observed in Q2 2025 attributed to influence of water used during well drilling and installation on earlier samples. Early samples have been excluded from the dataset.
	MW24-01S	7	No trend	No trend	-	Sampling began Nov. 2024. Q3 and Q4 samples in 2025 had elevated and high turbidity.
TSF	MW12-07D	4	No trend	No trend	-	-
	MW12-07S	4	No trend	No trend	-	-
	MW12-08D	5	No trend	No trend	-	-
	MW12-08S	5	No trend	No trend	-	-
	MW12-09D	5	No trend	No trend	-	-
	MW12-09S	5	No trend	Decreasing in As	-	-
	GT20-04	5	No trend	No trend	-	-
	GT21-03S	5	Increasing Aug. & Oct. then decreasing Nov. for Cl, Ca, Mg, K, Na, SO_4, Nitrogen (NO_3, NO_2, NH_3)	Increasing Aug. & Oct. then decreasing Nov. for Ba, Co, Sr, U. Decreased As and Cr once seepage signature arrives.	Co	TSF seepage signature observed. Dissolved oxygen decreases and DOC increases Oct. 2025.
	MW22-02D	7	No trend	No trend	-	
	MW22-03D	6	Increasing in Total Alkalinity, Cl, Ca, Mg, K, Na, Nitrogen (NO_3, NO_2, NH_3), SO_4, DOC	Increasing in Ag, As, Ba, Cd, Co, Cu, Hg, Ni, Sr, Se, U.	NO_2, WAD Cyanide, Co, Ni, Ag	TSF seepage signature observed. Dissolved oxygen decreases Oct. 2025 and DOC increases Nov. 2025.
	MW22-03S	8	Increasing in Total Alkalinity, NO_3	No trend	-	-
	MW23-05D	5	Increasing in Ca, SO_4, Nitrogen (NO_3, NO_2, NH_3)	Increasing in Co	-	TSF seepage signature observed.
	MW23-05S	6	Increasing in NO_3	No trend	-	-
Plant Site	MW23-01	4	No trend	No trend	-	-
	MW23-02S	4	Increasing in Cl, NO_3	No trend	-	-

Mine Area	Monitoring Well	2025 Sample Count	Major Ion Trends in 2025	Dissolved Metals Trends in 2025	2025 Parameters Above CSR-AL[2,3]	Notes
Camp	MW12-12D	4	No trend	Increasing in Sb	-	
	MW12-12S	4	No trend	No trend	-	-
Deposit	MW12-03D	4	Increasing Total Alkalinity since installation	No trend	-	-
	GT13-44	4	Increasing Total Alkalinity since installation	No trend	-	-

Notes:

As = arsenic; Ba = barium; Ca = calcium; Cl = chloride; Co = cobalt; Cr = chromium; DOC = dissolved organic carbon; Hg = mercury; K = potassium; Mg = magnesium; Mn = manganese; NH_3 = ammonia; Ni = nickel; NO_2 = nitrite; NO_3 = nitrate; S = sulfur; Sb = antimony; Se = selenium; SO_4 = sulphate; Sr = strontium; U = uranium; Na = sodium.

[1] *Trend assessed with graphical analysis using the time series plots (Appendix G-1) and annual mean concentrations (Appendix G-2).*

[2] *All metals concentrations refer to dissolved metals (D-).*

[3] *CSR-AL = Contaminated Sites Regulations (CSR) Aquatic Life (AL) Standards. BC* Environmental Management Act*, 2025.*

Background groundwater at the Mine in is generally classified as a calcium bicarbonate ($Ca\text{-}HCO_3$) hydrochemical water type, as calcium and bicarbonate are the dominant cation and anion, respectively. Groundwater piper trilinear diagrams (piper plots) presenting the hydrochemical composition for samples collected from each individual monitoring well are presented in the 2025 Annual Report – Hydrogeology Appendix H1 (KP, 2026b). Comparison of the composition of major anions and cations on the piper plots for mine development areas demonstrates that the composition of major constituents in groundwater in 2025 changed compared to baseline (2016-2022) groundwater conditions at a few monitoring wells in the TSF C and Stockpiles areas. Shifts in the groundwater composition toward an increase in sulphate composition occurred at the following monitoring wells:

- TSF C area: GT21-03S, MW22-03D, and MW23-05D, and a seasonal shift at shallow MW23-05S
- Stockpiles area: MW23-03S

Consistent with previous years, background monitoring well MW12-01D reported among the highest mean concentrations of calcium, magnesium, sodium, and bicarbonate (alkalinity). The highest mean concentrations of chloride, sulphate, TDS, hardness, and specific conductivity in 2025 were reported at MW22-03D, located downgradient of TSF C. Mean sulphate and TDS concentrations at MW22-03D were substantially elevated relative to other monitoring wells, reflecting increases in concentration during the final quarter of 2025.

Groundwater Quality Trends

Background Area

Monitoring wells located in background areas upgradient or side gradient of mine development did not display changes in groundwater quality from baseline conditions in 2025. The only exception is a decreasing trend in dissolved cobalt concentration observed at monitoring well MW12-05S since installation of the well. The dissolved cobalt concentration in early samples from the well was among the highest concentration measured in baseline groundwater and appears to slowly be equilibrating with formation conditions over time. The measured dissolved cobalt concentration in 2025 was 0.0001 mg/L.

TSF Area

A buried glaciofluvial channel deposit was identified as a potential pathway for TSF seepage in the most recent baseline groundwater report and numerical modelling submitted in the Joint MA/EMA Application (KP, 2021a, 2021b). Three monitoring wells screened in the buried glaciofluvial unit immediately downgradient of TSF C in the vicinity of the IECD evidenced a water quality signature representative of TSF seepage in the latter months of 2025.

- GT21-03S: Parameters indicative of TSF seepage (i.e., specific conductivity, sulphate, nitrate, nitrite, cyanide (WAD), and dissolved cobalt) were initially detected at concentrations above background in the Q3 sample collected from shallow groundwater at monitoring well GT21-03S. Follow-up sampling in October reported concentrations greater than measured in the August sample, including dissolved cobalt (0.053 mg/L) at a concentration above the CSR-AL standard of 0.04 mg/L. Concentrations of seepage parameters subsequently decreased in the November sample. This decrease is attributed to operation of pumping wells PW24-01 and PW24-02 as a mitigation measure for seepage capture. Monitoring well GT21-03S is located adjacent to the IECD and slightly downgradient of pumping well PW24-02.
- MW22-03D: Monitoring well MW22-03D is a sentinel well, located between Main Dam C and pumping well PW24-01, and is screened in the buried glaciofluvial deposit. A TSF seepage signature was initially observed in the October sample collected from monitoring well MW22-03D. Concentrations continued to increase in samples collected from the monitoring well in November and December, as would be expected since the monitoring location is upgradient of the operational seepage capture wells. Highest concentrations of TSF seepage parameters in the Mine groundwater were reported in

samples collected from monitoring well MW22-03D, including specific conductivity, chloride, sulphate, nitrite, ammonia, WAD cyanide, and dissolved cobalt, nickel, and silver (Appendix H-1). Concentrations in samples collected from MW22-03D were reported above CSR-AL standards for nitrite-N (0.55 mg/L), WAD cyanide (3.47 mg/L), and dissolved cobalt (0.25 mg/L), nickel (0.79 mg/L) and silver (0.0098 mg/L).

- MW23-05D: Monitoring well MW23-05D is located near the inferred outer boundary of the buried glaciofluvial channel deposit. An increasing trend in specific conductivity and sulphate, nitrate, nitrite, and dissolved cobalt concentrations was identified in November and December samples collected from the well. Cyanide species were detected in the December 2025 sample. Measured concentrations in samples from monitoring well MW23-05D were reported below CSR-AL standards for all parameters.

In addition to the parameters that are early indicators of TSF seepage, other changes in water quality attributed to TSF seepage included decreased *in situ* dissolved oxygen and increased concentrations of dissolved organic carbon (DOC), and dissolved metals such as barium, cadmium, copper, mercury, nickel, selenium, silver, sodium, strontium, and uranium. These increased concentrations are most evident at the sentinel monitoring well MW22-03D and are less evident or unchanged at the slightly more downgradient monitoring wells GT21-03S and MW23-05D.

Trends in groundwater quality indicative of a TSF seepage signature were not detected downgradient of the IECD or at monitoring locations outside the of the buried glaciofluvial channel deposit. These downgradient sites include monitoring wells adjacent to the IECD (GT20-04) and monitoring wells located downgradient in the areas of the proposed ECD and FWR (MW12-07D/S, MW12-08D/S, and MW12-09D/S). Detection of TSF seepage in groundwater in 2025 therefore remained in a limited area downgradient of the TSF in the vicinity of the IECD. None of these downgradient monitoring wells reported sample concentrations exceeding CSR-AL standards.

Similar to 2023 and 2024, monitoring wells screened in shallow overburden (MW22-03S and MW23-05S) depicted a slight and continued increase in nitrate concentration since installation (up to 0.24 mg/L). This increase is interpreted to be attributed to infiltration to the water table and unrelated to TSF seepage given that other water quality parameters indicative of TSF seepage do not display a similar trend.

Stockpiles Area

In the Stockpiles area, sulphate and nitrate concentrations elevated above background concentrations were measured in samples collected in 2025 from monitoring well MW23-03S. Concentrations increased above background concentrations in the groundwater sample collected in early October (to 16.4 mg/L sulphate and 2.76 mg/L nitrate-N), and measured concentrations subsequently decreased in follow-up samples collected late-October and December. A trend of increasing chloride concentration is observed at the monitoring well since installation, with concentrations reported up to 2.38 mg/L in December. The groundwater chemistry at the monitoring well is suspected to be influenced by the placement of blasted non-acid generating (NAG) waste rock on the haul road immediately adjacent to the monitoring well. The increased concentrations at monitoring well MW23-03S are orders of magnitude below CSR-AL standards.

Slight trends in concentration in samples collected from monitoring well MW23-03D are evident since installation of the well, including increases in concentration of dissolved barium (up to 0.05 mg/L) and decreasing concentrations of alkalinity, sulphate, calcium and dissolved uranium. The dissolved barium concentration remained orders of magnitude below the CSR guideline of 10 mg/L. Measured concentrations in samples from MW23-03D are within the same range as groundwater from other monitoring wells in the Stockpiles area and are not considered elevated. The trends in concentration are attributed to elevated pH conditions at the monitoring well, caused by grout contamination or slow equilibration of groundwater conditions in the bedrock following installation of the well, rather than an influence of mine development.

No trends in groundwater concentrations were observed at any other monitoring wells in the Stockpiles Area (Table 4.3-2). No samples collected in the Stockpiles area were reported at concentrations exceeding CSR-AL standards. No changes in groundwater quality in the Stockpiles area are attributed to stockpiling of LGO that began in the area in 2025.

Plant Site Area

Within the Plant Site area, groundwater concentrations remained consistent with or lower than concentrations measured in 2024.

Concentrations in 2025 at monitoring well MW23-02S located south of the Plant Site were typically below concentrations measured in 2024. This decrease in concentration is attributed to discontinuing use of the former Plant Site Rapid Infiltration Basins (RIBs) to manage surface runoff in mid-2024 and runoff instead being collected in a Sediment Control Pond and directed to the Mill. A trend of increasing concentration of chloride and nitrate are observed since installation of the monitoring well, with chloride concentrations reported up to 5.4 mg/L and nitrate (as N) concentrations reported up to 0.42 mg/L. Both parameters are well below the CSR-AL standard concentrations of 1,500 mg/L for chloride and 400 mg/L for nitrate (as N). The monitoring well was decommissioned in September 2025 to accommodate construction of the Plant Site Metals Water Treatment Pond. The slight increase in chloride and nitrate concentrations is also observed at shallow groundwater wells in the Stockpiles and TSF areas.

Groundwater conditions at the monitoring well north of the Plant Site (MW23-01) were consistent with previous years and no influence of mine development is observed.

Operations Camp Area

Monitoring wells MW12-12D/S located in the Operations Camp Area did not display changes in groundwater quality attributed to mine development in 2025. Dissolved antimony concentrations do increase relative to baseline, from less than 0.0005 mg/L in the baseline period, to 0.0014 mg/L in the Q4 2025 sample. Dissolved antimony concentrations remain below the CSR-AL standard of 0.09 mg/L.

4.3.3 Comparison to Environmental Assessment

4.3.3.1 Methods

Comparison to Model Predictions

DS Condition 3.15.3 requires that results from groundwater quality and quantity monitoring were compared to predictions made in the EA for nitrite and contaminants of potential concern as follows:

- Section 5 of Blackwater Gold Project: Additional Water Quality Model Sensitivity Scenario (July 20, 2017).
- Section 3 of Blackwater Gold Project: Water Treatment Responses for Comments 1266, 1270, 1271, 1272, and 1273 (February 15, 2017).
- The two documents referenced by DS 3.15.3 specifically focus on Closure and Post-Closure water quality. Section 5 of the July 20, 2017, document provides summary statistics of predicted surface water quality in TSF D supernatant and Davidson Creek (WQ26) in Post-closure. Section 3 of the February 15, 2017, document provides predicted surface water quality in the TSF D Pond, TSF D spillway, plunge pool, and Davidson Creek (WQ26) in Closure and Post-closure. Predicted water quality predictions made in the EA for mine facilities during Construction and Operations are presented in Section 5 of the Updated Surface Water Quality Model Report (ERM 2016b) and appears to be more relevant than the references provided in DS Condition 3.15.3. The predicted geochemical source term for tailings seepage from the EA is presented in Table 4.3-3 reproduced from Table E-3 of ERM (2016b).

Table 4.3-3: Geochemical Source Terms for Tailings Seepage

Parameter	Average Concentration from Saturated Columns (mg/L)
Alkalinity (as $CaCO_3$)	129
Sulphate (SO_4^-)	2,300
Nitrate (NO_3^-)	0.005
Nitrite (NO_2^-)	0.01
Total Cyanide	0.1
Weak-acid Dissociable Cyanide	0.015
Aluminum	0.002
Antimony	0.00595
Arsenic	0.00305
Barium	0.0346
Boron	0.0291
Cadmium	0.000052
Calcium	446
Chromium	0.0001
Cobalt	0.034
Copper	0.0001
Iron	0.09
Lead	0.00012
Magnesium	20.7
Manganese	7.2
Molybdenum	0.035
Nickel	0.0073
Phosphorus	0.001
Selenium	0.00035
Silver	0.000005
Uranium	0.00545
Zinc	0.55
Chloride	19
Fluoride	0.02
Ammonia	33.5

Source: Table E-3 in ERM (2016b).

Note:

Average concentration-based results of two saturated columns.

The Project's potential effects on groundwater quality and quantity were described together with surface water quality and quantity in Section 6.1 of the Federal Assessment Report (CEA Agency 2019). These predicted effects are discussed in Section 3.4.2. Following the issuance of the CEA Agency (2019) assessment report, updated groundwater modelling (KP 2021b) and water quality modelling (Lorax 2022) were completed to reflect Mine optimizations, in addition to an updated baseline groundwater dataset. The assessment nodes at which water quality was predicted in the EA and the 2022 model are presented in Table 3.4-1.

Water quality and water level results were compared against background parameter concentrations and water levels to identify potential seepage pathways. If potential seepage is identified, the increase in measured parameter concentrations will be used to estimate seepage rates and groundwater flow velocities that will then be compared against predicted rates and velocities from the numerical groundwater modelling (KP 2021b). Measured concentrations of parameters are to be compared against concentrations in TSF seepage predicted in the EA and against updated predictions of seepage concentrations originating from TSF C, TSF D, LGO Stockpile, Upper and Lower Waste Stockpiles, and Plant Site presented in the Joint MA/EMA Application (BW Gold 2022).

Development of the Mine in 2025 included development of the Open Pit, TSF C (Main Dam C), LGO Stockpile Stage, and Plant Site infrastructure. Deposition of tailings in TSF C commenced in January 2025, and potentially acid generating waste rock continued to be placed in TSF C in 2025. Construction of the LGO Stockpile Stage 1 liner and associated water management infrastructure was ongoing in 2025. LGO stockpiling commenced in March 2025.

Measured groundwater concentrations are compared to EA predicted concentrations of TSF seepage in the sections below. Measured groundwater concentrations are also compared against predicted seepage concentrations from the 2022 model, including the Plant Site seepage source term, TSF C Year 1 seepage source term, and LGO Year 1 seepage source term. Seepage source terms included in the 2022 model are presented in the *Geochemistry Source Term Report* (Lorax 2021).

The comparison between measured and predicted concentrations presented below is focused on parameters identified as Parameters of Potential Concern (POPC) in untreated effluent in the Aquatic Effects Monitoring Program Plan (AEMP; ERM 2025).

The applicable CSR-AL standard values are indicated in the Tables in the section that follows for reference. A discussion of parameters that were measured in samples above CSR-AL standard concentrations is provided in Section 4.3.2.3 and summarized in Table 4.3-2.

4.3.3.2 Results

Plant Site

Seepage from the Plant Site area may originate as diffuse seepage from the Plant Site footprint. The predicted Plant Site seepage source term concentrations (Lorax, 2021) incorporated in the 2022 model are presented in Table 4.3-4 along with the measured 2025 groundwater sample results for monitoring wells located downgradient of the Plant Site (MW23-01 and MW23-02S).

Dissolved chromium in samples from monitoring well MW23-01A was the only POPC measured in 2025 at concentrations above the Plant Site seepage predictions. The 2025 measured dissolved chromium concentrations at MW23-01D are within the historic range of concentrations during the baseline period and the reported concentrations are not considered an influence of mine development. Measured groundwater concentrations in the Plant Site area are consisted with, or less than, modelled seepage predictions.

Table 4.3-4: Comparison of Measured 2025 Plant Site Area Groundwater to 2022 Model Plant Site Seepage Predictions

POPC	Mine Site Source Term (Base Case)[1]	MW23-01				MW23-02S				CSR-AL[2]
		Q1 Mar-25	Q2 Jun-25	Q3 Aug-25	Q4 Dec-25	Q1 Jan-25	Q2 Mar-25	Q3 Apr-25	Q4 Jul-25	
Sulphate	88	0.66	0.58	0.47	0.5	0.64	1.21	0.78	1.84	3090
Ammonia (Dissolved)	0.06	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	0.007	< 0.0025	-
Nitrate (as N)	3.5	0.139	0.133	0.124	0.146	0.288	0.292	0.328	0.42	400
Nitrite (as N)	0.037	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.2
Aluminum (Dissolved)	0.0063	0.002	0.0032	0.0014	0.0014	0.0042	0.0038	0.0027	0.0019	-
Antimony (Dissolved)	0.014	0.00016	0.00017	0.00017	0.00016	0.00005	0.00005	0.00005	0.00005	0.09
Arsenic (Dissolved)	0.023	0.00116	0.00118	0.00124	0.00115	0.00024	0.00024	0.00017	0.00024	0.05
Beryllium (Dissolved)	0.00099	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.0015
Cadmium (Dissolved)	0.0005	0.000003	0.000006	0.000003	0.000003	0.000014	0.000007	0.00002	0.000008	0.0015
Chromium (Dissolved)	0.00022	**0.00066**	**0.00072**	**0.00068**	**0.00064**	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.01 (3)
Cobalt (Dissolved)	0.0061	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00015	<0.0001	0.04
Copper (Dissolved)	0.0032	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00028	< 0.0002	0.00029	< 0.0002	0.02
Iron (Dissolved)	0.0034	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-
Lead (Dissolved)	0.00066	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.04
Manganese (Dissolved)	0.67	0.00057	0.0005	0.00034	0.00029	0.00199	0.00186	0.00228	0.00118	-
Mercury (Dissolved)	0.000079	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.00025
Nickel (Dissolved)	0.0061	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00148	< 0.0005	0.25
Silver (Dissolved)	0.00011	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.0005
Zinc (Dissolved)	0.028	-	0.0005	0.0005	-	0.0023	0.0012	-	0.0005	0.075

Notes:

Units are mg/L unless otherwise stated.

Bold font indicates value exceeds source term prediction.

POPC = Parameter of Potential Concern (AEMP; ERM; 2025).

[1] Seepage source term concentrations are from Table 4-15 of Geochemistry Source Term Report (Lorax 2021).

[2] CSR-AL = Contaminated Sites Regulations (CSR) Aquatic Life (AL) Standards. BC Environmental Management Act*, 2025. BC Reg. 375/96. For standards that are hardness, pH, or chloride dependent, the indicated value represents the lowest standard applicable to either well.*

[3] Based on the standard for hexavalent chromium, as there is no standard for total chromium.

TSF C

The predicted concentrations of POPCs in TSF C seepage from the EA (ERM 2016b) and incorporated in the 2022 model (Appendix C1-1 in Lorax 2021) are presented in Table 4.3-5. These predicted concentrations are compared against the range of measured concentrations (minimum, mean, and maximum) of POPCs in all samples collected in 2025 from monitoring wells downgradient of TSF C in Table 4.3-5. Results of individual samples collected from each monitoring well are compared against predicted concentrations in Table H-4.1 in Appendix H-4. Monitoring wells located downgradient of TSF C include MW12-07D/S, MW12-08D/S, MW12-09D/S, GT20-04, GT21-03S, MW22-02D, MW22-03D/S, and MW23-05D/S.

Several parameters measured at concentrations above predicted concentrations are within the range of baseline concentrations at the monitoring wells, including dissolved aluminum, chromium, and arsenic. These parameters are highlighted in Table 4.3-5 and Table H-4.1 but are not considered an influence of mine development in the identified samples.

Predicted concentrations of nitrogen species (ammonia, nitrate, nitrite) in the TSF C seepage source terms in the 2022 model assumed all nitrogen would be in the form of ammonia rather than nitrate or nitrite. Samples for most monitoring wells have measurable concentrations of nitrate in the baseline groundwater that are naturally higher than the predicted TSF seepage concentrations in the EA and 2022 model.

Groundwater in the area immediately downgradient of TSF C at monitoring wells MW22-03D, GT21-03S, and MW23-05D showed a TSF seepage signature in 2025 with the following parameters measured at concentrations above the TSF C seepage predictions in the EA and the 2022 model:

- MW22-03D: Samples collected in Q4 from the sentinel monitoring well MW22-03D exceeded the EA seepage predictions for nitrate, nitrite, WAD cyanide, and dissolved cobalt, cadmium, copper, nickel, and silver. Samples in Q4 also exceeded the predicted ammonia concentration included in the 2022 model. Samples from this monitoring well provide an indication of TSF C seepage water quality upstream of mitigations.
- GT21-03S: The Q3 sample from monitoring well GT21-03S exceeded the EA seepage prediction for nitrate, nitrite, and WAD cyanide. The October sample also reported concentrations above the dissolved cobalt and aluminum prediction and the WAD cyanide prediction. Concentrations in the November sample were below predicted concentrations (for both the EA and 2022 model) for all POPCs except for a detected concentration of nitrate.
- MW23-05D: The December sample from monitoring well MW23-05D exceeded the upper case seepage prediction for WAD cyanide and had a measurable concentration of nitrate.

Table 4.3-6 and Table 4.3-7 summarize the maximum magnitude of exceedance for POPCs detected in samples at concentrations above the EA and 2022 model predictions, respectively, for monitoring wells influenced by TSF C seepage. Concentrations measured at the sentinel monitoring well MW22-03D, which is most representative of the TSF C seepage source given that it is upstream of mitigations, reported parameters more than 100 times higher the predicted concentrations in either the EA or the 2022 model for nitrate, cyanide (WAD), and dissolved copper, nickel, and silver.

A list of the groundwater quality parameters measured in monitoring wells downgradient of TSF C at concentrations above the predicted concentrations in the EA and/or the 2022 model is provided in Table 4.3-8.

Table 4.3-5: Comparison of Measured 2025 TSF Area Groundwater to 2022 Model TSF (Year 1) Seepage Predictions and EA Predictions

POPC	Baseline (2016-2022) Sample Values		EA Prediction[1]	2022 Model Year 1 TSF C Seepage Prediction[2]	2025 Sample Values[3]			Comments	CSR AL[4]
	Minimum	Maximum			Minimum	Mean	Maximum		
Sulphate	3.02	8.18	2,300	1,380	0.72	21	517		3,090
Ammonia	<0.005	0.0508	33.5	6.43	<0.005	0.143	**7.24**	Dec. sample from MW22-03D	-
Nitrate (as N)	0.0343	0.0943	0.022	0	**0.003**	**0.153**	**3.33**	Samples from MW22-03D, GT21-03S, and MW23-05D	400
Nitrite (as N)	<0.001	0.0027	0.033	0	<0.001	**0.015**	**0.546**	Q4 samples from MW22-03D	0.2
Cyanide (WAD)	<0.005	<0.005	0.015	0.00102	<0.005	**0.055**	**3.47**	Q3 and Q4 samples from GT21-03S; Q4 samples from MW22-03D and MW23-05D	0.05
D-Aluminum	<0.001	0.0133	0.002	0.0196	<0.001	0.002	0.014		-
D-Antimony	<0.0001	0.00014	0.00595	0.0195	<0.0001	0.0001	0.0003		0.09
D-Arsenic	0.00087	0.00395	0.00305	0.0145	<0.0001	0.001	0.004		0.05
D-Beryllium	<0.00002	<0.00002	-	0.00005	<0.00002	<0.00002	<0.00002		0.0015
D-Cadmium	<0.000005	0.000106	0.000052	0.00007	<0.000005	0.00001	0.000065		0.0005
D-Chromium	0.00074	0.00159	0.0001	0.001	<0.0005	0.0008	**0.002**	Chromium in baseline groundwater in downstream Davidson Creek is naturally above 0.001 mg/L	0.01 (5)
D-Cobalt	<0.0001	<0.0001	0.034	0.0476	< 0.0001	0.0074	**0.25**	Highest concentrations in MW22-03D Q4 samples	0.04
D-Copper	<0.0002	0.00052	0.0001	0.0005	<0.0002	0.00029	**0.010**	Highest concentrations in MW22-03D Dec. sample	0.02
D-Iron	<0.01	0.018	0.09	0.359	<0.01	<0.01	0.011		-
D-Lead	<0.00005	0.000114	0.00012	0.0001	<0.00005	<0.00005	<0.00005		0.04
D-Manganese	<0.0001	0.011	7.2	0.153	<0.0001	0.006	0.089		-
D-Mercury	<0.000005	5E-006	-	0.00005	<0.000005	<0.000005	0.0001		0.00025
D-Nickel	<0.0005	<0.0005	0.0073	0.0005	<0.0005	**0.013**	**0.791**	Q4 samples from MW22-03D	0.25

POPC	Baseline (2016-2022) Sample Values		EA Prediction[1]	2022 Model Year 1 TSF C Seepage Prediction[2]	2025 Sample Values[3]			Comments	CSR AL[4]
	Minimum	Maximum			Minimum	Mean	Maximum		
D-Silver	<0.00001	<0.00001	0.000005	0.00005	<0.00001	**0.0001**	**0.010**	Dec. sample from MW22-03D	0.0005
D-Zinc	<0.001	0.0063	0.55	0.005	<0.001	< 0.001	0.004		0.075

Notes:

Units are mg/L unless otherwise stated.

Bold font indicates value exceeds source term prediction.

POPC = Parameter of Potential Concern (AEMP; ERM; 2025).

[1] EA predictions of TSF C seepage source term concentrations from Table E-3 in ERM (2016b).

[2] 2022 Model predictions for Year 1 TSF C seepage concentrations from Appendix C-1.1 of Geochemistry Source Term Report (Lorax 2021).

[3] Minimum, mean, and maximum concentrations for all samples collected at monitoring wells located downgradient of TSF C.

[4] CSR-AL = Contaminated Sites Regulations (CSR) Aquatic Life (AL) Standards. BC Environmental Management Act*, 2025. BC Reg. 375/96. For standards that are hardness, pH, or chloride dependent, the indicated value represents the lowest standard applicable to all monitoring wells in the TSF Area.*

[5] Based on the standard for hexavalent chromium, as there is no standard for total chromium.

Table 4.3-6: 2025 Groundwater Quality Greater than EA Predictions for POPCs Downgradient of TSF C

Monitoring Well	Total Samples	Nitrate		Nitrite		Cyanide (WAD)		Dissolved Cadmium		Dissolved Cobalt		Dissolved Copper		Dissolved Nickel		Dissolved Silver	
		Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.
GT21-03S	5	33	4	3	1	2	2	-	0	2	1	-	0	-	0	-	0
MW22-03D	6	151	6	17	2	231	3	1	1	7	3	103	3	108	2	1958	1
MW23-05D	5	14	5	3	1	-	0	-	0	-	0	-	0	-	0	-	0

Notes:

'Factor' represents the magnitude the highest sample parameter concentration from the monitoring well exceeds the predicted seepage concentration presented in Appendix C1-1 of Geochemistry Source Term Report (Lorax 2021).

'No.' indicates the number of samples with parameter concentrations greater than the seepage source term concentration.

Dashes indicate the measured groundwater parameter concentration is less than the seepage source term concentration.

Sample results are shown for measured parameters above background conditions and above predicted concentrations.

Table 4.3-7: 2025 Groundwater Quality Greater than 2022 Model Predictions for POPCs Downgradient of TSF C

Monitoring Well	Total Samples	Ammonia		Nitrate		Nitrite		Cyanide (WAD)		Dissolved Cobalt		Dissolved Copper		Dissolved Nickel		Dissolved Silver	
		Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.	Factor	No.
GT21-03S	5	-	0	>	5	>	2	33	2	1	1	-	0	-	0	-	0
MW22-03D	6	1	1	>	6	>	5	3402	3	5	3	21	1	1582	2	196	1
MW23-05D	5	-	0	>	5	>	2	8	1	-	0	-	0	-	0	-	0

Notes:

> = Factor can not be calculated. The 2022 model assumed all nitrogen was in the form of ammonia and the predicted nitrate and nitrite concentrations were 0 mg/L.

'Factor' represents the magnitude the highest sample parameter concentration from the monitoring well exceeds the predicted seepage concentration presented in Appendix C1-1 of Geochemistry Source Term Report (Lorax 2021).

'No.' indicates the number of samples with parameter concentrations greater than the seepage source term concentration.

Dashes indicate the measured groundwater parameter concentration is less than the seepage source term concentration.

Sample results are shown for measured parameters above background conditions and above predicted concentrations.

Table 4.3-8: 2025 Groundwater Quality Parameters Greater than Model Predictions Downgradient of TSF C

Model	Water Quality Parameters
EA Model Predictions	Nutrients: nitrate, nitrite
	Cyanides: WAD cyanide
	Dissolved metals: cadmium, cobalt, copper, nickel, and silver
2022 Model Predictions	Nutrients: nitrate, nitrite, ammonia
	Cyanides: WAD cyanide
	Dissolved metals: cobalt, copper, nickel, and silver

TSF Seepage Rate and Velocity

This section evaluates the TSF seepage rate and velocity calculated based on field conditions against predictions developed in the Joint MA/EMA Application.

An estimate of seepage from TSF C to the buried glaciofluvial channel deposit was developed using a Darcy's Law calculation. Results of pumping tests completed in the unit estimate a hydraulic conductivity of $2x10^{-4}$ to $3x10^{-4}$ m/s for the buried glaciofluvial unit. The horizontal hydraulic gradient was estimated using water levels measured at monitoring locations in the glaciofluvial deposit downgradient of TSF C prior to and after pumping was initiated at the pumping wells. Representative values for the aquifer width and thickness were interpreted from drillholes completed along the alignment of Main Dam C as 400 m and 10 m, respectively. The calculation estimates groundwater flow through the buried glaciofluvial deposits on the order of 30 to 40 L/s for hydraulic conductivity of $2x10^{-4}$ m/s. The estimated seepage rate increases to a range of 45 to 60 L/s for a hydraulic conductivity of $3x10^{-4}$ m/s.

The seepage travel time is estimated at 3 m/day considering the distance downgradient of Main Dam C and the initial detection of cyanide at monitoring well GT21-03S in August.

The Year 5 seepage assessment presented in the Numerical Groundwater Modelling Report (KP 2021b; Appendix 5-F of the Joint MA/EMA Application) estimated a bulk seepage rate of 12.3 L/s. The fastest advective travel time for TSF C seepage to discharge to a surface water feature was simulated as 5 years, with seepage predicted to discharge to Davison Creek upstream of the future ECD and approximately 1 km downgradient of Main Dam C, corresponding to a velocity of about 0.6 m/d.

Observed seepage conditions from TSF C differ from conditions predicted in the Joint MA/EMA Application, with observations including a higher rate of seepage and a faster time to discharge to surface. Mitigation measures associated with TSF seepage conditions are discussed in Section 4.3.4.

LGO Stockpile

Predicted concentrations for LGO Stockpile seepage source term in Year 1 from the 2022 model (Lorax 2021) are presented in Table 4.3-9 along with the range of measured groundwater sample results in 2025 at monitoring wells located downgradient of the Stockpiles area (MW23-03D/S, MW23-04D/S, MW24-01D(A), and MW24-01S). Parameters in groundwater samples from stockpile area monitoring wells were reported at concentrations below the seepage concentrations except for dissolved ammonia, which was measured above the predicted seepage concentration at monitoring wells MW24-01D and MW24-01S in all but one sample. Dissolved ammonia concentrations at the two monitoring wells are not attributed to mine development: concentrations in samples from MW24-01S are consistent with measured concentrations in 2024 and concentrations in samples from MW24-01D decreased in 2025 and appear to still be equilibrating after installation of the well. Measured groundwater concentrations in the Stockpiles Area are less than the modelled LGO seepage source term concentrations.

Table 4.3-9: Comparison of Measured 2025 Stockpile Area Groundwater to 2022 Model LGO Stockpile (Year 1) Seepage Predictions

POPC	EA Prediction	Year 1 LGO Stockpile Seepage Source Term Prediction[1]	2025 Sample Values[2]			Comments	CSR-AL[3]
			Minimum	Mean	Maximum		
Sulphate	2,300	5420	1.660	4.288	16.4	-	3090
Ammonia	33.5	0.06	< 0.005	0.044	**0.164**	Concentrations at MW24-01D(A) are decreasing over the 2025 record and the last sample is below Base Case predictions; not attributed to LGO stockpiling.	-
Nitrate (as N)	0.022	3.5	< 0.005	0.261	2.76	-	400
Nitrite (as N)	0.033	0.037	< 0.001	0.003	0.036	-	0.2
Cyanide (WAD)	0.015	0	< 0.001	0.157	2.260	-	0.05
D-Aluminum	0.002	170	< 0.0001	0.0003	0.001	-	-
D-Antimony	0.00595	0.00885	0.0004	0.002	0.005	-	0.09
D-Arsenic	0.00305	0.472	< 0.00002	0.00003	0.0003	-	0.05
D-Beryllium	-	0.0594	0.000003	0.00002	0.0001	-	0.0015
D-Cadmium	0.000052	1.89	< 0.0005	0.0004	0.001	-	0.0005
D-Chromium	0.0001	0.0438	< 0.0001	0.0003	0.001	-	0.01 (4)
D-Cobalt	0.034	1.73	< 0.0002	0.0003	0.002	-	0.04
D-Copper	0.0001	12.6	< 0.01	1.134	7.070	-	0.02
D-Iron	0.09	124	< 0.00005	0.0001	0.002	-	-
D-Lead	0.00012	0.705	< 0.0001	0.337	1.64	-	0.04
D-Manganese	7.2	222	< 0.000005	< 0.000005	< 0.000005	-	-
D-Mercury	-	0.000111	< 0.0005	0.001	0.003	-	0.00025
D-Nickel	0.0073	2.18	< 0.00001	< 0.00001	< 0.00001	-	0.25

POPC	EA Prediction	Year 1 LGO Stockpile Seepage Source Term Prediction[1]	2025 Sample Values[2]			Comments	CSR-AL[3]
			Minimum	Mean	Maximum		
D-Silver	0.000005	0.00113	< 0.001	< 0.001	0.005	-	0.0005
D-Zinc	0.55	413	1.660	4.288	16.40	-	0.075

Notes:

Units are mg/L unless otherwise stated.

Bold font indicates value exceeds source term prediction.

POPC = Parameter of Potential Concern (AEMP; ERM; 2025).

[1] *Predicted LGO Stockpile seepage source term concentrations for Year 1 from Appendix C-1.4 of the Geochemistry Source Term Report (Lorax 2021).*

[2] *Minimum, mean, and maximum concentrations for all samples collected in 2025 at monitoring wells located downgradient of the Stockpiles area.*

[3] *CSR-AL = Contaminated Sites Regulations (CSR) Aquatic Life (AL) Standards. BC* Environmental Management Act*, 2025. BC Reg. 375/96. For standards that are hardness, pH, or chloride dependent, the indicated value represents the lowest standard applicable to all monitoring wells in the Stockpiles area.*

[4] *Based on the standard for hexavalent chromium, as there is no standard for total chromium.*

4.3.3.3 Groundwater Quality at Mine Facilities

Water quality of seepage collected by the TSF C embankment drains and inflows to the IECD are monitored and the results are compared to predicted water quality below. Seepage from the TSF can report to the embankment drains and the IECD faster than deeper flow paths and monitoring its quality can provide information on the water quality of foundation seepage.

TSF C Embankment Drains

Water quality samples were collected from the central and east foundation drains in the TSF embankment starting in October 2025 (TSF-CFD and TSF-EFD, respectively). The west foundation drain (TSF-WFD) was dry in 2025 and no samples were collected. A comparison of the measured 2025 sample concentrations and the predicted concentrations for water collected at the embankment drains from the 2022 model (Lorax 2022) is provided in Table H4-3.1 in Appendix H-4.

Water collected at the foundation drains is a combination of runoff and infiltration from the Main Dam C embankment and seepage discharge from TSF C. Initial samples collected from TSF-CFD in October showed a TSF C Pond signature and concentrations increased through the remainder of the year. The available Q4 samples from TSF-EFD showed relatively low concentrations with only a slight increasing trend evident at the end of the year for a few parameters such as sulphate and dissolved cobalt. The maximum measured concentrations of ammonia, nitrate, nitrite, WAD cyanide, and dissolved cobalt, copper, manganese, nickel, and silver in the TSF-CFD samples exceeded the predicted upper case source term concentrations at the end of 2025. Samples from TSF-EFD exceeded the upper case source term concentrations for dissolved chromium. The elevated concentrations in the TSF-CFD are interpreted to be due to contributions of TSF C Pond seepage to the IECD.

IECD

A comparison of the predicted concentrations for water collected at the IECD from the 2022 model (Lorax 2022) and measured 2025 sample concentrations is provided in Table H4-3.2 in Appendix H-4. The values in the table and the interpretation below are from Lorax (2026).

Water collected at the IECD is a combination of runoff from Main Dam C and the catchment area upgradient of the IECD, seepage discharge from TSF C, and water collected by the seepage capture wells starting in Q4 2025. Samples from the IECD showed relatively low concentrations prior to August 2025 and then samples showed an increasing trend in concentration for several parameters indicative of a TSF C Pond signature after that date. The maximum measured concentrations of nitrite, WAD cyanide, dissolved cobalt, copper, manganese, nickel, and silver at the IECD exceeded the predicted maximum concentrations during the last quarter of the year. The elevated concentrations are interpreted to be due to contributions of TSF C Pond seepage to the IECD.

4.3.4 Effectiveness of Mitigation Measures and Adaptive Management

Overview

To evaluate the effectiveness of mitigation measures, groundwater quality parameters at monitoring wells downgradient of mine facilities are compared against established trigger levels set relative to baseline data and Contaminated Sites Regulation (CSR) aquatic life (AL) standards. Groundwater quality results are also compared against the predicted water quality benchmarks (discussed in Section 4.3.3).

Trigger levels for groundwater concentrations have been established to identify preliminary signs of contact seepage (Level 1), or to promote a response or remedial action, should they be required to manage and mitigate the seepage (Level 2 and Level 3). A detailed description of the trigger levels is presented in the groundwater TRP (KP 2024). The trigger levels are defined as follows:

- Level 1 triggers are set equal to 1.5 times the 95th percentile baseline concentration
- Level 2 triggers are set equal to 80% CSR-AL standard
- Level 3 triggers are set equal to the CSR-AL standard

The CSR-AL standards are summarized in Table H-3.1 of Appendix H-3 and all 2025 groundwater sample results are presented in Table H-1.1 screened against CSR-AL standards. Groundwater quality trigger exceedances identified in 2025 are summarized in Table 4.3-10 and discussed below.

Table 4.3-10: 2025 Groundwater Quality Trigger Exceedances

Monitoring Well	Q1 2025	Q2 2025	Q3 2025	Q4 2025		
				October	November	December
Downgradient of TSF C						
GT21-03S	-	-	L1: Sulphate, Nitrate, Nitrite, Cyanide (WAD) (20AUG'25)	L1: Specific Conductivity, Sulphate, Nitrite, Cyanide (WAD) L3: D-Cobalt (03OCT'25)	L1: Sulphate (08NOV'25)	-
MW22-03D	-	-		L1: Specific Conductivity, Sulphate, Nitrate, Nitrite L2: Cyanide (WAD) L3: D-Cobalt (19OCT'25)	L1: Specific Conductivity, Sulphate, Nitrate, Sodium L3: Nitrite, Cyanide (WAD), D-Cobalt (09NOV'25)	L1: Specific Conductivity, Sulphate, Nitrate, Sodium L3: Nitrite, Cyanide (WAD), D-Cobalt, D-Nickel, D-Silver (12DEC'25)
Downgradient of Stockpiles						
MW23-03S (Site not yet in GW TRP)	-	-	-	L1: Sulphate, Nitrate (03OCT'25) L1: Sulphate, Nitrate (25OCT'25)	-	L1: Sulphate, Nitrate (18DEC'25)

Notes:

L = Trigger Level; TRP = Trigger Response Plan; WAD = Weak Acid Dissociable; D- = Dissolved.

Possible Level 1: Sampling event represents the first Level 1 concentration threshold exceedance for a given parameter. A second consecutive occurrence is required to constitute a Level 1 Trigger Exceedance.

Level 1 trigger values for MW23-03S are not presented in the TRP (Rev 0). Level 1 exceedances are indicated if sample concentrations exceed 1.5X the 95th percentile baseline sample concentration at the well of 5 times the MDL for parameters that are <MDL in baseline.

Level 2 and 4 Trigger concentrations are based on the baseline values of pH, hardness, and chloride in groundwater for dependent standards (e.g. nitrite).

TSF Seepage Conditions and Mitigations

Preliminary signs of TSF C seepage conditions were identified through the exceedance of Level 1 groundwater quality trigger values in the August 2025 sample from monitoring well GT21-03S. Parameters exceeding Level 1 concentration thresholds included sulphate, nitrate, nitrite, and cyanide (WAD). A follow-up sample was collected from GT21-03S and a Level 3 exceedance for dissolved cobalt was identified, which triggered response actions and implementation of contingency measures.

In October 2025, Level 1, 2, and 3 exceedances were detected at sentinel monitoring well MW22-03D for various parameters, including cyanide (WAD) and cobalt, indicating continued migration of seepage from the facility. Monitoring well MW22-03D is located immediately downgradient of Main Dam C.

Response actions to monitor, characterize, and mitigate seepage conditions in Q4-2025 were guided by the groundwater TRP, with direction from Qualified Professionals. A focused site investigation was completed in November/December-2025 as part of TRP response, to improve characterization of the seepage pathway and identify locations for additional mitigations. Additional mitigation measures implemented in 2025 to intercept and control seepage included:

- Operation of pumping wells PW24-01 and PW24-02 screened in the buried glaciofluvial deposits to collect TSF C seepage. The two pumping wells were installed in 2024 during Mine construction as available mitigation measures to implement if monitoring indicated they were needed.
- Operation of the IECD collection sump located at the toe of the IECD to collect TSF C seepage in shallow groundwater.
- Collection of groundwater discharge into a sump excavated in a topographic low located southeast of the IECD.
- Installation of four additional pumping wells in 2025, for use as needed based on the results of ongoing monitoring.

Increased monitoring of groundwater and surface water has been implemented downgradient of TSF C to assess seepage conditions and evaluate the effectiveness of the mitigation measures as follows:

- Groundwater sampling frequency increased from quarterly to monthly at monitoring wells located downgradient of TSF C.
- Groundwater sampling initiated at additional monitoring wells installed during the seepage focused site investigation.
- Monthly sampling initiated at surface water monitoring points located between the IECD and the downstream compliance point DC-05 on Davidson Creek.

Following implementation of initial mitigation measures, concentrations at the monitoring well located downgradient of the pumping wells (GT21-03S) were observed to decrease. Monitoring well MW22-03D is a sentinel well located between Main Dam C and the downgradient seepage capture wells and the location provides water quality data representative of conditions upgradient of implemented mitigations. No indications of TSF seepage were observed at groundwater monitoring wells located downgradient of the IECD.

Monitoring of surface water quality from Davidson Creek identified dissolved cobalt concentrations elevated above baseline concentrations and BC Water Quality Guidelines in Q4-2025 that were likely associated with unrecovered seepage from TSF C (Section 3.4.3). Additional mitigations for TSF C seepage have been implemented in 2026 and other mitigations are planned, including:

- Four pumping wells were installed downgradient of TSF C at the end of 2025 as additional mitigation measures. Pipe and pump infrastructure was installed in early 2026 and pumping from three wells was initiated in early February 2026. One new pumping well remains on stand-by to implement if monitoring results indicate it is needed.

- Site investigations and engineering design are underway for the ECD, Northern Diversion, and TSF D, which are planned to be constructed in accordance with the mine development sequence (ECD and Northern Diversion in 2026, TSF D commencing in 2027). The ECD and associated seepage interception trenches are located downgradient of TSF C and are mitigations for TSF seepage included in the EA and Joint MA/EMA permit.

These mitigation measures are expected to positively impact water quality in the near-term and in future years. Future seepage mitigation and related actions will be guided by ongoing surface water and groundwater monitoring and further site characterization.

Stockpiles Area Water Quality

Low level increases in sulphate and nitrate concentrations above background conditions were detected in groundwater near the stockpiles area in early October 2025 at monitoring well MW23-03S. Concentrations remained below Level 3 trigger thresholds (CSR-AL standards), with decreased concentrations reported in follow-up samples collected later in Q4. The groundwater chemistry is interpreted to be influenced by the placement of blasted non-acid-generating waste rock along the haul road immediately adjacent to the well. No other monitoring wells in the Stockpiles Area showed water quality trends indicative of influence from Mine development.

Groundwater quality will continue to be monitored in accordance with the GMP and evaluated against the groundwater TRP to assess ongoing performance of mitigations.

4.4 Summary and Discussion

Groundwater monitoring and sampling was conducted at 31 monitoring wells in 2025, consistent with the sampling program specified in the GMP (KP, 2025). Water level monitoring was conducted at 54 monitoring sites, comprising monitoring wells, standpipe piezometers, and vibrating wire piezometers.

Groundwater quantity and quality data collected in 2025 were assessed to comply with DS Condition 3.15.3. Groundwater levels were compared to background conditions to evaluate the influence of mining activities and to identify any potential changes in groundwater flow paths. Groundwater quality was evaluated against baseline conditions, water quality standards, and predictions developed during both the Environmental Assessment and Joint MA/EMA Application. To address DS Condition 2.5, groundwater quality was also assessed against the groundwater Trigger Response Plan (TRP).

Groundwater level and quality data suggest influence of mining activities downstream of TSF C in 2025. A buried glaciofluvial (sand and gravel) deposit was identified to be a potential pathway for seepage from TSF C in the baseline report and groundwater modelling completed for the Joint MA/EMA Application (KP 2021a; 2021b). Increases in groundwater level and changes in groundwater parameter concentrations indicative of TSF C seepage were identified in 2025 at locations monitoring the buried glaciofluvial deposit immediately downgradient of TSF C. Water quality parameters monitored as part of the groundwater TRP provided an early indication of TSF seepage conditions and led to implementation of response actions and mitigations outlined in the TRP.

BWG implemented mitigations downgradient of TSF C during the last quarter of 2025 per the TRP, including continuous operation of pumping wells PW24-01 and PW24-01 screened in the buried glaciofluvial deposits and operation of pumps in two surface sumps.

Groundwater quality sampling downgradient of TSF C was conducted both upgradient and downgradient of implemented mitigations. Upgradient of the mitigations, groundwater quality samples collected from a sentinel monitoring well (MW22 03D) located immediately downgradient of TSF C and upgradient of the pumping wells provide information on TSF C seepage water quality along the flow path before capture. At this sentinel well, several parameter concentrations in samples collected during the last quarter of 2025 were outside the range predicted in the EA and/or the 2022 model for TSF C seepage, similar to the TSF C Pond water quality. Sample parameters at this upgradient location were detected at concentrations above the Contaminated Sites Regulation (CSR) aquatic life (AL) standards during the last quarter of 2025 for nitrite, cyanide (WAD) and dissolved cobalt, nickel, and silver. Samples collected from monitoring wells located downgradient of the pumping wells reported concentrations below CSR-AL standards after implementing additional mitigations in October and November 2025. Water quality changes indicative of TSF seepage were not observed at groundwater monitoring wells located downgradient of the IECD.

Monitoring of surface water quality from Davidson Creek identified dissolved cobalt concentrations Monitoring of surface water quality from Davidson Creek identified concentrations of dissolved cobalt elevated above baseline concentrations and BC Water Quality Guidelines in the last quarter of 2025 that were likely associated with unrecovered seepage from TSF C (Section 3.4.3). Additional mitigations were implemented in early 2026 to increase seepage capture as outlined in the groundwater TRP, including initiating pumping from three new wells installed at the end of 2025. Site investigations and engineering design are also underway to construct additional seepage collection measures downgradient of TSF C (i.e., the ECD and interception trenches) and BW Gold plans to commence construction of these structures in 2026. These mitigation measures are expected to positively influence water quality in the near-term and in future years. BW Gold will continue to monitor the effectiveness of these actions to determine if additional mitigations in the near-term are needed.

In the Stockpiles Area, sulphate and nitrate concentrations in a sample from MW23-03S were measured at concentrations elevated above background in an early October sample. Concentrations decreased in follow-up samples collected late-October and December. The groundwater chemistry at the monitoring well is suspected to be influenced by the placement of blasted non-acid generating (NAG) waste rock on the haul road immediately adjacent to the monitoring well. The increased concentrations at monitoring well MW23 03S were orders of magnitude below CSR-AL standards. No other monitoring wells in the Stockpiles Area exhibited changes in water quality attributed to Mine development and no CSR-AL standard exceedances were reported in the Stockpiles Area.

Groundwater quality in the Plant Site and Camp Areas and at background monitoring sites remained consistent with historical conditions and below CSR-AL standards. No changes to groundwater flow directions or pathways attributable to the Mine were observed in these areas. Measured groundwater concentrations in these areas remained less than model predicted concentrations.

Groundwater level responses to development of the Open Pit were not observed in the water level records at GMP monitoring sites in 2025. Open Pit dewatering is accomplished using groundwater dewatering wells and a pit sump to collect surface water.

Groundwater quality will continue to be monitored in accordance with the GMP and evaluated against the groundwater TRP to assess ongoing performance of mitigations and identify if additional mitigations should be implemented.

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Appendix A 2025 Hydrology and Water Temperature Annual Report

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VA101-457/62-1

BLACKWATER GOLD PROJECT
2025 HYDROLOGY AND WATER TEMPERATURE ANNUAL REPORT

Rev	Description	Date
0	Issued in Final	March 19, 2026

Knight Piésold CONSULTING

Management System Certified By:
bsi
ISO 9001 Quality Management Systems CERTIFIED FS 64925
ISO 14001 Environmental Management CERTIFIED EMS 550121
ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 550122

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Appendix A Site Hydrology Stations and Data
Appendix B Site Water Temperature Stations Data

ABBREVIATIONS

ADCP	Acoustic Doppler Current Profiler
AEMP	Aquatic Effects Monitoring Program Plan
BC	British Columbia
BWG	Blackwater Gold Ltd.
CDS	Central Diversion System
CWTP	Central Water Transfer Pond
DCDB	Davidson Creek Diversion Berm
DCDS	Davidson Creek Diversion System
EMA	Environmental Management Act
FAA	Fisheries Act Authorization
FDS	Federal Decision Statement
FSR	Forest Service Road
FWR	Fresh Water Reservoir
HDPE	High-Density Polyethylene
IECD	Interim Environmental Control Dam
IFN	Instream Flow Needs
KP	Knight Piésold Ltd.
LGO	Low Grade Ore
MDC	Main Dam C
the Mine	The Blackwater Mine
NCC	North Collection Channel
RIBs	Rapid Infiltration Basins
SCC	South Collection Channel
PS SCP	Plant Site Sediment Control Pond
SWE	Snow Water Equivalent
TSF	Tailings Storage Facility
TSF SCP	Plant Site Sediment Control Pond
WMP	Water Management Pond

1.0 INTRODUCTION

1.1 GENERAL

The Blackwater Mine (the Mine) is an operating gold-silver deposit located approximately 112 km southwest of Vanderhoof in central British Columbia (BC). The deposit is being developed with open pit mining methods by BW Gold Ltd. (BW Gold), a wholly owned subsidiary of Artemis Gold Ltd. Mine operations began in January 2025. Key mine facilities include the Tailings Storage Facility (TSF) and associated water management infrastructure, Open Pit, Low-Grade Ore (LGO) Stockpile, Operations Camp, and Plant Site infrastructure.

The Mine site is situated on the Nechako Plateau, part of the Interior Plateau east of the Coast Mountain Range. This area is characterized by gently undulating, northwest-trending hills cut by small to medium-sized drainages. The elevation of the Blackwater property ranges from just over 1,000 m in low-lying areas northeast of the mine to just under 1,700 m south of the Open Pit. The highest local peak in the area is the summit of Mt. Davidson, at 1,800 m. Mt. Davidson is on the south-west side of the property and is the highest peak in the Fawnie Range. The Mine is located on the northern flanks of the mountain, as shown on Figure 1.1.

The site is currently accessed by vehicle via the Kluskus Forest Service Road (FSR), the Kluskus-Ootsa FSR and the exploration access road, which connects to the FSR near kilometre marker 146. The Kluskus FSR joins Highway 16 approximately 10 km west of Vanderhoof. Driving time from Vanderhoof to the mine site is about 2.5 hours.

This report presents the 2025 Annual Summary of hydrology data for the Mine and is an update to the 2024 Annual Report (KP, 2025a).

1.2 PROJECT AREA CREEKS

Numerous creeks drain the watersheds in the Mine area, and an extensive flow monitoring program has been established to help characterize the hydrology of these streams. The five major drainage systems within the Mine area are: Davidson Creek, Chedakuz Creek, Tatelkuz Creek, Turtle Creek, and Fawnie Creek. Hydrometric monitoring stations have been operated in the Mine watersheds during the period of 2011 to 2025; details about the stations are provided in Section 2.0 and 2025 hydrometric monitoring results for each station are presented in Appendix A.

Davidson Creek, Chedakuz Creek, Tatelkuz Creek, Turtle Creek, Fawnie Creek, and their tributaries are further described below.

Davidson Creek Watershed:

- Davidson Creek drains catchments downstream of the lake 01682LNRS (Lake 16) Diversion Berm which is located approximately 200 m downstream of the Lake 16 outlet and flows northeast from the Mine site towards Chedakuz Creek, with a confluence approximately 800 m downstream of Tatelkuz Lake. The Blackwater deposit lies within the upper reaches of the Davidson Creek catchment area. The terrain in this area is predominantly gently inclined, except along the incised portions of Davidson Creek.
- Creek 668-328 flows east from the Fawnie Creek Watershed and drains into Davidson Creek.

Chedakuz Creek Watershed:

- Middle Chedakuz Creek drains Tatelkuz Lake and flows north-west, passing under a bridge at the Kluskus Forest Service Road (FSR), approximately 2 km downstream from the lake.

Tatelkuz Lake Watershed:

- An unnamed creek drains Snake Lake north-east into Tatelkuz Lake. This unnamed creek is located between the Davidson Creek and Creek 661 catchments.
- The Snake Lake catchment area drains directly into Tatelkuz Lake.
- Creek 661 flows northeast from the Mine site into Upper Chedakuz Creek upstream of Tatelkuz Lake.

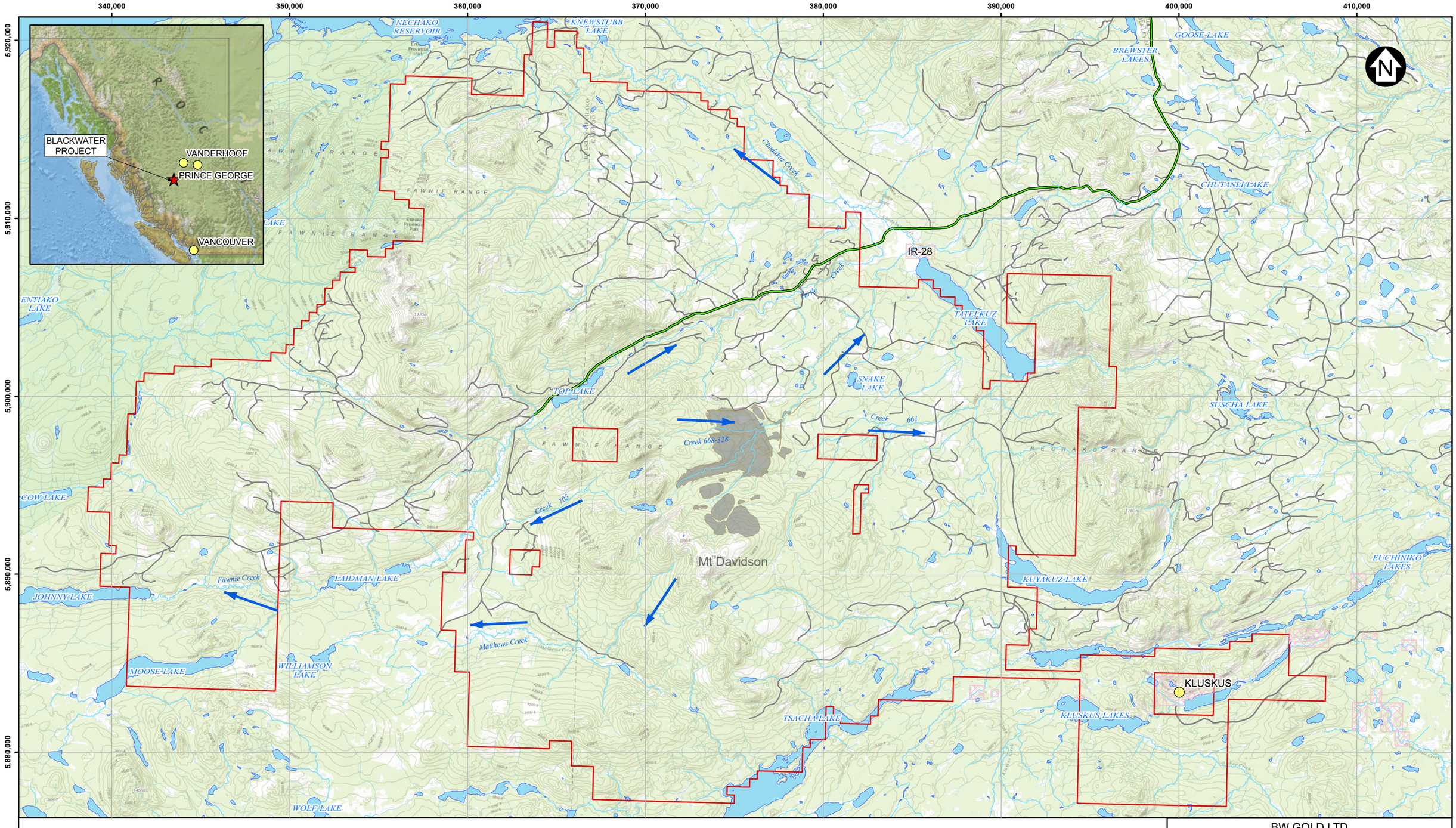
Turtle Creek Watershed:

- Turtle Creek, located to the north of Davidson Creek, drains another catchment running parallel to Davidson Creek towards Chedakuz Creek.
- Turtle Creek flows close to Davidson Creek near the base, before flowing north under the Kluskus FSR to its confluence with Chedakuz Creek downstream of the Kluskus FSR. Chedakuz Creek flows north-west from this point for approximately 25 km to the Nechako Reservoir.

Fawnie Creek Watershed:

Along the south-west side of the Mine site, Fawnie Creek, Mathews Creek and Creek 705 all flow south-west from the deposit area.

- Fawnie Creek flows south-west from Top Lake to Johnny Lake, into Entiako Provincial Park, and ultimately forming a portion of the flow of the Entiako River into the Nechako Reservoir.
- Creek 705 drains Lake 01538NRS (Lake 15) and then combines with Fawnie Creek and flows towards Laidman Lake and joins with Mathews Creek.
- Mathews Creek flows west from an unnamed lake to Laidman Lake, where it joins with Fawnie Creek.



LEGEND:

- CITY/TOWN
- FIRST NATIONS RESERVE
- PROPERTY BOUNDARY
- PROPOSED PROJECT FACILITIES
- KLUSKUS FSR
- FLOW DIRECTION

2 1 0 2 4 6 8 10 km

NOTES:

1. BASE MAP: ESRI ARCGIS ONLINE MAP.
2. COORDINATE GRID IS IN METRES/DEGREES. COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N.
3. THIS FIGURE IS PRODUCED AT A NOMINAL SCALE OF 1:200,000.

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	18MAR'26	ISSUED WITH REPORT	MJB	LEN	JGC

BW GOLD LTD

BLACKWATER GOLD PROJECT

2025 HYDROLOGY AND WATER TEMPERATURE ANNUAL REPORT
PROJECT LOCATION

Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-457/62	1

FIGURE 1.1 REV 0

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1.3 SCOPE OF THE REPORT

This report focuses on hydrometric data collected in 2025.The data were collected in fulfillment of the requirements specified in the following permits and management plans:

- Environmental Management Act (EMA) Permit 110652
- Mines Act Permit No. M-246
- Aquatic Effects Monitoring Program Plan (AEMP) (BWG, 2022)

EMA Permit 110652 was issued to ensure that the Mine complies with environmental standards to protect the environment and public health. Mines Act Permit M-246 was issued to regulate and oversee the Mine mining operations, to ensure that they are conducted safely, responsibly, and with minimal environmental impact. Tables 1.1 and 1.2 summarize the conditions of the above permits that are addressed by this report.

Table 1.1 EMA Permit 110652 Table of Concordance

PE-110652 Section	Reporting Requirement	Section Where Requirement is Addressed
5.3.3 (k)	A review of the receiving environment hydrometric monitoring program required in section 4.4 of the permit, including:	-
i)	Description of measurement methods, field procedures and data calculation methods.	Section 2.2 & Appendix A
ii)	Summary table of the discharge measurements recorded during the year. The summary must include staff gauge measurements, calculated flow values from a stage-discharge curve (rating curve), and manual flow measurements.	Section 2.2 & Appendix A
iii)	Hydrograph(s) at a scale appropriate for visually comparing flow values between stations.	Section 2.3 & Appendix A
iv)	Rating curve figures for each monitoring station that include a visual representation and all stage-discharge measurements used to define the active relationship, as well as the relationship equation. Changes to the rating curve(s) for any monitoring location must be clearly identified, with rationale.	Section 2.2 & Appendix A
v)	Evaluation of data quality grade for each monitoring station using the methodology with interpretation outlined in the RISC (2018). Hydrometric monitoring results that do not meet data grade B, as specified in section 4.4.6, must be identified along with a rationale and actions to be implemented by the permittee to achieve data grade B.	Section 2.5 & Appendix A
vi)	Manual discharge measurements and estimated continuous flow data records with data grade and associated rating curves must be provided in Excel Format.	Included in transmittal VA26-00591
5.3.3 (l)	A review of the most recent site-wide water quality model required in section 3.8, including:	-
iv)	Comparison of the most recent model predictions to measured data, including effluent water quality and quantity (flow) at all authorized discharge locations as specified in section 1, and receiving environment water quality and flow at all monitoring locations specified in Appendix B.	Section 4.0

Table 1.2 Mines Act Permit No. M-246 Table of Concordance

M-246 Section	Reporting Requirement	Section Where Requirement is Addressed
4(d)(i)	The Permittee must report results of surface water quantity monitoring, including QA/QC results, in the Annual Reclamation Report by March 31, annually. The Permittee must assess significant changes or trends in water quantity and include discussion of that assessment in the report.	Section 2.0 & Appendix A

Table 1.3 Federal Decision Statement (FDS) No. 80017 Table of Concordance

FDS Section	Reporting Requirement	Section Where Requirement is Addressed
3.9	The Proponent shall maintain water temperature in Davidson Creek, as described by the Proponent in Section 5 of Appendix A (*Blackwater Gold Project – Assessment of Flows from the Water Treatment Plant and North and South Diversions on Davidson Creek Temperatures. Knight Piesold. Memorandum VA16-01038*) of Appendix C-1 of the Environmental Impact Statement Supplemental Report *Assessment of Effects Related to Project Changes (August 2016)*, unless otherwise authorized by Fisheries and Oceans Canada.	Section 3.0 & Appendix B
3.15.1	Monitor water flows in Davidson Creek during the open water season from construction until decommissioning, and temperature continuously from construction until decommissioning;	Section 3.0 & Appendix B

Table 1.4 Fisheries Act Authorization (FAA) No. 21-HPAC-01447 Table of Concordance

FAA Section	Reporting Requirement	Section Where Requirement is Addressed
2.2.9	Downstream flows to Davidson Creek shall be maintained at all times during construction and commissioning of mine infrastructure, including diversion channels, reservoirs, and the freshwater supply system (FWSS), such that death of fish is avoided and impacts to fish habitat are limited to what is authorized:	-
(5)	The average daily temperature shall be maintained within ±1°C of baseline daily average maximum and minimum temperatures at the selected sites.	Section 3.0 & Appendix B

This annual summary report includes all streamflow and lake level data collected in 2025. The hydrology data related to streamflow and lake level measurements are presented in Section 2.0. The content of this report supersedes all prior published hydrology data for the Mine. The locations of all the Mine stations installed for measuring stream flows, water levels, and lake levels are shown on Figure 2.1.

1.4 2025 CONSTRUCTION PROGRESS

Construction activities progressed at the Mine throughout 2025 and were focused on the development of the Open Pit, Main Dam C (MDC) Stage 2A, Fresh Water Reservoir (FWR), Low-Grade Ore (LGO) Stockpile Stage 1, and Plant Site Phase 1A infrastructure. Construction activities in 2025 are summarized below:

- **Open Pit:** Drill and blast activities within the Open Pit were ongoing in 2025.
- **MDC Stage 2A:** Construction of the MDC Stage 2A embankment to EL. 1,278 m commenced and was ongoing in 2025, forming the Tailings Storage Facility (TSF) C Stage 2A arrangement. The embankment is designed as a zoned water-retaining earth-rockfill dam comprising an internal drainage system and emergency spillway. Seepage collected via the embankment's drainage system is directed downstream towards the Interim Environmental Control Dam (IECD); a tertiary embankment outlet drain was constructed in 2025. The Davidson Creek Diversion System (DCDS) was decommissioned in early January, and tailings discharge and storage commenced in January.
- **FWR:** Construction of the FWR commenced in 2025. The FWR is designed as a high-density polyethylene (HDPE)-lined in-creek reservoir, enclosed by natural topography and an earthfill dam. The facility comprises an internal drainage and mechanical flow conveyance system as well as an emergency spillway. The facility is located downstream of MDC. All captured flows within the facility are directed to lower Davidson Creek via the internal drainage and mechanical flow conveyance systems. Davidson Creek flows were partially diverted to a downstream location along the creek in October to maintain a dry working area for reservoir construction. The facility did not impound water in 2025.
- **LGO Stockpile Stage 1:** Construction of the LGO Stockpile Stage 1 soil liner and associated water management infrastructure was ongoing in 2025. Substantial completion of the HDPE lined LGO Collection Pond and select stockpile soil liner panels, as well as partial completion of the Stage 1 surface water collection channel network (M-Trail Collection Channel and West Collection Channel), were achieved in 2025. LGO stockpiling commenced in March.
- **Plant Site Phase 1A:** Construction of the Plant Site Phase 1A infrastructure and associated water management infrastructure commenced and was ongoing in 2025. The Phase 1A expansion includes the construction of several ancillary buildings and facilities at the Plant Site to increase mill throughput. Bulk excavation of the Raw Water Pond (RWP) and Process Water Pond (PWP) commenced in September; the facilities did not impound water in 2025.

1.5 CONSTRUCTION DISTURBANCES

In years prior to 2023, the hydrometric network remained unaffected by construction disturbances from Project activities. Construction activities began in 2023 and continued throughout 2025. Operation of the DCDS (in early January), Central Diversion System (CDS), and Water Management Pond (WMP) Discharge System and ongoing construction of the MDC Stage 2A and FWR, as well as other activities, have influenced flow patterns in Davidson Creek, Chedakuz Creek, and Creek 668 in 2025. Turtle Creek, Creek 661, Creek 705, Mathews Creek, and Tatelkuz Lake have not been affected by construction disturbances from Project Activities in 2025.

Project activities in 2025 have altered flow fluctuations in the discharge records. Figure 1.2 below shows flow disruptions that occurred at stations DC-05 and DC-15 in Davidson Creek during June 2025 due to pumping activities.

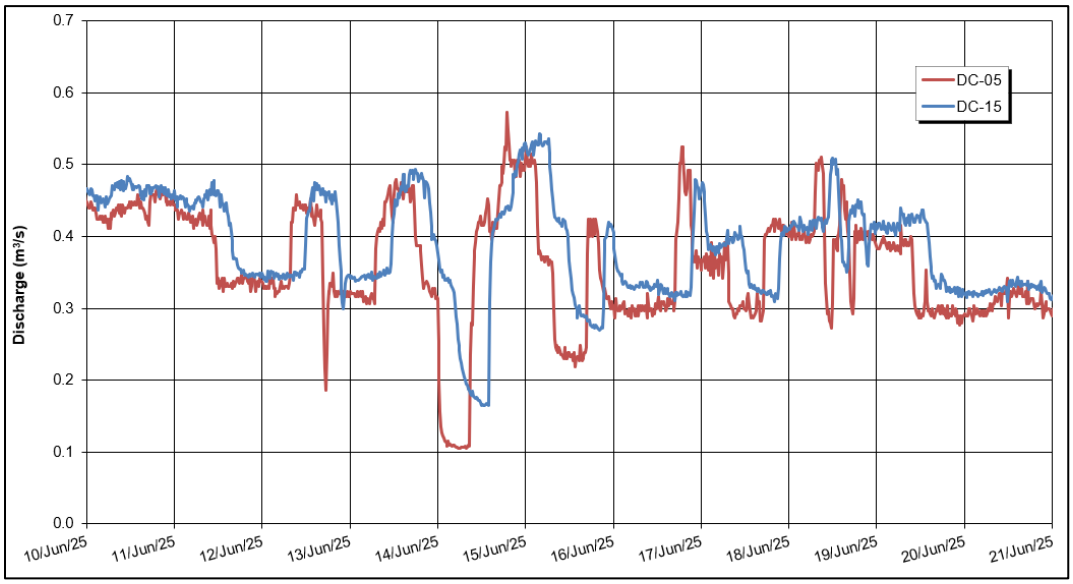


Figure 1.2 Davidson Creek Construction Disturbances

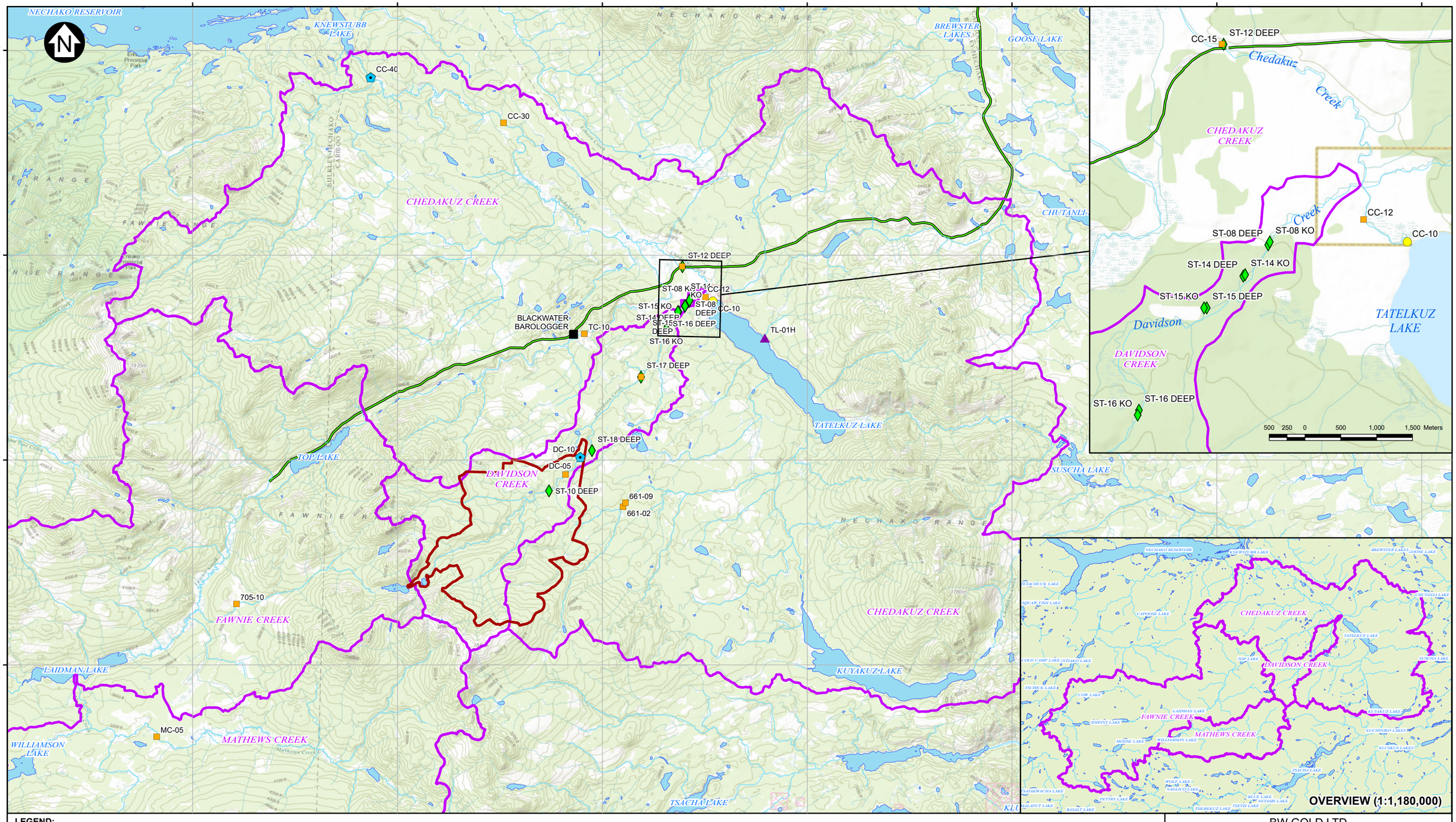
2.0 HYDROLOGY DATA

2.1 PROJECT STATIONS

This report presents the station history, rating curves, and discharge hydrographs for all active hydrology stations within the Mine study area.

This report discusses twelve (12) dedicated hydrology stations that are active within the Mine study area and two (2) water quality monitoring locations where manual discharge measurements are conducted. The hydrology stations are installed in the Davidson Creek, Tatelkuz Lake, Chedakuz Creek, Turtle Creek, and Fawnie Creek watersheds. The water quality monitoring locations utilized for manual discharge measurements are located on Davidson Creek and Chedakuz Creek. The locations of all active stations are shown on Figure 2.1. The hydrology stations typically consist of a pressure transducer sensor fastened to the inside of a protective aluminum pipe that is secured on the bank of the creek or lake. Each pressure transducer is secured at the end of an aluminum pipe and positioned a few centimetres above the creek bottom. A Solinst Barologger is installed on site and used to correct any non-vented pressure transducer data to atmospheric pressure. Detailed summaries of all active streamflow and water level monitoring stations, along with the water quality station manual discharge measurements, are presented in Appendix A. Details about Station CC-15 are presented as an example throughout Section 2.0.

Streamflow stations were previously denoted with an H, lake level and lake outflow stations were denoted with an L, and the water quality stations were denoted with WQ. The station identification convention has been updated to align with the identifiers used in the Joint *Mines Act / Environmental Management Act* Permits Application (the Application). The previous and updated station identifiers and station characteristics are summarized in Table 2.1. Only the updated station IDs are referenced throughout this report.



LEGEND:

- PERMIT M-246 BOUNDARY
- WATERSHED BOUNDARY
- FIRST NATIONS RESERVE
- KLUSKUS FSR
- PROJECT FACILITIES
- TEMPERATURE MONITORING STATION
- ACTIVE STREAMFLOW AND TEMPERATURE MONITORING STATIONS
- STREAM FLOW MONITORING STATION
- WATER QUALITY STATION
- WATER LEVEL AND TEMPERATURE MONITORING STATIONS
- BAROMETRIC LOGGER

2 1 0 2 4 6 8 10 km

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	18MAR'26	ISSUED WITH REPORT	MJB	LEN	JGC

NOTES:

1. BASE MAP: ESRI ARCGIS ONLINE MAP.
2. COORDINATE GRID IS IN METRES/DEGREES. COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N.
3. THIS FIGURE IS PRODUCED AT A NOMINAL SCALE OF 1:175,000.

BW GOLD LTD

BLACKWATER GOLD PROJECT

PROJECT HYDROMETRIC MONITORING STATIONS

Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-457/62	1

FIGURE 2.1 REV 0

SAVED: \\KPLVA-Prj\$\101\100457\62\A\GIS\Figs\Report 1\Report 1.aprx, Mar 18, 2026 11:31 AM, kkrauszova

Table 2.1 Summary of Site Hydrology Stations

Watershed		Location		Parameters Collected	Station Identifier		Background Station [1]	EMS ID	Easting	Northing	Elevation	Drainage Area	Installed
					Previous	New	(Y/N)		(m)	(m)	(masl)	(km^2)	
Chedakuz Creek	Davidson Creek	Upper Davidson Creek		Continuous Water Level & Instantaneous Stage and Discharge Measurements	H2B	DC-05	N	E331279	378,205	5,899,299	1,158	46	February 14, 2018
				Instantaneous Discharge Measurements	WQ27	DC-10	N	E331280	378,925	5,900,138	1,136	47	N/A
		Middle Davidson Creek		Continuous Water Level & Instantaneous Stage and Discharge Measurements	H4B	DC-15	N	E331281	381,893	5,904,051	1,041	61	May 9, 2012
	Turtle Creek	Turtle Creek		Continuous Water Level & Instantaneous Stage and Discharge Measurements	N/A	TC-10	Y	E331285	379,129	5,906,160	1,024	57	May 21, 2021
	Tatelkuz Lake	Tatelkuz Lake		Continuous and Instantaneous Water Level	L1	TL-01H	Y	E331309	387,946	5,905,964	934	392	April 11, 2012
		Outlet of Tatelkuz Lake		Instantaneous Stage and Discharge Measurements	L1-Outlet	CC-10	Y	E331297	385,404	5,907,760	934	392	May 10, 2012
		Creek 661	Creek 661	Continuous Water Level & Instantaneous Stage and Discharge Measurements	H1	661-02	Y	E331288	380,977	5,897,748	1,172	9	May 19, 2011
			Tributary of Creek 661	Continuous Water Level & Instantaneous Stage and Discharge Measurements	H11	661-09	Y	E331294	381,129	5,897,914	1,165	15	June 12, 2013
	Chedakuz Creek	Upper Chedakuz		Continuous Water Level & Instantaneous Stage and Discharge Measurements	-	CC-12	Y	E331298	385,044	5,907,955	930	392	February 16, 2023
				Continuous Water Level & Instantaneous Stage and Discharge Measurements	H5	CC-15	N	E331299	383,898	5,909,443	930	593	April 19, 2011
		Lower Chedakuz		Continuous Water Level & Instantaneous Stage and Discharge Measurements	WQ29	CC-30	N	E331301	375,187	5,916,462	896	689	July 27, 2023
				Instantaneous Discharge Measurements	WQ30	CC-40	N	E331302	368,695	5,918,685	871	819	N/A
Fawnie Creek	Mathews Creek	Mathews Creek		Continuous Water Level & Instantaneous Stage and Discharge Measurements	H12	MC-05	Y	E331306	358,247	5,886,498	1,076	117	October 30, 2014
	Creek 707	Creek 705		Continuous Water Level & Instantaneous Stage and Discharge Measurements	H7	705-10	Y	E331304	362,143	5,892,983	1,102	42	May 8, 2012

Note(s):

1. Stations marked “Y” are considered to be background stations that will be unaffected by Project activities.

2.1.1 MANUAL DISCHARGE MEASUREMENTS

In accordance with condition 4.4.2 of EMA Permit 110652, a minimum of three manual discharge measurements were taken at each automated monitoring station, except for one site, during the open water season. For station 661-02, only two manual discharge measurements were collected in 2025 due to low water levels during the October and December site visits, which prevented field staff from performing a current meter measurement. Manual discharge measurements were taken for a range of flow conditions throughout the open water season to monitor the stage-discharge relationship for shifts.

2.2 RATING CURVE DEVELOPMENT

A rating curve describes the relationship between water level (stage) and discharge at a specific location in a stream. A rating curve was developed for each monitoring station and was applied to the respective continuous water level record to derive a continuous streamflow record for each station. Stage and discharge measurements, which are required to develop these rating curves, were obtained for each station during several site visits. During each site visit, the stage was determined independently of the data logger record either from reference mark observations or by surveying the water level from the station benchmarks. Typically, at least two discharge measurements were taken during each site visit, and the average of the two discharges was used for the delineation of the rating curve. A minimum of six (6) such stage-discharge measurements over an adequate range of streamflows are required to establish a rating curve (RISC, 2018).

Three different techniques have been used to collect discharge measurements at the hydrometric stations. In 2025, only the current meter was used to collect flow data. The three techniques used at the Mine are described below:

- Current meter (Sontek FlowTracker2, Hach FH950 Flow Meter, or Marsh-McBirney Flo-Mate 2000): Used if streamflow in the channels allowed for safe wading. Depth measurements were made using a wading rod and the area-velocity technique was used to establish the total discharge. This is the primary discharge measurement method that was used at the Mine and it was used to complete all discharge measurements during the 2025 monitoring period.
- Dilution: Used if streamflow was too high to allow for safe wading, or conditions were too turbulent. The dilution technique was employed using a Rhodamine WT dye slug injection. This discharge measurement method was performed at MC-05 on June 18, 2014).
- Acoustic Doppler Current Profiler (ADCP): Used at sites with unwadeable flow conditions whose channel characteristics did not allow for thorough mixing of Rhodamine dye. This method also makes use of the velocity-area technique but utilizes Doppler technology to collect high-resolution depth and velocity data with a floating instrument that is pulled across the channel on a tethered rope, or a motorized boat controlled by an operator on shore.

Detailed summaries of the data collected at all active streamflow and water level monitoring stations are presented in Appendix A. An example summary presenting all the 2025 measurements for Chedakuz Creek (CC-15) is presented in Table 2.2. This station has one of the longest monitoring records within the Mine study area and remains active throughout the winter months due to open water conditions. The location of this stream gauge will remain unaffected by the direct development of the mine site and the station will remain active for long-term monitoring purposes.

Table 2.2 Chedakuz Creek Hydrology Station CC-15 - 2025 Stage-Discharge Measurements

Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge	Calculated Discharge	Gauge Height	Corrected Water Level	Stage Method Used	Measurement Uncertainty	
			(m^3/s)	(m^3/s)	(m)	(m)		Discharge (%)	Gauge Height (m)
19-Jan-25	2	Current Meter	0.809	0.872	0.561	0.582	Corrected Water Level	10%	0.002
14-Jun-25	2	Current Meter	2.888	2.569	0.741	0.74	Corrected Water Level	10%	0.002
5-Jul-25	2	Current Meter	1.659	1.453	0.652	0.645	Corrected Water Level	10%	0.005
10-Aug-25	2	Current Meter	0.633	0.693	0.559	0.559	Corrected Water Level	10%	0.010
31-Oct-25	2	Current Meter	0.579	0.621	0.546	0.549	Corrected Water Level	10%	0.010

The uncertainty associated with all the discharge measurements indicated in Table 2.2 is ±10%. At other sites, the uncertainty at times may be recorded as 25% or higher during some of the highest and lowest measurements due to more difficult measurement conditions. Discharge measurements with greater than 25% uncertainty were considered erroneous and were not included in the rating curve development. The guidance used for estimating uncertainty for discharge measurements collected with each technique are detailed below:

- Current meter: The uncertainty is based on a qualitative assessment of the measurement transect for areas of excessive turbulence or flow reversal, and the distribution of cross-sectional discharge across the depth-velocity measurement cells.
- Dilution: The discharge uncertainty estimate is based on the quality of dye mixing, instrument calibration, and measurement location.
- ADCP: The discharge uncertainty estimate is quantified by assessing the difference between successive measurements as well as the difference between the measured discharge and the total discharge, which includes estimates of the flow along the edges and bottom of the channel.

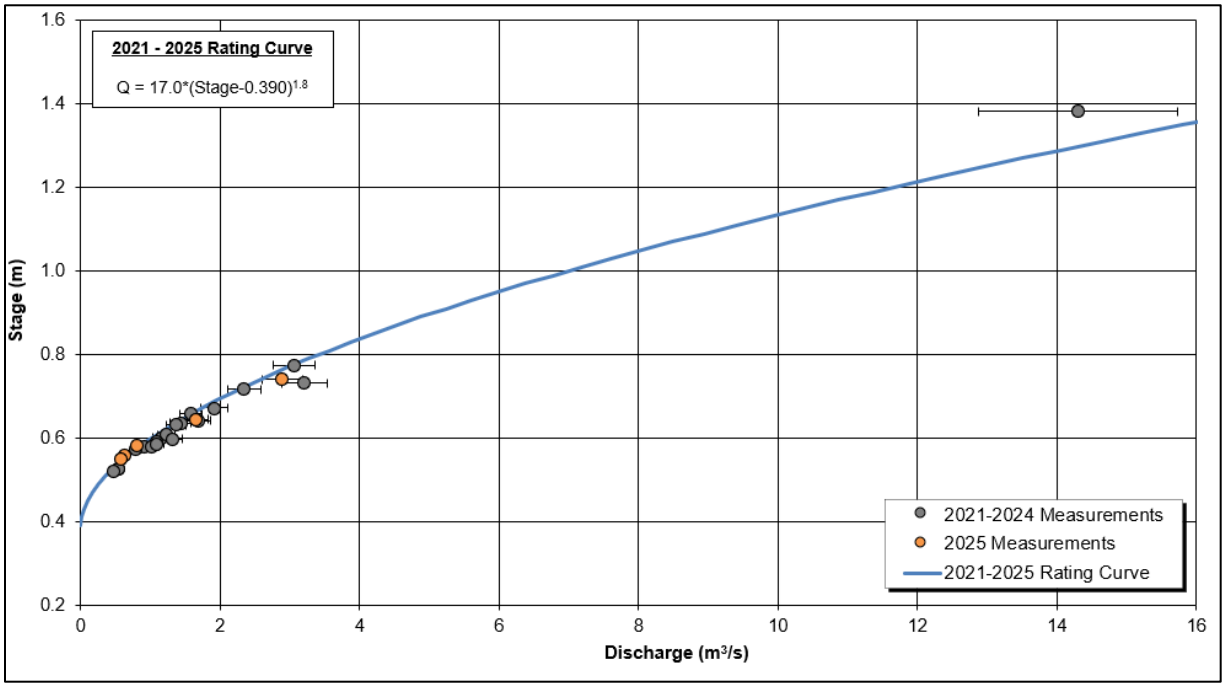
Each rating curve was matched to the measured data by determining the mathematical best-fit for a curve (measured vs. calculated) and then manually fitting 'visual-best-fit' lines to the calibration data, with consideration of the physical conditions at each site and with the objective of minimizing the difference between the rating curve predicted discharges and the measured discharges and special attention given to lower flow points. The hydraulic characteristics of the control section were also considered during the delineation of the rating curves. The basic form of the rating curve equation is based on general hydraulic theory pertaining to open channel flow, and the values of the coefficient and exponent are dependent on the hydraulic characteristics of the control section at the gauge, which provides a means of checking the validity of the derived equation (Maidment, 1993). The stage-discharge rating curves are represented by an equation, or series of equations, of the form:

$$\boldsymbol{Q = C \times (Stage - A)^n}$$

Where Q is the discharge in cubic metres per second (m^3/s), C is a curve coefficient, $Stage$ is the height of the water surface above an arbitrary site datum, A is an offset (frequently given as the stage of zero flow), and n is a curve exponent.

Rating curves for each station were developed and are presented in Appendix A. Rating curves extrapolated over the entire range of recorded stage for each station are also presented in Appendix A, which provides a measure of how much extrapolation of a curve is required to develop the flow series. An example rating curve for Chedakuz Creek station CC-15 is presented on Figure 2.2.

The 2021-2025 stage-discharge points are presented below with the current rating curve. All stage-discharge measurements collected between 2021 and 2024 are presented as grey points below. The most recent discharge measurements from 2025 are presented as orange points.



Note(s):

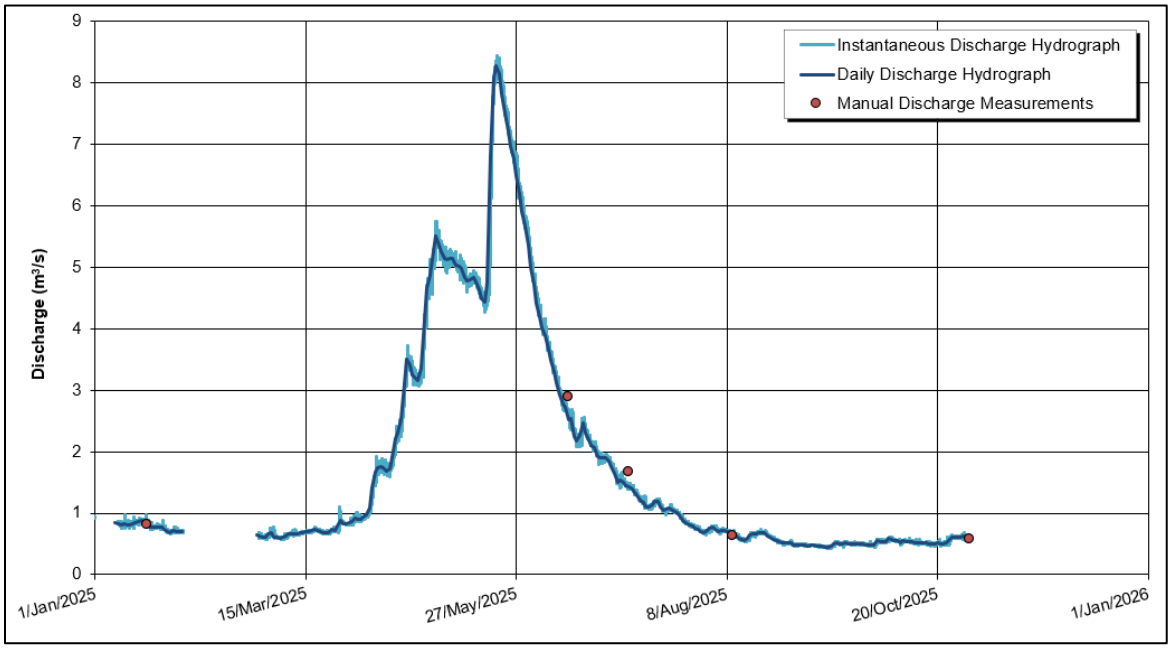
1. Figure source: Figure A5.2.1 included in Appendix A.

Figure 2.2 Chedakuz Creek Hydrology Station CC-15 2021-2025 Rating Curve

2.3 MEASURED DISCHARGE RECORDS

Measured discharge records were developed for each hydrology station by applying rating curves to their respective stage records. Prior to application of the rating curves, the water level data were corrected to the station datum for all data collected during open water conditions, when the stage-discharge relationship was not altered by transient effects such as icing of the channel. The offset for water levels was based on the benchmark surveys completed throughout the period of record and the corrected water level data are referred to as stage data. Periods with erroneous water level data that could be due to ice effects, instrumentation malfunction, and sensor or clock drift, were reviewed and corrected or removed from the data sets. Water level to stage corrections were undertaken in KP's FULCRUM data management system, which allows for advanced data correction and correction tracking.

The resulting discharge hydrographs are typically characterised by high spring snowmelt-driven flows, low summer and fall flows sustained by groundwater inflows and periodic rainfall events, and very low winter flows fed by groundwater. Winter discharge is very low because of cold temperatures and freezing conditions, as observed during winter site visits. Fifteen-minute discharge values were averaged to produce daily discharge records for each station. Discharge hydrographs for each station are presented in Appendix A and an example hydrograph for Chedakuz Creek station CC-15 is shown on Figure 2.3.



Note(s):

1. Figure source: Figure A5.2.2 included in Appendix A.

Figure 2.3 Chedakuz Creek Hydrology Station CC-15 Discharge Hydrograph

2.4 COMPARISON OF UNIT RUNOFF HYDROGRAPHS

The discharge hydrographs for each station included in Appendix A were converted to daily unit runoff to facilitate comparison. The stations have been separated into five major catchments for clarity, as follows:

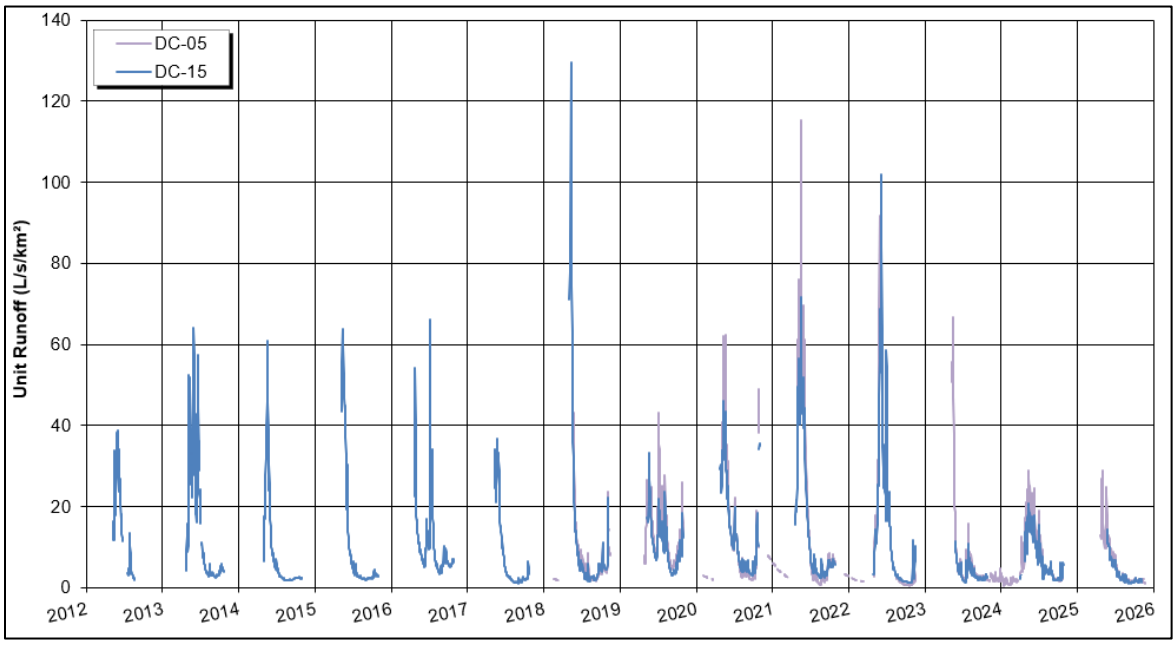
- The Davidson Creek catchment, consisting of stations DC-05 and DC-15.
- The Turtle Creek catchment, consisting of station TC-10.
- The Creek 661, Tatelkuz Lake and Chedakuz Creek catchments, consisting of stations 661-02, 661-09, CC-10, CC-12, CC-15, and CC-30.
- The Fawnie Creek catchment, consisting of stations 705-10 and MC-05.

Overall, all stream flows measured within the Mine show consistent relationships and trends. As described above for Chedakuz Creek station CC-15 (with the exception of 2016, 2019, and 2020), the annual hydrograph has a unimodal shape, with one distinct freshet peak in late May or June due primarily to snowmelt. In 2016, 2019, and 2020, the creeks experienced two or three high flow periods, with the initial peak in the spring due primarily to snowmelt followed by high flow periods in the summer and/or fall due to unusually wet conditions. The streamflow records also indicate that stations with higher elevations and smaller catchments tended to experience relatively higher unit runoff during the spring freshet period and

lower unit runoff during the summer, while stations directly downstream of a lake show runoff attenuation (flatter hydrographs) related to the storage capacity of the upstream lake. Estimated winter flows are represented by a dashed line in historic hydrographs. Winter flow data were estimated by means of linear interpolation between individual winter discharge measurements.

2.4.1 DAVIDSON CREEK CATCHMENT

The unit runoff comparison for the Davidson Creek Watershed is presented on Figure 2.4.



Note(s):

1. Estimated data are shown as a dashed line.

Figure 2.4 Davidson Creek Catchment Unit Runoff Hydrographs

Stream flows at both stations are generally very similar in magnitude and shape, though there are some notable differences between the flows in the small upper catchments and those in the larger lower catchments. Stream flows in the small upper catchment, represented by DC-05, have higher unit runoff during freshet than in the larger lower catchment, represented by DC-15. This is expected, considering the larger snowpacks associated with the upper catchments. In the summer months, stream flows in the small upper catchments have lower unit runoff than in the larger lower catchments due to lower groundwater storage and discharge potential (Freeze and Cherry, 1979).

Stream flows in the small upper catchments have lower unit runoff during the summer than in the larger lower catchments because the upper catchments have lower groundwater storage and discharge potential.

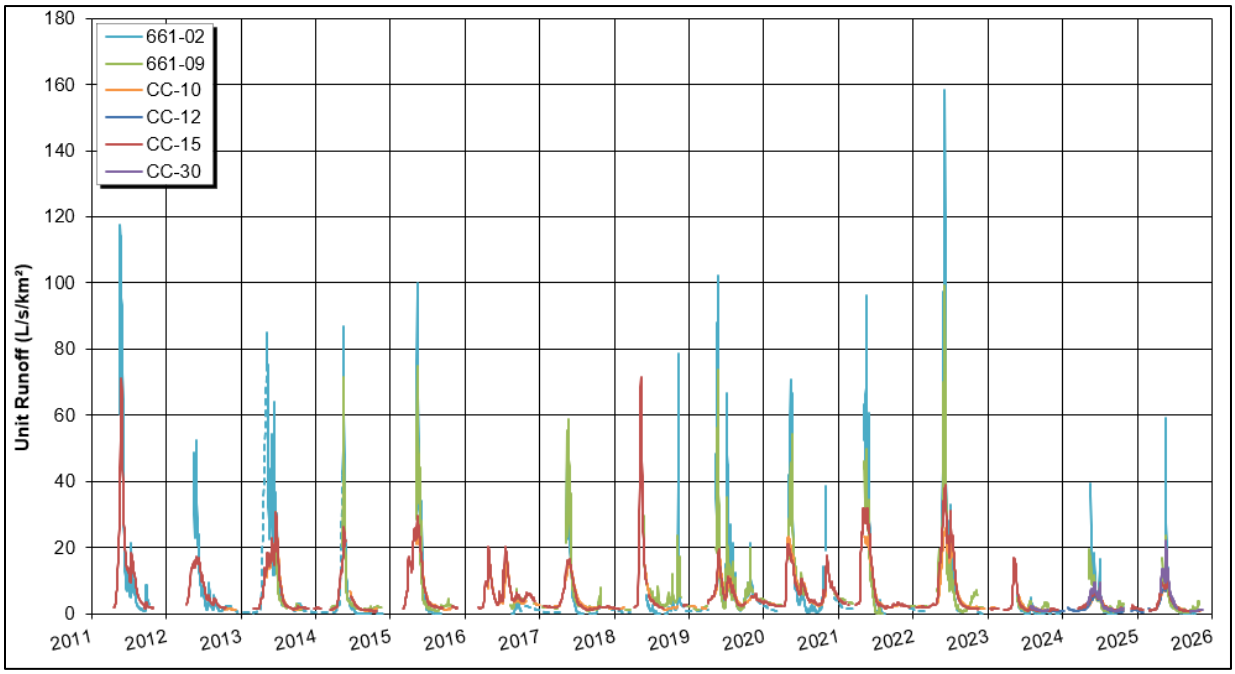
It is hypothesized that some flow in Davidson Creek was bypassing DC-15 in a side channel during high flow periods, as indicated by the 2014 discharge record. Unstable geomorphology has been observed to affect the discharge historically at this station as well as the historic H2 station. These changes are documented in further detail in the 2024 Hydrology Annual Report (KP, 2025a).

2.4.2 TURTLE CREEK CATCHMENT

Due to unreliable offset and stage-discharge data, there was no record of calculated discharge values produced for the TC-10 station in 2025. As such, there is no additional unit runoff data available for 2025 to represent the Turtle Creek catchment.

2.4.3 CREEK 661, TATELKUZ LAKE AND CHEDAKUZ CREEK CATCHMENTS

A unit runoff comparison for the Creek 661, Tatelkuz Lake, and Chedakuz Creek catchments is presented on Figure 2.5. Unit runoff for Tatelkuz Lake Outlet station CC-10 and Chedakuz Creek station CC-15 are quite similar, with slightly higher freshet unit peak flows at CC-15 but very similar rising and falling limb flows as well as similar summer and fall low flows. The most recent data show similar hydrograph patterns for the CC-12 and CC-30 stations. Unit runoff values at these stations are notably lower than those at the much smaller and higher elevation stations on Creek 661 (661-02 and 661-09), indicating the effect of watershed size, elevation, and lake attenuation. Unit runoff values at the two stations in the Creek 661 watershed are quite similar. Station 661-02 generally has a higher unit runoff during the peak of the freshet and lower base flows when compared to 661-09. The 661-09 watershed is roughly 1.5 times larger than the 661-02 watershed.



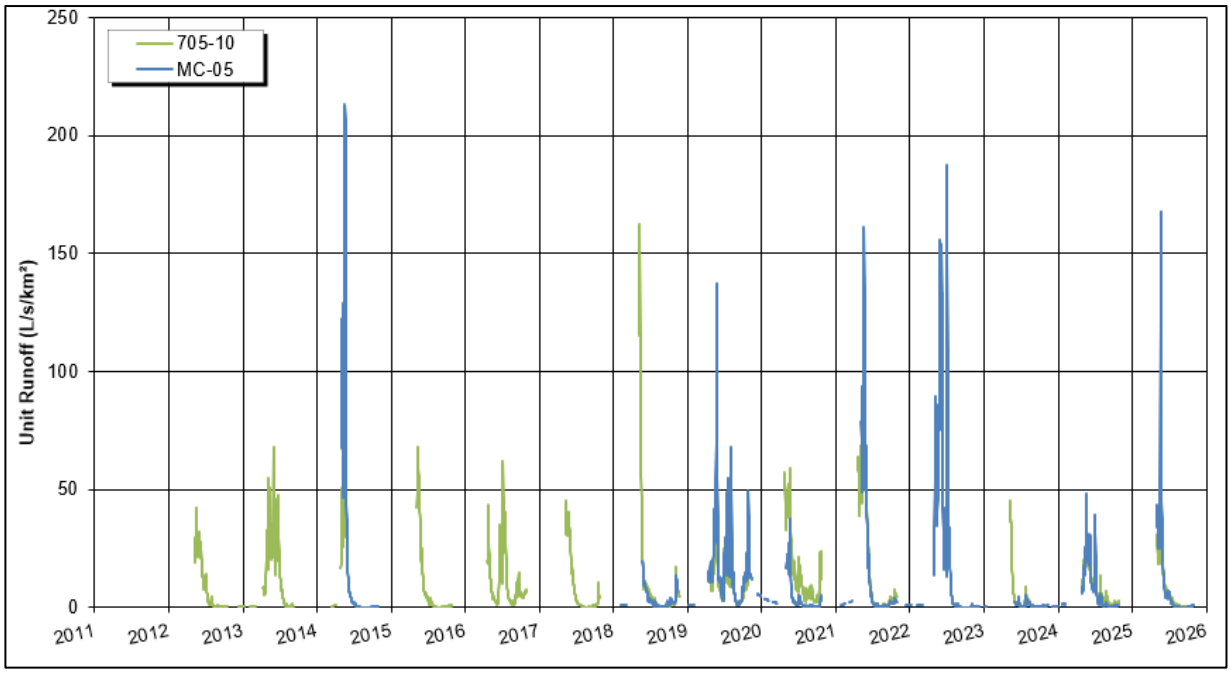
Note(s):

1. Data estimated from winter manual discharge measurements are shown as a dashed line.

Figure 2.5 Creek 661, Tatelkuz Lake and Chedakuz Creek Catchments Unit Runoff Hydrographs

2.4.4 FAWNIE CREEK CATCHMENT

The unit runoff comparison for the stations in the Fawnie Creek watershed is presented on Figure 2.6. The flows from these stations align with the overall flow trends observed at the other stations. In general, the unit runoff values and annual patterns of stations 705-10 and MC-05 are very similar, though MC-05 exhibits slightly higher freshet unit peak flows.



Note(s):

1. Data estimated from winter manual discharge measurements are shown as a dashed line.

Figure 2.6 Fawnie Creek System Unit Runoff Hydrographs

2.5 QUALITY ASSURANCE AND QUALITY CONTROL

The hydrometric data collected for the Mine have been reviewed by a qualified Hydrometric Data Reviewer in general accordance with the "Standard Process for Review of Hydrometric Data," as detailed in the Manual of British Columbia Hydrometric Standards (RISC 2018).

The twelve (12) hydrometric monitoring stations assessed in this report were assigned varying Grades, with ten (10) stations receiving an overall Grade C and the remaining two (2) stations receiving an overall Grade U. This Grade C rating is predominantly caused by the use of non-vented sensors at each station. These instruments require the use of an additional barometric logger to offset collected water level data which results in a combined instrument accuracy consistent with a Grade C classification. Some stations also received a Grade C due to the following reasons:

- Either too few individual measurements (verticals) or verticals in current meter measurements had a Max Q of greater than 10% of the flow.
- Rating curve accuracy was greater than 15%.

The remaining two spot flow stations were assigned an overall Grade B.

Instrumentation aside, most stations were deemed to be Grade A or B based on field procedure and data collection and assessment (RISC, 2018). To address and improve the current Grade C for instrumentation at the hydrometric monitoring stations, Grade A quality sensors have been acquired by the mine with the intent of replacing all Grade C sensors in 2026.

A summary of the 2025 data quality is presented in Table 2.3, which includes the RISC grading score for each station's data. As mentioned above, aside from the lowest Grade C attributed to each station due to instrumentation, field methods and data collection grades range from A and B (highest and second highest RISC standards, respectively) to Grade U which is for data of unknown quality that cannot be assigned a standard quality level.

Table 2.3 Hydrometric Monitoring Station 2025 Data Quality

Station ID	Discharge Data			Stage/Water Level Data			Overall Grade	Comments
	Instrumentation[2]	Field Procedure	Data Calculation and Assessment	Instrumentation[2]	Field Procedure	Data Calculation and Assessment		
661-02	C	C	C	C	B	A	**C**	Non-vented sensor. Incomplete survey of all established benchmarks in network, only 2 flow measurements conducted in 2025, and one or more flow measurements exceed 10% per vertical.
661-09	C	C	U	C	A	A	**U**	Non-vented sensor. Only 2 flow measurements conducted in 2025. Rating curve deviation exceeds 25% from measured values.
705-10	C	B	C	C	A	A	**C**	Non-vented sensor. Rating curve deviation exceeds 15% from measured values.
CC-10	C	B	C	C	A	A	**C**	Non-vented sensor at TL-01H. Rating curve shift deviation exceeds 15% from measured values.
CC-12	C	A	B	C	A	A	**C**	Non-vented sensor.
CC-15	C	B	B	C	B	A	**C**	Non-vented sensor.
CC-30	C	B	B	C	A	A	**C**	Non-vented sensor.
CC-40	-	B	A	Spot Flow Station			**B**	Only 4 out of 5 flow measurements verified due to lack of field note records
DC-05	C	B	B	C	B	A	**C**	Non-vented sensor.
DC-10	-	B	A	Spot Flow Station			**B**	Only 3 out of 5 flow measurements verified due to lack of field note records.
DC-15	C	B	B	C	B	A	**C**	Non-vented sensor.
MC-05	C	C	C	C	A	A	**C**	Non-vented sensor. Inadequate number of verticals in flow measurement based on width of stream. Rating curve deviation exceeds 15% from measured values.
TC-10	C	B	U	C	A	A	**U**	Non-vented sensor. No corrected water level record produced due to unstable offset. 2025 stage-discharge points do not align with the existing rating curve.
TL-01H	Lake Level Station			C	A	A	**C**	Non-vented sensor.

Note(s):

1. RISC standards are referenced from the Manual of British Columbia Hydrometric Standards, Version 2.0 (RISC, 2018).
2. All stations are assigned a Grade C for instrumentation because the water level sensors are non-vented and therefore require barometric compensation using a barologger. This results in a combined instrument accuracy that meets Grade C classification.

Further to this review, the Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators (MOE, 2016) lists the following information that should be documented as part of the QA/QC process:

- Error bounds of instruments, data loggers, conversion factors, rating curves, etc.
- Operational limits of sensors (i.e., performance in sub-zero temperatures).
- Sensor drift and correction procedures.
- Benchmark surveys and shift corrections.
- Sensitivity analyses.
- Chronological record of field visits, maintenance, and calibration programs.
- Whether discharge data have been estimated by extrapolating beyond measured discharge on the rating curve (may introduce error at the low and high ends of the curve).

The following information has therefore been provided to satisfy these requirements.

Error Bounds:

Uncertainty exists in the measurement of both water level and discharge recorded as part of a hydrometric program. Water level uncertainty primarily arises from wave action above the water level sensor and is positively correlated to the magnitude of discharge (i.e., larger water level uncertainties exist at higher flows). To document this uncertainty, an estimate of the variability in the true water level was recorded during each site visit. This estimate was determined during the reading of the water level from the reference mark or during a benchmark survey and was considered when determining the rating curve for each station. Uncertainty in the manual discharge measurements was also recorded during each site visit when discharge was recorded. Discharge uncertainty was estimated based on the characteristics of the measurement cross-section, the percent discharge recorded in each flow column, and the variability in calculated discharge between multiple measurements recorded during a single site visit. Discharge uncertainty is presented graphically as error bounds on the rating curve figures.

Operational Limits of Sensors:

The water level sensors installed for the Mine will operate in a water depth up to 4 m and in temperatures ranging from 0°C to 50°C. Considering that air temperatures routinely drop below -5°C during the winter and that freezing of the sensor could cause pressures to exceed pressures equivalent to 4 m of water depth, the sensors were removed from stations that were likely to have very low flows during the winter months or were winterized to prevent freezing.

Sensor Drift and Correction Procedures:

Sensor drift refers to the ability of electronic sensors to “drift” out of calibration. Sensor drift was monitored at the Mine stations by tracking the offset between gauge height determined from reading a staff gauge or reference mark and the water level recorded by the sensor during each site visit. If the staff gauge or reference mark were determined to be stable over time (by conducting periodic benchmark surveys) and the relationship between gauge height and water depth measurement was found to linearly increase or decrease over time, the cause would most often be sensor drift. If that was found to be an issue the sensor was replaced.

Benchmark Surveys and Shift Corrections:

Benchmark surveys were conducted during the establishment of each monitoring station and at the start and end of each open water season. Furthermore, during each site visit, an independent measure of gauge height was obtained. If sensors were moved during the monitoring period, a correction was applied by adjusting the entire record to a common datum established through the benchmark surveys. It should be noted that at a few stations there have been ongoing issues with benchmark stability. Sites such as CC-10 have noted movement of benchmarks in the past. If a benchmark was confirmed to have moved, it was either removed from use, or the elevation was updated if appropriate to do so.

Sensitivity Analysis:

Measured hydrologic conditions for the Mine are presented in this report. The magnitude and timing of flows were found to be consistent amongst various Project stations and also consistent with regional patterns, as confirmed in past analyses such as the 2020 Hydrometeorology Report (KP, 2021a). The data were also validated through multiple site visits and repeated measurements, and for these reasons, a sensitivity analysis was not considered necessary at this time.

Chronological Record of Field Visits, Maintenance, and Calibration Programs:

Information regarding all aspects of the Mine hydrometric monitoring field program is recorded and documented on KP's FULCRUM online data management system, and it has been reviewed for quality and completeness. Data are available for remote viewing by external agencies at the approval of BWG.

Discharge Extrapolated Beyond the Maximum Rating Curve Stage-Discharge Measurement:

Discharge data derived by the extrapolation of the stage-discharge rating curves are discussed in Appendix A. Rating curve extrapolation at these stations has been done to the maximum measured stage; however, at most stations the extrapolated flows represent a relatively small proportion of the annual measured flow record. Considering the limited extrapolation involved, there is generally high confidence in the resulting flow records. Caution should, however, be applied when considering extrapolated discharges.

2.6 COMPARISON TO BASELINE DATA

2025 streamflow data have been compared to baseline conditions established in the *2020 Hydrometeorology Report* (KP, 2021a). In both the 2025 streamflow data and the baseline conditions, the annual hydrograph is typically unimodal, with the lowest flows occurring in late summer and in winter, and peak flows typically occurring during the spring freshet. Secondary peaks may also occur in the summer or fall due to heavy storm events. Peak flows for the Mine area typically occur almost exclusively during the spring and early summer freshet period and result from snowmelt or combined rainfall and snowmelt events.

Monthly average streamflow was computed for stations that still represent baseline conditions and were compared with the wet and dry return period flows presented in Appendix B of the *2020 Hydrometeorology Report* (KP, 2021a). Only three (3) active stations can be compared with their respective baseline conditions, as other stations included in the *2020 Hydrometeorology Report* (KP, 2021a) have either been relocated, decommissioned, or are impacted by operational activities. MC-05 (formerly named H12) did not have sufficient data when the *2020 Hydrometeorology Report* (KP, 2021a) was written to perform dry and wet return period analysis and therefore is not included in this section. Additionally, no stage or streamflow data for Turtle Creek hydrometric station TC-10 are available in 2025. An overview of the comparison between the baseline and current conditions for each applicable station is presented below:

661-02:

- Monthly average streamflow values were generally drier than a typical year. Summer monthly flows ranged between the 5-year dry return period and the 20-year dry return period. However, in fall (September and October), monthly average flows in 2025 approached or exceeded the 50-year dry return period.

661-09:

- Monthly average streamflow values were significantly drier than a typical year. Monthly flows in May and June ranged between the 5-year and 20-year dry return periods. However, from July to September, monthly average flows in 2025 exceeded the 50-year dry return period. In October, monthly average flows returned to between the 5-year and 10-year dry return period flows.

CC-10:

- Monthly average streamflow values were significantly drier than a typical year. Monthly flows in May and June ranged between the 5-year and 10-year dry return period. However, for the remainder of the available 2025 record (July to October), monthly average flows exceeded the 50-year dry return period.

A quantitative comparison of monthly flow volumes between the 2025 monitoring period and baseline conditions (KP, 2021a) for the three (3) stations outlined above is provided in Table 2.4. The baseline mean monthly flow volume was derived from a long-term synthetic daily flow series from 1973 to 2020, which was a result of frequency paired regression analysis.

Table 2.4 Comparison of Monthly Flow Volumes between 2025 and Baseline Conditions

Month	661-02 Monthly Flow Volume (m^3)		661-09 Monthly Flow Volume (m^3)		CC-10 Monthly Flow Volume (m^3)	
	Baseline Mean	2025	Baseline Mean	2025	Baseline Mean	2025
January	18,749	-	26,784	-	1,593,648	-
February	16,934	-	21,773	-	1,366,848	-
March	26,784	-	32,141	-	1,813,277	-
April	129,600	-	176,256	-	5,476,896	-
May	594,605	-	621,389	442,193	16,048,973	8,433,299
June	196,992	88,562	453,600	111,995	9,805,536	4,965,060
July	88,387	23,845	163,382	39,143	5,895,158	2,139,489
August	24,106	8,180	107,136	28,825	3,291,754	1,241,303
September	33,696	4,522	93,312	34,433	1,995,840	826,683
October	50,890	4,564	112,493	79,790	2,255,213	849,980
November	46,656	-	57,024	-	2,125,440	-
December	24,106	-	34,819	-	1,757,030	-

3.0 WATER TEMPERATURE DATA

3.1 PROJECT STATIONS

Water temperature monitoring, the continuous temperature monitoring data, and in-situ temperature measurements for water temperature stations within the Mine are conducted as outlined in the AEMP (BWG, 2022) and the receiving environment monitoring program summarized in Appendix B of EMA Permit 110652.

The 12 dedicated temperature monitoring stations include “ST” in their name and most of them were installed in typical Kokanee spawning habitat in the lower reaches of Davidson Creek. These stations consist of an Onset TidbiT v2 Temperature Data Logger held in the centre of a short PVC pipe that is attached to a double concrete cinder block, as shown in Photo 3.1. The cinder blocks were placed horizontally on a creek bottom and, together with the PVC pipe, help shade the sensor from direct sunlight. Station names have suffixes “DEEP” or “KO.” DEEP indicates that the station was installed in a pool, near maximum pool depth, while KO indicates that the station was installed in a shallower riffle area. The DEEP and KO stations with the same “ST” number were sited together in pairs. Temperature data collected at these dedicated temperature monitoring stations in 2025 were provided to BWG in a separate transmittal (VA25-03295).

Photo 3.1 Typical Dedicated Water Temperature Station Installation

The non-dedicated temperature monitoring stations are hydrology stations that were primarily installed for monitoring streamflows or water levels. The typical station set-up for the hydrology stations is described in Section 2.1. Continuous temperature monitoring data were verified with manual measurements using a YSI Pro Plus multiparameter probe, and temperature readings were verified on a regular basis with a second instrument. The differences between the manual measurements and the logged data are typically within ± 0.5 °C, and therefore the recorded data are considered valid and were not corrected. Temperature data collected at these dedicated temperature monitoring stations in 2025 were provided to BWG in a separate transmittal (VA26-00634).

Water temperatures collected as part of the AEMP (BWG, 2022) are measured at DC-05 and DC-15 in accordance with Condition 3.15 of the *Canadian Environmental Assessment Act, 2012* Decision Statement, which requires BWG to continuously monitor water temperatures in Davidson Creek. These data are presented in Sections 3.2 and 3.3.

Table 3.1 Summary of Site Water Temperature Stations

Watershed			Location	Parameters Collected	Station Name		EMS ID	Easting (m)	Northing (m)	Elevation (m)	Drainage Area (km²)	Installed
					Previous	New						
Chedakuz Creek	Davidson Creek		Upper Davidson Creek	Continuous Water Temperature & Manual Water Temperature	ST-10 DEEP		-	377,397	5,798,485	1,182	44	November 5, 2015
				Continuous Water Temperature & Manual Water Temperature	H2B	DC-05	E331279	378,205	5,899,299	1,158	46	February 14, 2018
				Continuous Water Temperature & Manual Water Temperature	ST-18 DEEP		-	379,497	5,900,454	1,131	53	November 5, 2015
			Middle Davidson Creek	Continuous Water Temperature & Manual Water Temperature	ST-17 DEEP		-	381,891	5,904,060	1,041	61	November 5, 2015
				Continuous Water Temperature & Manual Water Temperature	H4B	DC-15	E331281	381,893	5,904,051	1,041	61	May 9, 2012
			Lower Davidson Creek	Continuous Water Temperature & Manual Water Temperature	ST-16 KO		-	383,118	5,906,374	974	70	November 5, 2015
				Continuous Water Temperature & Manual Water Temperature	ST-16 DEEP		-	383,130	5,906,413	973	70	November 5, 2015
				Continuous Water Temperature & Manual Water Temperature	ST-15 KO		-	383,694	5,907,253	947	75	November 4, 2015
				Continuous Water Temperature & Manual Water Temperature	ST-15 DEEP		-	383,717	5,907,252	946	75	November 4, 2015
				Continuous Water Temperature & Manual Water Temperature	ST-14 DEEP		-	384,028	5,907,510	939	76	November 4, 2015
				Continuous Water Temperature & Manual Water Temperature	ST-14 KO		-	384,044	5,907,521	938	76	November 4, 2015
				Continuous Water Temperature & Manual Water Temperature	ST-08 DEEP		-	384,243	5,907,763	939	76	November 4, 2015
				Continuous Water Temperature & Manual Water Temperature	ST-08 KO		-	384,257	5,907,788	937	76	November 4, 2015
	Turtle Creek			Continuous Water Temperature & Manual Water Temperature	N/A	TC-10	E331285	379,129	5,906,160	1,024	57	May 21, 2021
	Tatelkuz Lake	Tatelkuz Lake		Continuous Water Temperature & Manual Water Temperature	L1	TL-01H	E331309	387,946	5,905,964	934	392	April 11, 2012
		Creek 661	Creek 661	Continuous Water Temperature & Manual Water Temperature	H1	661-02	E331288	380,977	5,897,748	1,172	9	May 19, 2011
			Tributary of Creek 661	Continuous Water Temperature & Manual Water Temperature	H11	661-09	E331294	381,129	5,897,914	1,165	15	June 12, 2013
	Chedakuz Creek			Continuous Water Temperature & Manual Water Temperature	CC-12		E331298	385,044	5,907,955	930	392	February 16, 2023
				Continuous Water Temperature & Manual Water Temperature	H5	CC-15	E331299	383,898	5,909,443	930	593	April 19, 2011

Watershed		Location	Parameters Collected	Station Name		EMS ID	Easting (m)	Northing (m)	Elevation (m)	Drainage Area (km²)	Installed
				Previous	New						
Chedakuz Creek			Continuous Water Temperature & Manual Water Temperature	ST-12 DEEP		-	383,912	5,909,442	931	593	November 5, 2015
			Continuous Water Temperature & Manual Water Temperature	CC-30		E331301	375,187	5,916,462	896	689	July 27, 2023
Fawnie Creek	Mathews Creek		Continuous Water Temperature & Manual Water Temperature	H12	MC-05	E331306	358,247	5,886,498	1,076	117	May 1, 2014
	Creek 705		Continuous Water Temperature & Manual Water Temperature	H7	705-10	E331304	362,143	5,892,983	1,102	42	May 8, 2012

3.2 DC-05 WATER TEMPERATURE

The DC-05 station is installed in the upper reaches of Davidson Creek, downstream of the Fresh Water Reservoir (FWR) embankment which was under construction in 2025. The water temperature time series recorded are presented on Figure 3.1.

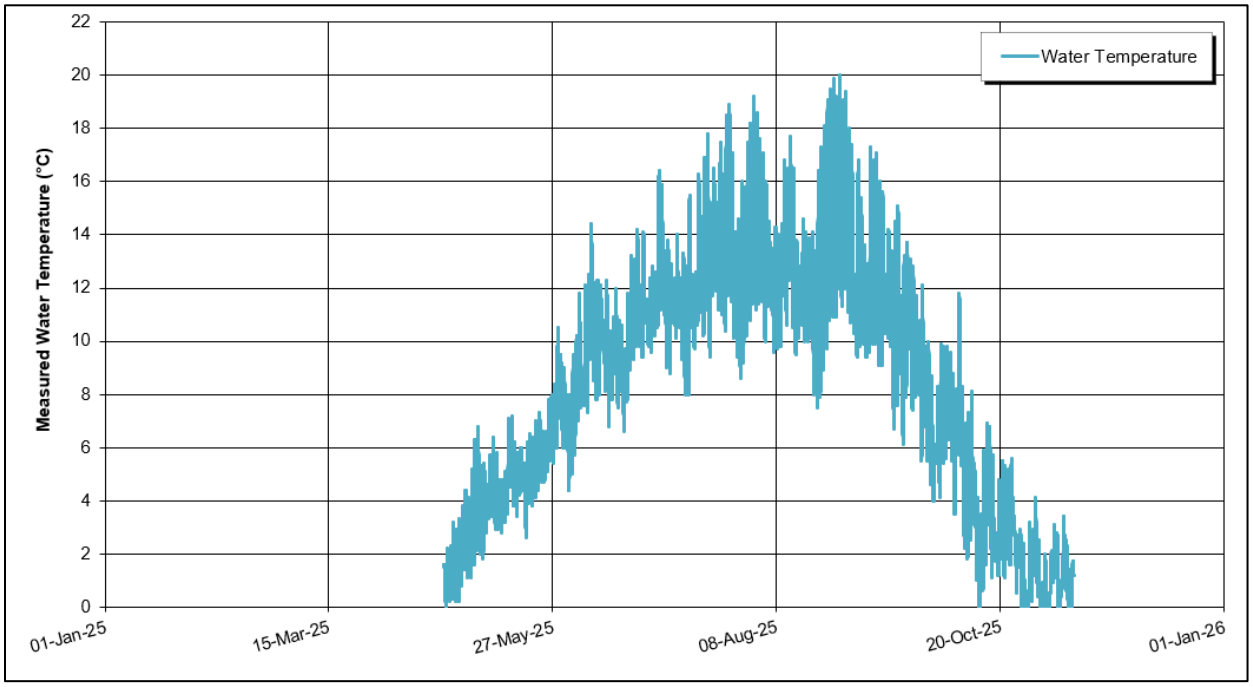


Figure 3.1 2025 Water Temperature Recorded at DC-05

The data indicate a strong inverse relationship between stream discharge and water temperature during the snowmelt-driven open-water period (approximately April to July). As shown on Figure 3.2, when discharge is low (below 0.2 m^3/s), water temperatures exhibit high variability and can reach maximum values of approximately 15-16°C. Conversely, at higher discharge rates (above 0.6 m^3/s), water temperatures consistently remain low, typically below 8°C. This negative correlation is further demonstrated on Figure 3.3, where peak discharge events during late spring (May-June) coincide with the lowest water temperatures, while the declining discharge through summer and fall corresponds with a progressive warming trend, reaching maximum temperatures of approximately 15°C during late summer. This pattern is characteristic of snowmelt-dominated streams, where increased discharge from cold meltwater depresses stream temperatures, while lower baseflow conditions during warmer months allow for greater solar heating and reduced thermal buffering, resulting in elevated water temperatures.

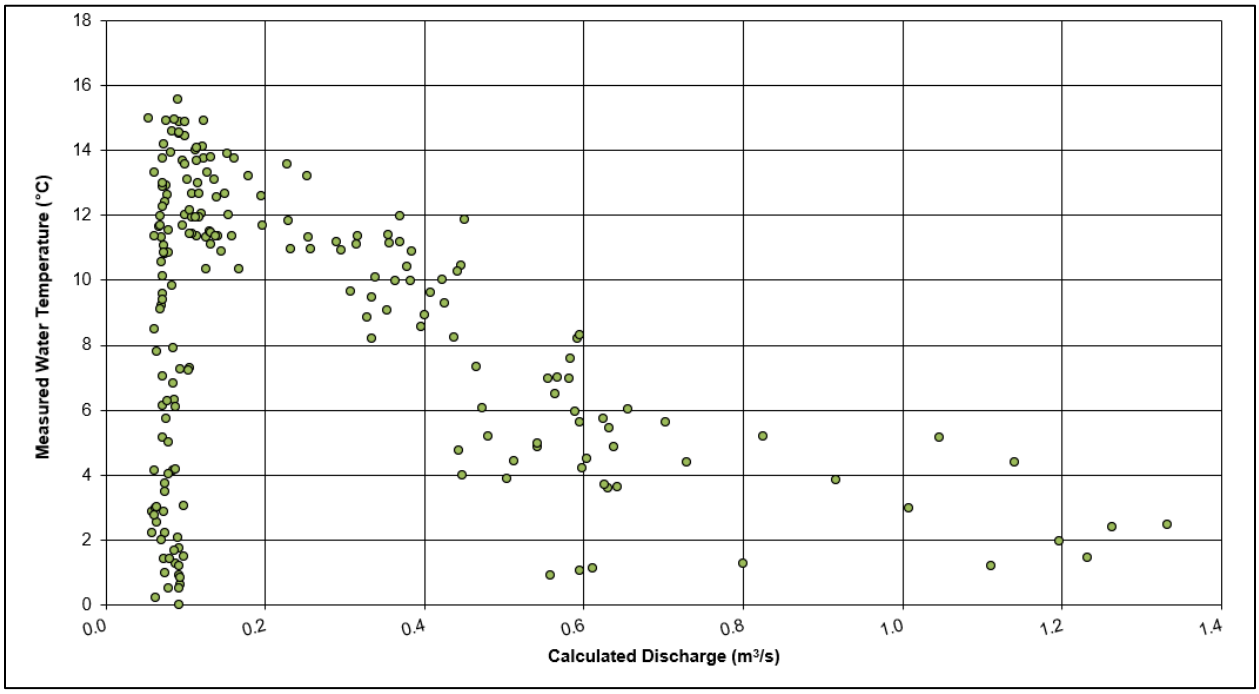


Figure 3.2 2025 Water Temperature vs. Measured Discharge at DC-05

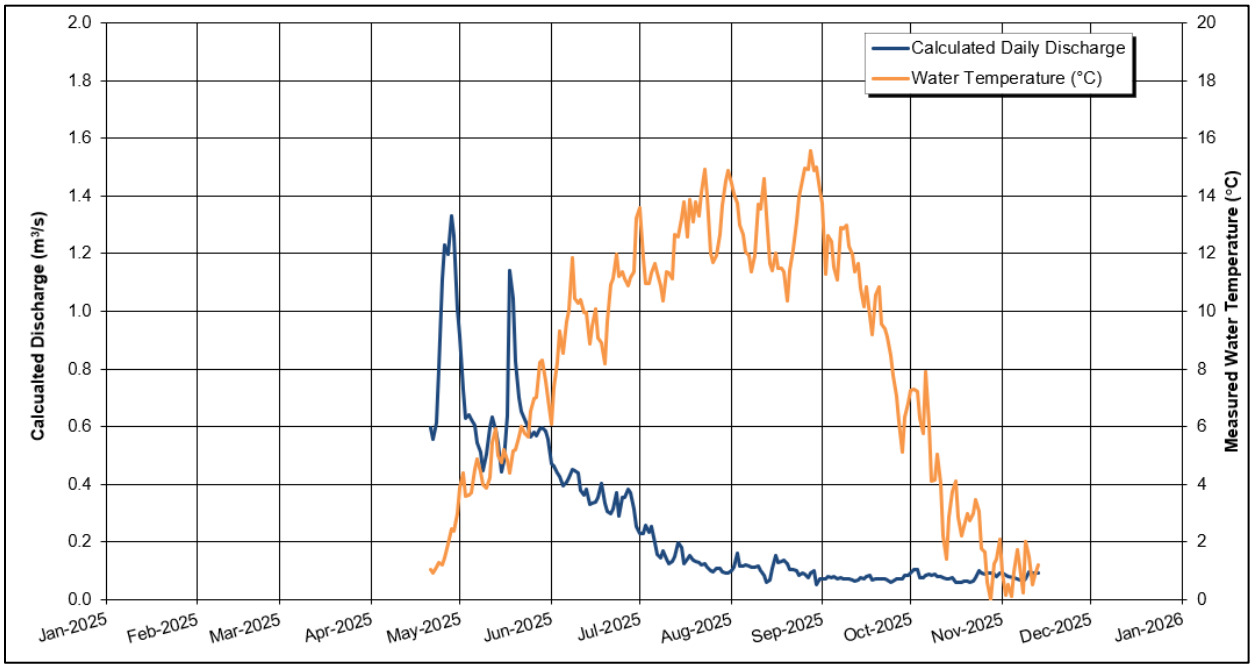


Figure 3.3 2025 DC-05 Daily Average Discharge and Water Temperature Time Series

3.3 DC-15 WATER TEMPERATURE

The DC-15 station is installed in the middle reaches of Davidson Creek. The water temperature time series recorded are presented on Figure 3.4.

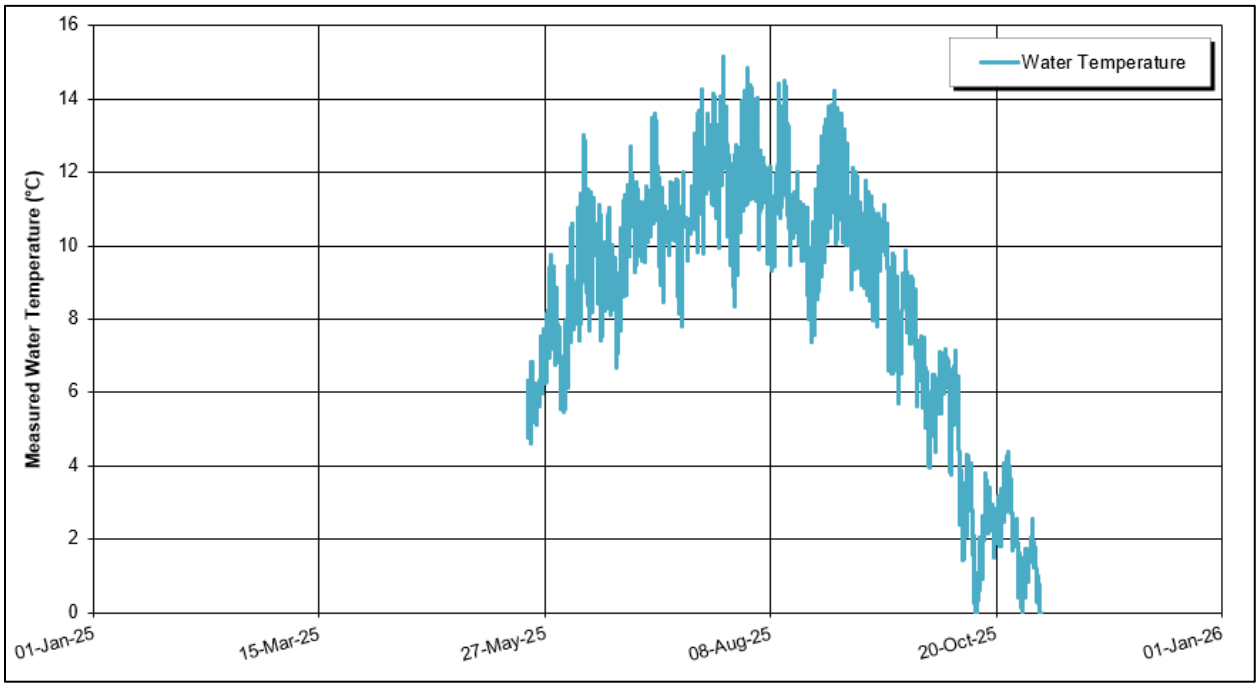


Figure 3.4 2025 Water Temperature Recorded at DC-15

As at DC-05, The data indicate a strong inverse relationship between stream discharge and water temperature during the snowmelt-driven open-water period (approximately April to July). As shown on Figure 3.5, when discharge is low (below 0.1 m^3/s), water temperatures exhibit high variability and can reach maximum values of approximately 12-13°C. The negative correlation observed at DC-05 is also at DC-15 on Figure 3.6, where peak discharge events correspond to lower water temperatures, while the declining discharge through summer and fall corresponds with a progressive warming trend, reaching maximum temperatures of approximately 12°C during late summer.

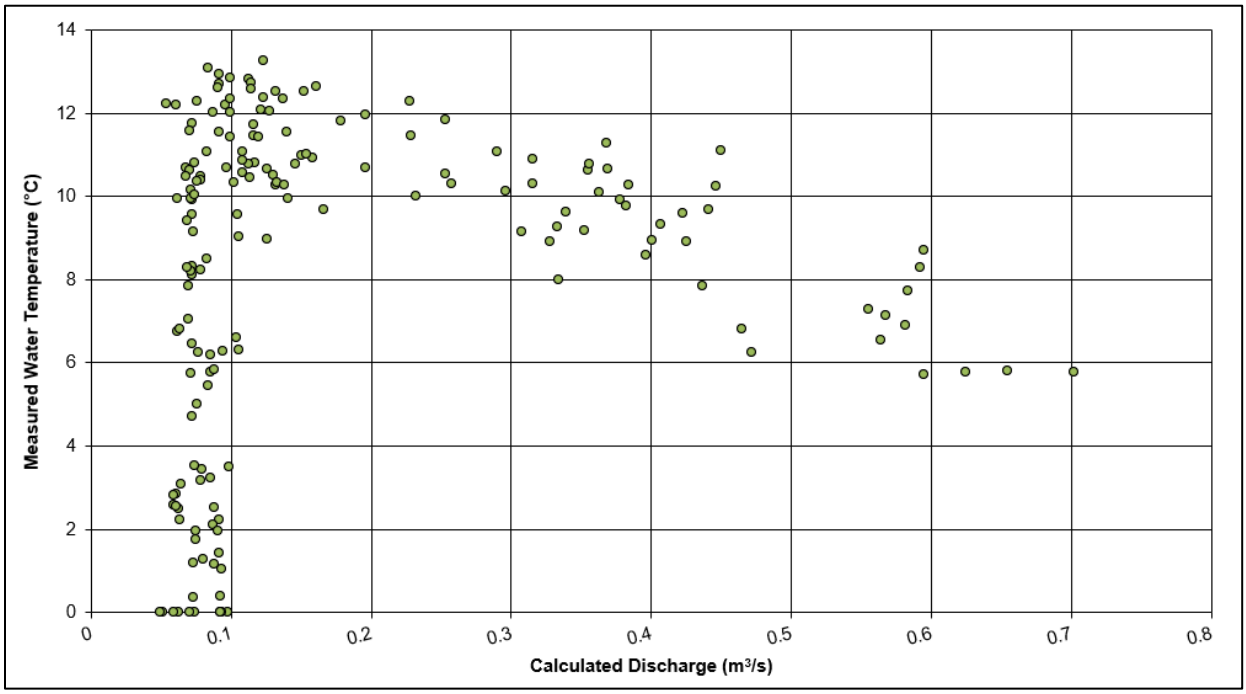


Figure 3.5 2025 Water Temperature vs. Measured Discharge at DC-15

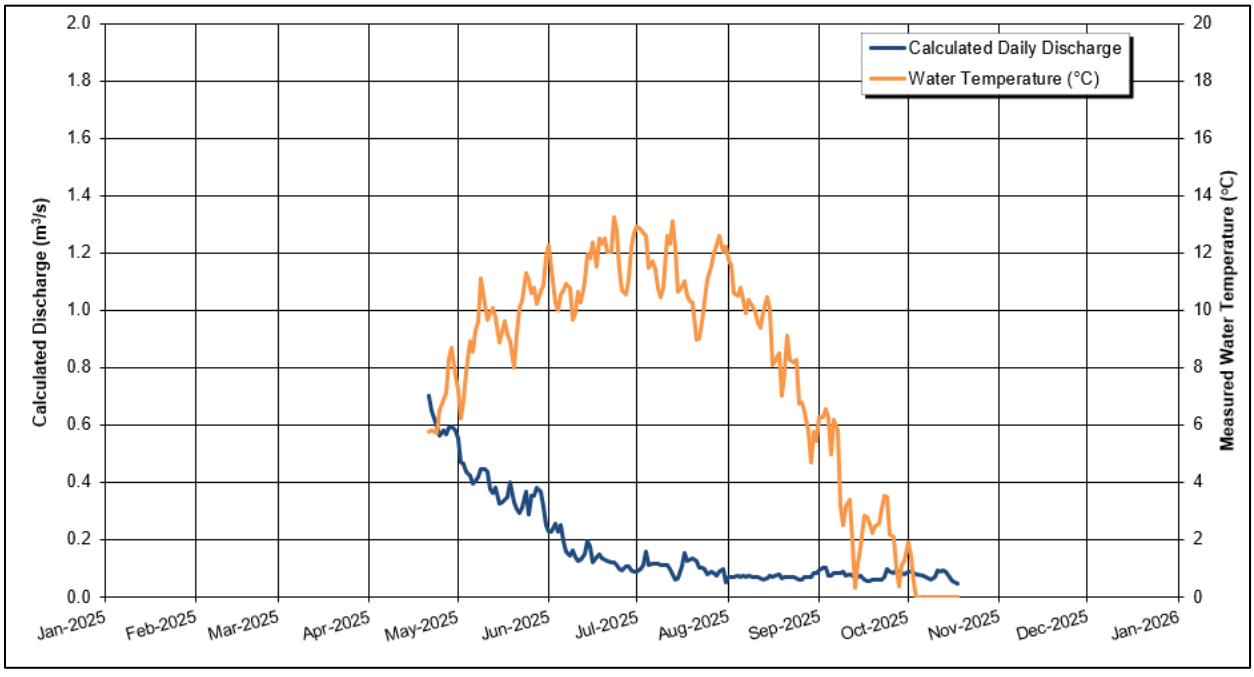


Figure 3.6 2025 DC-15 Daily Average Discharge and Water Temperature Time Series

4.0 LIFE OF MINE WATER BALANCE MODEL COMPARISON

A Life of Mine Water Balance Model (WBM) was developed to support the Application (KP, 2022). An update to the WBM was completed following the 2025 freshet as a reconciliation to meet a Mines Act permit condition (KP, 2025b). Predicted streamflows were generated with both models using climate representative of average climate conditions and variable (historic) climate conditions to generate a range of potential future streamflows at hydrometric monitoring stations around the Mine site. The 2022 model included streamflow predictions for DC-05, DC-15, 661-02, 661-09, and 705-10 whereas the 2025 WBM Reconciliation (KP, 2025b) only considered DC-05. These predicted flows from the models were compared to the measured 2025 flows as required in PE-110652.

The monthly hydrographs comparing these flows are presented in Appendix A. An example comparison between the modelled flows and the 2025 measured monthly average flows for Davidson Creek at hydrometric station DC-05 is presented on Figure 4.1. The predicted range of flows shown on the Figure represents the minimum and maximum modelled flows with each model.

The 2022 WBM flows were generated assuming Instream Flow Needs (IFN) at DC-05 would meet the Operational IFN criteria (Palmer, 2021). Construction IFN was subsequently developed with lower criteria to be met during the Construction period and until the Freshwater Supply System is operational (Palmer, 2022). The Construction IFN were the applicable target flows at DC-05 in 2025 and were included in the 2025 WBM Reconciliation for Year 1.

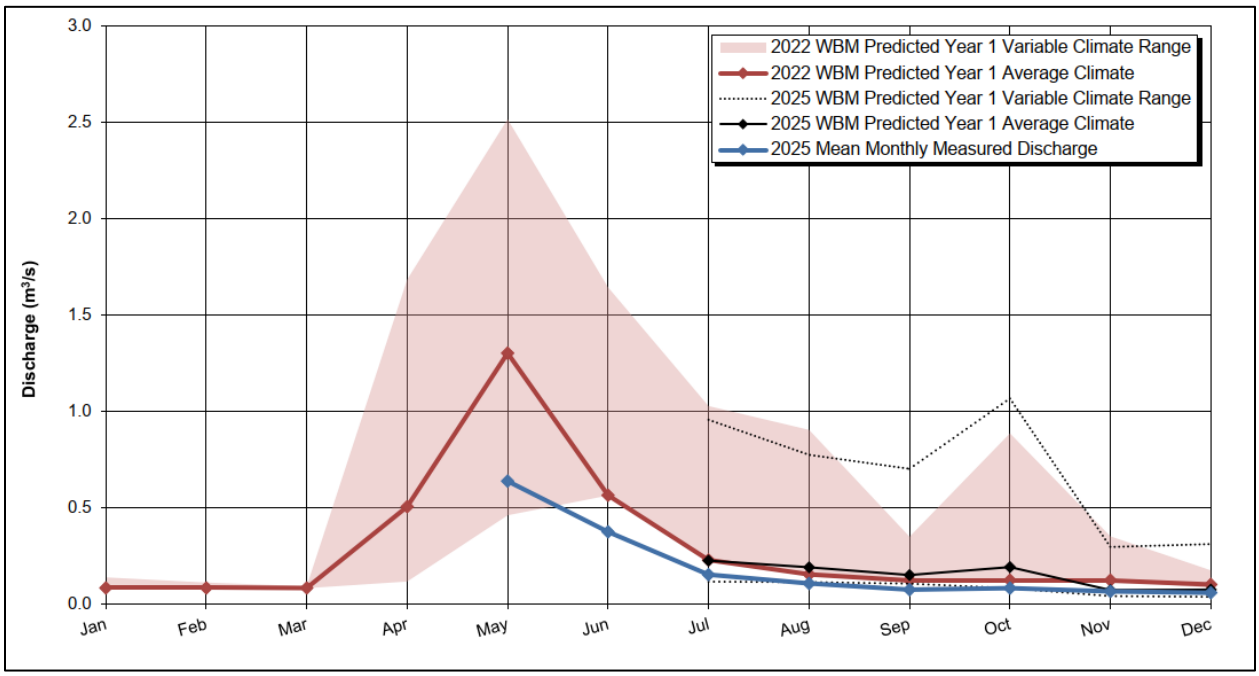


Figure 4.1 Upper Davidson Creek Hydrology Station DC-05 Year 1 Predicted vs. Measured Monthly Hydrograph

5.0 CONCLUSION AND RECOMMENDATIONS

Upon review of the 2025 hydrometric and temperature monitoring data, KP developed the following recommendations to be implemented during the 2026 monitoring year:

- Earlier re-installation of hydrometric monitoring stations or winterization of all stations: Many hydrometric monitoring stations were re-installed for the 2025 hydrometric monitoring in late April to June, after the typical period of freshet peak flows. In 2025, freshet occurred earlier than anticipated relative to most other years, which reduced the opportunity to capture peak flow conditions at certain stations. Re-installing the stations (where site conditions allow) well in advance of the expected spring freshet period or winterizing them instead of removing them at the end of the open water season, would facilitate the collection of a more complete hydrologic data set. Ongoing monitoring of seasonal weather patterns to optimize re-installation timing would further improve the likelihood of capturing peak freshet conditions.
- Improvements to field data quality: Include data sheets for all current meter flow measurements. Hand-written field sheets and current meter flow record files should be uploaded for each visit where a flow measurement was conducted. Ensuring that both digital and hand-written records are collected provides essential redundancy to ensure that no data are lost and gives opportunity for multiple field staff to comment on trends/observations during the measurement. In order to grade the data collection methods according to RISC (2018) guidelines, information such as number of verticals and weighted discharge percentage per vertical is required. Writing this information down on the field sheet before leaving the site confirms that attention has been given to fulfill these requirements prior to ending the measurement. Field sheets should always include start/end times of all measurements, and more photos of flow and site conditions will further aid in data analysis and assessment. Water levels should also be surveyed directly above sensor (or as close as possible) which may improve offset accuracy.
- Install new OTT ecoLog 1000 in 2026: New vented transducers that meet Grade A requirements and do not require barometric compensation (avoiding the anomalous fluctuations associated with measuring absolute pressure) were ordered by BWG to be installed during the 2026 hydrometric monitoring program. KP will assist BWG with the installation of these sensors in 2026.
- Increase offset and rating curve accuracy: To achieve at least Grade B or higher in field procedures according to RISC (2018) standards, all established benchmarks within a network must be surveyed at least twice per year. If benchmarks are no longer in use in the network, descriptions should be updated in FULCRUM to identify which ones are active. An emphasis also needs to be made on rating curve accuracy. To achieve a Grade B or higher in the ‘Data Calculation and Assessment’ category, rating curve deviation threshold needs to be reduced for several stations. This may require more discharge measurements to be conducted over the year over a range of flows. This will also be useful for stations with preliminary rating curves that require validation with more stage-discharge measurements.
- DC-05 Offset and Rating Curve: To complete the transition to using the OTT ecoLog 1000 as the primary sensor at the DC-05 hydrometric station, a stable and consistent offset must be established in 2026. An emphasis should be made on collecting frequent, high-quality benchmark surveys at the beginning of the 2026 open water season. Aside from providing higher confidence in the stage record, this will allow KP and BWG to monitor real-time flow conditions and identify areas of the rating curve that could use additional stage-discharge measurements.

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7.0 CERTIFICATION

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APPENDIX A

Site Hydrology Stations and Data

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SITE HYDROLOGY STATIONS AND DATA

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Figure A5.2.1 Chedakuz Creek Hydrology Station 2021-2025 CC-15 Rating Curve 53
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1.0 HYDROLOGY STATIONS AND DATA

The locations of the Blackwater Gold Project streamflow and water level gauging stations are shown on Figure 2.1 of the main report. The report discusses fourteen (14) hydrology stations which are installed in the Davidson Creek, Turtle Creek, Tatelkuz Lake, Chedakuz Creek, and Fawnie Creek watersheds. The dates of installation or establishment for the stations vary and are presented in Table 2.1 of the main report. The details of the data collection activities and rating curve development for all stations are summarized by watershed in the following sections of this appendix. The overall validity and goodness of fit for each rating curve were initially assessed mathematically (theoretical vs. actual) and then adjusted again visually with special attention paid to the low flow measurements. Additionally, stations in the same watershed had their discharge hydrographs compared to confirm the rating curve and overall data validity.

Calculated discharge records were developed for each hydrology station by applying the rating curves to their respective stage records. The water level data were corrected to the station datum for data collected during open water conditions when the stage-discharge relationship is not altered by transient effects such as icing of the channel, prior to application of the rating curves. The offset for water levels was based on benchmark surveys completed throughout the period of record. The corrected water level data are referred to as stage data. Periods with erroneous water level data due to ice effects, instrumentation malfunction, and sensor or clock drift, were reviewed and corrected or removed from the data sets. Water level to stage corrections were undertaken with KP's FULCRUM data management software, which allows for advanced data correction and correction tracking.

Winter measurements that were collected when the stage was believed to be ice affected were not used for rating curve development; however, the discharge measured was used to help characterize winter streamflows (i.e., low flows).

2.0 DAVIDSON CREEK WATERSHED

This report discusses three (3) hydrology stations currently operated in the Davidson Creek Watershed, with one location only having spot flow measurements taken. The hydrology stations, listed from upstream to downstream, are installed in the upper reaches of Davidson Creek; DC-05, and the middle reaches of Davidson Creek; DC-15. The spot flow measurement location is in the upper reaches of Davidson Creek; DC-10. The station and spot flow measurement locations are included on Figure 2.1 of the main report.

2.1 UPPER DAVIDSON CREEK HYDROLOGY STATION DC-05

The DC-05 station, previously named H2B, was installed in the upper reaches of Davidson Creek on May 23, 2018. The station is shown in Photo A2.1 and consists of a Solinst Levelogger 5 paired with a Solinst LevelSender (for telemetry capabilities) installed inside a protective aluminum pipe that is secured to a rock on the bank of the creek. An OTT ecoLog 1000 vented sensor was installed at DC-05 in September of 2025, with the intention of replacing the Solinst Levelogger 5 sensor. The new ecoLog 1000 sensor is not currently used as the primary sensor as a stable offset has not yet been established. The Levelogger 5 was historically removed each year during the winter months to avoid damage from ice. The station was then re-installed during the start of the open water season, when it was safe to do so. Beginning in fall 2023, the DC-05 station remains operational year-round as the sensor is winterized during the fall site visits. The ecoLog 1000 is equipped with a telemetry logger. When the ecoLog 1000 sensor becomes the primary sensor for this station, the station will provide access to real-time water level data.

Photo A2.1 Upper Davidson Creek Hydrology Station DC-05, looking upstream (July 20, 2025)

Ten (10) stage-discharge measurements and eight (8) discharge measurements were collected at this site in 2025. The paired stage-discharge and individual discharge measurements from 2025 are summarized in Table A2.1.

Upon inspection, it was determined that the previously established 2023-2024 rating curve was not representative of the stage-discharge relationship in either year. Additionally, measurements collected in 2025 plotted to the right of the existing curve, and although field notes and photographs did not corroborate a specific change in hydraulic control, a consistent relationship was not apparent across the three years. Therefore, it was decided that the most reasonable action was to establish three separate rating curves, one for each year. While establishing annual rating curves is not ideal, in this case the three rating curves are more representative of the streamflow data for each year given that the stage-discharge relationship has changed in each of the past three years. The preliminary 2023, 2024, and 2025 rating curves are included on Figure A2.1.2.

Of the ten (10) stage-discharge measurements collected at this site in 2025, all ten (10) were used to develop the most recent 2025 rating curve. The 2025 rating curve is defined as preliminary as the minimum number of stage-discharge measurements to establish a two-part rating curve has not yet been passed, which is fourteen (14) (RISC, 2018) with seven (7) in each section of the rating curve. The preliminary 2025 rating curve is included on Figure A2.1.1.

The maximum reliable measured discharge and maximum extrapolated discharge for the individual rating curves are summarized below:

- Preliminary 2023 rating curve: the maximum measured discharge was 2.13 m³/s and the maximum extrapolated discharge is 4.60 m³/s.
- Preliminary 2024 rating curve: the maximum measured discharge was 0.69 m³/s and the maximum extrapolated discharge is 1.58 m³/s.
- Preliminary 2025 rating curve: the maximum measured discharge was 0.63 m³/s and the maximum extrapolated discharge is 1.76 m³/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, there is increased uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the rating curves to the stage record produced the discharge hydrograph for this site, which is included on Figure A2.1.3. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for DC-05 were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to DC-05 due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. Once a stable offset is established at DC-05 using the ecoLog 1000 sensor, the Grade for instrumentation would be A, resulting in the overall Grade for the station to be Grade B.

When icing effects changed the stage-discharge relationship in such a way that precluded the collection of continuous streamflow data at DC-05, the monitoring program was supplemented by taking regular spot discharge measurements. Interpolation between spot discharges provided a continuous estimated streamflow series in late 2025. This series is presented on Figure A2.1.4.

A mean monthly discharge hydrograph was produced by combining the measured and estimated streamflows, included on Figure A2.1.5.

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TABLE A2.1

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SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
UPPER DAVIDSON CREEK HYDROLOGY STATION DC-05

Print Mar/18/26 9:04:25

Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge	Calculated Discharge	Gauge Height	Corrected Water Level	Stage Method Used	Measurement Uncertainty	
			(m^3/s)	(m^3/s)	(m)	(m)		Discharge (%)	Gauge Height (m)
14-Jan-25	2	Current Meter	0.100	-	See Note 4			10%	-
21-Apr-25	2	Current Meter	0.607	0.899	1.549	1.551	Corrected Water Level	10%	0.002
10-May-25	2	Current Meter	0.521	0.866	1.508	1.518	Corrected Water Level	10%	0.005
14-May-25	2	Current Meter	0.526	0.879	1.516	1.531	Corrected Water Level	10%	0.010
24-May-25	2	Current Meter	0.624	0.892	1.548	1.544	Corrected Water Level	10%	0.005
20-Jun-25	2	Current Meter	0.286	0.825	1.333	1.477	Corrected Water Level	10%	0.010
26-Jun-25	2	Current Meter	0.420	0.834	1.495	1.486	Corrected Water Level	10%	0.010
20-Jul-25	2	Current Meter	0.122	0.745	1.294	1.397	Corrected Water Level	10%	0.010
23-Sep-25	2	Current Meter	0.075	0.692	1.273	1.344	Corrected Water Level	10%	0.010
11-Nov-25	2	Current Meter	0.138	0.734	1.249	1.386	Corrected Water Level	10%	0.020
14-Nov-25	2	Current Meter	0.074	0.710	1.362	-	Gauge Height	10%	0.010
19-Nov-25	2	Current Meter	0.046	-	See Note 5			10%	-
27-Nov-25	2	Current Meter	0.055	-				10%	-
5-Dec-25	2	Current Meter	0.044	-				10%	-
11-Dec-25	2	Current Meter	0.035	-				10%	-
17-Dec-25	2	Current Meter	0.089	-				10%	-
20-Dec-25	2	Current Meter	0.074	-				10%	-
27-Dec-25	2	Current Meter	0.047	-				10%	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\DC-05\[DC-05 (H2B) Workfile 2025_dz.xlsm]Table A2.1

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT ERROR ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.
4. WINTER LOW FLOW DISCHARGE MEASUREMENT ONLY. NO GAUGE HEIGHT MEASUREMENTS CONDUCTED DURING WINTER LOW FLOW SITE VISITS.
5. FAA COMPLIANCE DISCHARGE MEASUREMENT IN LIEU OF LOGGER DATA.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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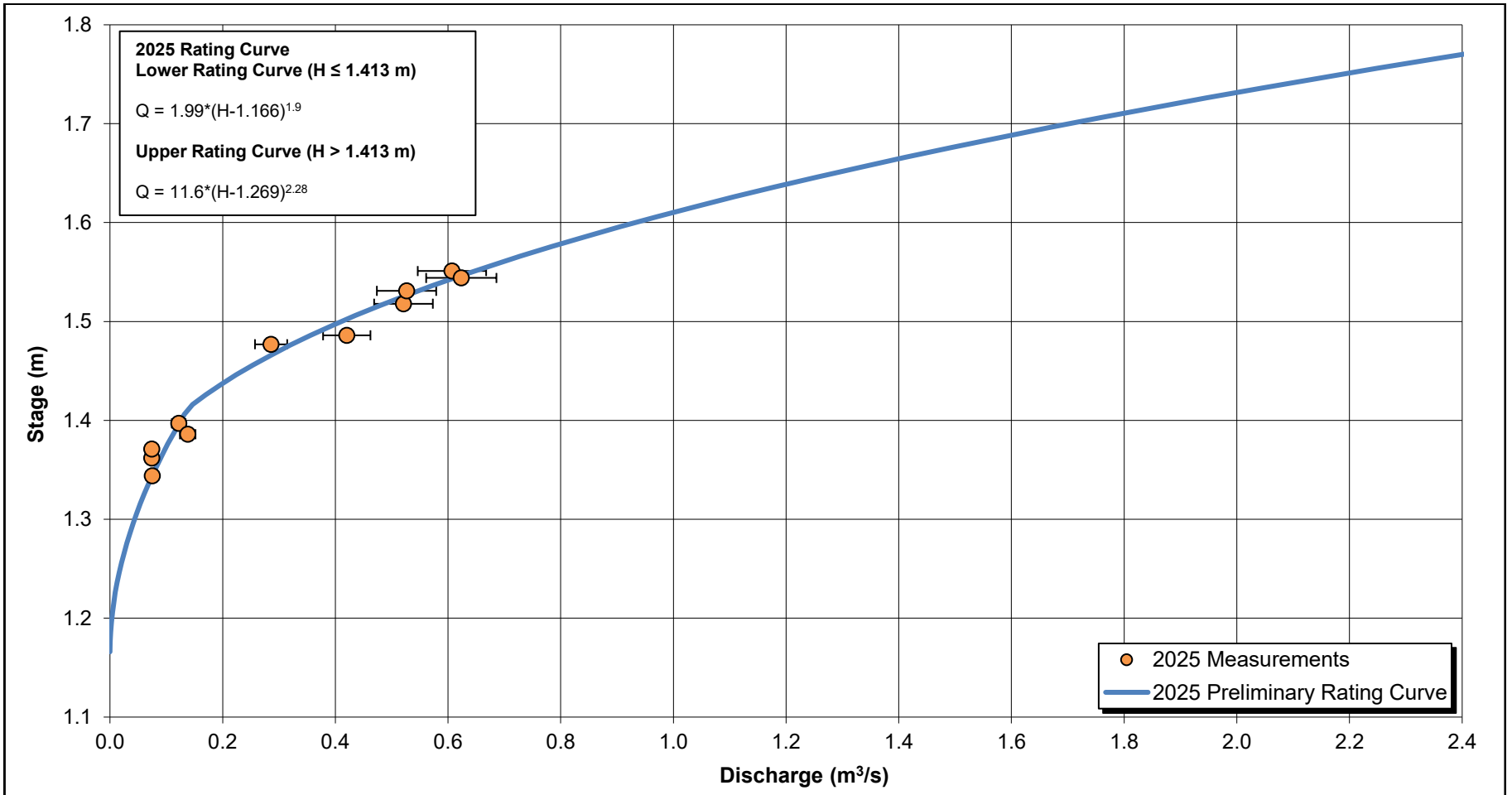

NOTES:
1. THIS RATING CURVE IS PRELIMINARY AND IS SUBJECT TO CHANGE DURING THE 2026 MONITORING YEAR.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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UPPER DAVIDSON CREEK HYDROLOGY STATION
2025 DC-05 PRELIMINARY RATING CURVE

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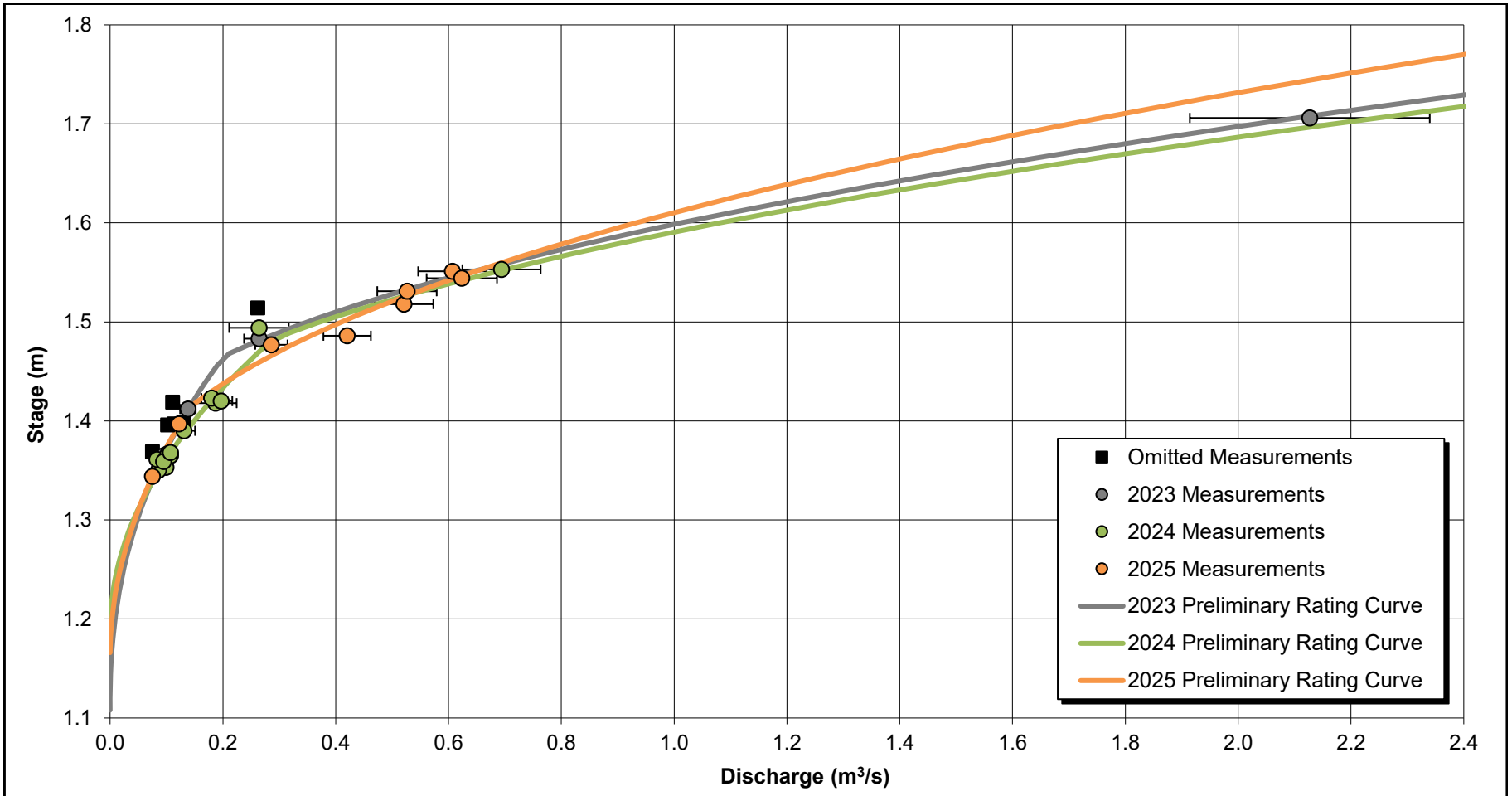
P/A NO. VA101-457/62 | REF. NO. 1

FIGURE A2.1.1 | REV 0



NOTES:
1. ALL THREE RATING CURVES ARE DEFINED AS "PRELIMINARY" CURVES.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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UPPER DAVIDSON CREEK HYDROLOGY STATION DC-05 PRELIMINARY 2023, 2024, AND 2025 RATING CURVES

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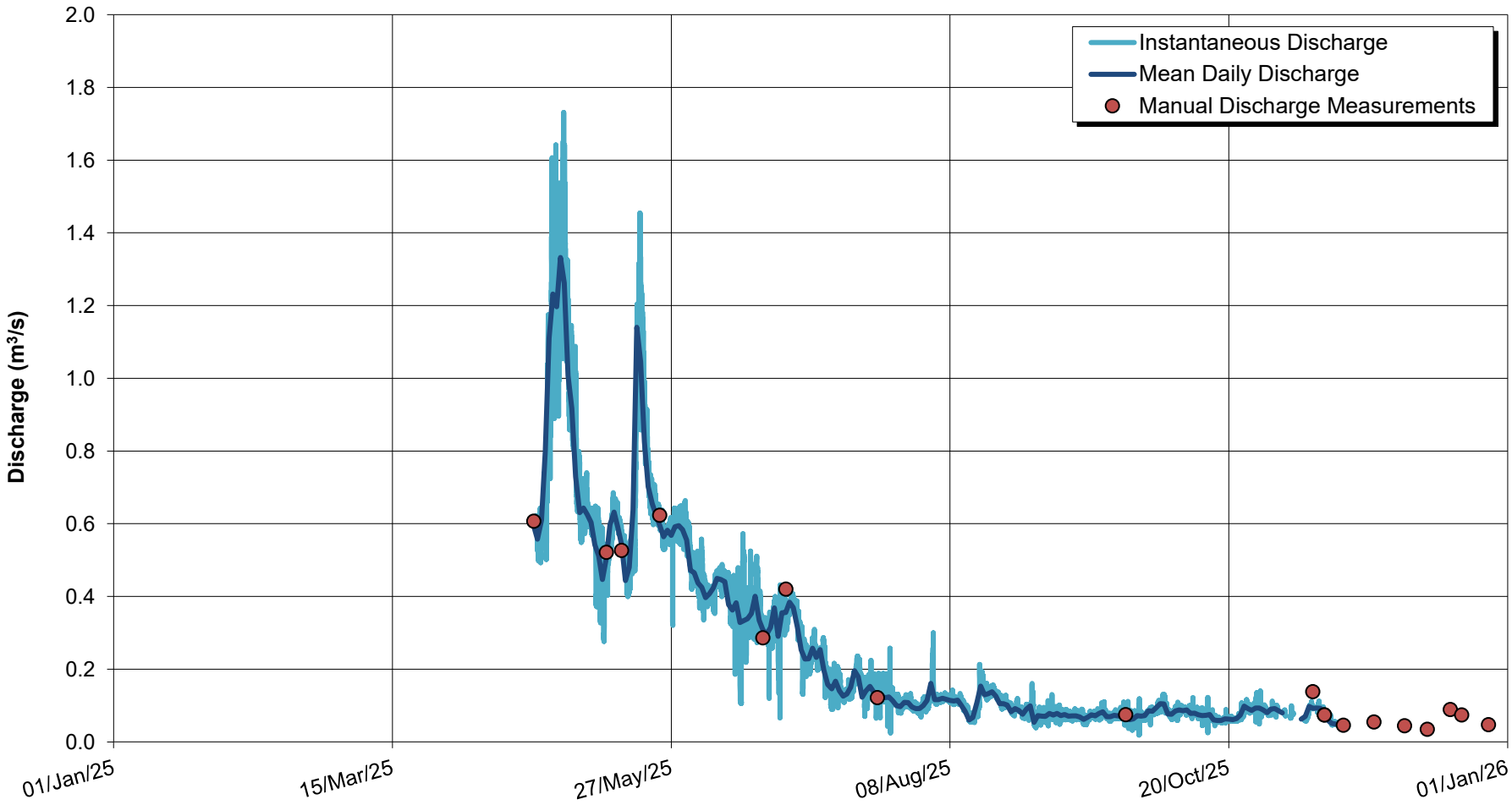
P/A NO. VA101-457/62

REF. NO. 1

FIGURE A2.1.2

REV 0



NOTES:
1. THE 2025 DISCHARGE HYDROGRAPH WAS PRODUCED USING A PRELIMINARY RATING CURVE AND IS SUBJECT TO CHANGE IN 2026.

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UPPER DAVIDSON CREEK HYDROLOGY STATION
DC-05 2025 DISCHARGE HYDROGRAPH

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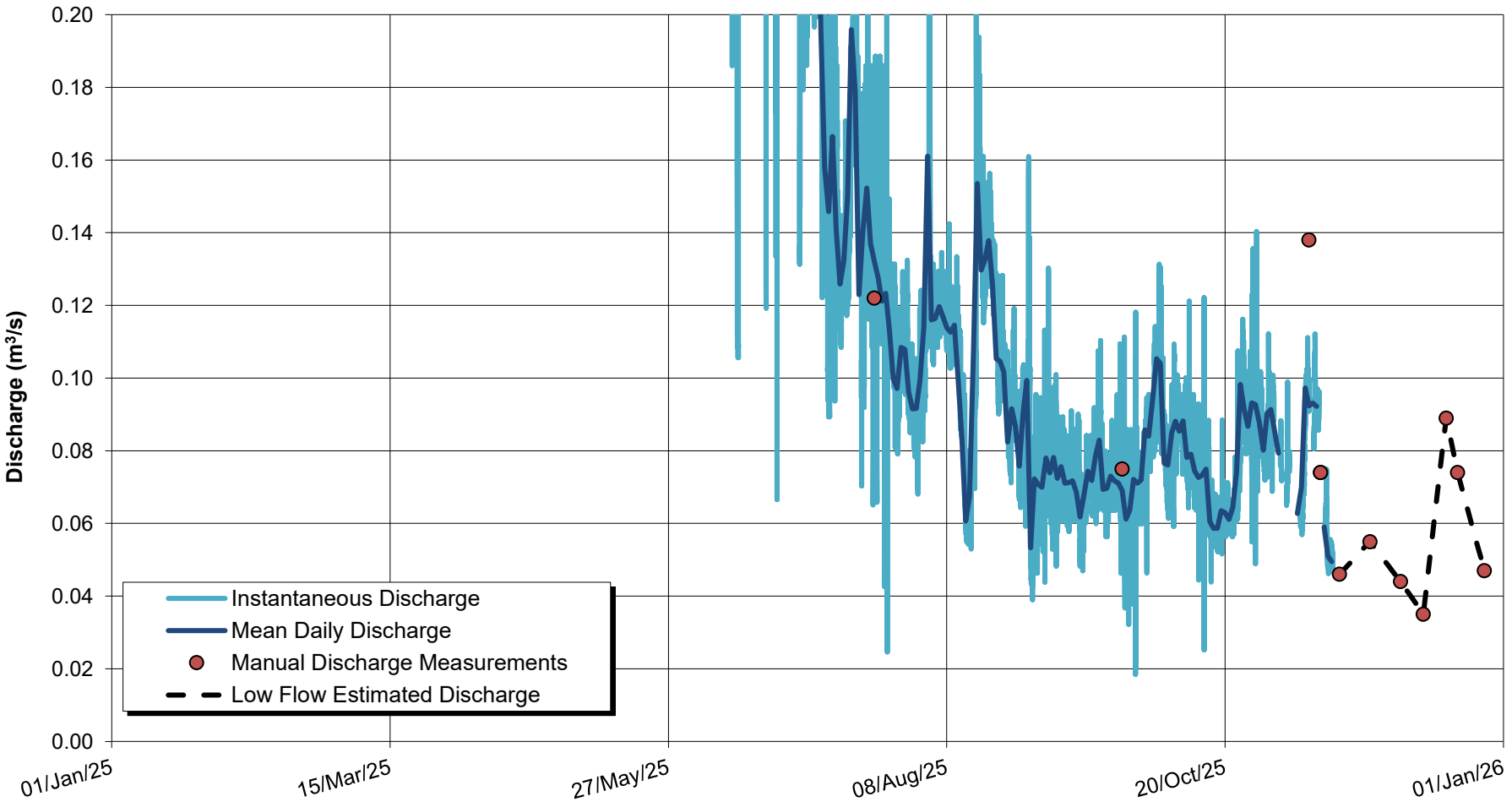
P/A NO. VA101-457/62

REF. NO. 1

FIGURE A2.1.3

REV 0



NOTES:
1. WINTER FLOW VALUES HAVE BEEN ESTIMATED ON THE BASIS OF INDIVIDUAL DISCHARGE MEASUREMENTS.

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UPPER DAVIDSON CREEK HYDROLOGY STATION
DC-05 2025 WINTER LOW FLOW HYDROGRAPH

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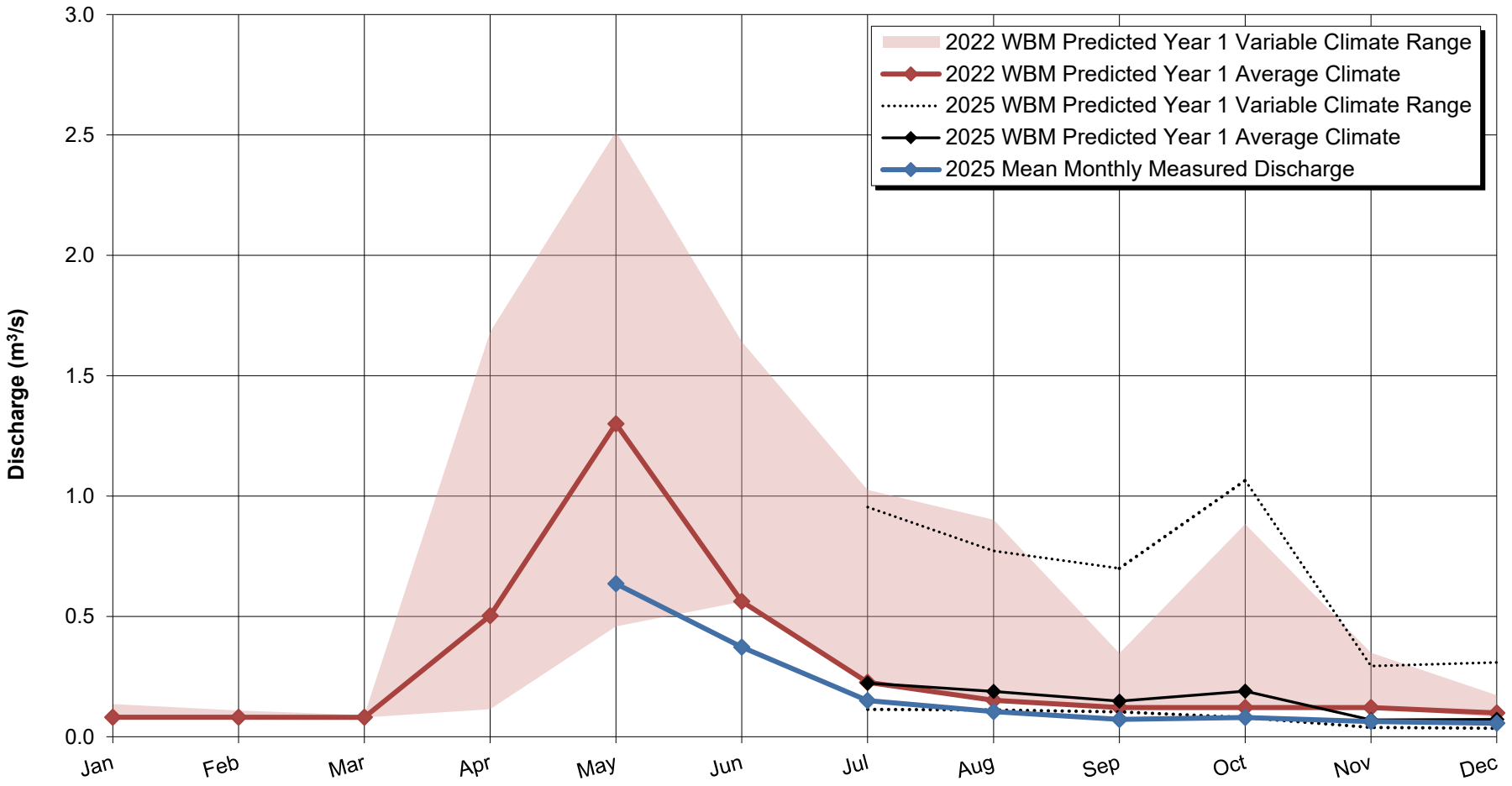
REF. NO. 1

FIGURE A2.1.4

REV 0



NOTES:
1. MONTHLY MEAN DISCHARGES ARE CALCULATED BASED ON MEASURED AND ESTIMATED DAILY VALUES.
2. MONTHS WITH FEWER THAN 20 DAYS OF MEASURED OR ESTIMATED DATA ARE EXCLUDED.
3. PREDICTED YEAR 1 DISCHARGES ARE DERIVED FROM THE LIFE OF MINE WATER BALANCE MODEL (WBM) (KP, 2022) AND THE 2025 WBM RECONCILIATION (KP, 2025b).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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UPPER DAVIDSON CREEK HYDROLOGY STATION DC-05 YEAR 1 PREDICTED VS. MEASURED MONTHLY HYDROGRAPH

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P/A NO. VA101-457/62

REF. NO. 1

FIGURE A2.1.5

REV 0

2.2 UPPER DAVIDSON CREEK SPOT FLOW MEASUREMENT LOCATION DC-10

The DC-10 location is on Davidson Creek, approximately 1.1 km downstream of DC-05. The location was established for water quality monitoring, and no hydrology instrumentation is installed at the station. A total of five (5) discharge measurements were collected at the station in 2025. No associated stage values were recorded. The discharge measurements collected in 2025 are summarized in Table A2.2. When compared against the RISC hydrometric standards (2018) the 2025 discharge data for DC-10 were determined to generally be of good quality, with Grades ranging from A to B. DC-10 was assigned an overall Grade B. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data.

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TABLE A2.2

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SUMMARY OF 2025 DISCHARGE MEASUREMENTS
UPPER DAVIDSON CREEK HYDROLOGY STATION DC-10

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Date	Number of Discharge Measurements	Discharge Measurement Method	Discharge	Measurement Uncertainty
			(m^3/s)	Discharge (%)
14-May-25	2	Current Meter	0.591	10%
24-Jun-25	2	Current Meter	0.325	10%
20-Jul-25	2	Current Meter	0.145	10%
20-Sep-25	3	Current Meter	0.077	10%
14-Nov-25	2	Current Meter	0.112	10%

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\DC-10\[DC-10 Workfile 2025.xlsm]Table A2.2

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT ERROR ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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2.3 MIDDLE DAVIDSON CREEK HYDROLOGY STATION DC-15

The DC-15 station, previously named H4B, was installed on Davidson Creek on May 9, 2012, replacing the H4 station that was decommissioned at the end of 2011. The H4 station was operated during 2011 only. The H4 water level data, stage-discharge measurements, and associated rating curve for 2011 are included in the 2016 Hydrology Baseline Report (KP, 2018).

The DC-15 station is shown in Photo A2.2 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured to the bank of the creek. The sensor is removed each year during the winter months to avoid damage from ice. The station is then re-installed during the start of the open water season, when it is safe to do so.

Photo A2.2 Lower Davidson Creek Hydrology Station DC-15, looking downstream (November 3, 2025)

Three (3) stage-discharge measurements were collected at this site in 2025. The paired stage-discharge measurements collected from 2025 are summarized in Table A2.3.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2018 to 2024. However, the 2018-2024 rating curve was adjusted and shifted in the high-flow region to better represent the stage-discharge relationship and supersedes any rating curves issued prior to this report. The 2018-2025 DC-15 Rating Curve is included on Figure A2.3.1. The highest measured discharge with an associated stage measurement is 2.20 m³/s, and the highest extrapolated discharge is 10.98 m³/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, such as for the 2018-2025 rating curve, there is increased uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the rating curves to the stage record produced the discharge hydrograph for this site, which is included on Figure A2.3.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for DC-15 were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to DC-15 due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at DC-15 with a Grade A sensor in 2026, which would increase the overall RISC Grade of the station to Grade B.

A mean monthly discharge hydrograph was produced by combining the measured and estimated streamflows, included on Figure A2.3.3.

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TABLE A2.3

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SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
MIDDLE DAVIDSON CREEK HYDROLOGY STATION DC-15

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Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
21-May-25	2	Current Meter	0.865	0.842	10.463	10.473	Corrected Water Level	10%	0.005
7-Jul-25	2	Current Meter	0.219	0.197	-	10.346	Corrected Water Level	10%	-
10-Jul-25	See Note 4			-	10.349	-	Gauge Height	-	0.005
3-Nov-25	2	Current Meter	0.096	0.124	10.320	10.320	Corrected Water Level	10%	0.005

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\DC-15\[DC-15 Workfile 2025.xlsm]Table A2.3

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT UNCERTAINTY ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.
4. DISCHARGE MEASUREMENTS NOT CONDUCTED DURING THE JULY 10, 2025 SITE VISIT.

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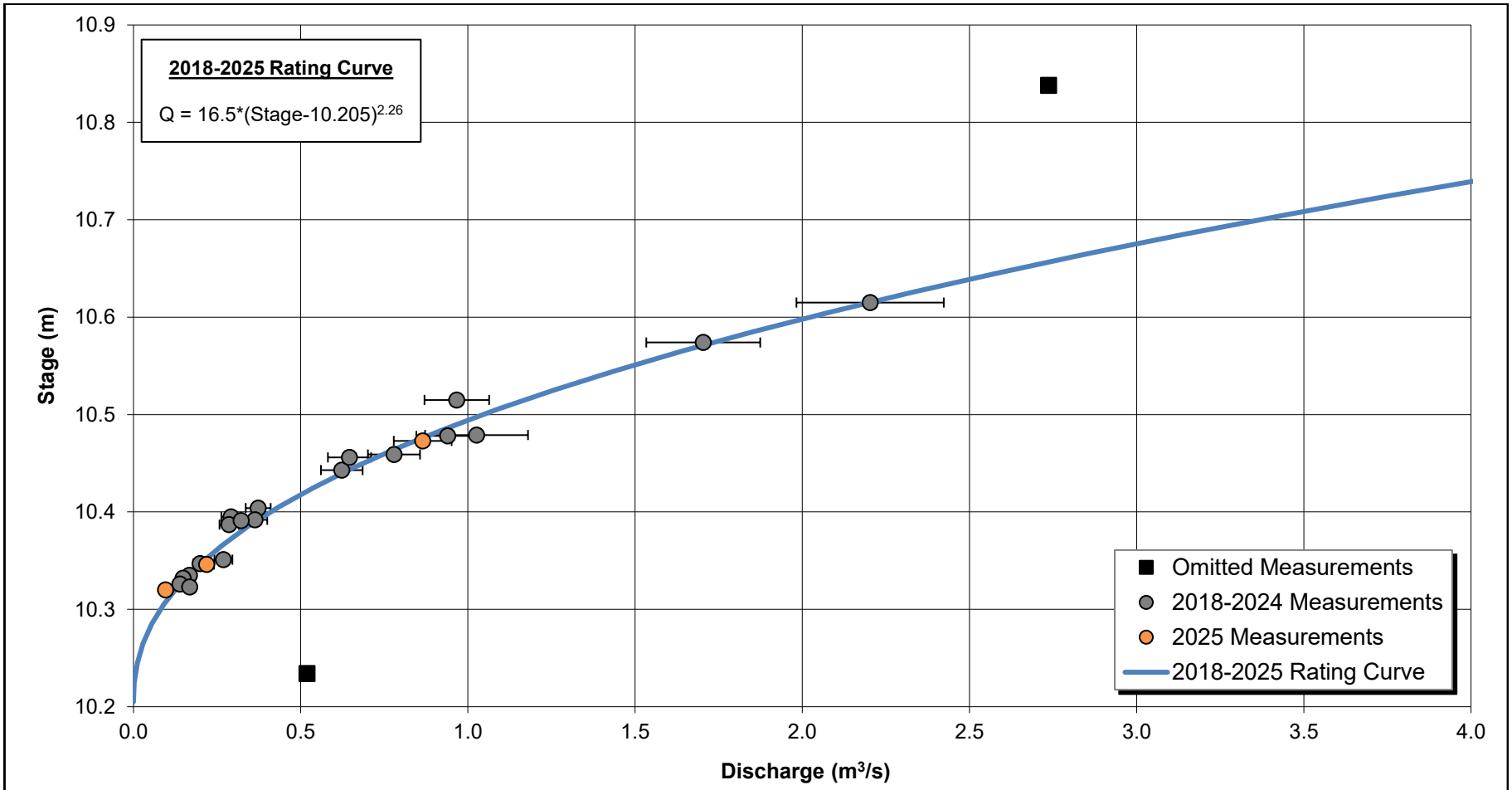

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MIDDLE DAVIDSON CREEK HYDROLOGY STATION
2018-2025 DC-15 RATING CURVE

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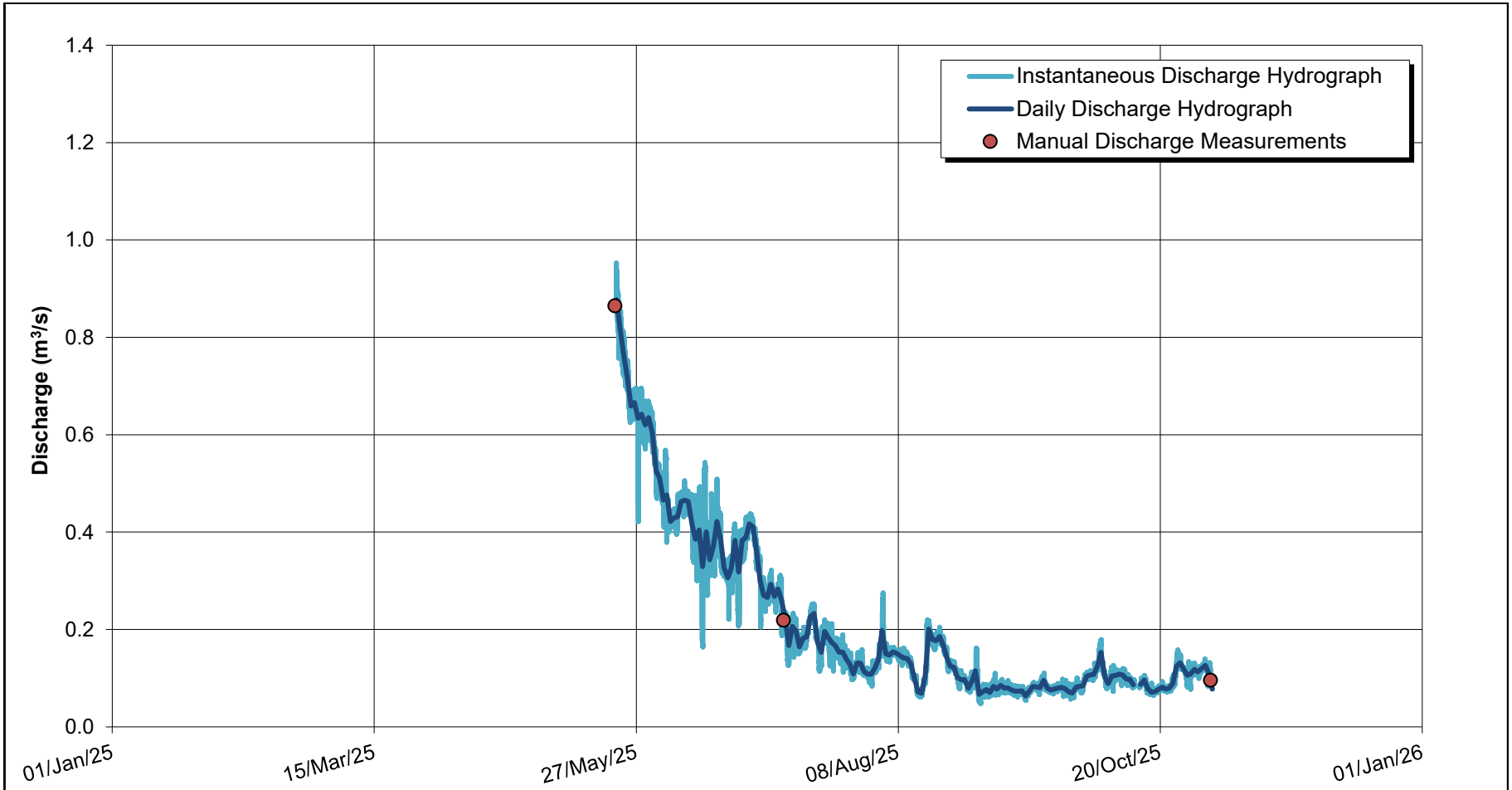
P/A NO. VA101-457/62

REF. NO. 1

FIGURE A2.3.1

REV 0



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MIDDLE DAVIDSON CREEK HYDROLOGY STATION
DC-15 2025 DISCHARGE HYDROGRAPH

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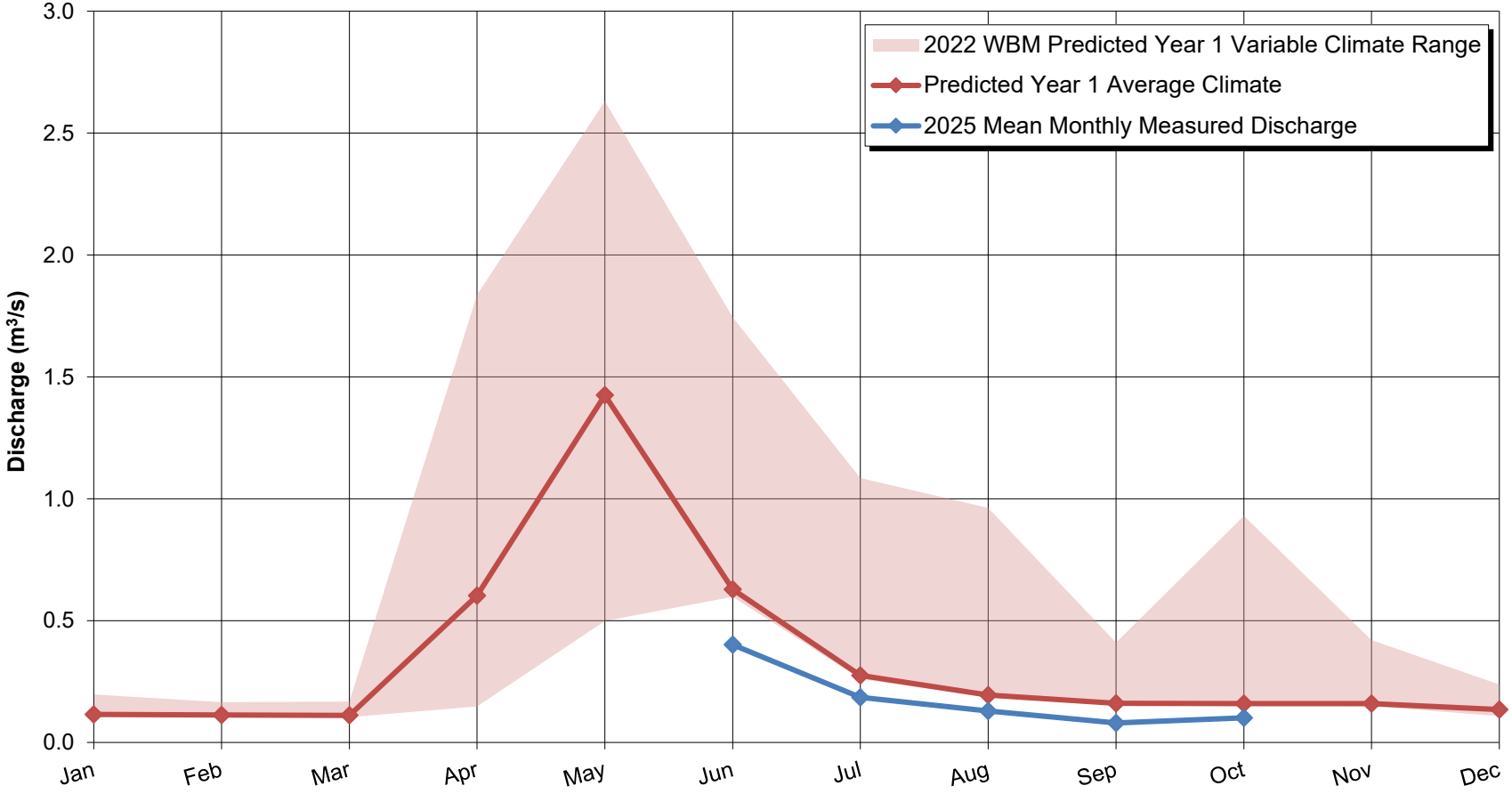
REF. NO. 1

FIGURE A2.3.2

REV 0



NOTES:
1. MONTHLY MEAN DISCHARGES ARE CALCULATED BASED ON MEASURED AND ESTIMATED DAILY VALUES.
2. MONTHS WITH FEWER THAN 20 DAYS OF MEASURED OR ESTIMATED DATA ARE EXCLUDED.
3. PREDICTED YEAR 1 DISCHARGES ARE DERIVED FROM THE LIFE OF MINE WATER BALANCE MODEL (WBM) (KP, 2022).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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MIDDLE DAVIDSON CREEK HYDROLOGY STATION DC-15 YEAR 1 PREDICTED VS. MEASURED MONTHLY HYDROGRAPH

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P/A NO. VA101-457/62

REF. NO. 1

FIGURE A2.3.3

REV 0

3.0 TURTLE CREEK WATERSHED

3.1 TURTLE CREEK HYDROLOGY STATION TC-10

The TC-10 station, previously named H6B, was installed on Turtle Creek on May 21, 2021, and is the only station that serves the Turtle Creek watershed. The station location is included on Figure 2.1 of the main report. The TC-10 station replaced the H6 station, which was decommissioned at the end of 2019. The H6 station was operated from 2012 to 2014 and from 2017 to 2019. The H6 water level data, stage-discharge measurements, and associated rating curve are included in the 2020 Hydrology Baseline Report (KP, 2021). No stage or discharge data are available for 2019 or 2020 due to beaver activity. The TC-10 station is shown in Photo A3.1 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured to the bank of the creek. The station is removed each year during the winter months to avoid damage to the pressure transducer from ice. The station is then re-installed during the start of the open water season, when it is safe to do so.

Photo A3.1 Turtle Creek Hydrology Station TC-10, looking downstream (July 1, 2025)

A total of three (3) stage-discharge measurements and discharge only measurements were collected at this site in 2025. The paired stage-discharge and individual discharge measurements for 2025 are summarized in Table A3.1.

A corrected water level record was not produced for station TC-10 in 2025 due to a significant discrepancy of 110 mm between the three recorded offset measurements. As this uncertainty was deemed too high to confidently apply an offset to the raw data, a corrected stage record and a calculated discharge record were unable to be produced in 2025. Therefore, no rating curve or discharge hydrograph figures are included in this report.

Using the measured gauge heights, the stage-discharge measurements were plotted on the current rating curve. All three (3) stage-discharge measurements collected in 2025 fall off to the right of the previous curve, indicating scour may have occurred in the hydraulic control. There are only three stage-discharge measurements, and therefore there is not enough information to determine if a shift has occurred. It is expected that because there are underlying issues with the water level time series, these stage-discharge points may not be representative of the current stage-discharge relationship at the site. More measurements must be collected in 2026 to determine if a shift has occurred at the station. Emphasis should be put on quality benchmark surveys moving forward to solve the issues with the offset to assist with future rating curve development.

When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for TC-10 were determined to generally be of poor quality, with Grades ranging from A to U. An overall Grade U was assigned to TC-10, as no stable offset for the 2025 monitoring period exists, and the stage-discharge points do not align with the existing rating curve. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at TC-10 with a Grade A sensor in 2026.

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TABLE A3.1

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SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
TURTLE CREEK HYDROLOGY STATION TC-10

Print Mar/18/26 9:56:30

Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
30-Jan-25	2	Current Meter	0.052	-	See Note 4			10%	-
9-May-25	2	Current Meter	0.429	See Note 5	8.99	See Note 5	Gauge Height	10%	0.005
1-Jul-25	2	Current Meter	0.09		8.852		Gauge Height	10%	0.005
3-Nov-25	2	Current Meter	0.055		8.929		Gauge Height	10%	0.005

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\TC-10\[TC-10 (H6B) Workfile 2025.xlsm]Table A 3.1

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT ERROR ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.
4. WINTER LOW FLOW DISCHARGE MEASUREMENT ONLY. NO GAUGE HEIGHT MEASUREMENTS CONDUCTED DURING WINTER LOW FLOW SITE VISITS.
5. NO CORRECTED WATER LEVEL RECORD WAS PRODUCED IN 2025 DUE TO AN UNSTABLE OFFSET. NO CALCULATED DISCHARGE SINCE NO CORRECTED WATER LEVEL DATA ARE AVAILABLE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH

4.0 TATELKUZ LAKE WATERSHED

There are four (4) hydrology stations currently operated in the Tatelkuz Lake Watershed. The stations are located on Tatelkuz Lake (TL-01H), at the outlet of Tatelkuz Lake (CC-10), on Creek 661 (661-02) and on a tributary just upstream of its confluence with Creek 661 (661-09). The station locations are included on Figure 2.1 of the main report.

4.1 TATELKUZ LAKE HYDROLOGY STATION TL-01H

The TL-01H Station, previously named L1, was established in Tatelkuz Lake on May 10, 2012. The station is shown in Photo A4.1 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe on the bank of the lake. The sensor is removed each year during the winter months to avoid damage from ice. The station is then re-installed during the start of the open water season, when it is safe to do so.

Photo A4.1 Tatelkuz Lake Hydrology Station TL-01H (July 1, 2025)

A total of four (4) stage measurements were collected at TL-01H in 2025. The 2025 stage measurements are summarized in Table A4.1.

Stage data from 2025 displayed a significant number of fluctuations similar to those in 2023 and 2024. As only one logger has been installed at the site, it is not possible to cross reference the data with another instrument to isolate the source of the error. The noisy regions of data predominantly occur in the afternoon and evening, with amplitudes that are typically 2 to 4 cm. The data does not appear to correlate with precipitation events, or fluctuations observed in another station close by, CC-12. It is suspected that instrumentation issues are the cause of these data fluctuations. Consequently, data from the entire 2025 QAQC period for TL-01H are considered to be uncertain.

The stage hydrograph from the TL-01H site is presented on Figure A4.1.1. When compared against the RISC hydrometric standards (2018) the 2025 stage data for TL-01H were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to TL-01H due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at TL-01H with a Grade A sensor in the future, which would increase the overall RISC Grade of the Station and is expected to fix the fluctuation issues currently present.

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TABLE A4.1

BW GOLD LTD
BLACKWATER GOLD PROJECT

SUMMARY OF 2025 STAGE MEASUREMENTS
TATELKUZ LAKE HYDROLOGY STATION TL-01H

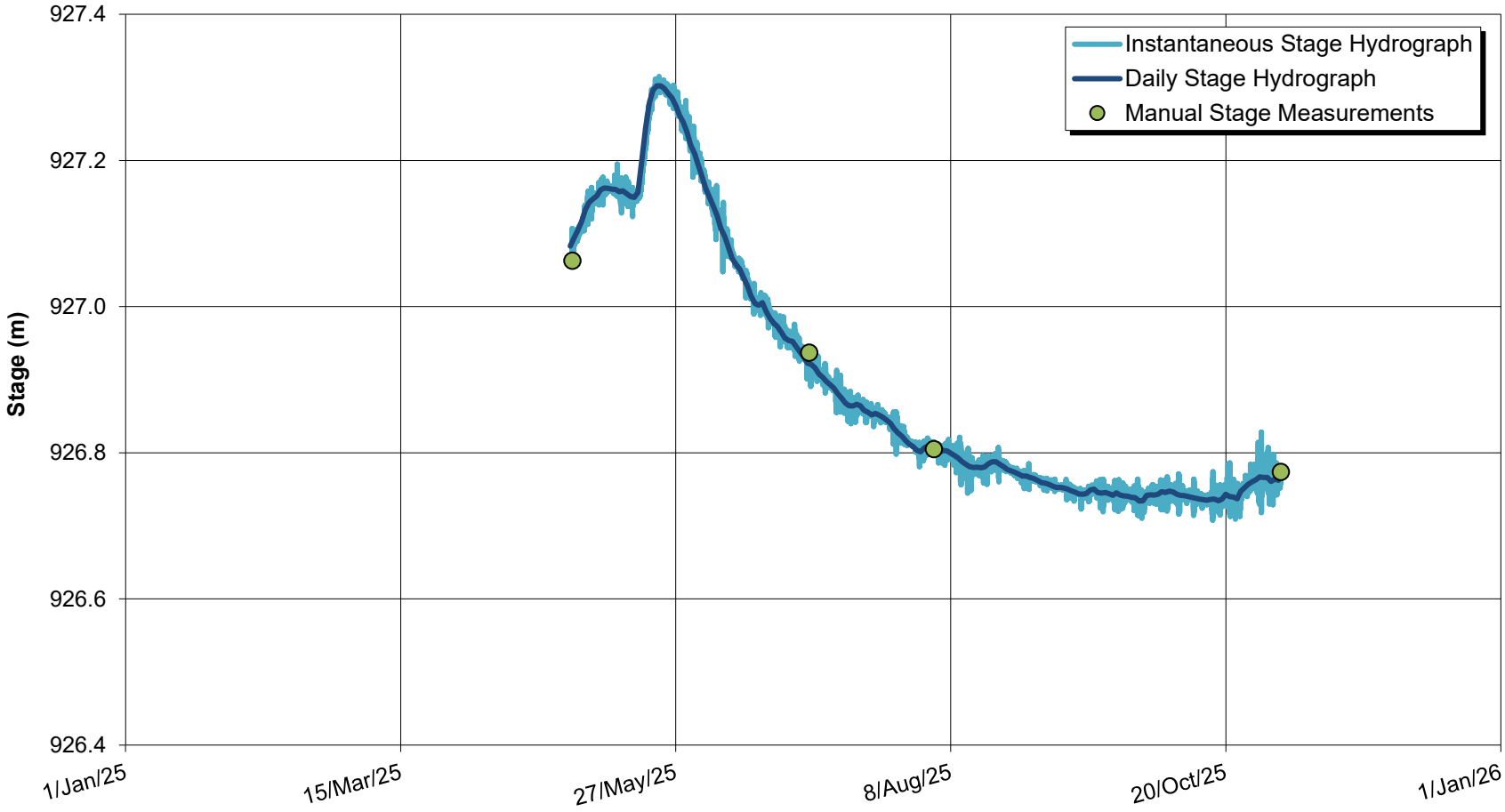
Date	Stage Measurement Method	Stage	Stage Measurement Uncertainty
		(m)	(m)
29-Apr-25	Benchmark Survey	927.063	0.010
1-Jul-25	Benchmark Survey	926.937	0.005
3-Aug-25	Benchmark Survey	926.805	0.005
3-Nov-25	Benchmark Survey	926.774	0.005

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\TL-01H\[TL-01H Workfile 2025.xlsm]Table A 4.1

NOTES:

1. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL AT THE TIME OF STAGE MEASUREMENT.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH



NOTES:
1. HIGH UNCERTAINTY ASSOCIATED WITH THE 2025 STAGE HYDROGRAPH DUE TO AN UNSTABLE AVERAGE OFFSET.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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TATELKUZ LAKE HYDROLOGY STATION
TL-01H STAGE HYDROGRAPH

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P/A NO. VA101-457/62

REF. NO. 1

FIGURE A4.1.1

REV 0

4.2 TATELKUZ LAKE OUTLET HYDROLOGY STATION CC-10

The CC-10 station, previously named L1-Outlet, was established at the outlet of the Tatelkuz Lake on October 16, 2012. The station is shown in Photo A4.2. The outlet serves as a discharge measurement location for the lake (there is no instrumentation installed here). Stage (corrected water level data) is collected at the TL-01H lake level station for use at the CC-10 station, as there is no suitable location for a logger at the lake outlet. Manual gauge height measurements are taken at CC-10 to compare with the water level at the TL-01H station to ensure that the lake level is representative of the water level at the lake outlet. The lake level data from TL-01H are paired with concurrent discharge measurements at the CC-10 to produce stage-discharge points, which are used for rating curve development. The TL-01H sensor is removed each year during the winter months to avoid damage from ice. The station is then re-installed during the start of the open water season, when it is safe to do so.

Photo A4.2 Tatelkuz Lake Outlet Hydrology Station CC-10, looking downstream (June 14, 2025)

Four (4) stage-discharge measurements and one (1) discharge measurement were collected at this site in 2025. The paired stage-discharge and individual discharge measurements from 2025 are summarized in Table A4.2. Where available, concurrent stage data from the TL-01H station were used for the purpose of generating the rating curves.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2017 to 2024. Measurements from November 5, 2020, December 15, 2021, April 26, 2022, and November 1, 2023, were disregarded as anomalous; these measurements were generally recorded during periods of variable streamflow (i.e., freshet and late fall rainstorm season), and do not align with the stage-discharge relationship evident from other stage-discharge measurements. The CC-10 rating curve was adjusted in 2025 to better represent the stage-discharge relationship at the station and supersedes all CC-10 rating curves presented in previous reports. The 2017-2025 Rating Curve is shown on Figure A4.2.1. The highest measured discharge with an associated stage measurement is 8.59 m³/s, and the highest extrapolated

discharge is 10.16 m³/s. Due to lake attenuation and the distance between the CC-10 and TL-01H stations, there may be a delay between stage level changes observed at the TL-01H station and the corresponding discharge at the CC-10 station. This may explain some of the scatter seen in the rating curve points for this site.

Applying the rating curves to the stage record produced the discharge hydrograph for this site, which is included on Figure A4.2.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for CC-10 were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to CC-10 due to the current instrumentation (sensor) as well as the variance of stage-discharge measurements in the lower portion of the rating curve (>14% accuracy). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at TL-01H with a Grade A sensor in the future.

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TABLE A4.2

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SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
TATELKUZ LAKE OUTLET HYDROLOGY STATION CC-10

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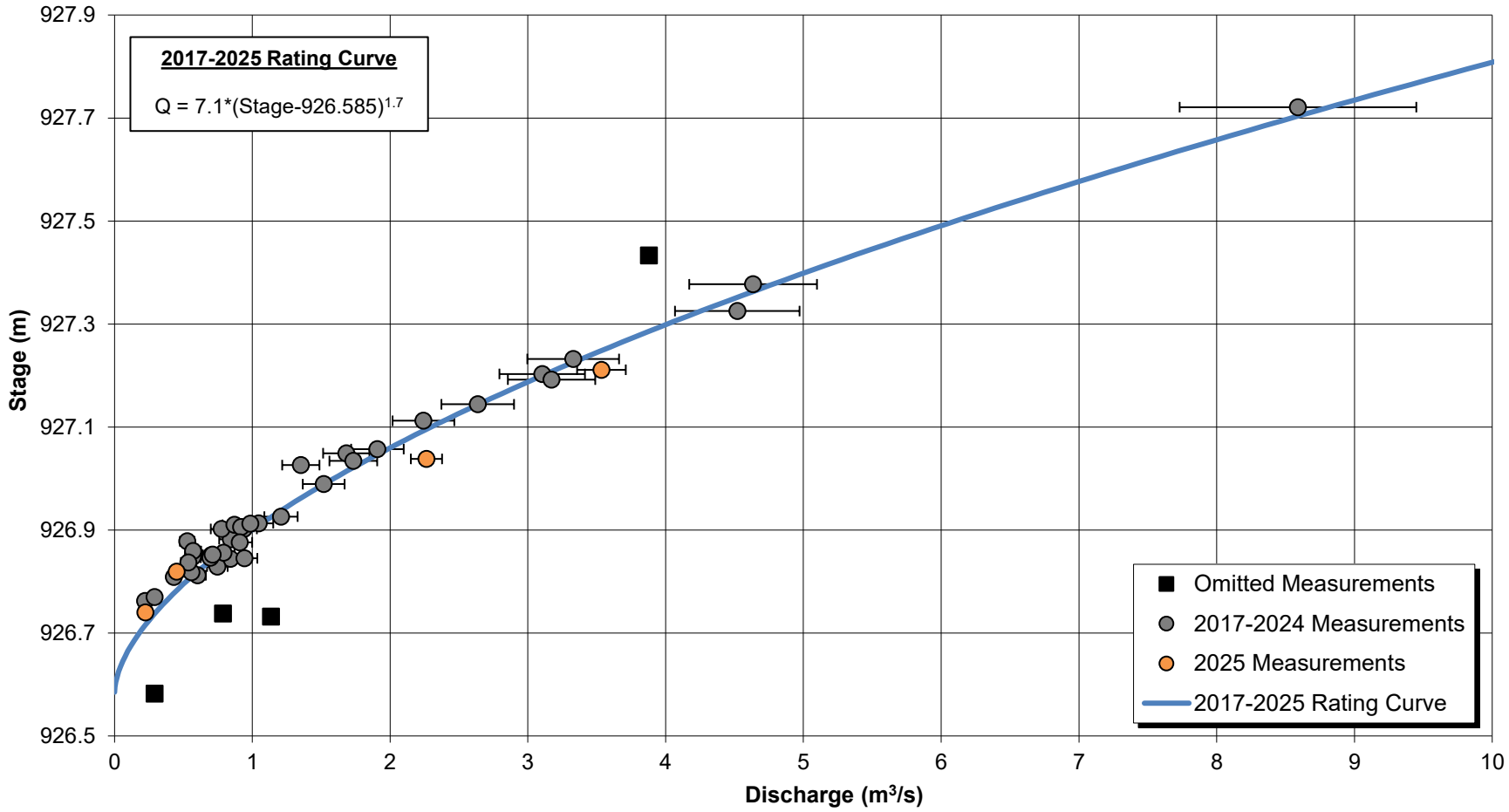
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
22-Feb-25	2	Current Meter	0.395	-	See Note 4			10%	-
31-May-25	2	Current Meter	3.534	3.202	927.219	927.211	Corrected Water Level	10%	0.010
14-Jun-25	2	Current Meter	2.264	1.848	927.046	927.038	Corrected Water Level	10%	0.005
3-Aug-25	2	Current Meter	0.450	0.601	926.819	See Note 5	Gauge Height	10%	0.010
12-Oct-25	2	Current Meter	0.224	0.298	926.744	926.740	Corrected Water Level	10%	0.010

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\CC-10\[CC-10 Workfile 2025.xlsm]Table A4.2

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT UNCERTAINTY ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.
4. WINTER LOW FLOW DISCHARGE MEASUREMENT ONLY. NO GAUGE HEIGHT MEASUREMENTS CONDUCTED DURING WINTER LOW FLOW SITE VISITS.
5. CORRECTED WATER LEVEL DATA FROM TL-01H UNAVAILABLE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH



REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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TATELKUZ LAKE OUTLET HYDROLOGY STATION
2017-2025 CC-10 RATING CURVE

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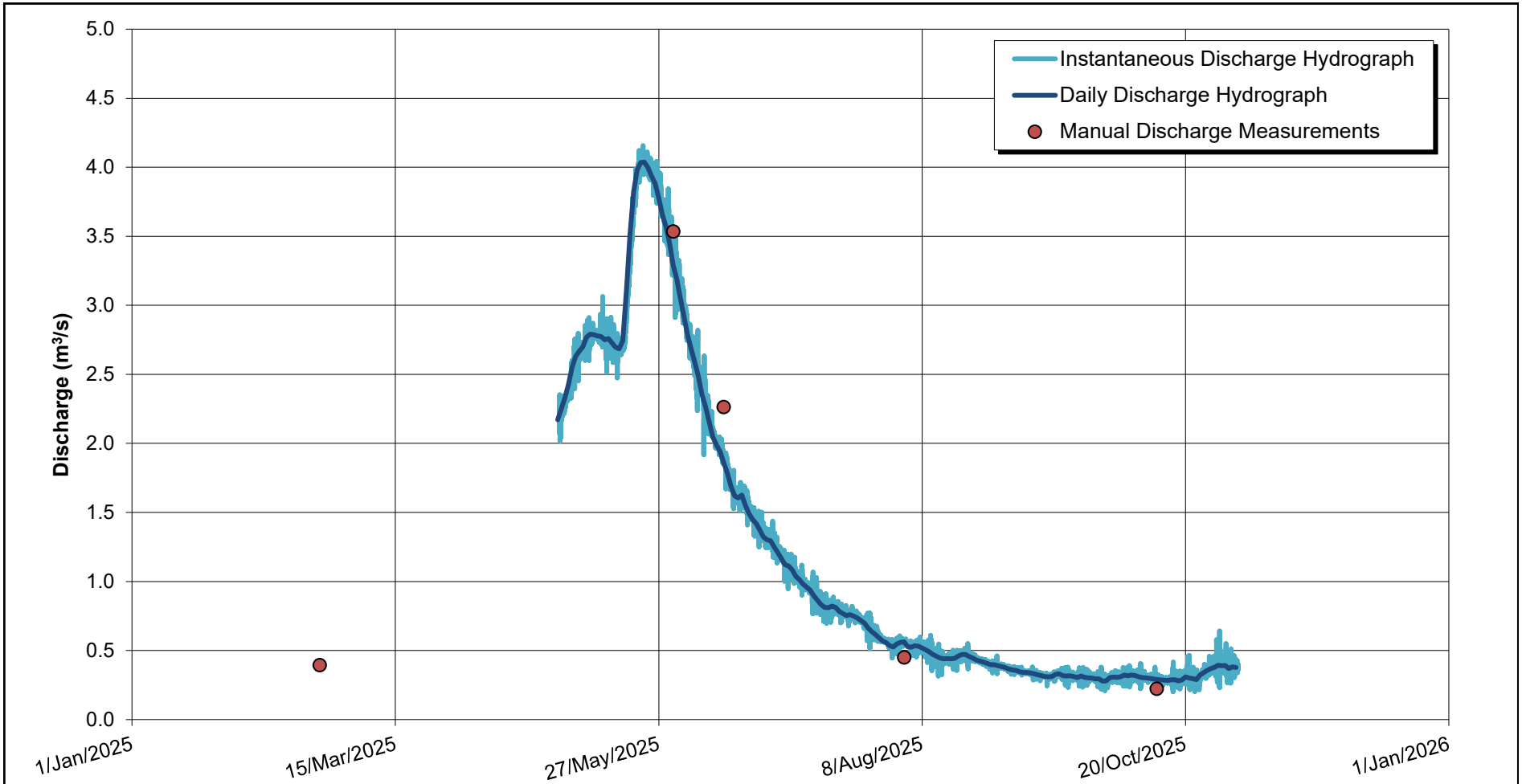
P/A NO. VA101-457/62 | REF. NO. 1

FIGURE A4.2.1 | REV 0



REV	DATE	DESCRIPTION	PREP'D	RVW'D
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TATELKUZ LAKE OUTLET HYDROLOGY STATION
CC-10 2025 DISCHARGE HYDROGRAPH

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE A4.2.2

REV 0

4.3 CREEK 661 HYDROLOGY STATION 661-02

The 661-02 station, previously named H1, was installed on Creek 661 on May 19, 2011, at the outlet of a culvert below a forest service road. The station is shown in Photo A4.3 and consists of a Solinst Levelogger 5 sensor inside a protective aluminum pipe secured to the bank of the creek just downstream of a culvert. The sensor is removed each year during the winter months to avoid damage from ice. The station is then re-installed during the start of the open water season, when it is safe to do so.

Photo A4.3 Creek 661 Hydrology Station 661-02, looking upstream (June 16, 2025)

Two (2) stage-discharge measurements and one (1) stage measurement were collected at this site in 2025. The paired 2025 stage-discharge and individual discharge measurements are summarized in Table A4.3.

The hydraulic control at this station is believed to have changed several times over the full period of record, resulting in four different rating curves. Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2018 to 2024. The 2018-2025 661-02 Rating Curve is shown on Figure A4.3.1. The highest measured discharge with an associated stage measurement is 0.37 m^3/s, and the highest extrapolated discharge is 1.77 m^3/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, there is uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the rating curve to the corrected stage series produced the discharge hydrograph for this site, which is presented on Figure A4.3.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for 661-02 were determined to generally be of fair quality, with grades ranging from A to C. Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. This, in combination with missed benchmarks during surveys, only two discharge measurements, and verticals with a Max Q greater than 10% during current meter measurements result in an overall station Grade of C. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at 661-02 with a Grade A sensor in 2026.

A mean monthly discharge hydrograph was produced by combining the measured and estimated streamflows, included on Figure A4.3.3.

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TABLE A4.3

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SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
CREEK 661 HYDROLOGY STATION 661-02

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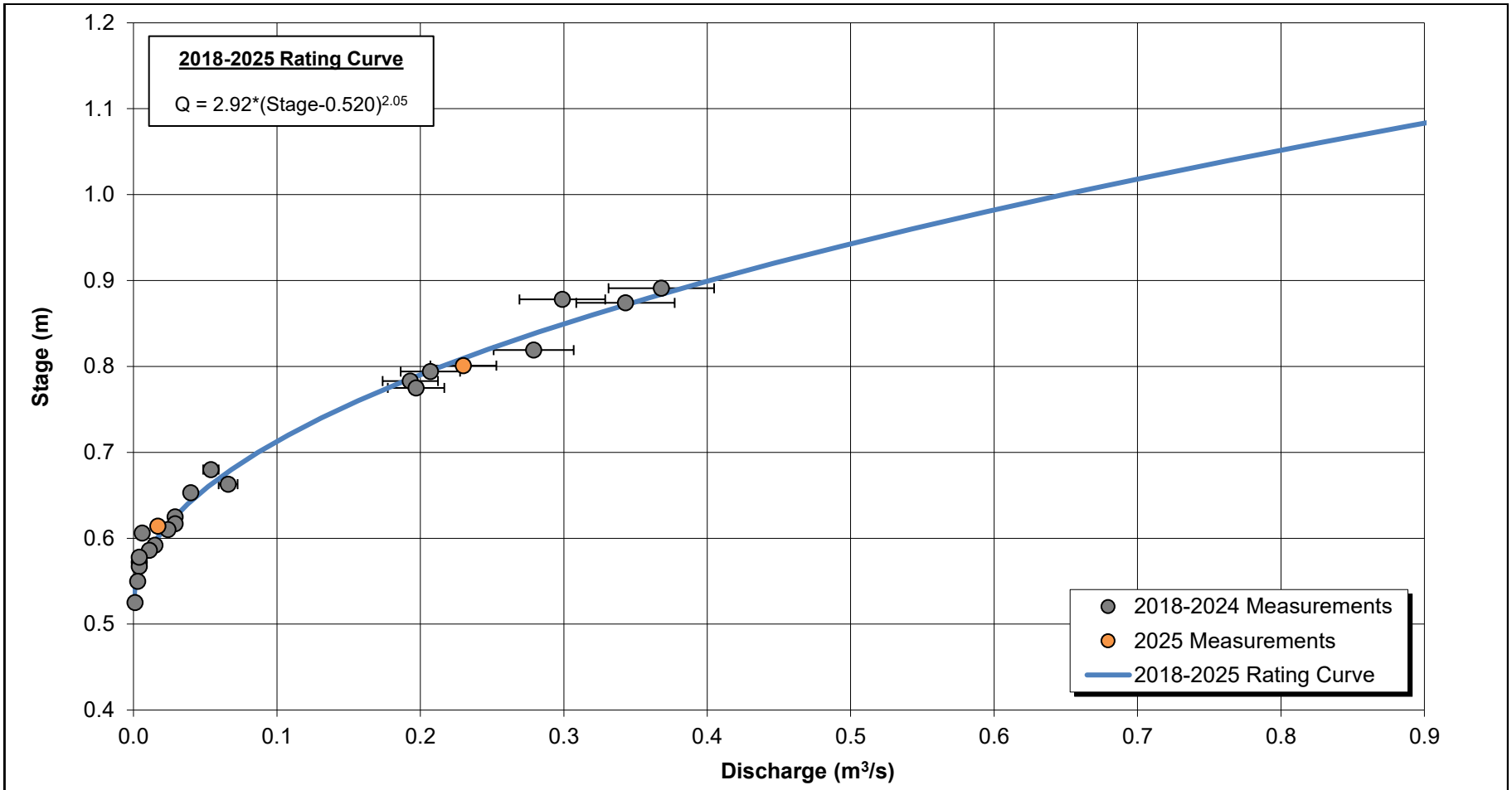
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
16-May-25	2	Current Meter	0.230	0.216	0.813	0.801	Corrected Water Level	10%	0.005
16-Jun-25	2	Current Meter	0.017	0.023	0.615	0.614	Corrected Water Level	10%	0.005
28-Oct-25	See Note 5			0.016	0.598	See Note 6	Gauge Height	-	0.005
26-Dec-25	See Note 7								

\\knightpiesold.local\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\661-02\[661-02 (H1) Workfile.xlsm]Table A 4.3

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT UNCERTAINTY ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.
4. THIS STATION WAS PREVIOUSLY NAMED "H1".
5. UNABLE TO MEASURE DISCHARGE DUE TO INADEQUATE FLOW CONDITIONS.
6. SENSOR MALFUNCTION, NO CORRECTED WATER LEVEL DATA AVAILABLE.
7. NO MEASUREMENTS CONDUCTED DURING THE DECEMBER 26, 2025 SITE VISIT DUE TO FROZEN CONDITIONS AND INADEQUATE FLOW.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH



REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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CREEK 661 HYDROLOGY STATION
2018-2025 661-02 RATING CURVE

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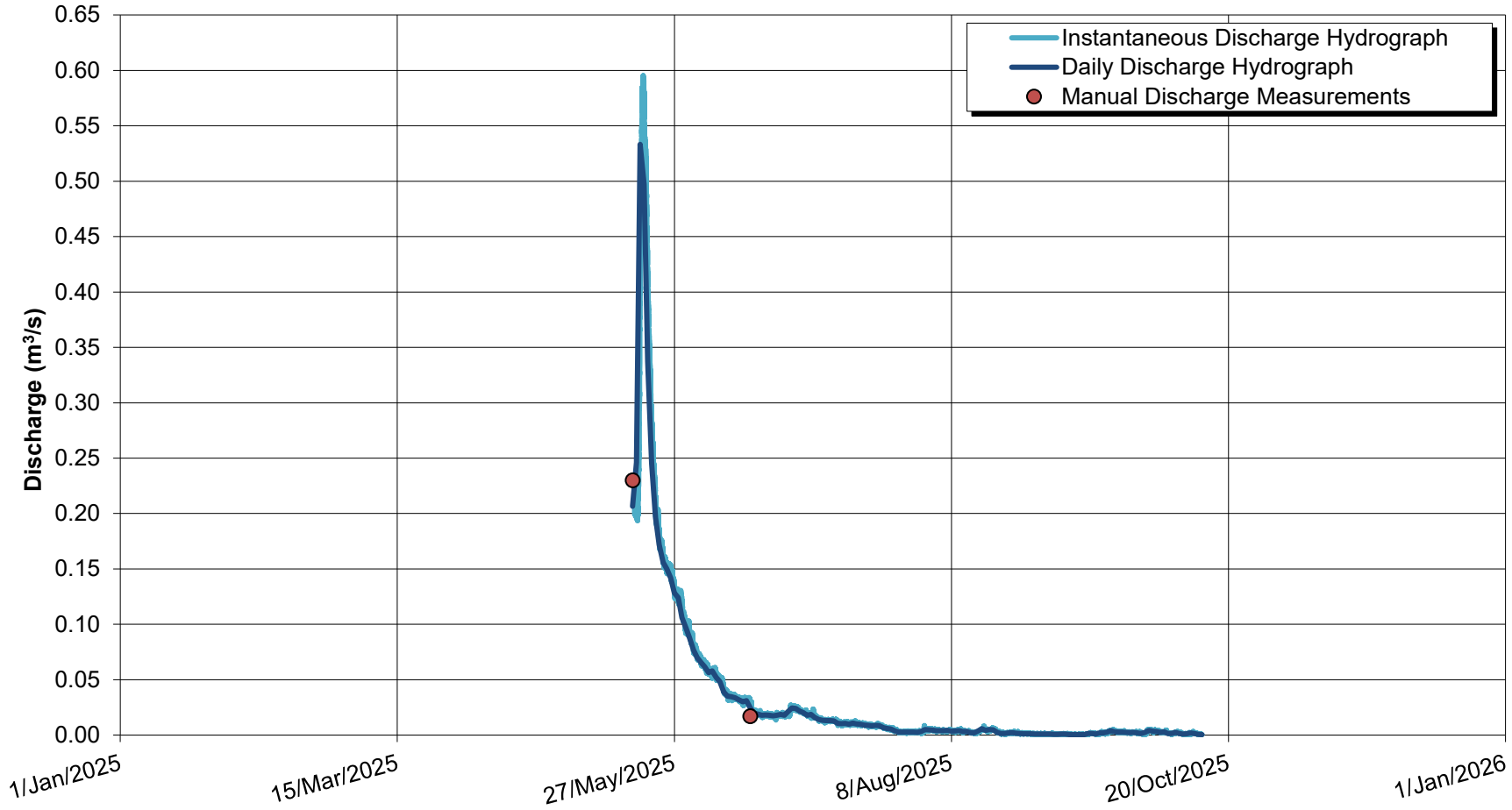
P/A NO. VA101-457/62

REF. NO. 1

FIGURE A4.3.1

REV 0



NOTES:
1. THIS STATION WAS PREVIOUSLY NAMED "H1".

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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BLACKWATER GOLD PROJECT

CREEK 661 HYDROLOGY STATION
661-02 2025 DISCHARGE HYDROGRAPH

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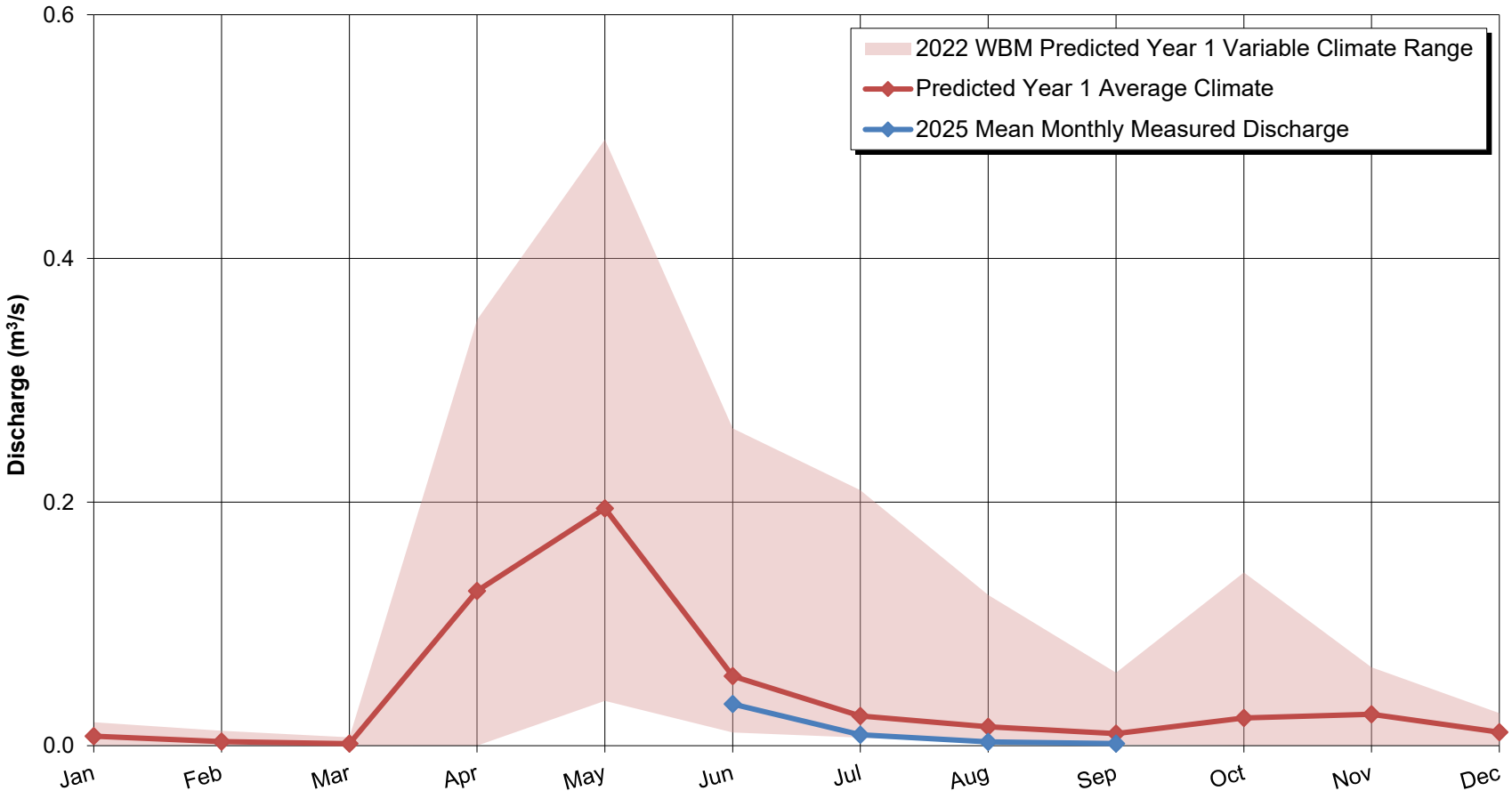
P/A NO. VA101-457/62

REF. NO. 1

FIGURE A4.3.2

REV 0



NOTES:
1. MONTHLY MEAN DISCHARGES ARE CALCULATED BASED ON MEASURED AND ESTIMATED DAILY VALUES.
2. MONTHS WITH FEWER THAN 20 DAYS OF MEASURED OR ESTIMATED DATA ARE EXCLUDED.
3. PREDICTED YEAR 1 DISCHARGES ARE DERIVED FROM THE LIFE OF MINE WATER BALANCE MODEL (WBM) (KP, 2022).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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BLACKWATER GOLD PROJECT

CREEK 661 HYDROLOGY STATION
661-02 YEAR 1 PREDICTED VS. MEASURED MONTHLY HYDROGRAPH

Knight Piésold CONSULTING

P/A NO. VA101-457/62 | REF. NO. 1

FIGURE A4.3.3 | REV 0

4.4 CREEK 661 TRIBUTARY HYDROLOGY STATION 661-09

The 661-09 station, previously named H11, was installed in a tributary to Creek 661 near station 661-02 on June 12, 2013. This tributary merges with Creek 661 downstream of stations 661-02 and 661-09. The 661-09 station is shown in Photo A4.4 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured on the bank of the creek just downstream of a culvert. The sensor is removed each year during the winter months to avoid damage from ice. The station is then re-installed during the start of the open water season, when it is safe to do so.

Photo A4.4 Creek 661 Tributary Hydrology Station 661-09, looking from Right Bank to Left Bank (June 16, 2025)

Three (3) stage-discharge measurements were collected at this site in 2025. The 2025 paired stage-discharge and individual discharge measurements are summarized in Table A4.4.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2018 to 2024. However, the current rating curve was adjusted in 2025 to better represent the stage-discharge relationship and supersedes any rating curves issued prior to this report. The 2018-2025 661-09 Rating Curve is included on Figure A4.4.1. The highest measured discharge with an associated stage measurement is 0.56 m^3/s, and the highest extrapolated discharge is 1.91 m^3/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, such as for the 2018-2025 rating curve, there is uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the rating curves to the stage record produced the discharge hydrograph for this site, which is included on Figure A4.4.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for 661-09 were determined to generally be of poor quality, with Grades ranging from A to U. An overall Grade U was assigned to 661-09 as the rating curve accuracy of 2025 stage-discharge measurements was greater than 25%. Additionally, unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at 661-09 with a Grade A sensor in 2026.

A mean monthly discharge hydrograph was produced by combining the measured and estimated streamflows, included on Figure A**4.4**.**3**.

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TABLE A4.4

BW GOLD LTD
BLACKWATER GOLD PROJECT

SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
CREEK 661 TRIBUTARY HYDROLOGY STATION 661-09

Print Mar/18/26 8:27:19

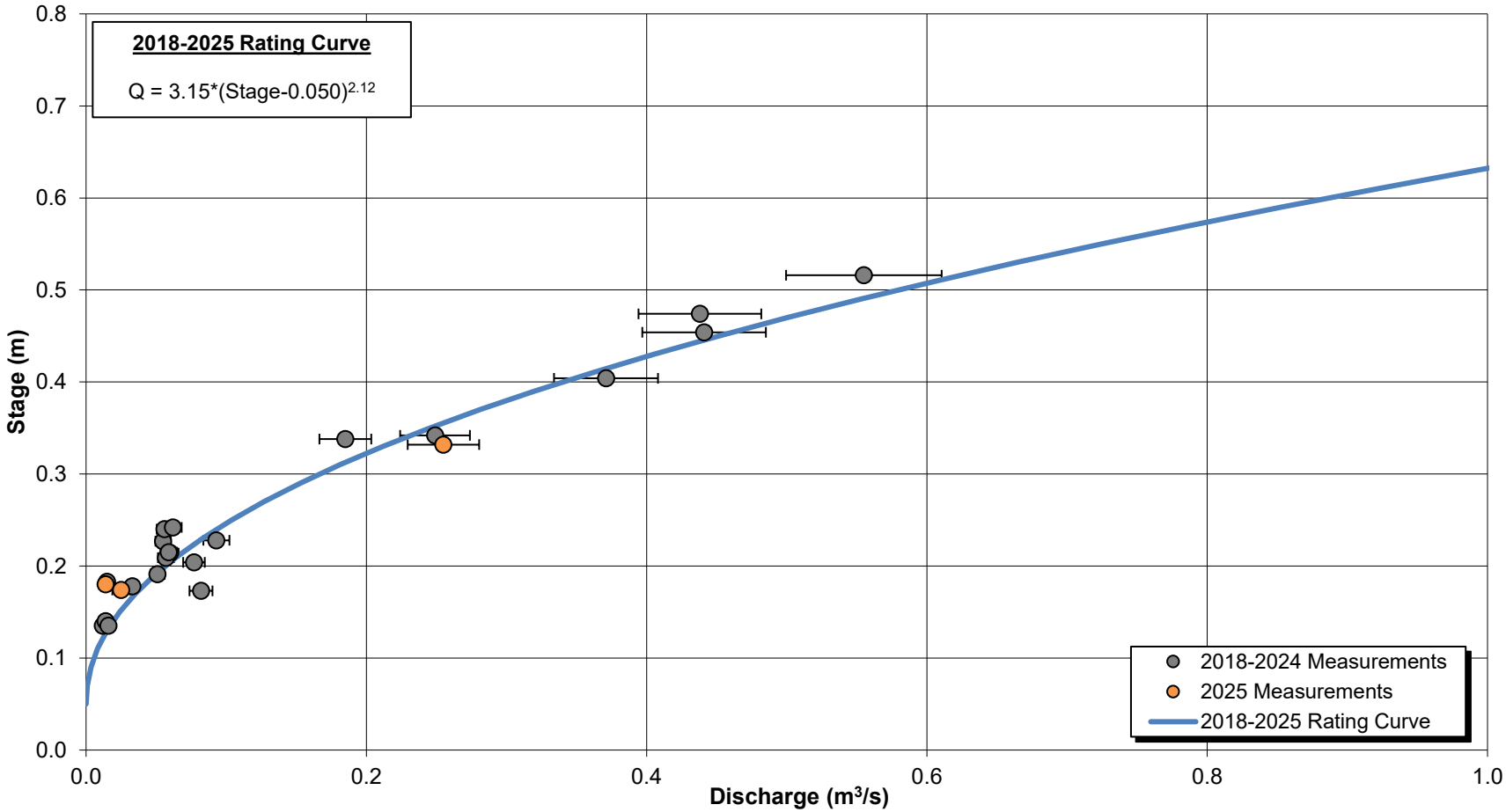
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Correced Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
1-May-25	2	Current Meter	0.255	0.215	0.332	See Note 5	Gauge Height	10%	0.010
16-Jun-25	2	Current Meter	0.025	0.038	0.175	0.174	Corrected Water Level	25%	0.005
28-Oct-25	2	Current Meter	0.014	0.042	0.188	0.180	Corrected Water Level	10%	0.010
26-Dec-25	See Note 6								

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\661-09\[661-09 Workfile 2025.xlsm]Table A 4.4

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT ERROR ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL
4. THIS STATION WAS PREVIOUSLY NAMED "H11".
5. DISCHARGE MEASUREMENTS CONDUCTED PRIOR TO SENSOR INITIALIZATION, NO CORRECTED WATER LEVEL DATA AVAILABLE.
6. NO MEASUREMENTS CONDUCTED DURING THE DECEMBER 26, 2025 SITE VISIT DUE TO FROZEN CONDITIONS AND INADEQUATE FLOW.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-00457/62-1	DZ	KRH



REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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BLACKWATER GOLD PROJECT

CREEK 661 TRIBUTARY HYDROLOGY STATION
2018-2025 661-09 RATING CURVE

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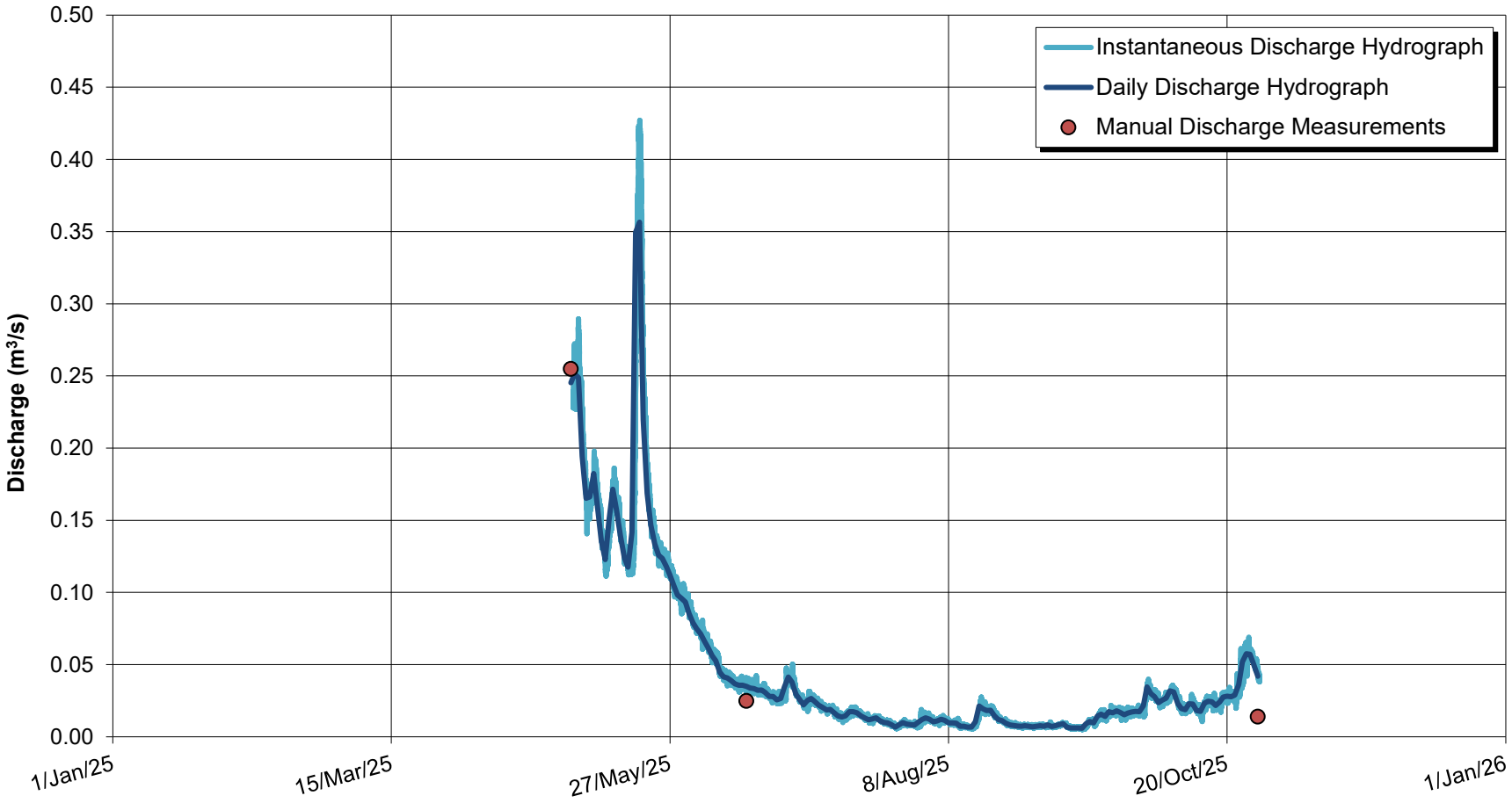
P/A NO. VA101-00457/62

REF. NO. 1

FIGURE A4.4.1

REV 0



NOTES:
1. THIS STATION WAS PREVIOUSLY NAMED "H11".

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

BW GOLD LTD

BLACKWATER GOLD PROJECT

CREEK 661 TRIBUTARY HYDROLOGY STATION
661-09 2025 DISCHARGE HYDROGRAPH

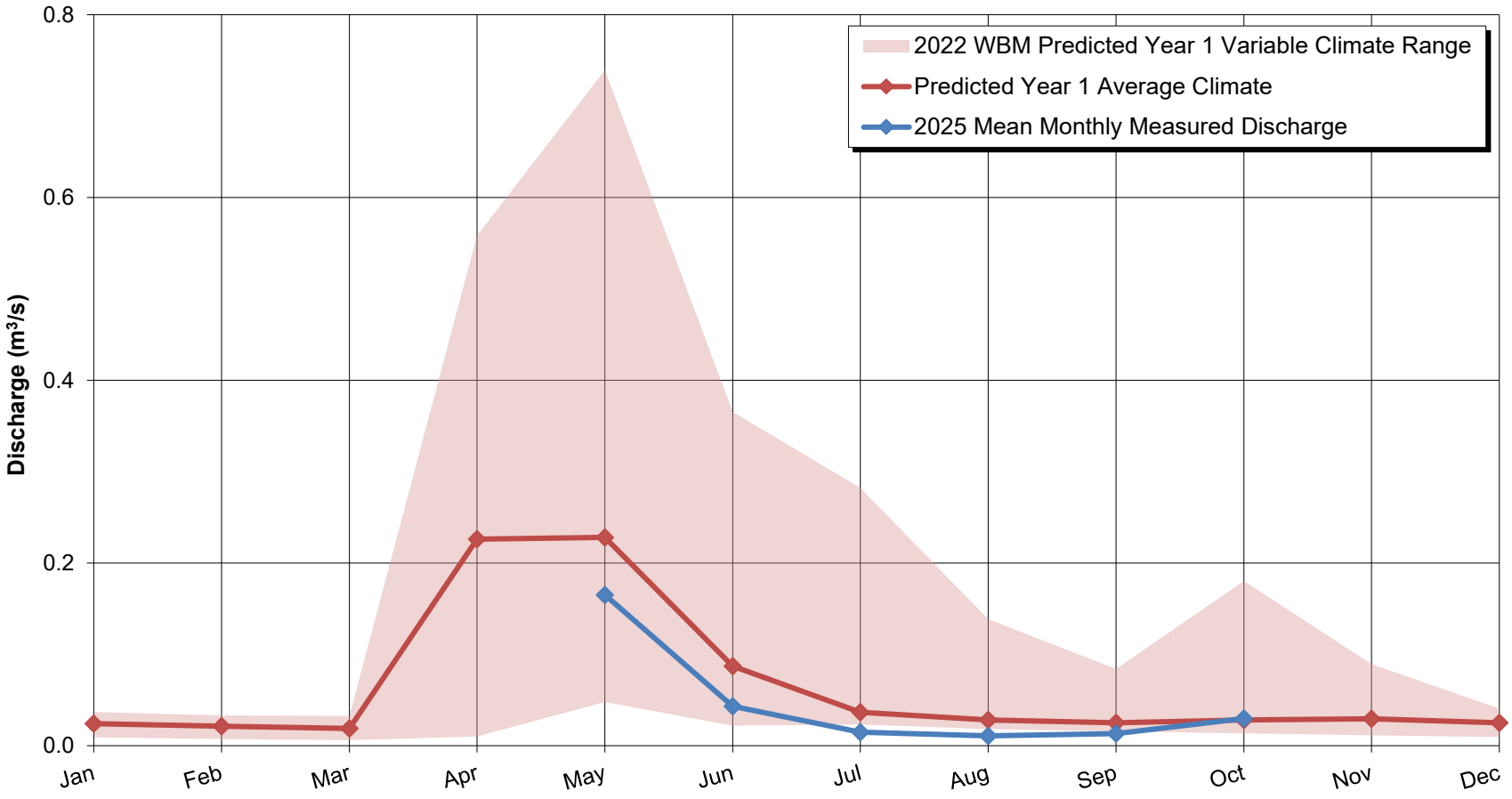
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 1

FIGURE A4.4.2

REV 0



NOTES:
1. MONTHLY MEAN DISCHARGES ARE CALCULATED BASED ON MEASURED AND ESTIMATED DAILY VALUES.
2. MONTHS WITH FEWER THAN 20 DAYS OF MEASURED OR ESTIMATED DATA ARE EXCLUDED.
3. PREDICTED YEAR 1 DISCHARGES ARE DERIVED FROM THE LIFE OF MINE WATER BALANCE MODEL (WBM) (KP, 2022).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

BW GOLD LTD

BLACKWATER GOLD PROJECT

CREEK 661 TRIBUTARY HYDROLOGY STATION 661-09 YEAR 1 PREDICTED VS. MEASURED MONTHLY HYDROGRAPH

Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 1

FIGURE A4.4.3

REV 0

5.0 CHEDAKUZ CREEK WATERSHED

There are three hydrology stations currently operated in the Chedakuz Creek Watershed and one location where spot flow measurements are taken. Hydrology stations CC-12, CC-15, and CC-30 are installed approximately 600 m, 2.4 km, and 16.4 km downstream of Tatelkuz Lake, respectively, and the spot measurement location, CC-40, is approximately 23 km further downstream of CC-15. The station and spot measurement locations are included on Figure 2.1 of the main report.

5.1 CHEDAKUZ CREEK HYDROLOGY STATION CC-12

The CC-12 station was installed on Chedakuz Creek on February 16, 2023. This station is shown in Photo A5.1 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured to the bank of the creek downstream of the Tatelkuz Lake outlet. The CC-15 station remains operational all year as the sensor is winterized in the fall.

Photo A5.1 Chedakuz Creek Hydrology Station CC-12, looking downstream (July 5, 2025)

Five (5) stage-discharge measurements were collected at this site in 2025. The paired stage-discharge and individual discharge measurements are summarized in Table A5.1.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected in 2023 and 2024, especially at low flows. Only one high-flow stage-discharge measurement was collected before 2025, and therefore there was significant uncertainty with the shape of the upper portion of the rating curve. As such, the current rating curve was adjusted in 2025 to better represent the overall stage-discharge relationship and supersedes any rating curves issued prior to this report. The 2023-2025 CC-12 Rating

Curve is presented on Figure A5.1.1. The highest measured discharge with an associated stage measurement is 2.93 m³/s, and the highest extrapolated discharge is 4.65 m³/s.

The current rating curve equation was applied to the stage record to produce the discharge hydrograph for this site, which is included on Figure A5.1.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for CC-12 were determined to generally be of fair quality, with grades ranging from A to C. An overall Grade C was assigned to CC-12 due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at CC-12 with a Grade A sensor in 2026, which would increase the overall RISC Grade of the station.

Knight Piésold CONSULTING

TABLE A5.1

BW GOLD LTD
BLACKWATER GOLD PROJECT

SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
CHEDAKUZ CREEK HYDROLOGY STATION CC-12

Print Mar/18/26 9:45:05

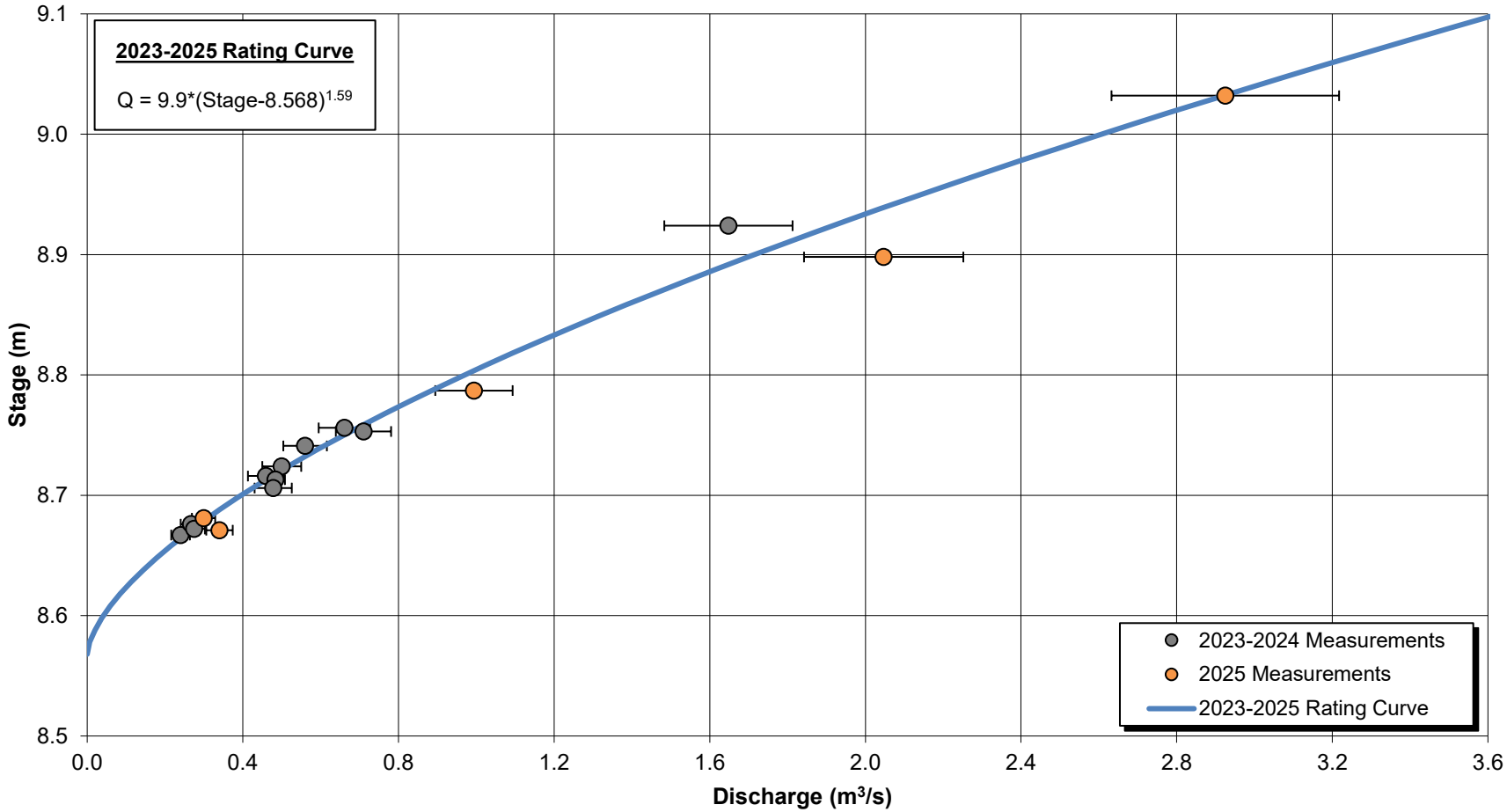
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
19-Jan-25	3	Current Meter	0.340	0.267	8.692	8.671	Corrected Water Level	10%	0.005
10-May-25	2	Current Meter	2.925	2.920	9.036	9.032	Corrected Water Level	10%	0.005
14-Jun-25	2	Current Meter	2.047	1.699	8.903	8.898	Corrected Water Level	10%	0.005
5-Jul-25	2	Current Meter	0.994	0.885	8.780	8.787	Corrected Water Level	10%	0.005
31-Oct-25	2	Current Meter	0.299	0.309	8.681	See Note 5	Gauge Height	10%	0.005

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\CC-12\[CC-12 Workfile 2025_ijp.xlsm]Table A5.1

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT ERROR ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL
4. JANUARY 19, 2025: FIRST DISCHARGE MEASUREMENT IGNORED. THIRD DISCHARGE MEASUREMENT COLLECTED TO CONFIRM STATION DISCHARGE.
5. SENSOR WAS FOUND ABOVE THE WATER SURFACE, NO CORRECTED WATER LEVEL DATA ARE AVAILABLE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-00457/62-1	DZ	KRH



NOTES:
1. THIS STATION WAS ESTABLISHED FEBRUARY 16, 2023.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
2023-2025 CC-12 RATING CURVE

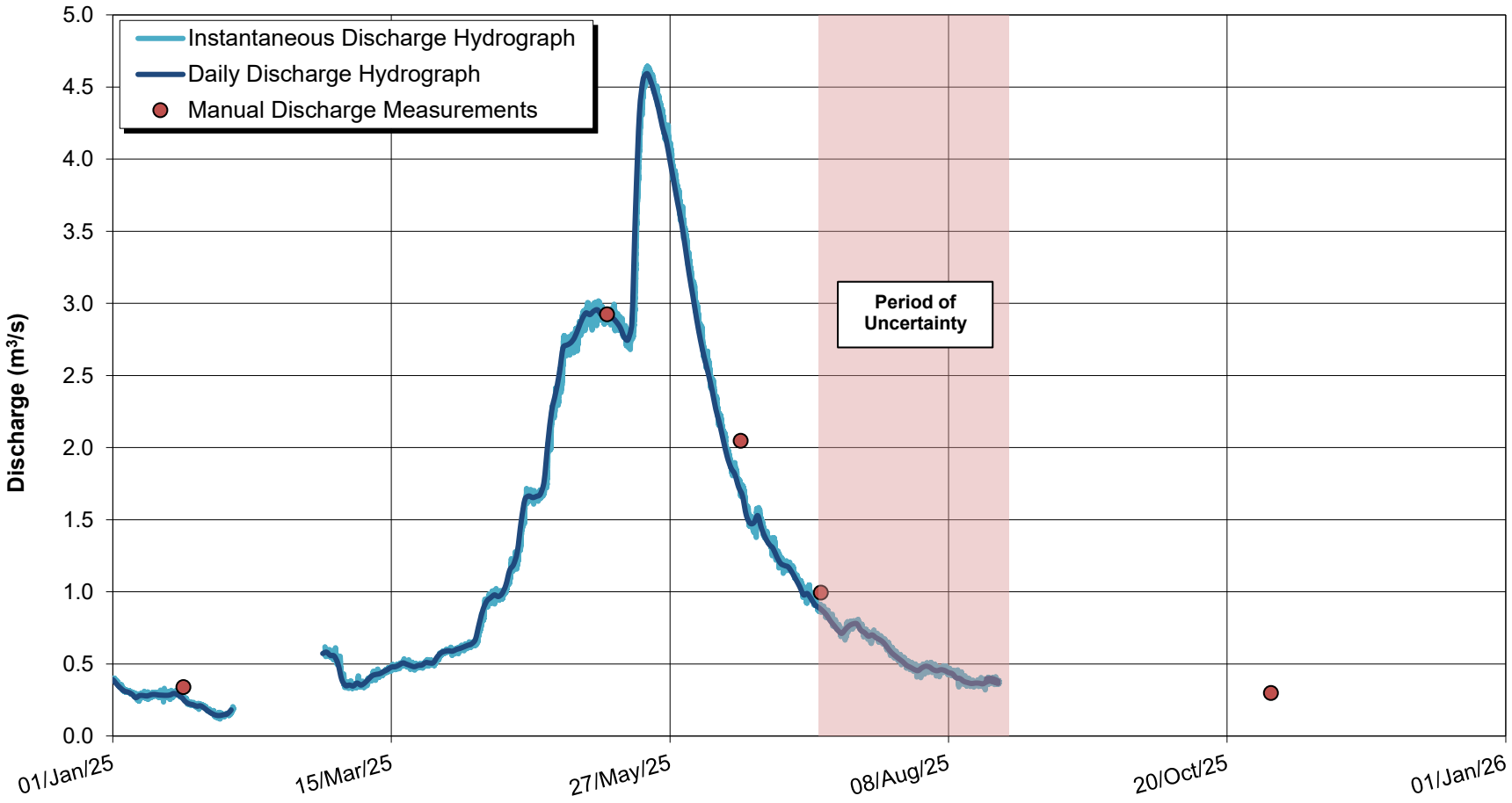
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 1

FIGURE A5.1.1

REV 0



NOTES:
1. THIS STATION WAS ESTABLISHED FEBRUARY 16, 2023.
2. HYDROGRAPH DATA IS DEVELOPED USING THE 2023-2025 RATING CURVE.
3. PERIOD OF UNCERTAINTY CAUSED BY SUSPICIONS THAT THE SENSOR MAY HAVE BEEN ABOVE THE WATER SURFACE. THE DATA DO NOT APPEAR ERROENOUS AND THEREFORE WERE RETAINED.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

BW GOLD LTD

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
CC-12 2025 DISCHARGE HYDROGRAPH

Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 1

FIGURE A5.1.2

REV 0

5.2 CHEDAKUZ CREEK HYDROLOGY STATION CC-15

The CC-15 station, previously named H5, was installed on Chedakuz Creek on April 19, 2011. This station is shown in Photo A5.2 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured to the bank of the creek just upstream of a bridge. The CC-15 station typically remains operational all year as the site often experiences open water conditions throughout the winter.

Photo A5.2 Chedakuz Creek Hydrology Station CC-15, Left Bank looking downstream (June 27, 2024)

Five (5) stage-discharge measurements were collected at this site in 2025. The paired stage-discharge and individual discharge measurements from 2025 are summarized in Table A5.2.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2021 to 2024. The current rating curve was adjusted in 2025 to better represent the stage-discharge relationship and supersedes any rating curves issued prior to this report. The 2021-2025 CC-15 Rating Curve is presented on Figure A5.2.1. The highest measured discharge with an associated stage measurement is 14.30 m^3/s, and the highest extrapolated discharge is 19.10 m^3/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, there is uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs. In the case of the rating curves at this station, there is more confidence in the higher flow portions of the curve due to the high flow measurement obtained in May 2021.

The current rating curve equation was applied to the stage record to produce the discharge hydrograph for this site, which is included on Figure A5.2.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for CC-15 were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to CC-15 due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at CC-15 with a Grade A sensor in 2026, which would increase the overall RISC Grade of the station.

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TABLE A5.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
CHEDAKUZ CREEK HYDROLOGY STATION CC-15

Print Mar/18/26 9:47:34

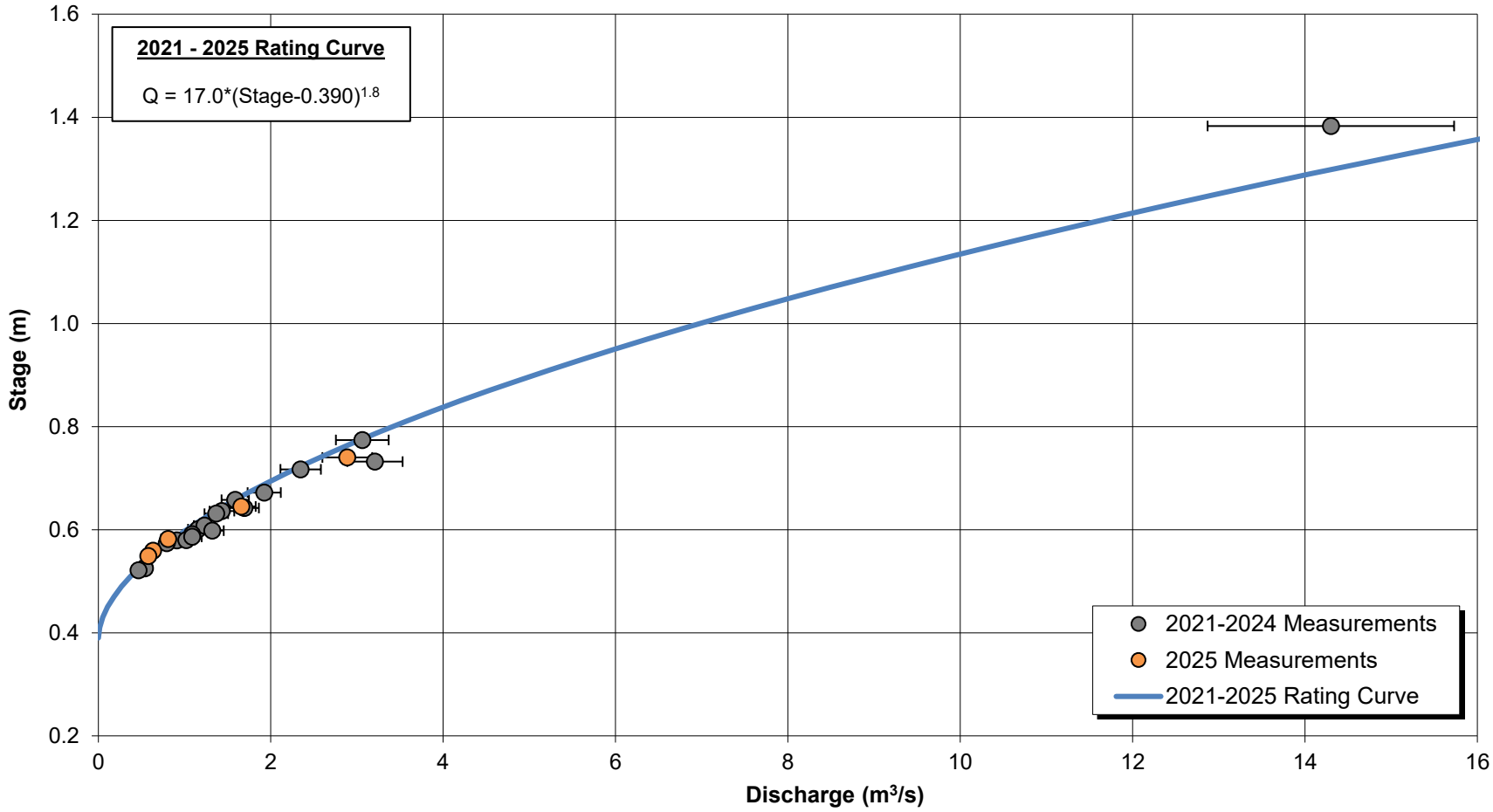
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
19-Jan-25	2	Current Meter	0.809	0.872	0.561	0.582	Corrected Water Level	10%	0.002
14-Jun-25	2	Current Meter	2.888	2.569	0.741	0.74	Corrected Water Level	10%	0.002
5-Jul-25	2	Current Meter	1.659	1.453	0.652	0.645	Corrected Water Level	10%	0.005
10-Aug-25	2	Current Meter	0.633	0.693	0.559	0.559	Corrected Water Level	10%	0.010
31-Oct-25	2	Current Meter	0.579	0.621	0.546	0.549	Corrected Water Level	10%	0.010

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\CC-15\[CC-15 Workfile 2025.xlsm]Table A 5.2

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT UNCERTAINTY ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH



NOTES:
1. THE 2021-2025 CC-15 RATING CURVE SUPERSEDES THE RATING CURVE PRESENTED IN THE 2022 HYDROLOGY AND WATER TEMPERATURE BASELINE REPORT.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
2021-2025 CC-15 RATING CURVE

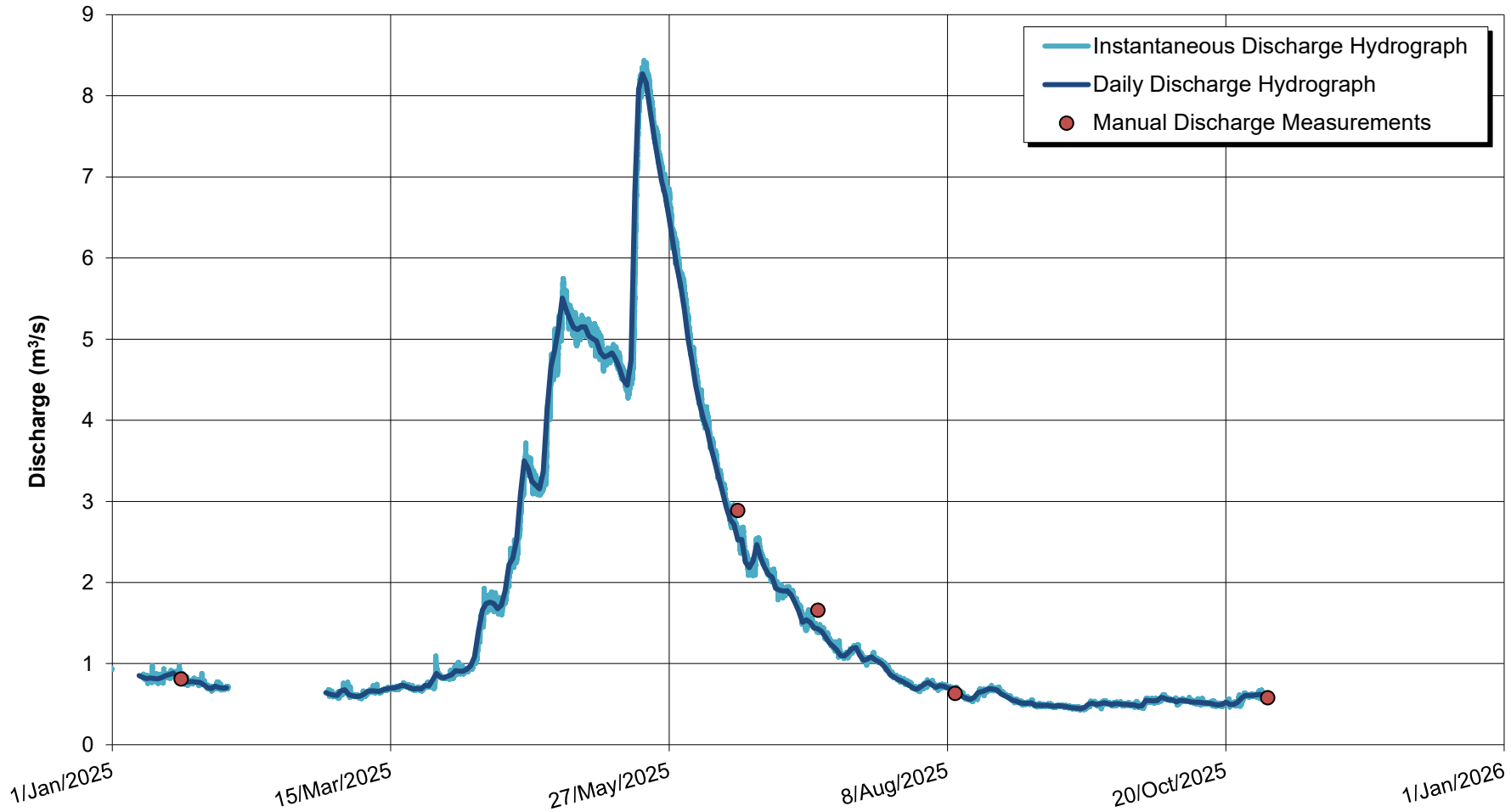
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE A5.2.1

REV 0



REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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CHEDAKUZ CREEK HYDROLOGY STATION
CC-15 2025 DISCHARGE HYDROGRAPH

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE 5.2.2

REV 0

5.3 CHEDAKUZ CREEK HYDROLOGY STATION CC-30

The CC-30 location is on Chedakuz Creek, approximately 14 km downstream of CC-15. The location was initially established for solely water quality monitoring but was repurposed as a hydrology station with installation of instrumentation on July 27, 2023. The CC-30 station is shown in Photo A5.3 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured to the bank of the creek. The sensor is removed each year during the winter months to avoid damage from ice. The sensor is then re-installed during the start of the open water season, when it is safe to do so.

Photo A5.3 Chedakuz Creek Hydrology Station CC-30, looking downstream (July 13, 2025)

Six (6) stage-discharge measurements were collected at this site in 2025. The paired stage-discharge and individual discharge measurements from 2025 are summarized in Table A5.3.

Significant changes in the hydraulic control, likely driven by sediment deposition or possibly a downstream log jam, necessitated the development of two (2) new preliminary rating curves for the 2025 monitoring period. The first change in the hydraulic control is suspected to have occurred during the 2024/2025 winter. The second change occurred between July and September 2025. Due to uncertainty regarding the exact timing of the shift, streamflow data between the July and September site visits were excluded from the record, though stage data were retained. Two distinct preliminary rating curves were established in 2025 to address these conditions, where the first curve was applied to the April to July record and the second curve was applied to the September to November record. Both preliminary 2025 rating curves are shown on Figure A5.3.1. While creating the new 2025 rating curves, attention was given to prioritize similar shapes in both curves as there was minimal data available to define the shape of the curve.

The maximum reliable measured discharge and maximum extrapolated discharge for the rating curve is summarized below:

- 2025 Apr-Jul preliminary rating curve: The maximum measured discharge was 4.36 m^3/s and the maximum extrapolated discharge is 15.65 m^3/s.
- 2025 Sep-Nov preliminary rating curve: The maximum measured discharge was 0.74 m^3/s and the maximum extrapolated discharge is 0.88 m^3/s.

Applying the rating curves to the stage record produced the discharge hydrograph for this site, which is included on Figure A5.3.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for CC-30 were determined to generally be of fair quality, with Grades ranging from A to C. An overall Grade C was assigned to CC-30 due to the current instrumentation (sensor). Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at CC-30 with a Grade A sensor in 2026, which would increase the overall RISC Grade of the station.

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TABLE A5.3

BW GOLD LTD.
BLACKWATER GOLD PROJECT

SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
CHEDAKUZ CREEK STATION CC-30

Print Mar/18/26 9:50:21

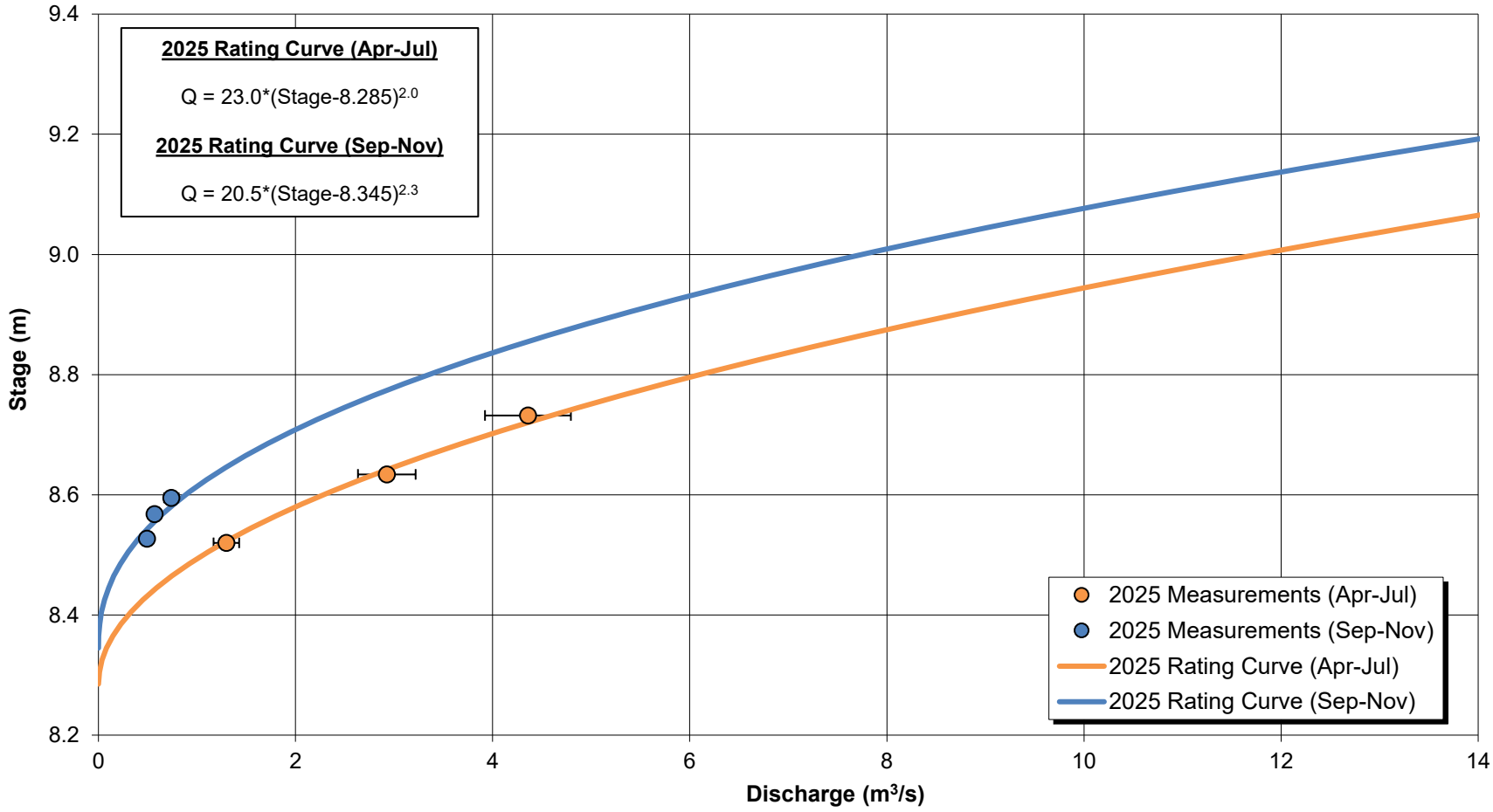
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
22-Apr-25	2	Current Meter	4.358	4.596	8.691	8.732	Corrected Water Level	10%	0.005
22-Jun-25	2	Current Meter	2.926	2.801	8.634	8.634	Corrected Water Level	10%	0.010
13-Jul-25	2	Current Meter	1.298	1.270	8.522	8.520	Corrected Water Level	10%	0.005
17-Sep-25	2	Current Meter	0.492	0.407	8.510	8.527	Corrected Water Level	10%	0.010
5-Oct-25	2	Current Meter	0.568	0.650	8.566	8.568	Corrected Water Level	10%	0.005
17-Nov-25	2	Current Meter	0.740	0.845	8.591	8.595	Corrected Water Level	10%	0.010

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\CC-30\[CC-30 Workfile 2025.xlsm]Table A 5.3

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT UNCERTAINTY ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH



NOTES:
1. BOTH 2025 RATING CURVES ARE DEFINED AS PRELIMINARY, THE CURRENT RATING CURVE IS SUBJECT TO CHANGE IN 2026.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
2025 CC-30 PRELIMINARY RATING CURVES

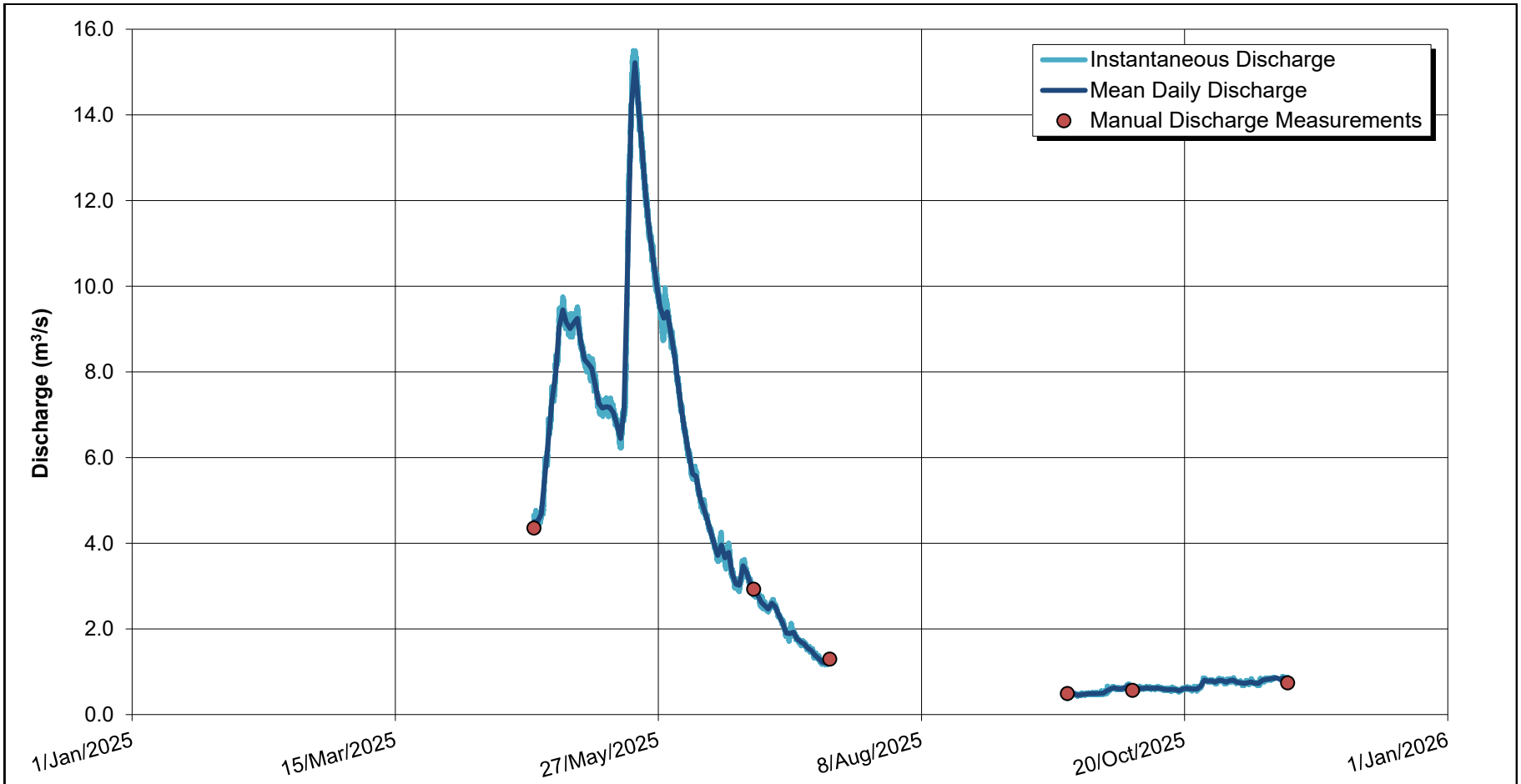
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE A5.3.1

REV 0



NOTES:
1. HYDROGRAPH DATA DEVELOPED USING A PRELIMINARY RATING CURVE.
2. DISCHARGE DATA FROM JULY 13, 2025 TO SEPTEMBER 17, 2025 WERE UNABLE TO BE PRODUCED DUE TO A CHANGE IN THE HYDRAULIC CONTROL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
CC-30 2025 DISCHARGE HYDROGRAPH

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE A5.3.2

REV 0

5.4 CHEDAKUZ CREEK HYDROLOGY SPOT FLOW MEASUREMENT LOCATION CC-40

The CC-40 location is on Chedakuz Creek, approximately 23 km downstream of CC-15. The location was established for water quality monitoring, and no hydrology instrumentation is installed at the location. A total of five (5) discharge measurements were collected at the station in 2025. No associated stage values were recorded. The discharge measurements collected in 2025 are summarized in Table A5.4. When compared against the RISC hydrometric standards (2018) the 2025 discharge data for CC-40 were determined to generally be of good quality, with Grades ranging from A to B. CC-40 was assigned an overall Grade B. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data.

Knight Piésold CONSULTING

TABLE A5.4

BW GOLD LTD
BLACKWATER GOLD PROJECT

SUMMARY OF 2025 DISCHARGE MEASUREMENTS
CHEDAKUZ CREEK HYDROLOGY STATION CC-40

Print Mar/18/26 9:52:12

Date	Number of Discharge Measurements	Discharge Measurement Method	Discharge	Measurement Uncertainty
			(m^3/s)	Discharge (%)
22-Jun-25	2	Current Meter	3.020	10%
13-Jul-25	2	Current Meter	1.693	10%
3-Aug-25	2	Current Meter	1.129	10%
5-Oct-25	2	Current Meter	0.696	10%
17-Nov-25	2	Current Meter	1.026	10%

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\CC-40\[CC-40 (H6B) Workfile 2025.xlsm]Table A5.4

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT ERROR ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH

6.0 FAWNIE CREEK WATERSHED

This report discusses two (2) hydrology stations currently operated in the Fawnie Creek Watershed. The stations are installed on Creek 705 and Mathews Creek. The station and spot measurement locations are included on Figure 2.1 of the main report.

6.1 CREEK 705 HYDROLOGY STATION 705-10

The 705-10 station, previously named H7, was installed on Creek 705 on May 8, 2012. The station is shown in Photo A6.1 and consists of a Solinst Levelogger 5 sensor installed inside a protective aluminum pipe secured to the bank of the creek. The sensor is removed each year during the winter months to avoid damage from ice. The sensor is then re-installed during the start of the open water season, when it is safe to do so.

Photo A6.1 Creek 705 Hydrology Station 705-10, looking from Left Bank to Right Bank (May 23, 2025)

Four (4) stage-discharge measurements and one (1) discharge measurement were collected at this site in 2025. The paired stage-discharge and individual discharge measurements from 2025 are summarized in Table A6.2.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2018 to 2024. However, the current rating curve was adjusted in 2025 to better represent the stage-discharge relationship and supersedes any rating curves issued prior to this report. The 2018-2025 705-10 Rating Curve is included on Figure A6.1.1. The highest measured discharge with an associated stage measurement is 2.14 m^3/s, and the highest extrapolated discharge is 10.29 m^3/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, there is uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the current rating curve to the stage record produced the discharge hydrograph for this site, which is included on Figure A6.1.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for 705-10 were determined to generally be of fair quality, with Grades ranging from A to C. Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. This in combination with a rating curve accuracy greater than 15% results in an overall station Grade of C. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at 705-10 with a Grade A sensor in 2026.

Knight Piésold CONSULTING

TABLE A6.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
CREEK 705 HYDROLOGY STATION 705-10

Print Mar/18/26 9:39:50

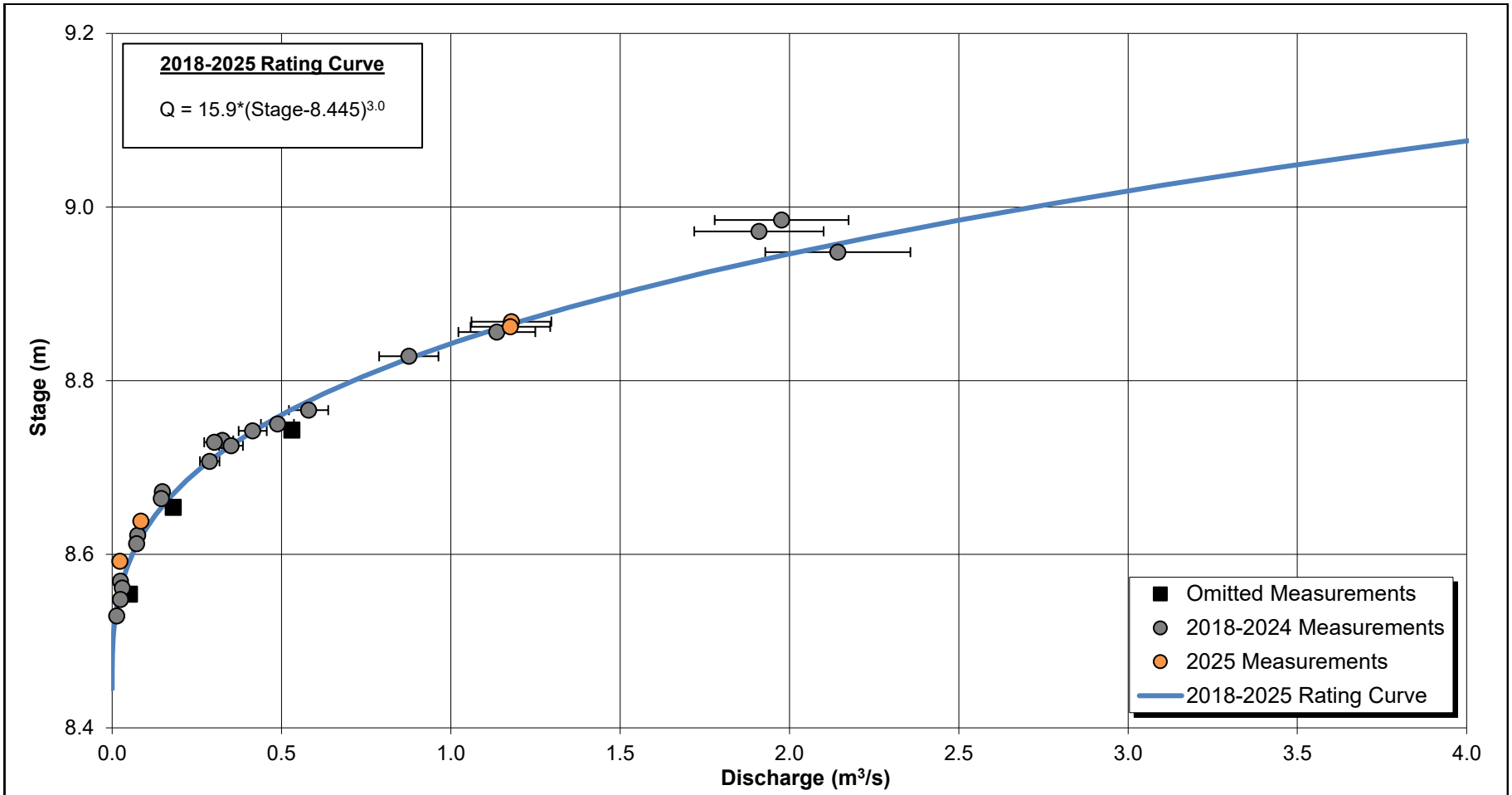
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge	Calculated Discharge	Gauge Height	Corrected Water Level	Stage Method Used	Measurement Uncertainty	
			(m^3/s)	(m^3/s)	(m)	(m)		Discharge (%)	Gauge Height (m)
12-Jan-25	2	Current Meter	0.078	-	See Note 5			10%	-
28-Apr-25	2	Current Meter	1.179	1.203	8.854	8.868	Corrected Water Level	10%	0.010
23-May-25	2	Current Meter	1.176	1.153	8.863	8.862	Corrected Water Level	10%	0.020
19-Jul-25	2	Current Meter	0.085	0.114	8.639	8.638	Corrected Water Level	10%	0.010
2-Nov-25	2	Current Meter	0.023	0.051	8.592	See Note 6	Gauge Height	10%	0.005

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\705-10\[705-10 Workfile 2025.xlsm]Table A6.1

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT UNCERTAINTY ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.
4. THIS STATION WAS PREVIOUSLY NAMED "H7".
5. WINTER LOW FLOW DISCHARGE MEASUREMENT ONLY. NO GAUGE HEIGHT MEASUREMENTS CONDUCTED DURING WINTER LOW FLOW SITE VISITS.
6. CORRECTED WATER LEVEL DATA ARE NOT AVAILABLE AS THE RAW DATA WERE REMOVED DUE TO ICING.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH



NOTES:
1. THE 2018-2025 705-10 RATING CURVE SUPERSEDES THE RATING CURVE PRESENTED IN THE 2022 HYDROLOGY AND WATER TEMPERATURE BASELINE REPORT.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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CREEK 705 HYDROLOGY STATION
2018-2025 705-10 RATING CURVE

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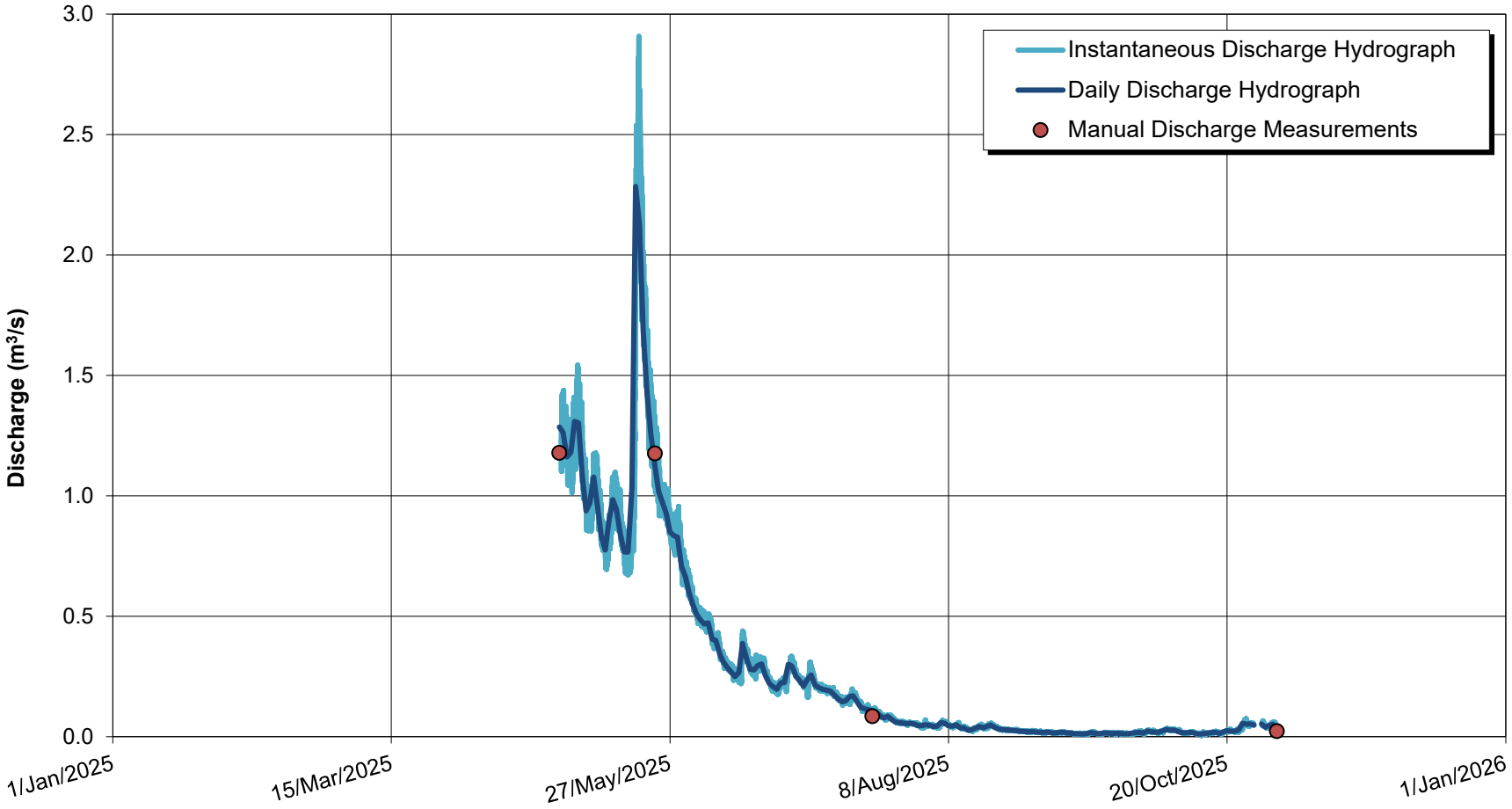
P/A NO. VA101-457/62

REF. NO. 1

FIGURE A6.1.1

REV 0



NOTES:
1. THIS STATION WAS PREVIOUSLY NAMED "H7".

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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CREEK 705 HYDROLOGY STATION
705-10 2025 DISCHARGE HYDROGRAPH

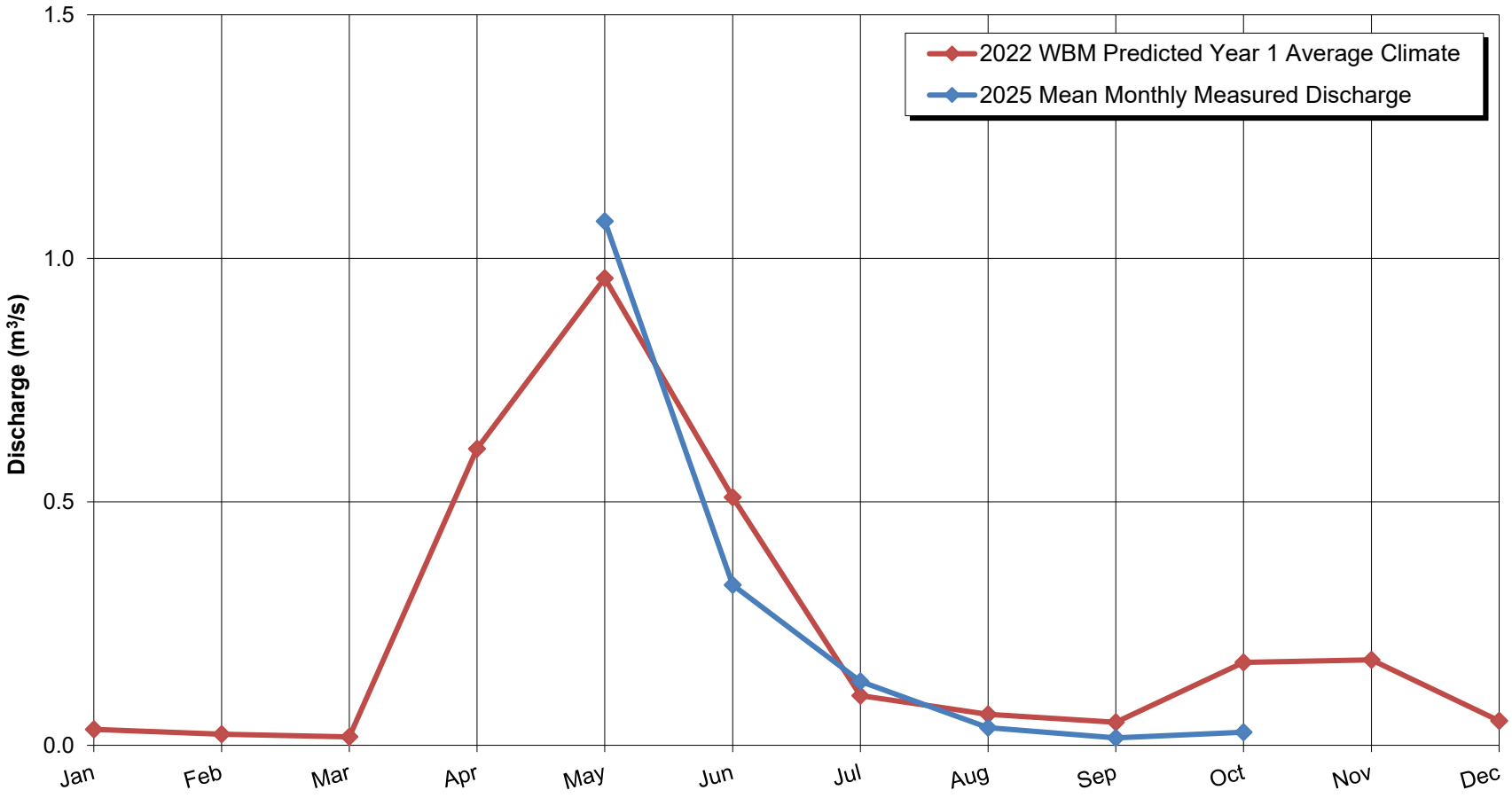
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE A6.1.2

REV 0



NOTES:
1. MONTHLY MEAN DISCHARGES ARE CALCULATED BASED ON MEASURED AND ESTIMATED DAILY VALUES.
2. MONTHS WITH FEWER THAN 20 DAYS OF MEASURED OR ESTIMATED DATA ARE EXCLUDED.
3. PREDICTED YEAR 1 DISCHARGES ARE DERIVED FROM THE LIFE OF MINE WATER BALANCE MODEL (KP, 2022).
4. PREDICTED YEAR 1 DISCHARGES WERE ONLY DEVELOPED FOR AVERAGE CLIMATE CONDITIONS, NOT VARIABLE CLIMATE CONDITIONS.

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BLACKWATER GOLD PROJECT

CREEK 705 HYDROLOGY STATION
705-10 YEAR 1 PREDICTED VS. MEASURED MONTHLY HYDROGRAPH

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P/A NO. VA101-457/62

REF. NO. 1

FIGURE A6.1.3

REV 0

6.2 MATHEWS CREEK HYDROLOGY STATION MC-05

The MC-05 station, previously named H12, was installed on Mathews Creek on May 1, 2014. The station was decommissioned on October 30, 2014, and recommissioned on May 24, 2018. The station is shown in Photo A6.2 and consists of a Solinst Levelogger 5 installed inside a protective aluminum pipe secured to the bank of the creek. The sensor is removed each year during the winter months to avoid damage from ice. The sensor is then re-installed during the start of the open water season, when it is safe to do so.

Photo A6.2 Mathews Creek Hydrology Station MC-05, looking downstream (June 25, 2025)

Three (3) stage-discharge measurements and one (1) discharge measurement were collected at this site in 2025. The paired stage-discharge and individual discharge measurements from 2025 are summarized in Table A6.2.

Stage-discharge measurements collected in 2025 fall in the same scatter as the points collected from 2021 to 2024, and no changes were made to the established rating curve. The 2021-2025 MC-05 Rating Curve is shown on Figure A6.2.1. The highest measured discharge with an associated stage measurement is 5.79 m^3/s, and the highest extrapolated discharge is 30.16 m^3/s.

When the extrapolated discharges are over two times the magnitude of the maximum reliable measurement, there is uncertainty in the high flow portions of the rating curves and the associated discharge hydrographs.

Applying the current rating curve to the stage record produced the discharge hydrograph for this site, which is included on Figure A6.2.2. When compared against the RISC hydrometric standards (2018) the 2025 hydrometric data for MC-05 were determined to generally be of fair quality, with Grades ranging from A to C. Unvented loggers require correction from barometric gauges, adding to uncertainty, and thus diminishing the quality of data. This in combination with a rating curve accuracy greater than 15%, and verticals with a Max Q greater than 10% during current meter measurements result in an overall Grade of C. A summary of the data quality is presented in Table 2.3 of the main report, which includes the RISC grading score for each component of the station's data. There are plans to replace the sensor at MC-05 with a Grade A sensor in 2026.

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TABLE A6.2

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SUMMARY OF 2025 STAGE-DISCHARGE MEASUREMENTS
MATHEWS CREEK HYDROLOGY STATION MC-05

Print Mar/18/26 9:54:47

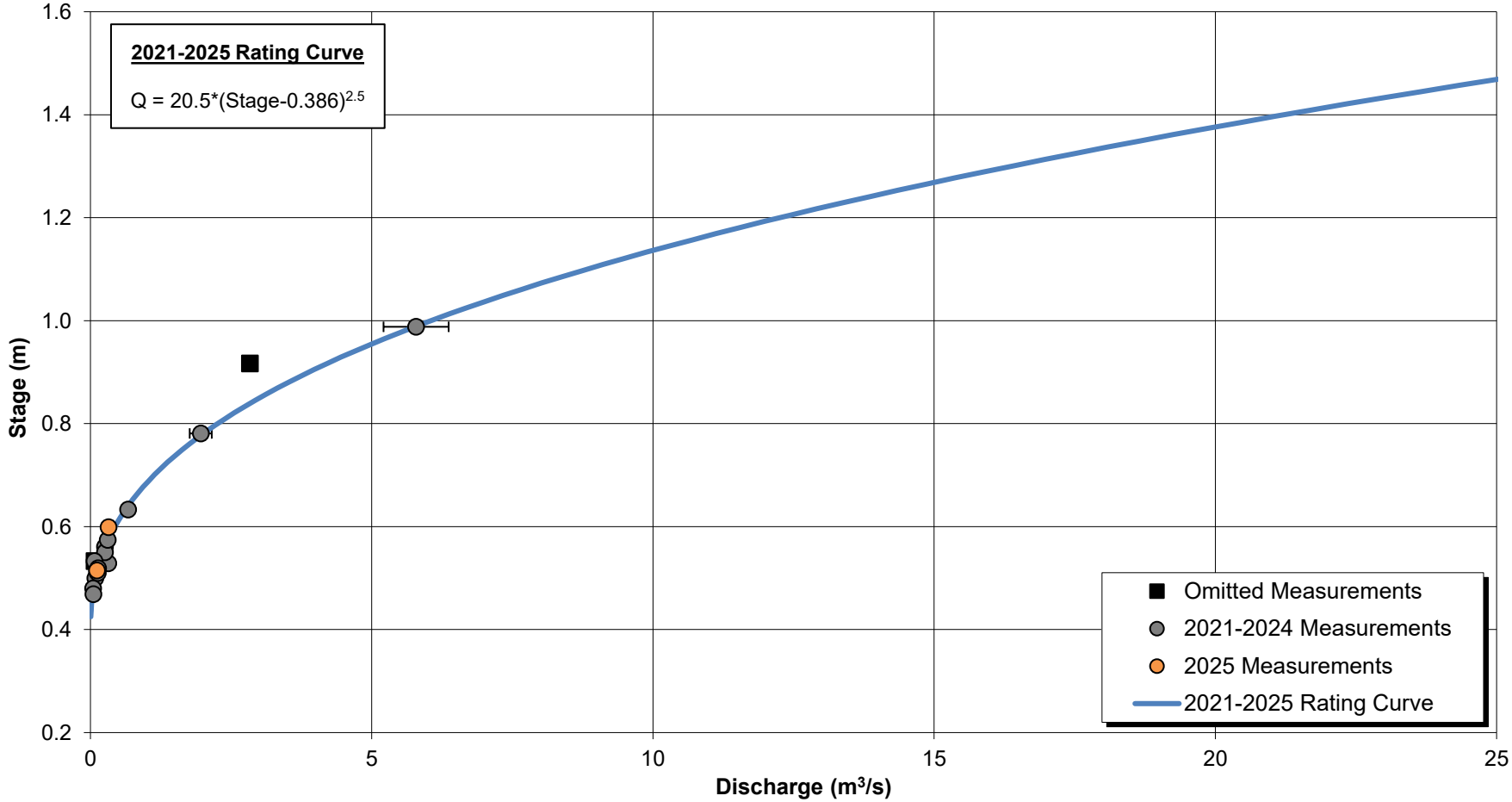
Date	Number of Discharge Measurements	Discharge Measurement Method	Measured Discharge (m^3/s)	Calculated Discharge (m^3/s)	Gauge Height (m)	Corrected Water Level (m)	Stage Method Used	Measurement Uncertainty	
								Discharge (%)	Gauge Height (m)
30-Apr-25	2	Current Meter	2.833	4.212	0.887	0.917	Corrected Water Level	10%	0.010
25-Jun-25	2	Current Meter	0.324	0.429	0.597	0.599	Corrected Water Level	10%	0.005
27-Oct-25	2	Current Meter	0.116	0.123	0.516	0.515	Corrected Water Level	10%	0.010
22-Dec-25	2	Current Meter	0.113	-	See Note 4			10%	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\2025 End of Year QAQC\MC-05\[MC-05 Workfile 2025.xlsm]Table A6.2

NOTES:

1. NUMBER OF GAUGINGS REFERS TO THE NUMBER OF GAUGINGS AVERAGED TO PRODUCE ONE RATING POINT.
2. DISCHARGE UNCERTAINTY REFERS TO THE IN SITU MEASUREMENT UNCERTAINTY ESTMATED BY THE FIELD ENGINEER.
3. STAGE UNCERTAINTY IS BASED ON A VISUAL ASSESSMENT OF THE WAVE AMPLITUDE IN THE GAUGE POOL.
4. WINTER LOW FLOW DISCHARGE MEASUREMENT ONLY. NO GAUGE HEIGHT MEASUREMENTS CONDUCTED DURING WINTER LOW FLOW SITE VISITS.
5. THE STAGE-DISCHARGE MEASUREMENT COLLECTED ON APRIL 30, 2025 WAS OMITTED FROM USE IN DEVELOPING THE RATING CURVE EQUATION.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	DZ	KRH



REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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MATHEWS CREEK HYDROLOGY STATION
2021-2025 MC-05 RATING CURVE

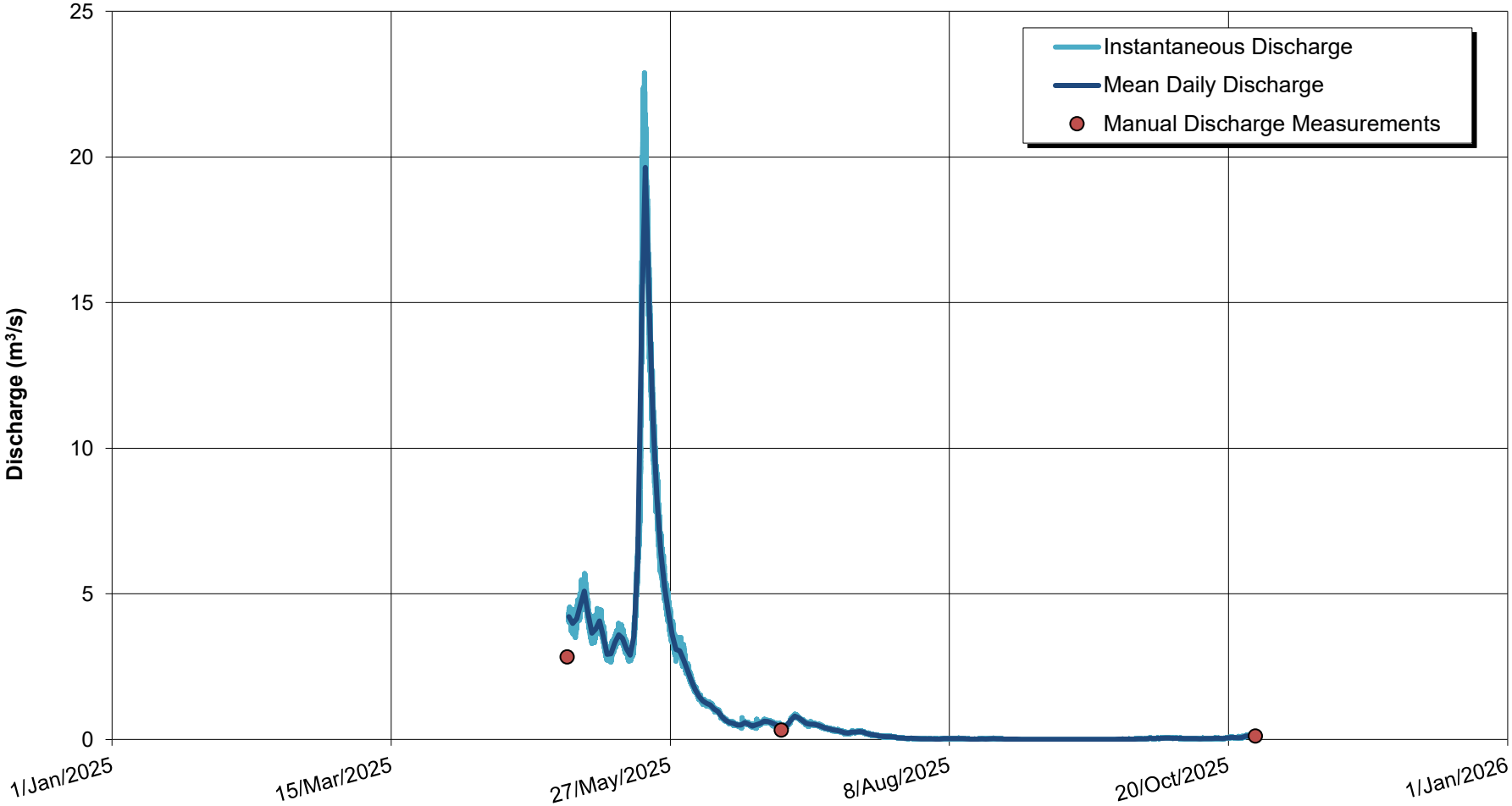
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE A6.2.1

REV 0



REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	DZ	KRH

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MATHEWS CREEK HYDROLOGY STATION
MC-05 2025 DISCHARGE HYDROGRAPH

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE A6.2.2

REV 0

7.0 REFERENCES

Knight Piésold Ltd. (KP), 2018. 2016 Hydrology and Water Temperature Baseline Report. Prepared for New Gold Inc. Ref. No. VA101-457/22-1 Rev. 1, dated August 29, 2018.

Knight Piésold Ltd. (KP, 2021). Blackwater Gold Project – 2020 Hydrology and Water Temperature Baseline Report. KP Ref. No. VA101-457/33-3 Rev. 1, dated May 17, 2021.

Knight Piésold Ltd. (KP, 2023). Blackwater Gold Project – 2022 Hydrology and Water Temperature Baseline Report. KP Ref. No. VA101-457/37-3 Rev. 0, dated March 1, 2023.

Knight Piésold Ltd. (KP, 2024). Blackwater Gold Project – 2023 Hydrology and Water Temperature Baseline Report. KP Ref. No. VA101-457/40-4 Rev. 0, dated March 26, 2024.

Knight Piésold Ltd. (KP, 2025). Blackwater Gold Project – 2024 Hydrology and Water Temperature Baseline Report. KP Ref. No. VA101-457/46-1 Rev. 0, dated March 20, 2025.

APPENDIX B

Site Water Temperature Stations Data

(Pages B-1 to B-93)

APPENDIX B
SITE WATER TEMPERATURE STATIONS DATA

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1.0 SITE WATER TEMPERATURE STATIONS AND DATA

The locations of the Blackwater Gold Project temperature monitoring stations are shown on Figure 2.1 of the main report. A total of 22 temperature monitoring stations: 12 dedicated temperature monitoring stations and 10 hydrology stations for monitoring streamflows or water levels that also record water temperatures, are installed in the Davidson Creek, Turtle Creek, Tatelkuz Lake, Chedakuz Creek, and Fawnie Creek watersheds. Recording periods for these stations vary and are summarized in Table 3.1 of the main report. Water temperature data collected at both types of stations are reviewed and discussed by watershed in the following sections of this appendix.

Recorded water temperatures were verified with manual measurements collected using a YSI Pro Plus multiparameter probe and temperature readings were verified on a regular basis with a second instrument. The average differences between the manual measurements and the logged data were typically within ± 0.5 °C, and therefore the recorded data were not corrected by the difference between manual and recorded measurements.

The monthly mean temperatures for the periods of record were calculated at each station where a temperature gauge was installed. The monthly mean temperature values are only presented for months with at least 16 days of available temperature data.

2.0 DAVIDSON CREEK WATERSHED

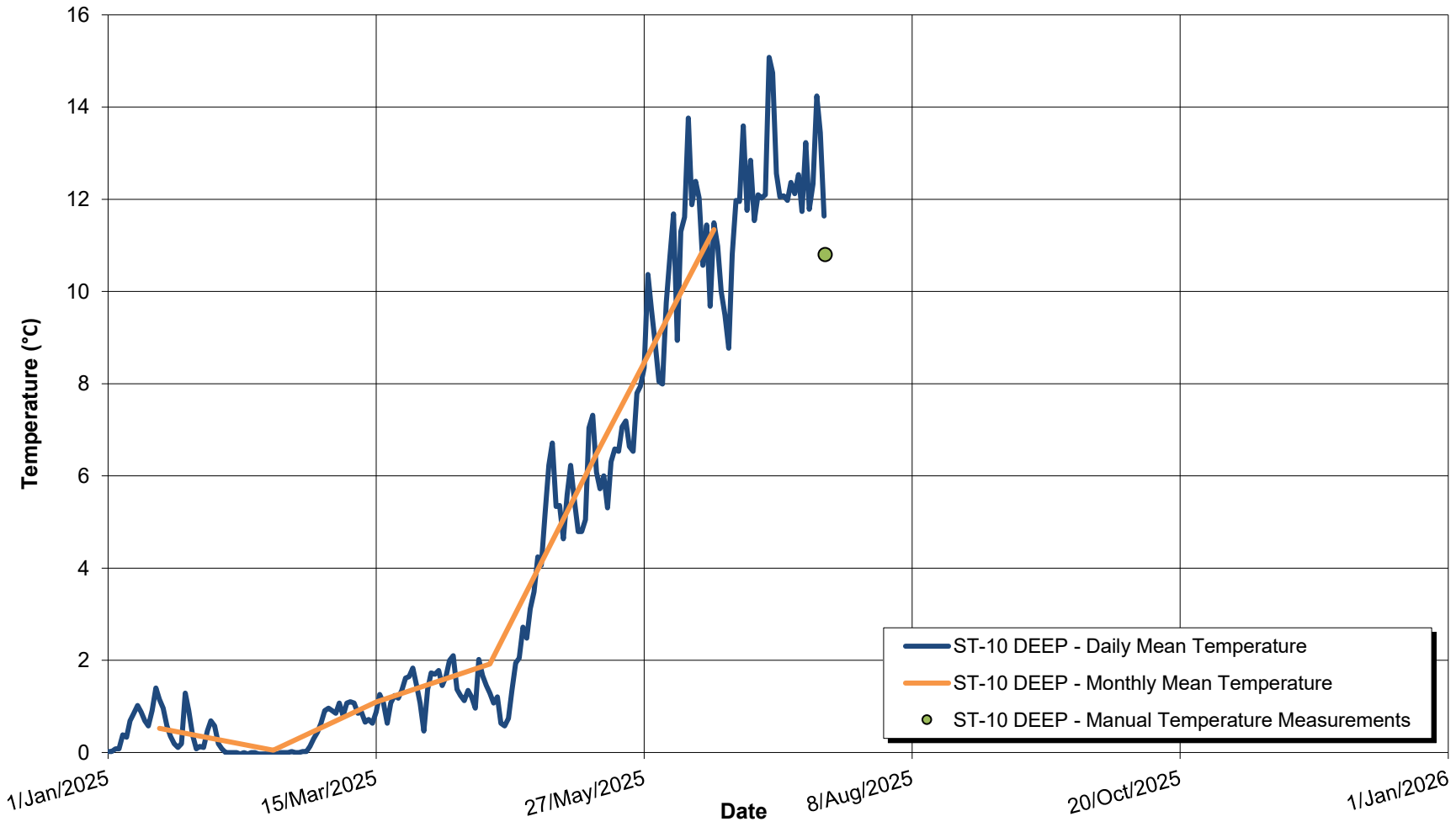
2.1 GENERAL

There are thirteen (13) temperature monitoring stations currently operated in the Davidson Creek Watershed. The stations are installed on the upper reaches of Davidson Creek (ST-10 DEEP and DC-05), the middle reaches of Davidson Creek (ST-18 DEEP, ST-17 DEEP, and DC-15), and the lower reaches of Davidson Creek (ST-16 KO, ST-16 DEEP, ST-15 KO, ST-15 DEEP, ST-14 KO, ST-14 DEEP, ST-08 KO, and ST-08 DEEP). The Blackwater deposit lies within the upper reaches of the Davidson Creek watershed.

2.2 UPPER DAVIDSON CREEK WATER TEMPERATURE ST-10 DEEP

The ST-10 DEEP station is installed in an upper reach of Davidson Creek and is shown in Photo B2.2.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.2.1. The manual measurements are shown in Table B2.2.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.2.2.

Photo B2.2.1 Upper Davidson Creek Water Temperature Station ST-10 DEEP (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
3. TEMPERATURE LOGGER WAS ERRONEOUSLY SET TO LOG ONCE DAILY ONLY.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

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UPPER DAVIDSON CREEK TEMPERATURE STATION
ST-10 DEEP 2025 WATER TEMPERATURES

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REF. NO. 1

FIGURE B2.2.1

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TABLE B2.2.1

BW GOLD LTD.
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UPPER DAVIDSON CREEK TEMPERATURE STATION ST-10 DEEP
MANUAL WATER TEMPERATURE MEASUREMENTS

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Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	7:50:00 AM	10.8	11.6	-0.8	Logger set to log at noon only, difference of 4 hours.

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.2 ST-10 DEEP\[ST-10 DEEP.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.2.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

UPPER DAVIDSON CREEK TEMPERATURE STATION ST-10 DEEP
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:34:18

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	0.0	0.5	0.6	4.6	8.0	-	-	-	-	-	-
Monthly Mean	0.5	0.0	1.1	1.9	6.6	11.3	-	-	-	-	-	-
Max. Daily	1.4	0.6	1.8	5.2	10.4	15.1	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.2 ST-10 DEEP\[ST-10 DEEP.xlsx]Temperature Table

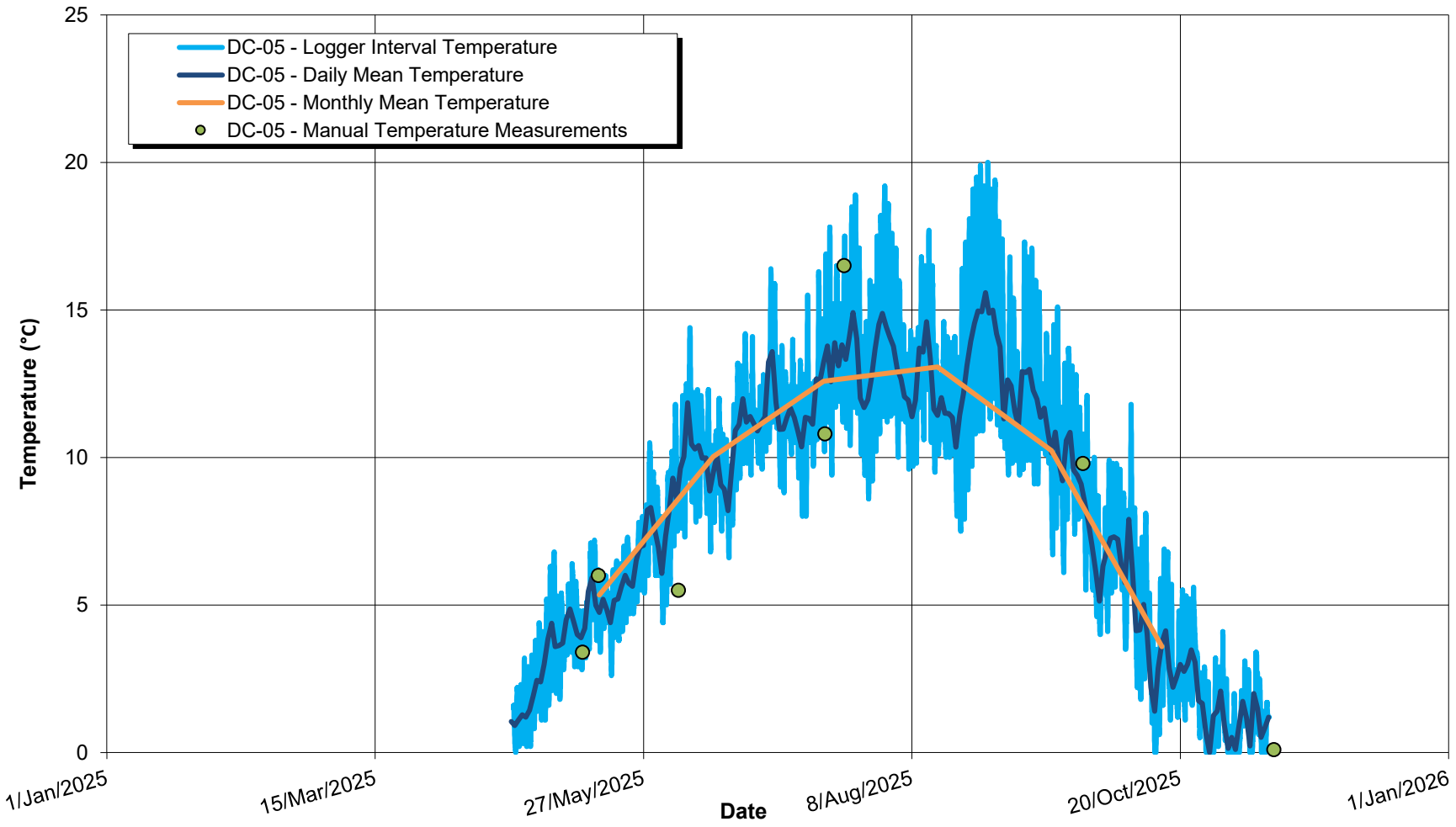
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.3 UPPER DAVIDSON CREEK HYDROLOGY STATION DC-05

The DC-05 station, previously known as the H2B station, is installed in the upper reaches of Davidson Creek and is shown in Photo B2.3.1. The station consists of a Solinst Levelogger 5 paired with a Solinst LevelSender (for telemetry capabilities) installed inside a protective aluminum pipe that is secured to a rock on the bank of the creek. An OTT ecoLog 1000 vented sensor was installed at DC-05 in September of 2025, with the intention of replacing the Solinst Levelogger 5 sensor. The new ecoLog 1000 sensor is not currently used as the primary sensor as a stable offset has not yet been established. The Levelogger 5 was historically removed each year during the winter months to avoid damage from ice. The station was then re-installed during the start of the open water season, when it was safe to do so. Beginning in fall 2023, the DC-05 station remains operational year-round as the sensor is winterized during the fall site visits. The ecoLog 1000 is equipped with a telemetry logger. When the ecoLog 1000 sensor becomes the primary sensor for this station, the station will provide access to real-time water level and water temperature data. The most recent data logger download was on December 11, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.3.1. The manual measurements are shown in Table B2.3.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.3.2.

Photo B2.3.1 Upper Davidson Creek Hydrology Station DC-05 (April 9, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

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UPPER DAVIDSON CREEK HYDROLOGY STATION
DC-05 2025 WATER TEMPERATURES

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REF. NO. 1

FIGURE B2.3.1

REV 0

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TABLE B2.3.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

UPPER DAVIDSON CREEK HYDROLOGY STATION DC-05
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:35:46

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
10-May-25	9:18:00 AM	3.4	3.3	0.1	-
14-May-25	4:32:00 PM	6	6.1	-0.1	-
24-May-25	12:00:00 PM	5.5	5.7	-0.2	-
15-Jul-25	7:50:00 AM	10.8	11.6	-0.8	-
20-Jul-25	1:01:00 PM	16.5	16.4	0.1	-
23-Sep-25	12:15:00 PM	9.8	9.8	0	-
14-Nov-25	11:30:00 AM	0.1	0	0.1	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.3 DC-05\[DC-05.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

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TABLE B2.3.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

UPPER DAVIDSON CREEK HYDROLOGY STATION DC-05
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:35:46

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	3.6	6.1	10.4	10.3	5.1	0.0	-	-
Monthly Mean	-	-	-	-	5.3	10.0	12.6	13.1	10.2	3.6	-	-
Max. Daily	-	-	-	-	8.3	13.2	14.9	15.6	13.8	7.9	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.3 DC-05\[DC-05.xlsx]Temperature Table

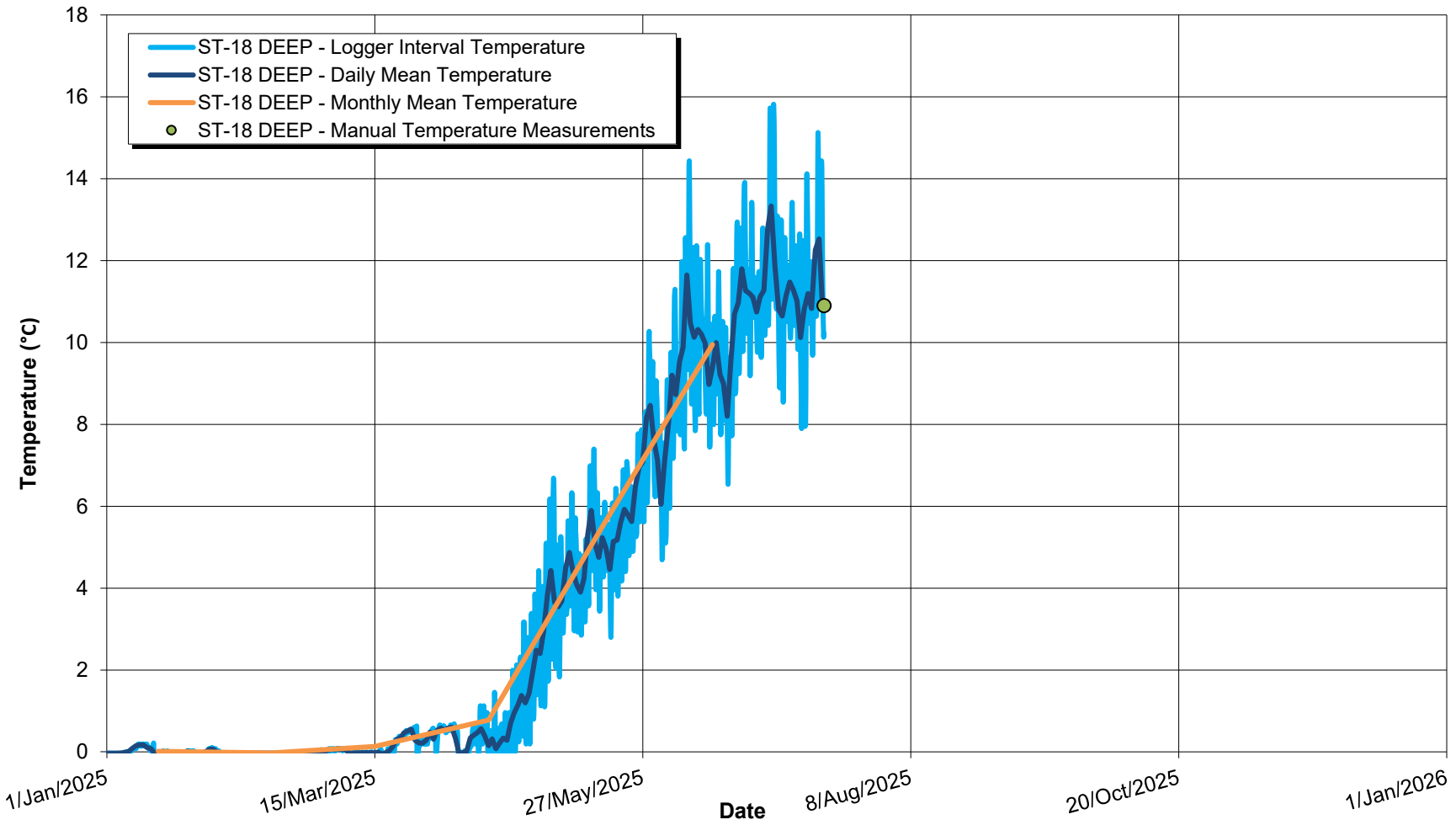
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.4 MIDDLE DAVIDSON CREEK WATER TEMPERATURE STATION ST-18 DEEP

The ST-18 DEEP station is installed in a middle reach of Davidson Creek and is shown in Photo B2.4.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.4.1. The manual measurements are shown in Table B2.4.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.4.2.

Photo B2.4.1 Middle Davidson Creek Water Temperature Station ST-18 DEEP (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-18 DEEP 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.4.1

REV 0

Knight Piésold CONSULTING

TABLE B2.4.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION ST-18 DEEP
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:36:43

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	9:24:00 AM	10.9	10.2	0.7	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.4 ST-18 DEEP\[ST-18 DEEP.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.4.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION ST-18 DEEP
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:36:43

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	0.0	0.0	0.0	3.5	6.0	-	-	-	-	-	-
Monthly Mean	0.0	0.0	0.1	0.8	5.4	9.9	-	-	-	-	-	-
Max. Daily	0.2	0.0	0.6	2.9	8.5	12.8	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.4 ST-18 DEEP\[ST-18 DEEP.xlsx]Temperature Table

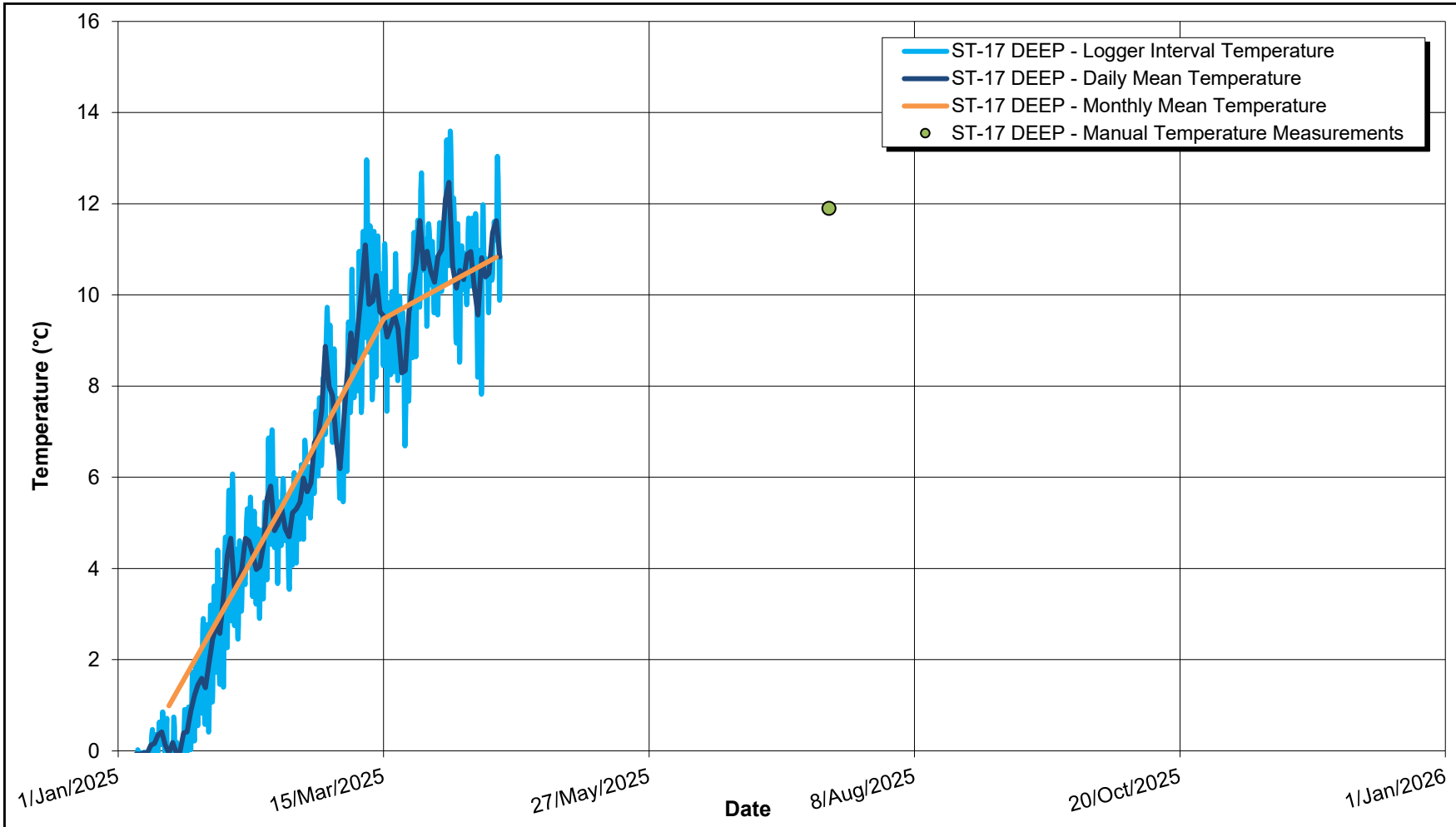
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.5 MIDDLE DAVIDSON CREEK WATER TEMPERATURE STATION ST-17 DEEP

The ST-17 DEEP station is installed in a middle reach of Davidson Creek which is shown in Photo B2.5.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.5.1. The manual measurements are shown in Table B2.5.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.5.2.

Photo B2.5.1 Middle Davidson Creek Water Temperature Station ST-17 DEEP (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-17 DEEP 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.5.1

REV 0

Knight Piésold CONSULTING

TABLE B2.5.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION ST-17 DEEP
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:37:25

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	11:56:00 AM	11.9	11.9	11.9	No logger reading available on this date.

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.5 ST-17 DEEP\[ST-17 DEEP.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.5.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION ST-17 DEEP
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:37:25

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	3.6	6.2	9.6	-	-	-	-	-	-	-	-
Monthly Mean	1.0	5.3	9.5	10.8	-	-	-	-	-	-	-	-
Max. Daily	4.3	8.9	11.6	12.5	-	-	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.5 ST-17 DEEP\[ST-17 DEEP.xlsx]Temperature Table

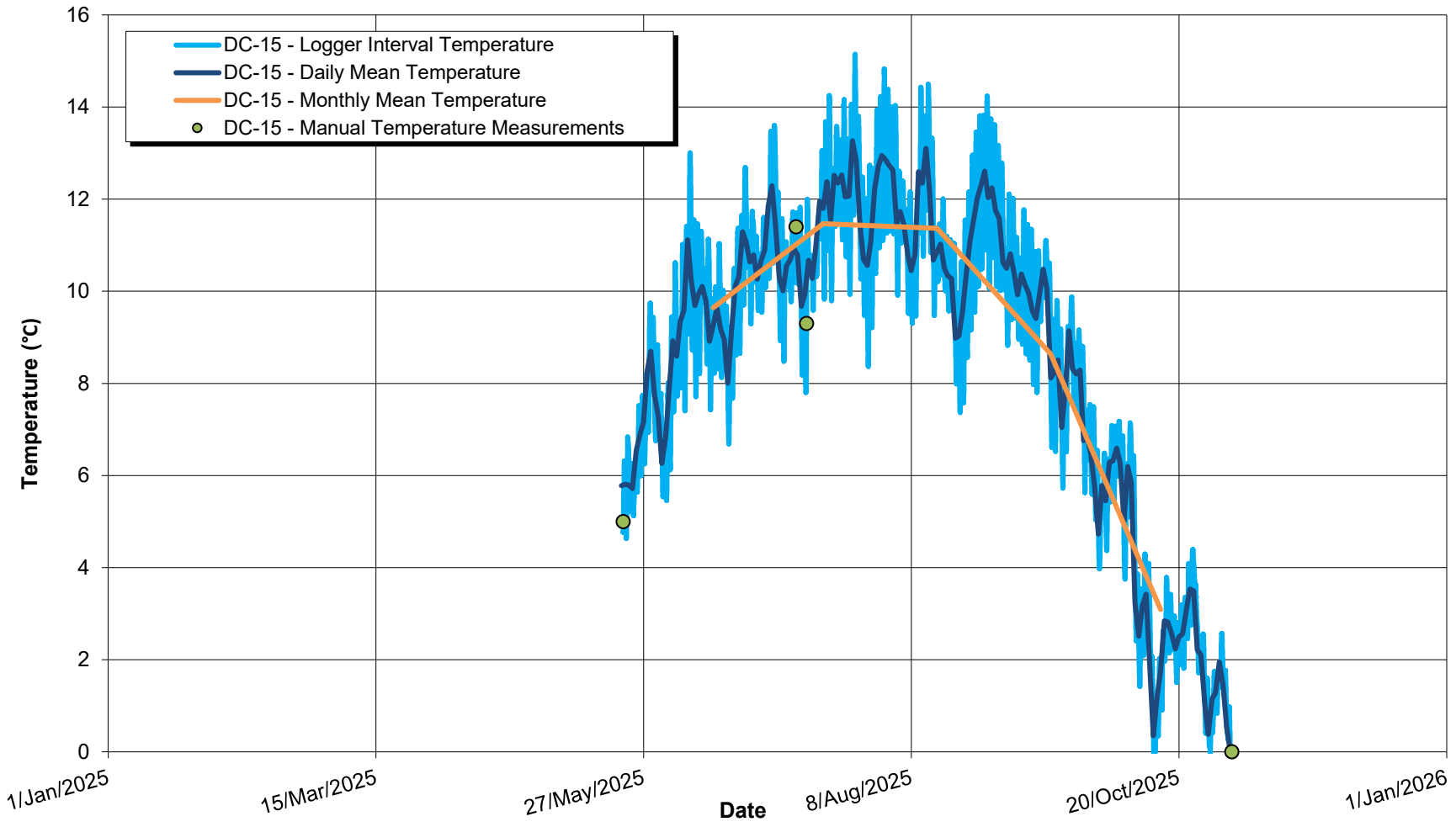
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.6 MIDDLE DAVIDSON CREEK HYDROLOGY STATION DC-15

The DC-15 station, which replaced the H4 station, is installed on Davidson Creek and is shown in Photo B2.6.1. The station consists of a Levelogger water level data logger enclosed in a protective aluminum pipe secured to the bank of the creek. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on November 3, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.6.1. The manual measurements are shown in Table B2.6.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.6.2.

Photo B2.6.1 Middle Davidson Creek Hydrology Station DC-15 (October 24, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
DC-15 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.6.1

REV 0

Knight Piésold CONSULTING

TABLE B2.6.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK HYDROLOGY STATION DC-15
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:38:05

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
21-May-25	11:27:00 AM	5.0	4.9	0.1	-
7-Jul-25	2:58:00 PM	11.4	11.4	0.0	-
10-Jul-25	11:13:00 AM	9.3	9.3	0.0	-
3-Nov-25	9:57:00 AM	0.0	0.0	0.0	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.6 DC-15\[DC-15.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.6.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK HYDROLOGY STATION DC-15
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:38:05

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	-	6.3	9.7	9.0	4.7	0.3	-	-
Monthly Mean	-	-	-	-	-	9.6	11.5	11.4	8.6	3.1	-	-
Max. Daily	-	-	-	-	-	11.8	13.3	13.1	11.6	6.6	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.6 DC-15\[DC-15.xlsx]Temperature Table

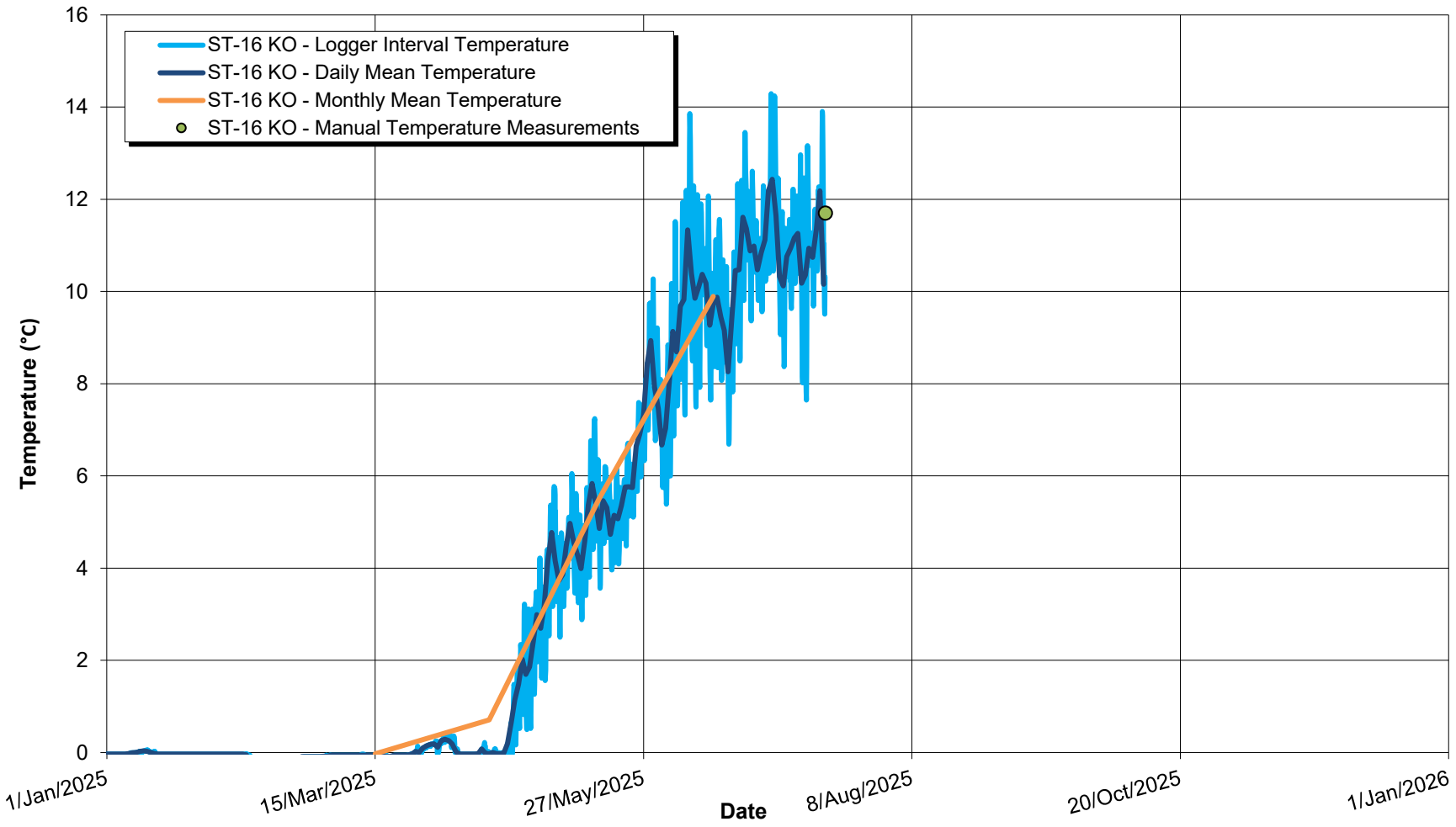
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.7 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-16 KO

The ST-16 KO station is installed in a lower reach of Davidson Creek and is shown in Photo B2.7.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a riffle. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.7.1. The manual measurements are shown in Table B2.7.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.7.2.

Photo B2.7.1 Lower Davidson Creek Water Temperatures Station ST-16 KO (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-16 KO 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.7.1

REV 0

Knight Piésold CONSULTING

TABLE B2.7.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-16 KO
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:39:00

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	10:45:00 AM	11.7	10.3	1.4	Manual water temperature taken approximately 1.5 hours after logged temperature.

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.7 ST-16 KO\[ST-16 KO.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.7.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-16 KO
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:39:00

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	-	0.0	0.0	3.7	6.7	-	-	-	-	-	-
Monthly Mean	0.0	-	0.0	0.7	5.5	9.9	-	-	-	-	-	-
Max. Daily	0.0	-	0.2	3.2	8.9	12.2	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.7 ST-16 KO\[ST-16 KO.xlsx]Temperature Table

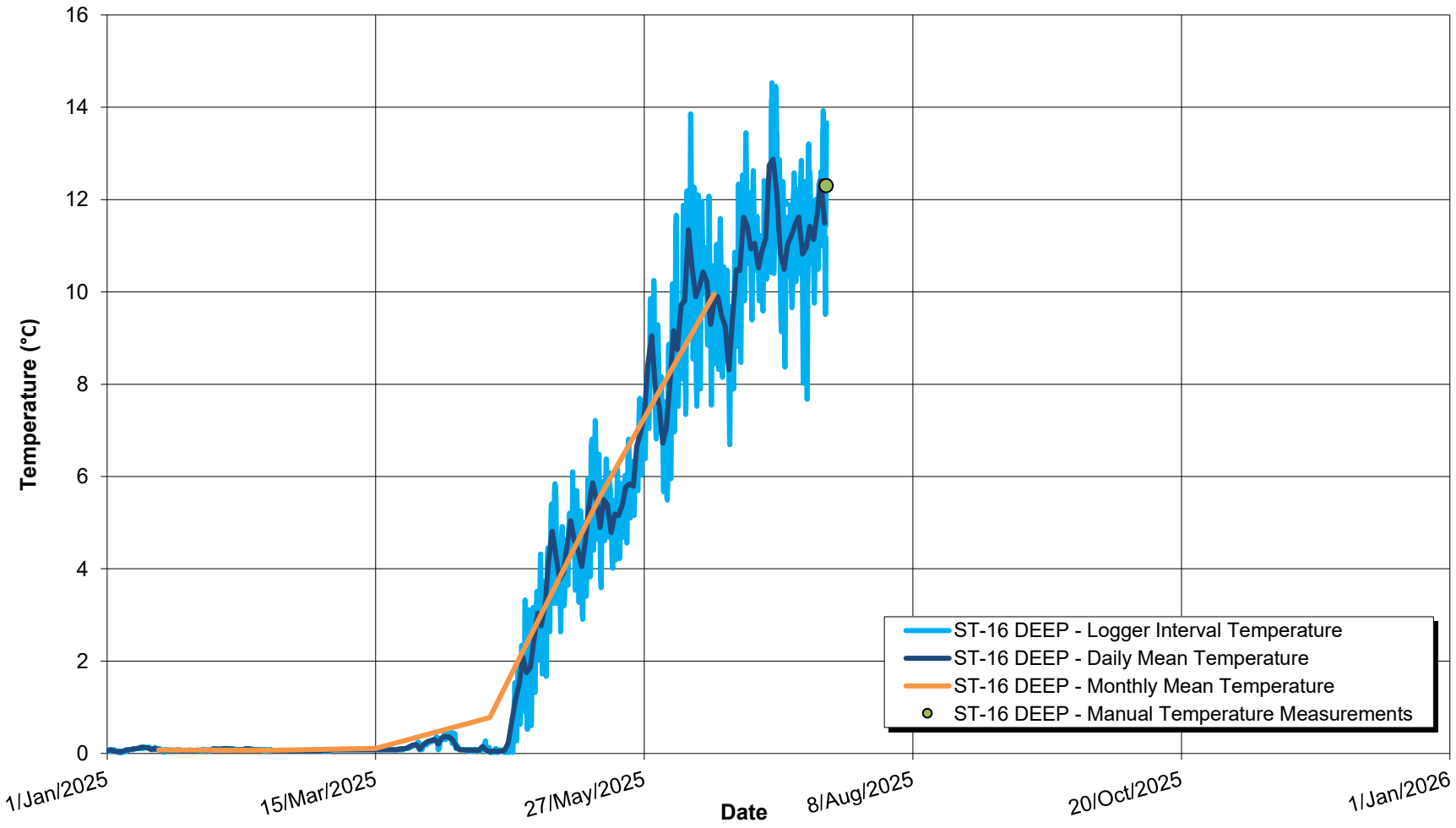
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.8 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-16 DEEP

The ST-16 DEEP station is installed in a lower reach of Davidson Creek and is shown in Photo B2.8.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.8.1. The manual measurements are shown in Table B2.8.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.8.2.

Photo B2.8.1 Lower Davidson Creek Temperature Station ST-16 DEEP (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-16 DEEP 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.8.1

REV 0

Knight Piésold CONSULTING

TABLE B2.8.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-16 DEEP
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:40:05

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	11:05:00 AM	12.3	12.8	-0.5	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.8 ST-16 DEEP\[ST-16 DEEP.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.8.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-16 DEEP
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:40:05

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	0.1	0.1	0.0	3.8	6.7	-	-	-	-	-	-
Monthly Mean	0.1	0.1	0.1	0.8	5.6	9.9	-	-	-	-	-	-
Max. Daily	0.1	0.1	0.3	3.2	9.0	12.7	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.8 ST-16 DEEP\[ST-16 DEEP.xlsx]Temperature Table

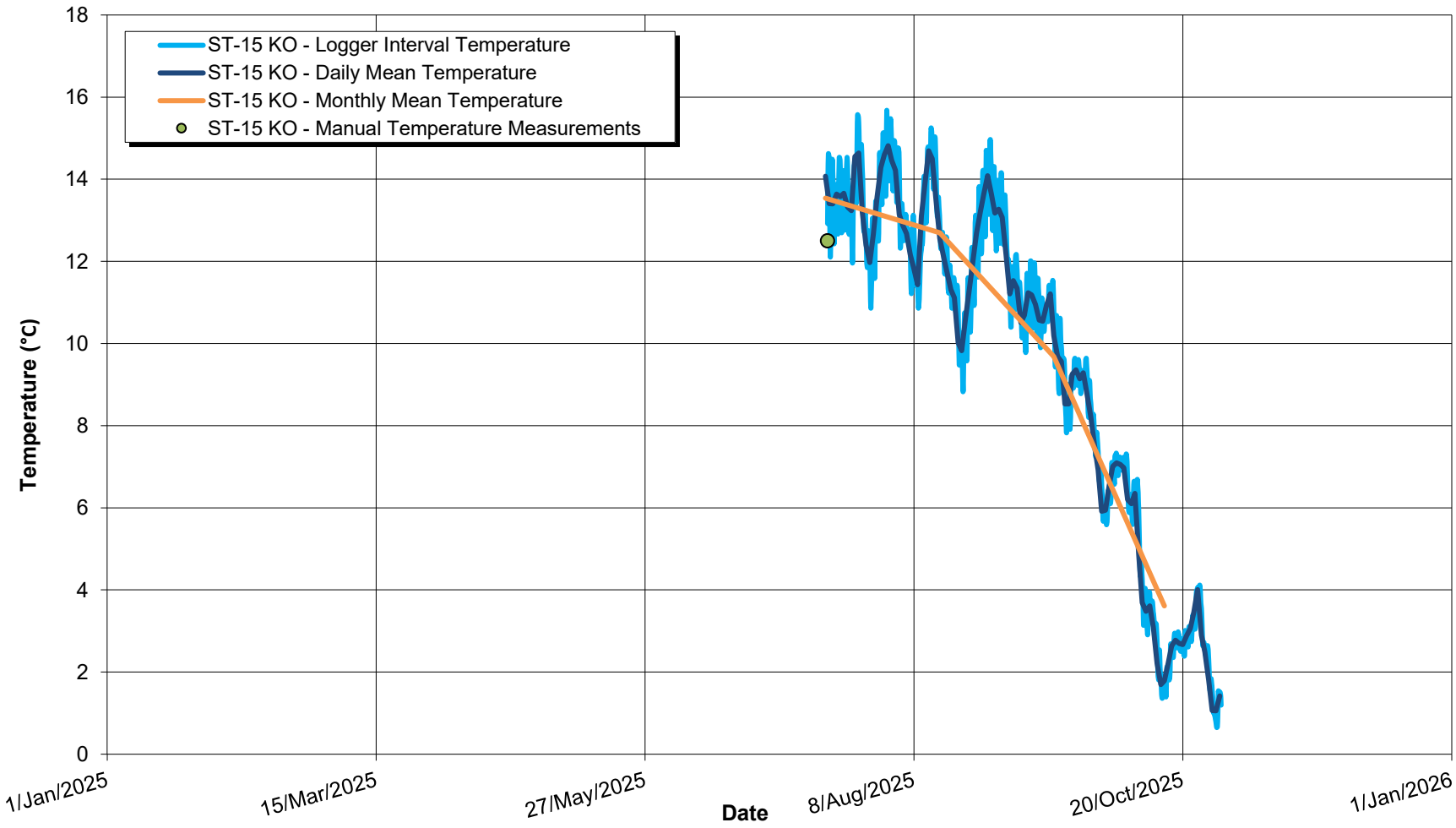
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.9 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-15 KO

The ST-15 KO station is installed in a lower reach of Davidson Creek and is shown in Photo B2.9.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a riffle. A beaver dam was constructed which prevented access to the site in September 2023. During the June 2024 site visit, the install was found under the base of the dam and was re-installed 2 metres downstream along the right bank without moving the cable or anchor position. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.9.1. The manual measurements are shown in Table B2.9.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.9.2.

Photo B2.9.1 Lower Davidson Creek Water Temperature Station ST-15 KO (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-15 KO 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.9.1

REV 0

Knight Piésold CONSULTING

TABLE B2.9.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-15 KO
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:41:47

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	1:14:00 PM	12.5	12.9	-0.4	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.9 ST-15 KO\[ST-15 KO.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.9.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-15 KO
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:41:47

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	-	-	12.0	9.8	5.9	1.1	-	-
Monthly Mean	-	-	-	-	-	-	13.5	12.7	9.7	3.6	-	-
Max. Daily	-	-	-	-	-	-	14.6	14.8	13.1	7.1	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.9 ST-15 KO\[ST-15 KO.xlsx]Temperature Table

NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.10 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-15 DEEP

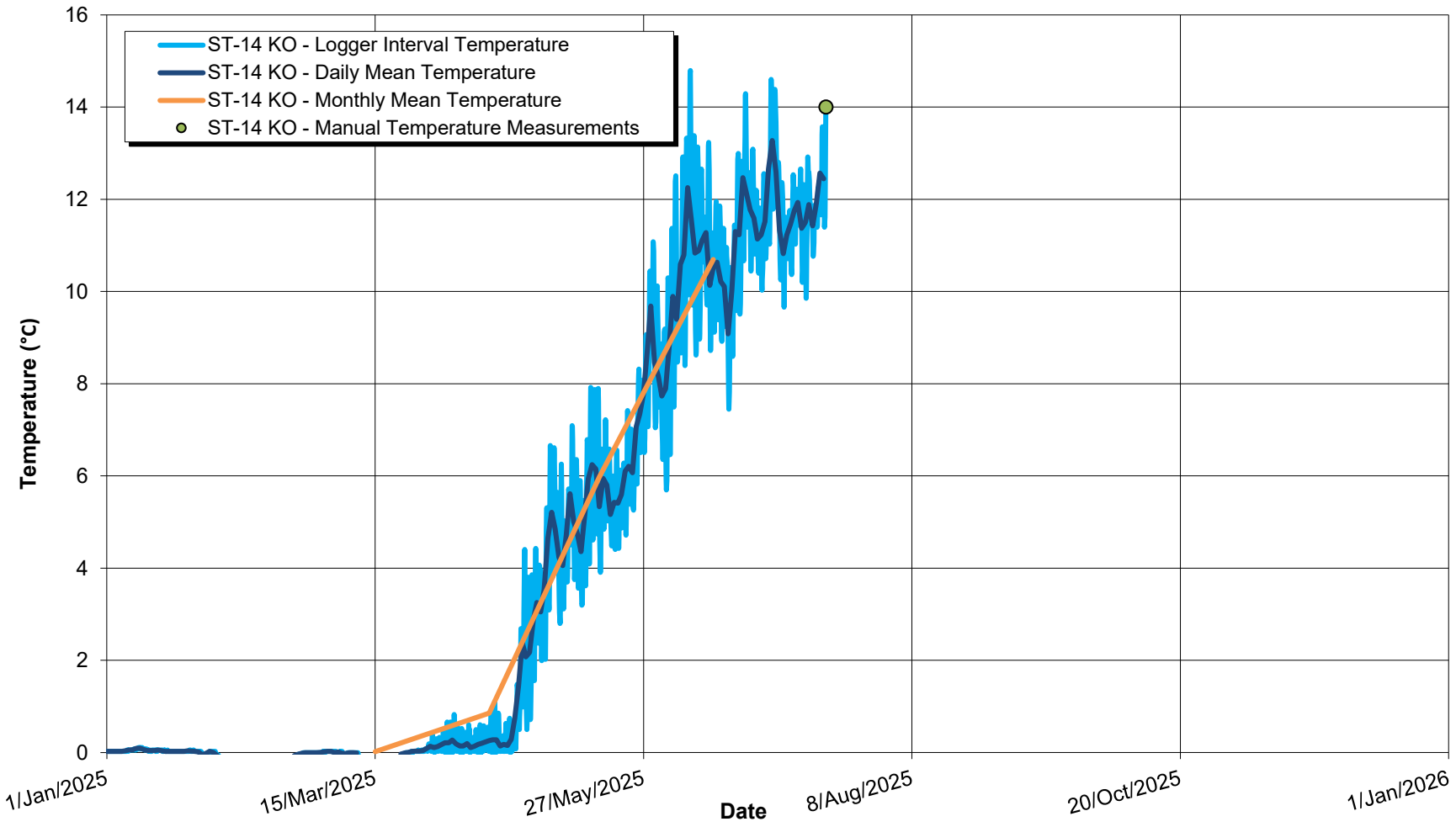
The ST-15 DEEP station is installed in a lower reach of Davidson Creek and is shown in Photo B2.10.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. A beaver dam was constructed which prevented access to the site in September 2023. During the June 2024 site visit, the install was found upstream of the dam in the beaver pond habitat. The station is kept installed all year, and recorded temperatures are verified with manual measurements. No water temperature data are available for 2025 as the area was flooded when field crew arrived on site in July, and they were unable to locate or access the sensor.

Photo B2.10.1 Lower Davidson Creek Water Temperature Station ST-15 DEEP (June 13, 2024)

2.11 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-14 KO

The ST-14 KO station is installed in a lower reach of Davidson Creek and is shown in Photo B2.11.1. The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of aluminum pipe that is attached to a double concrete cinder block, which is placed in a riffle. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.11.1. The manual measurements are shown in Table B2.11.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.11.2.

Photo B2.11.1 Lower Davidson Creek Water Temperature Station ST-14 KO (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-14 KO 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.11.1

REV 0

Knight Piésold CONSULTING

TABLE B2.11.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-14 KO
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:42:41

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	2:21:00 PM	14.0	14.0	0.0	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.11 ST-14 KO\[ST-14 KO.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.11.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-14 KO
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:42:41

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	-	0.0	0.1	4.1	7.7	-	-	-	-	-	-
Monthly Mean	0.0	-	0.0	0.9	6.0	10.7	-	-	-	-	-	-
Max. Daily	0.1	-	0.1	3.5	9.7	12.7	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.11 ST-14 KO\[ST-14 KO.xlsx]Temperature Table

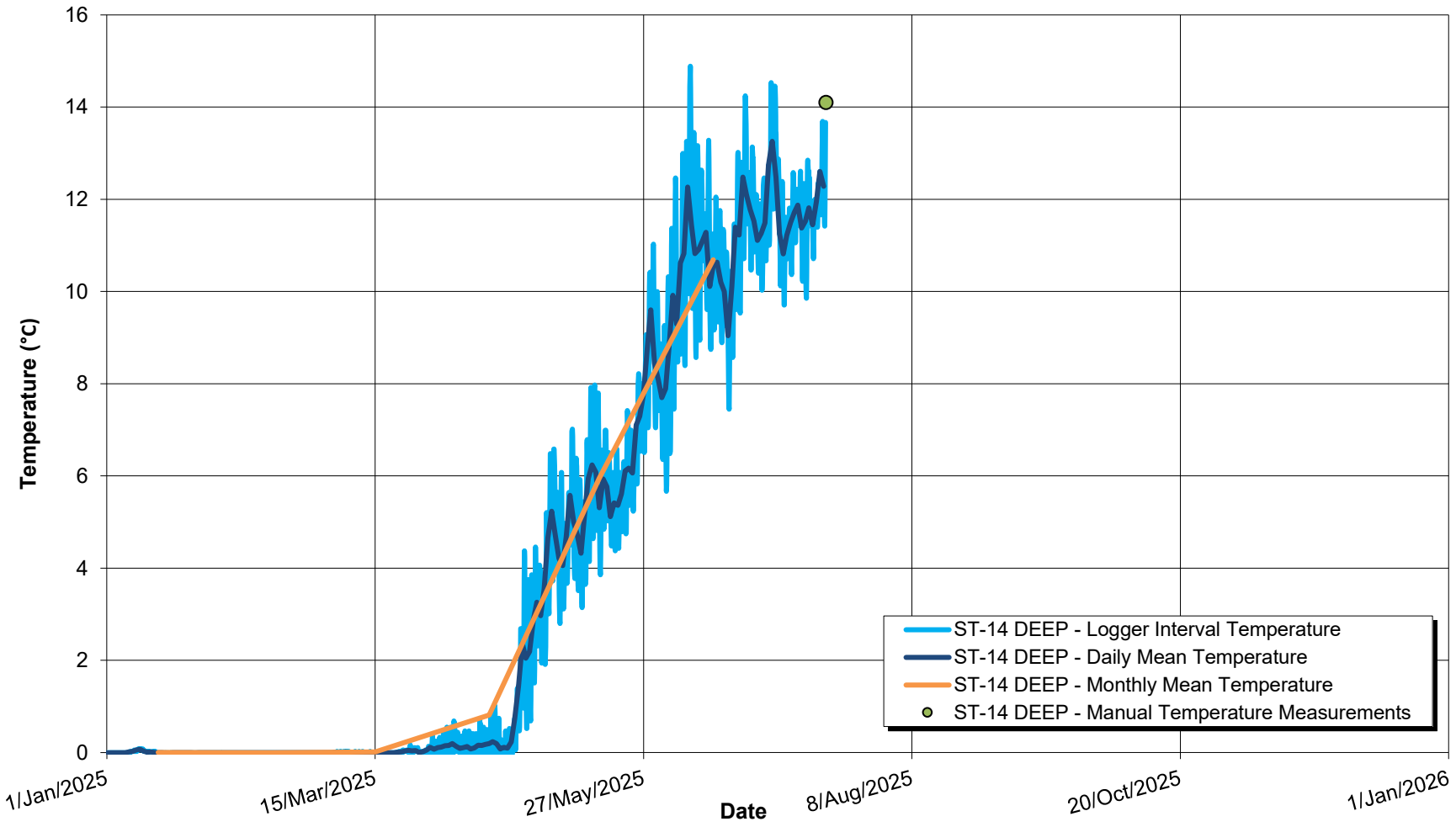
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.12 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-14 DEEP

The ST-14 DEEP station is installed in a lower reach of Davidson Creek and is shown in Photo B2.12.1 . The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.12.1. The manual measurements are shown in Table B2.12.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.12.2.

Photo B2.12.1 Lower Davidson Creek Water Temperature Station ST-14 DEEP (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-14 DEEP 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.12.1

REV 0

Knight Piésold CONSULTING

TABLE B2.12.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-14 DEEP
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:43:15

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	2:21:00 PM	14.1	13.7	0.4	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.12 ST-14 DEEP\[ST-14 DEEP.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.12.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-14 DEEP
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:43:15

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	0.0	0.0	0.1	4.1	7.7	-	-	-	-	-	-
Monthly Mean	0.0	0.0	0.0	0.8	6.0	10.7	-	-	-	-	-	-
Max. Daily	0.1	0.0	0.1	3.5	9.6	12.7	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.12 ST-14 DEEP\[ST-14 DEEP.xlsx]Temperature Table

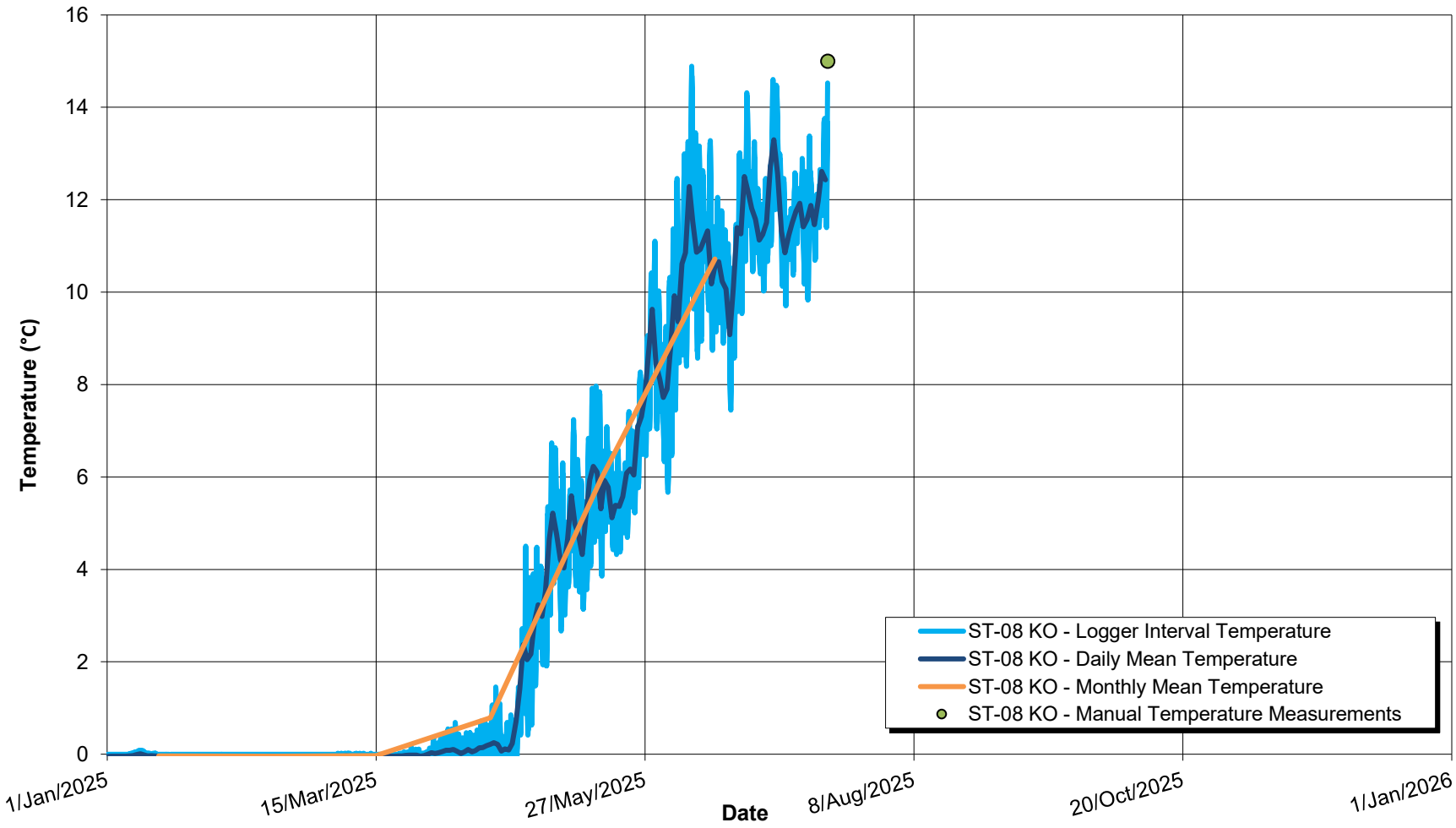
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.13 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-08 KO

The ST-08 KO station is installed in a lower reach of Davidson Creek and is shown in Photo B2.13.1 . The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a riffle. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 15, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.13.1. The manual measurements are shown in Table B2.13.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.13.2.

Photo B2.13.1 Lower Davidson Creek Water Temperature Station ST-08 KO (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-08 KO 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.13.1

REV 0

Knight Piésold CONSULTING

TABLE B2.13.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-08 KO
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:44:05

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	2:47:00 PM	15.0	13.7	1.3	Manual water temperature taken approx 2 hours after logger temperature.

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.13 ST-08 KO\[ST-08 KO.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.13.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-08 KO
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:44:05

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	0.0	0.0	0.0	4.0	7.7	-	-	-	-	-	-
Monthly Mean	0.0	0.0	0.0	0.8	5.9	10.7	-	-	-	-	-	-
Max. Daily	0.0	0.0	0.0	3.5	9.6	12.7	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.13 ST-08 KO\[ST-08 KO.xlsx]Temperature Table

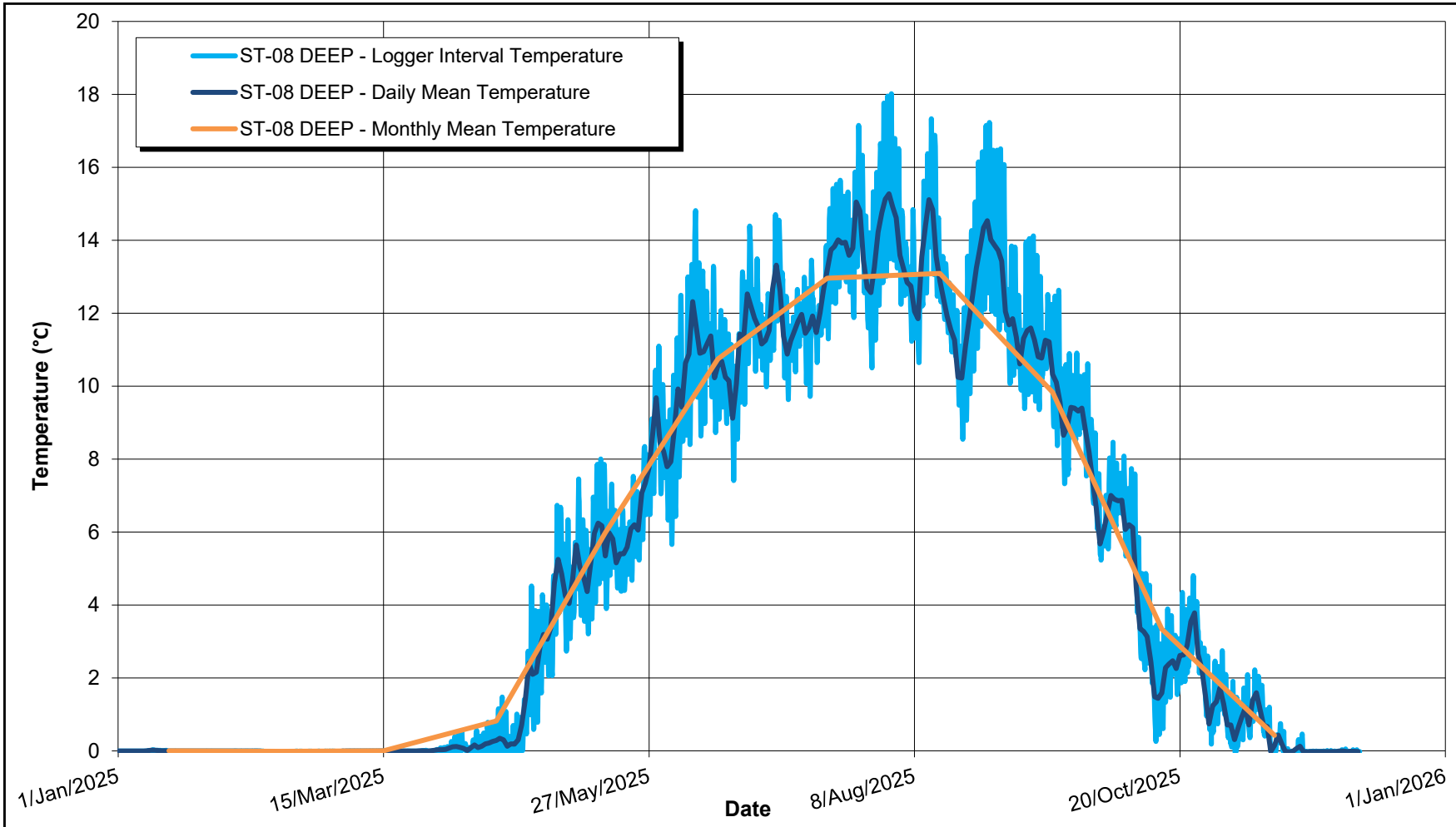
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

2.14 LOWER DAVIDSON CREEK WATER TEMPERATURE STATION ST-08 DEEP

The ST-08 DEEP station is installed in a lower reach of Davidson Creek and is shown in Photo B2.14.1 . The station consists of an Onset TidbiT v2 temperature data logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on December 12, 2025. The 2025 recorded and measured temperatures are shown on Figure B2.14.1. The manual measurements are shown in Table B2.14.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B2.14.2.

Photo B2.14.1 Lower Davidson Creek Water Temperature Station ST-08 DEEP (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MIDDLE DAVIDSON CREEK TEMPERATURE STATION
ST-08 DEEP 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B2.14.1

REV 0

Knight Piésold CONSULTING

TABLE B2.14.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-08 DEEP
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:45:39

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
3-Mar-25	12:00:00 PM	-	-	-	No field notes exist for this visit.

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.14 ST-08 DEEP\[ST-08 DEEP.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B2.14.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

LOWER DAVIDSON CREEK TEMPERATURE STATION ST-08 DEEP
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:45:39

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	0.0	0.0	0.0	4.0	7.8	10.9	10.2	5.7	0.7	0.0	-
Monthly Mean	0.0	0.0	0.0	0.8	6.0	10.7	13.0	13.1	9.8	3.3	0.4	-
Max. Daily	0.0	0.0	0.0	3.4	9.7	12.7	15.1	15.3	13.4	7.0	1.6	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\2.14 ST-08 DEEP\[ST-08 DEEP.xlsx]Temperature Table

NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

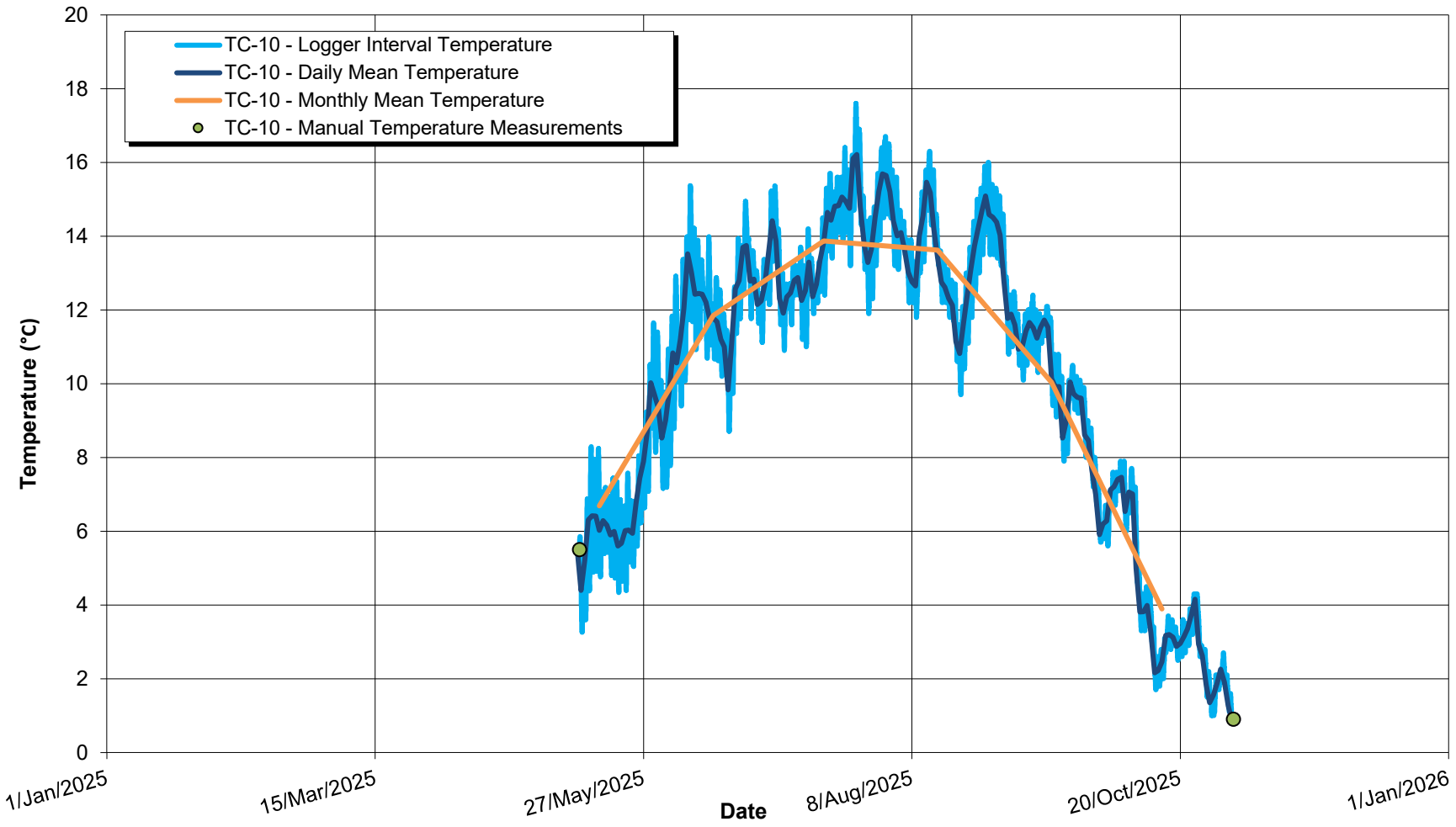
REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

3.0 TURTLE CREEK WATERSHED

3.1 TURTLE CREEK WATER HYDROLOGY STATION TC-10

The TC-10 station (previously H6) is installed on Turtle Creek and is the only station located in the Turtle Creek watershed. This watershed is not currently affected by Project activities. The TC-10 station is shown in Photo B3.1.1 and consists of a Levelogger water level data logger enclosed inside a protective aluminum pipe that is secured to the bank of the creek. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on November 3, 2025. The 2025 recorded and measured temperatures are shown on Figure B3.1.1. The manual measurements are shown in Table B3.1.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B3.1.2.

Photo B3.1.1 Turtle Creek Hydrology Station TC-10 (September 6, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

TURTLE CREEK HYDROLOGY STATION
TC-10 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B3.1.1

REV 0

Knight Piésold CONSULTING

TABLE B3.1.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

TURTLE CREEK HYDROLOGY STATION TC-10
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:46:15

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
9-May-25	1:34:00 PM	5.5	5.2	0.3	-
3-Nov-25	11:32:00 AM	0.9	0.6	0.3	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\3.1 TC-10\[TC-10.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B3.1.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

TURTLE CREEK HYDROLOGY STATION TC-10
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:46:15

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	4.4	8.5	11.9	10.8	5.9	1.4	-	-
Monthly Mean	-	-	-	-	6.7	11.9	13.9	13.6	10.0	3.9	-	-
Max. Daily	-	-	-	-	10.0	13.7	16.2	15.6	14.0	7.5	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\3.1 TC-10\[TC-10.xlsx]Temperature Table

NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

4.0 TATELKUZ LAKE WATERSHED

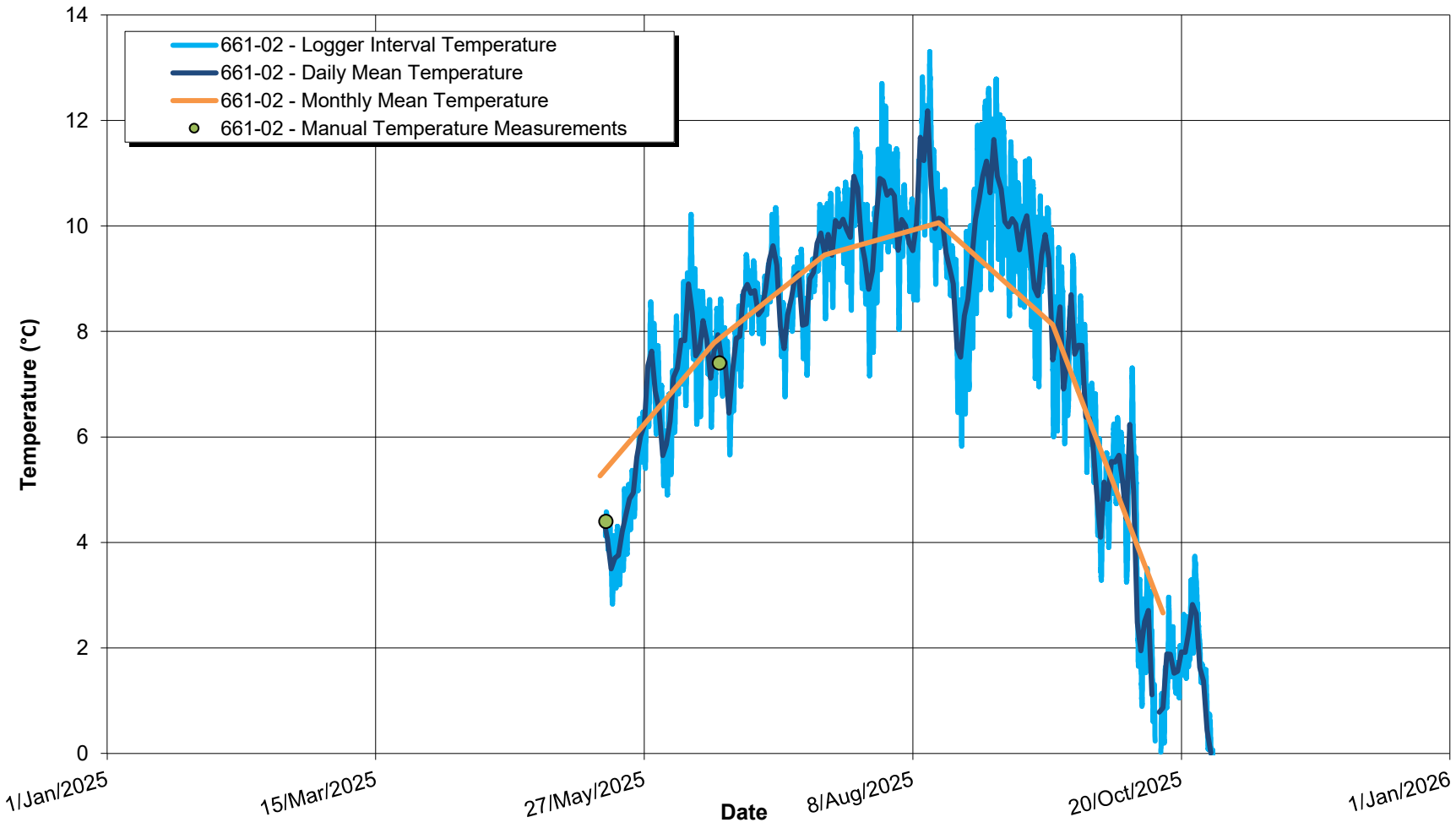
4.1 GENERAL

There are three (3) temperature monitoring stations currently operated in the Tatelkuz Lake Watershed. The stations are installed on Tatelkuz Lake (TL-01H), Creek 661 (661-02), and a tributary stream upstream of its confluence with Creek 661 (661-09). The Tatelkuz watershed is not currently affected by Project activities.

4.2 CREEK 661 HYDROLOGY STATION 661-02

The 661-02 station, previously known as the H1 station, is installed on Creek 661 at the outlet of a culvert below the forest service road and is shown in Photo B4.2.1. The station consists of a Levelogger water level data logger enclosed inside a protective aluminum pipe that is secured to the bank of the creek just downstream of a culvert. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on October 28, 2025. The 2025 recorded and measured temperatures are shown on Figure B4.2.1. The manual measurements are shown in Table B4.2.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B4.2.2.

Photo B4.2.1 Creek 661 Hydrology Station 661-02 (October 24, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CREEK 661 HYDROLOGY STATION
661-02 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B4.2.1

REV 0

Knight Piésold CONSULTING

TABLE B4.2.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CREEK 661 HYDROLOGY STATION 661-02
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:47:48

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
16-May-25	1:30:00 PM	4.4	4.4	0.0	-
16-Jun-25	9:30:00 AM	7.4	7.4	0.0	-
28-Oct-25	12:21:00 PM	-0.1	0.0	-0.1	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\4.2 661-02\[661-02.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B4.2.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CREEK 661 HYDROLOGY STATION 661-02
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:47:48

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	3.5	5.6	7.7	7.5	4.1	0.0	-	-
Monthly Mean	-	-	-	-	5.3	7.8	9.4	10.1	8.1	2.7	-	-
Max. Daily	-	-	-	-	7.6	9.3	10.9	12.2	10.7	6.2	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\4.2 661-02\[661-02.xlsx]Temperature Table

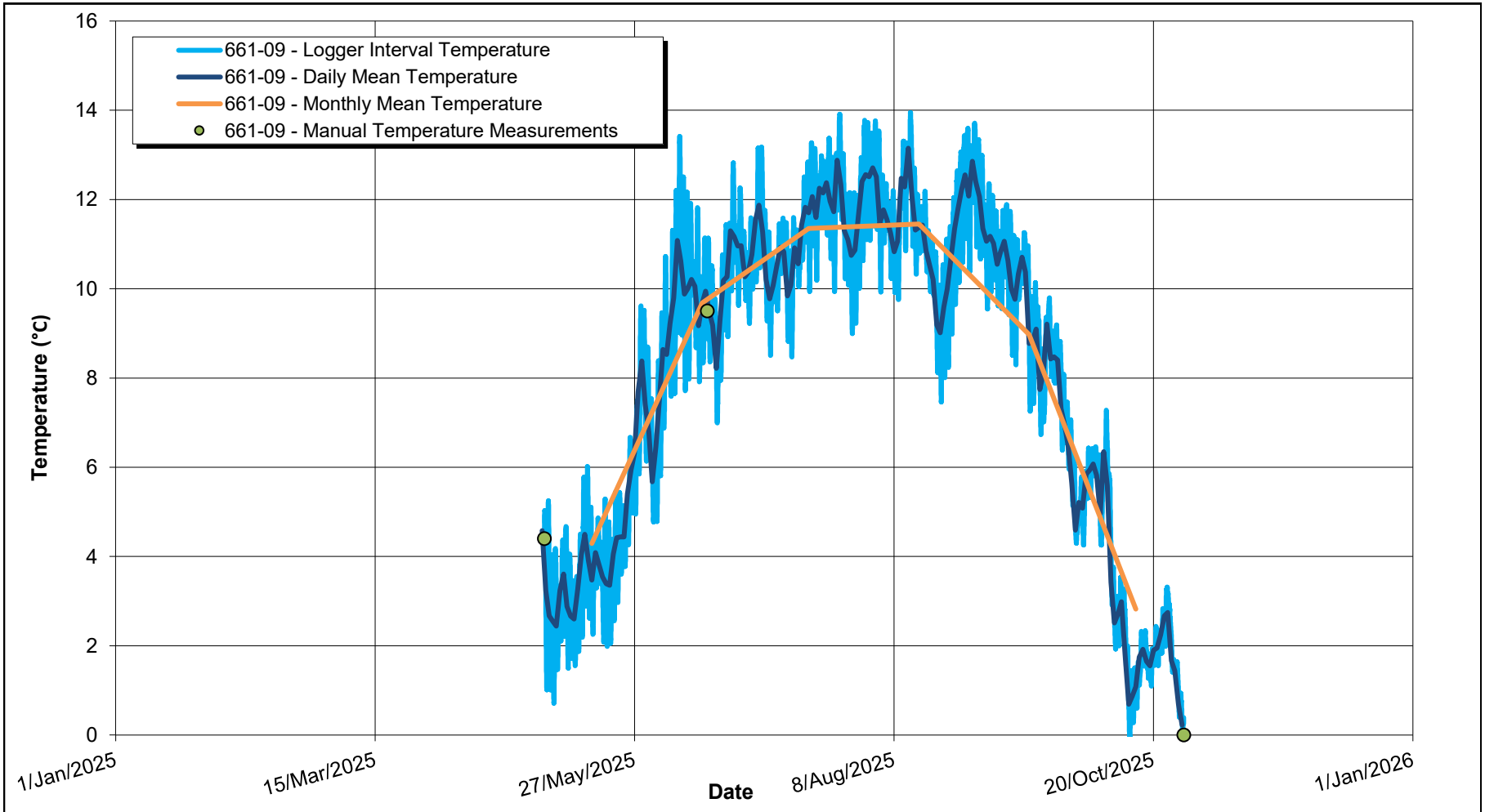
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

4.3 CREEK 661 TRIBUTARY HYDROLOGY STATION 661-09

The 661-09 station, previously known as the H11 station, is installed on a tributary to Creek 661. The 661-09 station is shown in Photo B4.3.1 and consists of two Levelogger water level data loggers enclosed inside a protective aluminum pipe that is secured to the creek bank. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on October 28, 2025. The 2025 recorded and measured temperatures are shown on Figure B4.3.1. The manual measurements are shown in Table B4.3.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B4.3.2.

Photo B4.3.1 Creek 661 Tributary Hydrology Station 661-09 (August 1, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CREEK 661 TRIBUTARY HYDROLOGY STATION
661-09 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B4.3.1

REV 0

Knight Piésold CONSULTING

TABLE B4.3.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CREEK 661 TRIBUTARY HYDROLOGY STATION 661-09
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:48:30

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
1-May-25	2:41:00 PM	4.4	4.4	0.0	-
16-Jun-25	11:30:00 AM	9.5	9.5	0.0	-
28-Oct-25	11:48:00 AM	0.0	0.0	0.0	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\4.3 661-09\[661-09.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B4.3.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CREEK 661 TRIBUTARY HYDROLOGY STATION 661-09
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:48:30

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	2.4	5.7	9.8	9.0	4.6	0.2	-	-
Monthly Mean	-	-	-	-	4.3	9.7	11.3	11.5	9.0	2.8	-	-
Max. Daily	-	-	-	-	8.4	11.5	12.9	13.1	12.1	6.3	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\4.3 661-09\[661-09.xlsx]Temperature Table

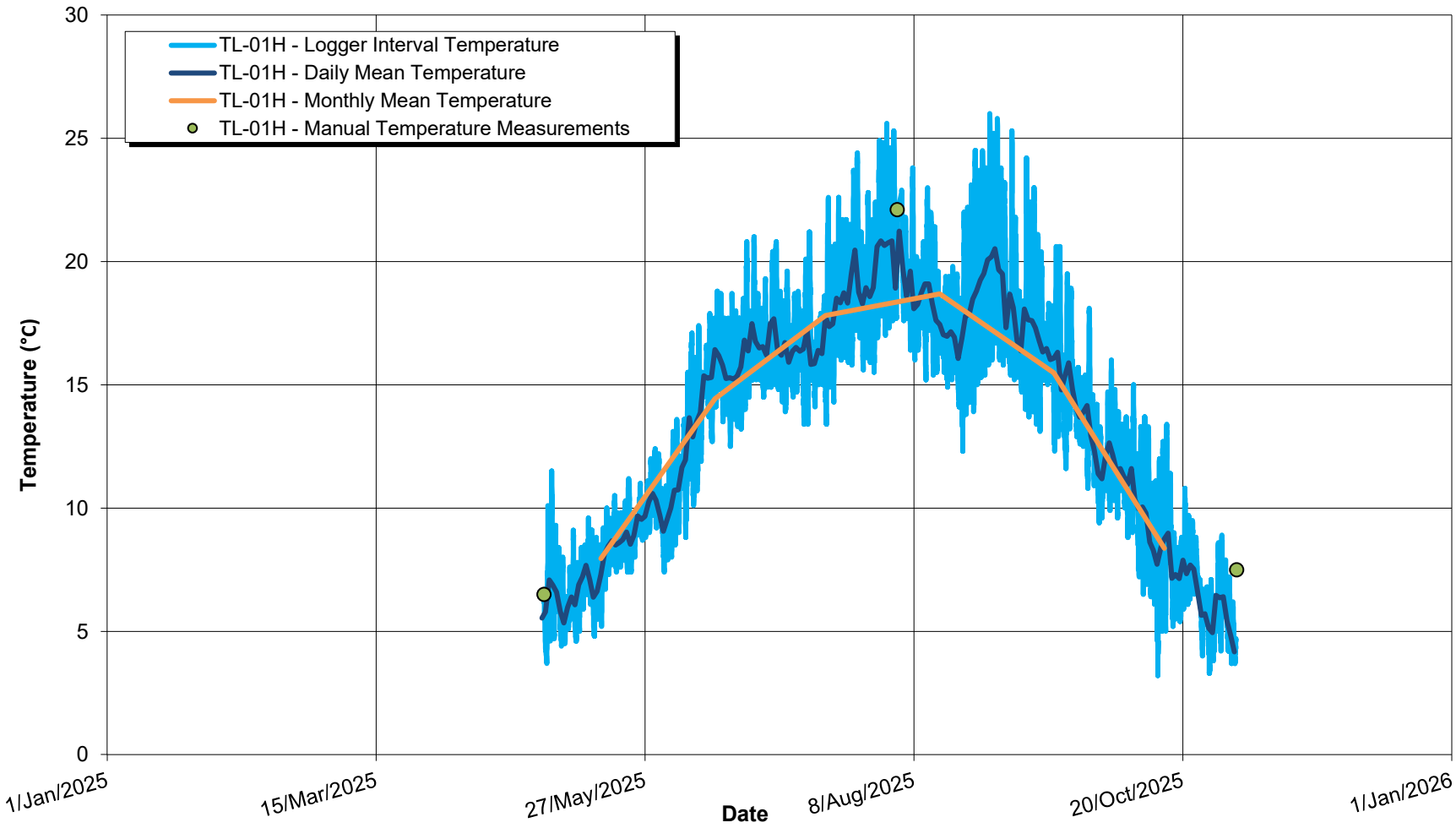
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

4.4 TATELKUZ LAKE HYDROLOGY STATION TL-01H

The TL-01H temperature station, previously known as the L1 station, is installed on Tatelkuz Lake and is shown in Photo B 4.3. The station consists of a Levelogger water level data logger enclosed inside a protective aluminum pipe that is secured to the shore of the lake. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on November 3, 2025. The 2025 recorded and measured temperatures are shown on Figure B4.4.1. The manual measurements are shown in Table B4.4.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B4.4.2.

Photo B4.4.1 Tatelkuz Lake Hydrology Station TL-01H (July 20, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

TATELKUZ LAKE HYDROLOGY STATION
TL-01H 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B4.4.1

REV 0

Knight Piésold CONSULTING

TABLE B4.4.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

TATELKUZ LAKE HYDROLOGY STATION TL-01H
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:49:12

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
29-Apr-25	1:40:00 PM	6.5	6.5	0.0	-
3-Aug-25	11:50:00 AM	22.1	22.1	0.0	-
3-Nov-25	1:57:00 PM	7.5	7.7	-0.2	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\4.4 TL-01H\[TL-01H.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B4.4.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

TATELKUZ LAKE HYDROLOGY STATION TL-01H
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:49:12

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	5.3	9.1	15.8	16.1	11.2	5.0	-	-
Monthly Mean	-	-	-	-	8.0	14.4	17.8	18.7	15.5	8.4	-	-
Max. Daily	-	-	-	-	10.6	17.5	20.8	21.2	19.5	12.2	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\4.4 TL-01H\[TL-01H.xlsx]Temperature Table

NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

5.0 CHEDAKUZ CREEK WATERSHED

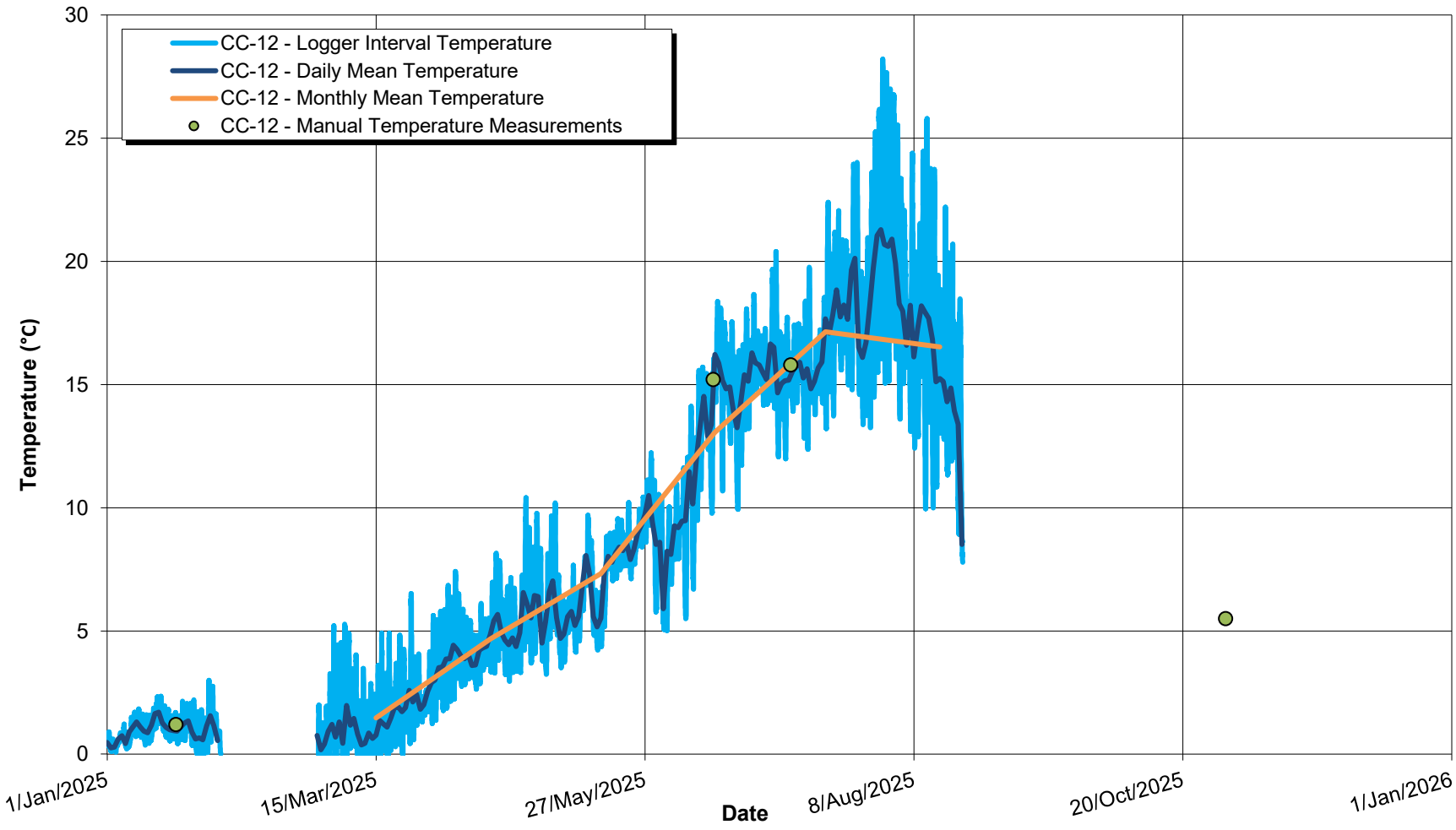
5.1 GENERAL

There are four (4) temperature monitoring stations currently operated in Chedakuz Creek, with all four stations installed downstream of Tatelkuz Lake (CC-12, ST-12 DEEP, CC-15, and CC-30). Chedakuz Creek lies downstream of the Davidson Creek Watershed and the Project facilities and has been affected by Project activities.

5.2 CHEDAKUZ CREEK HYDROLOGY STATION CC-12

The CC-12 station is installed in Chedakuz Creek between the outlet of Tatelkuz Lake and its confluence with Davidson Creek and is shown in Photo B5.2.1. The station consists of a Levelogger water level data logger installed inside a protective aluminum pipe that is secured to the bank of the creek. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on October 31, 2025. The 2025 recorded and measured temperatures are shown on Figure B5.2.1. The manual measurements are shown in Table B5.2.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B5.2.2.

Photo B5.2.1 Chedakuz Creek Hydrology Station CC-12 (June 28, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
CC-12 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B5.2.1

REV 0

Knight Piésold CONSULTING

TABLE B5.2.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION CC-12
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:50:09

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
19-Jan-25	3:46:00 PM	1.2	1.3	-0.1	-
14-Jun-25	11:44:00 AM	15.2	15.1	0.1	-
5-Jul-25	1:45:00 PM	15.8	15.6	0.2	-
31-Oct-25	1:22:00 PM	5.5	-	-	Logged water temperature not available.

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.2 CC-12\[CC-12.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B5.2.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION CC-12
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:50:09

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.3	-	0.4	3.5	4.7	5.9	14.7	8.5	-	-	-	-
Monthly Mean	1.0	-	1.5	4.7	7.3	13.1	17.1	16.5	-	-	-	-
Max. Daily	1.7	-	3.0	6.6	10.5	16.6	21.3	20.9	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.2 CC-12\[CC-12.xlsx]Temperature Table

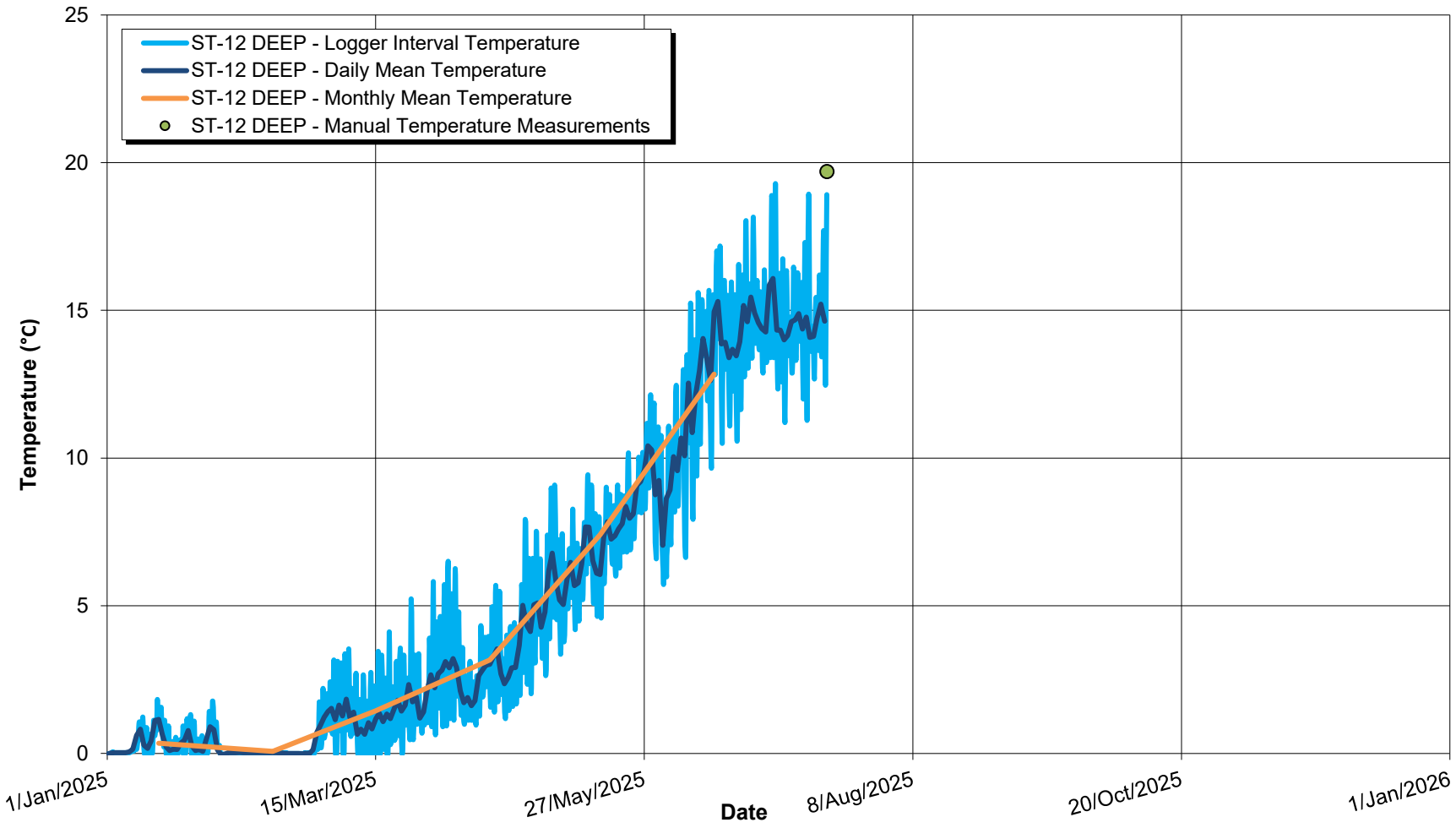
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

5.3 CHEDAKUZ CREEK WATER TEMPERATURE STATION ST-12 DEEP

The ST-12 DEEP station is installed in Chedakuz Creek and is shown in Photo B5.3.1. The station consists of an Onset TidbiT v2 Temperature Data Logger held in the centre of a short section of PVC pipe that is attached to a double concrete cinder block, which is placed in a pool at maximum depth. The station is kept installed all year, and recorded temperatures are verified with manual measurements. The most recent data logger download was on July 25, 2025. The 2025 recorded and measured temperatures are shown on Figure B5.3.1. The manual measurements are shown in Table B5.3.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B5.3.2.

Photo B5.3.1 Chedakuz Creek Water Temperature Station ST-12 DEEP (June 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK TEMPERATURE STATION
ST-12 DEEP 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B5.3.1

REV 0

Knight Piésold CONSULTING

TABLE B5.3.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK TEMPERATURE STATION ST-12 DEEP
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:50:49

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
15-Jul-25	3:09:00 PM	19.7	-	-	Logged water temperature not available.

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.3 ST-12 DEEP\[ST-12 DEEP.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B5.3.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK TEMPERATURE STATION ST-12 DEEP
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:50:49

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.0	0.0	0.7	1.6	5.0	7.0	-	-	-	-	-	-
Monthly Mean	0.3	0.1	1.4	3.2	7.4	12.8	-	-	-	-	-	-
Max. Daily	1.2	1.0	2.7	5.1	10.4	15.8	-	-	-	-	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.3 ST-12 DEEP\[ST-12 DEEP.xlsx]Temperature Table

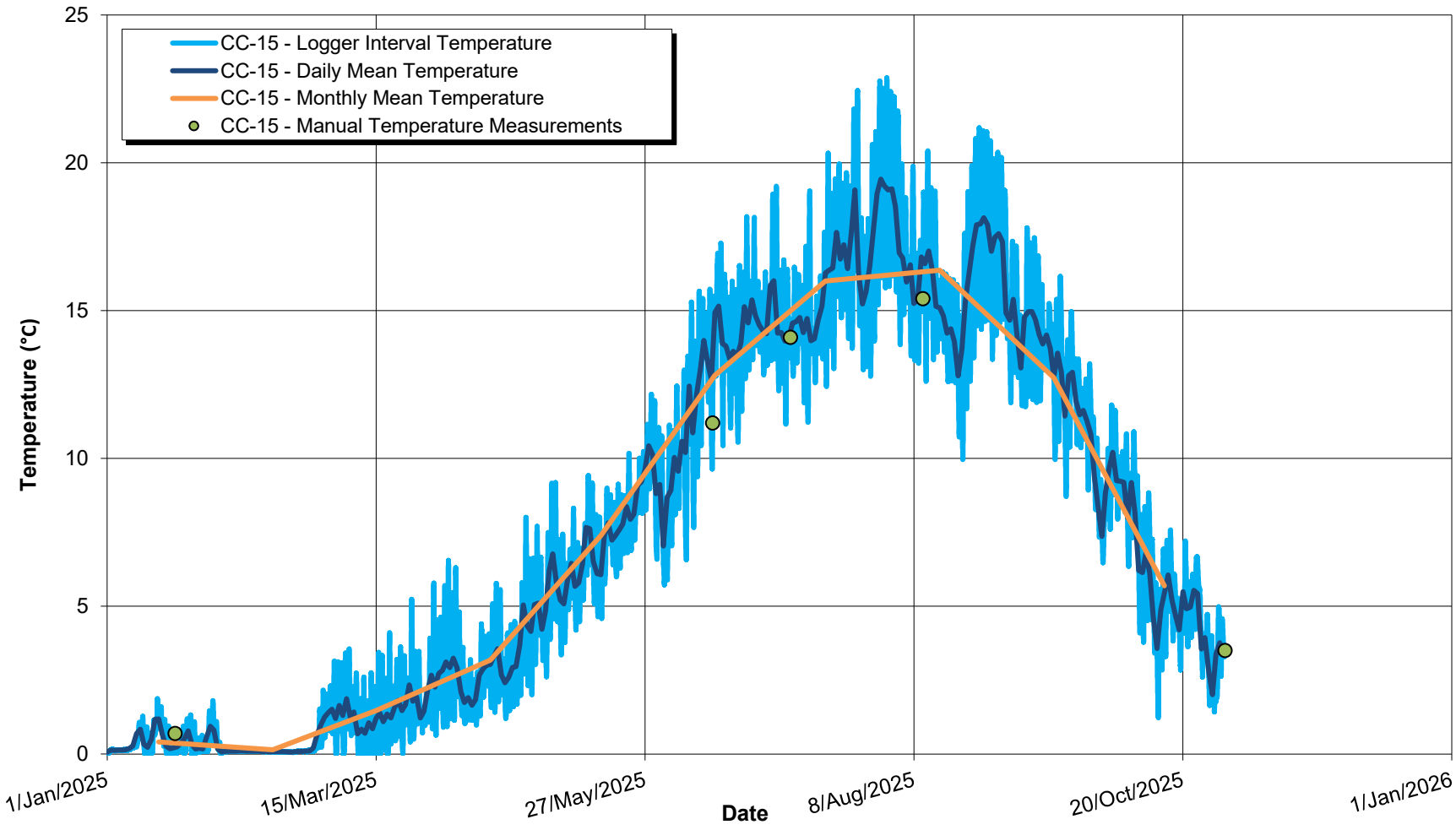
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

5.4 CHEDAKUZ CREEK HYDROLOGY STATION CC-15

The CC-15 station, previously known as the H5 station, is installed in Chedakuz Creek on and is shown in Photo B5.4.1. A Levelogger water level data logger enclosed in a protective aluminum pipe attached to the bank of the creek was installed at the station on March 13, 2024. A KPSI pressure transducer was re-installed and a NEON Micrologger was removed at the same time. The station is kept installed all year as CC-15 often experiences open water conditions throughout the winter, and recorded temperatures are verified with manual measurements. The most recent data logger download was on October 31, 2025. The 2025 recorded and measured temperatures are shown on Figure B5.4.1. The manual measurements are shown in Table B5.4.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B5.4.2.

Photo B5.4.1 Chedakuz Creek Hydrology Station CC-15 (March 13, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
CC-15 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B5.4.1

REV 0

Knight Piésold CONSULTING

TABLE B5.4.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION CC-15
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:51:41

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
19-Jan-25	11:33:00 AM	0.7	0.2	0.5	-
14-Jun-25	9:15:00 AM	11.2	11.0	0.2	-
5-Jul-25	11:21:00 AM	14.1	14.1	0.0	-
10-Aug-25	9:30:00 AM	15.4	15.3	0.1	-
31-Oct-25	10:18:00 AM	3.5	3.5	0.0	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.4 CC-15\[CC-15.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B5.4.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION CC-15
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:51:41

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	0.1	0.1	0.7	1.6	5.1	7.0	14.0	12.8	7.4	2.0	-	-
Monthly Mean	0.4	0.1	1.5	3.2	7.4	12.8	16.0	16.4	12.7	5.7	-	-
Max. Daily	1.2	1.0	2.7	5.1	10.4	15.9	19.4	19.1	17.3	10.2	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.4 CC-15\[CC-15.xlsx]Temperature Table

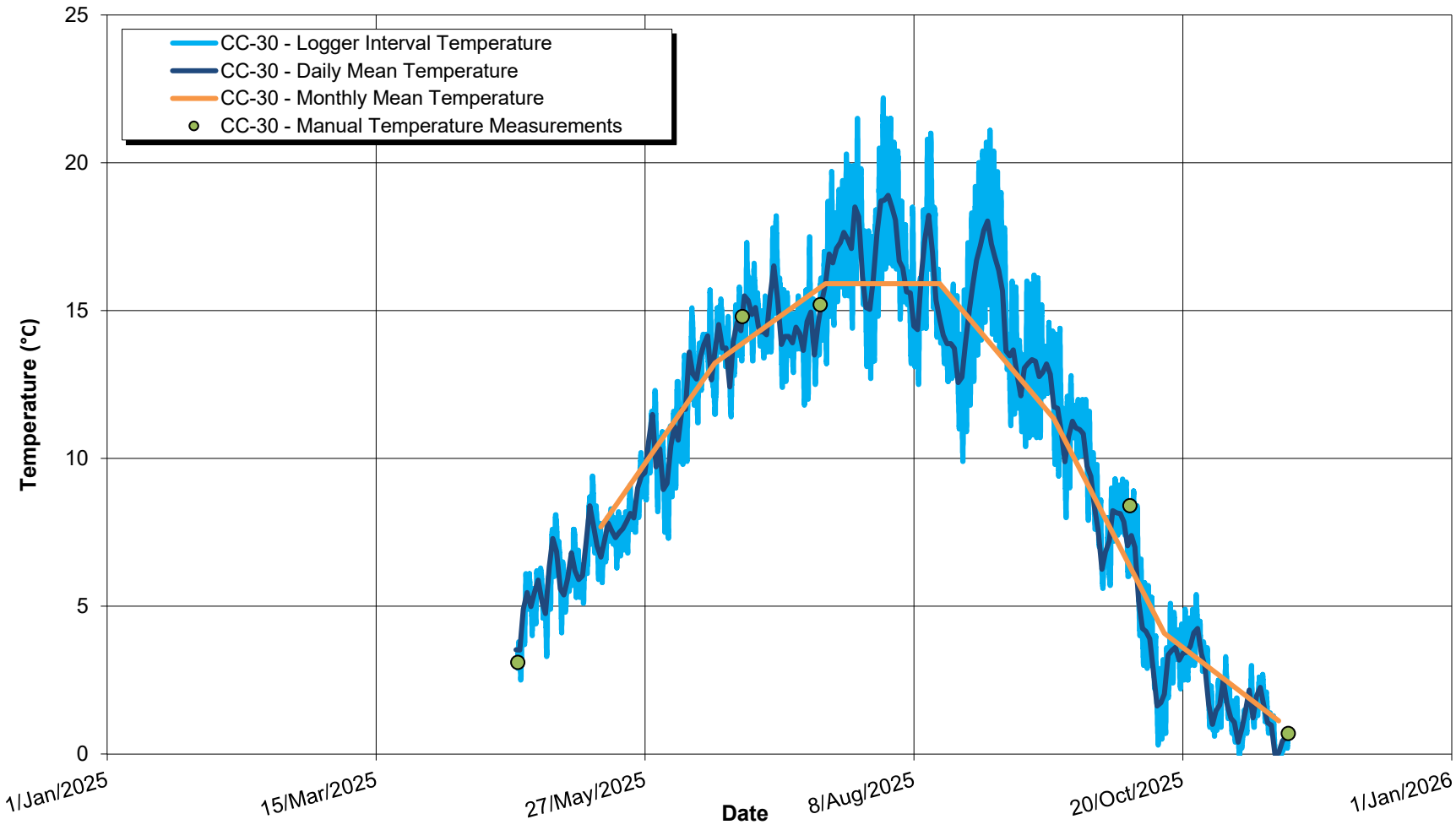
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

5.5 CHEDAKUZ CREEK HYDROLOGY STATION CC-30

The CC-30 station is installed in Chedakuz Creek, downstream of its confluence with Davidson Creek and is shown in Photo B5.5.1. The station consists of two Levelogger water level data loggers installed in a protective aluminum pipe that is secured to the bank of the creek. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on November 17, 2025. The 2025 recorded and measured temperatures are shown on Figure B5.5.1. The manual measurements are shown in Table B5.5.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B5.5.2.

Photo B5.5.1 Chedakuz Creek Hydrology Station CC-30 (June 27, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION
CC-30 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B5.5.1

REV 0

Knight Piésold CONSULTING

TABLE B5.5.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION CC-30
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:52:14

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
22-Apr-25	11:20:00 AM	3.1	3.1	0.0	-
22-Jun-25	10:33:00 AM	14.8	14.3	0.5	-
13-Jul-25	1:28:00 PM	15.2	15.2	0.0	-
5-Oct-25	2:28:00 PM	8.4	8.2	0.2	-
17-Nov-25	3:24:00 PM	0.7	0.7	0.0	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.5 CC-30\[CC-30.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B5.5.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CHEDAKUZ CREEK HYDROLOGY STATION CC-30
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:52:14

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	5.4	8.9	13.5	12.6	6.2	1.0	0.0	-
Monthly Mean	-	-	-	-	7.7	13.2	15.9	15.9	11.3	4.1	1.12	-
Max. Daily	-	-	-	-	11.5	15.5	18.7	18.9	15.7	8.2	2.26	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\5.5 CC-30\[CC-30.xlsx]Temperature Table

NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

6.0 FAWNIE CREEK WATERSHED

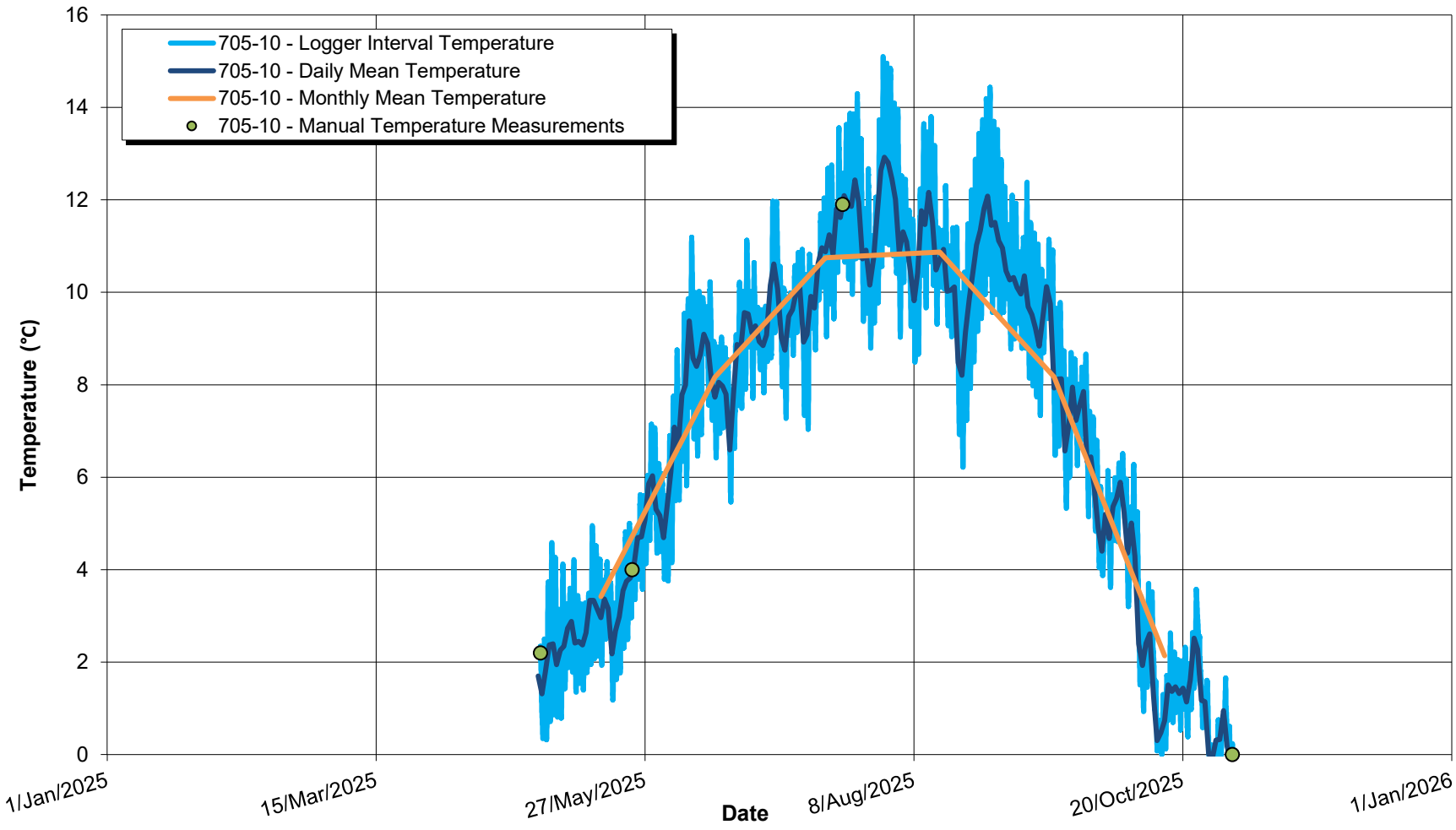
6.1 GENERAL

There are two (2) temperature monitoring stations currently operated in the Fawnie Creek Watershed. The stations are installed in Creek 705 (705-10), and in Mathews Creek (MC-05). The Fawnie Creek watershed has been affected by Project activities.

6.2 CREEK 705 HYDROLOGY STATION 705-10

The 705-10 station is installed on Creek 705 and is shown in Photo B6.2.1. The station consists of two Levelogger water level data loggers were installed at the station on April 25, 2024, which replaced the previously installed KPSI pressure transducer and NEON micrologger. The data loggers are enclosed in a protective aluminum pipe secured to the bank of the creek. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on November 2, 2025. The 2025 recorded and measured temperatures are shown on Figure B6.2.1. The manual measurements are shown in Table B6.2.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B6.2.2.

Photo B6.2.1 Creek 705 Hydrology Station 705-10 (April 25, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

CREEK 705 HYDROLOGY STATION
705-10 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B6.2.1

REV 0

Knight Piésold CONSULTING

TABLE B6.2.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CREEK 705 HYDROLOGY STATION 705-10
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:52:52

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
28-Apr-25	3:27:00 PM	2.2	2.1	0.1	-
23-May-25	12:00:00 PM	4.0	3.8	0.2	-
19-Jul-25	3:27:00 PM	11.9	11.8	0.1	-
2-Nov-25	9:45:00 AM	0.0	-0.1	0.1	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\6.2 705-10\[705-10.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B6.2.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

CREEK 705 HYDROLOGY STATION 705-10
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:52:52

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	1.9	4.7	8.7	8.2	4.4	0.0	-	-
Monthly Mean	-	-	-	-	3.4	8.2	10.7	10.9	8.2	2.1	-	-
Max. Daily	-	-	-	-	6.0	10.2	12.9	12.8	11.0	5.9	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\6.2 705-10\[705-10.xlsx]Temperature Table

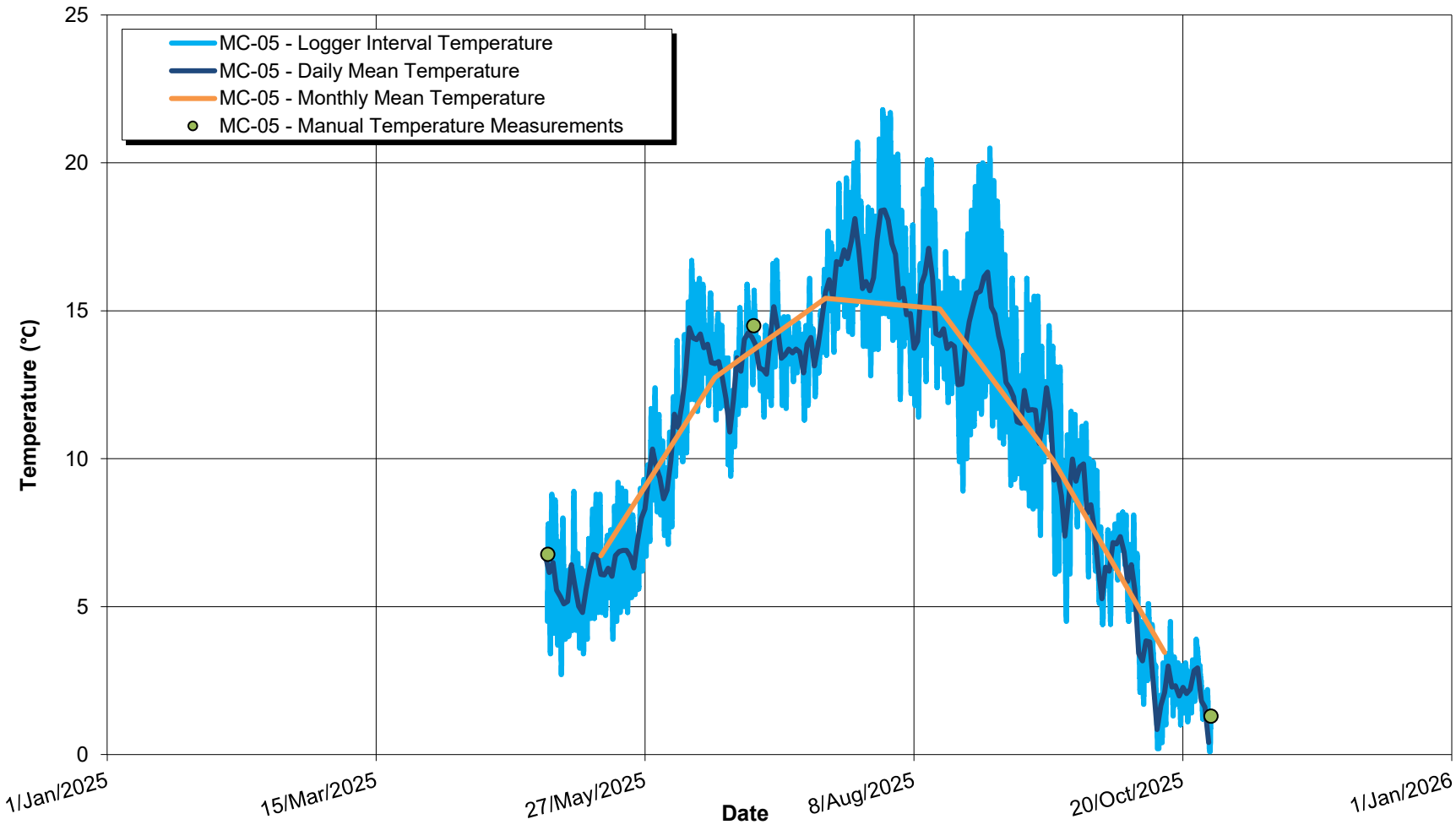
NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

6.3 MATHEWS CREEK HYDROLOGY STATION MC-05

The MC-05 station, previously known as the H12 station, is installed in Matthews Creek and is shown in Photo B6.3.1. The station consists of two Levelogger water level data loggers installed inside a protective aluminum pipe that is secured to the bank of the creek. The station is removed each year during the winter months to avoid damage to the sensor from ice. Therefore, temperature data were only recorded by the data logger and verified with manual measurements during the open water season. The most recent data logger download was on October 27, 2025. The 2025 recorded and measured temperatures are shown on Figure B6.3.1. The manual measurements are shown in Table B6.3.1, while daily maximum and minimum, along with monthly mean temperatures, are summarized in Table B6.3.2.

Photo B6.3.1 Mathews Creek Hydrology Station MC-05 (July 20, 2024)



NOTES:
1. WINTER TEMPERATURES REACHED THE MINIMUM DETECTABLE VALUE.
2. MONTHLY MEANS ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT	BTN	MJB

BW GOLD LTD.

BLACKWATER GOLD PROJECT

MATHEWS CREEK HYDROLOGY STATION
MC-05 2025 WATER TEMPERATURES

Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 1

FIGURE B6.3.1

REV 0

Knight Piésold CONSULTING

TABLE B6.3.1

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MATHEWS CREEK HYDROLOGY STATION MC-05
MANUAL WATER TEMPERATURE MEASUREMENTS

Print Mar/18/26 13:53:24

Date	Time	Manual Water Temperature	Logged Water Temperature	Difference	Notes
		°C			
30-Apr-25	2:15:00 PM	6.8	6.8	0.0	-
25-Jun-25	11:17:00 AM	14.5	14.3	0.2	-
27-Oct-25	3:01:00 PM	1.3	1.4	-0.1	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\6.3 MC-05\[MC-05.xlsx]Manual Temperature Table

NOTES:
1. ANY ANOMALOUS DATA POINTS ARE GREYED OUT AND EXCLUDED FROM THE AVERAGE DIFFERENCE CALCULATIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Knight Piésold CONSULTING

TABLE B6.3.2

BW GOLD LTD.
BLACKWATER GOLD PROJECT

MATHEWS CREEK HYDROLOGY STATION MC-05
2025 WATER TEMPERATURES (°C)

Print Mar/18/26 13:53:24

Data Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min. Daily	-	-	-	-	4.8	8.6	12.9	12.5	5.3	0.4	-	-
Monthly Mean	-	-	-	-	6.7	12.7	15.4	15.1	9.9	3.5	-	-
Max. Daily	-	-	-	-	10.3	14.4	18.4	18.1	13.6	7.4	-	-

\\KPL\VA-Prj$\1\01\00457\62\A\Data\Task 610 - Hydrology QAQC\Water Temperature\6.3 MC-05\[MC-05.xlsx]Temperature Table

NOTES:
1. MONTHLY DATA ARE ONLY PRESENTED FOR MONTHS WITH AT LEAST 16 DAYS OF RECORD.
2. THE MINIMUM AND MAXIMUM DAILY VALUES REPRESENT THE DAILY AVERAGE TEMPERATURE FOR THE COLDEST AND WARMEST DAY IN A MONTH.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	18MAR'26	ISSUED WITH REPORT VA101-457/62-1	BTN	MJB

Appendix B Surface Water Quality Results

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Appendix B-2: Surface Water Field Results, January to December 2025

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Appendix B-1 Surface Water Quality Laboratory Results, January to December 2025

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Physical Tests									Anions/Nutrients				
					Acidity (as $CaCO_3$) (mg/L)	Alkalinity, Total (as $CaCO_3$) (mg/L)	Conductivity (µS/cm)	Hardness, Dissolved (as $CaCO_3$) (mg/L)	Hardness, From Total Ca/Mg (as $CaCO_3$) (mg/L)	pH (pH Units)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Ammonia, Total (as N) (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as N) (mg/L)
Davidson Creek	DC-05	Primary	VA25A0824-004	2025-01-12	<2.0	44.0	95.9	40.4	41.4	7.59	74	<3.0	2.76	<0.0050	<0.050	0.91	0.044	0.149
Davidson Creek	DC-05	Duplicate	VA25A0824-005	2025-01-12	<2.0	43.6	96.0	39.8	40.2	7.60	72	<3.0	2.60	<0.0050	<0.050	0.92	0.044	0.150
Davidson Creek	DC-05	Primary	VA25A2544-005	2025-02-03	<2.0	56.4	120	52.6	52.5	7.92	66	<3.0	0.81	<0.0050	<0.050	0.63	0.044	0.121
Davidson Creek	DC-05	Primary	VA25A6706-002	2025-03-25	<2.0	65.7	136	56.2	59.9	7.97	88	1.2	6.38	<0.0050	<0.050	0.63	0.044	0.0780
Davidson Creek	DC-05	Primary	VA25A7611-001	2025-04-04	<2.0	52.6	108	46.3	50.8	7.85	75	<3.0	9.38	<0.0050	<0.050	0.58	0.042	0.143
Davidson Creek	DC-05	Duplicate	VA25A7611-002	2025-04-04	<2.0	54.9	108	47.1	51.2	7.86	67	<3.0	9.32	<0.0050	<0.050	0.57	0.043	0.146
Davidson Creek	DC-05	Primary	VA25B0343-008	2025-05-04	2.9	12.5	38.4	15.5	16.5	7.25	49	4.1	4.60	<0.0050	<0.050	0.99	0.025	0.206
Davidson Creek	DC-05	Primary	VA25B0962-003	2025-05-11	2.2	13.8	39.2	16.0	16.4	7.33	43	<3.0	6.64	0.0132	<0.050	0.87	0.025	0.173
Davidson Creek	DC-05	Primary	VA25B1482-007	2025-05-14	<2.0	14.4	38.9	16.0	15.9	7.30	45	<3.0	3.80	<0.0050	<0.050	0.83	0.031	0.135
Davidson Creek	DC-05	Primary	VA25B2274-005	2025-05-25	2.0	14.7	40.0	15.8	16.3	7.53	43	<3.0	3.43	<0.0050	<0.050	0.73	0.028	0.0092
Davidson Creek	DC-05	Primary	VA25B2953-004	2025-06-01	<2.0	15.4	38.0	16.0	16.3	7.57	51	<3.0	3.83	<0.0050	<0.050	0.52	0.027	<0.0050
Davidson Creek	DC-05	Primary	VA25B5984-001	2025-06-29	<2.0	25.3	57.6	23.5	24.1	7.48	63	7.9	15.4	0.0096	<0.050	1.10	0.028	0.146
Davidson Creek	DC-05	Primary	VA25B6851-002	2025-07-08	2.0	42.4	89.8	39.6	41.8	7.85	52	3.2	11.8	0.0142	<0.050	0.63	0.043	0.0747
Davidson Creek	DC-05	Duplicate	VA25B6851-003	2025-07-08	2.0	43.1	90.4	39.6	40.5	7.85	59	<3.0	10.6	0.0112	<0.050	0.62	0.042	0.0737
Davidson Creek	DC-05	Primary	VA25C0003-001	2025-08-10	<2.0	43.5	96.5	41.0	39.5	8.02	64	5.2	7.67	0.0176	<0.050	0.75	0.044	0.0128
Davidson Creek	DC-05	Primary	VA25C5489-003	2025-09-23	<2.0	43.9	94.5	41.6	41.6	7.87	67	8.5	2.66	0.0088	<0.050	1.93	0.035	0.0348
Davidson Creek	DC-05	Primary	VA25C7355-004	2025-10-07	<2.0	35.3	80.0	33.5	35.0	7.73	78	8.0	13.1	0.0085	<0.050	1.37	0.039	0.0280
Davidson Creek	DC-05	Primary	VA25C7563-005	2025-10-14	<2.0	40.5	90.5	36.7	38.9	7.81	72	<3.0	2.46	0.0078	<0.050	1.46	0.032	0.0673
Davidson Creek	DC-05	Duplicate	VA25C7563-006	2025-10-14	<2.0	39.0	87.9	35.5	36.8	7.88	68	<3.0	3.78	0.0114	<0.050	1.58	0.034	0.0395
Davidson Creek	DC-05	Primary	VA25C8047-004	2025-10-18	<2.0	45.7	96.4	45.2	40.9	7.82	69	<3.0	2.31	0.0073	<0.050	0.59	0.037	<0.0050
Davidson Creek	DC-05	Primary	VA25C9101-010	2025-10-29	<2.0	33.7	76.6	31.9	34.0	7.83	70	4.3	12.4	0.0088	<0.050	0.93	0.027	0.0682
Davidson Creek	DC-05	Primary	VA25C9485-001	2025-10-31	<2.0	33.6	76.0	33.5	35.5	7.56	79	<3.0	18.9	0.0091	<0.050	0.88	0.032	0.101
Davidson Creek	DC-05	Duplicate	VA25C9485-002	2025-10-31	2.0	33.7	76.3	33.6	36.0	7.56	76	<3.0	19.1	0.0090	<0.050	0.88	0.032	0.102
Davidson Creek	DC-05	Primary	VA25D0189-001	2025-11-09	2.1	37.4	87.5	36.7	38.3	7.74	72	<3.0	3.19	0.0102	<0.050	0.81	0.039	0.0273
Davidson Creek	DC-05	Primary	VA25D1021-002	2025-11-16	<2.0	34.8	80.2	33.4	33.3	7.76	53	1.9	3.62	0.0061	<0.050	0.81	0.031	0.0978
Davidson Creek	DC-05	Primary	VA25D2832-001	2025-12-05	2.3	40.5	92.7	41.5	42.0	7.51	70	1.7	1.71	0.0118	<0.050	0.66	0.036	0.123
Davidson Creek	DC-10	Primary	VA25A0824-006	2025-01-12	<2.0	44.4	97.3	40.8	40.6	7.61	69	<3.0	2.04	<0.0050	<0.050	0.91	0.045	0.153
Davidson Creek	DC-10	Primary	VA25A2647-001	2025-02-04	2.0	57.0	121	50.9	52.7	7.67	82	<3.0	0.77	0.0052	<0.050	0.62	0.039	0.124
Davidson Creek	DC-10	Primary	VA25A6706-004	2025-03-25	<2.0	63.4	131	56.4	55.7	7.88	95	<3.0	5.49	<0.0050	<0.050	0.65	0.042	0.0853
Davidson Creek	DC-10	Duplicate	VA25A6706-005	2025-03-25	<2.0	62.4	131	56.4	57.0	7.90	89	<3.0	5.23	<0.0050	<0.050	0.65	0.042	0.0874
Davidson Creek	DC-10	Primary	VA25A7611-003	2025-04-04	<2.0	53.4	111	47.4	52.6	7.81	76	<3.0	9.14	<0.0050	<0.050	0.59	0.042	0.126
Davidson Creek	DC-10	Primary	VA25B0343-009	2025-05-04	2.8	12.8	39.3	16.1	16.8	7.30	48	<3.0	4.61	<0.0050	<0.050	0.98	0.025	0.202
Davidson Creek	DC-10	Primary	VA25B5984-002	2025-06-29	2.0	26.0	59.5	23.9	25.0	7.52	59	3.9	14.2	0.0130	<0.050	1.06	0.028	0.131
Davidson Creek	DC-10	Primary	VA25B6851-004	2025-07-08	2.1	43.6	91.3	39.9	40.4	7.84	57	5.8	6.93	0.0100	<0.050	0.57	0.039	0.0716
Davidson Creek	DC-10	Primary	VA25C0017-004	2025-08-10	<2.0	43.4	98.9	40.6	39.7	7.87	76	<3.0	2.95	0.0134	<0.050	1.06	0.041	0.0269
Davidson Creek	DC-10	Primary	VA25C4751-001	2025-09-15	<2.0	54.1	128	58.0	58.5	7.80	90	<3.0	1.03	0.0336	<0.050	1.93	0.040	0.0226
Davidson Creek	DC-10	Primary	VA25C9101-011	2025-10-29	<2.0	35.5	81.1	34.6	35.0	7.79	73	3.5	12.0	0.0131	<0.050	0.94	0.033	0.0643
Davidson Creek	DC-10	Primary	VA25D1976-008	2025-11-26	2.2	42.4	94.8	44.0	42.9	7.70	73	<3.0	2.74	0.0080	<0.050	0.74	0.032	0.134
Davidson Creek	DC-10	Primary	VA25D3068-001	2025-12-08	2.5	42.2	101	42.7	43.4	7.76	73	<3.0	1.51	0.0120	<0.050	0.63	0.035	0.136
Davidson Creek	DC-15	Primary	VA25A0824-001	2025-01-12	<2.0	56.8	119	50.5	54.0	7.72	80	<3.0	1.62	<0.0050	<0.050	0.76	0.050	0.111
Davidson Creek	DC-15	Primary	VA25A2647-002	2025-02-04	<2.0	68.9	141	59.6	61.8	7.85	95	<3.0	0.58	0.0059	<0.050	0.53	0.044	0.0903
Davidson Creek	DC-15	Primary	VA25A6706-007	2025-03-25	<2.0	66.1	136	60.2	58.8	7.98	88	1.1	2.72	<0.0050	<0.050	0.62	0.042	0.0818
Davidson Creek	DC-15	Primary	VA25A7611-004	2025-04-04	<2.0	65.4	131	56.0	63.8	7.94	68	<3.0	2.15	<0.0050	<0.050	0.54	0.046	0.0777
Davidson Creek	DC-15	Primary	VA25B0962-002	2025-05-11	2.3	22.2	51.0	22.2	22.7	7.47	49	6.4	7.38	<0.0050	<0.050	0.80	0.030	0.163
Davidson Creek	DC-15	Primary	VA25B5984-003	2025-06-29	<2.0	32.3	72.4	29.7	30.5	7.51	75	<3.0	19.4	0.0061	<0.050	0.98	0.032	0.110
Davidson Creek	DC-15	Primary	VA25B6851-005	2025-07-08	<2.0	45.6	93.4	41.2	42.7	7.90	58	<3.0	2.49	0.0055	<0.050	0.55	0.043	0.0315
Davidson Creek	DC-15	Primary	VA25B9679-001	2025-08-06	<2.0	53.9	111	47.6	47.6	7.86	76	1.1	2.03	0.0059	<0.050	0.89	0.045	<0.0050
Davidson Creek	DC-15	Primary	VA25C4967-001	2025-09-17	<2.0	59.5	134	62.9	60.8	7.94	89	<3.0	0.78	0.0165	<0.050	1.45	0.042	<0.0050
Davidson Creek	DC-15	Primary	VA25C8358-009	2025-10-20	<2.0	57.7	117	54.2	50.9	7.94	81	<3.0	4.28	<0.0050	<0.050	0.68	0.043	<0.0050

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Anions/Nutrients						Organic/Inorganic Carbon		Cyanides			Total Metals		
					Nitrite (as N) (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrogen, Total (mg/L)	Ortho-Phosphorus, Dissolved (as P) (mg/L)	Total Phosphorus (as P) (mg/L)	Sulphate (as SO_4) (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Cyanide, Total (mg/L)	Cyanide, Weak Acid Dissociable (mg/L)	Thiocyanate (mg/L)	Aluminum, Total (mg/L)	Antimony, Total (mg/L)	Arsenic, Total (mg/L)
Davidson Creek	DC-05	Primary	VA25A0824-004	2025-01-12	<0.0010	0.092	3.30	0.0049	0.0138	3.35	-	-	<0.0050	<0.0050	<0.50	0.220	<0.00010	0.00061
Davidson Creek	DC-05	Duplicate	VA25A0824-005	2025-01-12	<0.0010	0.090	3.20	0.0047	0.0138	3.35	-	-	<0.0050	<0.0050	0.64	0.183	<0.00010	0.00059
Davidson Creek	DC-05	Primary	VA25A2544-005	2025-02-03	<0.0010	0.058	2.51	0.0053	0.0091	3.76	-	-	<0.0050	<0.0050	<0.50	0.0684	<0.00010	0.00056
Davidson Creek	DC-05	Primary	VA25A6706-002	2025-03-25	0.0012	0.068	1.65	0.0058	0.0191	3.99	-	<0.001	<0.0050	<0.0050	0.59	0.390	<0.00010	0.00090
Davidson Creek	DC-05	Primary	VA25A7611-001	2025-04-04	<0.0010	0.139	3.00	0.0028	0.0169	3.29	-	-	<0.0050	<0.0050	<0.50	0.526	<0.00010	0.00095
Davidson Creek	DC-05	Duplicate	VA25A7611-002	2025-04-04	<0.0010	0.125	2.96	0.0023	0.0160	3.29	-	-	<0.0050	<0.0050	<0.50	0.499	<0.00010	0.00091
Davidson Creek	DC-05	Primary	VA25B0343-008	2025-05-04	<0.0010	0.259	11.3	0.0094	0.0250	2.17	-	-	<0.0050	<0.0050	<0.50	0.414	<0.00010	0.00073
Davidson Creek	DC-05	Primary	VA25B0962-003	2025-05-11	<0.0010	0.262	9.95	0.0044	0.0196	2.70	-	-	<0.0050	<0.0050	<0.50	0.382	<0.00010	0.00112
Davidson Creek	DC-05	Primary	VA25B1482-007	2025-05-14	<0.0010	0.221	9.68	0.0024	0.0158	1.94	-	-	<0.0050	<0.0050	<0.50	0.266	<0.00010	0.00089
Davidson Creek	DC-05	Primary	VA25B2274-005	2025-05-25	<0.0010	0.295	10.8	<0.0010	0.0317	1.74	-	-	<0.0050	<0.0050	0.56	0.337	<0.00010	0.00084
Davidson Creek	DC-05	Primary	VA25B2953-004	2025-06-01	<0.0010	0.251	8.35	<0.0010	0.0182	1.50	-	-	<0.0050	<0.0050	<0.50	0.316	<0.00010	0.00113
Davidson Creek	DC-05	Primary	VA25B5984-001	2025-06-29	0.0022	0.244	6.86	<0.0010	0.0313	1.85	-	<0.0010	<0.0050	<0.0050	<0.50	0.930	0.00015	0.00241
Davidson Creek	DC-05	Primary	VA25B6851-002	2025-07-08	0.0012	0.196	5.54	<0.0010	0.0197	2.90	-	-	<0.0050	<0.0050	<0.50	0.671	0.00011	0.00175
Davidson Creek	DC-05	Duplicate	VA25B6851-003	2025-07-08	<0.0010	0.199	5.71	<0.0010	0.0213	2.89	-	-	<0.0050	<0.0050	<0.50	0.667	0.00011	0.00176
Davidson Creek	DC-05	Primary	VA25C0003-001	2025-08-10	<0.0010	0.242	5.48	<0.0010	0.0187	4.60	-	<0.0010	<0.0050	<0.0050	<0.50	0.572	0.00012	0.00203
Davidson Creek	DC-05	Primary	VA25C5489-003	2025-09-23	0.0012	0.152	3.28	<0.0010	0.0088	3.42	0.180	-	<0.0050	<0.0050	<0.50	0.144	0.00011	0.00107
Davidson Creek	DC-05	Primary	VA25C7355-004	2025-10-07	0.0019	0.186	5.61	<0.0010	0.0192	3.59	0.223	-	<0.0050	<0.0050	<0.50	0.612	0.00018	0.00231
Davidson Creek	DC-05	Primary	VA25C7563-005	2025-10-14	0.0024	0.190	3.76	<0.0010	0.0074	4.25	0.200	-	<0.0050	<0.0050	<0.50	0.149	0.00011	0.00094
Davidson Creek	DC-05	Duplicate	VA25C7563-006	2025-10-14	0.0023	0.208	3.67	<0.0010	0.0089	4.32	0.196	-	<0.0050	<0.0050	<0.50	0.177	0.00012	0.00100
Davidson Creek	DC-05	Primary	VA25C8047-004	2025-10-18	<0.0010	0.116	3.72	<0.0010	0.0065	4.74	0.122	-	<0.0050	<0.0050	<0.50	0.111	<0.00010	0.00081
Davidson Creek	DC-05	Primary	VA25C9101-010	2025-10-29	0.0021	0.186	4.89	<0.0010	0.0198	4.76	0.253	-	<0.0050	<0.0050	<0.50	0.792	0.00012	0.00142
Davidson Creek	DC-05	Primary	VA25C9485-001	2025-10-31	0.0017	0.166	6.02	<0.0010	0.0234	5.04	0.254	-	<0.0050	<0.0050	<0.50	0.849	0.00012	0.00170
Davidson Creek	DC-05	Duplicate	VA25C9485-002	2025-10-31	0.0016	0.174	5.81	<0.0010	0.0231	5.03	0.275	-	<0.0050	<0.0050	<0.50	0.835	0.00012	0.00162
Davidson Creek	DC-05	Primary	VA25D0189-001	2025-11-09	0.0010	0.135	4.09	<0.0010	0.0083	5.98	0.169	-	<0.0050	<0.0050	<0.50	0.188	<0.00010	0.00071
Davidson Creek	DC-05	Primary	VA25D1021-002	2025-11-16	<0.0010	0.168	4.95	<0.0010	0.0090	5.03	0.229	<0.0010	<0.0050	<0.0050	<0.50	0.213	<0.00010	0.00066
Davidson Creek	DC-05	Primary	VA25D2832-001	2025-12-05	<0.0010	0.114	3.05	<0.0010	0.0069	7.17	0.217	<0.0010	<0.0050	<0.0050	<0.50	0.138	<0.00010	0.00062
Davidson Creek	DC-10	Primary	VA25A0824-006	2025-01-12	<0.0010	0.172	3.09	0.0044	0.0092	3.48	-	-	<0.0050	<0.0050	<0.50	0.147	<0.00010	0.00053
Davidson Creek	DC-10	Primary	VA25A2647-001	2025-02-04	<0.0010	0.059	2.48	0.0048	0.0116	3.63	-	-	<0.0050	<0.0050	<0.50	0.0591	<0.00010	0.00051
Davidson Creek	DC-10	Primary	VA25A6706-004	2025-03-25	0.0012	0.056	1.75	0.0044	0.0136	4.01	-	-	<0.0050	<0.0050	0.53	0.336	<0.00010	0.00085
Davidson Creek	DC-10	Duplicate	VA25A6706-005	2025-03-25	0.0011	0.061	1.51	0.0045	0.0131	4.02	-	-	<0.0050	<0.0050	0.61	0.320	<0.00010	0.00080
Davidson Creek	DC-10	Primary	VA25A7611-003	2025-04-04	<0.0010	0.112	2.70	0.0027	0.0160	3.50	-	-	<0.0050	<0.0050	<0.50	0.515	<0.00010	0.00093
Davidson Creek	DC-10	Primary	VA25B0343-009	2025-05-04	<0.0010	0.268	11.1	0.0085	0.0224	2.19	-	-	<0.0050	<0.0050	<0.50	0.402	<0.00010	0.00074
Davidson Creek	DC-10	Primary	VA25B5984-002	2025-06-29	0.0022	0.258	6.41	<0.0010	0.0263	1.88	-	-	<0.0050	<0.0050	<0.50	0.818	0.00014	0.00219
Davidson Creek	DC-10	Primary	VA25B6851-004	2025-07-08	<0.0010	0.194	5.15	<0.0010	0.0169	2.91	-	-	<0.0050	<0.0050	<0.50	0.352	<0.00010	0.00123
Davidson Creek	DC-10	Primary	VA25C0017-004	2025-08-10	<0.0010	0.228	4.67	<0.0010	0.0096	4.20	-	-	<0.0050	<0.0050	<0.50	0.195	<0.00010	0.00122
Davidson Creek	DC-10	Primary	VA25C4751-001	2025-09-15	0.0014	0.146	2.54	<0.0010	0.0067	10.8	0.151	-	<0.0050	<0.0050	<0.50	0.0729	<0.00010	0.00087
Davidson Creek	DC-10	Primary	VA25C9101-011	2025-10-29	0.0019	0.178	4.89	<0.0010	0.0184	4.79	0.237	-	<0.0050	<0.0050	<0.50	0.840	0.00011	0.00131
Davidson Creek	DC-10	Primary	VA25D1976-008	2025-11-26	<0.0010	0.130	3.67	0.0016	0.0081	7.06	0.235	-	<0.0050	<0.0050	<0.50	0.149	<0.00010	0.00069
Davidson Creek	DC-10	Primary	VA25D3068-001	2025-12-08	<0.0010	0.087	3.10	0.0033	0.0068	7.62	0.218	-	<0.0050	<0.0050	<0.50	0.0830	<0.00010	0.00057
Davidson Creek	DC-15	Primary	VA25A0824-001	2025-01-12	<0.0010	0.064	3.66	0.0032	0.0085	3.32	-	-	<0.0050	<0.0050	<0.50	0.115	<0.00010	0.00058
Davidson Creek	DC-15	Primary	VA25A2647-002	2025-02-04	<0.0010	0.057	1.99	0.0042	0.0091	3.20	-	-	<0.0050	<0.0050	<0.50	0.0552	<0.00010	0.00057
Davidson Creek	DC-15	Primary	VA25A6706-007	2025-03-25	<0.0010	0.053	1.82	0.0035	0.0094	3.33	-	<0.001	<0.0050	<0.0050	0.51	0.210	<0.00010	0.00079
Davidson Creek	DC-15	Primary	VA25A7611-004	2025-04-04	<0.0010	0.093	2.18	<0.0010	0.0086	3.30	-	-	<0.0050	<0.0050	1.46	0.158	<0.00010	0.00070
Davidson Creek	DC-15	Primary	VA25B0962-002	2025-05-11	<0.0010	0.222	9.22	0.0031	0.0163	1.90	-	-	<0.0050	<0.0050	<0.50	0.346	<0.00010	0.00089
Davidson Creek	DC-15	Primary	VA25B5984-003	2025-06-29	0.0014	0.230	6.59	0.0015	0.0310	1.88	-	<0.0010	<0.0050	<0.0050	<0.50	1.25	0.00017	0.00257
Davidson Creek	DC-15	Primary	VA25B6851-005	2025-07-08	<0.0010	0.147	4.91	<0.0010	0.0099	2.36	-	-	<0.0050	<0.0050	<0.50	0.174	<0.00010	0.00091
Davidson Creek	DC-15	Primary	VA25B9679-001	2025-08-06	<0.0010	0.124	3.72	<0.0010	0.0076	3.28	-	0.0058	<0.0050	<0.0050	<0.50	0.0878	<0.00010	0.00097
Davidson Creek	DC-15	Primary	VA25C4967-001	2025-09-17	<0.0010	0.125	3.10	<0.0010	0.0083	7.11	0.119	-	<0.0050	<0.0050	<0.50	0.0476	<0.00010	0.00080
Davidson Creek	DC-15	Primary	VA25C8358-009	2025-10-20	<0.0010	0.101	3.07	<0.0010	0.0079	4.33	0.101	-	<0.0050	<0.0050	<0.50	0.160	<0.00010	0.00062

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals												
					Barium, Total (mg/L)	Beryllium, Total (mg/L)	Bismuth, Total (mg/L)	Boron, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Lithium, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
Davidson Creek	DC-05	Primary	VA25A0824-004	2025-01-12	0.00936	<0.000020	<0.000050	<0.010	<0.0000050	12.6	<0.00050	<0.00010	<0.00050	0.176	0.000093	<0.0010	2.42	0.0249
Davidson Creek	DC-05	Duplicate	VA25A0824-005	2025-01-12	0.00879	<0.000020	<0.000050	<0.010	<0.0000050	12.1	<0.00050	<0.00010	<0.00050	0.145	0.000076	<0.0010	2.43	0.0174
Davidson Creek	DC-05	Primary	VA25A2544-005	2025-02-03	0.00914	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010	<0.00050	0.053	<0.000050	<0.0010	3.11	0.00548
Davidson Creek	DC-05	Primary	VA25A6706-002	2025-03-25	0.0121	<0.000020	<0.000050	<0.010	0.0000085	17.5	0.00058	0.00011	<0.00050	0.274	0.000242	<0.0010	3.94	0.0131
Davidson Creek	DC-05	Primary	VA25A7611-001	2025-04-04	0.0121	0.000022	<0.000050	<0.010	0.0000097	15.0	0.00054	0.00014	0.00063	0.375	0.000278	<0.0010	3.25	0.0152
Davidson Creek	DC-05	Duplicate	VA25A7611-002	2025-04-04	0.0116	0.000021	<0.000050	<0.010	0.0000088	15.3	0.00054	0.00014	0.00061	0.359	0.000270	<0.0010	3.16	0.0153
Davidson Creek	DC-05	Primary	VA25B0343-008	2025-05-04	0.00850	0.000032	<0.000050	<0.010	0.0000107	4.91	<0.00050	0.00011	0.00079	0.254	0.000135	<0.0010	1.02	0.0110
Davidson Creek	DC-05	Primary	VA25B0962-003	2025-05-11	0.00842	0.000030	<0.000050	<0.010	0.0000084	5.00	<0.00050	0.00013	0.00084	0.290	0.000231	<0.0010	0.958	0.0113
Davidson Creek	DC-05	Primary	VA25B1482-007	2025-05-14	0.00760	0.000026	<0.000050	<0.010	0.0000085	4.81	<0.00050	<0.00010	0.00075	0.188	0.000135	<0.0010	0.949	0.00870
Davidson Creek	DC-05	Primary	VA25B2274-005	2025-05-25	0.00790	0.000030	<0.000050	<0.010	0.0000108	4.92	<0.00050	0.00010	0.00076	0.235	0.000158	<0.0010	0.971	0.00854
Davidson Creek	DC-05	Primary	VA25B2953-004	2025-06-01	0.00578	0.000027	<0.000050	<0.010	0.0000144	5.05	<0.00050	<0.00010	0.00077	0.210	0.000196	<0.0010	0.905	0.00982
Davidson Creek	DC-05	Primary	VA25B5984-001	2025-06-29	0.0110	0.000042	<0.000050	<0.010	0.0000503	7.33	0.00068	0.00030	0.00135	0.664	0.00101	<0.0010	1.40	0.0402
Davidson Creek	DC-05	Primary	VA25B6851-002	2025-07-08	0.0126	0.000032	<0.000050	<0.010	0.0000343	12.6	0.00057	0.00029	0.00094	0.451	0.000604	<0.0010	2.52	0.0464
Davidson Creek	DC-05	Duplicate	VA25B6851-003	2025-07-08	0.0124	0.000037	<0.000050	<0.010	0.0000352	12.1	0.00061	0.00032	0.00094	0.430	0.000586	<0.0010	2.50	0.0474
Davidson Creek	DC-05	Primary	VA25C0003-001	2025-08-10	0.0113	0.000028	<0.000050	<0.010	0.0000305	12.0	<0.00050	0.00113	0.00086	0.380	0.000469	<0.0010	2.32	0.0371
Davidson Creek	DC-05	Primary	VA25C5489-003	2025-09-23	0.0102	<0.000020	<0.000050	<0.010	0.0000118	12.7	<0.00050	0.00067	<0.00050	0.150	0.000125	<0.0010	2.41	0.0516
Davidson Creek	DC-05	Primary	VA25C7355-004	2025-10-07	0.0106	0.000030	<0.000050	<0.010	0.0000540	10.6	0.00062	0.00083	0.00120	0.597	0.000900	<0.0010	2.08	0.0412
Davidson Creek	DC-05	Primary	VA25C7563-005	2025-10-14	0.00757	<0.000020	<0.000050	<0.010	0.0000186	11.6	<0.00050	0.00101	<0.00050	0.150	0.000119	<0.0010	2.42	0.0303
Davidson Creek	DC-05	Duplicate	VA25C7563-006	2025-10-14	0.00711	<0.000020	<0.000050	<0.010	0.0000211	10.9	<0.00050	0.00101	0.00063	0.167	0.000126	<0.0010	2.32	0.0275
Davidson Creek	DC-05	Primary	VA25C8047-004	2025-10-18	0.00838	<0.000020	<0.000050	<0.010	0.0000160	12.4	<0.00050	0.00130	0.00099	0.146	0.000094	<0.0010	2.42	0.0366
Davidson Creek	DC-05	Primary	VA25C9101-010	2025-10-29	0.0134	0.000043	<0.000050	<0.010	0.0000187	10.3	0.00076	0.00126	0.00102	0.610	0.000663	<0.0010	2.01	0.0254
Davidson Creek	DC-05	Primary	VA25C9485-001	2025-10-31	0.0149	0.000042	<0.000050	<0.010	0.0000279	10.8	0.00085	0.00140	0.00127	0.728	0.000849	<0.0010	2.07	0.0298
Davidson Creek	DC-05	Duplicate	VA25C9485-002	2025-10-31	0.0145	0.000040	<0.000050	<0.010	0.0000299	11.0	0.00087	0.00139	0.00132	0.707	0.000820	<0.0010	2.06	0.0302
Davidson Creek	DC-05	Primary	VA25D0189-001	2025-11-09	0.00791	<0.000020	<0.000050	<0.010	0.0000114	11.7	<0.00050	0.00180	<0.00050	0.173	0.000204	<0.0010	2.21	0.0160
Davidson Creek	DC-05	Primary	VA25D1021-002	2025-11-16	0.00903	<0.000020	<0.000050	<0.010	0.0000096	9.97	<0.00050	0.00146	<0.00050	0.182	0.000103	<0.0010	2.04	0.0147
Davidson Creek	DC-05	Primary	VA25D2832-001	2025-12-05	0.00849	<0.000020	<0.000050	<0.010	0.0000079	12.7	<0.00050	0.00228	<0.00050	0.131	0.000086	<0.0010	2.50	0.0146
Davidson Creek	DC-10	Primary	VA25A0824-006	2025-01-12	0.00877	<0.000020	<0.000050	<0.010	<0.0000050	12.2	<0.00050	<0.00010	<0.00050	0.096	0.000051	<0.0010	2.47	0.00482
Davidson Creek	DC-10	Primary	VA25A2647-001	2025-02-04	0.00962	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010	<0.00050	0.047	<0.000050	<0.0010	3.16	0.00308
Davidson Creek	DC-10	Primary	VA25A6706-004	2025-03-25	0.0122	<0.000020	<0.000050	<0.010	<0.0000050	16.2	0.00050	<0.00010	<0.00050	0.232	0.000225	<0.0010	3.70	0.00832
Davidson Creek	DC-10	Duplicate	VA25A6706-005	2025-03-25	0.0117	<0.000020	<0.000050	<0.010	0.0000062	16.8	<0.00050	<0.00010	<0.00050	0.223	0.000210	<0.0010	3.65	0.00848
Davidson Creek	DC-10	Primary	VA25A7611-003	2025-04-04	0.0124	<0.000020	<0.000050	<0.010	0.0000078	15.8	0.00058	0.00015	0.00065	0.374	0.000288	<0.0010	3.20	0.0115
Davidson Creek	DC-10	Primary	VA25B0343-009	2025-05-04	0.00845	0.000029	<0.000050	<0.010	<0.0000050	4.99	<0.00050	0.00010	0.00076	0.232	0.000130	<0.0010	1.05	0.0108
Davidson Creek	DC-10	Primary	VA25B5984-002	2025-06-29	0.0108	0.000042	<0.000050	<0.010	0.0000424	7.66	0.00060	0.00025	0.00126	0.589	0.000872	<0.0010	1.44	0.0282
Davidson Creek	DC-10	Primary	VA25B6851-004	2025-07-08	0.0113	<0.000020	<0.000050	<0.010	0.0000219	12.1	<0.00050	0.00021	0.00066	0.222	0.000280	<0.0010	2.48	0.0224
Davidson Creek	DC-10	Primary	VA25C0017-004	2025-08-10	0.0102	<0.000020	<0.000050	<0.010	0.0000135	12.0	<0.00050	0.00092	0.00052	0.148	0.000150	<0.0010	2.36	0.0148
Davidson Creek	DC-10	Primary	VA25C4751-001	2025-09-15	0.0104	<0.000020	<0.000050	<0.010	0.0000079	17.4	<0.00050	0.00299	<0.00050	0.063	<0.000050	<0.0010	3.66	0.0126
Davidson Creek	DC-10	Primary	VA25C9101-011	2025-10-29	0.0131	0.000041	<0.000050	<0.010	0.0000162	10.6	0.00081	0.00117	0.00091	0.570	0.000614	<0.0010	2.06	0.0219
Davidson Creek	DC-10	Primary	VA25D1976-008	2025-11-26	0.00850	<0.000020	<0.000050	<0.010	0.0000087	12.8	<0.00050	0.00195	<0.00050	0.146	0.000111	<0.0010	2.66	0.0113
Davidson Creek	DC-10	Primary	VA25D3068-001	2025-12-08	0.00840	<0.000020	<0.000050	<0.010	0.0000061	13.0	<0.00050	0.00234	<0.00050	0.083	0.000071	<0.0010	2.66	0.00667
Davidson Creek	DC-15	Primary	VA25A0824-001	2025-01-12	0.00992	<0.000020	<0.000050	<0.010	<0.0000050	16.2	<0.00050	<0.00010	<0.00050	0.090	<0.000050	<0.0010	3.30	0.00416
Davidson Creek	DC-15	Primary	VA25A2647-002	2025-02-04	0.0104	<0.000020	<0.000050	<0.010	<0.0000050	18.1	<0.00050	<0.00010	<0.00050	0.056	<0.000050	<0.0010	4.03	0.00453
Davidson Creek	DC-15	Primary	VA25A6706-007	2025-03-25	0.0107	<0.000020	<0.000050	<0.010	<0.0000050	16.4	<0.00050	<0.00010	<0.00050	0.131	0.000142	<0.0010	4.34	0.00510
Davidson Creek	DC-15	Primary	VA25A7611-004	2025-04-04	0.0101	<0.000020	<0.000050	<0.010	<0.0000050	18.7	<0.00050	<0.00010	<0.00050	0.105	0.000079	<0.0010	4.16	0.00470
Davidson Creek	DC-15	Primary	VA25B0962-002	2025-05-11	0.00893	0.000024	<0.000050	<0.010	0.0000087	6.82	<0.00050	0.00012	0.00077	0.271	0.000234	<0.0010	1.37	0.0123
Davidson Creek	DC-15	Primary	VA25B5984-003	2025-06-29	0.0134	0.000051	<0.000050	<0.010	0.0000362	9.22	0.00075	0.00029	0.00145	0.757	0.00118	<0.0010	1.81	0.0273
Davidson Creek	DC-15	Primary	VA25B6851-005	2025-07-08	0.00925	<0.000020	<0.000050	<0.010	0.0000074	12.7	<0.00050	<0.00010	<0.00050	0.133	0.000107	<0.0010	2.68	0.0118
Davidson Creek	DC-15	Primary	VA25B9679-001	2025-08-06	0.0101	<0.000020	<0.000050	<0.010	0.0000071	14.0	<0.00050	0.00052	<0.00050	0.098	0.000071	<0.0010	3.07	0.00854
Davidson Creek	DC-15	Primary	VA25C4967-001	2025-09-17	0.0116	<0.000020	<0.000050	<0.010	<0.0000050	18.0	<0.00050	0.00173	<0.00050	0.079	<0.000050	<0.0010	3.84	0.00909
Davidson Creek	DC-15	Primary	VA25C8358-009	2025-10-20	0.0102	<0.000020	<0.000050	<0.010	0.0000055	14.8	<0.00050	0.00078	<0.00050	0.158	0.000119	<0.0010	3.39	0.00886

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Mercury, Total (mg/L)	Molybdenum, Total (mg/L)	Nickel, Total (mg/L)	Phosphorus, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silicon, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Strontium, Total (mg/L)	Sulphur, Total (mg/L)	Thallium, Total (mg/L)	Tin, Total (mg/L)	Titanium, Total (mg/L)
Davidson Creek	DC-05	Primary	VA25A0824-004	2025-01-12	<0.0000050	0.000712	<0.00050	<0.050	0.531	0.000090	6.89	<0.000010	3.02	0.0838	1.09	<0.000010	<0.00010	0.00560
Davidson Creek	DC-05	Duplicate	VA25A0824-005	2025-01-12	<0.0000050	0.000680	<0.00050	<0.050	0.524	0.000113	6.86	<0.000010	3.04	0.0816	0.95	<0.000010	<0.00010	0.00478
Davidson Creek	DC-05	Primary	VA25A2544-005	2025-02-03	<0.0000050	0.000892	<0.00050	<0.050	0.620	0.000077	6.82	<0.000010	3.47	0.102	1.12	<0.000010	<0.00010	0.00136
Davidson Creek	DC-05	Primary	VA25A6706-002	2025-03-25	<0.0000050	0.000984	<0.00050	<0.050	0.700	0.000124	7.30	<0.000010	4.03	0.116	1.32	<0.000010	<0.00010	0.00920
Davidson Creek	DC-05	Primary	VA25A7611-001	2025-04-04	<0.0000050	0.000824	<0.00050	<0.050	0.656	0.000125	7.15	<0.000010	3.64	0.0939	1.02	<0.000010	<0.00010	0.0131
Davidson Creek	DC-05	Duplicate	VA25A7611-002	2025-04-04	<0.0000050	0.000779	<0.00050	<0.050	0.652	0.000086	7.16	<0.000010	3.62	0.0923	1.01	<0.000010	<0.00010	0.0125
Davidson Creek	DC-05	Primary	VA25B0343-008	2025-05-04	0.0000054	0.000227	<0.00050	<0.050	0.769	<0.000050	4.81	0.000014	1.99	0.0387	0.57	<0.000010	<0.00010	0.0109
Davidson Creek	DC-05	Primary	VA25B0962-003	2025-05-11	0.0000061	0.000301	0.00051	<0.050	0.685	<0.000050	5.00	<0.000010	1.79	0.0382	<0.50	<0.000010	<0.00010	0.00864
Davidson Creek	DC-05	Primary	VA25B1482-007	2025-05-14	<0.0000050	0.000317	<0.00050	<0.050	0.599	<0.000050	4.36	<0.000010	1.95	0.0375	<0.50	<0.000010	<0.00010	0.00496
Davidson Creek	DC-05	Primary	VA25B2274-005	2025-05-25	0.0000091	0.000298	<0.00050	<0.050	0.624	<0.000050	4.46	<0.000010	1.95	0.0369	<0.50	<0.000010	<0.00010	0.00786
Davidson Creek	DC-05	Primary	VA25B2953-004	2025-06-01	<0.0000050	0.000338	<0.00050	<0.050	0.543	<0.000050	4.45	<0.000010	1.91	0.0356	<0.50	<0.000010	<0.00010	0.00694
Davidson Creek	DC-05	Primary	VA25B5984-001	2025-06-29	<0.0000050	0.000491	0.00068	<0.050	0.805	0.000057	5.84	0.000011	2.37	0.0515	0.66	0.000015	<0.00010	0.0196
Davidson Creek	DC-05	Primary	VA25B6851-002	2025-07-08	<0.0000050	0.000711	<0.00050	<0.050	0.724	<0.000050	6.32	<0.000010	2.95	0.0825	0.85	<0.000010	<0.00010	0.0134
Davidson Creek	DC-05	Duplicate	VA25B6851-003	2025-07-08	<0.0000050	0.000754	<0.00050	<0.050	0.746	0.000087	6.22	<0.000010	2.96	0.0844	0.84	<0.000010	<0.00010	0.0140
Davidson Creek	DC-05	Primary	VA25C0003-001	2025-08-10	0.0000058	0.000894	<0.00050	<0.050	0.806	0.000068	6.10	<0.000010	3.22	0.0822	1.57	<0.000010	<0.00010	0.0126
Davidson Creek	DC-05	Primary	VA25C5489-003	2025-09-23	<0.0000050	0.000810	<0.00050	<0.050	0.799	<0.000050	5.34	<0.000010	3.24	0.0903	1.37	<0.000010	<0.00010	0.00303
Davidson Creek	DC-05	Primary	VA25C7355-004	2025-10-07	<0.0000050	0.000699	0.00064	<0.050	0.788	<0.000050	5.76	0.000010	2.93	0.0735	1.35	0.000012	<0.00010	0.0144
Davidson Creek	DC-05	Primary	VA25C7563-005	2025-10-14	<0.0000050	0.000723	<0.00050	<0.050	0.645	<0.000050	5.39	<0.000010	3.20	0.0823	1.06	<0.000010	<0.00010	0.00318
Davidson Creek	DC-05	Duplicate	VA25C7563-006	2025-10-14	<0.0000050	0.000746	<0.00050	<0.050	0.732	0.000058	5.06	<0.000010	3.19	0.0770	0.90	<0.000010	<0.00010	0.00397
Davidson Creek	DC-05	Primary	VA25C8047-004	2025-10-18	<0.0000050	0.000755	<0.00050	<0.050	0.527	0.000058	5.47	<0.000010	3.24	0.0921	1.42	<0.000010	<0.00010	0.00293
Davidson Creek	DC-05	Primary	VA25C9101-010	2025-10-29	<0.0000050	0.000683	0.00056	<0.050	0.732	0.000076	6.60	0.000018	2.90	0.0705	1.94	0.000011	<0.00010	0.0196
Davidson Creek	DC-05	Primary	VA25C9485-001	2025-10-31	<0.0000050	0.000706	0.00071	<0.050	0.687	<0.000050	6.81	0.000018	3.05	0.0745	1.52	0.000013	<0.00010	0.0219
Davidson Creek	DC-05	Duplicate	VA25C9485-002	2025-10-31	0.0000060	0.000683	0.00070	<0.050	0.687	0.000053	6.83	0.000016	3.03	0.0746	1.52	0.000013	<0.00010	0.0212
Davidson Creek	DC-05	Primary	VA25D0189-001	2025-11-09	<0.0000050	0.000655	<0.00050	<0.050	0.527	0.000072	5.61	<0.000010	2.89	0.0795	2.12	<0.000010	<0.00010	<0.00420
Davidson Creek	DC-05	Primary	VA25D1021-002	2025-11-16	<0.0000050	0.000559	<0.00050	<0.050	0.503	0.000080	6.00	<0.000010	2.79	0.0763	1.93	<0.000010	<0.00010	0.00485
Davidson Creek	DC-05	Primary	VA25D2832-001	2025-12-05	<0.0000050	0.000622	<0.00050	<0.050	0.504	0.000085	6.45	<0.000010	3.20	0.0811	2.12	<0.000010	<0.00010	0.00403
Davidson Creek	DC-10	Primary	VA25A0824-006	2025-01-12	<0.0000050	0.000662	<0.00050	<0.050	0.537	0.000062	6.43	<0.000010	3.08	0.0837	1.06	<0.000010	<0.00010	0.00302
Davidson Creek	DC-10	Primary	VA25A2647-001	2025-02-04	<0.0000050	0.000869	<0.00050	<0.050	0.630	0.000062	6.68	<0.000010	3.58	0.104	1.17	<0.000010	<0.00010	0.00111
Davidson Creek	DC-10	Primary	VA25A6706-004	2025-03-25	<0.0000050	0.000969	<0.00050	<0.050	0.679	0.000100	7.13	<0.000010	3.88	0.111	1.31	<0.000010	<0.00010	0.00755
Davidson Creek	DC-10	Duplicate	VA25A6706-005	2025-03-25	<0.0000050	0.000945	<0.00050	<0.050	0.674	0.000071	6.90	<0.000010	3.97	0.115	1.40	<0.000010	<0.00010	0.00702
Davidson Creek	DC-10	Primary	VA25A7611-003	2025-04-04	<0.0000050	0.000835	<0.00050	<0.050	0.674	0.000082	7.27	<0.000010	3.84	0.0980	1.05	<0.000010	<0.00010	0.0130
Davidson Creek	DC-10	Primary	VA25B0343-009	2025-05-04	0.0000053	0.000245	<0.00050	<0.050	0.786	<0.000050	4.90	0.000011	2.03	0.0396	<0.50	<0.000010	<0.00010	0.00940
Davidson Creek	DC-10	Primary	VA25B5984-002	2025-06-29	<0.0000050	0.000511	0.00064	<0.050	0.806	<0.000050	5.82	0.000012	2.38	0.0527	0.55	0.000013	<0.00010	0.0178
Davidson Creek	DC-10	Primary	VA25B6851-004	2025-07-08	<0.0000050	0.000682	<0.00050	<0.050	0.707	0.000090	5.88	<0.000010	2.95	0.0881	0.84	<0.000010	<0.00010	0.00758
Davidson Creek	DC-10	Primary	VA25C0017-004	2025-08-10	<0.0000050	0.000835	<0.00050	<0.050	0.742	0.000068	5.64	<0.000010	3.19	0.0862	1.28	<0.000010	<0.00010	0.00378
Davidson Creek	DC-10	Primary	VA25C4751-001	2025-09-15	<0.0000050	0.000869	<0.00050	<0.050	0.773	0.000065	5.32	<0.000010	3.66	0.108	3.55	<0.000010	<0.00010	0.00092
Davidson Creek	DC-10	Primary	VA25C9101-011	2025-10-29	<0.0000050	0.000657	0.00057	<0.050	0.731	0.000067	7.10	0.000016	2.82	0.0719	2.03	<0.000010	<0.00010	0.0247
Davidson Creek	DC-10	Primary	VA25D1976-008	2025-11-26	<0.0000050	0.000664	<0.00050	<0.050	0.524	0.000055	6.49	<0.000010	3.30	0.0899	2.51	<0.000010	<0.00010	0.00394
Davidson Creek	DC-10	Primary	VA25D3068-001	2025-12-08	<0.0000050	0.000632	<0.00050	<0.050	0.509	0.000092	6.13	<0.000010	3.03	0.0836	2.53	<0.000010	<0.00010	0.00192
Davidson Creek	DC-15	Primary	VA25A0824-001	2025-01-12	<0.0000050	0.000732	<0.00050	<0.050	0.640	0.000096	6.98	<0.000010	3.42	0.0988	0.95	<0.000010	<0.00010	0.00254
Davidson Creek	DC-15	Primary	VA25A2647-002	2025-02-04	<0.0000050	0.000805	<0.00050	<0.050	0.749	0.000067	7.20	<0.000010	4.06	0.115	1.00	<0.000010	<0.00010	0.00136
Davidson Creek	DC-15	Primary	VA25A6706-007	2025-03-25	<0.0000050	0.000823	<0.00050	<0.050	0.703	<0.000050	7.07	<0.000010	4.09	0.111	1.10	<0.000010	<0.00010	0.00420
Davidson Creek	DC-15	Primary	VA25A7611-004	2025-04-04	<0.0000050	0.000799	<0.00050	<0.050	0.684	<0.000050	6.91	<0.000010	4.08	0.108	1.06	<0.000010	<0.00010	0.00325
Davidson Creek	DC-15	Primary	VA25B0962-002	2025-05-11	0.0000066	0.000410	<0.00050	<0.050	0.664	0.000064	5.14	<0.000010	1.98	0.0485	0.62	<0.000010	<0.00010	0.00804
Davidson Creek	DC-15	Primary	VA25B5984-003	2025-06-29	<0.0000050	0.000515	0.00068	<0.050	0.845	0.000064	6.23	0.000014	2.55	0.0613	0.58	0.000013	<0.00010	0.0222
Davidson Creek	DC-15	Primary	VA25B6851-005	2025-07-08	<0.0000050	0.000637	<0.00050	<0.050	0.716	0.000056	5.86	<0.000010	3.04	0.0796	0.69	<0.000010	<0.00010	0.00357
Davidson Creek	DC-15	Primary	VA25B9679-001	2025-08-06	<0.0000050	0.000840	<0.00050	<0.050	0.710	0.000065	5.85	<0.000010	3.39	0.0917	0.86	<0.000010	<0.00010	0.00205
Davidson Creek	DC-15	Primary	VA25C4967-001	2025-09-17	<0.0000050	0.000903	<0.00050	<0.050	0.924	0.000066	5.84	<0.000010	3.86	0.112	2.18	<0.000010	<0.00010	0.00080
Davidson Creek	DC-15	Primary	VA25C8358-009	2025-10-20	<0.0000050	0.000755	<0.00050	<0.050	0.723	<0.000050	5.85	<0.000010	3.62	0.100	1.24	<0.000010	<0.00010	0.00391

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals			Dissolved Metals										
					Uranium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)	Aluminum, Dissolved (mg/L)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Beryllium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L)	Boron, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Cobalt, Dissolved (mg/L)
Davidson Creek	DC-05	Primary	VA25A0824-004	2025-01-12	0.000233	0.00067	<0.0030	0.0442	<0.00010	0.00049	0.00740	<0.000020	<0.000050	<0.010	<0.0000050	12.1	<0.00050	<0.00010
Davidson Creek	DC-05	Duplicate	VA25A0824-005	2025-01-12	0.000228	0.00059	<0.0030	0.0414	<0.00010	0.00045	0.00732	<0.000020	<0.000050	<0.010	<0.0000050	11.9	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25A2544-005	2025-02-03	0.000301	<0.00050	<0.0030	0.0255	<0.00010	0.00044	0.00852	<0.000020	<0.000050	<0.010	<0.0000050	16.1	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25A6706-002	2025-03-25	0.000480	0.00100	<0.0030	0.0346	<0.00010	0.00057	0.00891	<0.000020	<0.000050	<0.010	<0.0000050	16.8	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25A7611-001	2025-04-04	0.000289	0.00114	<0.0030	0.0510	<0.00010	0.00051	0.00814	<0.000020	<0.000050	<0.010	<0.0000050	14.0	<0.00050	<0.00010
Davidson Creek	DC-05	Duplicate	VA25A7611-002	2025-04-04	0.000283	0.00110	<0.0030	0.0508	<0.00010	0.00054	0.00816	<0.000020	<0.000050	<0.010	<0.0000050	14.1	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25B0343-008	2025-05-04	0.000131	0.00078	<0.0030	0.172	<0.00010	0.00054	0.00640	<0.000020	<0.000050	<0.010	0.0000071	4.69	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25B0962-003	2025-05-11	0.000161	0.00094	<0.0030	0.143	<0.00010	0.00066	0.00606	<0.000020	<0.000050	<0.010	0.0000073	4.90	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25B1482-007	2025-05-14	0.000155	0.00061	<0.0030	0.143	<0.00010	0.00075	0.00672	<0.000020	<0.000050	<0.010	0.0000054	4.83	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25B2274-005	2025-05-25	0.000169	0.00075	<0.0030	0.139	<0.00010	0.00060	0.00546	0.000021	<0.000050	<0.010	0.0000061	4.75	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25B2953-004	2025-06-01	0.000216	0.00072	<0.0030	0.126	<0.00010	0.00086	0.00425	0.000020	<0.000050	<0.010	0.0000086	4.95	<0.00050	<0.00010
Davidson Creek	DC-05	Primary	VA25B5984-001	2025-06-29	0.000219	0.00152	0.0109	0.226	<0.00010	0.00091	0.00550	<0.000020	<0.000050	<0.010	0.0000266	7.22	<0.00050	0.00010
Davidson Creek	DC-05	Primary	VA25B6851-002	2025-07-08	0.000250	0.00117	0.0065	0.116	<0.00010	0.00078	0.00862	<0.000020	<0.000050	<0.010	0.0000142	12.0	<0.00050	0.00016
Davidson Creek	DC-05	Duplicate	VA25B6851-003	2025-07-08	0.000258	0.00119	0.0068	0.110	<0.00010	0.00080	0.00842	<0.000020	<0.000050	<0.010	0.0000185	12.0	<0.00050	0.00017
Davidson Creek	DC-05	Primary	VA25C0003-001	2025-08-10	0.000323	0.00119	0.0051	0.118	<0.00010	0.00129	0.00773	<0.000020	<0.000050	<0.010	0.0000131	12.5	<0.00050	0.00102
Davidson Creek	DC-05	Primary	VA25C5489-003	2025-09-23	0.000151	0.00057	<0.0030	0.0144	0.00010	0.00085	0.00911	<0.000020	<0.000050	<0.010	0.0000054	12.6	<0.00050	0.00059
Davidson Creek	DC-05	Primary	VA25C7355-004	2025-10-07	0.000223	0.00138	0.0082	0.0694	<0.00010	0.00096	0.00602	<0.000020	<0.000050	<0.010	0.0000181	10.2	<0.00050	0.00065
Davidson Creek	DC-05	Primary	VA25C7563-005	2025-10-14	0.000181	0.00063	<0.0030	0.0247	<0.00010	0.00068	0.00602	<0.000020	<0.000050	<0.010	0.0000127	11.0	<0.00050	0.00092
Davidson Creek	DC-05	Duplicate	VA25C7563-006	2025-10-14	0.000211	0.00079	<0.0030	0.0304	<0.00010	0.00076	0.00546	<0.000020	<0.000050	<0.010	0.0000102	10.7	<0.00050	0.00093
Davidson Creek	DC-05	Primary	VA25C8047-004	2025-10-18	0.000207	<0.00050	<0.0030	0.0278	<0.00010	0.00076	0.00768	<0.000020	<0.000050	<0.010	0.0000100	13.8	<0.00050	0.00127
Davidson Creek	DC-05	Primary	VA25C9101-010	2025-10-29	0.000329	0.00145	0.0074	0.0284	<0.00010	0.00070	0.00649	<0.000020	<0.000050	<0.010	0.0000055	9.81	<0.00050	0.00099
Davidson Creek	DC-05	Primary	VA25C9485-001	2025-10-31	0.000282	0.00170	0.0085	0.0931	<0.00010	0.00068	0.00773	<0.000020	<0.000050	<0.010	0.0000426	10.3	<0.00050	0.00110
Davidson Creek	DC-05	Duplicate	VA25C9485-002	2025-10-31	0.000283	0.00171	0.0088	0.0763	<0.00010	0.00067	0.00769	<0.000020	<0.000050	<0.010	0.0000091	10.3	<0.00050	0.00109
Davidson Creek	DC-05	Primary	VA25D0189-001	2025-11-09	0.000250	0.00072	0.0038	0.0441	<0.00010	0.00063	0.00687	<0.000020	<0.000050	<0.010	0.0000079	11.2	<0.00050	0.00171
Davidson Creek	DC-05	Primary	VA25D1021-002	2025-11-16	0.000173	0.00058	0.0043	0.0595	<0.00010	0.00055	0.00724	<0.000020	<0.000050	<0.010	<0.0000050	10.1	<0.00050	0.00137
Davidson Creek	DC-05	Primary	VA25D2832-001	2025-12-05	0.000200	0.00050	0.0035	0.0346	<0.00010	0.00055	0.00760	<0.000020	<0.000050	<0.010	<0.0000050	12.4	<0.00050	0.00206
Davidson Creek	DC-10	Primary	VA25A0824-006	2025-01-12	0.000206	<0.00050	<0.0030	0.0423	<0.00010	0.00047	0.00775	<0.000020	<0.000050	<0.010	<0.0000050	12.3	<0.00050	<0.00010
Davidson Creek	DC-10	Primary	VA25A2647-001	2025-02-04	0.000277	<0.00050	<0.0030	0.0215	<0.00010	0.00046	0.00928	<0.000020	<0.000050	<0.010	<0.0000050	15.2	<0.00050	<0.00010
Davidson Creek	DC-10	Primary	VA25A6706-004	2025-03-25	0.000434	0.00086	<0.0030	0.0319	<0.00010	0.00049	0.00878	<0.000020	<0.000050	<0.010	<0.0000050	16.8	<0.00050	<0.00010
Davidson Creek	DC-10	Duplicate	VA25A6706-005	2025-03-25	0.000422	0.00087	<0.0030	0.0372	<0.00010	0.00052	0.00888	<0.000020	<0.000050	<0.010	<0.0000050	17.0	<0.00050	<0.00010
Davidson Creek	DC-10	Primary	VA25A7611-003	2025-04-04	0.000294	0.00106	<0.0030	0.0431	<0.00010	0.00048	0.00864	<0.000020	<0.000050	<0.010	<0.0000050	14.2	<0.00050	<0.00010
Davidson Creek	DC-10	Primary	VA25B0343-009	2025-05-04	0.000123	0.00077	<0.0030	0.156	<0.00010	0.00048	0.00613	<0.000020	<0.000050	<0.010	<0.0000050	4.87	<0.00050	<0.00010
Davidson Creek	DC-10	Primary	VA25B5984-002	2025-06-29	0.000200	0.00135	0.0087	0.214	<0.00010	0.00095	0.00613	<0.000020	<0.000050	<0.010	0.0000242	7.29	<0.00050	<0.00010
Davidson Creek	DC-10	Primary	VA25B6851-004	2025-07-08	0.000212	0.00077	0.0034	0.0645	<0.00010	0.00072	0.00866	<0.000020	<0.000050	<0.010	0.0000105	12.1	<0.00050	0.00015
Davidson Creek	DC-10	Primary	VA25C0017-004	2025-08-10	0.000218	0.00066	<0.0030	0.0443	<0.00010	0.00096	0.00852	<0.000020	<0.000050	<0.010	0.0000079	12.2	<0.00050	0.00080
Davidson Creek	DC-10	Primary	VA25C4751-001	2025-09-15	0.000230	<0.00050	<0.0030	0.0178	<0.00010	0.00074	0.0106	<0.000020	<0.000050	<0.010	0.0000056	17.6	<0.00050	0.00295
Davidson Creek	DC-10	Primary	VA25C9101-011	2025-10-29	0.000296	0.00146	0.0065	0.0221	<0.00010	0.00063	0.00699	<0.000020	<0.000050	<0.010	<0.0000050	10.7	<0.00050	0.00094
Davidson Creek	DC-10	Primary	VA25D1976-008	2025-11-26	0.000174	0.00053	<0.0030	0.0326	<0.00010	0.00051	0.00730	<0.000020	<0.000050	<0.010	<0.0000050	13.7	<0.00050	0.00177
Davidson Creek	DC-10	Primary	VA25D3068-001	2025-12-08	0.000197	<0.00050	<0.0030	0.0248	<0.00010	0.00048	0.00821	<0.000020	<0.000050	<0.010	<0.0000050	12.9	<0.00050	0.00219
Davidson Creek	DC-15	Primary	VA25A0824-001	2025-01-12	0.000203	<0.00050	<0.0030	0.0310	<0.00010	0.00056	0.00897	<0.000020	<0.000050	<0.010	<0.0000050	14.7	<0.00050	<0.00010
Davidson Creek	DC-15	Primary	VA25A2647-002	2025-02-04	0.000258	<0.00050	<0.0030	0.0148	<0.00010	0.00052	0.00990	<0.000020	<0.000050	<0.010	<0.0000050	17.0	<0.00050	<0.00010
Davidson Creek	DC-15	Primary	VA25A6706-007	2025-03-25	0.000307	0.00069	<0.0030	0.0364	<0.00010	0.00055	0.00877	<0.000020	<0.000050	<0.010	<0.0000050	17.8	<0.00050	<0.00010
Davidson Creek	DC-15	Primary	VA25A7611-004	2025-04-04	0.000273	0.00058	<0.0030	0.0315	<0.00010	0.00052	0.00949	<0.000020	<0.000050	<0.010	<0.0000050	16.0	<0.00050	<0.00010
Davidson Creek	DC-15	Primary	VA25B0962-002	2025-05-11	0.000160	0.00096	<0.0030	0.115	<0.00010	0.00059	0.00625	<0.000020	<0.000050	<0.010	0.0000055	6.70	<0.00050	<0.00010
Davidson Creek	DC-15	Primary	VA25B5984-003	2025-06-29	0.000220	0.00167	0.0102	0.388	<0.00010	0.00104	0.00774	<0.000020	<0.000050	<0.010	0.0000098	8.97	<0.00050	<0.00010
Davidson Creek	DC-15	Primary	VA25B6851-005	2025-07-08	0.000150	0.00068	<0.0030	0.0491	<0.00010	0.00065	0.00860	<0.000020	<0.000050	<0.010	0.0000070	12.3	<0.00050	<0.00010
Davidson Creek	DC-15	Primary	VA25B9679-001	2025-08-06	0.000170	0.00060	<0.0030	0.0214	<0.00010	0.00080	0.00881	<0.000020	<0.000050	<0.010	<0.0000050	14.2	<0.00050	0.00046
Davidson Creek	DC-15	Primary	VA25C4967-001	2025-09-17	0.000176	0.00057	<0.0030	0.0150	<0.00010	0.00071	0.0110	<0.000020	<0.000050	<0.010	<0.0000050	19.2	<0.00050	0.00162
Davidson Creek	DC-15	Primary	VA25C8358-009	2025-10-20	0.000152	0.00064	<0.0030	0.0223	<0.00010	0.00056	0.00885	<0.000020	<0.000050	<0.010	<0.0000050	16.1	<0.00050	0.00070

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals												
					Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Lithium, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Phosphorus, Dissolved (mg/L)	Potassium, Dissolved (mg/L)	Selenium, Dissolved (mg/L)	Silicon, Dissolved (mg/L)	Silver, Dissolved (mg/L)
Davidson Creek	DC-05	Primary	VA25A0824-004	2025-01-12	0.00022	0.035	<0.000050	<0.0010	2.48	0.00320	<0.0000050	0.000631	<0.00050	<0.050	0.541	<0.000050	6.84	<0.000010
Davidson Creek	DC-05	Duplicate	VA25A0824-005	2025-01-12	0.00021	0.034	<0.000050	<0.0010	2.45	0.00308	<0.0000050	0.000675	<0.00050	<0.050	0.530	<0.000050	6.58	<0.000010
Davidson Creek	DC-05	Primary	VA25A2544-005	2025-02-03	0.00049	0.026	<0.000050	<0.0010	3.01	0.00336	<0.0000050	0.000905	<0.00050	<0.050	0.804	0.000074	6.57	<0.000010
Davidson Creek	DC-05	Primary	VA25A6706-002	2025-03-25	<0.00020	0.021	<0.000050	<0.0010	3.46	0.00301	<0.0000050	0.000999	<0.00050	<0.050	0.650	0.000100	6.32	<0.000010
Davidson Creek	DC-05	Primary	VA25A7611-001	2025-04-04	0.00022	0.038	<0.000050	<0.0010	2.76	0.00318	<0.0000050	0.000869	<0.00050	<0.050	0.553	0.000057	6.14	<0.000010
Davidson Creek	DC-05	Duplicate	VA25A7611-002	2025-04-04	0.00021	0.038	<0.000050	<0.0010	2.88	0.00324	<0.0000050	0.000832	<0.00050	<0.050	0.568	0.000082	6.05	<0.000010
Davidson Creek	DC-05	Primary	VA25B0343-008	2025-05-04	0.00059	0.085	<0.000050	<0.0010	0.927	0.00313	<0.0000050	0.000222	<0.00050	<0.050	0.725	<0.000050	4.46	<0.000010
Davidson Creek	DC-05	Primary	VA25B0962-003	2025-05-11	0.00059	0.084	<0.000050	<0.0010	0.925	0.00366	<0.0000050	0.000271	<0.00050	<0.050	0.678	0.000051	4.56	<0.000010
Davidson Creek	DC-05	Primary	VA25B1482-007	2025-05-14	0.00062	0.080	<0.000050	<0.0010	0.959	0.00339	<0.0000050	0.000311	<0.00050	<0.050	0.636	<0.000050	4.31	<0.000010
Davidson Creek	DC-05	Primary	VA25B2274-005	2025-05-25	0.00058	0.080	<0.000050	<0.0010	0.955	0.00420	<0.0000050	0.000284	<0.00050	<0.050	0.668	0.000054	4.19	<0.000010
Davidson Creek	DC-05	Primary	VA25B2953-004	2025-06-01	0.00056	0.062	<0.000050	<0.0010	0.898	0.00528	<0.0000050	0.000338	<0.00050	<0.050	0.531	<0.000050	4.04	<0.000010
Davidson Creek	DC-05	Primary	VA25B5984-001	2025-06-29	0.00082	0.091	0.000112	<0.0010	1.33	0.0166	<0.0000050	0.000464	<0.00050	<0.050	0.716	0.000061	4.78	<0.000010
Davidson Creek	DC-05	Primary	VA25B6851-002	2025-07-08	0.00051	0.058	0.000059	<0.0010	2.34	0.0328	<0.0000050	0.000691	<0.00050	<0.050	0.679	0.000050	5.58	<0.000010
Davidson Creek	DC-05	Duplicate	VA25B6851-003	2025-07-08	0.00050	0.052	0.000068	<0.0010	2.35	0.0338	<0.0000050	0.000686	<0.00050	<0.050	0.684	<0.000050	5.69	<0.000010
Davidson Creek	DC-05	Primary	VA25C0003-001	2025-08-10	0.00056	0.065	0.000059	<0.0010	2.38	0.0245	<0.0000050	0.000956	<0.00050	<0.050	0.762	0.000076	5.22	<0.000010
Davidson Creek	DC-05	Primary	VA25C5489-003	2025-09-23	0.00032	0.035	<0.000050	<0.0010	2.47	0.0454	<0.0000050	0.000812	<0.00050	<0.050	0.829	<0.000050	4.82	<0.000010
Davidson Creek	DC-05	Primary	VA25C7355-004	2025-10-07	0.00062	0.066	0.000059	<0.0010	1.95	0.0217	<0.0000050	0.000672	<0.00050	<0.050	0.694	<0.000050	5.03	<0.000010
Davidson Creek	DC-05	Primary	VA25C7563-005	2025-10-14	0.00034	0.047	<0.000050	<0.0010	2.23	0.0236	<0.0000050	0.000664	<0.00050	<0.050	0.620	<0.000050	5.09	<0.000010
Davidson Creek	DC-05	Duplicate	VA25C7563-006	2025-10-14	0.00037	0.042	<0.000050	<0.0010	2.13	0.0207	<0.0000050	0.000678	<0.00050	<0.050	0.686	0.000082	4.89	<0.000010
Davidson Creek	DC-05	Primary	VA25C8047-004	2025-10-18	0.00028	0.069	<0.000050	<0.0010	2.61	0.0355	<0.0000050	0.000791	<0.00050	<0.050	0.543	0.000053	5.48	<0.000010
Davidson Creek	DC-05	Primary	VA25C9101-010	2025-10-29	0.00034	0.043	<0.000050	<0.0010	1.79	0.0110	<0.0000050	0.000622	<0.00050	<0.050	0.568	0.000076	5.12	<0.000010
Davidson Creek	DC-05	Primary	VA25C9485-001	2025-10-31	0.00055	0.095	0.000144	<0.0010	1.90	0.0139	<0.0000050	0.000712	<0.00050	<0.050	0.545	0.000085	5.54	<0.000010
Davidson Creek	DC-05	Duplicate	VA25C9485-002	2025-10-31	0.00059	0.082	0.000087	<0.0010	1.92	0.0134	<0.0000050	0.000653	<0.00050	<0.050	0.540	0.000071	5.58	<0.000010
Davidson Creek	DC-05	Primary	VA25D0189-001	2025-11-09	0.00028	0.049	<0.000050	<0.0010	2.13	0.0124	<0.0000050	0.000628	<0.00050	<0.050	0.501	0.000121	5.34	<0.000010
Davidson Creek	DC-05	Primary	VA25D1021-002	2025-11-16	0.00032	0.067	<0.000050	<0.0010	1.99	0.0106	<0.0000050	0.000577	<0.00050	<0.050	0.454	0.000055	5.70	<0.000010
Davidson Creek	DC-05	Primary	VA25D2832-001	2025-12-05	0.00025	0.046	<0.000050	<0.0010	2.57	0.00988	<0.0000050	0.000580	<0.00050	<0.050	0.474	0.000071	6.11	<0.000010
Davidson Creek	DC-10	Primary	VA25A0824-006	2025-01-12	0.00022	0.032	<0.000050	<0.0010	2.45	0.00144	<0.0000050	0.000654	<0.00050	<0.050	0.531	<0.000050	6.79	<0.000010
Davidson Creek	DC-10	Primary	VA25A2647-001	2025-02-04	<0.00020	0.017	<0.000050	<0.0010	3.14	0.00135	<0.0000050	0.000798	<0.00050	<0.050	0.594	0.000070	6.31	<0.000010
Davidson Creek	DC-10	Primary	VA25A6706-004	2025-03-25	<0.00020	0.018	<0.000050	<0.0010	3.51	0.00163	<0.0000050	0.000943	<0.00050	<0.050	0.601	0.000066	6.43	<0.000010
Davidson Creek	DC-10	Duplicate	VA25A6706-005	2025-03-25	<0.00020	0.022	<0.000050	<0.0010	3.39	0.00171	<0.0000050	0.000937	<0.00050	<0.050	0.595	0.000073	6.30	<0.000010
Davidson Creek	DC-10	Primary	VA25A7611-003	2025-04-04	<0.00020	0.030	<0.000050	<0.0010	2.90	0.00166	<0.0000050	0.000819	<0.00050	<0.050	0.596	0.000075	6.00	<0.000010
Davidson Creek	DC-10	Primary	VA25B0343-009	2025-05-04	0.00057	0.076	<0.000050	<0.0010	0.957	0.00247	<0.0000050	0.000234	<0.00050	<0.050	0.714	<0.000050	4.44	<0.000010
Davidson Creek	DC-10	Primary	VA25B5984-002	2025-06-29	0.00077	0.087	0.000115	<0.0010	1.39	0.00956	<0.0000050	0.000468	<0.00050	<0.050	0.717	<0.000050	4.80	<0.000010
Davidson Creek	DC-10	Primary	VA25B6851-004	2025-07-08	0.00042	0.037	<0.000050	<0.0010	2.35	0.0131	<0.0000050	0.000695	<0.00050	<0.050	0.684	0.000059	5.48	<0.000010
Davidson Creek	DC-10	Primary	VA25C0017-004	2025-08-10	0.00034	0.044	<0.000050	<0.0010	2.47	0.00753	<0.0000050	0.000869	<0.00050	<0.050	0.704	0.000061	5.07	<0.000010
Davidson Creek	DC-10	Primary	VA25C4751-001	2025-09-15	0.00025	0.025	<0.000050	<0.0010	3.42	0.00869	<0.0000050	0.000907	<0.00050	<0.050	0.819	0.000061	5.28	<0.000010
Davidson Creek	DC-10	Primary	VA25C9101-011	2025-10-29	0.00033	0.037	<0.000050	<0.0010	1.91	0.00645	<0.0000050	0.000637	<0.00050	<0.050	0.561	<0.000050	5.15	<0.000010
Davidson Creek	DC-10	Primary	VA25D1976-008	2025-11-26	0.00029	0.042	<0.000050	<0.0010	2.38	0.00568	<0.0000050	0.000594	<0.00050	<0.050	0.500	0.000059	5.78	<0.000010
Davidson Creek	DC-10	Primary	VA25D3068-001	2025-12-08	0.00028	0.037	0.000062	<0.0010	2.55	0.00426	<0.0000050	0.000620	<0.00050	<0.050	0.505	0.000050	6.18	<0.000010
Davidson Creek	DC-15	Primary	VA25A0824-001	2025-01-12	0.00020	0.030	<0.000050	<0.0010	3.36	0.00187	<0.0000050	0.000723	<0.00050	<0.050	0.638	<0.000050	7.07	<0.000010
Davidson Creek	DC-15	Primary	VA25A2647-002	2025-02-04	<0.00020	0.018	<0.000050	<0.0010	4.16	0.00202	<0.0000050	0.000752	<0.00050	<0.050	0.701	0.000056	6.58	<0.000010
Davidson Creek	DC-15	Primary	VA25A6706-007	2025-03-25	<0.00020	0.023	<0.000050	<0.0010	3.82	0.00175	<0.0000050	0.000870	<0.00050	<0.050	0.650	<0.000050	6.50	<0.000010
Davidson Creek	DC-15	Primary	VA25A7611-004	2025-04-04	<0.00020	0.025	<0.000050	<0.0010	3.89	0.00186	<0.0000050	0.000835	<0.00050	<0.050	0.701	<0.000050	6.48	<0.000010
Davidson Creek	DC-15	Primary	VA25B0962-002	2025-05-11	0.00052	0.071	<0.000050	<0.0010	1.32	0.00237	<0.0000050	0.000325	<0.00050	<0.050	0.647	<0.000050	4.65	<0.000010
Davidson Creek	DC-15	Primary	VA25B5984-003	2025-06-29	0.00084	0.122	0.000164	<0.0010	1.78	0.00592	<0.0000050	0.000492	<0.00050	<0.050	0.761	0.000058	5.18	<0.000010
Davidson Creek	DC-15	Primary	VA25B6851-005	2025-07-08	0.00036	0.043	<0.000050	<0.0010	2.54	0.00686	<0.0000050	0.000612	<0.00050	<0.050	0.727	0.000051	5.61	<0.000010
Davidson Creek	DC-15	Primary	VA25B9679-001	2025-08-06	0.00031	0.032	<0.000050	<0.0010	2.95	0.00346	<0.0000050	0.000819	<0.00050	<0.050	0.774	<0.000050	5.79	<0.000010
Davidson Creek	DC-15	Primary	VA25C4967-001	2025-09-17	0.00028	0.034	<0.000050	<0.0010	3.64	0.00293	<0.0000050	0.000966	<0.00050	<0.050	0.979	<0.000050	5.49	<0.000010
Davidson Creek	DC-15	Primary	VA25C8358-009	2025-10-20	0.00024	0.035	<0.000050	<0.0010	3.39	0.00371	<0.0000050	0.000701	<0.00050	<0.050	0.701	<0.000050	5.84	<0.000010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals								
					Sodium, Dissolved (mg/L)	Strontium, Dissolved (mg/L)	Sulphur, Dissolved (mg/L)	Thallium, Dissolved (mg/L)	Tin, Dissolved (mg/L)	Titanium, Dissolved (mg/L)	Uranium, Dissolved (mg/L)	Vanadium, Dissolved (mg/L)	Zinc, Dissolved (mg/L)
Davidson Creek	DC-05	Primary	VA25A0824-004	2025-01-12	3.01	0.0786	0.78	<0.000010	<0.00010	0.00097	0.000200	<0.00050	<0.0010
Davidson Creek	DC-05	Duplicate	VA25A0824-005	2025-01-12	3.08	0.0842	0.78	<0.000010	<0.00010	0.00077	0.000201	<0.00050	<0.0010
Davidson Creek	DC-05	Primary	VA25A2544-005	2025-02-03	3.57	0.102	1.07	<0.000010	<0.00010	0.00059	0.000282	<0.00050	0.0053
Davidson Creek	DC-05	Primary	VA25A6706-002	2025-03-25	3.74	0.111	1.17	<0.000010	<0.00010	0.00088	0.000426	<0.00050	<0.0010
Davidson Creek	DC-05	Primary	VA25A7611-001	2025-04-04	3.32	0.103	0.63	<0.000010	<0.00010	0.00146	0.000253	<0.00050	<0.0010
Davidson Creek	DC-05	Duplicate	VA25A7611-002	2025-04-04	3.25	0.0980	0.82	<0.000010	<0.00010	0.00160	0.000246	<0.00050	<0.0010
Davidson Creek	DC-05	Primary	VA25B0343-008	2025-05-04	1.92	0.0372	<0.50	<0.000010	<0.00010	0.00243	0.000105	<0.00050	0.0010
Davidson Creek	DC-05	Primary	VA25B0962-003	2025-05-11	1.86	0.0368	<0.50	<0.000010	<0.00010	0.00259	0.000133	<0.00050	<0.0010
Davidson Creek	DC-05	Primary	VA25B1482-007	2025-05-14	1.93	0.0357	<0.50	<0.000010	<0.00010	0.00223	0.000141	<0.00050	<0.0010
Davidson Creek	DC-05	Primary	VA25B2274-005	2025-05-25	1.86	0.0363	<0.50	<0.000010	<0.00010	0.00223	0.000145	<0.00050	0.0011
Davidson Creek	DC-05	Primary	VA25B2953-004	2025-06-01	1.84	0.0363	<0.50	<0.000010	<0.00010	0.00182	0.000195	<0.00050	<0.0010
Davidson Creek	DC-05	Primary	VA25B5984-001	2025-06-29	2.23	0.0487	<0.50	<0.000010	<0.00010	0.00397	0.000141	0.00055	0.0025
Davidson Creek	DC-05	Primary	VA25B6851-002	2025-07-08	2.79	0.0826	1.11	<0.000010	<0.00010	0.00237	0.000202	<0.00050	0.0013
Davidson Creek	DC-05	Duplicate	VA25B6851-003	2025-07-08	2.83	0.0836	0.81	<0.000010	<0.00010	0.00188	0.000203	<0.00050	0.0016
Davidson Creek	DC-05	Primary	VA25C0003-001	2025-08-10	3.47	0.0902	1.35	<0.000010	<0.00010	0.00189	0.000288	0.00062	0.0013
Davidson Creek	DC-05	Primary	VA25C5489-003	2025-09-23	3.16	0.0899	1.00	<0.000010	<0.00010	<0.00030	0.000126	<0.00050	0.0013
Davidson Creek	DC-05	Primary	VA25C7355-004	2025-10-07	2.91	0.0722	1.35	<0.000010	<0.00010	0.00181	0.000180	<0.00050	0.0011
Davidson Creek	DC-05	Primary	VA25C7563-005	2025-10-14	3.01	0.0806	1.37	<0.000010	<0.00010	0.00040	0.000172	<0.00050	0.0012
Davidson Creek	DC-05	Duplicate	VA25C7563-006	2025-10-14	2.93	0.0754	1.44	<0.000010	<0.00010	0.00036	0.000204	<0.00050	<0.0010
Davidson Creek	DC-05	Primary	VA25C8047-004	2025-10-18	3.17	0.0931	1.55	<0.000010	<0.00010	0.00065	0.000202	<0.00050	0.0014
Davidson Creek	DC-05	Primary	VA25C9101-010	2025-10-29	2.69	0.0665	1.62	<0.000010	<0.00010	0.00086	0.000224	<0.00050	0.0020
Davidson Creek	DC-05	Primary	VA25C9485-001	2025-10-31	2.84	0.0792	1.64	<0.000010	<0.00010	0.00349	0.000191	<0.00050	0.0038
Davidson Creek	DC-05	Duplicate	VA25C9485-002	2025-10-31	2.79	0.0760	1.84	<0.000010	<0.00010	0.00283	0.000191	<0.00050	0.0040
Davidson Creek	DC-05	Primary	VA25D0189-001	2025-11-09	2.71	0.0736	1.68	<0.000010	<0.00010	0.00100	0.000242	<0.00050	0.0027
Davidson Creek	DC-05	Primary	VA25D1021-002	2025-11-16	2.65	0.0749	1.46	<0.000010	<0.00010	0.00144	0.000163	<0.00050	0.0030
Davidson Creek	DC-05	Primary	VA25D2832-001	2025-12-05	3.09	0.0780	2.06	<0.000010	<0.00010	0.00092	0.000172	<0.00050	0.0026
Davidson Creek	DC-10	Primary	VA25A0824-006	2025-01-12	2.91	0.0803	0.86	<0.000010	<0.00010	0.00095	0.000176	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25A2647-001	2025-02-04	3.60	0.104	1.14	<0.000010	<0.00010	0.00042	0.000261	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25A6706-004	2025-03-25	3.82	0.112	1.33	<0.000010	<0.00010	0.00084	0.000394	<0.00050	<0.0010
Davidson Creek	DC-10	Duplicate	VA25A6706-005	2025-03-25	3.79	0.110	1.12	<0.000010	<0.00010	0.00110	0.000392	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25A7611-003	2025-04-04	3.37	0.0976	0.83	<0.000010	<0.00010	0.00124	0.000252	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25B0343-009	2025-05-04	1.96	0.0389	0.51	<0.000010	<0.00010	0.00211	0.000105	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25B5984-002	2025-06-29	2.22	0.0516	0.56	<0.000010	<0.00010	0.00419	0.000141	0.00052	0.0020
Davidson Creek	DC-10	Primary	VA25B6851-004	2025-07-08	2.83	0.0856	0.94	<0.000010	<0.00010	0.00110	0.000176	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25C0017-004	2025-08-10	3.38	0.0886	1.23	<0.000010	<0.00010	0.00060	0.000199	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25C4751-001	2025-09-15	3.75	0.115	3.62	<0.000010	<0.00010	<0.00030	0.000218	<0.00050	<0.0010
Davidson Creek	DC-10	Primary	VA25C9101-011	2025-10-29	2.68	0.0708	1.65	<0.000010	<0.00010	0.00071	0.000181	<0.00050	0.0011
Davidson Creek	DC-10	Primary	VA25D1976-008	2025-11-26	3.07	0.0872	2.15	<0.000010	<0.00010	0.00083	0.000175	<0.00050	0.0012
Davidson Creek	DC-10	Primary	VA25D3068-001	2025-12-08	3.09	0.0887	2.69	<0.000010	<0.00010	0.00060	0.000176	<0.00050	0.0014
Davidson Creek	DC-15	Primary	VA25A0824-001	2025-01-12	3.52	0.0985	0.81	<0.000010	<0.00010	0.00077	0.000189	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25A2647-002	2025-02-04	4.04	0.117	1.11	<0.000010	<0.00010	<0.00030	0.000250	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25A6706-007	2025-03-25	3.84	0.113	0.91	<0.000010	<0.00010	0.00083	0.000288	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25A7611-004	2025-04-04	3.79	0.110	0.64	<0.000010	<0.00010	0.00074	0.000257	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25B0962-002	2025-05-11	2.12	0.0461	<0.50	<0.000010	<0.00010	0.00222	0.000121	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25B5984-003	2025-06-29	2.40	0.0575	0.51	<0.000010	<0.00010	0.00646	0.000135	0.00062	0.0018
Davidson Creek	DC-15	Primary	VA25B6851-005	2025-07-08	2.95	0.0864	0.79	<0.000010	<0.00010	0.00083	0.000132	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25B9679-001	2025-08-06	3.23	0.0971	1.12	<0.000010	<0.00010	<0.00030	0.000171	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25C4967-001	2025-09-17	3.76	0.119	2.57	<0.000010	<0.00010	<0.00030	0.000178	<0.00050	<0.0010
Davidson Creek	DC-15	Primary	VA25C8358-009	2025-10-20	3.43	0.0985	1.25	<0.000010	<0.00010	0.00074	0.000165	<0.00050	<0.0010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Physical Tests									Anions/Nutrients				
					Acidity (as $CaCO_3$) (mg/L)	Alkalinity, Total (as $CaCO_3$) (mg/L)	Conductivity (µS/cm)	Hardness, Dissolved (as $CaCO_3$) (mg/L)	Hardness, From Total Ca/Mg (as $CaCO_3$) (mg/L)	pH (pH Units)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Ammonia, Total (as N) (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as N) (mg/L)
Davidson Creek	DC-15	Primary	VA25C9695-001	2025-11-03	2.3	49.4	104	49.6	44.5	7.82	86	<3.0	3.91	<0.0050	<0.050	0.77	0.036	0.0504
Davidson Creek	DC-15	Primary	VA25D3068-002	2025-12-08	2.2	56.1	119	54.3	54.7	7.92	84	<3.0	0.99	<0.0050	<0.050	<0.50	0.042	0.0879
Davidson Creek	DC-15	Duplicate	VA25D3068-003	2025-12-08	2.1	57.0	119	54.8	51.7	7.93	82	<3.0	0.97	0.0075	<0.050	0.52	0.043	0.0880
Davidson Creek	DC-20	Primary	VA25A0964-001	2025-01-13	2.5	57.4	122	48.8	49.5	7.82	74	<3.0	1.98	0.0069	<0.050	0.84	0.046	0.0832
Davidson Creek	DC-20	Primary	VA25A2647-003	2025-02-04	<2.0	67.9	138	59.9	60.6	7.76	90	<3.0	1.22	0.0096	<0.050	0.68	0.044	0.0720
Davidson Creek	DC-20	Primary	VA25A4955-001	2025-03-04	2.2	65.1	134	60.6	63.5	7.93	75	<3.0	3.47	0.0101	<0.050	0.57	0.048	0.0634
Davidson Creek	DC-20	Primary	VA25A7310-003	2025-04-01	<2.0	62.4	128	59.3	51.6	7.91	94	<3.0	4.01	0.0082	<0.050	0.62	0.049	0.0587
Davidson Creek	DC-20	Primary	VA25B0343-010	2025-05-04	2.7	23.9	54.4	24.2	24.6	7.53	60	<3.0	3.97	0.0058	<0.050	0.92	0.031	0.108
Davidson Creek	DC-20	Primary	VA25B0962-001	2025-05-11	2.3	26.3	58.1	24.9	25.7	7.53	52	<3.0	3.60	<0.0050	<0.050	0.80	0.035	0.0977
Davidson Creek	DC-20	Primary	VA25B1482-008	2025-05-14	<2.0	26.6	57.4	24.4	23.8	7.51	55	<3.0	3.08	<0.0050	<0.050	0.81	0.039	0.0482
Davidson Creek	DC-20	Primary	VA25B2274-006	2025-05-25	2.5	28.2	62.1	25.7	26.7	7.67	50	<3.0	2.09	0.0050	<0.050	0.70	0.036	<0.0050
Davidson Creek	DC-20	Primary	VA25B2953-005	2025-06-01	2.1	28.0	59.0	26.0	27.0	7.63	68	<3.0	6.42	0.0050	<0.050	0.70	0.034	<0.0050
Davidson Creek	DC-20	Duplicate	VA25B2953-006	2025-06-01	2.1	28.0	63.2	26.1	26.9	7.64	50	<3.0	6.38	<0.0050	<0.050	0.70	0.034	<0.0050
Davidson Creek	DC-20	Primary	VA25B5722-003	2025-06-23	2.0	39.9	78.9	35.6	33.7	7.81	74	<3.0	8.16	0.0058	<0.050	<0.50	0.035	0.0077
Davidson Creek	DC-20	Primary	VA25B6834-003	2025-07-07	2.1	43.2	88.7	37.4	38.0	7.86	72	<3.0	0.79	0.0063	<0.050	0.89	0.039	0.0119
Davidson Creek	DC-20	Primary	VA25C0017-001	2025-08-10	<2.0	56.3	118	51.5	49.8	7.92	88	3.5	4.26	0.0083	<0.050	0.87	0.046	<0.0050
Davidson Creek	DC-20	Duplicate	VA25C0017-002	2025-08-10	<2.0	56.6	119	53.4	49.9	7.94	85	8.3	4.25	0.0085	<0.050	0.86	0.046	<0.0050
Davidson Creek	DC-20	Primary	VA25C4967-002	2025-09-17	<2.0	62.2	135	61.8	61.2	7.94	93	<3.0	1.25	0.0058	<0.050	1.24	0.039	<0.0050
Davidson Creek	DC-20	Primary	VA25C6908-003	2025-10-08	<2.0	61.5	120	54.4	52.8	7.83	89	<3.0	1.98	<0.0050	<0.050	1.00	0.045	<0.0050
Davidson Creek	DC-20	Primary	VA25C7563-003	2025-10-14	<2.0	58.4	118	52.5	53.0	7.88	85	<3.0	1.44	<0.0050	<0.050	0.98	0.040	<0.0050
Davidson Creek	DC-20	Primary	VA25C8358-002	2025-10-20	<2.0	57.8	118	54.8	55.0	7.85	72	<3.0	0.98	<0.0050	<0.050	0.89	0.044	<0.0050
Davidson Creek	DC-20	Primary	VA25C9101-002	2025-10-29	<2.0	55.6	113	48.0	49.0	7.97	89	<3.0	3.32	<0.0050	<0.050	0.92	0.041	<0.0050
Davidson Creek	DC-20	Primary	VA25C9485-003	2025-10-31	2.2	52.8	107	49.3	53.4	7.69	84	<3.0	2.79	<0.0050	<0.050	0.87	0.043	<0.0050
Davidson Creek	DC-20	Primary	VA25D1976-004	2025-11-26	2.7	64.0	125	60.9	59.2	7.82	95	<3.0	1.76	<0.0050	<0.050	0.68	0.043	0.0209
Davidson Creek	DC-20	Primary	VA25D3068-004	2025-12-08	2.8	58.7	121	55.4	53.0	7.90	85	<3.0	1.65	<0.0050	<0.050	0.53	0.041	0.0445
Creek 661	661-01	Primary	VA25A1481-001	2025-01-20	2.9	16.1	36.4	14.1	14.1	7.23	33	<3.0	0.27	<0.0050	<0.050	<0.50	0.025	0.0504
Creek 661	661-01	Primary	VA25A8806-004	2025-04-15	2.3	12.3	29.2	11.0	11.0	7.27	47	<3.0	0.36	0.0056	<0.050	<0.50	0.025	<0.0050
Creek 661	661-01	Primary	VA25B0343-004	2025-05-04	3.0	5.6	18.8	7.83	8.04	6.75	46	<3.0	1.20	0.0091	<0.050	<0.50	0.023	<0.0050
Creek 661	661-01	Primary	VA25B0962-005	2025-05-11	3.6	5.3	17.7	7.09	7.18	6.73	35	<3.0	0.48	<0.0050	<0.050	<0.50	0.023	<0.0050
Creek 661	661-01	Primary	VA25B1482-002	2025-05-14	2.4	5.9	17.0	6.94	6.92	6.70	41	<3.0	0.43	<0.0050	<0.050	<0.50	0.027	<0.0050
Creek 661	661-01	Duplicate	VA25B1482-003	2025-05-14	2.3	5.8	17.4	6.99	7.29	6.70	45	<3.0	0.40	<0.0050	<0.050	<0.50	0.026	<0.0050
Creek 661	661-01	Primary	VA25B2274-001	2025-05-25	3.4	6.3	20.0	7.27	6.99	6.94	40	<3.0	0.27	<0.0050	<0.050	<0.50	0.024	<0.0050
Creek 661	661-01	Primary	VA25B2953-001	2025-06-01	3.1	6.7	20.8	7.93	7.87	6.97	44	<3.0	0.33	<0.0050	<0.050	<0.50	0.022	<0.0050
Creek 661	661-01	Primary	VA25B5722-006	2025-06-23	2.3	10.8	25.0	9.87	9.96	7.23	37	<3.0	0.28	<0.0050	<0.050	<0.50	0.024	<0.0050
Creek 661	661-01	Primary	VA25B7427-010	2025-07-14	2.0	13.5	28.8	11.7	11.4	7.33	36	<3.0	0.31	0.0052	<0.050	<0.50	0.024	<0.0050
Creek 661	661-01	Primary	VA25C0216-002	2025-08-11	2.0	16.1	36.3	13.6	14.2	7.44	39	<3.0	0.65	<0.0050	<0.050	<0.50	0.024	0.0467
Creek 661	661-01	Primary	VA25C5617-001	2025-09-22	<2.0	16.0	34.7	13.7	13.3	7.43	33	<3.0	0.32	0.0074	<0.050	<0.50	0.030	0.0347
Creek 661	661-01	Primary	VA25C5489-005	2025-09-24	<2.0	16.5	34.2	13.4	13.8	7.38	30	<3.0	0.19	<0.0050	<0.050	<0.50	0.023	0.0470
Creek 661	661-01	Duplicate	VA25C5489-006	2025-09-24	<2.0	16.5	34.1	13.8	13.7	7.41	30	<3.0	0.19	<0.0050	<0.050	<0.50	0.023	0.0462
Creek 661	661-01	Primary	VA25C6039-001	2025-09-30	2.5	16.7	36.0	14.1	13.9	7.23	33	8.2	0.61	<0.0050	<0.050	<0.50	0.026	0.0139
Creek 661	661-01	Duplicate	VA25C6039-002	2025-09-30	2.2	16.7	36.5	13.7	14.1	7.24	32	<3.0	0.24	<0.0050	<0.050	<0.50	0.026	0.0240
Creek 661	661-01	Primary	VA25C7355-006	2025-10-07	2.1	16.9	36.8	13.8	14.3	7.36	40	<3.0	0.31	<0.0050	<0.050	<0.50	0.030	0.0220
Creek 661	661-01	Primary	VA25C7416-001	2025-10-13	2.1	16.7	36.2	14.3	14.0	7.27	39	<3.0	0.26	<0.0050	<0.050	<0.50	0.022	0.0473
Creek 661	661-01	Primary	VA25C8047-003	2025-10-18	2.1	16.2	34.6	14.2	12.8	7.28	31	6.7	2.83	<0.0050	<0.050	<0.50	0.025	0.0352
Creek 661	661-01	Primary	VA25C8919-001	2025-10-26	2.3	17.5	38.7	14.6	14.8	7.38	37	<3.0	0.13	0.0051	<0.050	<0.50	0.028	0.0068
Creek 661	661-01	Primary	VA25C9101-009	2025-10-29	2.0	17.7	37.2	14.2	14.9	7.50	36	<3.0	0.42	<0.0050	<0.050	<0.50	0.024	0.118
Creek 661	661-01	Primary	VA25D0570-002	2025-11-12	<2.0	17.9	36.9	15.4	15.0	7.44	31	<3.0	0.32	<0.0050	<0.050	<0.50	0.026	0.0197
Creek 661	661-01	Primary	VA25D3435-001	2025-12-12	2.9	16.4	34.3	13.3	13.3	7.17	37	<3.0	0.38	<0.0050	<0.050	<0.50	0.027	0.0290
Creek 661	661-01	Duplicate	VA25D3435-002	2025-12-12	2.6	15.7	34.3	13.1	13.3	7.24	35	<3.0	0.38	<0.0050	<0.050	<0.50	0.027	0.0294

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Anions/Nutrients						Organic/Inorganic Carbon		Cyanides			Total Metals		
					Nitrite (as N) (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrogen, Total (mg/L)	Ortho-Phosphorus, Dissolved (as P) (mg/L)	Total Phosphorus (as P) (mg/L)	Sulphate (as SO_4) (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Cyanide, Total (mg/L)	Cyanide, Weak Acid Dissociable (mg/L)	Thiocyanate (mg/L)	Aluminum, Total (mg/L)	Antimony, Total (mg/L)	Arsenic, Total (mg/L)
Davidson Creek	DC-15	Primary	VA25C9695-001	2025-11-03	<0.0010	0.103	4.13	0.0015	0.0087	4.43	0.192	<0.0010	<0.0050	<0.0050	<0.50	0.225	<0.00010	0.00075
Davidson Creek	DC-15	Primary	VA25D3068-002	2025-12-08	<0.0010	0.066	2.61	0.0016	0.0081	4.83	0.161	-	<0.0050	<0.0050	<0.50	0.124	<0.00010	0.00068
Davidson Creek	DC-15	Duplicate	VA25D3068-003	2025-12-08	<0.0010	0.084	2.57	0.0035	0.0072	4.86	0.155	-	<0.0050	<0.0050	<0.50	0.0444	<0.00010	0.00058
Davidson Creek	DC-20	Primary	VA25A0964-001	2025-01-13	<0.0010	0.157	3.76	0.0012	0.0101	3.01	-	-	<0.0050	<0.0050	<0.50	0.0899	<0.00010	0.00059
Davidson Creek	DC-20	Primary	VA25A2647-003	2025-02-04	<0.0010	0.275	2.38	0.0028	0.0110	3.01	-	-	<0.0050	<0.0050	<0.50	0.0359	<0.00010	0.00046
Davidson Creek	DC-20	Primary	VA25A4955-001	2025-03-04	<0.0010	0.132	3.16	<0.0010	0.0130	3.06	-	-	<0.0050	<0.0050	<0.50	0.176	<0.00010	0.00075
Davidson Creek	DC-20	Primary	VA25A7310-003	2025-04-01	<0.0010	0.314	3.68	0.0016	0.0238	2.94	-	-	<0.0050	<0.0050	<0.50	0.295	<0.00010	0.00090
Davidson Creek	DC-20	Primary	VA25B0343-010	2025-05-04	<0.0010	0.259	10.8	0.0041	0.0192	2.21	-	-	<0.0050	<0.0050	<0.50	0.318	<0.00010	0.00059
Davidson Creek	DC-20	Primary	VA25B0962-001	2025-05-11	<0.0010	0.208	9.39	0.0022	0.0126	1.99	-	-	<0.0050	<0.0050	<0.50	0.214	<0.00010	0.00091
Davidson Creek	DC-20	Primary	VA25B1482-008	2025-05-14	<0.0010	0.219	9.13	0.0012	0.0120	2.12	-	-	<0.0050	<0.0050	<0.50	0.213	<0.00010	0.00066
Davidson Creek	DC-20	Primary	VA25B2274-006	2025-05-25	<0.0010	0.234	11.2	<0.0010	0.0114	1.96	-	-	<0.0050	<0.0050	<0.50	0.193	<0.00010	0.00062
Davidson Creek	DC-20	Primary	VA25B2953-005	2025-06-01	<0.0010	0.218	7.85	0.0014	0.0147	1.65	-	-	<0.0050	<0.0050	<0.50	0.441	0.00012	0.00117
Davidson Creek	DC-20	Duplicate	VA25B2953-006	2025-06-01	<0.0010	0.215	7.92	0.0017	0.0151	1.64	-	-	<0.0050	<0.0050	<0.50	0.431	<0.00010	0.00112
Davidson Creek	DC-20	Primary	VA25B5722-003	2025-06-23	<0.0010	0.170	5.84	0.0019	0.0182	2.20	-	-	<0.0050	<0.0050	<0.50	0.461	<0.00010	0.00161
Davidson Creek	DC-20	Primary	VA25B6834-003	2025-07-07	0.0011	0.180	5.92	0.0022	0.0129	1.88	-	-	<0.0050	<0.0050	<0.50	0.107	<0.00010	0.00101
Davidson Creek	DC-20	Primary	VA25C0017-001	2025-08-10	<0.0010	0.176	4.88	0.0048	0.0151	2.93	-	-	<0.0050	<0.0050	<0.50	0.0627	<0.00010	0.00126
Davidson Creek	DC-20	Duplicate	VA25C0017-002	2025-08-10	<0.0010	0.203	4.63	0.0047	0.0210	2.86	-	-	<0.0050	<0.0050	<0.50	0.286	<0.00010	0.00151
Davidson Creek	DC-20	Primary	VA25C4967-002	2025-09-17	<0.0010	0.139	4.76	0.0059	0.0154	5.21	0.135	-	<0.0050	<0.0050	<0.50	0.0220	<0.00010	0.00106
Davidson Creek	DC-20	Primary	VA25C6908-003	2025-10-08	<0.0010	0.123	4.41	0.0050	0.0141	2.80	0.129	-	<0.0050	<0.0050	<0.50	0.0540	<0.00010	0.00092
Davidson Creek	DC-20	Primary	VA25C7563-003	2025-10-14	<0.0010	0.197	3.81	0.0041	0.0157	3.05	0.127	-	<0.0050	<0.0050	<0.50	0.0525	<0.00010	0.00079
Davidson Creek	DC-20	Primary	VA25C8358-002	2025-10-20	<0.0010	0.106	3.46	0.0049	0.0106	3.54	0.110	-	<0.0050	<0.0050	<0.50	0.0193	<0.00010	0.00068
Davidson Creek	DC-20	Primary	VA25C9101-002	2025-10-29	<0.0010	0.115	4.24	0.0042	0.0131	3.80	0.120	-	<0.0050	<0.0050	<0.50	0.137	<0.00010	0.00075
Davidson Creek	DC-20	Primary	VA25C9485-003	2025-10-31	<0.0010	0.111	4.58	0.0032	0.0116	3.97	0.113	-	<0.0050	<0.0050	<0.50	0.0932	<0.00010	0.00072
Davidson Creek	DC-20	Primary	VA25D1976-004	2025-11-26	<0.0010	0.114	3.47	0.0054	0.0125	4.58	0.125	-	<0.0050	<0.0050	<0.50	0.0335	<0.00010	0.00065
Davidson Creek	DC-20	Primary	VA25D3068-004	2025-12-08	<0.0010	0.103	2.88	0.0041	0.0098	4.55	0.121	-	<0.0050	<0.0050	<0.50	0.0211	<0.00010	0.00056
Creek 661	661-01	Primary	VA25A1481-001	2025-01-20	<0.0010	0.143	5.60	0.0013	0.0052	0.46	-	-	<0.0050	<0.0050	<0.50	0.0535	<0.00010	0.00074
Creek 661	661-01	Primary	VA25A8806-004	2025-04-15	<0.0010	0.219	8.13	<0.0010	0.0092	0.31	-	-	<0.0050	<0.0050	<0.50	0.0996	<0.00010	0.00126
Creek 661	661-01	Primary	VA25B0343-004	2025-05-04	<0.0010	0.402	15.8	0.0025	0.0228	0.32	-	-	<0.0050	<0.0050	<0.50	0.286	<0.00010	0.00080
Creek 661	661-01	Primary	VA25B0962-005	2025-05-11	<0.0010	0.330	13.5	0.0013	0.0121	<0.30	-	-	<0.0050	<0.0050	<0.50	0.224	<0.00010	0.00052
Creek 661	661-01	Primary	VA25B1482-002	2025-05-14	<0.0010	0.304	13.5	<0.0010	0.0112	0.32	-	-	<0.0050	<0.0050	<0.50	0.203	<0.00010	0.00052
Creek 661	661-01	Duplicate	VA25B1482-003	2025-05-14	<0.0010	0.316	14.2	<0.0010	0.0126	0.31	-	-	<0.0050	<0.0050	<0.50	0.204	<0.00010	0.00054
Creek 661	661-01	Primary	VA25B2274-001	2025-05-25	<0.0010	0.292	14.0	<0.0010	0.0096	0.33	-	-	<0.0050	<0.0050	<0.50	0.200	<0.00010	0.00052
Creek 661	661-01	Primary	VA25B2953-001	2025-06-01	<0.0010	0.281	11.9	<0.0010	0.0082	0.33	-	-	<0.0050	<0.0050	<0.50	0.172	<0.00010	0.00057
Creek 661	661-01	Primary	VA25B5722-006	2025-06-23	<0.0010	0.199	8.74	<0.0010	0.0056	<0.30	-	-	<0.0050	<0.0050	<0.50	0.0803	<0.00010	0.00061
Creek 661	661-01	Primary	VA25B7427-010	2025-07-14	<0.0010	0.198	6.97	<0.0010	0.0059	<0.30	-	-	<0.0050	<0.0050	<0.50	0.0475	<0.00010	0.00050
Creek 661	661-01	Primary	VA25C0216-002	2025-08-11	<0.0010	0.141	5.08	<0.0010	0.0027	<0.30	-	-	<0.0050	<0.0050	<0.50	0.0436	<0.00010	0.00045
Creek 661	661-01	Primary	VA25C5617-001	2025-09-22	<0.0010	0.149	4.10	<0.0010	0.0052	0.43	0.160	-	<0.0050	<0.0050	<0.50	0.0398	<0.00010	0.00037
Creek 661	661-01	Primary	VA25C5489-005	2025-09-24	<0.0010	0.150	4.26	<0.0010	0.0096	0.39	0.235	-	<0.0050	<0.0050	<0.50	0.120	<0.00010	0.00060
Creek 661	661-01	Duplicate	VA25C5489-006	2025-09-24	<0.0010	0.107	4.13	<0.0010	0.0024	0.38	0.149	-	<0.0050	<0.0050	<0.50	0.0521	<0.00010	0.00038
Creek 661	661-01	Primary	VA25C6039-001	2025-09-30	<0.0010	0.104	3.64	<0.0010	0.0035	0.63	0.119	-	<0.0050	<0.0050	<0.50	0.0366	<0.00010	0.00039
Creek 661	661-01	Duplicate	VA25C6039-002	2025-09-30	<0.0010	0.147	3.92	<0.0010	0.0072	0.66	0.180	-	<0.0050	<0.0050	<0.50	0.0863	<0.00010	0.00055
Creek 661	661-01	Primary	VA25C7355-006	2025-10-07	<0.0010	0.087	3.59	<0.0010	0.0036	0.56	0.111	-	<0.0050	<0.0050	<0.50	0.0334	<0.00010	0.00034
Creek 661	661-01	Primary	VA25C7416-001	2025-10-13	<0.0010	0.141	3.90	<0.0010	0.0040	0.54	0.184	-	<0.0050	<0.0050	<0.50	0.0439	<0.00010	0.00034
Creek 661	661-01	Primary	VA25C8047-003	2025-10-18	<0.0010	0.233	3.85	<0.0010	0.0257	0.52	0.284	-	<0.0050	<0.0050	<0.50	0.0766	<0.00010	0.00047
Creek 661	661-01	Primary	VA25C8919-001	2025-10-26	<0.0010	0.093	3.19	<0.0010	0.0030	0.66	0.094	-	<0.0050	<0.0050	<0.50	0.0302	<0.00010	0.00034
Creek 661	661-01	Primary	VA25C9101-009	2025-10-29	<0.0010	0.106	3.37	<0.0010	0.0063	0.92	0.110	-	<0.0050	<0.0050	<0.50	0.0760	<0.00010	0.00048
Creek 661	661-01	Primary	VA25D0570-002	2025-11-12	<0.0010	0.080	2.83	<0.0010	0.0037	0.56	0.102	-	<0.0050	<0.0050	<0.50	0.0286	<0.00010	0.00032
Creek 661	661-01	Primary	VA25D3435-001	2025-12-12	<0.0010	0.144	4.93	<0.0010	0.0044	0.45	0.181	-	<0.0050	<0.0050	<0.50	0.0438	<0.00010	0.00047
Creek 661	661-01	Duplicate	VA25D3435-002	2025-12-12	<0.0010	0.143	4.86	<0.0010	0.0045	0.45	0.176	-	<0.0050	<0.0050	<0.50	0.0419	<0.00010	0.00046

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals												
					Barium, Total (mg/L)	Beryllium, Total (mg/L)	Bismuth, Total (mg/L)	Boron, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Lithium, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
Davidson Creek	DC-15	Primary	VA25C9695-001	2025-11-03	0.00950	<0.000020	<0.000050	<0.010	<0.0000050	12.7	<0.00050	0.00078	<0.00050	0.182	0.000156	<0.0010	3.10	0.00792
Davidson Creek	DC-15	Primary	VA25D3068-002	2025-12-08	0.00989	<0.000020	<0.000050	<0.010	<0.0000050	16.1	<0.00050	0.00104	<0.00050	0.147	0.000081	<0.0010	3.53	0.0154
Davidson Creek	DC-15	Duplicate	VA25D3068-003	2025-12-08	0.00895	<0.000020	<0.000050	<0.010	<0.0000050	14.9	<0.00050	0.00103	<0.00050	0.062	<0.000050	<0.0010	3.52	0.00519
Davidson Creek	DC-20	Primary	VA25A0964-001	2025-01-13	0.00974	<0.000020	<0.000050	<0.010	<0.0000050	14.0	<0.00050	<0.00010	<0.00050	0.310	<0.000050	<0.0010	3.54	0.0329
Davidson Creek	DC-20	Primary	VA25A2647-003	2025-02-04	0.0100	<0.000020	<0.000050	<0.010	<0.0000050	17.7	<0.00050	<0.00010	<0.00050	0.268	<0.000050	<0.0010	3.98	0.0289
Davidson Creek	DC-20	Primary	VA25A4955-001	2025-03-04	0.0120	<0.000020	<0.000050	<0.010	0.0000072	18.4	<0.00050	<0.00010	<0.00050	0.416	0.000150	<0.0010	4.27	0.0383
Davidson Creek	DC-20	Primary	VA25A7310-003	2025-04-01	0.0120	<0.000020	<0.000050	<0.010	0.0000111	14.6	0.00218	0.00016	0.00062	0.555	0.000188	<0.0010	3.68	0.0521
Davidson Creek	DC-20	Primary	VA25B0343-010	2025-05-04	0.00806	0.000022	<0.000050	<0.010	<0.0000050	7.14	<0.00050	0.00011	0.00078	0.271	0.000105	<0.0010	1.64	0.0172
Davidson Creek	DC-20	Primary	VA25B0962-001	2025-05-11	0.00732	0.000021	<0.000050	<0.010	0.0000066	7.51	<0.00050	0.00011	0.00067	0.237	0.000114	<0.0010	1.68	0.0151
Davidson Creek	DC-20	Primary	VA25B1482-008	2025-05-14	0.00734	0.000022	<0.000050	<0.010	<0.0000050	6.96	<0.00050	<0.00010	0.00070	0.216	0.000087	<0.0010	1.57	0.0126
Davidson Creek	DC-20	Primary	VA25B2274-006	2025-05-25	0.00745	<0.000020	<0.000050	<0.010	<0.0000050	7.81	<0.00050	<0.00010	0.00065	0.219	0.000072	<0.0010	1.76	0.0127
Davidson Creek	DC-20	Primary	VA25B2953-005	2025-06-01	0.00863	0.000029	<0.000050	<0.010	0.0000145	8.14	<0.00050	0.00013	0.00093	0.383	0.000369	<0.0010	1.62	0.0185
Davidson Creek	DC-20	Duplicate	VA25B2953-006	2025-06-01	0.00840	0.000029	<0.000050	<0.010	0.0000110	8.12	<0.00050	0.00013	0.00093	0.393	0.000354	<0.0010	1.62	0.0183
Davidson Creek	DC-20	Primary	VA25B5722-003	2025-06-23	0.0120	0.000028	<0.000050	<0.010	0.0000118	9.87	<0.00050	0.00016	0.00084	0.529	0.000406	<0.0010	2.19	0.0302
Davidson Creek	DC-20	Primary	VA25B6834-003	2025-07-07	0.00927	<0.000020	<0.000050	<0.010	0.0000071	11.1	<0.00050	0.00010	0.00051	0.357	0.000065	<0.0010	2.49	0.0224
Davidson Creek	DC-20	Primary	VA25C0017-001	2025-08-10	0.0107	<0.000020	<0.000050	<0.010	0.0000061	14.4	<0.00050	0.00053	<0.00050	0.553	<0.000050	<0.0010	3.35	0.0307
Davidson Creek	DC-20	Duplicate	VA25C0017-002	2025-08-10	0.0136	<0.000020	<0.000050	<0.010	0.0000086	14.4	<0.00050	0.00067	0.00061	0.880	0.000182	<0.0010	3.38	0.0757
Davidson Creek	DC-20	Primary	VA25C4967-002	2025-09-17	0.0115	<0.000020	<0.000050	<0.010	0.0000062	17.7	<0.00050	0.00127	<0.00050	0.599	<0.000050	<0.0010	4.12	0.0224
Davidson Creek	DC-20	Primary	VA25C6908-003	2025-10-08	0.00962	<0.000020	<0.000050	<0.010	<0.0000050	14.9	<0.00050	0.00047	<0.00050	0.569	0.000052	<0.0010	3.80	0.0326
Davidson Creek	DC-20	Primary	VA25C7563-003	2025-10-14	0.00930	<0.000020	<0.000050	<0.010	<0.0000050	15.1	<0.00050	0.00056	<0.00050	0.566	<0.000050	<0.0010	3.71	0.0706
Davidson Creek	DC-20	Primary	VA25C8358-002	2025-10-20	0.00927	<0.000020	<0.000050	<0.010	<0.0000050	15.4	<0.00050	0.00054	<0.00050	0.466	<0.000050	<0.0010	4.03	0.0379
Davidson Creek	DC-20	Primary	VA25C9101-002	2025-10-29	0.00987	<0.000020	<0.000050	<0.010	0.0000064	14.1	<0.00050	0.00070	<0.00050	0.509	0.000102	<0.0010	3.34	0.0451
Davidson Creek	DC-20	Primary	VA25C9485-003	2025-10-31	0.00925	<0.000020	<0.000050	<0.010	0.0000069	15.6	<0.00050	0.00069	<0.00050	0.473	0.000059	<0.0010	3.52	0.0403
Davidson Creek	DC-20	Primary	VA25D1976-004	2025-11-26	0.00963	<0.000020	<0.000050	<0.010	0.0000063	16.8	<0.00050	0.00087	<0.00050	0.551	<0.000050	<0.0010	4.18	0.0532
Davidson Creek	DC-20	Primary	VA25D3068-004	2025-12-08	0.00881	<0.000020	<0.000050	<0.010	<0.0000050	15.0	<0.00050	0.00096	<0.00050	0.388	<0.000050	<0.0010	3.77	0.0487
Creek 661	661-01	Primary	VA25A1481-001	2025-01-20	0.00241	<0.000020	<0.000050	<0.010	<0.0000050	3.93	<0.00050	<0.00010	<0.00050	0.206	<0.000050	<0.0010	1.05	0.0160
Creek 661	661-01	Primary	VA25A8806-004	2025-04-15	0.00325	<0.000020	<0.000050	<0.010	0.0000081	3.05	<0.00050	<0.00010	<0.00050	0.688	<0.000050	<0.0010	0.831	0.00644
Creek 661	661-01	Primary	VA25B0343-004	2025-05-04	0.00356	0.000031	<0.000050	<0.010	<0.0000050	2.25	<0.00050	<0.00010	0.00065	0.282	0.000057	<0.0010	0.587	0.0156
Creek 661	661-01	Primary	VA25B0962-005	2025-05-11	0.00265	0.000026	<0.000050	<0.010	0.0000053	2.05	<0.00050	<0.00010	<0.00050	0.145	<0.000050	<0.0010	0.501	0.00432
Creek 661	661-01	Primary	VA25B1482-002	2025-05-14	0.00270	0.000027	<0.000050	<0.010	<0.0000050	1.96	<0.00050	<0.00010	0.00054	0.130	<0.000050	<0.0010	0.493	0.00488
Creek 661	661-01	Duplicate	VA25B1482-003	2025-05-14	0.00266	0.000024	<0.000050	<0.010	<0.0000050	2.10	<0.00050	<0.00010	0.00054	0.131	<0.000050	<0.0010	0.496	0.00508
Creek 661	661-01	Primary	VA25B2274-001	2025-05-25	0.00269	0.000029	<0.000050	<0.010	<0.0000050	1.96	<0.00050	<0.00010	<0.00050	0.109	<0.000050	<0.0010	0.508	0.00602
Creek 661	661-01	Primary	VA25B2953-001	2025-06-01	0.00244	0.000027	<0.000050	<0.010	<0.0000050	2.30	<0.00050	<0.00010	<0.00050	0.106	<0.000050	<0.0010	0.516	0.00527
Creek 661	661-01	Primary	VA25B5722-006	2025-06-23	0.00235	<0.000020	<0.000050	<0.010	<0.0000050	2.80	<0.00050	<0.00010	<0.00050	0.070	<0.000050	<0.0010	0.721	0.00696
Creek 661	661-01	Primary	VA25B7427-010	2025-07-14	0.00231	<0.000020	<0.000050	<0.010	<0.0000050	3.24	<0.00050	<0.00010	<0.00050	0.060	<0.000050	<0.0010	0.805	0.00698
Creek 661	661-01	Primary	VA25C0216-002	2025-08-11	0.00276	<0.000020	<0.000050	<0.010	<0.0000050	4.08	<0.00050	<0.00010	<0.00050	0.049	<0.000050	<0.0010	0.986	0.00756
Creek 661	661-01	Primary	VA25C5617-001	2025-09-22	0.00248	<0.000020	<0.000050	<0.010	<0.0000050	3.70	<0.00050	<0.00010	<0.00050	0.050	<0.000050	<0.0010	0.994	0.00755
Creek 661	661-01	Primary	VA25C5489-005	2025-09-24	0.00372	<0.000020	<0.000050	<0.010	0.0000173	3.90	<0.00050	0.00010	<0.00050	0.216	0.000099	<0.0010	1.00	0.0680
Creek 661	661-01	Duplicate	VA25C5489-006	2025-09-24	0.00288	<0.000020	<0.000050	<0.010	<0.0000050	3.86	<0.00050	<0.00010	<0.00050	0.091	<0.000050	<0.0010	0.993	0.0245
Creek 661	661-01	Primary	VA25C6039-001	2025-09-30	0.00275	<0.000020	<0.000050	<0.010	<0.0000050	3.91	<0.00050	<0.00010	<0.00050	0.058	<0.000050	<0.0010	1.01	0.0135
Creek 661	661-01	Duplicate	VA25C6039-002	2025-09-30	0.00345	<0.000020	<0.000050	<0.010	0.0000115	3.91	<0.00050	<0.00010	<0.00050	0.169	0.000057	<0.0010	1.05	0.0613
Creek 661	661-01	Primary	VA25C7355-006	2025-10-07	0.00253	<0.000020	<0.000050	<0.010	<0.0000050	4.00	<0.00050	<0.00010	<0.00050	0.052	<0.000050	<0.0010	1.04	0.0114
Creek 661	661-01	Primary	VA25C7416-001	2025-10-13	0.00265	<0.000020	<0.000050	<0.010	0.0000058	3.84	<0.00050	<0.00010	<0.00050	0.074	<0.000050	<0.0010	1.08	0.0223
Creek 661	661-01	Primary	VA25C8047-003	2025-10-18	0.00307	<0.000020	<0.000050	<0.010	0.0000365	3.57	<0.00050	<0.00010	<0.00050	0.149	0.000147	<0.0010	0.952	0.0450
Creek 661	661-01	Primary	VA25C8919-001	2025-10-26	0.00269	<0.000020	<0.000050	<0.010	<0.0000050	4.01	<0.00050	<0.00010	<0.00050	0.045	<0.000050	<0.0010	1.16	0.0116
Creek 661	661-01	Primary	VA25C9101-009	2025-10-29	0.00317	<0.000020	<0.000050	<0.010	0.0000197	4.11	<0.00050	<0.00010	0.00050	0.158	0.000153	<0.0010	1.12	0.0553
Creek 661	661-01	Primary	VA25D0570-002	2025-11-12	0.00261	<0.000020	<0.000050	<0.010	<0.0000050	4.03	<0.00050	<0.00010	<0.00050	0.040	<0.000050	<0.0010	1.21	0.0106
Creek 661	661-01	Primary	VA25D3435-001	2025-12-12	0.00275	0.000020	<0.000050	<0.010	<0.0000050	3.62	<0.00050	<0.00010	<0.00050	0.098	0.000058	<0.0010	1.03	0.0118
Creek 661	661-01	Duplicate	VA25D3435-002	2025-12-12	0.00271	<0.000020	<0.000050	<0.010	<0.0000050	3.63	<0.00050	<0.00010	<0.00050	0.094	<0.000050	<0.0010	1.03	0.0114

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Mercury, Total (mg/L)	Molybdenum, Total (mg/L)	Nickel, Total (mg/L)	Phosphorus, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silicon, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Strontium, Total (mg/L)	Sulphur, Total (mg/L)	Thallium, Total (mg/L)	Tin, Total (mg/L)	Titanium, Total (mg/L)
Davidson Creek	DC-15	Primary	VA25C9695-001	2025-11-03	<0.0000050	0.000642	<0.00050	<0.050	0.720	<0.000050	6.04	<0.000010	3.29	0.0844	1.59	<0.000010	<0.00010	0.00596
Davidson Creek	DC-15	Primary	VA25D3068-002	2025-12-08	<0.0000050	0.000709	<0.00050	<0.050	0.633	0.000074	6.58	<0.000010	3.49	0.0964	1.48	<0.000010	<0.00010	0.00412
Davidson Creek	DC-15	Duplicate	VA25D3068-003	2025-12-08	<0.0000050	0.000661	<0.00050	<0.050	0.622	<0.000050	6.37	<0.000010	3.46	0.0950	1.51	<0.000010	<0.00010	0.00111
Davidson Creek	DC-20	Primary	VA25A0964-001	2025-01-13	<0.0000050	0.000626	<0.00050	<0.050	0.712	0.000054	6.61	<0.000010	3.60	0.0952	0.60	<0.000010	<0.00010	0.00207
Davidson Creek	DC-20	Primary	VA25A2647-003	2025-02-04	<0.0000050	0.000739	<0.00050	<0.050	0.733	<0.000050	6.78	<0.000010	3.87	0.108	1.06	<0.000010	<0.00010	0.00086
Davidson Creek	DC-20	Primary	VA25A4955-001	2025-03-04	<0.0000050	0.000790	<0.00050	<0.050	0.740	0.000067	7.13	<0.000010	3.74	0.116	1.01	<0.000010	<0.00010	0.00469
Davidson Creek	DC-20	Primary	VA25A7310-003	2025-04-01	<0.0000050	0.000744	<0.00050	<0.050	0.920	0.000072	6.15	<0.000010	3.78	0.0956	0.84	<0.000010	<0.00010	0.00812
Davidson Creek	DC-20	Primary	VA25B0343-010	2025-05-04	<0.0000050	0.000327	<0.00050	<0.050	0.763	<0.000050	5.02	<0.000010	2.43	0.0499	0.51	<0.000010	<0.00010	0.00754
Davidson Creek	DC-20	Primary	VA25B0962-001	2025-05-11	0.0000056	0.000387	<0.00050	<0.050	0.666	0.000097	4.92	<0.000010	2.16	0.0492	0.63	<0.000010	<0.00010	0.00566
Davidson Creek	DC-20	Primary	VA25B1482-008	2025-05-14	<0.0000050	0.000377	<0.00050	<0.050	0.623	0.000050	4.66	<0.000010	2.36	0.0498	<0.50	<0.000010	<0.00010	0.00473
Davidson Creek	DC-20	Primary	VA25B2274-006	2025-05-25	0.0000053	0.000375	<0.00050	<0.050	0.624	<0.000050	4.61	<0.000010	2.44	0.0482	<0.50	<0.000010	<0.00010	0.00425
Davidson Creek	DC-20	Primary	VA25B2953-005	2025-06-01	<0.0000050	0.000446	<0.00050	<0.050	0.671	0.000050	5.16	0.000011	2.41	0.0502	<0.50	<0.000010	<0.00010	0.00931
Davidson Creek	DC-20	Duplicate	VA25B2953-006	2025-06-01	<0.0000050	0.000459	<0.00050	<0.050	0.667	<0.000050	5.15	<0.000010	2.26	0.0513	<0.50	<0.000010	<0.00010	0.00944
Davidson Creek	DC-20	Primary	VA25B5722-003	2025-06-23	<0.0000050	0.000642	<0.00050	<0.050	0.768	0.000050	5.83	<0.000010	2.90	0.0685	<0.50	<0.000010	<0.00010	0.0123
Davidson Creek	DC-20	Primary	VA25B6834-003	2025-07-07	<0.0000050	0.000638	<0.00050	<0.050	0.760	0.000060	5.80	<0.000010	3.14	0.0775	<0.50	<0.000010	<0.00010	0.00292
Davidson Creek	DC-20	Primary	VA25C0017-001	2025-08-10	<0.0000050	0.000851	<0.00050	<0.050	0.818	0.000064	6.18	<0.000010	3.58	0.0970	1.01	<0.000010	<0.00010	0.00180
Davidson Creek	DC-20	Duplicate	VA25C0017-002	2025-08-10	0.0000050	0.000864	0.00052	<0.050	0.846	0.000065	6.46	<0.000010	3.57	0.0985	1.06	<0.000010	<0.00010	0.0103
Davidson Creek	DC-20	Primary	VA25C4967-002	2025-09-17	<0.0000050	0.000808	<0.00050	<0.050	0.910	<0.000050	6.05	<0.000010	3.96	0.114	1.80	<0.000010	<0.00010	0.00056
Davidson Creek	DC-20	Primary	VA25C6908-003	2025-10-08	<0.0000050	0.000764	<0.00050	<0.050	0.830	0.000072	6.24	<0.000010	3.70	0.102	1.05	<0.000010	<0.00010	0.00162
Davidson Creek	DC-20	Primary	VA25C7563-003	2025-10-14	<0.0000050	0.000683	<0.00050	<0.050	0.722	<0.000050	6.22	<0.000010	3.70	0.0942	1.04	<0.000010	<0.00010	0.00181
Davidson Creek	DC-20	Primary	VA25C8358-002	2025-10-20	<0.0000050	0.000675	<0.00050	<0.050	0.756	<0.000050	5.99	<0.000010	3.62	0.0955	0.90	<0.000010	<0.00010	0.00058
Davidson Creek	DC-20	Primary	VA25C9101-002	2025-10-29	<0.0000050	0.000671	<0.00050	<0.050	0.730	<0.000050	6.04	<0.000010	3.48	0.0912	1.45	<0.000010	<0.00010	0.00399
Davidson Creek	DC-20	Primary	VA25C9485-003	2025-10-31	<0.0000050	0.000700	<0.00050	<0.050	0.706	0.000064	6.18	<0.000010	3.70	0.0921	1.08	<0.000010	<0.00010	0.00287
Davidson Creek	DC-20	Primary	VA25D1976-004	2025-11-26	<0.0000050	0.000639	<0.00050	<0.050	0.656	<0.000050	6.91	<0.000010	3.99	0.107	1.90	<0.000010	<0.00010	0.00121
Davidson Creek	DC-20	Primary	VA25D3068-004	2025-12-08	<0.0000050	0.000639	<0.00050	<0.050	0.616	0.000055	6.29	<0.000010	3.49	0.0937	1.31	<0.000010	<0.00010	0.00053
Creek 661	661-01	Primary	VA25A1481-001	2025-01-20	<0.0000050	0.000196	<0.00050	<0.050	0.236	<0.000050	4.71	<0.000010	1.96	0.0307	<0.50	<0.000010	<0.00010	0.00062
Creek 661	661-01	Primary	VA25A8806-004	2025-04-15	<0.0000050	0.000151	<0.00050	<0.050	0.286	<0.000050	4.82	<0.000010	1.97	0.0245	<0.50	<0.000010	<0.00010	0.00088
Creek 661	661-01	Primary	VA25B0343-004	2025-05-04	0.0000053	0.000100	<0.00050	<0.050	0.356	0.000059	4.14	0.000014	1.54	0.0194	<0.50	<0.000010	<0.00010	0.00348
Creek 661	661-01	Primary	VA25B0962-005	2025-05-11	0.0000072	0.000086	<0.00050	<0.050	0.219	<0.000050	4.07	<0.000010	1.27	0.0168	<0.50	<0.000010	<0.00010	0.00176
Creek 661	661-01	Primary	VA25B1482-002	2025-05-14	<0.0000050	0.000092	<0.00050	<0.050	0.172	<0.000050	3.77	<0.000010	1.52	0.0171	<0.50	<0.000010	<0.00010	0.00121
Creek 661	661-01	Duplicate	VA25B1482-003	2025-05-14	0.0000057	0.000089	<0.00050	<0.050	0.176	0.000064	3.82	<0.000010	1.46	0.0178	<0.50	<0.000010	<0.00010	0.00126
Creek 661	661-01	Primary	VA25B2274-001	2025-05-25	0.0000069	0.000095	<0.00050	<0.050	0.132	<0.000050	3.72	<0.000010	1.48	0.0170	<0.50	<0.000010	<0.00010	0.00093
Creek 661	661-01	Primary	VA25B2953-001	2025-06-01	0.0000061	0.000112	<0.00050	<0.050	0.126	<0.000050	3.73	<0.000010	1.49	0.0174	<0.50	<0.000010	<0.00010	0.00085
Creek 661	661-01	Primary	VA25B5722-006	2025-06-23	<0.0000050	0.000150	<0.00050	<0.050	0.130	<0.000050	3.40	<0.000010	1.81	0.0234	<0.50	<0.000010	<0.00010	0.00045
Creek 661	661-01	Primary	VA25B7427-010	2025-07-14	<0.0000050	0.000184	<0.00050	<0.050	0.144	<0.000050	3.57	<0.000010	1.82	0.0270	<0.50	<0.000010	<0.00010	0.00038
Creek 661	661-01	Primary	VA25C0216-002	2025-08-11	<0.0000050	0.000168	<0.00050	<0.050	0.183	<0.000050	4.62	<0.000010	2.05	0.0318	<0.50	<0.000010	<0.00010	0.00042
Creek 661	661-01	Primary	VA25C5617-001	2025-09-22	<0.0000050	0.000153	<0.00050	<0.050	0.239	<0.000050	4.83	<0.000010	2.19	0.0326	<0.50	<0.000010	<0.00010	0.00052
Creek 661	661-01	Primary	VA25C5489-005	2025-09-24	<0.0000050	0.000171	<0.00050	<0.050	0.248	<0.000050	5.44	<0.000010	2.28	0.0309	<0.50	<0.000010	<0.00010	0.00198
Creek 661	661-01	Duplicate	VA25C5489-006	2025-09-24	<0.0000050	0.000162	<0.00050	<0.050	0.224	<0.000050	5.28	<0.000010	2.30	0.0318	<0.50	<0.000010	<0.00010	0.00065
Creek 661	661-01	Primary	VA25C6039-001	2025-09-30	<0.0000050	0.000208	<0.00050	<0.050	0.250	<0.000050	5.00	<0.000010	2.32	0.0323	<0.50	<0.000010	<0.00010	0.00035
Creek 661	661-01	Duplicate	VA25C6039-002	2025-09-30	<0.0000050	0.000214	<0.00050	<0.050	0.297	<0.000050	5.04	<0.000010	2.31	0.0322	<0.50	<0.000010	<0.00010	0.00120
Creek 661	661-01	Primary	VA25C7355-006	2025-10-07	<0.0000050	0.000186	<0.00050	<0.050	0.277	<0.000050	5.08	<0.000010	2.38	0.0311	<0.50	<0.000010	<0.00010	0.00039
Creek 661	661-01	Primary	VA25C7416-001	2025-10-13	<0.0000050	0.000166	<0.00050	<0.050	0.234	<0.000050	4.93	<0.000010	2.17	0.0306	<0.50	<0.000010	<0.00010	0.00066
Creek 661	661-01	Primary	VA25C8047-003	2025-10-18	<0.0000050	0.000184	<0.00050	<0.050	0.241	<0.000050	5.21	<0.000010	2.08	0.0301	<0.50	<0.000010	<0.00010	0.00125
Creek 661	661-01	Primary	VA25C8919-001	2025-10-26	<0.0000050	0.000230	<0.00050	<0.050	0.298	<0.000050	5.18	<0.000010	2.23	0.0317	<0.50	<0.000010	<0.00010	0.00034
Creek 661	661-01	Primary	VA25C9101-009	2025-10-29	<0.0000050	0.000208	<0.00050	<0.050	0.287	<0.000050	5.04	<0.000010	2.18	0.0310	<0.50	<0.000010	<0.00010	0.00100
Creek 661	661-01	Primary	VA25D0570-002	2025-11-12	<0.0000050	0.000225	<0.00050	<0.050	0.259	<0.000050	5.23	<0.000010	2.27	0.0326	<0.50	<0.000010	<0.00010	<0.00030
Creek 661	661-01	Primary	VA25D3435-001	2025-12-12	<0.0000050	0.000205	<0.00050	<0.050	0.248	<0.000050	4.47	<0.000010	2.07	0.0304	<0.50	<0.000010	<0.00010	0.00043
Creek 661	661-01	Duplicate	VA25D3435-002	2025-12-12	<0.0000050	0.000180	<0.00050	<0.050	0.242	<0.000050	4.51	<0.000010	2.11	0.0291	<0.50	<0.000010	<0.00010	0.00045

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals			Dissolved Metals										
					Uranium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)	Aluminum, Dissolved (mg/L)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Beryllium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L)	Boron, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Cobalt, Dissolved (mg/L)
Davidson Creek	DC-15	Primary	VA25C9695-001	2025-11-03	0.000140	0.00066	<0.0030	0.0373	<0.00010	0.00055	0.00838	<0.000020	<0.000050	<0.010	<0.0000050	14.7	<0.00050	0.00072
Davidson Creek	DC-15	Primary	VA25D3068-002	2025-12-08	0.000193	0.00064	<0.0030	0.0125	<0.00010	0.00049	0.00876	<0.000020	<0.000050	<0.010	<0.0000050	15.8	<0.00050	0.00096
Davidson Creek	DC-15	Duplicate	VA25D3068-003	2025-12-08	0.000180	<0.00050	<0.0030	0.0126	<0.00010	0.00051	0.00877	<0.000020	<0.000050	<0.010	<0.0000050	16.0	<0.00050	0.00099
Davidson Creek	DC-20	Primary	VA25A0964-001	2025-01-13	0.000189	<0.00050	<0.0030	0.0239	<0.00010	0.00042	0.00891	<0.000020	<0.000050	<0.010	0.0000084	13.9	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25A2647-003	2025-02-04	0.000268	<0.00050	<0.0030	0.0150	<0.00010	0.00040	0.00996	<0.000020	<0.000050	<0.010	0.0000055	16.8	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25A4955-001	2025-03-04	0.000301	0.00076	<0.0030	0.0311	<0.00010	0.00041	0.0100	<0.000020	<0.000050	<0.010	0.0000057	17.6	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25A7310-003	2025-04-01	0.000292	0.00092	0.0040	0.0279	<0.00010	0.00043	0.00880	<0.000020	<0.000050	<0.010	<0.0000050	17.0	0.00128	<0.00010
Davidson Creek	DC-20	Primary	VA25B0343-010	2025-05-04	0.000119	0.00088	<0.0030	0.124	<0.00010	0.00048	0.00636	<0.000020	<0.000050	<0.010	<0.0000050	7.08	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25B0962-001	2025-05-11	0.000127	0.00088	<0.0030	0.0872	<0.00010	0.00055	0.00624	<0.000020	<0.000050	<0.010	<0.0000050	7.31	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25B1482-008	2025-05-14	0.000122	0.00066	<0.0030	0.0946	<0.00010	0.00055	0.00683	<0.000020	<0.000050	<0.010	<0.0000050	7.05	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25B2274-006	2025-05-25	0.000133	0.00073	<0.0030	0.0910	<0.00010	0.00050	0.00629	<0.000020	<0.000050	<0.010	<0.0000050	7.45	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25B2953-005	2025-06-01	0.000168	0.00096	<0.0030	0.0837	<0.00010	0.00066	0.00641	<0.000020	<0.000050	<0.010	<0.0000050	7.64	<0.00050	<0.00010
Davidson Creek	DC-20	Duplicate	VA25B2953-006	2025-06-01	0.000163	0.00097	<0.0030	0.105	<0.00010	0.00070	0.00670	<0.000020	<0.000050	<0.010	<0.0000050	7.70	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25B5722-003	2025-06-23	0.000158	0.00126	0.0036	0.413	<0.00010	0.00143	0.0112	<0.000020	<0.000050	<0.010	0.0000110	10.7	<0.00050	0.00016
Davidson Creek	DC-20	Primary	VA25B6834-003	2025-07-07	0.000118	0.00078	<0.0030	0.0326	<0.00010	0.00077	0.00754	<0.000020	<0.000050	<0.010	<0.0000050	11.0	<0.00050	<0.00010
Davidson Creek	DC-20	Primary	VA25C0017-001	2025-08-10	0.000153	0.00084	<0.0030	0.0151	<0.00010	0.00111	0.0105	<0.000020	<0.000050	<0.010	<0.0000050	14.6	<0.00050	0.00048
Davidson Creek	DC-20	Duplicate	VA25C0017-002	2025-08-10	0.000196	0.00146	<0.0030	0.0197	<0.00010	0.00110	0.0105	<0.000020	<0.000050	<0.010	<0.0000050	15.3	<0.00050	0.00048
Davidson Creek	DC-20	Primary	VA25C4967-002	2025-09-17	0.000132	0.00071	<0.0030	0.0104	<0.00010	0.00088	0.0113	<0.000020	<0.000050	<0.010	<0.0000050	18.2	<0.00050	0.00117
Davidson Creek	DC-20	Primary	VA25C6908-003	2025-10-08	0.000121	0.00066	<0.0030	0.0143	<0.00010	0.00076	0.00921	<0.000020	<0.000050	<0.010	<0.0000050	15.6	<0.00050	0.00043
Davidson Creek	DC-20	Primary	VA25C7563-003	2025-10-14	0.000138	0.00058	<0.0030	0.0099	<0.00010	0.00061	0.00834	<0.000020	<0.000050	<0.010	<0.0000050	14.6	<0.00050	0.00046
Davidson Creek	DC-20	Primary	VA25C8358-002	2025-10-20	0.000129	0.00053	<0.0030	0.0079	<0.00010	0.00058	0.00902	<0.000020	<0.000050	<0.010	<0.0000050	15.8	<0.00050	0.00052
Davidson Creek	DC-20	Primary	VA25C9101-002	2025-10-29	0.000133	0.00061	<0.0030	0.0266	<0.00010	0.00060	0.00884	<0.000020	<0.000050	<0.010	<0.0000050	13.8	<0.00050	0.00063
Davidson Creek	DC-20	Primary	VA25C9485-003	2025-10-31	0.000127	0.00061	<0.0030	0.0202	<0.00010	0.00051	0.00827	<0.000020	<0.000050	<0.010	<0.0000050	14.1	<0.00050	0.00064
Davidson Creek	DC-20	Primary	VA25D1976-004	2025-11-26	0.000149	0.00051	<0.0030	0.0105	<0.00010	0.00055	0.00945	<0.000020	<0.000050	<0.010	<0.0000050	17.4	<0.00050	0.00085
Davidson Creek	DC-20	Primary	VA25D3068-004	2025-12-08	0.000158	<0.00050	<0.0030	0.0081	<0.00010	0.00047	0.00921	<0.000020	<0.000050	<0.010	<0.0000050	15.4	<0.00050	0.00088
Creek 661	661-01	Primary	VA25A1481-001	2025-01-20	0.000031	<0.00050	<0.0030	0.0499	<0.00010	0.00064	0.00239	<0.000020	<0.000050	<0.010	<0.0000050	3.99	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25A8806-004	2025-04-15	0.000040	<0.00050	<0.0030	0.0857	<0.00010	0.00116	0.00323	<0.000020	<0.000050	<0.010	0.0000082	3.06	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25B0343-004	2025-05-04	0.000096	<0.00050	<0.0030	0.260	<0.00010	0.00066	0.00320	0.000025	<0.000050	<0.010	0.0000077	2.22	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25B0962-005	2025-05-11	0.000085	<0.00050	<0.0030	0.209	<0.00010	0.00047	0.00265	0.000023	<0.000050	<0.010	<0.0000050	2.02	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25B1482-002	2025-05-14	0.000075	<0.00050	<0.0030	0.199	<0.00010	0.00050	0.00281	0.000024	<0.000050	<0.010	<0.0000050	1.95	<0.00050	<0.00010
Creek 661	661-01	Duplicate	VA25B1482-003	2025-05-14	0.000080	<0.00050	<0.0030	0.199	<0.00010	0.00047	0.00275	0.000027	<0.000050	<0.010	<0.0000050	1.96	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25B2274-001	2025-05-25	0.000081	<0.00050	<0.0030	0.198	<0.00010	0.00050	0.00244	0.000028	<0.000050	<0.010	<0.0000050	2.06	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25B2953-001	2025-06-01	0.000078	<0.00050	<0.0030	0.173	<0.00010	0.00056	0.00250	0.000030	<0.000050	<0.010	<0.0000050	2.29	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25B5722-006	2025-06-23	0.000052	<0.00050	<0.0030	0.0690	<0.00010	0.00053	0.00221	<0.000020	<0.000050	<0.010	<0.0000050	2.83	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25B7427-010	2025-07-14	0.000037	<0.00050	<0.0030	0.0474	<0.00010	0.00048	0.00245	<0.000020	<0.000050	<0.010	<0.0000050	3.32	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C0216-002	2025-08-11	0.000033	<0.00050	<0.0030	0.0359	<0.00010	0.00040	0.00270	<0.000020	<0.000050	<0.010	<0.0000050	3.77	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C5617-001	2025-09-22	0.000029	<0.00050	<0.0030	0.0371	<0.00010	0.00037	0.00279	<0.000020	<0.000050	<0.010	<0.0000050	3.85	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C5489-005	2025-09-24	0.000048	<0.00050	<0.0030	0.0386	<0.00010	0.00036	0.00265	<0.000020	<0.000050	<0.010	<0.0000050	3.80	<0.00050	<0.00010
Creek 661	661-01	Duplicate	VA25C5489-006	2025-09-24	0.000033	<0.00050	<0.0030	0.0364	<0.00010	0.00034	0.00256	<0.000020	<0.000050	<0.010	<0.0000050	3.94	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C6039-001	2025-09-30	0.000028	<0.00050	<0.0030	0.0353	<0.00010	0.00034	0.00527	<0.000020	<0.000050	<0.010	<0.0000050	3.90	<0.00050	<0.00010
Creek 661	661-01	Duplicate	VA25C6039-002	2025-09-30	0.000037	<0.00050	<0.0030	0.0338	<0.00010	0.00036	0.00273	<0.000020	<0.000050	<0.010	<0.0000050	3.72	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C7355-006	2025-10-07	0.000028	<0.00050	<0.0030	0.0262	<0.00010	0.00036	0.00259	<0.000020	<0.000050	<0.010	<0.0000050	3.84	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C7416-001	2025-10-13	0.000029	<0.00050	0.0848[a]	0.0348	<0.00010	0.00032	0.00256	<0.000020	<0.000050	<0.010	<0.0000050	4.00	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C8047-003	2025-10-18	0.000033	<0.00050	<0.0030	0.0336	<0.00010	0.00028	0.00246	<0.000020	<0.000050	<0.010	<0.0000050	3.96	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C8919-001	2025-10-26	0.000023	<0.00050	<0.0030	0.0245	<0.00010	0.00031	0.00257	<0.000020	<0.000050	<0.010	<0.0000050	4.00	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25C9101-009	2025-10-29	0.000029	<0.00050	<0.0030	0.0272	<0.00010	0.00029	0.00267	<0.000020	<0.000050	<0.010	<0.0000050	3.87	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25D0570-002	2025-11-12	0.000019	<0.00050	<0.0030	0.0257	<0.00010	0.00027	0.00252	<0.000020	<0.000050	<0.010	<0.0000050	4.31	<0.00050	<0.00010
Creek 661	661-01	Primary	VA25D3435-001	2025-12-12	0.000024	<0.00050	<0.0030	0.0353	<0.00010	0.00039	0.00258	<0.000020	<0.000050	<0.010	<0.0000050	3.63	<0.00050	<0.00010
Creek 661	661-01	Duplicate	VA25D3435-002	2025-12-12	0.000023	<0.00050	<0.0030	0.0354	<0.00010	0.00040	0.00262	<0.000020	<0.000050	<0.010	<0.0000050	3.60	<0.00050	<0.00010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals												
					Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Lithium, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Phosphorus, Dissolved (mg/L)	Potassium, Dissolved (mg/L)	Selenium, Dissolved (mg/L)	Silicon, Dissolved (mg/L)	Silver, Dissolved (mg/L)
Davidson Creek	DC-15	Primary	VA25C9695-001	2025-11-03	0.00030	0.058	<0.000050	<0.0010	3.13	0.00340	<0.0000050	0.000697	<0.00050	<0.050	0.659	0.000064	6.14	<0.000010
Davidson Creek	DC-15	Primary	VA25D3068-002	2025-12-08	<0.00020	0.026	<0.000050	<0.0010	3.60	0.00208	<0.0000050	0.000748	<0.00050	<0.050	0.650	<0.000050	6.45	<0.000010
Davidson Creek	DC-15	Duplicate	VA25D3068-003	2025-12-08	<0.00020	0.028	<0.000050	<0.0010	3.60	0.00206	<0.0000050	0.000727	<0.00050	<0.050	0.650	<0.000050	6.57	<0.000010
Davidson Creek	DC-20	Primary	VA25A0964-001	2025-01-13	0.00068	0.168	0.000050	<0.0010	3.43	0.0320	<0.0000050	0.000588	<0.00050	<0.050	0.914	<0.000050	6.30	<0.000010
Davidson Creek	DC-20	Primary	VA25A2647-003	2025-02-04	0.00069	0.176	<0.000050	<0.0010	4.37	0.0287	<0.0000050	0.000673	<0.00050	<0.050	1.06	<0.000050	6.46	<0.000010
Davidson Creek	DC-20	Primary	VA25A4955-001	2025-03-04	0.00048	0.140	<0.000050	<0.0010	4.05	0.0302	<0.0000050	0.000700	<0.00050	<0.050	0.827	0.000067	6.80	<0.000010
Davidson Creek	DC-20	Primary	VA25A7310-003	2025-04-01	0.00036	0.159	<0.000050	<0.0010	4.09	0.0279	<0.0000050	0.000753	<0.00050	<0.050	0.827	<0.000050	5.73	<0.000010
Davidson Creek	DC-20	Primary	VA25B0343-010	2025-05-04	0.00065	0.114	<0.000050	<0.0010	1.58	0.00820	<0.0000050	0.000310	<0.00050	<0.050	0.740	<0.000050	4.79	<0.000010
Davidson Creek	DC-20	Primary	VA25B0962-001	2025-05-11	0.00054	0.106	<0.000050	<0.0010	1.62	0.00832	<0.0000050	0.000362	<0.00050	<0.050	0.686	<0.000050	4.75	<0.000010
Davidson Creek	DC-20	Primary	VA25B1482-008	2025-05-14	0.00061	0.120	<0.000050	<0.0010	1.66	0.00870	<0.0000050	0.000358	<0.00050	<0.050	0.689	<0.000050	4.77	<0.000010
Davidson Creek	DC-20	Primary	VA25B2274-006	2025-05-25	0.00056	0.120	<0.000050	<0.0010	1.72	0.00896	<0.0000050	0.000340	<0.00050	<0.050	0.656	0.000074	4.51	<0.000010
Davidson Creek	DC-20	Primary	VA25B2953-005	2025-06-01	0.00062	0.110	<0.000050	<0.0010	1.69	0.0111	<0.0000050	0.000422	<0.00050	<0.050	0.672	0.000050	4.54	<0.000010
Davidson Creek	DC-20	Duplicate	VA25B2953-006	2025-06-01	0.00065	0.119	<0.000050	<0.0010	1.68	0.0110	<0.0000050	0.000399	<0.00050	<0.050	0.664	0.000072	4.53	<0.000010
Davidson Creek	DC-20	Primary	VA25B5722-003	2025-06-23	0.00076	0.496	0.000336	<0.0010	2.15	0.0278	<0.0000050	0.000626	<0.00050	<0.050	0.773	<0.000050	5.52	<0.000010
Davidson Creek	DC-20	Primary	VA25B6834-003	2025-07-07	0.00044	0.223	<0.000050	<0.0010	2.41	0.0163	<0.0000050	0.000607	<0.00050	<0.050	0.682	0.000064	5.27	<0.000010
Davidson Creek	DC-20	Primary	VA25C0017-001	2025-08-10	0.00032	0.393	<0.000050	<0.0010	3.65	0.0229	<0.0000050	0.000880	<0.00050	<0.050	0.839	0.000058	5.68	<0.000010
Davidson Creek	DC-20	Duplicate	VA25C0017-002	2025-08-10	0.00030	0.378	<0.000050	<0.0010	3.68	0.0247	<0.0000050	0.000827	<0.00050	<0.050	0.829	0.000052	5.69	<0.000010
Davidson Creek	DC-20	Primary	VA25C4967-002	2025-09-17	0.00031	0.425	<0.000050	<0.0010	3.97	0.0164	<0.0000050	0.000864	<0.00050	<0.050	0.932	0.000091	5.85	<0.000010
Davidson Creek	DC-20	Primary	VA25C6908-003	2025-10-08	0.00030	0.391	<0.000050	<0.0010	3.76	0.0237	<0.0000050	0.000691	<0.00050	<0.050	0.757	<0.000050	5.92	<0.000010
Davidson Creek	DC-20	Primary	VA25C7563-003	2025-10-14	0.00030	0.299	<0.000050	<0.0010	3.89	0.0336	<0.0000050	0.000674	<0.00050	<0.050	0.714	<0.000050	5.92	<0.000010
Davidson Creek	DC-20	Primary	VA25C8358-002	2025-10-20	0.00043	0.332	<0.000050	<0.0010	3.73	0.0331	<0.0000050	0.000637	<0.00050	<0.050	0.717	<0.000050	5.70	<0.000010
Davidson Creek	DC-20	Primary	VA25C9101-002	2025-10-29	0.00040	0.264	<0.000050	<0.0010	3.28	0.0327	<0.0000050	0.000647	<0.00050	<0.050	0.707	<0.000050	5.93	<0.000010
Davidson Creek	DC-20	Primary	VA25C9485-003	2025-10-31	0.00028	0.267	<0.000050	<0.0010	3.42	0.0285	<0.0000050	0.000664	<0.00050	<0.050	0.687	0.000053	6.06	<0.000010
Davidson Creek	DC-20	Primary	VA25D1976-004	2025-11-26	0.00025	0.366	<0.000050	<0.0010	4.23	0.0490	<0.0000050	0.000610	<0.00050	<0.050	0.666	<0.000050	6.54	<0.000010
Davidson Creek	DC-20	Primary	VA25D3068-004	2025-12-08	<0.00020	0.269	<0.000050	<0.0010	4.11	0.0427	<0.0000050	0.000647	<0.00050	<0.050	0.646	<0.000050	6.60	<0.000010
Creek 661	661-01	Primary	VA25A1481-001	2025-01-20	0.00024	0.187	<0.000050	<0.0010	1.01	0.0136	<0.0000050	0.000223	<0.00050	<0.050	0.231	<0.000050	4.72	<0.000010
Creek 661	661-01	Primary	VA25A8806-004	2025-04-15	0.00021	0.628	<0.000050	<0.0010	0.814	0.00567	<0.0000050	0.000146	<0.00050	<0.050	0.296	<0.000050	4.63	<0.000010
Creek 661	661-01	Primary	VA25B0343-004	2025-05-04	0.00055	0.232	<0.000050	<0.0010	0.555	0.00976	<0.0000050	0.000098	<0.00050	<0.050	0.351	<0.000050	4.09	<0.000010
Creek 661	661-01	Primary	VA25B0962-005	2025-05-11	0.00048	0.132	<0.000050	<0.0010	0.496	0.00208	0.0000062	0.000077	<0.00050	<0.050	0.221	<0.000050	3.93	<0.000010
Creek 661	661-01	Primary	VA25B1482-002	2025-05-14	0.00053	0.117	<0.000050	<0.0010	0.503	0.00205	<0.0000050	0.000085	<0.00050	<0.050	0.189	<0.000050	3.92	<0.000010
Creek 661	661-01	Duplicate	VA25B1482-003	2025-05-14	0.00051	0.115	<0.000050	<0.0010	0.510	0.00198	0.0000051	0.000079	<0.00050	<0.050	0.193	<0.000050	3.83	<0.000010
Creek 661	661-01	Primary	VA25B2274-001	2025-05-25	0.00047	0.094	<0.000050	<0.0010	0.517	0.00183	0.0000062	0.000081	<0.00050	<0.050	0.149	<0.000050	3.79	<0.000010
Creek 661	661-01	Primary	VA25B2953-001	2025-06-01	0.00044	0.095	<0.000050	<0.0010	0.538	0.00260	<0.0000050	0.000104	<0.00050	<0.050	0.141	<0.000050	3.58	<0.000010
Creek 661	661-01	Primary	VA25B5722-006	2025-06-23	0.00029	0.062	<0.000050	<0.0010	0.682	0.00355	<0.0000050	0.000154	<0.00050	<0.050	0.132	<0.000050	3.31	<0.000010
Creek 661	661-01	Primary	VA25B7427-010	2025-07-14	0.00025	0.050	<0.000050	<0.0010	0.820	0.00499	<0.0000050	0.000191	<0.00050	<0.050	0.150	<0.000050	3.52	<0.000010
Creek 661	661-01	Primary	VA25C0216-002	2025-08-11	<0.00020	0.040	<0.000050	<0.0010	1.01	0.00572	<0.0000050	0.000180	<0.00050	<0.050	0.203	<0.000050	4.65	<0.000010
Creek 661	661-01	Primary	VA25C5617-001	2025-09-22	<0.00020	0.041	<0.000050	<0.0010	0.988	0.00682	<0.0000050	0.000159	<0.00050	<0.050	0.246	<0.000050	5.04	<0.000010
Creek 661	661-01	Primary	VA25C5489-005	2025-09-24	0.00024	0.048	<0.000050	<0.0010	0.952	0.0104	<0.0000050	0.000157	<0.00050	<0.050	0.238	<0.000050	5.03	<0.000010
Creek 661	661-01	Duplicate	VA25C5489-006	2025-09-24	0.00022	0.047	<0.000050	<0.0010	0.958	0.0103	<0.0000050	0.000146	<0.00050	<0.050	0.224	<0.000050	5.03	<0.000010
Creek 661	661-01	Primary	VA25C6039-001	2025-09-30	0.00024	0.049	<0.000050	<0.0010	1.07	0.0309	<0.0000050	0.000178	<0.00050	<0.050	0.325	<0.000050	4.89	<0.000010
Creek 661	661-01	Duplicate	VA25C6039-002	2025-09-30	0.00022	0.048	<0.000050	<0.0010	1.08	0.0128	<0.0000050	0.000162	<0.00050	<0.050	0.283	<0.000050	4.71	<0.000010
Creek 661	661-01	Primary	VA25C7355-006	2025-10-07	<0.00020	0.037	<0.000050	<0.0010	1.03	0.00790	<0.0000050	0.000202	<0.00050	<0.050	0.273	<0.000050	4.99	<0.000010
Creek 661	661-01	Primary	VA25C7416-001	2025-10-13	0.00023	0.047	<0.000050	<0.0010	1.05	0.0172	<0.0000050	0.000156	<0.00050	<0.050	0.230	<0.000050	4.75	<0.000010
Creek 661	661-01	Primary	VA25C8047-003	2025-10-18	<0.00020	0.043	<0.000050	<0.0010	1.04	0.0104	<0.0000050	0.000174	<0.00050	<0.050	0.257	<0.000050	5.20	<0.000010
Creek 661	661-01	Primary	VA25C8919-001	2025-10-26	<0.00020	0.037	<0.000050	<0.0010	1.12	0.0106	<0.0000050	0.000224	<0.00050	<0.050	0.297	<0.000050	4.88	<0.000010
Creek 661	661-01	Primary	VA25C9101-009	2025-10-29	<0.00020	0.036	<0.000050	<0.0010	1.09	0.0102	<0.0000050	0.000196	<0.00050	<0.050	0.281	<0.000050	5.14	<0.000010
Creek 661	661-01	Primary	VA25D0570-002	2025-11-12	<0.00020	0.032	<0.000050	<0.0010	1.12	0.00894	<0.0000050	0.000224	<0.00050	<0.050	0.269	<0.000050	5.00	<0.000010
Creek 661	661-01	Primary	VA25D3435-001	2025-12-12	<0.00020	0.078	<0.000050	<0.0010	1.02	0.00965	<0.0000050	0.000187	<0.00050	<0.050	0.240	<0.000050	4.33	<0.000010
Creek 661	661-01	Duplicate	VA25D3435-002	2025-12-12	<0.00020	0.077	<0.000050	<0.0010	1.01	0.00945	<0.0000050	0.000191	<0.00050	<0.050	0.241	<0.000050	4.35	<0.000010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals								
					Sodium, Dissolved (mg/L)	Strontium, Dissolved (mg/L)	Sulphur, Dissolved (mg/L)	Thallium, Dissolved (mg/L)	Tin, Dissolved (mg/L)	Titanium, Dissolved (mg/L)	Uranium, Dissolved (mg/L)	Vanadium, Dissolved (mg/L)	Zinc, Dissolved (mg/L)
Davidson Creek	DC-15	Primary	VA25C9695-001	2025-11-03	3.35	0.0933	1.53	<0.000010	<0.00010	0.00141	0.000149	0.00054	<0.0010
Davidson Creek	DC-15	Primary	VA25D3068-002	2025-12-08	3.69	0.101	1.60	<0.000010	<0.00010	<0.00030	0.000161	<0.00050	<0.0010
Davidson Creek	DC-15	Duplicate	VA25D3068-003	2025-12-08	3.62	0.103	1.76	<0.000010	<0.00010	<0.00030	0.000160	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25A0964-001	2025-01-13	3.83	0.0894	0.79	<0.000010	<0.00010	0.00059	0.000175	<0.00050	0.0055
Davidson Creek	DC-20	Primary	VA25A2647-003	2025-02-04	4.24	0.110	0.90	<0.000010	0.00036	0.00034	0.000245	<0.00050	0.0142
Davidson Creek	DC-20	Primary	VA25A4955-001	2025-03-04	4.20	0.104	0.76	<0.000010	<0.00010	0.00108	0.000256	<0.00050	0.0129
Davidson Creek	DC-20	Primary	VA25A7310-003	2025-04-01	3.74	0.105	0.67	<0.000010	<0.00010	0.00070	0.000294	<0.00050	0.0022
Davidson Creek	DC-20	Primary	VA25B0343-010	2025-05-04	2.37	0.0482	0.54	<0.000010	<0.00010	0.00231	0.000102	0.00053	<0.0010
Davidson Creek	DC-20	Primary	VA25B0962-001	2025-05-11	2.27	0.0512	<0.50	<0.000010	<0.00010	0.00178	0.000110	0.00052	<0.0010
Davidson Creek	DC-20	Primary	VA25B1482-008	2025-05-14	2.34	0.0474	0.58	<0.000010	<0.00010	0.00175	0.000111	0.00054	<0.0010
Davidson Creek	DC-20	Primary	VA25B2274-006	2025-05-25	2.35	0.0481	<0.50	<0.000010	<0.00010	0.00170	0.000110	0.00052	<0.0010
Davidson Creek	DC-20	Primary	VA25B2953-005	2025-06-01	2.31	0.0510	<0.50	<0.000010	<0.00010	0.00131	0.000130	<0.00050	<0.0010
Davidson Creek	DC-20	Duplicate	VA25B2953-006	2025-06-01	2.29	0.0500	<0.50	<0.000010	<0.00010	0.00175	0.000127	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25B5722-003	2025-06-23	3.03	0.0683	0.75	<0.000010	<0.00010	0.0112	0.000140	0.00120	0.0031
Davidson Creek	DC-20	Primary	VA25B6834-003	2025-07-07	2.77	0.0739	0.56	<0.000010	<0.00010	0.00069	0.000108	0.00054	<0.0010
Davidson Creek	DC-20	Primary	VA25C0017-001	2025-08-10	3.79	0.103	0.79	<0.000010	<0.00010	0.00036	0.000140	0.00064	<0.0010
Davidson Creek	DC-20	Duplicate	VA25C0017-002	2025-08-10	3.73	0.100	0.89	<0.000010	<0.00010	0.00038	0.000142	0.00066	<0.0010
Davidson Creek	DC-20	Primary	VA25C4967-002	2025-09-17	3.90	0.113	2.03	<0.000010	<0.00010	<0.00030	0.000129	0.00054	<0.0010
Davidson Creek	DC-20	Primary	VA25C6908-003	2025-10-08	3.75	0.0919	1.12	<0.000010	<0.00010	<0.00060	0.000117	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25C7563-003	2025-10-14	3.50	0.0957	1.02	<0.000010	<0.00010	<0.00030	0.000133	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25C8358-002	2025-10-20	3.39	0.0976	0.89	<0.000010	<0.00010	<0.00030	0.000142	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25C9101-002	2025-10-29	3.31	0.0873	1.17	<0.000010	<0.00010	0.00095	0.000113	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25C9485-003	2025-10-31	3.49	0.0935	1.57	<0.000010	<0.00010	0.00073	0.000115	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25D1976-004	2025-11-26	3.80	0.107	1.64	<0.000010	<0.00010	0.00035	0.000152	<0.00050	<0.0010
Davidson Creek	DC-20	Primary	VA25D3068-004	2025-12-08	3.69	0.101	1.64	<0.000010	<0.00010	<0.00030	0.000144	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25A1481-001	2025-01-20	2.11	0.0314	<0.50	<0.000010	<0.00010	0.00049	0.000031	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25A8806-004	2025-04-15	1.94	0.0240	<0.50	<0.000010	<0.00010	0.00080	0.000038	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25B0343-004	2025-05-04	1.43	0.0195	<0.50	<0.000010	<0.00010	0.00269	0.000089	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25B0962-005	2025-05-11	1.36	0.0164	<0.50	<0.000010	<0.00010	0.00144	0.000082	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25B1482-002	2025-05-14	1.42	0.0161	<0.50	<0.000010	<0.00010	0.00097	0.000072	<0.00050	<0.0010
Creek 661	661-01	Duplicate	VA25B1482-003	2025-05-14	1.48	0.0169	<0.50	<0.000010	<0.00010	0.00096	0.000071	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25B2274-001	2025-05-25	1.48	0.0164	<0.50	<0.000010	<0.00010	0.00085	0.000074	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25B2953-001	2025-06-01	1.52	0.0179	<0.50	<0.000010	<0.00010	0.00081	0.000070	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25B5722-006	2025-06-23	1.84	0.0224	<0.50	<0.000010	<0.00010	0.00040	0.000043	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25B7427-010	2025-07-14	1.88	0.0264	<0.50	<0.000010	<0.00010	0.00031	0.000035	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C0216-002	2025-08-11	2.36	0.0329	<0.50	<0.000010	<0.00010	<0.00030	0.000033	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C5617-001	2025-09-22	2.33	0.0314	<0.50	<0.000010	<0.00010	0.00066	0.000029	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C5489-005	2025-09-24	2.11	0.0321	<0.50	<0.000010	<0.00010	0.00036	0.000029	<0.00050	<0.0010
Creek 661	661-01	Duplicate	VA25C5489-006	2025-09-24	2.15	0.0317	<0.50	<0.000010	<0.00010	0.00033	0.000031	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C6039-001	2025-09-30	2.44	0.0331	<0.50	<0.000010	<0.00010	0.00039	0.000028	<0.00050	0.0014
Creek 661	661-01	Duplicate	VA25C6039-002	2025-09-30	2.44	0.0308	<0.50	<0.000010	<0.00010	0.00034	0.000026	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C7355-006	2025-10-07	2.32	0.0323	<0.50	<0.000010	<0.00010	<0.00030	0.000027	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C7416-001	2025-10-13	2.13	0.0321	<0.50	<0.000010	<0.00010	0.00037	0.000026	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C8047-003	2025-10-18	2.26	0.0303	<0.50	<0.000010	<0.00010	<0.00030	0.000026	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C8919-001	2025-10-26	2.32	0.0328	<0.50	<0.000010	<0.00010	<0.00030	0.000025	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25C9101-009	2025-10-29	2.11	0.0304	<0.50	<0.000010	<0.00010	<0.00030	0.000021	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25D0570-002	2025-11-12	2.17	0.0321	<0.50	<0.000010	<0.00010	0.00041	0.000021	<0.00050	<0.0010
Creek 661	661-01	Primary	VA25D3435-001	2025-12-12	2.06	0.0300	<0.50	<0.000010	<0.00010	0.00033	0.000021	<0.00050	<0.0010
Creek 661	661-01	Duplicate	VA25D3435-002	2025-12-12	2.01	0.0311	<0.50	<0.000010	<0.00010	<0.00030	0.000025	0.00050	<0.0010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Physical Tests									Anions/Nutrients				
					Acidity (as $CaCO_3$) (mg/L)	Alkalinity, Total (as $CaCO_3$) (mg/L)	Conductivity (µS/cm)	Hardness, Dissolved (as $CaCO_3$) (mg/L)	Hardness, From Total Ca/Mg (as $CaCO_3$) (mg/L)	pH (pH Units)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Ammonia, Total (as N) (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as N) (mg/L)
Creek 661	661-03	Primary	VA25A0356-001	2025-01-06	2.7	45.3	92.7	41.2	40.4	7.52	83	<3.0	0.52	0.0062	<0.050	<0.50	0.043	0.0874
Creek 661	661-03	Primary	VA25A8806-002	2025-04-15	2.5	24.6	55.5	25.5	27.2	7.45	101	4.9	5.27	0.0083	<0.050	0.94	0.045	0.0072
Creek 661	661-03	Primary	VA25B0343-005	2025-05-04	4.5	19.4	46.7	23.2	24.5	7.41	66	3.5	1.75	0.0074	<0.050	0.55	0.042	<0.0050
Creek 661	661-03	Primary	VA25B5529-003	2025-06-24	<2.0	54.4	98.0	48.4	49.8	7.80	91	<3.0	0.54	0.0062	<0.050	<0.50	0.046	0.0074
Creek 661	661-03	Primary	VA25B7427-001	2025-07-14	2.5	61.5	112	53.2	52.3	7.89	88	<3.0	0.42	<0.0050	<0.050	<0.50	0.046	0.0119
Creek 661	661-03	Primary	VA25C4972-001	2025-09-19	2.4	73.0	141	62.8	60.0	7.96	109	6.2	3.37	0.0064	<0.050	<0.50	0.050	<0.0050
Creek 661	661-03	Primary	VA25D0189-002	2025-11-10	3.0	37.9	89.6	39.2	40.0	7.63	80	<3.0	0.41	<0.0050	<0.050	<0.50	0.052	0.0442
Creek 661	661-04	Primary	VA25A1481-002	2025-01-20	2.4	40.7	92.8	37.0	36.8	7.69	70	<3.0	1.15	0.0052	<0.050	1.10	0.054	0.180
Creek 661	661-04	Duplicate	VA25A1481-003	2025-01-20	2.2	40.5	92.8	37.3	36.8	7.71	62	<3.0	1.05	<0.0050	<0.050	1.10	0.046	0.180
Creek 661	661-04	Primary	VA25A4183-004	2025-02-24	2.1	42.9	98.3	39.5	38.7	7.86	71	<3.0	1.86	<0.0050	<0.050	0.96	0.049	0.309
Creek 661	661-04	Primary	VA25A5225-001	2025-03-07	<2.0	41.9	91.8	39.9	40.4	7.74	85	<3.0	20.3	0.0051	<0.050	1.02	0.046	0.256
Creek 661	661-04	Primary	VA25A8451-001	2025-04-14	2.0	29.1	75.4	28.6	30.4	7.44	80	<3.0	8.54	<0.0050	<0.050	1.36	0.038	0.121
Creek 661	661-04	Duplicate	VA25A8451-002	2025-04-14	2.1	28.7	73.8	28.4	30.2	7.45	74	<3.0	8.38	<0.0050	<0.050	1.35	0.040	0.123
Creek 661	661-04	Primary	VA25B0438-001	2025-05-05	2.8	14.2	37.9	16.6	16.3	7.14	49	3.0	2.15	<0.0050	<0.050	0.52	0.030	<0.0050
Creek 661	661-04	Primary	VA25B5932-001	2025-06-27	2.5	29.7	59.1	24.6	26.2	7.55	70	<3.0	8.00	0.0083	<0.050	<0.50	0.041	<0.0050
Creek 661	661-04	Duplicate	VA25B5932-002	2025-06-27	2.1	28.8	59.2	25.1	26.3	7.55	63	<3.0	7.40	<0.0050	<0.050	<0.50	0.041	<0.0050
Creek 661	661-04	Primary	VA25B7427-009	2025-07-14	<2.0	36.8	70.8	30.6	30.7	7.77	73	3.4	13.2	<0.0050	<0.050	0.50	0.040	<0.0050
Creek 661	661-04	Primary	VA25C0216-003	2025-08-11	<2.0	47.1	94.8	40.7	41.2	7.92	73	<3.0	1.39	<0.0050	<0.050	0.60	0.048	<0.0050
Creek 661	661-04	Primary	VA25C4967-005	2025-09-17	<2.0	48.6	104	44.9	43.6	7.85	76	<3.0	2.96	0.0053	<0.050	1.07	0.046	<0.0050
Creek 661	661-04	Duplicate	VA25C4967-006	2025-09-17	<2.0	48.6	103	45.1	44.8	7.85	79	<3.0	3.09	0.0056	<0.050	1.08	0.050	<0.0050
Creek 661	661-04	Primary	VA25C7416-002	2025-10-13	<2.0	40.1	89.8	38.0	37.4	7.77	71	3.4	1.54	0.0051	<0.050	1.10	0.044	0.0542
Creek 661	661-04	Primary	VA25D1159-004	2025-11-18	<2.0	40.8	93.5	37.6	38.5	7.77	71	<3.0	1.34	<0.0050	<0.050	1.14	0.050	0.176
Creek 661	661-04	Primary	VA25D3210-001	2025-12-09	2.4	43.7	92.7	40.7	38.5	7.65	73	<3.0	1.48	0.0063	<0.050	0.99	0.053	0.364
Creek 661	661-05	Primary	VA25A0964-002	2025-01-13	2.0	50.2	102	41.0	40.0	7.81	58	<3.0	1.64	<0.0050	<0.050	<0.50	0.061	0.0553
Creek 661	661-05	Duplicate	VA25A0964-003	2025-01-13	2.1	50.1	101	39.5	40.8	7.83	58	<3.0	1.64	<0.0050	<0.050	<0.50	0.058	0.0551
Creek 661	661-05	Primary	VA25A4211-002	2025-02-18	<2.0	53.7	107	45.1	46.5	7.96	63	<3.0	1.94	0.0058	<0.050	<0.50	0.065	0.0618
Creek 661	661-05	Primary	VA25A5225-002	2025-03-07	<2.0	53.6	103	45.0	45.8	7.87	78	<3.0	13.3	<0.0050	<0.050	<0.50	0.056	0.0569
Creek 661	661-05	Primary	VA25A8806-001	2025-04-15	<2.0	32.2	65.5	28.2	30.5	7.67	108	28.3	24.8	0.0055	<0.050	0.83	0.041	0.0529
Creek 661	661-05	Primary	VA25B0343-006	2025-05-04	3.0	27.3	56.1	24.9	25.7	7.59	66	6.5	5.98	<0.0050	<0.050	0.71	0.037	0.0282
Creek 661	661-05	Primary	VA25B5932-003	2025-06-27	2.1	42.0	81.9	34.7	36.9	7.75	70	3.9	6.86	<0.0050	<0.050	<0.50	0.048	<0.0050
Creek 661	661-05	Primary	VA25B6851-001	2025-07-08	2.1	47.5	93.0	40.1	41.5	7.89	66	<3.0	1.57	<0.0050	<0.050	<0.50	0.057	<0.0050
Creek 661	661-05	Primary	VA25C0216-001	2025-08-11	<2.0	54.2	108	45.8	47.1	7.99	79	4.1	1.48	<0.0050	<0.050	<0.50	0.056	<0.0050
Creek 661	661-05	Primary	VA25C3886-001	2025-09-10	<2.0	56.6	108	51.3	47.8	8.00	77	<3.0	0.87	<0.0050	<0.050	<0.50	0.063	0.0200
Creek 661	661-05	Primary	VA25C8345-001	2025-10-21	2.1	53.8	101	44.4	44.9	7.90	81	<3.0	1.36	<0.0050	<0.050	<0.50	0.062	<0.0050
Creek 661	661-05	Primary	VA25D0570-003	2025-11-12	<2.0	50.2	95.6	45.4	44.7	7.88	70	<3.0	2.79	<0.0050	<0.050	<0.50	0.052	0.0354
Creek 661	661-05	Primary	VA25D3210-002	2025-12-09	2.0	54.1	102	44.4	45.4	7.80	75	<3.0	0.98	0.0053	<0.050	<0.50	0.062	0.0646
Creek 661	661-10	Primary	VA25A0356-002	2025-01-06	2.8	38.6	85.6	35.8	32.8	7.41	70	<3.0	1.22	0.0111	<0.050	0.71	0.040	0.0947
Creek 661	661-10	Duplicate	VA25A0356-003	2025-01-06	2.8	39.4	85.9	35.7	34.8	7.44	70	<3.0	1.24	0.0104	<0.050	0.73	0.040	0.0979
Creek 661	661-10	Primary	VA25A4211-001	2025-02-18	3.0	42.2	95.1	36.6	39.3	7.67	68	<3.0	2.81	0.0353	<0.050	1.18	0.050	0.212
Creek 661	661-10	Primary	VA25A5381-001	2025-03-10	3.1	41.1	86.1	36.6	37.0	7.75	68	3.6	8.40	0.0128	<0.050	0.76	0.046	0.152
Creek 661	661-10	Primary	VA25A8806-003	2025-04-15	2.1	26.6	62.9	26.7	28.0	7.54	96	6.7	9.67	0.0078	<0.050	1.06	0.039	0.108
Creek 661	661-10	Primary	VA25B0343-007	2025-05-04	3.8	10.1	28.8	13.1	13.4	7.11	60	15.3	3.71	0.0071	<0.050	<0.50	0.028	0.0088
Creek 661	661-10	Primary	VA25B0962-007	2025-05-11	3.2	11.0	30.9	12.7	13.5	7.10	46	<3.0	1.75	0.0078	<0.050	<0.50	0.030	0.0056
Creek 661	661-10	Primary	VA25B1482-004	2025-05-14	<2.0	10.6	28.3	12.3	12.3	7.03	47	4.2	1.27	0.0063	<0.050	<0.50	0.035	<0.0050
Creek 661	661-10	Duplicate	VA25B1482-005	2025-05-14	<2.0	10.6	28.4	12.9	12.2	7.03	50	3.0	1.45	0.0062	<0.050	<0.50	0.036	<0.0050
Creek 661	661-10	Primary	VA25B2274-002	2025-05-25	3.2	12.1	33.1	13.7	13.8	7.23	48	<3.0	0.80	0.0056	<0.050	<0.50	0.033	<0.0050
Creek 661	661-10	Duplicate	VA25B2274-003	2025-05-25	3.3	12.3	33.0	13.8	13.6	7.23	45	<3.0	0.74	0.0061	<0.050	<0.50	0.033	<0.0050
Creek 661	661-10	Primary	VA25B2953-002	2025-06-01	2.7	14.5	36.3	15.8	15.9	7.32	54	<3.0	0.71	<0.0050	<0.050	<0.50	0.033	<0.0050
Creek 661	661-10	Primary	VA25B5529-004	2025-06-24	2.0	27.1	50.1	24.3	24.7	7.42	69	<3.0	1.08	0.0100	<0.050	<0.50	0.037	<0.0050

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Anions/Nutrients						Organic/Inorganic Carbon		Cyanides			Total Metals		
					Nitrite (as N) (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrogen, Total (mg/L)	Ortho-Phosphorus, Dissolved (as P) (mg/L)	Total Phosphorus (as P) (mg/L)	Sulphate (as SO_4) (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Cyanide, Total (mg/L)	Cyanide, Weak Acid Dissociable (mg/L)	Thiocyanate (mg/L)	Aluminum, Total (mg/L)	Antimony, Total (mg/L)	Arsenic, Total (mg/L)
Creek 661	661-03	Primary	VA25A0356-001	2025-01-06	<0.0010	0.193	8.68	<0.0010	0.0061	1.43	-	-	<0.0050	<0.0050	<0.50	0.0720	<0.00010	0.00030
Creek 661	661-03	Primary	VA25A8806-002	2025-04-15	<0.0010	0.635	22.2	0.0011	0.0319	1.15	-	-	<0.0050	<0.0050	0.70	0.662	<0.00010	0.00056
Creek 661	661-03	Primary	VA25B0343-005	2025-05-04	<0.0010	0.518	25.0	<0.0010	0.0180	0.52	-	-	<0.0050	<0.0050	0.58	0.288	<0.00010	0.00035
Creek 661	661-03	Primary	VA25B5529-003	2025-06-24	<0.0010	0.220	7.63	<0.0010	0.0093	0.82	-	-	<0.0050	<0.0050	<0.50	0.0606	<0.00010	0.00031
Creek 661	661-03	Primary	VA25B7427-001	2025-07-14	<0.0010	0.132	4.88	<0.0010	0.0048	0.98	-	-	<0.0050	<0.0050	<0.50	0.0360	<0.00010	0.00028
Creek 661	661-03	Primary	VA25C4972-001	2025-09-19	<0.0010	0.072	2.10	<0.0010	0.0043	1.12	0.064	-	<0.0050	<0.0050	<0.50	0.0225	<0.00010	0.00024
Creek 661	661-03	Primary	VA25D0189-002	2025-11-10	<0.0010	0.225	7.04	<0.0010	0.0060	7.23	0.241	-	<0.0050	<0.0050	<0.50	0.0655	<0.00010	0.00033
Creek 661	661-04	Primary	VA25A1481-002	2025-01-20	<0.0010	0.064	2.22	0.0138	0.0195	4.75	-	-	<0.0050	<0.0050	<0.50	0.0864	0.00010	0.00138
Creek 661	661-04	Duplicate	VA25A1481-003	2025-01-20	<0.0010	0.064	2.22	0.0136	0.0190	4.75	-	-	<0.0050	<0.0050	<0.50	0.0567	0.00010	0.00133
Creek 661	661-04	Primary	VA25A4183-004	2025-02-24	<0.0010	0.071	1.73	0.0193	0.0273	3.62	-	-	<0.0050	<0.0050	<0.50	0.0698	0.00012	0.00154
Creek 661	661-04	Primary	VA25A5225-001	2025-03-07	<0.0010	0.088	2.52	0.0165	0.0438	4.18	-	-	<0.0050	<0.0050	<0.50	1.07	0.00015	0.00193
Creek 661	661-04	Primary	VA25A8451-001	2025-04-14	<0.0010	0.228	8.85	0.0112	0.0374	4.79	-	-	<0.0050	<0.0050	<0.50	0.525	0.00015	0.00153
Creek 661	661-04	Duplicate	VA25A8451-002	2025-04-14	<0.0010	0.234	10.2	0.0113	0.0358	4.78	-	-	<0.0050	<0.0050	<0.50	0.498	0.00013	0.00145
Creek 661	661-04	Primary	VA25B0438-001	2025-05-05	<0.0010	0.306	14.0	0.0086	0.0235	2.48	-	-	<0.0050	<0.0050	<0.50	0.259	0.00011	0.00091
Creek 661	661-04	Primary	VA25B5932-001	2025-06-27	<0.0010	0.181	7.15	0.0058	0.0217	1.22	-	-	<0.0050	<0.0050	<0.50	0.496	0.00012	0.00146
Creek 661	661-04	Duplicate	VA25B5932-002	2025-06-27	<0.0010	0.172	7.64	0.0061	0.0227	1.21	-	-	<0.0050	<0.0050	<0.50	0.512	0.00012	0.00149
Creek 661	661-04	Primary	VA25B7427-009	2025-07-14	<0.0010	0.169	6.01	0.0071	0.0267	0.93	-	-	<0.0050	<0.0050	<0.50	0.625	0.00012	0.00168
Creek 661	661-04	Primary	VA25C0216-003	2025-08-11	<0.0010	0.173	4.37	0.0067	0.0228	0.70	-	-	<0.0050	<0.0050	<0.50	0.163	<0.00010	0.00158
Creek 661	661-04	Primary	VA25C4967-005	2025-09-17	<0.0010	0.101	3.49	0.0079	0.0157	2.81	0.095	-	<0.0050	<0.0050	<0.50	0.133	<0.00010	0.00158
Creek 661	661-04	Duplicate	VA25C4967-006	2025-09-17	<0.0010	0.104	3.10	0.0075	0.0156	2.82	0.092	-	<0.0050	<0.0050	<0.50	0.142	<0.00010	0.00152
Creek 661	661-04	Primary	VA25C7416-002	2025-10-13	0.0013	0.111	3.23	0.0037	0.0120	4.81	0.172	-	<0.0050	<0.0050	<0.50	0.0981	<0.00010	0.00114
Creek 661	661-04	Primary	VA25D1159-004	2025-11-18	<0.0010	0.094	3.08	0.0044	0.0139	4.85	0.279	-	<0.0050	<0.0050	0.68	0.127	<0.00010	0.00115
Creek 661	661-04	Primary	VA25D3210-001	2025-12-09	<0.0010	0.064	2.51	0.0122	0.0134	3.37	0.372	-	<0.0050	<0.0050	<0.50	0.0976	0.00011	0.00130
Creek 661	661-05	Primary	VA25A0964-002	2025-01-13	<0.0010	0.060	2.07	0.0367	0.0473	1.37	-	-	<0.0050	<0.0050	<0.50	0.0899	<0.00010	0.00121
Creek 661	661-05	Duplicate	VA25A0964-003	2025-01-13	<0.0010	0.076	1.82	0.0369	0.0474	1.38	-	-	<0.0050	<0.0050	<0.50	0.0879	<0.00010	0.00122
Creek 661	661-05	Primary	VA25A4211-002	2025-02-18	<0.0010	0.080	1.19	0.0408	0.0576	1.30	-	-	<0.0050	<0.0050	<0.50	0.137	<0.00010	0.00145
Creek 661	661-05	Primary	VA25A5225-002	2025-03-07	<0.0010	0.082	1.75	0.0401	0.0629	1.29	-	-	<0.0050	<0.0050	1.32	0.799	0.00010	0.00170
Creek 661	661-05	Primary	VA25A8806-001	2025-04-15	<0.0010	0.369	8.29	0.0237	0.0858	1.41	-	-	<0.0050	<0.0050	<0.50	1.21	0.00013	0.00180
Creek 661	661-05	Primary	VA25B0343-006	2025-05-04	<0.0010	0.244	10.2	0.0165	0.0364	1.24	-	-	<0.0050	<0.0050	<0.50	0.505	0.00011	0.00096
Creek 661	661-05	Primary	VA25B5932-003	2025-06-27	<0.0010	0.155	6.56	0.0256	0.0445	0.73	-	-	<0.0050	<0.0050	<0.50	0.450	0.00010	0.00126
Creek 661	661-05	Primary	VA25B6851-001	2025-07-08	<0.0010	0.121	3.88	0.0304	0.0432	1.13	-	-	<0.0050	<0.0050	<0.50	0.149	<0.00010	0.00134
Creek 661	661-05	Primary	VA25C0216-001	2025-08-11	<0.0010	0.089	2.21	0.0370	0.0458	0.97	-	-	<0.0050	<0.0050	<0.50	0.0382	<0.00010	0.00147
Creek 661	661-05	Primary	VA25C3886-001	2025-09-10	<0.0010	0.052	1.67	0.0435	0.0533	1.09	0.088	-	<0.0050	<0.0050	<0.50	0.0288	<0.00010	0.00145
Creek 661	661-05	Primary	VA25C8345-001	2025-10-21	<0.0010	0.075	2.02	0.0393	0.0507	1.32	0.084	-	<0.0050	<0.0050	<0.50	0.0469	<0.00010	0.00135
Creek 661	661-05	Primary	VA25D0570-003	2025-11-12	<0.0010	0.085	3.05	0.0368	0.0504	1.40	0.140	-	<0.0050	<0.0050	<0.50	0.103	<0.00010	0.00133
Creek 661	661-05	Primary	VA25D3210-002	2025-12-09	<0.0010	0.058	1.35	0.0423	0.0514	1.44	0.115	-	<0.0050	<0.0050	<0.50	0.0558	<0.00010	0.00135
Creek 661	661-10	Primary	VA25A0356-002	2025-01-06	<0.0010	0.115	4.70	0.0071	0.0160	2.74	-	-	<0.0050	<0.0050	<0.50	0.0623	<0.00010	0.00076
Creek 661	661-10	Duplicate	VA25A0356-003	2025-01-06	0.0010	0.142	4.48	0.0065	0.0159	2.77	-	-	<0.0050	<0.0050	<0.50	0.0608	<0.00010	0.00074
Creek 661	661-10	Primary	VA25A4211-001	2025-02-18	0.0019	0.380	5.51	0.0093	0.0406	3.41	-	-	<0.0050	<0.0050	<0.50	0.164	0.00013	0.00114
Creek 661	661-10	Primary	VA25A5381-001	2025-03-10	<0.0010	0.144	3.94	0.0073	0.0299	2.96	-	-	<0.0050	<0.0050	<0.50	0.431	0.00011	0.00116
Creek 661	661-10	Primary	VA25A8806-003	2025-04-15	<0.0010	0.424	14.9	0.0075	0.0426	3.02	-	-	<0.0050	<0.0050	<0.50	0.736	0.00010	0.00117
Creek 661	661-10	Primary	VA25B0343-007	2025-05-04	<0.0010	0.477	16.9	0.0035	0.0334	1.03	-	-	<0.0050	<0.0050	<0.50	0.446	<0.00010	0.00086
Creek 661	661-10	Primary	VA25B0962-007	2025-05-11	<0.0010	0.370	14.1	0.0038	0.0184	0.90	-	-	<0.0050	<0.0050	<0.50	0.264	<0.00010	0.00075
Creek 661	661-10	Primary	VA25B1482-004	2025-05-14	<0.0010	0.275	14.3	0.0029	0.0175	0.91	-	-	<0.0050	<0.0050	<0.50	0.249	<0.00010	0.00063
Creek 661	661-10	Duplicate	VA25B1482-005	2025-05-14	<0.0010	0.319	14.4	0.0029	0.0166	0.92	-	-	<0.0050	<0.0050	<0.50	0.224	<0.00010	0.00060
Creek 661	661-10	Primary	VA25B2274-002	2025-05-25	<0.0010	0.299	14.7	0.0031	0.0140	1.10	-	-	<0.0050	<0.0050	<0.50	0.209	<0.00010	0.00065
Creek 661	661-10	Duplicate	VA25B2274-003	2025-05-25	<0.0010	0.296	15.0	0.0033	0.0332	1.10	-	-	<0.0050	<0.0050	<0.50	0.189	<0.00010	0.00061
Creek 661	661-10	Primary	VA25B2953-002	2025-06-01	<0.0010	0.254	12.6	0.0044	0.0150	1.05	-	-	<0.0050	<0.0050	<0.50	0.160	<0.00010	0.00077
Creek 661	661-10	Primary	VA25B5529-004	2025-06-24	<0.0010	0.434	12.4	0.0113	0.0422	0.66	-	-	<0.0050	<0.0050	<0.50	0.122	<0.00010	0.00143

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Barium, Total (mg/L)	Beryllium, Total (mg/L)	Bismuth, Total (mg/L)	Boron, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Lithium, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
Creek 661	661-03	Primary	VA25A0356-001	2025-01-06	0.00556	<0.000020	<0.000050	<0.010	<0.0000050	11.0	<0.00050	<0.00010	<0.00050	0.098	<0.000050	<0.0010	3.15	0.0132
Creek 661	661-03	Primary	VA25A8806-002	2025-04-15	0.00847	0.000030	<0.000050	<0.010	0.0000153	7.40	0.00068	0.00017	0.00135	0.595	0.000175	<0.0010	2.12	0.0585
Creek 661	661-03	Primary	VA25B0343-005	2025-05-04	0.00515	<0.000020	<0.000050	<0.010	0.0000086	6.69	<0.00050	<0.00010	0.00091	0.207	<0.000050	<0.0010	1.89	0.0165
Creek 661	661-03	Primary	VA25B5529-003	2025-06-24	0.00706	<0.000020	<0.000050	<0.010	<0.0000050	13.6	<0.00050	<0.00010	<0.00050	0.097	<0.000050	<0.0010	3.85	0.0200
Creek 661	661-03	Primary	VA25B7427-001	2025-07-14	0.00724	<0.000020	<0.000050	<0.010	<0.0000050	14.1	<0.00050	<0.00010	<0.00050	0.076	<0.000050	<0.0010	4.16	0.0230
Creek 661	661-03	Primary	VA25C4972-001	2025-09-19	0.00814	<0.000020	<0.000050	<0.010	<0.0000050	15.4	<0.00050	<0.00010	<0.00050	0.082	<0.000050	<0.0010	5.24	0.0397
Creek 661	661-03	Primary	VA25D0189-002	2025-11-10	0.00561	0.000030	<0.000050	<0.010	<0.0000050	10.6	<0.00050	<0.00010	<0.00050	0.133	<0.000050	<0.0010	3.29	0.0210
Creek 661	661-04	Primary	VA25A1481-002	2025-01-20	0.00500	<0.000020	<0.000050	<0.010	0.0000152	10.3	<0.00050	<0.00010	<0.00050	0.096	0.000056	<0.0010	2.68	0.0112
Creek 661	661-04	Duplicate	VA25A1481-003	2025-01-20	0.00473	<0.000020	<0.000050	<0.010	0.0000097	10.3	<0.00050	<0.00010	<0.00050	0.071	<0.000050	<0.0010	2.70	0.00910
Creek 661	661-04	Primary	VA25A4183-004	2025-02-24	0.00498	<0.000020	<0.000050	<0.010	0.0000174	10.8	<0.00050	<0.00010	<0.00050	0.080	0.000056	<0.0010	2.85	0.0109
Creek 661	661-04	Primary	VA25A5225-001	2025-03-07	0.0136	0.000036	<0.000050	<0.010	0.0000163	11.3	0.00121	0.00035	0.00111	0.878	0.000555	<0.0010	2.96	0.0285
Creek 661	661-04	Primary	VA25A8451-001	2025-04-14	0.00889	0.000023	<0.000050	<0.010	0.0000339	8.32	0.00071	0.00016	0.00076	0.454	0.000386	<0.0010	2.34	0.0175
Creek 661	661-04	Duplicate	VA25A8451-002	2025-04-14	0.00849	0.000022	<0.000050	<0.010	0.0000303	8.33	0.00064	0.00015	0.00076	0.446	0.000370	<0.0010	2.29	0.0170
Creek 661	661-04	Primary	VA25B0438-001	2025-05-05	0.00426	0.000020	<0.000050	<0.010	0.0000274	4.75	<0.00050	<0.00010	0.00081	0.169	0.000109	<0.0010	1.08	0.00728
Creek 661	661-04	Primary	VA25B5932-001	2025-06-27	0.00732	0.000020	<0.000050	<0.010	0.0000311	7.63	0.00066	0.00016	0.00072	0.378	0.000300	<0.0010	1.75	0.0203
Creek 661	661-04	Duplicate	VA25B5932-002	2025-06-27	0.00729	0.000024	<0.000050	<0.010	0.0000349	7.62	0.00064	0.00016	0.00076	0.395	0.000300	<0.0010	1.77	0.0222
Creek 661	661-04	Primary	VA25B7427-009	2025-07-14	0.00900	0.000027	<0.000050	<0.010	0.0000341	8.79	0.00073	0.00023	0.00090	0.549	0.000446	<0.0010	2.12	0.0254
Creek 661	661-04	Primary	VA25C0216-003	2025-08-11	0.00623	<0.000020	<0.000050	<0.010	0.0000268	11.8	<0.00050	<0.00010	<0.00050	0.171	0.000137	<0.0010	2.84	0.0275
Creek 661	661-04	Primary	VA25C4967-005	2025-09-17	0.00641	<0.000020	<0.000050	<0.010	0.0000163	12.2	<0.00050	<0.00010	<0.00050	0.166	0.000086	<0.0010	3.19	0.0178
Creek 661	661-04	Duplicate	VA25C4967-006	2025-09-17	0.00641	<0.000020	<0.000050	<0.010	0.0000179	12.6	<0.00050	<0.00010	<0.00050	0.173	0.000089	<0.0010	3.25	0.0179
Creek 661	661-04	Primary	VA25C7416-002	2025-10-13	0.00494	<0.000020	<0.000050	<0.010	0.0000156	10.5	<0.00050	<0.00010	<0.00050	0.118	0.000093	<0.0010	2.71	0.0158
Creek 661	661-04	Primary	VA25D1159-004	2025-11-18	0.00537	<0.000020	<0.000050	<0.010	0.0000190	10.8	<0.00050	<0.00010	<0.00050	0.149	0.000096	<0.0010	2.80	0.0198
Creek 661	661-04	Primary	VA25D3210-001	2025-12-09	0.00514	<0.000020	<0.000050	<0.010	0.0000188	10.7	<0.00050	<0.00010	<0.00050	0.124	0.000094	<0.0010	2.87	0.0168
Creek 661	661-05	Primary	VA25A0964-002	2025-01-13	0.00512	<0.000020	<0.000050	<0.010	<0.0000050	11.3	0.00086	<0.00010	<0.00050	0.163	<0.000050	<0.0010	2.85	0.00893
Creek 661	661-05	Duplicate	VA25A0964-003	2025-01-13	0.00511	<0.000020	<0.000050	<0.010	<0.0000050	11.5	0.00083	<0.00010	<0.00050	0.163	<0.000050	<0.0010	2.93	0.00841
Creek 661	661-05	Primary	VA25A4211-002	2025-02-18	0.00619	<0.000020	<0.000050	<0.010	<0.0000050	13.0	0.00113	<0.00010	<0.00050	0.244	0.000078	<0.0010	3.40	0.0210
Creek 661	661-05	Primary	VA25A5225-002	2025-03-07	0.0113	0.000028	<0.000050	<0.010	0.0000103	13.0	0.00138	0.00023	0.00078	0.678	0.000422	<0.0010	3.23	0.0213
Creek 661	661-05	Primary	VA25A8806-001	2025-04-15	0.0141	0.000063	<0.000050	<0.010	0.0000263	8.80	0.00185	0.00040	0.00156	1.22	0.000920	<0.0010	2.07	0.0471
Creek 661	661-05	Primary	VA25B0343-006	2025-05-04	0.00746	0.000031	<0.000050	<0.010	0.0000130	7.38	0.00098	0.00013	0.00100	0.410	0.000176	<0.0010	1.77	0.0130
Creek 661	661-05	Primary	VA25B5932-003	2025-06-27	0.00801	0.000023	<0.000050	<0.010	0.0000066	10.8	0.00102	0.00016	0.00066	0.412	0.000238	<0.0010	2.41	0.0185
Creek 661	661-05	Primary	VA25B6851-001	2025-07-08	0.00620	<0.000020	<0.000050	<0.010	0.0000060	11.8	0.00102	<0.00010	<0.00050	0.249	0.000085	<0.0010	2.92	0.0187
Creek 661	661-05	Primary	VA25C0216-001	2025-08-11	0.00581	<0.000020	<0.000050	<0.010	<0.0000050	13.5	0.00079	<0.00010	<0.00050	0.134	<0.000050	<0.0010	3.26	0.0129
Creek 661	661-05	Primary	VA25C3886-001	2025-09-10	0.00530	<0.000020	<0.000050	<0.010	<0.0000050	13.9	0.00082	<0.00010	<0.00050	0.128	<0.000050	<0.0010	3.18	0.0136
Creek 661	661-05	Primary	VA25C8345-001	2025-10-21	0.00491	<0.000020	<0.000050	<0.010	<0.0000050	12.6	0.00070	<0.00010	<0.00050	0.142	<0.000050	<0.0010	3.27	0.00964
Creek 661	661-05	Primary	VA25D0570-003	2025-11-12	0.00552	<0.000020	<0.000050	<0.010	<0.0000050	12.6	0.00081	<0.00010	<0.00050	0.184	0.000065	<0.0010	3.21	0.00953
Creek 661	661-05	Primary	VA25D3210-002	2025-12-09	0.00505	<0.000020	<0.000050	<0.010	0.0000107	13.0	0.00085	<0.00010	<0.00050	0.132	0.000066	<0.0010	3.15	0.0104
Creek 661	661-10	Primary	VA25A0356-002	2025-01-06	0.00544	<0.000020	<0.000050	<0.010	0.0000173	9.10	<0.00050	<0.00010	<0.00050	0.181	<0.000050	<0.0010	2.45	0.0155
Creek 661	661-10	Duplicate	VA25A0356-003	2025-01-06	0.00525	<0.000020	<0.000050	<0.010	0.0000193	9.92	<0.00050	<0.00010	<0.00050	0.186	<0.000050	<0.0010	2.44	0.0154
Creek 661	661-10	Primary	VA25A4211-001	2025-02-18	0.00801	<0.000020	<0.000050	<0.010	0.0000458	10.8	0.00069	0.00019	0.00088	0.567	0.000121	<0.0010	2.99	0.0538
Creek 661	661-10	Primary	VA25A5381-001	2025-03-10	0.00873	<0.000020	<0.000050	<0.010	0.0000347	10.5	0.00061	0.00022	0.00060	0.545	0.000289	<0.0010	2.61	0.0402
Creek 661	661-10	Primary	VA25A8806-003	2025-04-15	0.00976	0.000038	<0.000050	<0.010	0.0000295	7.88	0.00074	0.00024	0.00116	0.702	0.000403	<0.0010	2.01	0.0285
Creek 661	661-10	Primary	VA25B0343-007	2025-05-04	0.00524	0.000036	<0.000050	<0.010	0.0000186	3.74	<0.00050	0.00014	0.00092	0.398	0.000139	<0.0010	0.983	0.0230
Creek 661	661-10	Primary	VA25B0962-007	2025-05-11	0.00395	0.000026	<0.000050	<0.010	0.0000108	3.85	<0.00050	<0.00010	0.00072	0.206	0.000070	<0.0010	0.945	0.00748
Creek 661	661-10	Primary	VA25B1482-004	2025-05-14	0.00363	0.000027	<0.000050	<0.010	0.0000124	3.49	<0.00050	<0.00010	0.00070	0.200	0.000062	<0.0010	0.862	0.00784
Creek 661	661-10	Duplicate	VA25B1482-005	2025-05-14	0.00346	0.000032	<0.000050	<0.010	0.0000070	3.42	<0.00050	<0.00010	0.00068	0.173	<0.000050	<0.0010	0.884	0.00638
Creek 661	661-10	Primary	VA25B2274-002	2025-05-25	0.00373	<0.000020	<0.000050	<0.010	0.0000111	3.89	<0.00050	<0.00010	0.00068	0.165	<0.000050	<0.0010	0.993	0.00606
Creek 661	661-10	Duplicate	VA25B2274-003	2025-05-25	0.00358	0.000026	<0.000050	<0.010	0.0000096	3.85	<0.00050	<0.00010	0.00066	0.156	<0.000050	<0.0010	0.980	0.00530
Creek 661	661-10	Primary	VA25B2953-002	2025-06-01	0.00362	0.000022	<0.000050	<0.010	0.0000146	4.57	<0.00050	<0.00010	0.00071	0.175	<0.000050	<0.0010	1.10	0.00823
Creek 661	661-10	Primary	VA25B5529-004	2025-06-24	0.00523	0.000025	<0.000050	<0.010	0.0000280	7.27	0.00064	<0.00010	0.00082	0.350	<0.000050	<0.0010	1.60	0.0148

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Mercury, Total (mg/L)	Molybdenum, Total (mg/L)	Nickel, Total (mg/L)	Phosphorus, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silicon, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Strontium, Total (mg/L)	Sulphur, Total (mg/L)	Thallium, Total (mg/L)	Tin, Total (mg/L)	Titanium, Total (mg/L)
Creek 661	661-03	Primary	VA25A0356-001	2025-01-06	<0.0000050	0.000224	<0.00050	<0.050	0.289	<0.000050	7.98	<0.000010	3.26	0.0610	<0.50	<0.000010	<0.00010	0.00090
Creek 661	661-03	Primary	VA25A8806-002	2025-04-15	0.0000103	0.000161	0.00069	<0.050	0.518	0.000063	7.72	0.000021	3.07	0.0393	0.50	<0.000010	<0.00010	0.0140
Creek 661	661-03	Primary	VA25B0343-005	2025-05-04	0.0000078	0.000141	<0.00050	<0.050	0.350	0.000060	5.87	0.000010	2.86	0.0399	<0.50	<0.000010	<0.00010	0.00480
Creek 661	661-03	Primary	VA25B5529-003	2025-06-24	<0.0000050	0.000264	<0.00050	<0.050	0.380	0.000051	8.37	<0.000010	3.72	0.0715	<0.50	<0.000010	<0.00010	0.00092
Creek 661	661-03	Primary	VA25B7427-001	2025-07-14	<0.0000050	0.000288	<0.00050	<0.050	0.437	0.000061	7.98	<0.000010	3.93	0.0797	<0.50	<0.000010	<0.00010	0.00055
Creek 661	661-03	Primary	VA25C4972-001	2025-09-19	<0.0000050	0.000354	<0.00050	<0.050	0.752	<0.000050	9.43	<0.000010	4.55	0.0878	<0.50	<0.000010	<0.00010	0.00032
Creek 661	661-03	Primary	VA25D0189-002	2025-11-10	<0.0000050	0.000202	<0.00050	<0.050	0.336	0.000054	7.31	<0.000010	3.26	0.0610	2.29	<0.000010	<0.00010	0.00099
Creek 661	661-04	Primary	VA25A1481-002	2025-01-20	<0.0000050	0.000595	<0.00050	<0.050	0.602	0.000056	7.97	<0.000010	3.31	0.0713	1.24	<0.000010	<0.00010	0.00234
Creek 661	661-04	Duplicate	VA25A1481-003	2025-01-20	<0.0000050	0.000586	<0.00050	<0.050	0.604	<0.000050	7.92	<0.000010	3.49	0.0690	1.52	<0.000010	<0.00010	0.00149
Creek 661	661-04	Primary	VA25A4183-004	2025-02-24	<0.0000050	0.000672	<0.00050	<0.050	0.627	<0.000050	7.79	<0.000010	3.55	0.0680	1.40	<0.000010	<0.00010	0.00184
Creek 661	661-04	Primary	VA25A5225-001	2025-03-07	<0.0000050	0.000674	0.00092	0.062	0.830	0.000068	9.31	<0.000010	3.66	0.0697	1.04	0.000013	<0.00010	0.0292
Creek 661	661-04	Primary	VA25A8451-001	2025-04-14	0.0000057	0.000359	<0.00050	0.061	0.956	0.000053	7.16	0.000019	3.09	0.0590	1.69	<0.000010	<0.00010	0.0143
Creek 661	661-04	Duplicate	VA25A8451-002	2025-04-14	<0.0000050	0.000356	0.00050	0.062	0.943	<0.000050	7.06	0.000018	3.11	0.0581	1.71	<0.000010	<0.00010	0.0136
Creek 661	661-04	Primary	VA25B0438-001	2025-05-05	0.0000073	0.000222	<0.00050	<0.050	0.674	0.000057	5.18	0.000020	1.99	0.0320	0.52	<0.000010	<0.00010	0.00476
Creek 661	661-04	Primary	VA25B5932-001	2025-06-27	<0.0000050	0.000411	0.00054	<0.050	0.531	0.000060	6.94	<0.000010	2.75	0.0472	<0.50	<0.000010	<0.00010	0.0123
Creek 661	661-04	Duplicate	VA25B5932-002	2025-06-27	<0.0000050	0.000398	0.00054	<0.050	0.537	0.000071	7.10	0.000010	2.82	0.0472	<0.50	<0.000010	<0.00010	0.0131
Creek 661	661-04	Primary	VA25B7427-009	2025-07-14	<0.0000050	0.000556	0.00053	<0.050	0.573	<0.000050	7.22	<0.000010	3.12	0.0610	<0.50	<0.000010	<0.00010	0.0180
Creek 661	661-04	Primary	VA25C0216-003	2025-08-11	<0.0000050	0.000830	<0.00050	<0.050	0.482	0.000052	6.74	<0.000010	3.39	0.0746	<0.50	<0.000010	<0.00010	0.00497
Creek 661	661-04	Primary	VA25C4967-005	2025-09-17	<0.0000050	0.000909	<0.00050	<0.050	0.698	<0.000050	7.56	<0.000010	4.00	0.0808	0.93	<0.000010	<0.00010	0.00421
Creek 661	661-04	Duplicate	VA25C4967-006	2025-09-17	<0.0000050	0.000938	<0.00050	<0.050	0.693	<0.000050	7.46	<0.000010	3.99	0.0804	0.82	<0.000010	<0.00010	0.00435
Creek 661	661-04	Primary	VA25C7416-002	2025-10-13	<0.0000050	0.000603	<0.00050	<0.050	0.610	<0.000050	7.28	<0.000010	3.62	0.0676	1.62	<0.000010	<0.00010	0.00281
Creek 661	661-04	Primary	VA25D1159-004	2025-11-18	<0.0000050	0.000572	<0.00050	<0.050	0.629	0.000051	7.92	<0.000010	3.55	0.0688	1.45	<0.000010	<0.00010	0.00348
Creek 661	661-04	Primary	VA25D3210-001	2025-12-09	<0.0000050	0.000652	<0.00050	<0.050	0.614	<0.000050	8.03	<0.000010	3.52	0.0719	1.06	<0.000010	<0.00010	0.00329
Creek 661	661-05	Primary	VA25A0964-002	2025-01-13	<0.0000050	0.000792	<0.00050	0.073	0.530	0.000070	8.82	<0.000010	3.62	0.0790	<0.50	<0.000010	<0.00010	0.00228
Creek 661	661-05	Duplicate	VA25A0964-003	2025-01-13	<0.0000050	0.000816	<0.00050	0.066	0.549	0.000071	9.01	<0.000010	3.74	0.0816	<0.50	<0.000010	<0.00010	0.00229
Creek 661	661-05	Primary	VA25A4211-002	2025-02-18	<0.0000050	0.000888	<0.00050	0.075	0.596	0.000108	9.60	<0.000010	4.14	0.0853	0.52	<0.000010	<0.00010	0.00405
Creek 661	661-05	Primary	VA25A5225-002	2025-03-07	<0.0000050	0.000981	0.00051	0.059	0.744	0.000102	9.96	<0.000010	3.98	0.0881	<0.50	<0.000010	<0.00010	0.0193
Creek 661	661-05	Primary	VA25A8806-001	2025-04-15	0.0000083	0.000483	0.00083	0.083	0.907	0.000124	9.37	0.000022	2.94	0.0543	<0.50	0.000014	<0.00010	0.0306
Creek 661	661-05	Primary	VA25B0343-006	2025-05-04	<0.0000050	0.000381	<0.00050	<0.050	0.610	0.000078	7.30	0.000010	2.90	0.0524	<0.50	<0.000010	<0.00010	0.0128
Creek 661	661-05	Primary	VA25B5932-003	2025-06-27	<0.0000050	0.000598	<0.00050	<0.050	0.562	0.000085	8.71	<0.000010	3.42	0.0674	<0.50	<0.000010	<0.00010	0.0106
Creek 661	661-05	Primary	VA25B6851-001	2025-07-08	<0.0000050	0.000748	<0.00050	<0.050	0.487	0.000129	8.45	<0.000010	3.58	0.0795	<0.50	<0.000010	<0.00010	0.00454
Creek 661	661-05	Primary	VA25C0216-001	2025-08-11	<0.0000050	0.000910	<0.00050	0.068	0.522	0.000055	8.13	<0.000010	3.68	0.0883	<0.50	<0.000010	<0.00010	0.00086
Creek 661	661-05	Primary	VA25C3886-001	2025-09-10	<0.0000050	0.000914	<0.00050	0.062	0.585	0.000069	8.49	<0.000010	4.19	0.0866	<0.50	<0.000010	<0.00010	0.00071
Creek 661	661-05	Primary	VA25C8345-001	2025-10-21	<0.0000050	0.000834	<0.00050	0.055	0.610	0.000087	9.06	<0.000010	4.16	0.0837	<0.50	<0.000010	<0.00010	0.00122
Creek 661	661-05	Primary	VA25D0570-003	2025-11-12	<0.0000050	0.000836	<0.00050	<0.050	0.566	0.000060	8.96	<0.000010	3.61	0.0802	0.58	<0.000010	<0.00010	0.00235
Creek 661	661-05	Primary	VA25D3210-002	2025-12-09	<0.0000050	0.000911	<0.00050	0.068	0.585	0.000095	9.06	<0.000010	3.96	0.0889	<0.50	<0.000010	<0.00010	0.00141
Creek 661	661-10	Primary	VA25A0356-002	2025-01-06	<0.0000050	0.000480	<0.00050	<0.050	0.459	<0.000050	7.66	<0.000010	3.41	0.0596	1.04	<0.000010	<0.00010	0.00134
Creek 661	661-10	Duplicate	VA25A0356-003	2025-01-06	<0.0000050	0.000503	<0.00050	<0.050	0.473	<0.000050	7.47	<0.000010	3.31	0.0666	1.01	<0.000010	<0.00010	0.00130
Creek 661	661-10	Primary	VA25A4211-001	2025-02-18	<0.0000050	0.000532	<0.00050	<0.050	0.830	0.000079	8.96	0.000011	3.92	0.0674	1.19	<0.000010	<0.00010	0.00436
Creek 661	661-10	Primary	VA25A5381-001	2025-03-10	<0.0000050	0.000572	<0.00050	<0.050	0.642	<0.000050	8.40	<0.000010	3.67	0.0670	1.22	<0.000010	<0.00010	0.0131
Creek 661	661-10	Primary	VA25A8806-003	2025-04-15	0.0000064	0.000303	0.00064	0.053	0.828	0.000055	7.33	0.000021	2.88	0.0469	0.95	<0.000010	<0.00010	0.0189
Creek 661	661-10	Primary	VA25B0343-007	2025-05-04	0.0000081	0.000164	<0.00050	<0.050	0.432	0.000054	4.99	0.000019	2.00	0.0262	<0.50	<0.000010	<0.00010	0.0105
Creek 661	661-10	Primary	VA25B0962-007	2025-05-11	0.0000060	0.000195	<0.00050	<0.050	0.356	0.000052	5.14	0.000012	1.77	0.0257	<0.50	<0.000010	<0.00010	0.00443
Creek 661	661-10	Primary	VA25B1482-004	2025-05-14	0.0000058	0.000188	<0.00050	<0.050	0.285	0.000059	4.52	<0.000010	1.82	0.0259	<0.50	<0.000010	<0.00010	0.00412
Creek 661	661-10	Duplicate	VA25B1482-005	2025-05-14	0.0000056	0.000173	<0.00050	<0.050	0.283	<0.000050	4.66	0.000010	1.81	0.0254	<0.50	<0.000010	<0.00010	0.00316
Creek 661	661-10	Primary	VA25B2274-002	2025-05-25	0.0000079	0.000186	<0.00050	<0.050	0.319	<0.000050	4.82	<0.000010	1.93	0.0271	<0.50	<0.000010	<0.00010	0.00265
Creek 661	661-10	Duplicate	VA25B2274-003	2025-05-25	0.0000064	0.000175	<0.00050	<0.050	0.312	<0.000050	4.71	<0.000010	1.87	0.0256	<0.50	<0.000010	<0.00010	0.00247
Creek 661	661-10	Primary	VA25B2953-002	2025-06-01	<0.0000050	0.000243	<0.00050	<0.050	0.352	0.000055	5.21	<0.000010	2.20	0.0302	<0.50	<0.000010	<0.00010	0.00202
Creek 661	661-10	Primary	VA25B5529-004	2025-06-24	0.0000068	0.000498	<0.00050	<0.050	0.401	0.000098	5.62	<0.000010	2.71	0.0468	<0.50	<0.000010	<0.00010	0.00197

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals			Dissolved Metals									
					Uranium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)	Aluminum, Dissolved (mg/L)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Beryllium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L)	Boron, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Cobalt, Dissolved (mg/L)
Creek 661	661-03	Primary	VA25A0356-001	2025-01-06	0.000051	<0.00050	<0.0030	0.0534	<0.00010	0.00026	0.00529	<0.000020	<0.000050	<0.010	<0.0000050	11.1	<0.00050	<0.00010
Creek 661	661-03	Primary	VA25A8806-002	2025-04-15	0.000093	0.00127	<0.0030	0.307	<0.00010	0.00040	0.00555	<0.000020	<0.000050	<0.010	0.0000055	6.96	<0.00050	<0.00010
Creek 661	661-03	Primary	VA25B0343-005	2025-05-04	0.000068	0.00062	<0.0030	0.222	<0.00010	0.00028	0.00441	<0.000020	<0.000050	<0.010	<0.0000050	6.32	<0.00050	<0.00010
Creek 661	661-03	Primary	VA25B5529-003	2025-06-24	0.000069	<0.00050	<0.0030	0.0410	<0.00010	0.00027	0.00664	<0.000020	<0.000050	<0.010	<0.0000050	12.8	<0.00050	<0.00010
Creek 661	661-03	Primary	VA25B7427-001	2025-07-14	0.000083	<0.00050	<0.0030	0.0290	<0.00010	0.00027	0.00760	<0.000020	<0.000050	<0.010	<0.0000050	14.4	<0.00050	<0.00010
Creek 661	661-03	Primary	VA25C4972-001	2025-09-19	0.000102	<0.00050	<0.0030	0.0083	<0.00010	0.00022	0.00782	<0.000020	<0.000050	<0.010	<0.0000050	16.6	<0.00050	<0.00010
Creek 661	661-03	Primary	VA25D0189-002	2025-11-10	0.000036	<0.00050	<0.0030	0.0332	<0.00010	0.00030	0.00539	<0.000020	<0.000050	<0.010	<0.0000050	10.4	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25A1481-002	2025-01-20	0.000083	0.00067	0.0113	0.0184	<0.00010	0.00120	0.00427	<0.000020	<0.000050	<0.010	0.0000081	10.8	<0.00050	<0.00010
Creek 661	661-04	Duplicate	VA25A1481-003	2025-01-20	0.000071	0.00060	0.0109	0.0179	<0.00010	0.00122	0.00424	<0.000020	<0.000050	<0.010	0.0000095	10.8	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25A4183-004	2025-02-24	0.000095	0.00069	0.0109	0.0138	<0.00010	0.00151	0.00433	<0.000020	<0.000050	<0.010	0.0000130	11.4	0.00053	<0.00010
Creek 661	661-04	Primary	VA25A5225-001	2025-03-07	0.000121	0.00233	0.0139	0.0679	0.00012	0.00131	0.00560	<0.000020	<0.000050	<0.010	0.0000110	11.2	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25A8451-001	2025-04-14	0.000086	0.00138	0.0147	0.164	0.00011	0.00124	0.00568	<0.000020	<0.000050	<0.010	0.0000466	8.15	<0.00050	<0.00010
Creek 661	661-04	Duplicate	VA25A8451-002	2025-04-14	0.000079	0.00136	0.0144	0.164	0.00011	0.00107	0.00574	<0.000020	<0.000050	<0.010	0.0000206	7.96	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25B0438-001	2025-05-05	0.000096	0.00083	0.0147	0.183	<0.00010	0.00083	0.00346	0.000023	<0.000050	<0.010	0.0000258	4.84	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25B5932-001	2025-06-27	0.000096	0.00145	0.0122	0.0933	<0.00010	0.00117	0.00424	<0.000020	<0.000050	<0.010	0.0000212	7.08	<0.00050	<0.00010
Creek 661	661-04	Duplicate	VA25B5932-002	2025-06-27	0.000104	0.00156	0.0134	0.117	<0.00010	0.00113	0.00441	<0.000020	<0.000050	<0.010	0.0000200	7.28	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25B7427-009	2025-07-14	0.000100	0.00182	0.0132	0.110	<0.00010	0.00132	0.00491	<0.000020	<0.000050	<0.010	0.0000208	8.84	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25C0216-003	2025-08-11	0.000118	0.00086	0.0106	0.0269	<0.00010	0.00140	0.00509	<0.000020	<0.000050	<0.010	0.0000187	11.4	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25C4967-005	2025-09-17	0.000116	0.00085	0.0066	0.0287	<0.00010	0.00140	0.00554	<0.000020	<0.000050	<0.010	0.0000123	13.0	<0.00050	<0.00010
Creek 661	661-04	Duplicate	VA25C4967-006	2025-09-17	0.000116	0.00088	0.0068	0.0318	<0.00010	0.00145	0.00539	<0.000020	<0.000050	<0.010	0.0000163	13.0	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25C7416-002	2025-10-13	0.000082	0.00051	0.0068	0.0327	<0.00010	0.00101	0.00439	<0.000020	<0.000050	<0.010	0.0000118	10.9	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25D1159-004	2025-11-18	0.000078	0.00070	0.0079	0.0266	<0.00010	0.00097	0.00454	<0.000020	<0.000050	<0.010	0.0000123	10.6	<0.00050	<0.00010
Creek 661	661-04	Primary	VA25D3210-001	2025-12-09	0.000091	0.00135	0.0092	0.0239	0.00013	0.00114	0.00458	<0.000020	<0.000050	<0.010	0.0000120	11.3	<0.00050	<0.00010
Creek 661	661-05	Primary	VA25A0964-002	2025-01-13	0.000185	0.00171	<0.0030	0.0238	<0.00010	0.00117	0.00454	<0.000020	<0.000050	<0.010	<0.0000050	11.8	0.00075	<0.00010
Creek 661	661-05	Duplicate	VA25A0964-003	2025-01-13	0.000186	0.00174	<0.0030	0.0236	<0.00010	0.00112	0.00444	<0.000020	<0.000050	<0.010	<0.0000050	11.2	0.00067	<0.00010
Creek 661	661-05	Primary	VA25A4211-002	2025-02-18	0.000309	0.00251	<0.0030	0.0139	<0.00010	0.00120	0.00486	<0.000020	<0.000050	<0.010	<0.0000050	12.5	0.00078	<0.00010
Creek 661	661-05	Primary	VA25A5225-002	2025-03-07	0.000260	0.00316	<0.0030	0.0568	<0.00010	0.00121	0.00509	<0.000020	<0.000050	<0.010	<0.0000050	12.6	0.00076	<0.00010
Creek 661	661-05	Primary	VA25A8806-001	2025-04-15	0.000280	0.00345	0.0063	0.0388	<0.00010	0.00079	0.00442	<0.000020	<0.000050	<0.010	<0.0000050	8.23	<0.00050	<0.00010
Creek 661	661-05	Primary	VA25B0343-006	2025-05-04	0.000166	0.00200	<0.0030	0.180	<0.00010	0.00070	0.00512	0.000022	<0.000050	<0.010	<0.0000050	7.16	0.00062	<0.00010
Creek 661	661-05	Primary	VA25B5932-003	2025-06-27	0.000176	0.00238	<0.0030	0.0718	<0.00010	0.00097	0.00500	<0.000020	<0.000050	<0.010	<0.0000050	10.1	0.00056	<0.00010
Creek 661	661-05	Primary	VA25B6851-001	2025-07-08	0.000215	0.00197	0.0032	0.0276	<0.00010	0.00104	0.00511	<0.000020	<0.000050	<0.010	<0.0000050	11.6	0.00063	<0.00010
Creek 661	661-05	Primary	VA25C0216-001	2025-08-11	0.000210	0.00179	<0.0030	0.0133	<0.00010	0.00144	0.00519	<0.000020	<0.000050	<0.010	<0.0000050	12.9	0.00068	<0.00010
Creek 661	661-05	Primary	VA25C3886-001	2025-09-10	0.000232	0.00183	<0.0030	0.0110	<0.00010	0.00141	0.00551	<0.000020	<0.000050	<0.010	<0.0000050	14.5	0.00072	<0.00010
Creek 661	661-05	Primary	VA25C8345-001	2025-10-21	0.000195	0.00200	<0.0030	0.0131	<0.00010	0.00121	0.00459	<0.000020	<0.000050	<0.010	<0.0000050	12.5	0.00071	<0.00010
Creek 661	661-05	Primary	VA25D0570-003	2025-11-12	0.000176	0.00186	<0.0030	0.0300	<0.00010	0.00116	0.00460	<0.000020	<0.000050	<0.010	<0.0000050	13.1	0.00074	<0.00010
Creek 661	661-05	Primary	VA25D3210-002	2025-12-09	0.000202	0.00253	<0.0030	0.0119	<0.00010	0.00122	0.00455	<0.000020	<0.000050	<0.010	<0.0000050	12.3	0.00073	<0.00010
Creek 661	661-10	Primary	VA25A0356-002	2025-01-06	0.000064	0.00066	0.0033	0.0354	<0.00010	0.00065	0.00509	<0.000020	<0.000050	<0.010	0.0000133	10.4	<0.00050	<0.00010
Creek 661	661-10	Duplicate	VA25A0356-003	2025-01-06	0.000068	0.00067	0.0035	0.0351	<0.00010	0.00065	0.00491	<0.000020	<0.000050	<0.010	0.0000123	10.4	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25A4211-001	2025-02-18	0.000119	0.00121	0.0123	0.0530	0.00011	0.00090	0.00632	<0.000020	<0.000050	<0.010	0.0000302	10.1	<0.00050	0.00011
Creek 661	661-10	Primary	VA25A5381-001	2025-03-10	0.000115	0.00145	0.0062	0.0470	<0.00010	0.00064	0.00506	<0.000020	<0.000050	<0.010	0.0000111	10.3	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25A8806-003	2025-04-15	0.000118	0.00176	0.0066	0.203	<0.00010	0.00078	0.00571	<0.000020	<0.000050	<0.010	0.0000160	7.60	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25B0343-007	2025-05-04	0.000138	0.00110	0.0035	0.248	<0.00010	0.00065	0.00369	0.000027	<0.000050	<0.010	0.0000118	3.72	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25B0962-007	2025-05-11	0.000119	0.00093	0.0030	0.171	<0.00010	0.00055	0.00322	<0.000020	<0.000050	<0.010	0.0000074	3.60	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25B1482-004	2025-05-14	0.000109	0.00075	0.0032	0.180	<0.00010	0.00055	0.00334	0.000024	<0.000050	<0.010	0.0000084	3.42	<0.00050	<0.00010
Creek 661	661-10	Duplicate	VA25B1482-005	2025-05-14	0.000104	0.00072	<0.0030	0.186	<0.00010	0.00054	0.00327	0.000024	<0.000050	<0.010	0.0000091	3.65	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25B2274-002	2025-05-25	0.000103	0.00080	0.0034	0.154	<0.00010	0.00056	0.00315	<0.000020	<0.000050	<0.010	0.0000095	3.86	<0.00050	<0.00010
Creek 661	661-10	Duplicate	VA25B2274-003	2025-05-25	0.000106	0.00078	0.0032	0.158	<0.00010	0.00058	0.00309	0.000023	<0.000050	<0.010	0.0000099	3.90	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25B2953-002	2025-06-01	0.000109	0.00093	0.0043	0.135	<0.00010	0.00068	0.00363	0.000022	<0.000050	<0.010	0.0000126	4.55	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25B5529-004	2025-06-24	0.000160	0.00125	0.0055	0.107	<0.00010	0.00126	0.00503	0.000026	<0.000050	<0.010	0.0000222	6.97	0.00058	<0.00010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals												
					Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Lithium, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Phosphorus, Dissolved (mg/L)	Potassium, Dissolved (mg/L)	Selenium, Dissolved (mg/L)	Silicon, Dissolved (mg/L)	Silver, Dissolved (mg/L)
Creek 661	661-03	Primary	VA25A0356-001	2025-01-06	0.00034	0.073	<0.000050	<0.0010	3.28	0.0105	<0.0000050	0.000205	<0.00050	<0.050	0.289	<0.000050	7.62	<0.000010
Creek 661	661-03	Primary	VA25A8806-002	2025-04-15	0.00098	0.236	0.000071	<0.0010	1.97	0.00787	0.0000091	0.000129	<0.00050	<0.050	0.460	<0.000050	6.79	0.000011
Creek 661	661-03	Primary	VA25B0343-005	2025-05-04	0.00085	0.138	<0.000050	<0.0010	1.80	0.00416	0.0000090	0.000129	<0.00050	<0.050	0.337	0.000051	5.72	<0.000010
Creek 661	661-03	Primary	VA25B5529-003	2025-06-24	0.00036	0.062	<0.000050	<0.0010	3.98	0.0151	<0.0000050	0.000248	<0.00050	<0.050	0.384	<0.000050	8.04	<0.000010
Creek 661	661-03	Primary	VA25B7427-001	2025-07-14	0.00024	0.062	<0.000050	<0.0010	4.19	0.0202	<0.0000050	0.000278	<0.00050	<0.050	0.421	<0.000050	8.21	<0.000010
Creek 661	661-03	Primary	VA25C4972-001	2025-09-19	<0.00020	0.038	<0.000050	<0.0010	5.18	0.0239	<0.0000050	0.000358	<0.00050	<0.050	0.725	<0.000050	8.97	<0.000010
Creek 661	661-03	Primary	VA25D0189-002	2025-11-10	0.00032	0.049	<0.000050	<0.0010	3.22	0.00755	<0.0000050	0.000196	<0.00050	<0.050	0.345	0.000085	7.67	<0.000010
Creek 661	661-04	Primary	VA25A1481-002	2025-01-20	<0.00020	0.030	<0.000050	<0.0010	2.44	0.00633	<0.0000050	0.000575	<0.00050	<0.050	0.594	<0.000050	7.72	<0.000010
Creek 661	661-04	Duplicate	VA25A1481-003	2025-01-20	<0.00020	0.031	<0.000050	<0.0010	2.50	0.00653	<0.0000050	0.000595	<0.00050	<0.050	0.601	<0.000050	7.81	<0.000010
Creek 661	661-04	Primary	VA25A4183-004	2025-02-24	<0.00020	0.022	<0.000050	<0.0010	2.68	0.00752	<0.0000050	0.000671	<0.00050	<0.050	0.597	<0.000050	8.10	<0.000010
Creek 661	661-04	Primary	VA25A5225-001	2025-03-07	0.00023	0.055	<0.000050	<0.0010	2.91	0.00729	<0.0000050	0.000631	<0.00050	<0.050	0.628	0.000059	7.75	<0.000010
Creek 661	661-04	Primary	VA25A8451-001	2025-04-14	0.00042	0.141	0.000112	<0.0010	2.01	0.00712	<0.0000050	0.000336	<0.00050	<0.050	0.869	0.000077	6.51	0.000014
Creek 661	661-04	Duplicate	VA25A8451-002	2025-04-14	0.00046	0.136	0.000093	<0.0010	2.07	0.00666	0.0000062	0.000335	<0.00050	<0.050	0.879	0.000058	6.62	0.000011
Creek 661	661-04	Primary	VA25B0438-001	2025-05-05	0.00063	0.092	<0.000050	<0.0010	1.09	0.00348	0.0000054	0.000216	<0.00050	<0.050	0.623	<0.000050	5.16	0.000016
Creek 661	661-04	Primary	VA25B5932-001	2025-06-27	0.00046	0.076	<0.000050	<0.0010	1.68	0.00889	<0.0000050	0.000395	<0.00050	<0.050	0.463	<0.000050	5.59	<0.000010
Creek 661	661-04	Duplicate	VA25B5932-002	2025-06-27	0.00045	0.089	0.000062	<0.0010	1.68	0.00908	<0.0000050	0.000434	<0.00050	<0.050	0.469	<0.000050	5.78	<0.000010
Creek 661	661-04	Primary	VA25B7427-009	2025-07-14	0.00034	0.091	0.000073	<0.0010	2.06	0.0111	<0.0000050	0.000549	<0.00050	<0.050	0.446	<0.000050	6.28	<0.000010
Creek 661	661-04	Primary	VA25C0216-003	2025-08-11	<0.00020	0.057	<0.000050	<0.0010	2.98	0.0159	<0.0000050	0.000849	<0.00050	<0.050	0.493	0.000059	6.57	<0.000010
Creek 661	661-04	Primary	VA25C4967-005	2025-09-17	0.00020	0.051	<0.000050	<0.0010	3.02	0.0122	<0.0000050	0.000946	<0.00050	<0.050	0.712	<0.000050	7.08	<0.000010
Creek 661	661-04	Duplicate	VA25C4967-006	2025-09-17	<0.00020	0.054	<0.000050	<0.0010	3.07	0.0126	<0.0000050	0.000937	<0.00050	<0.050	0.728	<0.000050	7.19	<0.000010
Creek 661	661-04	Primary	VA25C7416-002	2025-10-13	<0.00020	0.050	<0.000050	<0.0010	2.62	0.0124	<0.0000050	0.000577	<0.00050	<0.050	0.595	<0.000050	7.26	<0.000010
Creek 661	661-04	Primary	VA25D1159-004	2025-11-18	0.00020	0.054	<0.000050	<0.0010	2.71	0.0134	<0.0000050	0.000570	<0.00050	<0.050	0.612	<0.000050	7.98	<0.000010
Creek 661	661-04	Primary	VA25D3210-001	2025-12-09	<0.00020	0.050	<0.000050	<0.0010	3.02	0.0136	<0.0000050	0.000671	<0.00050	<0.050	0.595	<0.000050	8.08	<0.000010
Creek 661	661-05	Primary	VA25A0964-002	2025-01-13	<0.00020	0.060	<0.000050	<0.0010	2.81	0.00496	<0.0000050	0.000750	<0.00050	<0.050	0.548	0.000069	8.20	<0.000010
Creek 661	661-05	Duplicate	VA25A0964-003	2025-01-13	<0.00020	0.061	<0.000050	<0.0010	2.80	0.00504	<0.0000050	0.000745	<0.00050	<0.050	0.516	0.000071	8.21	<0.000010
Creek 661	661-05	Primary	VA25A4211-002	2025-02-18	<0.00020	0.040	<0.000050	<0.0010	3.37	0.00661	<0.0000050	0.000827	<0.00050	<0.050	0.560	0.000090	9.06	<0.000010
Creek 661	661-05	Primary	VA25A5225-002	2025-03-07	<0.00020	0.054	<0.000050	<0.0010	3.28	0.00464	<0.0000050	0.000896	<0.00050	<0.050	0.580	0.000093	9.00	<0.000010
Creek 661	661-05	Primary	VA25A8806-001	2025-04-15	0.00042	0.093	<0.000050	<0.0010	1.86	0.00155	<0.0000050	0.000433	<0.00050	<0.050	0.680	<0.000050	7.05	<0.000010
Creek 661	661-05	Primary	VA25B0343-006	2025-05-04	0.00057	0.150	0.000056	<0.0010	1.70	0.00530	<0.0000050	0.000360	<0.00050	<0.050	0.568	0.000060	6.66	<0.000010
Creek 661	661-05	Primary	VA25B5932-003	2025-06-27	0.00036	0.101	<0.000050	<0.0010	2.31	0.00682	<0.0000050	0.000631	<0.00050	<0.050	0.490	0.000063	7.42	<0.000010
Creek 661	661-05	Primary	VA25B6851-001	2025-07-08	0.00023	0.080	<0.000050	<0.0010	2.70	0.00811	<0.0000050	0.000725	<0.00050	<0.050	0.491	0.000076	8.01	<0.000010
Creek 661	661-05	Primary	VA25C0216-001	2025-08-11	<0.00020	0.078	<0.000050	<0.0010	3.31	0.00976	<0.0000050	0.000869	<0.00050	<0.050	0.552	0.000068	8.20	<0.000010
Creek 661	661-05	Primary	VA25C3886-001	2025-09-10	<0.00020	0.066	<0.000050	<0.0010	3.66	0.0118	<0.0000050	0.000943	<0.00050	0.052	0.624	0.000057	8.97	<0.000010
Creek 661	661-05	Primary	VA25C8345-001	2025-10-21	<0.00020	0.067	<0.000050	<0.0010	3.21	0.00705	<0.0000050	0.000833	<0.00050	0.056	0.607	0.000050	8.57	<0.000010
Creek 661	661-05	Primary	VA25D0570-003	2025-11-12	<0.00020	0.084	<0.000050	<0.0010	3.08	0.00646	<0.0000050	0.000779	<0.00050	<0.050	0.584	0.000059	8.24	<0.000010
Creek 661	661-05	Primary	VA25D3210-002	2025-12-09	<0.00020	0.050	<0.000050	<0.0010	3.32	0.00641	<0.0000050	0.000895	<0.00050	<0.050	0.567	0.000082	9.11	<0.000010
Creek 661	661-10	Primary	VA25A0356-002	2025-01-06	0.00024	0.111	<0.000050	<0.0010	2.39	0.0118	<0.0000050	0.000507	<0.00050	<0.050	0.449	<0.000050	7.12	<0.000010
Creek 661	661-10	Duplicate	VA25A0356-003	2025-01-06	0.00026	0.114	<0.000050	<0.0010	2.37	0.0121	<0.0000050	0.000519	<0.00050	<0.050	0.441	<0.000050	7.24	<0.000010
Creek 661	661-10	Primary	VA25A4211-001	2025-02-18	0.00087	0.256	<0.000050	<0.0010	2.76	0.0345	<0.0000050	0.000516	<0.00050	<0.050	0.800	0.000050	8.33	<0.000010
Creek 661	661-10	Primary	VA25A5381-001	2025-03-10	0.00024	0.114	<0.000050	<0.0010	2.64	0.0170	<0.0000050	0.000573	<0.00050	<0.050	0.571	0.000058	7.89	<0.000010
Creek 661	661-10	Primary	VA25A8806-003	2025-04-15	0.00072	0.258	0.000093	<0.0010	1.87	0.0141	0.0000057	0.000275	<0.00050	<0.050	0.713	0.000058	6.55	0.000012
Creek 661	661-10	Primary	VA25B0343-007	2025-05-04	0.00073	0.195	<0.000050	<0.0010	0.936	0.00793	0.0000070	0.000154	<0.00050	<0.050	0.423	0.000059	4.61	0.000012
Creek 661	661-10	Primary	VA25B0962-007	2025-05-11	0.00065	0.130	<0.000050	<0.0010	0.904	0.00354	<0.0000050	0.000154	<0.00050	<0.050	0.344	0.000050	4.82	<0.000010
Creek 661	661-10	Primary	VA25B1482-004	2025-05-14	0.00068	0.138	<0.000050	<0.0010	0.909	0.00366	<0.0000050	0.000157	<0.00050	<0.050	0.309	<0.000050	4.72	<0.000010
Creek 661	661-10	Duplicate	VA25B1482-005	2025-05-14	0.00067	0.139	<0.000050	<0.0010	0.920	0.00389	<0.0000050	0.000164	<0.00050	<0.050	0.322	<0.000050	4.65	<0.000010
Creek 661	661-10	Primary	VA25B2274-002	2025-05-25	0.00070	0.122	<0.000050	<0.0010	0.983	0.00347	<0.0000050	0.000171	<0.00050	<0.050	0.343	0.000057	4.88	<0.000010
Creek 661	661-10	Duplicate	VA25B2274-003	2025-05-25	0.00061	0.120	<0.000050	<0.0010	0.993	0.00371	0.0000060	0.000185	<0.00050	<0.050	0.342	<0.000050	4.83	<0.000010
Creek 661	661-10	Primary	VA25B2953-002	2025-06-01	0.00062	0.134	<0.000050	<0.0010	1.08	0.00492	<0.0000050	0.000225	<0.00050	<0.050	0.356	0.000061	5.03	<0.000010
Creek 661	661-10	Primary	VA25B5529-004	2025-06-24	0.00079	0.266	<0.000050	<0.0010	1.68	0.0102	<0.0000050	0.000490	<0.00050	<0.050	0.414	0.000072	5.62	<0.000010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals								
					Sodium, Dissolved (mg/L)	Strontium, Dissolved (mg/L)	Sulphur, Dissolved (mg/L)	Thallium, Dissolved (mg/L)	Tin, Dissolved (mg/L)	Titanium, Dissolved (mg/L)	Uranium, Dissolved (mg/L)	Vanadium, Dissolved (mg/L)	Zinc, Dissolved (mg/L)
Creek 661	661-03	Primary	VA25A0356-001	2025-01-06	3.40	0.0623	<0.50	<0.000010	<0.00010	0.00081	0.000044	<0.00050	<0.0010
Creek 661	661-03	Primary	VA25A8806-002	2025-04-15	2.94	0.0387	<0.50	<0.000010	<0.00010	0.00834	0.000051	0.00064	<0.0010
Creek 661	661-03	Primary	VA25B0343-005	2025-05-04	2.69	0.0379	<0.50	<0.000010	<0.00010	0.00324	0.000054	<0.00050	<0.0010
Creek 661	661-03	Primary	VA25B5529-003	2025-06-24	3.88	0.0769	<0.50	<0.000010	<0.00010	0.00046	0.000057	<0.00050	<0.0010
Creek 661	661-03	Primary	VA25B7427-001	2025-07-14	3.80	0.0794	<0.50	<0.000010	<0.00010	0.00034	0.000076	<0.00050	<0.0010
Creek 661	661-03	Primary	VA25C4972-001	2025-09-19	4.37	0.0963	<0.50	<0.000010	<0.00010	<0.00030	0.000104	<0.00050	<0.0010
Creek 661	661-03	Primary	VA25D0189-002	2025-11-10	3.33	0.0589	1.98	<0.000010	<0.00010	0.00042	0.000026	<0.00050	<0.0010
Creek 661	661-04	Primary	VA25A1481-002	2025-01-20	3.40	0.0703	1.32	<0.000010	<0.00010	0.00030	0.000061	<0.00050	0.0098
Creek 661	661-04	Duplicate	VA25A1481-003	2025-01-20	3.46	0.0699	1.12	<0.000010	<0.00010	0.00031	0.000062	<0.00050	0.0100
Creek 661	661-04	Primary	VA25A4183-004	2025-02-24	3.59	0.0684	1.05	<0.000010	<0.00010	<0.00030	0.000085	0.00058	0.0096
Creek 661	661-04	Primary	VA25A5225-001	2025-03-07	3.39	0.0669	1.56	<0.000010	<0.00010	0.00288	0.000082	0.00061	0.0087
Creek 661	661-04	Primary	VA25A8451-001	2025-04-14	2.81	0.0554	1.58	<0.000010	<0.00010	0.00471	0.000068	0.00066	0.0129
Creek 661	661-04	Duplicate	VA25A8451-002	2025-04-14	2.91	0.0559	1.49	<0.000010	<0.00010	0.00465	0.000069	0.00067	0.0122
Creek 661	661-04	Primary	VA25B0438-001	2025-05-05	2.14	0.0329	0.84	<0.000010	<0.00010	0.00246	0.000082	0.00062	0.0112
Creek 661	661-04	Primary	VA25B5932-001	2025-06-27	2.63	0.0457	<0.50	<0.000010	<0.00010	0.00222	0.000067	0.00073	0.0091
Creek 661	661-04	Duplicate	VA25B5932-002	2025-06-27	2.73	0.0455	<0.50	<0.000010	<0.00010	0.00306	0.000071	0.00074	0.0093
Creek 661	661-04	Primary	VA25B7427-009	2025-07-14	3.14	0.0597	<0.50	<0.000010	<0.00010	0.00356	0.000075	0.00082	0.0082
Creek 661	661-04	Primary	VA25C0216-003	2025-08-11	3.71	0.0752	<0.50	<0.000010	<0.00010	0.00044	0.000086	0.00057	0.0083
Creek 661	661-04	Primary	VA25C4967-005	2025-09-17	3.93	0.0811	0.89	<0.000010	<0.00010	0.00066	0.000106	0.00054	0.0049
Creek 661	661-04	Duplicate	VA25C4967-006	2025-09-17	3.98	0.0794	0.96	<0.000010	<0.00010	0.00076	0.000106	0.00058	0.0053
Creek 661	661-04	Primary	VA25C7416-002	2025-10-13	3.52	0.0699	1.45	<0.000010	<0.00010	0.00077	0.000072	<0.00050	0.0052
Creek 661	661-04	Primary	VA25D1159-004	2025-11-18	3.37	0.0658	1.56	<0.000010	<0.00010	0.00069	0.000065	<0.00050	0.0062
Creek 661	661-04	Primary	VA25D3210-001	2025-12-09	3.65	0.0723	0.98	<0.000010	<0.00010	0.00049	0.000076	0.00068	0.0076
Creek 661	661-05	Primary	VA25A0964-002	2025-01-13	4.01	0.0783	<0.50	<0.000010	<0.00010	0.00059	0.000161	0.00157	0.0013
Creek 661	661-05	Duplicate	VA25A0964-003	2025-01-13	3.87	0.0770	<0.50	<0.000010	<0.00010	0.00067	0.000164	0.00158	<0.0010
Creek 661	661-05	Primary	VA25A4211-002	2025-02-18	3.81	0.0823	<0.50	<0.000010	<0.00010	0.00033	0.000242	0.00182	0.0011
Creek 661	661-05	Primary	VA25A5225-002	2025-03-07	3.73	0.0833	<0.50	<0.000010	<0.00010	0.00237	0.000195	0.00177	<0.0010
Creek 661	661-05	Primary	VA25A8806-001	2025-04-15	2.85	0.0534	<0.50	<0.000010	<0.00010	0.00120	0.000093	0.00133	<0.0010
Creek 661	661-05	Primary	VA25B0343-006	2025-05-04	2.95	0.0500	<0.50	<0.000010	<0.00010	0.00502	0.000118	0.00145	<0.0010
Creek 661	661-05	Primary	VA25B5932-003	2025-06-27	3.12	0.0650	<0.50	<0.000010	<0.00010	0.00232	0.000131	0.00154	<0.0010
Creek 661	661-05	Primary	VA25B6851-001	2025-07-08	3.43	0.0772	<0.50	<0.000010	<0.00010	0.00070	0.000166	0.00154	0.0023
Creek 661	661-05	Primary	VA25C0216-001	2025-08-11	4.12	0.0882	<0.50	<0.000010	<0.00010	0.00032	0.000207	0.00172	0.0030
Creek 661	661-05	Primary	VA25C3886-001	2025-09-10	4.37	0.0938	<0.50	<0.000010	<0.00010	<0.00030	0.000240	0.00184	0.0024
Creek 661	661-05	Primary	VA25C8345-001	2025-10-21	3.86	0.0842	<0.50	<0.000010	<0.00010	0.00032	0.000192	0.00179	<0.0010
Creek 661	661-05	Primary	VA25D0570-003	2025-11-12	3.91	0.0795	<0.50	<0.000010	<0.00010	0.00089	0.000173	0.00169	<0.0010
Creek 661	661-05	Primary	VA25D3210-002	2025-12-09	3.99	0.0860	<0.50	<0.000010	<0.00010	<0.00030	0.000179	0.00184	<0.0010
Creek 661	661-10	Primary	VA25A0356-002	2025-01-06	3.32	0.0650	0.81	<0.000010	<0.00010	0.00076	0.000064	0.00055	0.0030
Creek 661	661-10	Duplicate	VA25A0356-003	2025-01-06	3.39	0.0649	0.84	<0.000010	<0.00010	0.00079	0.000062	0.00052	0.0033
Creek 661	661-10	Primary	VA25A4211-001	2025-02-18	3.71	0.0666	1.07	<0.000010	<0.00010	0.00108	0.000092	0.00071	0.0102
Creek 661	661-10	Primary	VA25A5381-001	2025-03-10	3.38	0.0636	1.02	<0.000010	<0.00010	0.00153	0.000077	0.00061	0.0033
Creek 661	661-10	Primary	VA25A8806-003	2025-04-15	2.70	0.0483	1.00	<0.000010	<0.00010	0.00592	0.000092	0.00080	0.0038
Creek 661	661-10	Primary	VA25B0343-007	2025-05-04	1.96	0.0259	<0.50	<0.000010	<0.00010	0.00369	0.000096	0.00069	0.0027
Creek 661	661-10	Primary	VA25B0962-007	2025-05-11	1.78	0.0254	<0.50	<0.000010	<0.00010	0.00183	0.000091	0.00066	0.0027
Creek 661	661-10	Primary	VA25B1482-004	2025-05-14	1.87	0.0236	<0.50	<0.000010	<0.00010	0.00190	0.000088	0.00063	0.0026
Creek 661	661-10	Duplicate	VA25B1482-005	2025-05-14	1.88	0.0235	<0.50	<0.000010	<0.00010	0.00184	0.000094	0.00066	0.0027
Creek 661	661-10	Primary	VA25B2274-002	2025-05-25	1.92	0.0264	<0.50	<0.000010	<0.00010	0.00142	0.000094	0.00068	0.0032
Creek 661	661-10	Duplicate	VA25B2274-003	2025-05-25	1.92	0.0264	<0.50	<0.000010	<0.00010	0.00156	0.000095	0.00067	0.0031
Creek 661	661-10	Primary	VA25B2953-002	2025-06-01	2.01	0.0314	<0.50	<0.000010	<0.00010	0.00125	0.000100	0.00072	0.0037
Creek 661	661-10	Primary	VA25B5529-004	2025-06-24	2.81	0.0524	<0.50	<0.000010	<0.00010	0.00147	0.000149	0.00125	0.0049

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Physical Tests									Anions/Nutrients				
					Acidity (as $CaCO_3$) (mg/L)	Alkalinity, Total (as $CaCO_3$) (mg/L)	Conductivity (µS/cm)	Hardness, Dissolved (as $CaCO_3$) (mg/L)	Hardness, From Total Ca/Mg (as $CaCO_3$) (mg/L)	pH (pH Units)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Ammonia, Total (as N) (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as N) (mg/L)
Creek 661	661-10	Primary	VA25B7427-002	2025-07-14	2.4	34.4	64.2	31.3	31.1	7.65	80	<3.0	1.44	0.0127	<0.050	<0.50	0.040	0.0091
Creek 661	661-10	Primary	VA25C0216-004	2025-08-11	2.2	45.2	88.4	44.7	44.4	7.79	97	<3.0	2.92	0.0274	<0.050	<0.50	0.050	0.0470
Creek 661	661-10	Primary	VA25C5489-002	2025-09-23	2.3	42.8	82.0	38.8	37.5	7.78	69	<3.0	2.54	0.0201	<0.050	0.71	0.053	0.0272
Creek 661	661-10	Primary	VA25C7416-003	2025-10-13	2.1	40.0	81.6	36.5	36.1	7.69	79	7.2	2.54	0.0197	<0.050	0.76	0.046	0.0095
Creek 661	661-10	Primary	VA25C8047-001	2025-10-18	2.2	37.9	78.2	35.2	32.3	7.67	61	<3.0	2.10	0.0107	<0.050	0.68	0.046	0.0148
Creek 661	661-10	Primary	VA25C8919-002	2025-10-26	2.3	36.7	79.3	32.6	32.5	7.66	70	3.4	4.45	0.0091	<0.050	1.25	0.045	<0.0050
Creek 661	661-10	Primary	VA25C9099-002	2025-10-28	2.6	37.4	81.0	33.3	33.7	7.58	70	<3.0	1.91	0.0086	<0.050	1.20	0.042	<0.0050
Creek 661	661-10	Primary	VA25D0189-003	2025-11-10	2.5	37.5	78.0	33.0	34.6	7.66	73	<3.0	1.97	0.0076	<0.050	0.86	0.048	0.0218
Creek 661	661-10	Primary	VA25D4214-001	2025-12-26	2.1	42.1	86.5	37.0	38.9	7.67	78	<3.0	1.32	0.0146	<0.050	0.72	0.037	0.105
Creek 661	661-20	Primary	VA25A4598-001	2025-02-28	<2.0	87.2	172	72.3	76.9	8.17	102	<3.0	0.55	<0.0050	<0.050	<0.50	0.059	0.0480
Creek 661	661-20	Primary	VA25A7611-006	2025-04-04	<2.0	69.1	141	60.3	70.3	7.95	100	<3.0	2.31	0.0211	<0.050	0.53	0.058	0.0461
Creek 661	661-20	Primary	VA25B7427-005	2025-07-14	<2.0	77.1	142	66.9	67.6	8.13	103	<3.0	0.68	0.0090	<0.050	<0.50	0.055	<0.0050
Creek 661	661-20	Primary	VA25D0189-004	2025-11-10	<2.0	74.2	142	67.5	70.3	8.06	101	<3.0	0.41	<0.0050	<0.050	<0.50	0.067	<0.0050
Creek 661	661-20	Duplicate	VA25D0189-005	2025-11-10	<2.0	73.8	141	69.5	67.7	8.06	102	<3.0	0.41	<0.0050	<0.050	<0.50	0.063	<0.0050
Chedakuz Creek	CC-03	Primary	VA25A0356-004	2025-01-06	<2.0	134	263	126	126	8.14	172	<3.0	0.88	0.0236	<0.050	<0.50	0.068	0.0795
Chedakuz Creek	CC-03	Primary	VA25A4598-002	2025-02-28	<2.0	121	238	108	110	8.29	145	<3.0	0.40	0.0082	<0.050	<0.50	0.069	0.0528
Chedakuz Creek	CC-03	Primary	VA25A5381-002	2025-03-10	<2.0	109	207	102	100	8.29	117	<3.0	0.44	0.0154	<0.050	<0.50	0.069	0.0510
Chedakuz Creek	CC-03	Duplicate	VA25A5381-003	2025-03-10	<2.0	112	207	103	101	8.30	118	3.2	0.48	0.0105	<0.050	<0.50	0.066	0.0575
Chedakuz Creek	CC-03	Primary	VA25A8257-001	2025-04-10	<2.0	74.8	144	65.9	69.3	8.02	94	<3.0	3.02	0.0072	<0.050	<0.50	0.051	0.0178
Chedakuz Creek	CC-03	Primary	VA25B0343-001	2025-05-04	<2.0	56.1	109	53.3	54.2	7.93	87	3.3	1.82	0.0072	<0.050	<0.50	0.050	0.0106
Chedakuz Creek	CC-03	Primary	VA25B0962-006	2025-05-11	<2.0	61.8	120	57.6	59.3	7.95	84	<3.0	1.08	0.0085	<0.050	<0.50	0.060	0.0061
Chedakuz Creek	CC-03	Duplicate	VA25B0962-008	2025-05-11	<2.0	61.7	121	58.3	61.4	7.97	79	4.8	1.08	0.0075	<0.050	<0.50	0.060	0.0061
Chedakuz Creek	CC-03	Primary	VA25B1482-001	2025-05-14	<2.0	63.9	124	59.9	58.3	7.92	92	4.6	1.61	0.0084	<0.050	<0.50	0.062	0.0080
Chedakuz Creek	CC-03	Primary	VA25B2274-004	2025-05-25	<2.0	66.0	131	59.1	63.1	8.03	104	4.9	1.42	0.0095	<0.050	<0.50	0.058	0.0115
Chedakuz Creek	CC-03	Primary	VA25B2953-003	2025-06-01	<2.0	68.6	134	65.0	70.5	8.04	102	5.0	1.79	0.0092	<0.050	<0.50	0.056	0.0109
Chedakuz Creek	CC-03	Primary	VA25B5529-001	2025-06-24	<2.0	88.9	168	86.0	91.0	8.14	133	<3.0	1.28	0.0092	<0.050	<0.50	0.056	0.0071
Chedakuz Creek	CC-03	Duplicate	VA25B5529-002	2025-06-24	<2.0	89.1	168	89.2	90.9	8.13	135	<3.0	1.11	0.0092	<0.050	<0.50	0.056	0.0073
Chedakuz Creek	CC-03	Primary	VA25B7427-003	2025-07-14	<2.0	106	203	104	104	8.25	148	<3.0	0.79	0.0071	<0.050	<0.50	0.058	<0.0050
Chedakuz Creek	CC-03	Primary	VA25C0216-005	2025-08-11	<2.0	118	230	113	114	8.34	155	<3.0	1.04	0.0067	<0.050	<0.50	0.070	<0.0050
Chedakuz Creek	CC-03	Primary	VA25C4972-002	2025-09-19	<2.0	131	251	121	125	8.32	184	<3.0	0.67	0.0071	<0.050	<0.50	0.062	<0.0050
Chedakuz Creek	CC-03	Primary	VA25C7355-005	2025-10-07	<2.0	126	240	122	125	8.29	175	<3.0	0.59	<0.0050	<0.050	<0.50	0.076	<0.0050
Chedakuz Creek	CC-03	Primary	VA25C7416-004	2025-10-13	<2.0	129	244	125	125	8.25	162	<3.0	1.14	<0.0050	<0.050	<0.50	0.068	<0.0050
Chedakuz Creek	CC-03	Primary	VA25C8047-002	2025-10-18	<2.0	121	229	129	112	8.21	140	<3.0	0.56	<0.0050	<0.050	<0.50	0.075	<0.0050
Chedakuz Creek	CC-03	Primary	VA25C8919-003	2025-10-26	<2.0	114	222	106	109	8.20	144	<3.0	0.43	<0.0050	<0.050	<0.50	0.065	<0.0050
Chedakuz Creek	CC-03	Duplicate	VA25C8919-004	2025-10-26	<2.0	113	221	109	112	8.10	144	<3.0	0.41	<0.0050	<0.050	<0.50	0.063	<0.0050
Chedakuz Creek	CC-03	Primary	VA25C9099-001	2025-10-28	<2.0	116	230	113	114	8.11	158	<3.0	0.41	<0.0050	<0.050	<0.50	0.059	<0.0050
Chedakuz Creek	CC-03	Primary	VA25D0189-006	2025-11-10	<2.0	115	224	117	116	8.24	141	<3.0	0.38	<0.0050	<0.050	<0.50	0.072	<0.0050
Chedakuz Creek	CC-03	Primary	VA25D4214-002	2025-12-26	<2.0	131	246	128	129	8.24	158	<3.0	0.93	0.0579	<0.050	<0.50	0.059	0.107
Chedakuz Creek	CC-03	Duplicate	VA25D4214-003	2025-12-26	<2.0	131	245	124	131	8.25	157	<3.0	0.92	0.0599	<0.050	<0.50	0.061	0.107
Chedakuz Creek	CC-05	Primary	VA25A4598-003	2025-02-28	<2.0	112	215	94.6	99.8	8.26	142	<3.0	0.63	0.0065	<0.050	<0.50	0.063	0.0510
Chedakuz Creek	CC-05	Duplicate	VA25A4598-004	2025-02-28	<2.0	112	214	97.2	99.2	8.27	136	<3.0	0.55	0.0206	<0.050	<0.50	0.069	0.0518
Chedakuz Creek	CC-05	Primary	VA25B0343-002	2025-05-04	<2.0	37.8	76.7	36.9	37.8	7.73	83	7.7	3.47	0.0296	<0.050	<0.50	0.043	0.0062
Chedakuz Creek	CC-05	Duplicate	VA25B0343-003	2025-05-04	<2.0	37.6	76.0	36.4	38.4	7.73	77	7.7	3.38	0.0168	<0.050	<0.50	0.044	0.0062
Chedakuz Creek	CC-05	Primary	VA25B7427-004	2025-07-14	<2.0	90.4	171	86.1	86.9	8.19	123	<3.0	1.67	0.0058	<0.050	<0.50	0.054	<0.0050
Chedakuz Creek	CC-05	Primary	VA25D0189-007	2025-11-10	2.1	92.1	180	91.2	92.3	8.13	116	<3.0	0.74	<0.0050	<0.050	<0.50	0.065	0.0240
Chedakuz Creek	CC-10	Primary	VA25A3507-005	2025-02-17	<2.0	82.2	164	77.2	82.4	8.02	126	<3.0	0.63	0.0067	<0.050	<0.50	0.070	0.107
Chedakuz Creek	CC-10	Primary	VA25B1482-006	2025-05-14	<2.0	76.8	153	73.2	69.1	7.91	102	<3.0	0.89	0.0128	<0.050	<0.50	0.064	0.0734
Chedakuz Creek	CC-10	Primary	VA25B9374-003	2025-08-03	<2.0	73.0	146	73.4	68.8	8.69	86	<3.0	0.62	0.0091	<0.050	<0.50	0.052	<0.0050
Chedakuz Creek	CC-10	Primary	VA25D1976-005	2025-11-26	2.0	78.8	151	77.2	76.2	8.01	103	<3.0	1.23	0.0075	<0.050	<0.50	0.058	0.0490

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Anions/Nutrients						Organic/Inorganic Carbon		Cyanides			Total Metals		
					Nitrite (as N) (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrogen, Total (mg/L)	Ortho-Phosphorus, Dissolved (as P) (mg/L)	Total Phosphorus (as P) (mg/L)	Sulphate (as SO_4) (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Cyanide, Total (mg/L)	Cyanide, Weak Acid Dissociable (mg/L)	Thiocyanate (mg/L)	Aluminum, Total (mg/L)	Antimony, Total (mg/L)	Arsenic, Total (mg/L)
Creek 661	661-10	Primary	VA25B7427-002	2025-07-14	0.0013	0.451	12.6	0.0223	0.0472	0.54	-	-	<0.0050	<0.0050	<0.50	0.120	<0.00010	0.00237
Creek 661	661-10	Primary	VA25C0216-004	2025-08-11	0.0018	0.738	19.6	0.0551	0.0994	<0.30	-	-	<0.0050	<0.0050	<0.50	0.149	0.00012	0.00555
Creek 661	661-10	Primary	VA25C5489-002	2025-09-23	0.0022	0.421	10.8	0.0338	0.0647	1.57	0.429	-	<0.0050	<0.0050	<0.50	0.0899	<0.00010	0.00328
Creek 661	661-10	Primary	VA25C7416-003	2025-10-13	0.0016	0.335	7.60	0.0148	0.0385	2.33	0.298	-	<0.0050	<0.0050	<0.50	0.101	<0.00010	0.00188
Creek 661	661-10	Primary	VA25C8047-001	2025-10-18	0.0010	0.215	6.75	0.0132	0.0308	2.02	0.254	-	<0.0050	<0.0050	<0.50	0.0605	<0.00010	0.00138
Creek 661	661-10	Primary	VA25C8919-002	2025-10-26	<0.0010	0.264	6.83	0.0095	0.0345	2.47	0.297	-	<0.0050	<0.0050	<0.50	0.181	<0.00010	0.00127
Creek 661	661-10	Primary	VA25C9099-002	2025-10-28	<0.0010	0.273	6.91	0.0108	0.0299	2.84	0.246	-	<0.0050	<0.0050	<0.50	0.123	<0.00010	0.00137
Creek 661	661-10	Primary	VA25D0189-003	2025-11-10	<0.0010	0.228	6.96	0.0118	0.0290	2.65	0.264	-	<0.0050	<0.0050	<0.50	0.0689	<0.00010	0.00108
Creek 661	661-10	Primary	VA25D4214-001	2025-12-26	0.0019	0.193	5.35	0.0076	0.0237	3.39	0.304	-	<0.0050	<0.0050	<0.50	0.0821	<0.00010	0.00088
Creek 661	661-20	Primary	VA25A4598-001	2025-02-28	<0.0010	0.060	1.70	0.0247	0.0319	2.95	-	-	<0.0050	<0.0050	<0.50	0.0196	<0.00010	0.00087
Creek 661	661-20	Primary	VA25A7611-006	2025-04-04	<0.0010	0.343	9.53	0.0461	0.0707	4.75	-	-	<0.0050	<0.0050	0.55	0.126	<0.00010	0.00090
Creek 661	661-20	Primary	VA25B7427-005	2025-07-14	<0.0010	0.162	4.95	0.0182	0.0263	1.90	-	-	<0.0050	<0.0050	<0.50	0.0247	<0.00010	0.00111
Creek 661	661-20	Primary	VA25D0189-004	2025-11-10	<0.0010	0.111	3.52	0.0188	0.0234	3.23	0.121	-	<0.0050	<0.0050	<0.50	0.0161	<0.00010	0.00084
Creek 661	661-20	Duplicate	VA25D0189-005	2025-11-10	<0.0010	0.208	3.60	0.0175	0.0380	2.77	0.180	-	<0.0050	<0.0050	<0.50	0.149	<0.00010	0.00099
Chedakuz Creek	CC-03	Primary	VA25A0356-004	2025-01-06	0.0015	0.219	5.40	0.0085	0.0178	5.51	-	-	<0.0050	<0.0050	<0.50	0.0150	<0.00010	0.00070
Chedakuz Creek	CC-03	Primary	VA25A4598-002	2025-02-28	<0.0010	0.287	6.87	0.0104	0.0203	4.23	-	-	<0.0050	<0.0050	<0.50	0.0157	<0.00010	0.00065
Chedakuz Creek	CC-03	Primary	VA25A5381-002	2025-03-10	<0.0010	0.270	6.05	0.0106	0.0199	4.09	-	-	<0.0050	<0.0050	<0.50	0.0174	<0.00010	0.00056
Chedakuz Creek	CC-03	Duplicate	VA25A5381-003	2025-03-10	<0.0010	0.280	6.29	0.0103	0.0196	4.10	-	-	<0.0050	<0.0050	<0.50	0.0170	<0.00010	0.00056
Chedakuz Creek	CC-03	Primary	VA25A8257-001	2025-04-10	<0.0010	0.377	11.1	0.0114	0.0359	3.56	-	-	<0.0050	<0.0050	<0.50	0.245	<0.00010	0.00054
Chedakuz Creek	CC-03	Primary	VA25B0343-001	2025-05-04	<0.0010	0.452	11.0	0.0052	0.0234	1.99	-	-	<0.0050	<0.0050	<0.50	0.141	<0.00010	0.00052
Chedakuz Creek	CC-03	Primary	VA25B0962-006	2025-05-11	<0.0010	0.414	10.8	0.0035	0.0177	2.00	-	-	<0.0050	<0.0050	<0.50	0.0810	<0.00010	0.00053
Chedakuz Creek	CC-03	Duplicate	VA25B0962-008	2025-05-11	<0.0010	0.400	10.6	0.0035	0.0168	1.96	-	-	<0.0050	<0.0050	<0.50	0.0761	<0.00010	0.00048
Chedakuz Creek	CC-03	Primary	VA25B1482-001	2025-05-14	<0.0010	0.418	10.9	0.0036	0.0185	2.62	-	-	<0.0050	<0.0050	<0.50	0.0770	<0.00010	0.00046
Chedakuz Creek	CC-03	Primary	VA25B2274-004	2025-05-25	<0.0010	0.528	12.8	0.0029	0.0209	2.70	-	-	<0.0050	<0.0050	<0.50	0.105	<0.00010	0.00048
Chedakuz Creek	CC-03	Primary	VA25B2953-003	2025-06-01	<0.0010	0.476	10.1	0.0033	0.0202	2.99	-	-	<0.0050	<0.0050	<0.50	0.0772	<0.00010	0.00047
Chedakuz Creek	CC-03	Primary	VA25B5529-001	2025-06-24	<0.0010	0.293	7.32	0.0100	0.0234	6.49	-	-	<0.0050	<0.0050	<0.50	0.0380	<0.00010	0.00086
Chedakuz Creek	CC-03	Duplicate	VA25B5529-002	2025-06-24	<0.0010	0.283	7.48	0.0105	0.0223	6.46	-	-	<0.0050	<0.0050	<0.50	0.0274	<0.00010	0.00085
Chedakuz Creek	CC-03	Primary	VA25B7427-003	2025-07-14	<0.0010	0.213	5.98	0.0097	0.0190	7.35	-	-	<0.0050	<0.0050	<0.50	0.0114	<0.00010	0.00077
Chedakuz Creek	CC-03	Primary	VA25C0216-005	2025-08-11	<0.0010	0.247	6.07	0.0099	0.0200	4.60	-	-	<0.0050	<0.0050	<0.50	0.0093	<0.00010	0.00095
Chedakuz Creek	CC-03	Primary	VA25C4972-002	2025-09-19	<0.0010	0.189	4.86	0.0105	0.0203	4.19	0.186	-	<0.0050	<0.0050	<0.50	0.0051	<0.00010	0.00082
Chedakuz Creek	CC-03	Primary	VA25C7355-005	2025-10-07	<0.0010	0.142	4.03	0.0087	0.0151	6.31	0.152	-	<0.0050	<0.0050	<0.50	0.0058	<0.00010	0.00067
Chedakuz Creek	CC-03	Primary	VA25C7416-004	2025-10-13	<0.0010	0.192	4.04	0.0087	0.0192	6.71	0.158	-	<0.0050	<0.0050	<0.50	0.0263	<0.00010	0.00067
Chedakuz Creek	CC-03	Primary	VA25C8047-002	2025-10-18	<0.0010	0.114	3.99	0.0074	0.0136	6.41	0.129	-	<0.0050	<0.0050	<0.50	0.0050	<0.00010	0.00055
Chedakuz Creek	CC-03	Primary	VA25C8919-003	2025-10-26	<0.0010	0.150	4.22	0.0062	0.0144	7.93	0.146	-	<0.0050	<0.0050	<0.50	0.0085	<0.00010	0.00058
Chedakuz Creek	CC-03	Duplicate	VA25C8919-004	2025-10-26	<0.0010	0.140	4.12	0.0064	0.0152	7.92	0.137	-	<0.0050	<0.0050	<0.50	0.0075	<0.00010	0.00054
Chedakuz Creek	CC-03	Primary	VA25C9099-001	2025-10-28	<0.0010	0.129	3.84	0.0076	0.0141	7.78	0.132	-	<0.0050	<0.0050	<0.50	0.0061	<0.00010	0.00054
Chedakuz Creek	CC-03	Primary	VA25D0189-006	2025-11-10	<0.0010	0.142	3.69	0.0086	0.0136	7.96	0.136	-	<0.0050	<0.0050	<0.50	0.0081	<0.00010	0.00058
Chedakuz Creek	CC-03	Primary	VA25D4214-002	2025-12-26	0.0016	0.223	3.45	0.0101	0.0207	8.06	0.327	-	<0.0050	<0.0050	<0.50	0.0171	<0.00010	0.00069
Chedakuz Creek	CC-03	Duplicate	VA25D4214-003	2025-12-26	0.0015	0.219	3.47	0.0104	0.0212	8.02	0.315	-	<0.0050	<0.0050	<0.50	0.0182	<0.00010	0.00070
Chedakuz Creek	CC-05	Primary	VA25A4598-003	2025-02-28	<0.0010	0.213	5.43	0.0169	0.0264	4.14	-	-	<0.0050	<0.0050	<0.50	0.0157	<0.00010	0.00069
Chedakuz Creek	CC-05	Duplicate	VA25A4598-004	2025-02-28	<0.0010	0.224	5.62	0.0170	0.0331	4.17	-	-	<0.0050	<0.0050	<0.50	0.0150	<0.00010	0.00067
Chedakuz Creek	CC-05	Primary	VA25B0343-002	2025-05-04	<0.0010	0.494	14.2	0.0051	0.0349	1.98	-	-	<0.0050	<0.0050	<0.50	0.309	<0.00010	0.00076
Chedakuz Creek	CC-05	Duplicate	VA25B0343-003	2025-05-04	<0.0010	0.493	14.8	0.0053	0.0393	1.99	-	-	<0.0050	<0.0050	<0.50	0.305	<0.00010	0.00074
Chedakuz Creek	CC-05	Primary	VA25B7427-004	2025-07-14	<0.0010	0.224	6.07	0.0125	0.0235	4.49	-	-	<0.0050	<0.0050	<0.50	0.0190	<0.00010	0.00071
Chedakuz Creek	CC-05	Primary	VA25D0189-007	2025-11-10	<0.0010	0.138	3.93	0.0109	0.0198	5.43	0.166	-	<0.0050	<0.0050	<0.50	0.0382	<0.00010	0.00066
Chedakuz Creek	CC-10	Primary	VA25A3507-005	2025-02-17	0.0015	0.258	8.06	0.0177	0.0279	4.33	-	-	<0.0050	<0.0050	<0.50	<0.0030	<0.00010	0.00065
Chedakuz Creek	CC-10	Primary	VA25B1482-006	2025-05-14	0.0021	0.290	6.70	0.0104	0.0322	4.01	-	-	<0.0050	<0.0050	<0.50	0.0037	<0.00010	0.00063
Chedakuz Creek	CC-10	Primary	VA25B9374-003	2025-08-03	<0.0010	0.349	7.77	<0.0010	0.0116	3.67	-	-	<0.0050	<0.0050	<0.50	0.0061	<0.00010	0.00064
Chedakuz Creek	CC-10	Primary	VA25D1976-005	2025-11-26	<0.0010	0.294	6.75	0.0141	0.0258	3.93	0.355	-	<0.0050	<0.0050	<0.50	0.0054	<0.00010	0.00061

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals												
					Barium, Total (mg/L)	Beryllium, Total (mg/L)	Bismuth, Total (mg/L)	Boron, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Lithium, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
Creek 661	661-10	Primary	VA25B7427-002	2025-07-14	0.00634	0.000027	<0.000050	<0.010	0.0000361	9.19	0.00083	0.00014	0.00090	0.671	<0.000050	<0.0010	1.99	0.0241
Creek 661	661-10	Primary	VA25C0216-004	2025-08-11	0.00821	0.000038	<0.000050	<0.010	0.0000507	12.9	0.00130	0.00026	0.00100	1.82	0.000064	<0.0010	2.96	0.0394
Creek 661	661-10	Primary	VA25C5489-002	2025-09-23	0.00702	0.000022	<0.000050	<0.010	0.0000285	10.6	0.00080	0.00030	0.00056	1.20	<0.000050	<0.0010	2.67	0.0930
Creek 661	661-10	Primary	VA25C7416-003	2025-10-13	0.00643	<0.000020	<0.000050	<0.010	0.0000275	10.1	0.00054	0.00033	<0.00050	0.781	0.000066	<0.0010	2.64	0.108
Creek 661	661-10	Primary	VA25C8047-001	2025-10-18	0.00518	<0.000020	<0.000050	<0.010	0.0000169	9.04	<0.00050	0.00013	<0.00050	0.541	<0.000050	<0.0010	2.36	0.0384
Creek 661	661-10	Primary	VA25C8919-002	2025-10-26	0.00647	<0.000020	<0.000050	<0.010	0.0000200	9.12	0.00053	0.00016	0.00051	0.503	0.000131	<0.0010	2.37	0.0371
Creek 661	661-10	Primary	VA25C9099-002	2025-10-28	0.00652	<0.000020	<0.000050	<0.010	0.0000226	9.49	<0.00050	0.00023	<0.00050	0.593	0.000064	<0.0010	2.43	0.0706
Creek 661	661-10	Primary	VA25D0189-003	2025-11-10	0.00538	<0.000020	<0.000050	<0.010	0.0000135	9.93	<0.00050	0.00014	<0.00050	0.459	<0.000050	<0.0010	2.39	0.0380
Creek 661	661-10	Primary	VA25D4214-001	2025-12-26	0.00641	<0.000020	<0.000050	<0.010	0.0000186	11.0	<0.00050	0.00026	0.00089	0.370	0.000051	<0.0010	2.78	0.0463
Creek 661	661-20	Primary	VA25A4598-001	2025-02-28	0.00758	<0.000020	<0.000050	<0.010	<0.0000050	20.2	<0.00050	<0.00010	<0.00050	0.139	<0.000050	<0.0010	6.42	0.00869
Creek 661	661-20	Primary	VA25A7611-006	2025-04-04	0.00760	<0.000020	<0.000050	<0.010	0.0000059	18.4	<0.00050	<0.00010	0.00051	0.202	<0.000050	<0.0010	5.92	0.00840
Creek 661	661-20	Primary	VA25B7427-005	2025-07-14	0.00757	<0.000020	<0.000050	<0.010	<0.0000050	18.6	<0.00050	<0.00010	<0.00050	0.113	<0.000050	<0.0010	5.15	0.00944
Creek 661	661-20	Primary	VA25D0189-004	2025-11-10	0.00697	<0.000020	<0.000050	<0.010	<0.0000050	19.0	<0.00050	<0.00010	<0.00050	0.111	<0.000050	<0.0010	5.55	0.00569
Creek 661	661-20	Duplicate	VA25D0189-005	2025-11-10	0.00868	<0.000020	<0.000050	<0.010	0.0000148	18.0	0.00051	0.00011	<0.00050	0.379	0.000090	<0.0010	5.53	0.0441
Chedakuz Creek	CC-03	Primary	VA25A0356-004	2025-01-06	0.00855	<0.000020	<0.000050	<0.010	<0.0000050	34.1	<0.00050	<0.00010	<0.00050	0.101	<0.000050	<0.0010	9.95	0.0178
Chedakuz Creek	CC-03	Primary	VA25A4598-002	2025-02-28	0.00896	<0.000020	<0.000050	<0.010	<0.0000050	29.1	<0.00050	<0.00010	<0.00050	0.082	<0.000050	<0.0010	9.00	0.0168
Chedakuz Creek	CC-03	Primary	VA25A5381-002	2025-03-10	0.00809	<0.000020	<0.000050	<0.010	<0.0000050	26.8	<0.00050	<0.00010	<0.00050	0.088	<0.000050	<0.0010	8.03	0.0175
Chedakuz Creek	CC-03	Duplicate	VA25A5381-003	2025-03-10	0.00847	<0.000020	<0.000050	<0.010	<0.0000050	27.2	<0.00050	<0.00010	<0.00050	0.086	<0.000050	<0.0010	8.10	0.0168
Chedakuz Creek	CC-03	Primary	VA25A8257-001	2025-04-10	0.00686	<0.000020	<0.000050	<0.010	<0.0000050	18.1	<0.00050	<0.00010	0.00054	0.313	<0.000050	<0.0010	5.85	0.0225
Chedakuz Creek	CC-03	Primary	VA25B0343-001	2025-05-04	0.00621	<0.000020	<0.000050	<0.010	<0.0000050	14.3	<0.00050	<0.00010	<0.00050	0.204	<0.000050	<0.0010	4.50	0.0370
Chedakuz Creek	CC-03	Primary	VA25B0962-006	2025-05-11	0.00604	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010	<0.00050	0.138	<0.000050	<0.0010	4.76	0.0286
Chedakuz Creek	CC-03	Duplicate	VA25B0962-008	2025-05-11	0.00590	<0.000020	<0.000050	<0.010	<0.0000050	16.2	<0.00050	<0.00010	<0.00050	0.119	<0.000050	<0.0010	5.08	0.0245
Chedakuz Creek	CC-03	Primary	VA25B1482-001	2025-05-14	0.00588	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010	<0.00050	0.126	<0.000050	<0.0010	4.52	0.0226
Chedakuz Creek	CC-03	Primary	VA25B2274-004	2025-05-25	0.00662	<0.000020	<0.000050	<0.010	<0.0000050	17.0	<0.00050	<0.00010	<0.00050	0.163	<0.000050	<0.0010	5.02	0.0263
Chedakuz Creek	CC-03	Primary	VA25B2953-003	2025-06-01	0.00626	<0.000020	<0.000050	<0.010	<0.0000050	19.8	<0.00050	<0.00010	<0.00050	0.138	<0.000050	<0.0010	5.12	0.0302
Chedakuz Creek	CC-03	Primary	VA25B5529-001	2025-06-24	0.00745	<0.000020	<0.000050	<0.010	<0.0000050	26.7	<0.00050	<0.00010	<0.00050	0.147	<0.000050	<0.0010	5.91	0.0396
Chedakuz Creek	CC-03	Duplicate	VA25B5529-002	2025-06-24	0.00737	<0.000020	<0.000050	<0.010	<0.0000050	26.9	<0.00050	<0.00010	<0.00050	0.135	<0.000050	<0.0010	5.76	0.0357
Chedakuz Creek	CC-03	Primary	VA25B7427-003	2025-07-14	0.00731	<0.000020	<0.000050	<0.010	<0.0000050	30.2	<0.00050	<0.00010	<0.00050	0.125	<0.000050	<0.0010	6.96	0.0200
Chedakuz Creek	CC-03	Primary	VA25C0216-005	2025-08-11	0.00750	<0.000020	<0.000050	<0.010	<0.0000050	32.3	<0.00050	<0.00010	<0.00050	0.142	<0.000050	<0.0010	8.01	0.0181
Chedakuz Creek	CC-03	Primary	VA25C4972-002	2025-09-19	0.00733	<0.000020	<0.000050	<0.010	<0.0000050	34.6	<0.00050	<0.00010	<0.00050	0.127	<0.000050	<0.0010	9.32	0.0142
Chedakuz Creek	CC-03	Primary	VA25C7355-005	2025-10-07	0.00661	<0.000020	<0.000050	<0.010	<0.0000050	34.1	<0.00050	<0.00010	<0.00050	0.116	<0.000050	<0.0010	9.70	0.0129
Chedakuz Creek	CC-03	Primary	VA25C7416-004	2025-10-13	0.00712	<0.000020	<0.000050	<0.010	<0.0000050	33.3	<0.00050	<0.00010	0.00084	0.172	<0.000050	<0.0010	10.1	0.0394
Chedakuz Creek	CC-03	Primary	VA25C8047-002	2025-10-18	0.00625	<0.000020	<0.000050	<0.010	<0.0000050	30.2	<0.00050	<0.00010	<0.00050	0.092	<0.000050	<0.0010	8.83	0.00887
Chedakuz Creek	CC-03	Primary	VA25C8919-003	2025-10-26	0.00624	<0.000020	<0.000050	<0.010	<0.0000050	30.1	<0.00050	<0.00010	<0.00050	0.096	<0.000050	<0.0010	8.10	0.0125
Chedakuz Creek	CC-03	Duplicate	VA25C8919-004	2025-10-26	0.00616	<0.000020	<0.000050	<0.010	<0.0000050	31.3	<0.00050	<0.00010	<0.00050	0.096	<0.000050	<0.0010	8.11	0.0135
Chedakuz Creek	CC-03	Primary	VA25C9099-001	2025-10-28	0.00657	<0.000020	<0.000050	<0.010	<0.0000050	31.5	<0.00050	<0.00010	<0.00050	0.095	<0.000050	<0.0010	8.58	0.0123
Chedakuz Creek	CC-03	Primary	VA25D0189-006	2025-11-10	0.00632	<0.000020	<0.000050	<0.010	<0.0000050	31.8	<0.00050	<0.00010	<0.00050	0.091	<0.000050	<0.0010	8.87	0.0108
Chedakuz Creek	CC-03	Primary	VA25D4214-002	2025-12-26	0.00752	<0.000020	<0.000050	<0.010	<0.0000050	35.3	<0.00050	<0.00010	<0.00050	0.181	<0.000050	<0.0010	9.80	0.0268
Chedakuz Creek	CC-03	Duplicate	VA25D4214-003	2025-12-26	0.00794	<0.000020	<0.000050	<0.010	<0.0000050	35.6	<0.00050	<0.00010	<0.00050	0.185	<0.000050	<0.0010	10.2	0.0278
Chedakuz Creek	CC-05	Primary	VA25A4598-003	2025-02-28	0.00838	<0.000020	<0.000050	<0.010	<0.0000050	26.1	<0.00050	<0.00010	<0.00050	0.110	<0.000050	<0.0010	8.41	0.0165
Chedakuz Creek	CC-05	Duplicate	VA25A4598-004	2025-02-28	0.00833	<0.000020	<0.000050	<0.010	<0.0000050	26.1	<0.00050	<0.00010	<0.00050	0.112	<0.000050	<0.0010	8.26	0.0172
Chedakuz Creek	CC-05	Primary	VA25B0343-002	2025-05-04	0.00652	0.000022	<0.000050	<0.010	0.0000117	10.4	<0.00050	0.00015	0.00094	0.410	0.000081	<0.0010	2.87	0.0335
Chedakuz Creek	CC-05	Duplicate	VA25B0343-003	2025-05-04	0.00645	0.000021	<0.000050	<0.010	<0.0000050	10.5	0.00052	0.00014	0.00094	0.387	0.000095	<0.0010	2.97	0.0314
Chedakuz Creek	CC-05	Primary	VA25B7427-004	2025-07-14	0.00702	<0.000020	<0.000050	<0.010	<0.0000050	25.2	<0.00050	<0.00010	<0.00050	0.134	<0.000050	<0.0010	5.83	0.0239
Chedakuz Creek	CC-05	Primary	VA25D0189-007	2025-11-10	0.00676	<0.000020	<0.000050	<0.010	<0.0000050	25.5	<0.00050	<0.00010	<0.00050	0.140	<0.000050	<0.0010	6.96	0.0162
Chedakuz Creek	CC-10	Primary	VA25A3507-005	2025-02-17	0.00660	<0.000020	<0.000050	<0.010	<0.0000050	24.0	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	5.45	0.00386
Chedakuz Creek	CC-10	Primary	VA25B1482-006	2025-05-14	0.00633	<0.000020	<0.000050	<0.010	<0.0000050	19.5	<0.00050	<0.00010	<0.00050	0.035	<0.000050	<0.0010	4.96	0.0954
Chedakuz Creek	CC-10	Primary	VA25B9374-003	2025-08-03	0.00556	<0.000020	<0.000050	<0.010	<0.0000050	19.9	<0.00050	<0.00010	<0.00050	0.017	<0.000050	<0.0010	4.63	0.0163
Chedakuz Creek	CC-10	Primary	VA25D1976-005	2025-11-26	0.00587	<0.000020	<0.000050	<0.010	<0.0000050	21.9	<0.00050	<0.00010	<0.00050	0.029	<0.000050	<0.0010	5.22	0.0254

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Mercury, Total (mg/L)	Molybdenum, Total (mg/L)	Nickel, Total (mg/L)	Phosphorus, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silicon, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Strontium, Total (mg/L)	Sulphur, Total (mg/L)	Thallium, Total (mg/L)	Tin, Total (mg/L)	Titanium, Total (mg/L)
Creek 661	661-10	Primary	VA25B7427-002	2025-07-14	<0.0000050	0.000672	0.00056	0.052	0.433	0.000167	5.97	0.000013	3.00	0.0613	<0.50	<0.000010	<0.00010	0.00208
Creek 661	661-10	Primary	VA25C0216-004	2025-08-11	0.0000077	0.00120	0.00104	0.112	0.503	0.000207	7.16	0.000018	3.28	0.0850	<0.50	<0.000010	<0.00010	0.00337
Creek 661	661-10	Primary	VA25C5489-002	2025-09-23	<0.0000050	0.000916	0.00063	0.050	0.604	0.000124	8.02	<0.000010	4.04	0.0744	0.65	<0.000010	<0.00010	0.00207
Creek 661	661-10	Primary	VA25C7416-003	2025-10-13	<0.0000050	0.000604	<0.00050	<0.050	0.511	0.000063	7.82	<0.000010	3.77	0.0639	0.82	<0.000010	<0.00010	0.00298
Creek 661	661-10	Primary	VA25C8047-001	2025-10-18	<0.0000050	0.000580	<0.00050	<0.050	0.502	0.000076	7.71	<0.000010	3.60	0.0622	0.50	<0.000010	<0.00010	0.00122
Creek 661	661-10	Primary	VA25C8919-002	2025-10-26	<0.0000050	0.000585	<0.00050	<0.050	0.765	0.000072	7.96	<0.000010	3.42	0.0629	0.96	<0.000010	<0.00010	0.00458
Creek 661	661-10	Primary	VA25C9099-002	2025-10-28	<0.0000050	0.000578	<0.00050	<0.050	0.646	0.000063	7.98	<0.000010	3.59	0.0641	1.05	<0.000010	<0.00010	0.00330
Creek 661	661-10	Primary	VA25D0189-003	2025-11-10	<0.0000050	0.000562	<0.00050	<0.050	0.567	0.000055	7.50	<0.000010	3.35	0.0634	0.89	<0.000010	<0.00010	0.00154
Creek 661	661-10	Primary	VA25D4214-001	2025-12-26	<0.0000050	0.000467	<0.00050	<0.050	0.570	<0.000050	8.39	<0.000010	3.72	0.0697	1.01	<0.000010	<0.00010	0.00178
Creek 661	661-20	Primary	VA25A4598-001	2025-02-28	<0.0000050	0.000989	<0.00050	0.051	0.897	0.000077	8.08	<0.000010	5.09	0.112	0.81	<0.000010	<0.00010	0.00055
Creek 661	661-20	Primary	VA25A7611-006	2025-04-04	<0.0000050	0.000891	<0.00050	0.071	1.28	0.000056	7.23	<0.000010	4.40	0.0905	1.57	<0.000010	<0.00010	0.00421
Creek 661	661-20	Primary	VA25B7427-005	2025-07-14	<0.0000050	0.000965	<0.00050	<0.050	0.768	0.000071	6.93	<0.000010	4.58	0.0952	0.59	<0.000010	<0.00010	0.00056
Creek 661	661-20	Primary	VA25D0189-004	2025-11-10	<0.0000050	0.000933	<0.00050	<0.050	0.799	0.000060	7.53	<0.000010	4.41	0.0959	0.90	<0.000010	<0.00010	0.00053
Creek 661	661-20	Duplicate	VA25D0189-005	2025-11-10	<0.0000050	0.000970	<0.00050	<0.050	0.794	0.000090	7.59	<0.000010	4.57	0.0984	0.81	<0.000010	<0.00010	0.00639
Chedakuz Creek	CC-03	Primary	VA25A0356-004	2025-01-06	<0.0000050	0.000938	<0.00050	<0.050	1.32	0.000063	6.87	<0.000010	5.70	0.148	2.01	<0.000010	<0.00010	0.00072
Chedakuz Creek	CC-03	Primary	VA25A4598-002	2025-02-28	<0.0000050	0.000697	<0.00050	<0.050	1.41	0.000066	5.85	<0.000010	5.10	0.138	1.40	<0.000010	<0.00010	0.00048
Chedakuz Creek	CC-03	Primary	VA25A5381-002	2025-03-10	<0.0000050	0.000689	<0.00050	<0.050	1.21	<0.000050	5.37	<0.000010	4.97	0.117	1.43	<0.000010	<0.00010	0.00085
Chedakuz Creek	CC-03	Duplicate	VA25A5381-003	2025-03-10	<0.0000050	0.000700	<0.00050	<0.050	1.21	<0.000050	5.34	<0.000010	5.10	0.121	1.28	<0.000010	<0.00010	<0.00090
Chedakuz Creek	CC-03	Primary	VA25A8257-001	2025-04-10	<0.0000050	0.000630	<0.00050	<0.050	1.21	0.000066	5.37	<0.000010	3.38	0.0840	1.36	<0.000010	<0.00010	0.00761
Chedakuz Creek	CC-03	Primary	VA25B0343-001	2025-05-04	<0.0000050	0.000524	<0.00050	<0.050	0.740	0.000060	3.51	<0.000010	3.22	0.0676	0.52	<0.000010	<0.00010	0.00536
Chedakuz Creek	CC-03	Primary	VA25B0962-006	2025-05-11	<0.0000050	0.000591	<0.00050	<0.050	0.736	<0.000050	3.56	<0.000010	2.98	0.0733	0.69	<0.000010	<0.00010	0.00322
Chedakuz Creek	CC-03	Duplicate	VA25B0962-008	2025-05-11	<0.0000050	0.000603	<0.00050	<0.050	0.775	0.000053	3.47	<0.000010	3.08	0.0727	0.64	<0.000010	<0.00010	0.00308
Chedakuz Creek	CC-03	Primary	VA25B1482-001	2025-05-14	<0.0000050	0.000662	<0.00050	<0.050	0.689	0.000055	3.55	<0.000010	3.22	0.0809	0.59	<0.000010	<0.00010	0.00290
Chedakuz Creek	CC-03	Primary	VA25B2274-004	2025-05-25	<0.0000050	0.000577	<0.00050	<0.050	0.727	<0.000050	3.78	<0.000010	3.03	0.0752	0.60	<0.000010	<0.00010	0.00422
Chedakuz Creek	CC-03	Primary	VA25B2953-003	2025-06-01	<0.0000050	0.000610	<0.00050	<0.050	0.740	0.000052	3.71	<0.000010	3.14	0.0827	0.76	<0.000010	<0.00010	0.00323
Chedakuz Creek	CC-03	Primary	VA25B5529-001	2025-06-24	<0.0000050	0.000883	<0.00050	<0.050	0.808	0.000059	5.93	<0.000010	3.52	0.101	2.40	<0.000010	<0.00010	0.00176
Chedakuz Creek	CC-03	Duplicate	VA25B5529-002	2025-06-24	<0.0000050	0.000860	<0.00050	<0.050	0.790	<0.000050	5.84	<0.000010	3.39	0.0983	2.51	<0.000010	<0.00010	0.00105
Chedakuz Creek	CC-03	Primary	VA25B7427-003	2025-07-14	<0.0000050	0.000892	<0.00050	<0.050	0.888	0.000088	6.05	<0.000010	4.11	0.109	2.57	<0.000010	<0.00010	0.00047
Chedakuz Creek	CC-03	Primary	VA25C0216-005	2025-08-11	<0.0000050	0.00107	<0.00050	0.051	0.956	0.000053	6.07	<0.000010	4.59	0.120	1.53	<0.000010	<0.00010	0.00043
Chedakuz Creek	CC-03	Primary	VA25C4972-002	2025-09-19	<0.0000050	0.00110	<0.00050	<0.050	1.25	0.000056	7.25	<0.000010	5.39	0.133	1.84	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-03	Primary	VA25C7355-005	2025-10-07	<0.0000050	0.000976	<0.00050	<0.050	1.17	<0.000050	7.33	<0.000010	5.36	0.135	2.45	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-03	Primary	VA25C7416-004	2025-10-13	<0.0000050	0.000970	<0.00050	<0.050	1.16	0.000057	7.44	<0.000010	5.52	0.126	2.43	<0.000010	<0.00010	0.00103
Chedakuz Creek	CC-03	Primary	VA25C8047-002	2025-10-18	<0.0000050	0.000905	<0.00050	<0.050	1.04	<0.000050	7.26	<0.000010	5.37	0.126	2.11	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-03	Primary	VA25C8919-003	2025-10-26	<0.0000050	0.000816	<0.00050	<0.050	1.18	<0.000050	7.35	<0.000010	4.88	0.119	3.08	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-03	Duplicate	VA25C8919-004	2025-10-26	<0.0000050	0.000818	<0.00050	<0.050	1.17	0.000058	7.17	<0.000010	4.71	0.123	2.79	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-03	Primary	VA25C9099-001	2025-10-28	<0.0000050	0.000836	<0.00050	<0.050	1.07	0.000050	7.32	<0.000010	4.87	0.120	3.08	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-03	Primary	VA25D0189-006	2025-11-10	<0.0000050	0.000904	<0.00050	<0.050	1.08	<0.000050	6.62	<0.000010	4.84	0.124	2.77	<0.000010	<0.00010	0.00041
Chedakuz Creek	CC-03	Primary	VA25D4214-002	2025-12-26	<0.0000050	0.000871	0.00071	<0.050	1.21	<0.000050	8.28	<0.000010	5.25	0.128	2.99	<0.000010	<0.00010	0.00071
Chedakuz Creek	CC-03	Duplicate	VA25D4214-003	2025-12-26	<0.0000050	0.000868	<0.00050	<0.050	1.24	0.000054	8.16	<0.000010	5.65	0.130	2.69	<0.000010	<0.00010	0.00091
Chedakuz Creek	CC-05	Primary	VA25A4598-003	2025-02-28	<0.0000050	0.000788	<0.00050	<0.050	1.29	0.000067	6.55	<0.000010	5.14	0.130	1.46	<0.000010	<0.00010	0.00054
Chedakuz Creek	CC-05	Duplicate	VA25A4598-004	2025-02-28	<0.0000050	0.000769	<0.00050	<0.050	1.30	0.000063	6.59	<0.000010	5.05	0.132	1.56	<0.000010	<0.00010	0.00051
Chedakuz Creek	CC-05	Primary	VA25B0343-002	2025-05-04	0.0000051	0.000464	<0.00050	<0.050	0.670	0.000074	4.70	0.000010	2.86	0.0513	<0.50	<0.000010	<0.00010	0.00978
Chedakuz Creek	CC-05	Duplicate	VA25B0343-003	2025-05-04	0.0000051	0.000471	<0.00050	<0.050	0.688	0.000069	4.77	<0.000010	2.90	0.0523	<0.50	<0.000010	<0.00010	0.0101
Chedakuz Creek	CC-05	Primary	VA25B7427-004	2025-07-14	<0.0000050	0.000840	<0.00050	<0.050	0.772	0.000071	6.27	<0.000010	3.99	0.106	1.40	<0.000010	<0.00010	0.00065
Chedakuz Creek	CC-05	Primary	VA25D0189-007	2025-11-10	<0.0000050	0.000878	<0.00050	<0.050	0.919	<0.000050	7.08	<0.000010	4.66	0.110	1.94	<0.000010	<0.00010	<0.00210
Chedakuz Creek	CC-10	Primary	VA25A3507-005	2025-02-17	<0.0000050	0.000685	<0.00050	<0.050	1.01	0.000079	5.02	<0.000010	4.26	0.112	1.64	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-10	Primary	VA25B1482-006	2025-05-14	<0.0000050	0.000614	<0.00050	<0.050	0.789	0.000070	4.85	<0.000010	3.73	0.102	1.07	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-10	Primary	VA25B9374-003	2025-08-03	<0.0000050	0.000615	<0.00050	<0.050	0.749	0.000056	2.00	<0.000010	3.57	0.0984	1.32	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-10	Primary	VA25D1976-005	2025-11-26	<0.0000050	0.000580	<0.00050	<0.050	0.846	0.000080	3.63	<0.000010	4.11	0.105	1.32	<0.000010	<0.00010	<0.00030

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals			Dissolved Metals										
					Uranium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)	Aluminum, Dissolved (mg/L)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Beryllium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L)	Boron, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Cobalt, Dissolved (mg/L)
Creek 661	661-10	Primary	VA25B7427-002	2025-07-14	0.000184	0.00159	0.0062	0.108	<0.00010	0.00218	0.00630	0.000024	<0.000050	<0.010	0.0000250	9.16	0.00076	0.00010
Creek 661	661-10	Primary	VA25C0216-004	2025-08-11	0.000255	0.00242	0.0071	0.129	0.00011	0.00503	0.00792	0.000033	<0.000050	<0.010	0.0000382	12.7	0.00120	0.00020
Creek 661	661-10	Primary	VA25C5489-002	2025-09-23	0.000145	0.00151	0.0048	0.0706	<0.00010	0.00263	0.00599	0.000020	<0.000050	<0.010	0.0000217	11.4	0.00065	0.00018
Creek 661	661-10	Primary	VA25C7416-003	2025-10-13	0.000108	0.00115	0.0049	0.0466	<0.00010	0.00130	0.00499	<0.000020	<0.000050	<0.010	0.0000114	10.4	<0.00050	0.00012
Creek 661	661-10	Primary	VA25C8047-001	2025-10-18	0.000090	0.00088	0.0034	0.0492	<0.00010	0.00116	0.00508	<0.000020	<0.000050	<0.010	0.0000117	9.98	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25C8919-002	2025-10-26	0.000091	0.00101	0.0043	0.0746	<0.00010	0.00092	0.00543	<0.000020	<0.000050	<0.010	0.0000147	9.17	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25C9099-002	2025-10-28	0.000096	0.00112	0.0047	0.0512	<0.00010	0.00096	0.00492	<0.000020	<0.000050	<0.010	0.0000100	9.05	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25D0189-003	2025-11-10	0.000082	0.00089	0.0041	0.0469	<0.00010	0.00087	0.00497	<0.000020	<0.000050	<0.010	0.0000105	9.31	<0.00050	<0.00010
Creek 661	661-10	Primary	VA25D4214-001	2025-12-26	0.000078	0.00088	0.0048	0.0426	<0.00010	0.00065	0.00634	<0.000020	<0.000050	<0.010	0.0000142	10.4	<0.00050	0.00019
Creek 661	661-20	Primary	VA25A4598-001	2025-02-28	0.000519	0.00070	<0.0030	0.0048	<0.00010	0.00089	0.00760	<0.000020	<0.000050	<0.010	<0.0000050	19.2	<0.00050	<0.00010
Creek 661	661-20	Primary	VA25A7611-006	2025-04-04	0.000300	0.00091	<0.0030	0.0349	<0.00010	0.00079	0.00711	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010
Creek 661	661-20	Primary	VA25B7427-005	2025-07-14	0.000314	0.00107	<0.0030	0.0138	<0.00010	0.00111	0.00792	<0.000020	<0.000050	<0.010	<0.0000050	17.9	<0.00050	<0.00010
Creek 661	661-20	Primary	VA25D0189-004	2025-11-10	0.000281	0.00063	<0.0030	0.0077	<0.00010	0.00085	0.00658	<0.000020	<0.000050	<0.010	<0.0000050	17.9	<0.00050	<0.00010
Creek 661	661-20	Duplicate	VA25D0189-005	2025-11-10	0.000321	0.00112	<0.0030	0.0083	<0.00010	0.00084	0.00677	<0.000020	<0.000050	<0.010	<0.0000050	18.6	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25A0356-004	2025-01-06	0.000242	<0.00050	<0.0030	0.0018	<0.00010	0.00061	0.00842	<0.000020	<0.000050	<0.010	<0.0000050	34.0	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25A4598-002	2025-02-28	0.000182	<0.00050	<0.0030	0.0025	<0.00010	0.00063	0.00918	<0.000020	<0.000050	<0.010	<0.0000050	28.4	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25A5381-002	2025-03-10	0.000157	<0.00050	<0.0030	0.0021	<0.00010	0.00057	0.00744	<0.000020	<0.000050	<0.010	<0.0000050	26.6	<0.00050	<0.00010
Chedakuz Creek	CC-03	Duplicate	VA25A5381-003	2025-03-10	0.000166	<0.00050	<0.0030	0.0023	<0.00010	0.00055	0.00767	<0.000020	<0.000050	<0.010	<0.0000050	27.3	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25A8257-001	2025-04-10	0.000090	0.00062	<0.0030	0.0922	<0.00010	0.00043	0.00661	<0.000020	<0.000050	<0.010	<0.0000050	17.3	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25B0343-001	2025-05-04	0.000047	0.00060	<0.0030	0.0466	<0.00010	0.00045	0.00497	<0.000020	<0.000050	<0.010	<0.0000050	14.1	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25B0962-006	2025-05-11	0.000054	0.00057	<0.0030	0.0253	<0.00010	0.00043	0.00517	<0.000020	<0.000050	<0.010	<0.0000050	15.5	<0.00050	<0.00010
Chedakuz Creek	CC-03	Duplicate	VA25B0962-008	2025-05-11	0.000053	0.00056	<0.0030	0.0261	<0.00010	0.00040	0.00521	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25B1482-001	2025-05-14	0.000063	<0.00050	<0.0030	0.0326	<0.00010	0.00044	0.00565	<0.000020	<0.000050	<0.010	<0.0000050	15.8	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25B2274-004	2025-05-25	0.000050	0.00057	<0.0030	0.0270	<0.00010	0.00044	0.00534	<0.000020	<0.000050	<0.010	<0.0000050	16.0	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25B2953-003	2025-06-01	0.000056	0.00056	<0.0030	0.0206	<0.00010	0.00044	0.00603	<0.000020	<0.000050	<0.010	<0.0000050	18.2	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25B5529-001	2025-06-24	0.000108	0.00064	<0.0030	0.0074	<0.00010	0.00078	0.00677	<0.000020	<0.000050	<0.010	<0.0000050	24.6	<0.00050	<0.00010
Chedakuz Creek	CC-03	Duplicate	VA25B5529-002	2025-06-24	0.000106	0.00063	<0.0030	0.0072	<0.00010	0.00081	0.00698	<0.000020	<0.000050	<0.010	<0.0000050	25.2	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25B7427-003	2025-07-14	0.000156	0.00056	<0.0030	0.0045	<0.00010	0.00075	0.00738	<0.000020	<0.000050	<0.010	<0.0000050	30.3	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25C0216-005	2025-08-11	0.000184	<0.00050	<0.0030	0.0030	<0.00010	0.00090	0.00734	<0.000020	<0.000050	<0.010	<0.0000050	31.1	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25C4972-002	2025-09-19	0.000224	<0.00050	<0.0030	0.0016	<0.00010	0.00076	0.00734	<0.000020	<0.000050	<0.010	<0.0000050	33.2	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25C7355-005	2025-10-07	0.000235	<0.00050	<0.0030	<0.0010	<0.00010	0.00063	0.00668	<0.000020	<0.000050	<0.010	<0.0000050	34.1	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25C7416-004	2025-10-13	0.000258	<0.00050	<0.0030	0.0011	<0.00010	0.00059	0.00636	<0.000020	<0.000050	<0.010	<0.0000050	34.3	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25C8047-002	2025-10-18	0.000239	<0.00050	<0.0030	0.0014	<0.00010	0.00055	0.00622	<0.000020	<0.000050	<0.010	<0.0000050	35.1	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25C8919-003	2025-10-26	0.000197	<0.00050	<0.0030	0.0021	<0.00010	0.00053	0.00610	<0.000020	<0.000050	<0.010	<0.0000050	29.3	<0.00050	<0.00010
Chedakuz Creek	CC-03	Duplicate	VA25C8919-004	2025-10-26	0.000196	<0.00050	<0.0030	0.0034	<0.00010	0.00053	0.00603	<0.000020	<0.000050	<0.010	<0.0000050	30.2	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25C9099-001	2025-10-28	0.000197	<0.00050	<0.0030	0.0018	<0.00010	0.00051	0.00584	<0.000020	<0.000050	<0.010	<0.0000050	31.0	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25D0189-006	2025-11-10	0.000208	<0.00050	<0.0030	0.0029	<0.00010	0.00055	0.00627	<0.000020	<0.000050	<0.010	<0.0000050	32.1	<0.00050	<0.00010
Chedakuz Creek	CC-03	Primary	VA25D4214-002	2025-12-26	0.000251	<0.00050	<0.0030	0.0019	<0.00010	0.00061	0.00774	<0.000020	<0.000050	<0.010	<0.0000050	35.2	<0.00050	<0.00010
Chedakuz Creek	CC-03	Duplicate	VA25D4214-003	2025-12-26	0.000256	<0.00050	<0.0030	0.0016	<0.00010	0.00058	0.00757	<0.000020	<0.000050	<0.010	<0.0000050	33.9	<0.00050	<0.00010
Chedakuz Creek	CC-05	Primary	VA25A4598-003	2025-02-28	0.000291	<0.00050	<0.0030	0.0035	<0.00010	0.00067	0.00840	<0.000020	<0.000050	<0.010	<0.0000050	25.0	<0.00050	<0.00010
Chedakuz Creek	CC-05	Duplicate	VA25A4598-004	2025-02-28	0.000286	<0.00050	<0.0030	0.0031	<0.00010	0.00066	0.00862	<0.000020	<0.000050	<0.010	<0.0000050	26.3	<0.00050	<0.00010
Chedakuz Creek	CC-05	Primary	VA25B0343-002	2025-05-04	0.000131	0.00123	<0.0030	0.118	<0.00010	0.00055	0.00455	<0.000020	<0.000050	<0.010	<0.0000050	10.1	<0.00050	<0.00010
Chedakuz Creek	CC-05	Duplicate	VA25B0343-003	2025-05-04	0.000128	0.00123	<0.0030	0.116	<0.00010	0.00052	0.00446	<0.000020	<0.000050	<0.010	<0.0000050	9.98	<0.00050	<0.00010
Chedakuz Creek	CC-05	Primary	VA25B7427-004	2025-07-14	0.000186	0.00066	<0.0030	0.0072	<0.00010	0.00075	0.00698	<0.000020	<0.000050	<0.010	<0.0000050	24.7	<0.00050	<0.00010
Chedakuz Creek	CC-05	Primary	VA25D0189-007	2025-11-10	0.000248	0.00058	<0.0030	0.0050	<0.00010	0.00063	0.00665	<0.000020	<0.000050	<0.010	<0.0000050	25.0	<0.00050	<0.00010
Chedakuz Creek	CC-10	Primary	VA25A3507-005	2025-02-17	0.000110	<0.00050	<0.0030	<0.0010	<0.00010	0.00062	0.00665	<0.000020	<0.000050	<0.010	<0.0000050	22.0	<0.00050	<0.00010
Chedakuz Creek	CC-10	Primary	VA25B1482-006	2025-05-14	0.000105	<0.00050	<0.0030	<0.0010	<0.00010	0.00060	0.00636	<0.000020	<0.000050	<0.010	<0.0000050	20.4	<0.00050	<0.00010
Chedakuz Creek	CC-10	Primary	VA25B9374-003	2025-08-03	0.000107	<0.00050	<0.0030	0.0016	<0.00010	0.00055	0.00621	<0.000020	<0.000050	<0.010	<0.0000050	20.8	<0.00050	<0.00010
Chedakuz Creek	CC-10	Primary	VA25D1976-005	2025-11-26	0.000103	<0.00050	<0.0030	<0.0010	<0.00010	0.00060	0.00545	<0.000020	<0.000050	<0.010	<0.0000050	22.4	<0.00050	<0.00010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals												
					Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Lithium, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Phosphorus, Dissolved (mg/L)	Potassium, Dissolved (mg/L)	Selenium, Dissolved (mg/L)	Silicon, Dissolved (mg/L)	Silver, Dissolved (mg/L)
Creek 661	661-10	Primary	VA25B7427-002	2025-07-14	0.00077	0.552	<0.000050	<0.0010	2.05	0.0149	<0.0000050	0.000629	0.00057	<0.050	0.438	0.000100	6.18	<0.000010
Creek 661	661-10	Primary	VA25C0216-004	2025-08-11	0.00090	1.58	<0.000050	<0.0010	3.15	0.0234	0.0000066	0.00122	0.00110	0.082	0.552	0.000196	7.16	0.000015
Creek 661	661-10	Primary	VA25C5489-002	2025-09-23	0.00047	0.777	<0.000050	<0.0010	2.52	0.0351	<0.0000050	0.000880	0.00052	<0.050	0.600	0.000121	7.92	<0.000010
Creek 661	661-10	Primary	VA25C7416-003	2025-10-13	0.00038	0.374	<0.000050	<0.0010	2.55	0.0384	<0.0000050	0.000574	<0.00050	<0.050	0.500	0.000062	7.70	<0.000010
Creek 661	661-10	Primary	VA25C8047-001	2025-10-18	0.00036	0.376	<0.000050	<0.0010	2.50	0.0242	<0.0000050	0.000632	<0.00050	<0.050	0.533	0.000071	7.88	<0.000010
Creek 661	661-10	Primary	VA25C8919-002	2025-10-26	0.00044	0.286	<0.000050	<0.0010	2.35	0.0180	<0.0000050	0.000551	<0.00050	<0.050	0.762	<0.000050	7.30	<0.000010
Creek 661	661-10	Primary	VA25C9099-002	2025-10-28	0.00043	0.274	<0.000050	<0.0010	2.61	0.0179	<0.0000050	0.000555	<0.00050	<0.050	0.650	<0.000050	7.55	<0.000010
Creek 661	661-10	Primary	VA25D0189-003	2025-11-10	0.00034	0.247	<0.000050	<0.0010	2.38	0.0178	<0.0000050	0.000546	<0.00050	<0.050	0.581	0.000080	7.82	<0.000010
Creek 661	661-10	Primary	VA25D4214-001	2025-12-26	0.00062	0.204	<0.000050	<0.0010	2.69	0.0255	<0.0000050	0.000452	<0.00050	<0.050	0.541	0.000074	8.01	<0.000010
Creek 661	661-20	Primary	VA25A4598-001	2025-02-28	<0.00020	0.090	<0.000050	<0.0010	5.92	0.00592	<0.0000050	0.00100	<0.00050	<0.050	0.876	0.000101	7.89	<0.000010
Creek 661	661-20	Primary	VA25A7611-006	2025-04-04	0.00037	0.089	<0.000050	<0.0010	5.01	0.00406	<0.0000050	0.000888	<0.00050	<0.050	1.28	0.000064	6.84	<0.000010
Creek 661	661-20	Primary	VA25B7427-005	2025-07-14	0.00026	0.087	<0.000050	<0.0010	5.39	0.00589	<0.0000050	0.000983	<0.00050	<0.050	0.760	0.000054	6.99	<0.000010
Creek 661	661-20	Primary	VA25D0189-004	2025-11-10	<0.00020	0.074	<0.000050	<0.0010	5.53	0.00306	<0.0000050	0.000919	<0.00050	<0.050	0.810	0.000054	7.63	<0.000010
Creek 661	661-20	Duplicate	VA25D0189-005	2025-11-10	<0.00020	0.080	<0.000050	<0.0010	5.59	0.00320	<0.0000050	0.000909	<0.00050	<0.050	0.792	0.000082	7.92	<0.000010
Chedakuz Creek	CC-03	Primary	VA25A0356-004	2025-01-06	<0.00020	0.047	<0.000050	<0.0010	10.0	0.00679	<0.0000050	0.000900	<0.00050	<0.050	1.31	0.000060	6.79	<0.000010
Chedakuz Creek	CC-03	Primary	VA25A4598-002	2025-02-28	<0.00020	0.042	<0.000050	<0.0010	8.94	0.00978	<0.0000050	0.000708	<0.00050	<0.050	1.48	0.000066	6.01	<0.000010
Chedakuz Creek	CC-03	Primary	VA25A5381-002	2025-03-10	<0.00020	0.035	<0.000050	<0.0010	8.62	0.00662	<0.0000050	0.000708	<0.00050	<0.050	1.26	<0.000050	5.33	<0.000010
Chedakuz Creek	CC-03	Duplicate	VA25A5381-003	2025-03-10	<0.00020	0.037	<0.000050	<0.0010	8.57	0.00674	<0.0000050	0.000708	<0.00050	<0.050	1.27	<0.000050	5.30	<0.000010
Chedakuz Creek	CC-03	Primary	VA25A8257-001	2025-04-10	0.00042	0.144	<0.000050	<0.0010	5.52	0.00970	<0.0000050	0.000509	<0.00050	<0.050	1.22	<0.000050	4.89	<0.000010
Chedakuz Creek	CC-03	Primary	VA25B0343-001	2025-05-04	0.00038	0.069	<0.000050	<0.0010	4.39	0.00549	<0.0000050	0.000504	<0.00050	<0.050	0.738	0.000058	3.27	<0.000010
Chedakuz Creek	CC-03	Primary	VA25B0962-006	2025-05-11	0.00029	0.052	<0.000050	<0.0010	4.60	0.00815	<0.0000050	0.000527	<0.00050	<0.050	0.764	0.000053	3.36	<0.000010
Chedakuz Creek	CC-03	Duplicate	VA25B0962-008	2025-05-11	0.00030	0.049	<0.000050	<0.0010	4.52	0.00618	<0.0000050	0.000597	<0.00050	<0.050	0.753	<0.000050	3.32	<0.000010
Chedakuz Creek	CC-03	Primary	VA25B1482-001	2025-05-14	0.00034	0.060	<0.000050	<0.0010	4.96	0.00707	<0.0000050	0.000549	<0.00050	<0.050	0.767	<0.000050	3.64	<0.000010
Chedakuz Creek	CC-03	Primary	VA25B2274-004	2025-05-25	0.00035	0.052	<0.000050	<0.0010	4.65	0.00768	<0.0000050	0.000570	<0.00050	<0.050	0.802	0.000061	3.72	<0.000010
Chedakuz Creek	CC-03	Primary	VA25B2953-003	2025-06-01	0.00031	0.046	<0.000050	<0.0010	4.75	0.0119	<0.0000050	0.000625	<0.00050	<0.050	0.803	<0.000050	3.58	<0.000010
Chedakuz Creek	CC-03	Primary	VA25B5529-001	2025-06-24	0.00029	0.075	<0.000050	<0.0010	5.96	0.0178	<0.0000050	0.000892	<0.00050	<0.050	0.835	0.000067	5.84	<0.000010
Chedakuz Creek	CC-03	Duplicate	VA25B5529-002	2025-06-24	0.00032	0.079	<0.000050	<0.0010	6.37	0.0182	<0.0000050	0.000854	<0.00050	<0.050	0.886	<0.000050	5.71	<0.000010
Chedakuz Creek	CC-03	Primary	VA25B7427-003	2025-07-14	0.00022	0.091	<0.000050	<0.0010	6.77	0.0119	<0.0000050	0.000912	<0.00050	<0.050	0.854	0.000064	6.03	<0.000010
Chedakuz Creek	CC-03	Primary	VA25C0216-005	2025-08-11	<0.00020	0.105	<0.000050	<0.0010	8.54	0.00964	<0.0000050	0.00108	<0.00050	<0.050	1.05	0.000064	6.08	<0.000010
Chedakuz Creek	CC-03	Primary	VA25C4972-002	2025-09-19	<0.00020	0.091	<0.000050	<0.0010	9.31	0.00861	<0.0000050	0.00103	<0.00050	<0.050	1.19	0.000053	6.65	<0.000010
Chedakuz Creek	CC-03	Primary	VA25C7355-005	2025-10-07	<0.00020	0.074	<0.000050	<0.0010	9.04	0.00550	<0.0000050	0.00100	<0.00050	<0.050	1.17	0.000060	7.14	<0.000010
Chedakuz Creek	CC-03	Primary	VA25C7416-004	2025-10-13	<0.00020	0.070	<0.000050	<0.0010	9.53	0.00895	<0.0000050	0.000943	<0.00050	<0.050	1.11	<0.000050	7.03	<0.000010
Chedakuz Creek	CC-03	Primary	VA25C8047-002	2025-10-18	<0.00020	0.070	<0.000050	<0.0010	9.99	0.00537	<0.0000050	0.000924	<0.00050	<0.050	1.13	<0.000050	7.31	<0.000010
Chedakuz Creek	CC-03	Primary	VA25C8919-003	2025-10-26	<0.00020	0.066	<0.000050	<0.0010	8.05	0.00578	<0.0000050	0.000838	<0.00050	<0.050	1.19	<0.000050	6.64	<0.000010
Chedakuz Creek	CC-03	Duplicate	VA25C8919-004	2025-10-26	<0.00020	0.066	<0.000050	<0.0010	8.09	0.00576	<0.0000050	0.000845	<0.00050	<0.050	1.19	<0.000050	6.68	<0.000010
Chedakuz Creek	CC-03	Primary	VA25C9099-001	2025-10-28	<0.00020	0.069	<0.000050	<0.0010	8.58	0.00658	<0.0000050	0.000839	<0.00050	<0.050	1.13	<0.000050	7.21	<0.000010
Chedakuz Creek	CC-03	Primary	VA25D0189-006	2025-11-10	<0.00020	0.057	<0.000050	<0.0010	8.97	0.00475	<0.0000050	0.000855	<0.00050	<0.050	1.10	<0.000050	7.26	<0.000010
Chedakuz Creek	CC-03	Primary	VA25D4214-002	2025-12-26	<0.00020	0.088	<0.000050	<0.0010	9.85	0.00773	<0.0000050	0.000853	<0.00050	<0.050	1.21	0.000054	7.77	<0.000010
Chedakuz Creek	CC-03	Duplicate	VA25D4214-003	2025-12-26	<0.00020	0.089	<0.000050	<0.0010	9.48	0.00770	<0.0000050	0.000894	<0.00050	<0.050	1.18	<0.000050	8.04	<0.000010
Chedakuz Creek	CC-05	Primary	VA25A4598-003	2025-02-28	<0.00020	0.061	<0.000050	<0.0010	7.82	0.0134	<0.0000050	0.000743	<0.00050	<0.050	1.30	<0.000050	6.68	<0.000010
Chedakuz Creek	CC-05	Duplicate	VA25A4598-004	2025-02-28	<0.00020	0.061	<0.000050	<0.0010	7.66	0.0133	<0.0000050	0.000777	<0.00050	<0.050	1.31	0.000076	6.54	<0.000010
Chedakuz Creek	CC-05	Primary	VA25B0343-002	2025-05-04	0.00071	0.123	<0.000050	<0.0010	2.84	0.00591	<0.0000050	0.000459	<0.00050	<0.050	0.675	0.000077	4.44	<0.000010
Chedakuz Creek	CC-05	Duplicate	VA25B0343-003	2025-05-04	0.00066	0.121	<0.000050	<0.0010	2.79	0.00540	0.0000051	0.000441	<0.00050	<0.050	0.654	0.000071	4.31	<0.000010
Chedakuz Creek	CC-05	Primary	VA25B7427-004	2025-07-14	0.00021	0.088	<0.000050	<0.0010	5.93	0.0113	<0.0000050	0.000858	<0.00050	<0.050	0.760	<0.000050	6.36	<0.000010
Chedakuz Creek	CC-05	Primary	VA25D0189-007	2025-11-10	<0.00020	0.065	<0.000050	<0.0010	6.99	0.00752	<0.0000050	0.000786	<0.00050	<0.050	0.892	0.000056	7.23	<0.000010
Chedakuz Creek	CC-10	Primary	VA25A3507-005	2025-02-17	0.00026	<0.010	<0.000050	<0.0010	5.41	0.00169	<0.0000050	0.000635	<0.00050	<0.050	0.987	0.000065	4.84	<0.000010
Chedakuz Creek	CC-10	Primary	VA25B1482-006	2025-05-14	0.00020	<0.010	<0.000050	<0.0010	5.42	0.0301	<0.0000050	0.000557	<0.00050	<0.050	0.870	<0.000050	4.95	<0.000010
Chedakuz Creek	CC-10	Primary	VA25B9374-003	2025-08-03	0.00030	<0.010	<0.000050	<0.0010	5.22	0.00881	<0.0000050	0.000621	<0.00050	<0.050	0.797	0.000082	2.01	<0.000010
Chedakuz Creek	CC-10	Primary	VA25D1976-005	2025-11-26	0.00021	0.012	<0.000050	<0.0010	5.16	0.00313	<0.0000050	0.000549	<0.00050	<0.050	0.844	0.000076	3.61	<0.000010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals								
					Sodium, Dissolved (mg/L)	Strontium, Dissolved (mg/L)	Sulphur, Dissolved (mg/L)	Thallium, Dissolved (mg/L)	Tin, Dissolved (mg/L)	Titanium, Dissolved (mg/L)	Uranium, Dissolved (mg/L)	Vanadium, Dissolved (mg/L)	Zinc, Dissolved (mg/L)
Creek 661	661-10	Primary	VA25B7427-002	2025-07-14	2.94	0.0604	<0.50	<0.000010	<0.00010	0.00171	0.000178	0.00142	0.0057
Creek 661	661-10	Primary	VA25C0216-004	2025-08-11	3.75	0.0864	<0.50	<0.000010	<0.00010	0.00279	0.000248	0.00219	0.0067
Creek 661	661-10	Primary	VA25C5489-002	2025-09-23	3.74	0.0743	<0.50	<0.000010	<0.00010	0.00153	0.000124	0.00112	0.0035
Creek 661	661-10	Primary	VA25C7416-003	2025-10-13	3.52	0.0674	0.89	<0.000010	<0.00010	0.00093	0.000095	0.00071	0.0029
Creek 661	661-10	Primary	VA25C8047-001	2025-10-18	3.70	0.0662	0.84	<0.000010	<0.00010	0.00099	0.000083	0.00072	0.0027
Creek 661	661-10	Primary	VA25C8919-002	2025-10-26	3.50	0.0656	0.87	<0.000010	<0.00010	0.00217	0.000076	0.00076	0.0030
Creek 661	661-10	Primary	VA25C9099-002	2025-10-28	3.66	0.0622	0.96	<0.000010	<0.00010	0.00114	0.000075	0.00072	0.0028
Creek 661	661-10	Primary	VA25D0189-003	2025-11-10	3.35	0.0591	0.70	<0.000010	<0.00010	0.00101	0.000073	0.00068	0.0027
Creek 661	661-10	Primary	VA25D4214-001	2025-12-26	3.69	0.0681	1.25	<0.000010	<0.00010	0.00086	0.000062	0.00065	0.0042
Creek 661	661-20	Primary	VA25A4598-001	2025-02-28	5.09	0.110	1.00	<0.000010	<0.00010	<0.00030	0.000497	0.00060	<0.0010
Creek 661	661-20	Primary	VA25A7611-006	2025-04-04	4.01	0.0911	1.26	<0.000010	<0.00010	0.00127	0.000271	0.00064	<0.0010
Creek 661	661-20	Primary	VA25B7427-005	2025-07-14	4.61	0.0968	0.66	<0.000010	<0.00010	<0.00030	0.000320	0.00097	<0.0010
Creek 661	661-20	Primary	VA25D0189-004	2025-11-10	4.59	0.0900	0.71	<0.000010	<0.00010	<0.00030	0.000286	0.00059	<0.0010
Creek 661	661-20	Duplicate	VA25D0189-005	2025-11-10	4.73	0.0899	0.63	<0.000010	<0.00010	<0.00030	0.000277	0.00057	<0.0010
Chedakuz Creek	CC-03	Primary	VA25A0356-004	2025-01-06	6.00	0.146	1.87	<0.000010	<0.00010	<0.00030	0.000229	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25A4598-002	2025-02-28	5.38	0.132	1.62	<0.000010	<0.00010	<0.00030	0.000169	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25A5381-002	2025-03-10	4.61	0.116	1.38	<0.000010	<0.00010	<0.00030	0.000147	<0.00050	<0.0010
Chedakuz Creek	CC-03	Duplicate	VA25A5381-003	2025-03-10	4.67	0.119	1.40	<0.000010	<0.00010	<0.00030	0.000152	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25A8257-001	2025-04-10	3.58	0.0753	1.21	<0.000010	<0.00010	0.00445	0.000077	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25B0343-001	2025-05-04	3.22	0.0653	0.66	<0.000010	<0.00010	0.00196	0.000042	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25B0962-006	2025-05-11	3.06	0.0704	<0.50	<0.000010	<0.00010	0.00099	0.000046	<0.00050	<0.0010
Chedakuz Creek	CC-03	Duplicate	VA25B0962-008	2025-05-11	2.99	0.0729	<0.50	<0.000010	<0.00010	0.00091	0.000047	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25B1482-001	2025-05-14	3.19	0.0734	0.74	<0.000010	<0.00010	0.00116	0.000050	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25B2274-004	2025-05-25	3.00	0.0754	0.66	<0.000010	<0.00010	0.00093	0.000044	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25B2953-003	2025-06-01	2.93	0.0848	0.89	<0.000010	<0.00010	0.00058	0.000051	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25B5529-001	2025-06-24	3.73	0.104	2.30	<0.000010	<0.00010	0.00031	0.000099	0.00059	<0.0010
Chedakuz Creek	CC-03	Duplicate	VA25B5529-002	2025-06-24	3.70	0.105	2.24	<0.000010	<0.00010	0.00034	0.000098	0.00057	<0.0010
Chedakuz Creek	CC-03	Primary	VA25B7427-003	2025-07-14	4.06	0.114	2.37	<0.000010	<0.00010	<0.00030	0.000148	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25C0216-005	2025-08-11	5.09	0.127	1.42	<0.000010	<0.00010	<0.00030	0.000185	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25C4972-002	2025-09-19	5.28	0.141	1.18	<0.000010	<0.00010	<0.00030	0.000227	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25C7355-005	2025-10-07	5.36	0.136	2.47	<0.000010	<0.00010	<0.00030	0.000213	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25C7416-004	2025-10-13	5.19	0.134	2.40	<0.000010	<0.00010	<0.00030	0.000248	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25C8047-002	2025-10-18	5.46	0.133	2.40	<0.000010	<0.00010	<0.00030	0.000236	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25C8919-003	2025-10-26	4.95	0.120	2.69	<0.000010	<0.00010	<0.00030	0.000192	<0.00050	<0.0010
Chedakuz Creek	CC-03	Duplicate	VA25C8919-004	2025-10-26	4.81	0.118	2.66	<0.000010	<0.00010	<0.00030	0.000188	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25C9099-001	2025-10-28	5.09	0.119	2.94	<0.000010	<0.00010	<0.00030	0.000194	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25D0189-006	2025-11-10	4.94	0.115	2.53	<0.000010	<0.00010	<0.00030	0.000208	<0.00050	<0.0010
Chedakuz Creek	CC-03	Primary	VA25D4214-002	2025-12-26	5.54	0.132	2.62	<0.000010	<0.00010	<0.00030	0.000231	<0.00050	<0.0010
Chedakuz Creek	CC-03	Duplicate	VA25D4214-003	2025-12-26	5.47	0.130	2.94	<0.000010	<0.00010	<0.00030	0.000238	<0.00050	<0.0010
Chedakuz Creek	CC-05	Primary	VA25A4598-003	2025-02-28	5.20	0.117	1.49	<0.000010	<0.00010	<0.00030	0.000260	<0.00050	<0.0010
Chedakuz Creek	CC-05	Duplicate	VA25A4598-004	2025-02-28	5.18	0.124	1.37	<0.000010	<0.00010	<0.00030	0.000269	<0.00050	<0.0010
Chedakuz Creek	CC-05	Primary	VA25B0343-002	2025-05-04	2.89	0.0511	0.66	<0.000010	<0.00010	0.00250	0.000092	0.00069	<0.0010
Chedakuz Creek	CC-05	Duplicate	VA25B0343-003	2025-05-04	2.81	0.0508	0.60	<0.000010	<0.00010	0.00269	0.000094	0.00067	<0.0010
Chedakuz Creek	CC-05	Primary	VA25B7427-004	2025-07-14	3.94	0.105	1.58	<0.000010	<0.00010	<0.00030	0.000185	0.00057	<0.0010
Chedakuz Creek	CC-05	Primary	VA25D0189-007	2025-11-10	4.66	0.0975	1.63	<0.000010	<0.00010	<0.00030	0.000234	<0.00050	0.0011
Chedakuz Creek	CC-10	Primary	VA25A3507-005	2025-02-17	4.24	0.106	1.59	<0.000010	<0.00010	<0.00030	0.000100	<0.00050	<0.0010
Chedakuz Creek	CC-10	Primary	VA25B1482-006	2025-05-14	3.74	0.0977	1.17	<0.000010	<0.00010	<0.00030	0.000107	<0.00050	<0.0010
Chedakuz Creek	CC-10	Primary	VA25B9374-003	2025-08-03	3.42	0.103	1.43	<0.000010	<0.00010	<0.00030	0.000097	<0.00050	<0.0010
Chedakuz Creek	CC-10	Primary	VA25D1976-005	2025-11-26	3.67	0.101	1.27	<0.000010	<0.00010	<0.00030	0.000106	<0.00050	<0.0010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Physical Tests									Anions/Nutrients				
					Acidity (as $CaCO_3$) (mg/L)	Alkalinity, Total (as $CaCO_3$) (mg/L)	Conductivity (µS/cm)	Hardness, Dissolved (as $CaCO_3$) (mg/L)	Hardness, From Total Ca/Mg (as $CaCO_3$) (mg/L)	pH (pH Units)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Ammonia, Total (as N) (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as N) (mg/L)
Chedakuz Creek	CC-15	Primary	VA25A0964-004	2025-01-13	2.2	78.1	162	70.2	68.4	8.03	94	<3.0	0.98	0.0246	<0.050	<0.50	0.060	0.0946
Chedakuz Creek	CC-15	Primary	VA25A3507-003	2025-02-17	<2.0	84.0	166	73.0	80.1	8.05	121	<3.0	0.63	0.0155	<0.050	<0.50	0.065	0.0861
Chedakuz Creek	CC-15	Duplicate	VA25A3507-004	2025-02-17	<2.0	129	248	74.9	77.5	8.08	125	<3.0	0.59	0.0181	<0.050	<0.50	0.064	0.0863
Chedakuz Creek	CC-15	Primary	VA25A5268-001	2025-03-09	2.2	75.2	150	70.7	74.8	7.91	99	6.2	2.17	0.0199	<0.050	0.52	0.065	0.0495
Chedakuz Creek	CC-15	Duplicate	VA25A5268-002	2025-03-09	2.1	76.3	154	70.2	76.4	7.93	97	4.6	2.29	0.0199	<0.050	0.57	0.064	0.0484
Chedakuz Creek	CC-15	Primary	VA25A7310-001	2025-04-01	<2.0	75.6	152	69.7	66.9	8.01	102	<3.0	2.63	0.0447	<0.050	0.60	0.061	0.0447
Chedakuz Creek	CC-15	Duplicate	VA25A7310-002	2025-04-01	<2.0	74.9	165	69.8	67.2	7.98	109	<3.0	2.57	0.0426	<0.050	0.58	0.059	0.0419
Chedakuz Creek	CC-15	Primary	VA25B0438-004	2025-05-05	2.1	62.1	127	59.6	60.0	7.77	85	6.2	2.55	0.0117	<0.050	0.53	0.051	0.0716
Chedakuz Creek	CC-15	Primary	VA25B1094-002	2025-05-12	<2.0	63.1	129	58.9	60.8	8.01	94	9.5	3.65	0.0053	<0.050	<0.50	0.050	<0.0050
Chedakuz Creek	CC-15	Primary	VA25B1721-003	2025-05-19	2.0	53.6	115	53.6	54.0	7.96	94	21.2	6.93	0.0093	<0.050	0.50	0.049	<0.0050
Chedakuz Creek	CC-15	Primary	VA25B2427-001	2025-05-26	<2.0	64.1	128	58.9	61.0	8.08	96	9.9	2.96	0.0073	<0.050	<0.50	0.048	<0.0050
Chedakuz Creek	CC-15	Primary	VA25B3822-001	2025-06-02	<2.0	68.2	138	63.6	62.1	7.89	113	7.2	3.31	0.0090	<0.050	<0.50	0.052	0.0054
Chedakuz Creek	CC-15	Primary	VA25B5722-002	2025-06-23	<2.0	67.6	134	69.4	61.2	8.06	95	5.6	3.21	0.0091	<0.050	<0.50	0.046	<0.0050
Chedakuz Creek	CC-15	Primary	VA25B6834-002	2025-07-07	<2.0	67.4	138	63.0	63.8	8.08	100	<3.0	1.42	0.0058	<0.050	<0.50	0.052	<0.0050
Chedakuz Creek	CC-15	Primary	VA25B9366-003	2025-08-04	<2.0	69.2	140	65.5	71.4	8.58	96	<3.0	1.90	0.0091	<0.050	<0.50	0.056	0.0053
Chedakuz Creek	CC-15	Duplicate	VA25B9366-004	2025-08-04	<2.0	70.7	140	67.1	71.4	8.57	102	<3.0	1.79	0.0082	<0.050	<0.50	0.055	0.0053
Chedakuz Creek	CC-15	Primary	VA25C4967-007	2025-09-17	2.2	75.0	154	75.9	71.6	7.98	102	9.1	3.75	0.0088	<0.050	0.58	0.051	0.0140
Chedakuz Creek	CC-15	Primary	VA25C6908-002	2025-10-08	<2.0	75.1	150	68.9	72.1	7.89	102	<3.0	1.36	0.0120	<0.050	0.52	0.058	0.0053
Chedakuz Creek	CC-15	Primary	VA25C7563-002	2025-10-14	<2.0	73.7	146	68.7	70.7	8.05	106	<3.0	1.67	0.0063	<0.050	0.55	0.051	<0.0050
Chedakuz Creek	CC-15	Primary	VA25C8358-003	2025-10-20	<2.0	73.0	144	71.0	68.2	7.93	82	<3.0	1.29	0.0087	<0.050	0.52	0.055	<0.0050
Chedakuz Creek	CC-15	Duplicate	VA25C8358-004	2025-10-20	<2.0	72.4	146	73.3	68.9	7.91	90	4.6	1.28	0.0084	<0.050	0.52	0.055	<0.0050
Chedakuz Creek	CC-15	Primary	VA25C8919-009	2025-10-27	2.1	69.8	141	66.3	68.2	7.93	88	<3.0	2.61	0.0074	<0.050	0.59	0.053	<0.0050
Chedakuz Creek	CC-15	Primary	VA25C9101-003	2025-10-29	<2.0	71.9	143	65.5	65.9	8.07	103	3.3	2.50	0.0104	<0.050	0.56	0.056	0.0134
Chedakuz Creek	CC-15	Primary	VA25D1976-002	2025-11-26	2.5	77.8	148	76.6	72.8	7.89	106	<3.0	1.29	0.0156	<0.050	<0.50	0.055	0.0426
Chedakuz Creek	CC-15	Duplicate	VA25D1976-003	2025-11-26	2.5	77.9	148	76.7	72.1	7.90	109	<3.0	1.21	0.0133	<0.050	<0.50	0.055	0.0432
Chedakuz Creek	CC-15	Primary	VA25D4214-008	2025-12-27	3.1	77.7	155	71.3	76.3	7.84	105	<3.0	1.42	0.0093	<0.050	<0.50	0.055	0.0573
Chedakuz Creek	CC-20	Primary	VA25A1845-002	2025-01-26	<2.0	79.2	153	70.2	74.3	7.99	108	<3.0	0.60	0.0093	<0.050	<0.50	0.059	0.0744
Chedakuz Creek	CC-20	Duplicate	VA25A1845-003	2025-01-26	<2.0	79.3	154	70.5	76.8	7.98	116	<3.0	0.59	0.0089	<0.050	<0.50	0.061	0.0754
Chedakuz Creek	CC-20	Primary	VA25A3507-002	2025-02-17	2.5	82.3	162	117	128	8.00	184	<3.0	0.94	0.0200	<0.050	0.59	0.093	0.119
Chedakuz Creek	CC-20	Primary	VA25A5560-001	2025-03-11	<2.0	75.5	147	71.0	76.5	8.22	103	<3.0	1.56	0.00701	<0.050	<0.50	0.056	0.0198
Chedakuz Creek	CC-20	Primary	VA25A8058-003	2025-04-09	<2.0	66.2	142	65.8	66.2	7.99	89	7.3	4.14	0.0111	<0.050	0.65	0.058	0.0652
Chedakuz Creek	CC-20	Duplicate	VA25A8058-004	2025-04-09	<2.0	65.5	138	65.7	65.4	7.99	92	5.9	3.92	0.0083	<0.050	0.62	0.058	0.0647
Chedakuz Creek	CC-20	Primary	VA25B0438-005	2025-05-05	2.2	62.4	126	60.4	57.7	7.76	92	5.6	2.65	0.0102	<0.050	<0.50	0.050	0.0656
Chedakuz Creek	CC-20	Primary	VA25B1094-001	2025-05-12	<2.0	62.4	129	58.8	59.1	8.00	91	6.5	2.60	0.0061	<0.050	<0.50	0.051	<0.0050
Chedakuz Creek	CC-20	Primary	VA25B1721-002	2025-05-19	2.1	53.7	114	53.4	53.8	7.95	92	16.6	6.65	0.0070	<0.050	<0.50	0.051	0.0053
Chedakuz Creek	CC-20	Primary	VA25B2427-002	2025-05-26	<2.0	64.0	130	57.6	60.9	8.07	102	6.7	2.81	0.0054	<0.050	<0.50	0.050	<0.0050
Chedakuz Creek	CC-20	Primary	VA25B3822-002	2025-06-02	2.0	67.5	134	61.9	62.8	7.91	105	6.4	2.55	0.0119	<0.050	<0.50	0.054	<0.0050
Chedakuz Creek	CC-20	Primary	VA25B5722-001	2025-06-23	<2.0	68.0	136	67.6	63.2	8.06	95	4.2	3.02	0.0080	<0.050	<0.50	0.047	<0.0050
Chedakuz Creek	CC-20	Primary	VA25B6834-001	2025-07-07	<2.0	69.2	139	64.1	66.8	8.05	102	<3.0	1.68	0.0085	<0.050	<0.50	0.051	<0.0050
Chedakuz Creek	CC-20	Duplicate	VA25B6834-007	2025-07-07	<2.0	69.7	139	65.3	63.6	8.06	98	<3.0	1.48	0.0078	<0.050	<0.50	0.053	<0.0050
Chedakuz Creek	CC-20	Primary	VA25C0017-003	2025-08-10	<2.0	72.0	147	69.1	67.2	8.16	105	<3.0	1.81	0.0084	<0.050	<0.50	0.058	<0.0050
Chedakuz Creek	CC-20	Primary	VA25C4967-008	2025-09-17	<2.0	77.1	156	77.2	76.0	8.04	103	<3.0	1.58	0.0053	<0.050	0.56	0.053	<0.0050
Chedakuz Creek	CC-20	Primary	VA25C6908-001	2025-10-08	<2.0	78.2	152	70.9	72.6	7.89	101	<3.0	1.61	0.0056	<0.050	0.64	0.059	<0.0050
Chedakuz Creek	CC-20	Primary	VA25C7563-001	2025-10-14	<2.0	73.9	149	73.1	70.7	8.01	105	3.1	1.21	<0.0050	<0.050	0.52	0.049	<0.0050
Chedakuz Creek	CC-20	Primary	VA25C8358-005	2025-10-20	<2.0	72.6	148	71.9	70.2	7.96	90	3.6	0.89	0.0050	<0.050	0.51	0.054	<0.0050
Chedakuz Creek	CC-20	Primary	VA25C8919-008	2025-10-27	2.1	70.5	143	66.2	67.7	7.92	102	<3.0	2.32	0.0069	<0.050	0.58	0.053	<0.0050
Chedakuz Creek	CC-20	Primary	VA25C9101-008	2025-10-29	<2.0	73.1	145	64.6	68.5	8.10	101	3.9	2.24	0.0085	<0.050	0.55	0.054	0.0071
Chedakuz Creek	CC-20	Primary	VA25D1976-001	2025-11-26	2.7	79.2	150	75.7	72.7	7.88	110	<3.0	1.57	0.0144	<0.050	<0.50	0.056	0.0449
Chedakuz Creek	CC-20	Primary	VA25D4214-007	2025-12-27	3.1	78.3	155	73.0	74.6	7.80	104	<3.0	1.24	0.0096	<0.050	<0.50	0.054	0.0623

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Anions/Nutrients						Organic/Inorganic Carbon		Cyanides			Total Metals		
					Nitrite (as N) (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrogen, Total (mg/L)	Ortho-Phosphorus, Dissolved (as P) (mg/L)	Total Phosphorus (as P) (mg/L)	Sulphate (as SO_4) (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Cyanide, Total (mg/L)	Cyanide, Weak Acid Dissociable (mg/L)	Thiocyanate (mg/L)	Aluminum, Total (mg/L)	Antimony, Total (mg/L)	Arsenic, Total (mg/L)
Chedakuz Creek	CC-15	Primary	VA25A0964-004	2025-01-13	0.0029	0.243	6.55	0.0111	0.0194	4.77	-	-	<0.0050	<0.0050	<0.50	0.0211	<0.00010	0.00062
Chedakuz Creek	CC-15	Primary	VA25A3507-003	2025-02-17	0.0021	0.250	7.18	0.0099	0.0198	4.64	-	-	<0.0050	<0.0050	<0.50	0.0100	<0.00010	0.00062
Chedakuz Creek	CC-15	Duplicate	VA25A3507-004	2025-02-17	0.0020	0.322	7.12	0.0101	0.0202	4.65	-	-	<0.0050	<0.0050	<0.50	0.0096	<0.00010	0.00062
Chedakuz Creek	CC-15	Primary	VA25A5268-001	2025-03-09	<0.0010	0.368	6.29	0.0159	0.0365	4.60	-	-	<0.0050	<0.0050	<0.50	0.0605	<0.00010	0.00063
Chedakuz Creek	CC-15	Duplicate	VA25A5268-002	2025-03-09	<0.0010	0.298	7.19	0.0102	0.0415	4.60	-	-	<0.0050	<0.0050	<0.50	0.0774	<0.00010	0.00071
Chedakuz Creek	CC-15	Primary	VA25A7310-001	2025-04-01	<0.0010	0.358	7.52	0.0452	0.0821	4.03	-	-	<0.0050	<0.0050	0.51	0.0882	<0.00010	0.00069
Chedakuz Creek	CC-15	Duplicate	VA25A7310-002	2025-04-01	<0.0010	0.383	7.68	0.0443	0.0835	4.06	-	-	<0.0050	<0.0050	<0.50	0.130	<0.00010	0.00073
Chedakuz Creek	CC-15	Primary	VA25B0438-004	2025-05-05	0.0019	0.331	8.62	0.0081	0.0305	5.06	-	-	<0.0050	<0.0050	<0.50	0.310	<0.00010	0.00082
Chedakuz Creek	CC-15	Primary	VA25B1094-002	2025-05-12	<0.0010	0.323	7.69	0.0013	0.0228	4.44	-	-	<0.0050	<0.0050	<0.50	0.114	<0.00010	0.00064
Chedakuz Creek	CC-15	Primary	VA25B1721-003	2025-05-19	<0.0010	0.383	10.2	0.0017	0.0316	4.78	-	-	<0.0050	<0.0050	<0.50	0.334	<0.00010	0.00086
Chedakuz Creek	CC-15	Primary	VA25B2427-001	2025-05-26	<0.0010	0.333	8.47	<0.0010	0.0243	4.32	-	-	<0.0050	<0.0050	<0.50	0.0870	<0.00010	0.00062
Chedakuz Creek	CC-15	Primary	VA25B3822-001	2025-06-02	<0.0010	0.336	8.31	0.0044	0.0219	4.23	-	-	<0.0050	<0.0050	<0.50	0.0836	<0.00010	0.00070
Chedakuz Creek	CC-15	Primary	VA25B5722-002	2025-06-23	<0.0010	0.299	8.17	0.0010	0.0232	3.86	-	-	<0.0050	<0.0050	<0.50	0.159	<0.00010	0.00091
Chedakuz Creek	CC-15	Primary	VA25B6834-002	2025-07-07	<0.0010	0.279	8.17	0.0013	0.0138	3.67	-	-	<0.0050	<0.0050	<0.50	0.0236	<0.00010	0.00076
Chedakuz Creek	CC-15	Primary	VA25B9366-003	2025-08-04	<0.0010	0.321	7.57	0.0038	0.0198	3.27	-	-	<0.0050	<0.0050	<0.50	0.0312	<0.00010	0.00114
Chedakuz Creek	CC-15	Duplicate	VA25B9366-004	2025-08-04	<0.0010	0.316	7.31	0.0042	0.0204	3.27	-	-	<0.0050	<0.0050	<0.50	0.0352	<0.00010	0.00119
Chedakuz Creek	CC-15	Primary	VA25C4967-007	2025-09-17	<0.0010	0.326	6.62	0.0027	0.0206	3.86	0.324	-	<0.0050	<0.0050	<0.50	0.0374	<0.00010	0.00074
Chedakuz Creek	CC-15	Primary	VA25C6908-002	2025-10-08	<0.0010	0.245	6.94	0.0016	0.0134	3.40	0.254	-	<0.0050	<0.0050	<0.50	0.0203	<0.00010	0.00069
Chedakuz Creek	CC-15	Primary	VA25C7563-002	2025-10-14	<0.0010	0.337	6.02	0.0027	0.0189	3.64	0.277	-	<0.0050	<0.0050	<0.50	0.0521	<0.00010	0.00071
Chedakuz Creek	CC-15	Primary	VA25C8358-003	2025-10-20	<0.0010	0.269	5.90	0.0022	0.0144	4.03	0.241	-	<0.0050	<0.0050	<0.50	0.0282	<0.00010	0.00062
Chedakuz Creek	CC-15	Duplicate	VA25C8358-004	2025-10-20	<0.0010	0.264	6.13	0.0021	0.0160	4.01	0.253	-	<0.0050	<0.0050	<0.50	0.0350	<0.00010	0.00061
Chedakuz Creek	CC-15	Primary	VA25C8919-009	2025-10-27	<0.0010	0.237	6.17	0.0017	0.0153	4.33	0.229	-	<0.0050	<0.0050	<0.50	0.0962	<0.00010	0.00070
Chedakuz Creek	CC-15	Primary	VA25C9101-003	2025-10-29	<0.0010	0.295	6.14	0.0021	0.0177	4.24	0.277	-	<0.0050	<0.0050	<0.50	0.0606	<0.00010	0.00063
Chedakuz Creek	CC-15	Primary	VA25D1976-002	2025-11-26	0.0010	0.276	6.00	0.0096	0.0205	4.49	0.315	-	<0.0050	<0.0050	<0.50	0.0198	<0.00010	0.00063
Chedakuz Creek	CC-15	Duplicate	VA25D1976-003	2025-11-26	0.0011	0.266	6.09	0.0098	0.0198	4.48	0.280	-	<0.0050	<0.0050	<0.50	0.0178	<0.00010	0.00064
Chedakuz Creek	CC-15	Primary	VA25D4214-008	2025-12-27	0.0013	0.274	6.36	0.0105	0.0260	4.28	0.309	-	<0.0050	<0.0050	<0.50	0.0479	<0.00010	0.00063
Chedakuz Creek	CC-20	Primary	VA25A1845-002	2025-01-26	0.0010	0.220	6.44	0.0096	0.0224	4.66	-	-	<0.0050	<0.0050	<0.50	0.0171	<0.00010	0.00060
Chedakuz Creek	CC-20	Duplicate	VA25A1845-003	2025-01-26	<0.0010	0.209	6.28	0.0099	0.0183	4.64	-	-	<0.0050	<0.0050	<0.50	0.0148	<0.00010	0.00060
Chedakuz Creek	CC-20	Primary	VA25A3507-002	2025-02-17	0.0017	0.337	10.0	0.0086	0.0184	6.75	-	-	<0.0050	<0.0050	<0.50	0.0070	<0.00010	0.00093
Chedakuz Creek	CC-20	Primary	VA25A5560-001	2025-03-11	<0.0010	0.248	6.33	0.0065	0.0310	4.51	-	-	<0.0050	<0.0050	<0.50	0.0586	<0.00010	0.00065
Chedakuz Creek	CC-20	Primary	VA25A8058-003	2025-04-09	<0.0010	0.354	8.69	0.0050	0.0294	6.14	-	-	<0.0050	<0.0050	<0.50	0.192	<0.00010	0.00096
Chedakuz Creek	CC-20	Duplicate	VA25A8058-004	2025-04-09	<0.0010	0.341	8.65	0.0051	0.0330	6.11	-	-	<0.0050	<0.0050	<0.50	0.235	<0.00010	0.00098
Chedakuz Creek	CC-20	Primary	VA25B0438-005	2025-05-05	0.0016	0.309	8.46	0.0078	0.0232	4.93	-	-	<0.0050	<0.0050	<0.50	0.102	<0.00010	0.00064
Chedakuz Creek	CC-20	Primary	VA25B1094-001	2025-05-12	<0.0010	0.296	7.82	0.0010	0.0242	4.40	-	-	<0.0050	<0.0050	<0.50	0.0970	<0.00010	0.00065
Chedakuz Creek	CC-20	Primary	VA25B1721-002	2025-05-19	<0.0010	0.390	10.3	0.0020	0.0314	4.76	-	-	<0.0050	<0.0050	<0.50	0.322	<0.00010	0.00082
Chedakuz Creek	CC-20	Primary	VA25B2427-002	2025-05-26	<0.0010	0.314	8.84	<0.0010	0.0199	4.28	-	-	<0.0050	<0.0050	<0.50	0.0790	<0.00010	0.00063
Chedakuz Creek	CC-20	Primary	VA25B3822-002	2025-06-02	<0.0010	0.329	8.05	0.0049	0.0204	4.12	-	-	<0.0050	<0.0050	<0.50	0.102	<0.00010	0.00072
Chedakuz Creek	CC-20	Primary	VA25B5722-001	2025-06-23	<0.0010	0.283	7.95	<0.0010	0.0166	3.90	-	-	<0.0050	<0.0050	<0.50	0.0883	<0.00010	0.00083
Chedakuz Creek	CC-20	Primary	VA25B6834-001	2025-07-07	<0.0010	0.316	7.44	<0.0010	0.0192	3.55	-	-	<0.0050	<0.0050	<0.50	0.0364	<0.00010	0.00076
Chedakuz Creek	CC-20	Duplicate	VA25B6834-007	2025-07-07	<0.0010	0.301	8.15	<0.0010	0.0160	3.57	-	-	<0.0050	<0.0050	<0.50	0.0398	<0.00010	0.00081
Chedakuz Creek	CC-20	Primary	VA25C0017-003	2025-08-10	<0.0010	0.346	7.01	0.0024	0.0176	3.34	-	-	<0.0050	<0.0050	<0.50	0.0304	<0.00010	0.00086
Chedakuz Creek	CC-20	Primary	VA25C4967-008	2025-09-17	<0.0010	0.299	6.36	0.0029	0.0173	3.67	0.278	-	<0.0050	<0.0050	<0.50	0.0135	<0.00010	0.00074
Chedakuz Creek	CC-20	Primary	VA25C6908-001	2025-10-08	<0.0010	0.226	5.80	0.0016	0.0120	3.43	0.236	-	<0.0050	<0.0050	<0.50	0.0215	<0.00010	0.00068
Chedakuz Creek	CC-20	Primary	VA25C7563-001	2025-10-14	<0.0010	0.273	5.53	0.0024	0.0136	3.50	0.235	-	<0.0050	<0.0050	<0.50	0.0370	<0.00010	0.00068
Chedakuz Creek	CC-20	Primary	VA25C8358-005	2025-10-20	<0.0010	0.241	5.84	0.0021	0.0116	3.87	0.238	-	<0.0050	<0.0050	<0.50	0.0102	<0.00010	0.00058
Chedakuz Creek	CC-20	Primary	VA25C8919-008	2025-10-27	<0.0010	0.238	6.00	0.0014	0.0178	4.11	0.247	-	<0.0050	<0.0050	<0.50	0.107	<0.00010	0.00066
Chedakuz Creek	CC-20	Primary	VA25C9101-008	2025-10-29	<0.0010	0.261	5.71	0.0019	0.0161	4.10	0.260	-	<0.0050	<0.0050	<0.50	0.0570	<0.00010	0.00056
Chedakuz Creek	CC-20	Primary	VA25D1976-001	2025-11-26	<0.0010	0.286	5.83	0.0085	0.0245	4.36	0.287	-	<0.0050	<0.0050	<0.50	0.0408	<0.00010	0.00062
Chedakuz Creek	CC-20	Primary	VA25D4214-007	2025-12-27	<0.0010	0.240	6.18	0.0099	0.0220	4.23	0.294	-	<0.0050	<0.0050	<0.50	0.0288	<0.00010	0.00061

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals												
					Barium, Total (mg/L)	Beryllium, Total (mg/L)	Bismuth, Total (mg/L)	Boron, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Lithium, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
Chedakuz Creek	CC-15	Primary	VA25A0964-004	2025-01-13	0.00839	<0.000020	<0.000050	<0.010	<0.0000050	19.1	<0.00050	<0.00010	<0.00050	0.133	<0.000050	<0.0010	5.02	0.0169
Chedakuz Creek	CC-15	Primary	VA25A3507-003	2025-02-17	0.00821	<0.000020	<0.000050	<0.010	<0.0000050	23.3	<0.00050	<0.00010	<0.00050	0.109	<0.000050	<0.0010	5.32	0.0194
Chedakuz Creek	CC-15	Duplicate	VA25A3507-004	2025-02-17	0.00822	<0.000020	<0.000050	<0.010	<0.0000050	22.6	<0.00050	<0.00010	<0.00050	0.108	<0.000050	<0.0010	5.12	0.0188
Chedakuz Creek	CC-15	Primary	VA25A5268-001	2025-03-09	0.00905	<0.000020	<0.000050	<0.010	<0.0000050	21.2	<0.00050	<0.00010	<0.00050	0.198	<0.000050	<0.0010	5.31	0.0346
Chedakuz Creek	CC-15	Duplicate	VA25A5268-002	2025-03-09	0.00937	<0.000020	<0.000050	<0.010	<0.0000050	21.9	<0.00050	<0.00010	<0.00050	0.221	<0.000050	<0.0010	5.27	0.0365
Chedakuz Creek	CC-15	Primary	VA25A7310-001	2025-04-01	0.00921	<0.000020	<0.000050	<0.010	<0.0000050	19.2	<0.00050	<0.00010	0.00055	0.216	<0.000050	<0.0010	4.60	0.0461
Chedakuz Creek	CC-15	Duplicate	VA25A7310-002	2025-04-01	0.00981	<0.000020	<0.000050	<0.010	0.0000062	19.5	<0.00050	0.00010	0.00064	0.272	0.000058	<0.0010	4.50	0.0464
Chedakuz Creek	CC-15	Primary	VA25B0438-004	2025-05-05	0.0115	<0.000020	<0.000050	<0.010	0.0000070	17.5	<0.00050	0.00019	0.00078	0.445	0.000139	<0.0010	3.96	0.103
Chedakuz Creek	CC-15	Primary	VA25B1094-002	2025-05-12	0.00827	<0.000020	<0.000050	<0.010	<0.0000050	17.9	<0.00050	<0.00010	<0.00050	0.155	0.000051	<0.0010	3.92	0.0243
Chedakuz Creek	CC-15	Primary	VA25B1721-003	2025-05-19	0.0109	<0.000020	<0.000050	<0.010	0.0000062	15.7	<0.00050	0.00016	0.00084	0.465	0.000150	<0.0010	3.60	0.0478
Chedakuz Creek	CC-15	Primary	VA25B2427-001	2025-05-26	0.00810	<0.000020	<0.000050	<0.010	<0.0000050	17.2	<0.00050	<0.00010	<0.00050	0.146	<0.000050	<0.0010	4.39	0.0220
Chedakuz Creek	CC-15	Primary	VA25B3822-001	2025-06-02	0.00780	<0.000020	<0.000050	<0.010	<0.0000050	17.7	<0.00050	<0.00010	0.00050	0.133	<0.000050	<0.0010	4.34	0.0253
Chedakuz Creek	CC-15	Primary	VA25B5722-002	2025-06-23	0.0101	<0.000020	<0.000050	<0.010	0.0000065	17.6	<0.00050	0.00011	0.00071	0.276	0.000107	<0.0010	4.20	0.0354
Chedakuz Creek	CC-15	Primary	VA25B6834-002	2025-07-07	0.00798	<0.000020	<0.000050	<0.010	<0.0000050	18.3	<0.00050	<0.00010	<0.00050	0.162	<0.000050	<0.0010	4.39	0.0225
Chedakuz Creek	CC-15	Primary	VA25B9366-003	2025-08-04	0.00812	<0.000020	<0.000050	<0.010	<0.0000050	20.8	<0.00050	0.00013	<0.00050	0.233	<0.000050	<0.0010	4.72	0.0286
Chedakuz Creek	CC-15	Duplicate	VA25B9366-004	2025-08-04	0.00798	<0.000020	<0.000050	<0.010	0.0000054	20.5	<0.00050	0.00013	<0.00050	0.244	<0.000050	<0.0010	4.92	0.0290
Chedakuz Creek	CC-15	Primary	VA25C4967-007	2025-09-17	0.0102	<0.000020	<0.000050	<0.010	<0.0000050	20.6	<0.00050	0.00030	<0.00050	0.271	<0.000050	<0.0010	4.90	0.0227
Chedakuz Creek	CC-15	Primary	VA25C6908-002	2025-10-08	0.00839	<0.000020	<0.000050	<0.010	<0.0000050	20.7	<0.00050	0.00013	<0.00050	0.240	<0.000050	<0.0010	4.96	0.0220
Chedakuz Creek	CC-15	Primary	VA25C7563-002	2025-10-14	0.00800	<0.000020	<0.000050	<0.010	<0.0000050	20.2	<0.00050	0.00016	<0.00050	0.288	<0.000050	<0.0010	4.92	0.0310
Chedakuz Creek	CC-15	Primary	VA25C8358-003	2025-10-20	0.00858	<0.000020	<0.000050	<0.010	<0.0000050	19.0	<0.00050	0.00014	<0.00050	0.216	<0.000050	<0.0010	5.04	0.0297
Chedakuz Creek	CC-15	Duplicate	VA25C8358-004	2025-10-20	0.00830	<0.000020	<0.000050	<0.010	<0.0000050	19.5	<0.00050	0.00014	<0.00050	0.242	<0.000050	<0.0010	4.90	0.0306
Chedakuz Creek	CC-15	Primary	VA25C8919-009	2025-10-27	0.00881	<0.000020	<0.000050	<0.010	<0.0000050	20.2	<0.00050	0.00017	<0.00050	0.292	0.000051	<0.0010	4.32	0.0228
Chedakuz Creek	CC-15	Primary	VA25C9101-003	2025-10-29	0.00910	<0.000020	<0.000050	<0.010	<0.0000050	19.1	<0.00050	0.00018	<0.00050	0.251	<0.000050	<0.0010	4.41	0.0254
Chedakuz Creek	CC-15	Primary	VA25D1976-002	2025-11-26	0.00781	<0.000020	<0.000050	<0.010	<0.0000050	20.6	<0.00050	0.00012	<0.00050	0.191	<0.000050	<0.0010	5.19	0.0288
Chedakuz Creek	CC-15	Duplicate	VA25D1976-003	2025-11-26	0.00801	<0.000020	<0.000050	<0.010	<0.0000050	20.5	<0.00050	0.00012	<0.00050	0.183	<0.000050	<0.0010	5.09	0.0288
Chedakuz Creek	CC-15	Primary	VA25D4214-008	2025-12-27	0.00785	<0.000020	<0.000050	<0.010	<0.0000050	21.7	<0.00050	0.00014	<0.00050	0.172	<0.000050	<0.0010	5.38	0.0263
Chedakuz Creek	CC-20	Primary	VA25A1845-002	2025-01-26	0.00869	<0.000020	<0.000050	<0.010	<0.0000050	20.7	<0.00050	<0.00010	<0.00050	0.129	<0.000050	<0.0010	5.49	0.0184
Chedakuz Creek	CC-20	Duplicate	VA25A1845-003	2025-01-26	0.00845	<0.000020	<0.000050	<0.010	<0.0000050	21.9	<0.00050	<0.00010	<0.00050	0.130	<0.000050	<0.0010	5.36	0.0188
Chedakuz Creek	CC-20	Primary	VA25A3507-002	2025-02-17	0.0144	<0.000020	<0.000050	<0.010	<0.0000050	37.1	<0.00050	<0.00010	<0.00050	0.360	<0.000050	<0.0010	8.52	0.0766
Chedakuz Creek	CC-20	Primary	VA25A5560-001	2025-03-11	0.00809	<0.000020	<0.000050	<0.010	<0.0000050	22.0	<0.00050	<0.00010	<0.00050	0.156	<0.000050	<0.0010	5.23	0.0252
Chedakuz Creek	CC-20	Primary	VA25A8058-003	2025-04-09	0.0104	<0.000020	<0.000050	<0.010	<0.0000050	19.2	<0.00050	0.00011	0.00066	0.388	0.000068	<0.0010	4.43	0.0576
Chedakuz Creek	CC-20	Duplicate	VA25A8058-004	2025-04-09	0.0109	<0.000020	<0.000050	<0.010	<0.0000050	19.0	<0.00050	0.00012	0.00069	0.438	0.000090	<0.0010	4.36	0.0593
Chedakuz Creek	CC-20	Primary	VA25B0438-005	2025-05-05	0.00871	<0.000020	<0.000050	<0.010	<0.0000050	17.0	<0.00050	<0.00010	<0.00050	0.182	<0.000050	<0.0010	3.71	0.0787
Chedakuz Creek	CC-20	Primary	VA25B1094-001	2025-05-12	0.00800	<0.000020	<0.000050	<0.010	<0.0000050	17.5	<0.00050	<0.00010	<0.00050	0.144	<0.000050	<0.0010	3.74	0.0235
Chedakuz Creek	CC-20	Primary	VA25B1721-002	2025-05-19	0.0102	<0.000020	<0.000050	<0.010	0.0000058	15.4	<0.00050	0.00014	0.00078	0.422	0.000132	<0.0010	3.72	0.0441
Chedakuz Creek	CC-20	Primary	VA25B2427-002	2025-05-26	0.00797	<0.000020	<0.000050	<0.010	<0.0000050	17.2	<0.00050	<0.00010	<0.00050	0.143	<0.000050	<0.0010	4.35	0.0227
Chedakuz Creek	CC-20	Primary	VA25B3822-002	2025-06-02	0.00854	<0.000020	<0.000050	<0.010	0.0000050	18.0	<0.00050	<0.00010	0.00052	0.156	<0.000050	<0.0010	4.35	0.0304
Chedakuz Creek	CC-20	Primary	VA25B5722-001	2025-06-23	0.00955	<0.000020	<0.000050	<0.010	<0.0000050	18.2	<0.00050	<0.00010	<0.00050	0.190	0.000063	<0.0010	4.31	0.0316
Chedakuz Creek	CC-20	Primary	VA25B6834-001	2025-07-07	0.00800	<0.000020	<0.000050	<0.010	<0.0000050	19.4	<0.00050	<0.00010	<0.00050	0.181	<0.000050	<0.0010	4.46	0.0264
Chedakuz Creek	CC-20	Duplicate	VA25B6834-007	2025-07-07	0.00819	<0.000020	<0.000050	<0.010	<0.0000050	18.1	<0.00050	<0.00010	<0.00050	0.193	<0.000050	<0.0010	4.48	0.0272
Chedakuz Creek	CC-20	Primary	VA25C0017-003	2025-08-10	0.00795	<0.000020	<0.000050	<0.010	<0.0000050	19.2	<0.00050	0.00015	<0.00050	0.275	<0.000050	<0.0010	4.67	0.0341
Chedakuz Creek	CC-20	Primary	VA25C4967-008	2025-09-17	0.00950	<0.000020	<0.000050	<0.010	<0.0000050	22.2	<0.00050	0.00026	<0.00050	0.253	<0.000050	<0.0010	4.99	0.0252
Chedakuz Creek	CC-20	Primary	VA25C6908-001	2025-10-08	0.00836	<0.000020	<0.000050	<0.010	<0.0000050	20.6	<0.00050	0.00013	<0.00050	0.241	<0.000050	<0.0010	5.15	0.0232
Chedakuz Creek	CC-20	Primary	VA25C7563-001	2025-10-14	0.00826	<0.000020	<0.000050	<0.010	<0.0000050	20.3	<0.00050	0.00013	<0.00050	0.285	<0.000050	<0.0010	4.85	0.0283
Chedakuz Creek	CC-20	Primary	VA25C8358-005	2025-10-20	0.00810	<0.000020	<0.000050	<0.010	<0.0000050	19.7	<0.00050	0.00012	<0.00050	0.209	<0.000050	<0.0010	5.09	0.0273
Chedakuz Creek	CC-20	Primary	VA25C8919-008	2025-10-27	0.00905	<0.000020	<0.000050	<0.010	<0.0000050	19.9	<0.00050	0.00017	<0.00050	0.334	0.000054	<0.0010	4.37	0.0331
Chedakuz Creek	CC-20	Primary	VA25C9101-008	2025-10-29	0.00869	<0.000020	<0.000050	<0.010	<0.0000050	20.1	<0.00050	0.00016	<0.00050	0.245	<0.000050	<0.0010	4.44	0.0255
Chedakuz Creek	CC-20	Primary	VA25D1976-001	2025-11-26	0.00853	<0.000020	<0.000050	<0.010	<0.0000050	20.8	<0.00050	0.00012	<0.00050	0.243	<0.000050	<0.0010	5.04	0.0440
Chedakuz Creek	CC-20	Primary	VA25D4214-007	2025-12-27	0.00748	<0.000020	<0.000050	<0.010	<0.0000050	21.0	<0.00050	0.00013	<0.00050	0.147	<0.000050	<0.0010	5.38	0.0262

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Mercury, Total (mg/L)	Molybdenum, Total (mg/L)	Nickel, Total (mg/L)	Phosphorus, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silicon, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Strontium, Total (mg/L)	Sulphur, Total (mg/L)	Thallium, Total (mg/L)	Tin, Total (mg/L)	Titanium, Total (mg/L)
Chedakuz Creek	CC-15	Primary	VA25A0964-004	2025-01-13	<0.0000050	0.000694	<0.00050	<0.050	0.920	0.000062	5.10	<0.000010	3.71	0.109	1.04	<0.000010	<0.00010	0.00085
Chedakuz Creek	CC-15	Primary	VA25A3507-003	2025-02-17	<0.0000050	0.000709	<0.00050	<0.050	1.01	0.000051	5.37	<0.000010	4.23	0.114	1.61	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-15	Duplicate	VA25A3507-004	2025-02-17	<0.0000050	0.000722	<0.00050	<0.050	0.992	0.000056	5.31	<0.000010	4.21	0.112	1.62	<0.000010	<0.00010	0.00032
Chedakuz Creek	CC-15	Primary	VA25A5268-001	2025-03-09	<0.0000050	0.000751	<0.00050	<0.050	1.12	0.000057	5.00	<0.000010	3.94	0.113	1.48	<0.000010	<0.00010	0.00273
Chedakuz Creek	CC-15	Duplicate	VA25A5268-002	2025-03-09	<0.0000050	0.000742	<0.00050	<0.050	1.16	0.000080	5.17	<0.000010	3.93	0.117	1.83	<0.000010	<0.00010	0.00330
Chedakuz Creek	CC-15	Primary	VA25A7310-001	2025-04-01	<0.0000050	0.000802	<0.00050	0.070	1.64	0.000117	4.73	<0.000010	3.79	0.106	1.32	<0.000010	<0.00010	0.00338
Chedakuz Creek	CC-15	Duplicate	VA25A7310-002	2025-04-01	<0.0000050	0.000802	<0.00050	0.091	1.60	0.000109	4.77	<0.000010	3.82	0.109	1.51	<0.000010	<0.00010	0.00610
Chedakuz Creek	CC-15	Primary	VA25B0438-004	2025-05-05	<0.0000050	0.000656	0.00053	<0.050	1.01	0.000098	5.58	<0.000010	3.23	0.0936	1.19	<0.000010	<0.00010	0.0138
Chedakuz Creek	CC-15	Primary	VA25B1094-002	2025-05-12	<0.0000050	0.000619	<0.00050	<0.050	0.839	0.000061	4.46	<0.000010	3.14	0.0921	1.43	<0.000010	<0.00010	0.00402
Chedakuz Creek	CC-15	Primary	VA25B1721-003	2025-05-19	<0.0000050	0.000604	0.00054	<0.050	0.921	0.000076	4.91	<0.000010	2.72	0.0823	1.64	<0.000010	<0.00010	0.0123
Chedakuz Creek	CC-15	Primary	VA25B2427-001	2025-05-26	<0.0000050	0.000605	<0.00050	<0.050	0.849	0.000052	3.94	<0.000010	3.24	0.0883	1.63	<0.000010	<0.00010	<0.00330
Chedakuz Creek	CC-15	Primary	VA25B3822-001	2025-06-02	<0.0000050	0.000662	<0.00050	<0.050	0.874	0.000055	4.17	<0.000010	3.46	0.0907	1.68	<0.000010	<0.00010	0.00308
Chedakuz Creek	CC-15	Primary	VA25B5722-002	2025-06-23	<0.0000050	0.000714	<0.00050	<0.050	0.852	0.000062	3.92	<0.000010	3.22	0.0962	1.38	<0.000010	<0.00010	0.00836
Chedakuz Creek	CC-15	Primary	VA25B6834-002	2025-07-07	<0.0000050	0.000675	<0.00050	<0.050	0.843	<0.000050	3.68	<0.000010	3.49	0.101	1.13	<0.000010	<0.00010	0.00066
Chedakuz Creek	CC-15	Primary	VA25B9366-003	2025-08-04	<0.0000050	0.000794	<0.00050	<0.050	0.848	0.000088	3.91	<0.000010	3.46	0.111	1.55	<0.000010	<0.00010	0.00111
Chedakuz Creek	CC-15	Duplicate	VA25B9366-004	2025-08-04	<0.0000050	0.000808	<0.00050	<0.050	0.866	0.000071	3.95	<0.000010	3.53	0.110	1.43	<0.000010	<0.00010	0.00130
Chedakuz Creek	CC-15	Primary	VA25C4967-007	2025-09-17	<0.0000050	0.000734	<0.00050	<0.050	0.924	0.000083	3.08	<0.000010	3.82	0.110	1.35	<0.000010	<0.00010	0.00153
Chedakuz Creek	CC-15	Primary	VA25C6908-002	2025-10-08	<0.0000050	0.000690	<0.00050	<0.050	0.927	<0.000050	3.50	<0.000010	3.79	0.108	1.17	<0.000010	<0.00010	0.00071
Chedakuz Creek	CC-15	Primary	VA25C7563-002	2025-10-14	<0.0000050	0.000707	<0.00050	<0.050	0.876	0.000055	3.83	<0.000010	3.92	0.104	1.45	<0.000010	<0.00010	0.00240
Chedakuz Creek	CC-15	Primary	VA25C8358-003	2025-10-20	<0.0000050	0.000652	<0.00050	<0.050	0.863	0.000063	3.58	<0.000010	3.85	0.105	1.10	<0.000010	<0.00010	0.00106
Chedakuz Creek	CC-15	Duplicate	VA25C8358-004	2025-10-20	<0.0000050	0.000676	<0.00050	<0.050	0.842	0.000068	3.85	<0.000010	3.75	0.108	1.29	<0.000010	<0.00010	0.00127
Chedakuz Creek	CC-15	Primary	VA25C8919-009	2025-10-27	<0.0000050	0.000683	<0.00050	<0.050	0.927	<0.000050	4.85	<0.000010	3.58	0.105	1.56	<0.000010	<0.00010	0.00302
Chedakuz Creek	CC-15	Primary	VA25C9101-003	2025-10-29	<0.0000050	0.000676	<0.00050	<0.050	0.915	0.000087	4.58	<0.000010	3.59	0.102	1.61	<0.000010	<0.00010	0.00241
Chedakuz Creek	CC-15	Primary	VA25D1976-002	2025-11-26	<0.0000050	0.000638	<0.00050	<0.050	0.866	0.000069	4.72	<0.000010	3.85	0.109	1.61	<0.000010	<0.00010	0.00065
Chedakuz Creek	CC-15	Duplicate	VA25D1976-003	2025-11-26	<0.0000050	0.000622	<0.00050	<0.050	0.862	<0.000050	4.62	<0.000010	3.97	0.107	1.49	<0.000010	<0.00010	0.00060
Chedakuz Creek	CC-15	Primary	VA25D4214-008	2025-12-27	<0.0000050	0.000628	<0.00050	<0.050	0.904	<0.000050	4.82	<0.000010	3.83	0.107	1.43	<0.000010	<0.00010	0.00188
Chedakuz Creek	CC-20	Primary	VA25A1845-002	2025-01-26	<0.0000050	0.000685	<0.00050	<0.050	0.856	0.000072	5.22	<0.000010	3.82	0.113	1.45	<0.000010	<0.00010	0.00069
Chedakuz Creek	CC-20	Duplicate	VA25A1845-003	2025-01-26	<0.0000050	0.000690	<0.00050	<0.050	0.881	0.000055	5.27	<0.000010	3.97	0.111	1.52	<0.000010	<0.00010	0.00061
Chedakuz Creek	CC-20	Primary	VA25A3507-002	2025-02-17	<0.0000050	0.00116	<0.00050	<0.050	1.59	0.000092	8.90	<0.000010	6.81	0.188	2.53	<0.000010	<0.00010	<0.00030
Chedakuz Creek	CC-20	Primary	VA25A5560-001	2025-03-11	<0.0000050	0.000737	<0.00050	<0.050	0.890	0.000060	5.13	<0.000010	3.63	0.113	1.56	<0.000010	<0.00010	0.00168
Chedakuz Creek	CC-20	Primary	VA25A8058-003	2025-04-09	<0.0000050	0.000720	0.00076	<0.050	1.15	0.000070	5.19	<0.000010	3.32	0.102	1.75	<0.000010	<0.00010	0.00627
Chedakuz Creek	CC-20	Duplicate	VA25A8058-004	2025-04-09	<0.0000050	0.000676	0.00085	<0.050	1.12	0.000082	5.27	<0.000010	3.12	0.0986	1.91	<0.000010	<0.00010	0.00915
Chedakuz Creek	CC-20	Primary	VA25B0438-005	2025-05-05	<0.0000050	0.000607	<0.00050	<0.050	0.953	0.000085	5.16	<0.000010	3.20	0.0897	1.42	<0.000010	<0.00010	0.00386
Chedakuz Creek	CC-20	Primary	VA25B1094-001	2025-05-12	<0.0000050	0.000609	<0.00050	<0.050	0.802	0.000086	4.35	<0.000010	3.10	0.0902	1.62	<0.000010	<0.00010	0.00358
Chedakuz Creek	CC-20	Primary	VA25B1721-002	2025-05-19	<0.0000050	0.000571	0.00052	<0.050	0.933	0.000071	4.97	<0.000010	2.82	0.0814	1.49	<0.000010	<0.00010	0.0117
Chedakuz Creek	CC-20	Primary	VA25B2427-002	2025-05-26	<0.0000050	0.000616	<0.00050	<0.050	0.843	0.000055	3.96	<0.000010	3.31	0.0917	1.54	<0.000010	<0.00010	0.00285
Chedakuz Creek	CC-20	Primary	VA25B3822-002	2025-06-02	<0.0000050	0.000632	<0.00050	<0.050	0.861	0.000115	4.10	<0.000010	3.86	0.0940	1.69	<0.000010	<0.00010	0.00333
Chedakuz Creek	CC-20	Primary	VA25B5722-001	2025-06-23	<0.0000050	0.000684	<0.00050	<0.050	0.836	<0.000050	3.87	<0.000010	3.25	0.0958	1.24	<0.000010	<0.00010	0.00357
Chedakuz Creek	CC-20	Primary	VA25B6834-001	2025-07-07	<0.0000050	0.000732	<0.00050	<0.050	0.838	0.000087	3.77	<0.000010	3.49	0.105	1.21	<0.000010	<0.00010	0.00118
Chedakuz Creek	CC-20	Duplicate	VA25B6834-007	2025-07-07	<0.0000050	0.000711	<0.00050	<0.050	0.858	0.000076	3.77	<0.000010	3.54	0.104	1.11	<0.000010	<0.00010	0.00141
Chedakuz Creek	CC-20	Primary	VA25C0017-003	2025-08-10	<0.0000050	0.000750	<0.00050	<0.050	0.812	0.000074	3.65	0.000022	3.76	0.108	1.42	<0.000010	<0.00010	<0.00120
Chedakuz Creek	CC-20	Primary	VA25C4967-008	2025-09-17	<0.0000050	0.000742	<0.00050	<0.050	0.894	0.000065	3.28	<0.000010	3.94	0.114	1.19	<0.000010	<0.00010	0.00051
Chedakuz Creek	CC-20	Primary	VA25C6908-001	2025-10-08	<0.0000050	0.000696	<0.00050	<0.050	0.912	0.000073	3.68	<0.000010	3.78	0.112	1.36	<0.000010	<0.00010	0.00078
Chedakuz Creek	CC-20	Primary	VA25C7563-001	2025-10-14	<0.0000050	0.000689	<0.00050	<0.050	0.839	<0.000050	4.00	<0.000010	3.78	0.106	1.44	<0.000010	<0.00010	0.00148
Chedakuz Creek	CC-20	Primary	VA25C8358-005	2025-10-20	<0.0000050	0.000658	<0.00050	<0.050	0.847	0.000060	3.87	<0.000010	3.81	0.105	1.10	<0.000010	<0.00010	0.00038
Chedakuz Creek	CC-20	Primary	VA25C8919-008	2025-10-27	<0.0000050	0.000672	<0.00050	<0.050	0.916	<0.000050	4.73	<0.000010	3.60	0.105	1.38	<0.000010	<0.00010	0.00353
Chedakuz Creek	CC-20	Primary	VA25C9101-008	2025-10-29	<0.0000050	0.000696	<0.00050	<0.050	0.862	0.000075	4.88	<0.000010	3.72	0.102	1.72	<0.000010	<0.00010	0.00185
Chedakuz Creek	CC-20	Primary	VA25D1976-001	2025-11-26	<0.0000050	0.000645	<0.00050	<0.050	0.871	0.000073	4.89	<0.000010	4.10	0.115	1.78	<0.000010	<0.00010	0.00157
Chedakuz Creek	CC-20	Primary	VA25D4214-007	2025-12-27	<0.0000050	0.000629	<0.00050	<0.050	0.918	0.000051	4.80	<0.000010	3.85	0.105	1.38	<0.000010	<0.00010	0.00130

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals			Dissolved Metals										
					Uranium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)	Aluminum, Dissolved (mg/L)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Beryllium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L)	Boron, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Cobalt, Dissolved (mg/L)
Chedakuz Creek	CC-15	Primary	VA25A0964-004	2025-01-13	0.000118	<0.00050	<0.0030	0.0042	<0.00010	0.00053	0.00791	<0.000020	<0.000050	<0.010	<0.0000050	20.1	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25A3507-003	2025-02-17	0.000128	<0.00050	<0.0030	0.0018	<0.00010	0.00056	0.00812	<0.000020	<0.000050	<0.010	<0.0000050	20.9	<0.00050	<0.00010
Chedakuz Creek	CC-15	Duplicate	VA25A3507-004	2025-02-17	0.000126	<0.00050	<0.0030	0.0016	<0.00010	0.00058	0.00815	<0.000020	<0.000050	<0.010	<0.0000050	21.6	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25A5268-001	2025-03-09	0.000158	0.00060	<0.0030	0.0035	<0.00010	0.00058	0.00808	<0.000020	<0.000050	<0.010	<0.0000050	19.9	<0.00050	<0.00010
Chedakuz Creek	CC-15	Duplicate	VA25A5268-002	2025-03-09	0.000161	0.00061	<0.0030	0.0042	<0.00010	0.00059	0.00836	<0.000020	<0.000050	<0.010	<0.0000050	19.7	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25A7310-001	2025-04-01	0.000167	0.00067	<0.0030	0.0082	<0.00010	0.00061	0.00757	<0.000020	<0.000050	<0.010	<0.0000050	19.9	<0.00050	<0.00010
Chedakuz Creek	CC-15	Duplicate	VA25A7310-002	2025-04-01	0.000174	0.00077	<0.0030	0.0113	<0.00010	0.00060	0.00780	<0.000020	<0.000050	<0.010	<0.0000050	19.8	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B0438-004	2025-05-05	0.000150	0.00112	<0.0030	0.0216	<0.00010	0.00055	0.00782	<0.000020	<0.000050	<0.010	<0.0000050	16.9	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B1094-002	2025-05-12	0.000110	0.00059	<0.0030	0.0209	<0.00010	0.00052	0.00714	<0.000020	<0.000050	<0.010	<0.0000050	17.4	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B1721-003	2025-05-19	0.000132	0.00115	<0.0030	0.0442	<0.00010	0.00060	0.00829	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B2427-001	2025-05-26	0.000114	0.00059	<0.0030	0.0151	<0.00010	0.00051	0.00684	<0.000020	<0.000050	<0.010	<0.0000050	17.6	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B3822-001	2025-06-02	0.000114	0.00053	<0.0030	0.0173	<0.00010	0.00061	0.00688	<0.000020	<0.000050	<0.010	<0.0000050	18.0	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B5722-002	2025-06-23	0.000125	0.00086	<0.0030	0.0164	<0.00010	0.00068	0.00763	<0.000020	<0.000050	<0.010	<0.0000050	20.8	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B6834-002	2025-07-07	0.000106	<0.00050	<0.0030	0.0079	<0.00010	0.00061	0.00687	<0.000020	<0.000050	<0.010	<0.0000050	18.4	<0.00050	<0.00010
Chedakuz Creek	CC-15	Primary	VA25B9366-003	2025-08-04	0.000127	0.00070	<0.0030	0.0082	<0.00010	0.00096	0.00756	<0.000020	<0.000050	<0.010	<0.0000050	18.6	<0.00050	0.00012
Chedakuz Creek	CC-15	Duplicate	VA25B9366-004	2025-08-04	0.000122	0.00073	<0.0030	0.0078	<0.00010	0.00087	0.00749	<0.000020	<0.000050	<0.010	<0.0000050	19.1	<0.00050	0.00010
Chedakuz Creek	CC-15	Primary	VA25C4967-007	2025-09-17	0.000127	0.00059	<0.0030	0.0046	<0.00010	0.00065	0.00969	<0.000020	<0.000050	<0.010	<0.0000050	22.2	<0.00050	0.00027
Chedakuz Creek	CC-15	Primary	VA25C6908-002	2025-10-08	0.000115	<0.00050	<0.0030	0.0040	<0.00010	0.00059	0.00813	<0.000020	<0.000050	<0.010	<0.0000050	19.6	<0.00050	0.00013
Chedakuz Creek	CC-15	Primary	VA25C7563-002	2025-10-14	0.000131	0.00057	<0.0030	0.0043	<0.00010	0.00057	0.00744	<0.000020	<0.000050	<0.010	<0.0000050	19.3	<0.00050	0.00012
Chedakuz Creek	CC-15	Primary	VA25C8358-003	2025-10-20	0.000106	<0.00050	<0.0030	0.0027	<0.00010	0.00052	0.00833	<0.000020	<0.000050	<0.010	<0.0000050	20.7	<0.00050	0.00013
Chedakuz Creek	CC-15	Duplicate	VA25C8358-004	2025-10-20	0.000108	0.00051	<0.0030	0.0046	<0.00010	0.00054	0.00832	<0.000020	<0.000050	<0.010	<0.0000050	21.5	<0.00050	0.00013
Chedakuz Creek	CC-15	Primary	VA25C8919-009	2025-10-27	0.000119	<0.00050	<0.0030	0.0120	<0.00010	0.00056	0.00797	<0.000020	<0.000050	<0.010	<0.0000050	19.5	<0.00050	0.00015
Chedakuz Creek	CC-15	Primary	VA25C9101-003	2025-10-29	0.000117	0.00051	<0.0030	0.0087	<0.00010	0.00053	0.00893	<0.000020	<0.000050	<0.010	<0.0000050	18.8	<0.00050	0.00015
Chedakuz Creek	CC-15	Primary	VA25D1976-002	2025-11-26	0.000110	<0.00050	<0.0030	0.0026	<0.00010	0.00055	0.00738	<0.000020	<0.000050	<0.010	<0.0000050	22.4	<0.00050	0.00012
Chedakuz Creek	CC-15	Duplicate	VA25D1976-003	2025-11-26	0.000112	<0.00050	<0.0030	0.0030	<0.00010	0.00056	0.00739	<0.000020	<0.000050	<0.010	<0.0000050	22.4	<0.00050	0.00011
Chedakuz Creek	CC-15	Primary	VA25D4214-008	2025-12-27	0.000119	<0.00050	<0.0030	0.0030	<0.00010	0.00057	0.00769	<0.000020	<0.000050	<0.010	<0.0000050	20.0	<0.00050	0.00011
Chedakuz Creek	CC-20	Primary	VA25A1845-002	2025-01-26	0.000133	<0.00050	<0.0030	0.0026	<0.00010	0.00054	0.00837	<0.000020	<0.000050	<0.010	<0.0000050	20.2	<0.00050	<0.00010
Chedakuz Creek	CC-20	Duplicate	VA25A1845-003	2025-01-26	0.000136	<0.00050	<0.0030	0.0021	<0.00010	0.00054	0.00833	<0.000020	<0.000050	<0.010	<0.0000050	20.1	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25A3507-002	2025-02-17	0.000203	<0.00050	<0.0030	0.0039	<0.00010	0.00082	0.0130	<0.000020	<0.000050	<0.010	<0.0000050	33.9	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25A5560-001	2025-03-11	0.000149	<0.00050	<0.0030	0.0059	<0.00010	0.00054	0.00736	<0.000020	<0.000050	<0.010	<0.0000050	20.4	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25A8058-003	2025-04-09	0.000156	0.00106	<0.0030	0.0278	<0.00010	0.00066	0.00925	<0.000020	<0.000050	<0.010	<0.0000050	19.0	<0.00050	<0.00010
Chedakuz Creek	CC-20	Duplicate	VA25A8058-004	2025-04-09	0.000162	0.00112	<0.0030	0.0263	<0.00010	0.00058	0.00924	<0.000020	<0.000050	<0.010	<0.0000050	18.9	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25B0438-005	2025-05-05	0.000114	0.00053	<0.0030	0.0195	<0.00010	0.00055	0.00757	<0.000020	<0.000050	<0.010	<0.0000050	17.2	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25B1094-001	2025-05-12	0.000117	0.00055	<0.0030	0.0177	<0.00010	0.00053	0.00700	<0.000020	<0.000050	<0.010	<0.0000050	17.2	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25B1721-002	2025-05-19	0.000122	0.00108	<0.0030	0.0424	<0.00010	0.00056	0.00816	<0.000020	<0.000050	<0.010	<0.0000050	15.9	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25B2427-002	2025-05-26	0.000113	0.00058	<0.0030	0.0146	<0.00010	0.00053	0.00671	<0.000020	<0.000050	<0.010	<0.0000050	16.9	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25B3822-002	2025-06-02	0.000121	0.00060	<0.0030	0.0136	<0.00010	0.00057	0.00664	<0.000020	<0.000050	<0.010	<0.0000050	17.6	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25B5722-001	2025-06-23	0.000114	0.00060	<0.0030	0.0202	<0.00010	0.00066	0.00788	<0.000020	<0.000050	<0.010	<0.0000050	20.1	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25B6834-001	2025-07-07	0.000112	0.00054	<0.0030	0.0079	<0.00010	0.00063	0.00699	<0.000020	<0.000050	<0.010	<0.0000050	18.7	<0.00050	<0.00010
Chedakuz Creek	CC-20	Duplicate	VA25B6834-007	2025-07-07	0.000110	0.00057	<0.0030	0.0081	<0.00010	0.00072	0.00734	<0.000020	<0.000050	<0.010	<0.0000050	19.0	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25C0017-003	2025-08-10	0.000130	0.00057	<0.0030	0.0052	<0.00010	0.00079	0.00805	<0.000020	<0.000050	<0.010	<0.0000050	19.6	<0.00050	0.00012
Chedakuz Creek	CC-20	Primary	VA25C4967-008	2025-09-17	0.000127	0.00056	<0.0030	0.0040	<0.00010	0.00071	0.00951	<0.000020	<0.000050	<0.010	<0.0000050	22.7	<0.00050	0.00024
Chedakuz Creek	CC-20	Primary	VA25C6908-001	2025-10-08	0.000114	0.00050	<0.0030	0.0032	<0.00010	0.00055	0.00816	<0.000020	<0.000050	<0.010	<0.0000050	20.3	<0.00050	0.00012
Chedakuz Creek	CC-20	Primary	VA25C7563-001	2025-10-14	0.000126	<0.00050	<0.0030	0.0035	<0.00010	0.00056	0.00786	<0.000020	<0.000050	<0.010	<0.0000050	20.7	<0.00050	0.00012
Chedakuz Creek	CC-20	Primary	VA25C8358-005	2025-10-20	0.000100	<0.00050	<0.0030	0.0033	<0.00010	0.00053	0.00887	<0.000020	<0.000050	<0.010	<0.0000050	20.7	<0.00050	0.00012
Chedakuz Creek	CC-20	Primary	VA25C8919-008	2025-10-27	0.000116	0.00055	<0.0030	0.0095	<0.00010	0.00052	0.00819	<0.000020	<0.000050	<0.010	<0.0000050	19.0	<0.00050	0.00014
Chedakuz Creek	CC-20	Primary	VA25C9101-008	2025-10-29	0.000116	<0.00050	<0.0030	0.0068	<0.00010	0.00050	0.00842	<0.000020	<0.000050	<0.010	<0.0000050	18.7	<0.00050	0.00014
Chedakuz Creek	CC-20	Primary	VA25D1976-001	2025-11-26	0.000111	<0.00050	<0.0030	0.0027	<0.00010	0.00051	0.00753	<0.000020	<0.000050	<0.010	<0.0000050	22.2	<0.00050	<0.00010
Chedakuz Creek	CC-20	Primary	VA25D4214-007	2025-12-27	0.000121	<0.00050	<0.0030	0.0032	<0.00010	0.00057	0.00746	<0.000020	<0.000050	<0.010	<0.0000050	20.7	<0.00050	0.00011

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals												
					Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Lithium, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Phosphorus, Dissolved (mg/L)	Potassium, Dissolved (mg/L)	Selenium, Dissolved (mg/L)	Silicon, Dissolved (mg/L)	Silver, Dissolved (mg/L)
Chedakuz Creek	CC-15	Primary	VA25A0964-004	2025-01-13	0.00027	0.082	<0.000050	<0.0010	4.86	0.0159	<0.0000050	0.000618	<0.00050	<0.050	0.881	0.000072	5.02	<0.000010
Chedakuz Creek	CC-15	Primary	VA25A3507-003	2025-02-17	0.00028	0.068	<0.000050	<0.0010	5.06	0.0176	<0.0000050	0.000682	<0.00050	<0.050	0.968	0.000060	5.10	<0.000010
Chedakuz Creek	CC-15	Duplicate	VA25A3507-004	2025-02-17	0.00026	0.070	<0.000050	<0.0010	5.09	0.0175	<0.0000050	0.000698	<0.00050	<0.050	0.960	<0.000050	5.20	<0.000010
Chedakuz Creek	CC-15	Primary	VA25A5268-001	2025-03-09	0.00033	0.105	<0.000050	<0.0010	5.11	0.0299	<0.0000050	0.000735	<0.00050	<0.050	1.10	0.000055	4.89	<0.000010
Chedakuz Creek	CC-15	Duplicate	VA25A5268-002	2025-03-09	0.00058	0.110	<0.000050	<0.0010	5.11	0.0322	<0.0000050	0.000739	<0.00050	<0.050	1.20	0.000072	4.90	<0.000010
Chedakuz Creek	CC-15	Primary	VA25A7310-001	2025-04-01	0.00039	0.088	<0.000050	<0.0010	4.85	0.0403	<0.0000050	0.000769	<0.00050	0.062	1.55	0.000075	4.57	<0.000010
Chedakuz Creek	CC-15	Duplicate	VA25A7310-002	2025-04-01	0.00042	0.092	<0.000050	<0.0010	4.94	0.0395	<0.0000050	0.000794	<0.00050	0.053	1.52	<0.000050	4.39	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B0438-004	2025-05-05	0.00042	0.053	<0.000050	<0.0010	4.24	0.0512	<0.0000050	0.000608	<0.00050	<0.050	0.978	0.000070	5.13	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B1094-002	2025-05-12	0.00037	0.048	<0.000050	<0.0010	3.75	0.0127	<0.0000050	0.000578	<0.00050	<0.050	0.816	0.000061	4.15	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B1721-003	2025-05-19	0.00055	0.086	<0.000050	<0.0010	3.38	0.0192	<0.0000050	0.000565	<0.00050	<0.050	0.981	0.000062	4.40	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B2427-001	2025-05-26	0.00038	0.046	<0.000050	<0.0010	3.64	0.00982	<0.0000050	0.000614	<0.00050	<0.050	0.886	<0.000050	4.01	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B3822-001	2025-06-02	<0.00020	0.045	<0.000050	<0.0010	4.54	0.0116	<0.0000050	0.000573	<0.00050	<0.050	0.809	0.000062	3.97	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B5722-002	2025-06-23	0.00037	0.080	<0.000050	<0.0010	4.23	0.0158	<0.0000050	0.000677	<0.00050	<0.050	0.814	<0.000050	3.55	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B6834-002	2025-07-07	0.00032	0.105	<0.000050	<0.0010	4.14	0.0167	<0.0000050	0.000677	<0.00050	<0.050	0.771	0.000073	3.33	<0.000010
Chedakuz Creek	CC-15	Primary	VA25B9366-003	2025-08-04	0.00033	0.120	<0.000050	<0.0010	4.62	0.0202	<0.0000050	0.000758	<0.00050	<0.050	0.824	0.000079	3.46	<0.000010
Chedakuz Creek	CC-15	Duplicate	VA25B9366-004	2025-08-04	0.00032	0.132	<0.000050	<0.0010	4.72	0.0189	<0.0000050	0.000735	<0.00050	<0.050	0.821	0.000051	3.52	<0.000010
Chedakuz Creek	CC-15	Primary	VA25C4967-007	2025-09-17	0.00033	0.160	<0.000050	<0.0010	4.98	0.0165	<0.0000050	0.000762	<0.00050	<0.050	0.979	0.000059	2.92	<0.000010
Chedakuz Creek	CC-15	Primary	VA25C6908-002	2025-10-08	0.00028	0.182	<0.000050	<0.0010	4.85	0.0192	<0.0000050	0.000618	<0.00050	<0.050	0.846	0.000055	3.65	<0.000010
Chedakuz Creek	CC-15	Primary	VA25C7563-002	2025-10-14	0.00028	0.161	<0.000050	<0.0010	4.99	0.0216	<0.0000050	0.000677	<0.00050	<0.050	0.874	<0.000050	3.74	<0.000010
Chedakuz Creek	CC-15	Primary	VA25C8358-003	2025-10-20	0.00025	0.140	<0.000050	<0.0010	4.68	0.0247	<0.0000050	0.000612	<0.00050	<0.050	0.820	<0.000050	3.52	<0.000010
Chedakuz Creek	CC-15	Duplicate	VA25C8358-004	2025-10-20	0.00030	0.144	<0.000050	<0.0010	4.77	0.0255	<0.0000050	0.000667	<0.00050	<0.050	0.824	0.000060	3.65	<0.000010
Chedakuz Creek	CC-15	Primary	VA25C8919-009	2025-10-27	0.00035	0.134	<0.000050	<0.0010	4.27	0.0189	<0.0000050	0.000651	<0.00050	<0.050	0.906	0.000057	4.09	<0.000010
Chedakuz Creek	CC-15	Primary	VA25C9101-003	2025-10-29	0.00028	0.144	<0.000050	<0.0010	4.51	0.0213	<0.0000050	0.000651	<0.00050	<0.050	0.915	0.000056	4.46	<0.000010
Chedakuz Creek	CC-15	Primary	VA25D1976-002	2025-11-26	0.00027	0.106	<0.000050	<0.0010	5.02	0.0224	<0.0000050	0.000613	<0.00050	<0.050	0.844	0.000051	4.49	<0.000010
Chedakuz Creek	CC-15	Duplicate	VA25D1976-003	2025-11-26	0.00024	0.113	<0.000050	<0.0010	5.04	0.0230	<0.0000050	0.000610	<0.00050	<0.050	0.853	<0.000050	4.45	<0.000010
Chedakuz Creek	CC-15	Primary	VA25D4214-008	2025-12-27	0.00027	0.078	<0.000050	<0.0010	5.18	0.0170	<0.0000050	0.000628	<0.00050	<0.050	0.887	<0.000050	4.41	<0.000010
Chedakuz Creek	CC-20	Primary	VA25A1845-002	2025-01-26	0.00029	0.080	<0.000050	<0.0010	4.81	0.0162	<0.0000050	0.000655	<0.00050	<0.050	0.941	0.000056	4.91	<0.000010
Chedakuz Creek	CC-20	Duplicate	VA25A1845-003	2025-01-26	0.00031	0.079	<0.000050	<0.0010	4.94	0.0165	<0.0000050	0.000654	<0.00050	<0.050	0.959	0.000068	4.99	<0.000010
Chedakuz Creek	CC-20	Primary	VA25A3507-002	2025-02-17	0.00046	0.274	<0.000050	<0.0010	7.78	0.0691	<0.0000050	0.00106	<0.00050	<0.050	1.48	0.000089	8.03	<0.000010
Chedakuz Creek	CC-20	Primary	VA25A5560-001	2025-03-11	0.00037	0.068	<0.000050	<0.0010	4.88	0.0225	<0.0000050	0.000699	<0.00050	<0.050	0.872	0.000058	4.79	<0.000010
Chedakuz Creek	CC-20	Primary	VA25A8058-003	2025-04-09	0.00045	0.109	<0.000050	<0.0010	4.45	0.0428	<0.0000050	0.000638	<0.00050	<0.050	1.14	0.000068	4.62	<0.000010
Chedakuz Creek	CC-20	Duplicate	VA25A8058-004	2025-04-09	0.00045	0.111	<0.000050	<0.0010	4.50	0.0421	<0.0000050	0.000664	<0.00050	<0.050	1.10	0.000059	4.78	<0.000010
Chedakuz Creek	CC-20	Primary	VA25B0438-005	2025-05-05	0.00036	0.053	<0.000050	<0.0010	4.24	0.0474	<0.0000050	0.000609	<0.00050	<0.050	0.940	0.000063	5.24	<0.000010
Chedakuz Creek	CC-20	Primary	VA25B1094-001	2025-05-12	0.00037	0.047	<0.000050	<0.0010	3.86	0.0124	<0.0000050	0.000572	<0.00050	<0.050	0.799	0.000063	4.23	<0.000010
Chedakuz Creek	CC-20	Primary	VA25B1721-002	2025-05-19	0.00052	0.080	<0.000050	<0.0010	3.34	0.0183	<0.0000050	0.000560	<0.00050	<0.050	0.946	0.000093	4.32	<0.000010
Chedakuz Creek	CC-20	Primary	VA25B2427-002	2025-05-26	0.00039	0.046	<0.000050	<0.0010	3.75	0.0109	<0.0000050	0.000625	<0.00050	<0.050	0.870	0.000060	3.99	<0.000010
Chedakuz Creek	CC-20	Primary	VA25B3822-002	2025-06-02	<0.00020	0.046	<0.000050	<0.0010	4.36	0.0122	<0.0000050	0.000572	<0.00050	<0.050	0.770	<0.000050	3.92	<0.000010
Chedakuz Creek	CC-20	Primary	VA25B5722-001	2025-06-23	0.00038	0.087	<0.000050	<0.0010	4.24	0.0180	<0.0000050	0.000671	<0.00050	<0.050	0.832	0.000054	3.64	<0.000010
Chedakuz Creek	CC-20	Primary	VA25B6834-001	2025-07-07	0.00034	0.107	<0.000050	<0.0010	4.22	0.0193	<0.0000050	0.000681	<0.00050	<0.050	0.776	0.000057	3.34	<0.000010
Chedakuz Creek	CC-20	Duplicate	VA25B6834-007	2025-07-07	0.00034	0.105	<0.000050	<0.0010	4.34	0.0180	<0.0000050	0.000665	<0.00050	<0.050	0.791	0.000076	3.58	<0.000010
Chedakuz Creek	CC-20	Primary	VA25C0017-003	2025-08-10	0.00038	0.170	<0.000050	<0.0010	4.90	0.0272	<0.0000050	0.000736	<0.00050	<0.050	0.821	0.000073	3.46	<0.000010
Chedakuz Creek	CC-20	Primary	VA25C4967-008	2025-09-17	0.00033	0.163	<0.000050	<0.0010	4.98	0.0206	<0.0000050	0.000763	<0.00050	<0.050	0.944	<0.000050	3.16	<0.000010
Chedakuz Creek	CC-20	Primary	VA25C6908-001	2025-10-08	0.00036	0.163	<0.000050	<0.0010	4.92	0.0196	<0.0000050	0.000664	<0.00050	<0.050	0.858	<0.000050	3.62	<0.000010
Chedakuz Creek	CC-20	Primary	VA25C7563-001	2025-10-14	0.00032	0.169	<0.000050	<0.0010	5.21	0.0237	<0.0000050	0.000661	<0.00050	<0.050	0.859	0.000070	3.97	<0.000010
Chedakuz Creek	CC-20	Primary	VA25C8358-005	2025-10-20	0.00033	0.146	<0.000050	<0.0010	4.90	0.0256	<0.0000050	0.000609	<0.00050	<0.050	0.858	<0.000050	3.80	<0.000010
Chedakuz Creek	CC-20	Primary	VA25C8919-008	2025-10-27	0.00034	0.124	<0.000050	<0.0010	4.56	0.0219	<0.0000050	0.000684	<0.00050	<0.050	0.911	<0.000050	4.21	<0.000010
Chedakuz Creek	CC-20	Primary	VA25C9101-008	2025-10-29	0.00033	0.126	<0.000050	<0.0010	4.34	0.0204	<0.0000050	0.000652	<0.00050	<0.050	0.862	0.000057	4.69	<0.000010
Chedakuz Creek	CC-20	Primary	VA25D1976-001	2025-11-26	0.00035	0.104	<0.000050	<0.0010	4.93	0.0276	<0.0000050	0.000633	<0.00050	<0.050	0.862	0.000079	4.69	<0.000010
Chedakuz Creek	CC-20	Primary	VA25D4214-007	2025-12-27	0.00029	0.062	<0.000050	<0.0010	5.18	0.0176	<0.0000050	0.000614	<0.00050	<0.050	0.861	0.000054	4.53	<0.000010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals								
					Sodium, Dissolved (mg/L)	Strontium, Dissolved (mg/L)	Sulphur, Dissolved (mg/L)	Thallium, Dissolved (mg/L)	Tin, Dissolved (mg/L)	Titanium, Dissolved (mg/L)	Uranium, Dissolved (mg/L)	Vanadium, Dissolved (mg/L)	Zinc, Dissolved (mg/L)
Chedakuz Creek	CC-15	Primary	VA25A0964-004	2025-01-13	3.79	0.108	1.27	<0.000010	<0.00010	<0.00030	0.000113	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25A3507-003	2025-02-17	4.18	0.109	1.54	<0.000010	<0.00010	<0.00030	0.000118	<0.00050	<0.0010
Chedakuz Creek	CC-15	Duplicate	VA25A3507-004	2025-02-17	4.14	0.111	1.48	<0.000010	<0.00010	<0.00030	0.000121	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25A5268-001	2025-03-09	3.60	0.107	1.82	<0.000010	<0.00010	<0.00030	0.000141	<0.00050	<0.0010
Chedakuz Creek	CC-15	Duplicate	VA25A5268-002	2025-03-09	3.86	0.108	1.47	<0.000010	<0.00010	<0.00030	0.000142	<0.00050	0.0038
Chedakuz Creek	CC-15	Primary	VA25A7310-001	2025-04-01	3.76	0.104	1.28	<0.000010	<0.00010	<0.00030	0.000155	<0.00050	<0.0010
Chedakuz Creek	CC-15	Duplicate	VA25A7310-002	2025-04-01	3.71	0.107	1.11	<0.000010	<0.00010	0.00031	0.000160	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B0438-004	2025-05-05	3.37	0.0885	1.81	<0.000010	<0.00010	0.00049	0.000117	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B1094-002	2025-05-12	3.04	0.0902	1.33	<0.000010	<0.00010	0.00056	0.000101	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B1721-003	2025-05-19	3.06	0.0826	1.41	<0.000010	<0.00010	0.00111	0.000094	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B2427-001	2025-05-26	3.03	0.0933	1.68	<0.000010	<0.00010	0.00034	0.000092	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B3822-001	2025-06-02	3.41	0.0890	1.13	<0.000010	<0.00010	0.00038	0.000102	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B5722-002	2025-06-23	3.38	0.0975	1.44	<0.000010	<0.00010	0.00054	0.000102	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B6834-002	2025-07-07	3.13	0.0988	1.34	<0.000010	<0.00010	<0.00030	0.000100	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25B9366-003	2025-08-04	3.69	0.0983	1.13	<0.000010	<0.00010	<0.00030	0.000121	0.00059	<0.0010
Chedakuz Creek	CC-15	Duplicate	VA25B9366-004	2025-08-04	3.57	0.101	1.29	<0.000010	<0.00010	<0.00030	0.000130	0.00059	<0.0010
Chedakuz Creek	CC-15	Primary	VA25C4967-007	2025-09-17	3.92	0.107	1.39	<0.000010	0.00035	<0.00030	0.000127	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25C6908-002	2025-10-08	3.78	0.0960	1.61	<0.000010	<0.00010	<0.00030	0.000105	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25C7563-002	2025-10-14	3.72	0.102	1.43	<0.000010	<0.00010	<0.00030	0.000126	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25C8358-003	2025-10-20	3.65	0.102	1.13	<0.000010	<0.00010	<0.00030	0.000113	<0.00050	<0.0010
Chedakuz Creek	CC-15	Duplicate	VA25C8358-004	2025-10-20	3.66	0.105	1.23	<0.000010	<0.00010	<0.00030	0.000116	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25C8919-009	2025-10-27	3.54	0.0996	1.54	<0.000010	<0.00010	0.00055	0.000108	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25C9101-003	2025-10-29	3.55	0.0978	1.57	<0.000010	<0.00010	0.00043	0.000107	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25D1976-002	2025-11-26	3.77	0.111	1.74	<0.000010	<0.00010	<0.00030	0.000105	<0.00050	<0.0010
Chedakuz Creek	CC-15	Duplicate	VA25D1976-003	2025-11-26	3.65	0.109	1.52	<0.000010	<0.00010	<0.00030	0.000111	<0.00050	<0.0010
Chedakuz Creek	CC-15	Primary	VA25D4214-008	2025-12-27	3.75	0.103	1.69	<0.000010	<0.00010	<0.00030	0.000111	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25A1845-002	2025-01-26	3.90	0.108	1.40	<0.000010	<0.00010	<0.00030	0.000127	<0.00050	<0.0010
Chedakuz Creek	CC-20	Duplicate	VA25A1845-003	2025-01-26	3.92	0.107	1.49	<0.000010	<0.00010	<0.00030	0.000120	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25A3507-002	2025-02-17	6.25	0.170	2.41	<0.000010	<0.00010	<0.00030	0.000176	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25A5560-001	2025-03-11	3.68	0.104	1.23	<0.000010	<0.00010	<0.00030	0.000137	0.00054	<0.0010
Chedakuz Creek	CC-20	Primary	VA25A8058-003	2025-04-09	3.32	0.0996	1.91	<0.000010	<0.00010	0.00108	0.000142	<0.00050	<0.0010
Chedakuz Creek	CC-20	Duplicate	VA25A8058-004	2025-04-09	3.28	0.101	1.75	<0.000010	<0.00010	0.00103	0.000144	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25B0438-005	2025-05-05	3.25	0.0889	1.69	<0.000010	<0.00010	0.00034	0.000110	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25B1094-001	2025-05-12	3.02	0.0885	1.33	<0.000010	<0.00010	0.00040	0.000105	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25B1721-002	2025-05-19	3.06	0.0844	1.30	<0.000010	<0.00010	0.00112	0.000096	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25B2427-002	2025-05-26	3.08	0.0945	1.22	<0.000010	<0.00010	<0.00030	0.000097	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25B3822-002	2025-06-02	3.23	0.0888	1.07	<0.000010	<0.00010	<0.00030	0.000105	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25B5722-001	2025-06-23	3.37	0.0974	1.46	<0.000010	<0.00010	0.00056	0.000096	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25B6834-001	2025-07-07	3.20	0.0935	1.20	<0.000010	<0.00010	0.00031	0.000099	<0.00050	<0.0010
Chedakuz Creek	CC-20	Duplicate	VA25B6834-007	2025-07-07	3.37	0.100	1.30	<0.000010	<0.00010	<0.00030	0.000101	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25C0017-003	2025-08-10	3.85	0.106	1.03	<0.000010	<0.00010	<0.00030	0.000125	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25C4967-008	2025-09-17	3.90	0.110	1.45	<0.000010	<0.00010	<0.00030	0.000123	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25C6908-001	2025-10-08	3.81	0.101	1.34	<0.000010	<0.00010	<0.00030	0.000110	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25C7563-001	2025-10-14	3.78	0.106	1.14	<0.000010	<0.00010	<0.00030	0.000124	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25C8358-005	2025-10-20	3.68	0.106	1.10	<0.000010	<0.00010	<0.00030	0.000113	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25C8919-008	2025-10-27	3.68	0.103	1.45	<0.000010	<0.00010	0.00044	0.000109	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25C9101-008	2025-10-29	3.53	0.0999	1.39	<0.000010	<0.00010	<0.00030	0.000109	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25D1976-001	2025-11-26	3.65	0.111	1.61	<0.000010	<0.00010	<0.00030	0.000109	<0.00050	<0.0010
Chedakuz Creek	CC-20	Primary	VA25D4214-007	2025-12-27	3.74	0.106	1.59	<0.000010	<0.00010	<0.00030	0.000108	<0.00050	<0.0010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Physical Tests									Anions/Nutrients				
					Acidity (as $CaCO_3$) (mg/L)	Alkalinity, Total (as $CaCO_3$) (mg/L)	Conductivity (µS/cm)	Hardness, Dissolved (as $CaCO_3$) (mg/L)	Hardness, From Total Ca/Mg (as $CaCO_3$) (mg/L)	pH (pH Units)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Ammonia, Total (as N) (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as N) (mg/L)
Chedakuz Creek	CC-30	Primary	VA25A5560-002	2025-03-11	<2.0	85.8	166	78.4	85.6	8.12	115	<3.0	1.32	0.0485	<0.050	<0.50	0.062	0.0346
Chedakuz Creek	CC-30	Primary	VA25A8058-002	2025-04-09	<2.0	69.0	143	68.0	64.5	7.99	97	11.1	5.56	0.0069	<0.050	0.64	0.061	0.0304
Chedakuz Creek	CC-30	Primary	VA25B7192-002	2025-07-13	<2.0	77.0	152	71.8	69.7	8.13	104	<3.0	2.10	0.0091	<0.050	<0.50	0.053	0.0063
Chedakuz Creek	CC-30	Duplicate	VA25B7192-003	2025-07-13	<2.0	76.3	152	70.2	70.2	8.13	107	3.8	2.39	0.0090	<0.050	<0.50	0.054	<0.0050
Chedakuz Creek	CC-30	Primary	VA25C6737-003	2025-10-05	<2.0	87.6	170	81.5	82.1	8.17	119	<3.0	2.35	0.0052	<0.050	0.59	0.070	0.0088
Chedakuz Creek	CC-40	Primary	VA25A1845-001	2025-01-26	2.0	93.8	180	83.4	91.5	7.96	128	<3.0	1.08	0.0145	<0.050	<0.50	0.071	0.0910
Chedakuz Creek	CC-40	Primary	VA25A3507-001	2025-02-17	2.9	99.9	193	87.2	91.8	7.89	137	<3.0	1.26	0.0415	<0.050	<0.50	0.075	0.111
Chedakuz Creek	CC-40	Primary	VA25A5560-003	2025-03-11	<2.0	88.4	172	81.7	87.1	8.16	125	<3.0	1.24	0.0294	<0.050	<0.50	0.066	0.0329
Chedakuz Creek	CC-40	Primary	VA25A8058-001	2025-04-09	<2.0	70.7	143	68.7	66.3	7.99	96	8.1	5.62	0.0065	<0.050	0.54	0.063	0.0078
Chedakuz Creek	CC-40	Primary	VA25B0438-006	2025-05-05	2.1	56.2	114	53.3	54.9	7.78	83	6.2	3.79	0.0067	<0.050	<0.50	0.049	0.0071
Chedakuz Creek	CC-40	Primary	VA25B1094-003	2025-05-12	<2.0	60.5	124	56.6	56.3	7.93	89	5.5	2.37	0.0071	<0.050	<0.50	0.054	<0.0050
Chedakuz Creek	CC-40	Primary	VA25B1721-001	2025-05-19	2.5	51.4	108	49.1	50.4	7.90	92	20.2	8.03	0.0104	<0.050	<0.50	0.053	<0.0050
Chedakuz Creek	CC-40	Primary	VA25B2427-003	2025-05-26	<2.0	61.2	124	56.1	57.2	8.01	94	9.1	3.54	0.0069	<0.050	<0.50	0.048	<0.0050
Chedakuz Creek	CC-40	Primary	VA25B3822-003	2025-06-02	<2.0	68.2	134	62.3	62.0	7.94	102	5.8	3.26	0.0124	<0.050	<0.50	0.056	<0.0050
Chedakuz Creek	CC-40	Primary	VA25B5256-001	2025-06-22	<2.0	71.7	140	70.2	69.0	7.97	97	5.2	2.25	0.0100	<0.050	<0.50	0.051	<0.0050
Chedakuz Creek	CC-40	Duplicate	VA25B5256-002	2025-06-22	<2.0	71.9	139	69.2	67.6	7.99	99	5.2	2.19	0.0084	<0.050	<0.50	0.052	<0.0050
Chedakuz Creek	CC-40	Primary	VA25B7192-001	2025-07-13	<2.0	78.8	159	71.9	71.9	8.05	105	<3.0	1.88	0.0086	<0.050	<0.50	0.055	0.0087
Chedakuz Creek	CC-40	Primary	VA25B9374-001	2025-08-03	<2.0	86.4	170	85.1	77.7	8.10	100	3.2	1.56	0.0109	<0.050	<0.50	0.070	0.0054
Chedakuz Creek	CC-40	Duplicate	VA25B9374-002	2025-08-03	<2.0	87.4	170	82.4	78.2	8.09	104	<3.0	1.59	0.0107	<0.050	<0.50	0.067	0.0055
Chedakuz Creek	CC-40	Primary	VA25C4967-009	2025-09-17	<2.0	97.4	188	91.7	89.0	8.16	117	<3.0	1.61	0.0095	<0.050	0.51	0.066	<0.0050
Chedakuz Creek	CC-40	Primary	VA25C6737-001	2025-10-05	<2.0	94.5	183	89.5	89.4	8.15	119	<3.0	2.23	0.0093	<0.050	0.58	0.074	<0.0050
Chedakuz Creek	CC-40	Duplicate	VA25C6737-002	2025-10-05	<2.0	95.2	183	87.6	86.9	8.16	122	<3.0	2.17	0.0091	<0.050	0.58	0.076	<0.0050
Chedakuz Creek	CC-40	Primary	VA25C7563-004	2025-10-14	<2.0	95.6	184	89.3	85.5	8.12	118	<3.0	1.80	<0.0050	<0.050	0.52	0.068	<0.0050
Chedakuz Creek	CC-40	Primary	VA25C8358-001	2025-10-20	<2.0	94.4	180	88.9	89.8	8.09	113	<3.0	1.66	<0.0050	<0.050	0.53	0.076	<0.0050
Chedakuz Creek	CC-40	Primary	VA25C8919-007	2025-10-27	<2.0	90.9	176	80.6	84.8	8.07	112	<3.0	1.64	0.0061	<0.050	0.55	0.067	<0.0050
Chedakuz Creek	CC-40	Primary	VA25C9101-001	2025-10-29	<2.0	90.2	176	77.7	80.3	8.19	113	<3.0	2.00	<0.0050	<0.050	0.59	0.070	<0.0050
Chedakuz Creek	CC-40	Primary	VA25D1004-001	2025-11-17	<2.0	89.4	172	79.5	80.9	8.16	110	<3.0	1.92	0.0089	<0.050	<0.50	0.064	0.0075
Chedakuz Creek	CC-40	Duplicate	VA25D1004-002	2025-11-17	<2.0	88.7	171	81.5	80.2	8.15	118	<3.0	1.71	0.0055	<0.050	<0.50	0.064	0.0072
Chedakuz Creek	CC-40	Primary	VA25D4214-006	2025-12-27	4.5	91.6	176	84.0	92.0	7.71	116	<3.0	1.49	0.0181	<0.050	<0.50	0.062	0.0610
Creek 705	705-05	Primary	VA25A1845-006	2025-01-26	2.3	27.2	56.1	22.9	24.4	7.38	53	<3.0	0.55	0.0347	<0.050	0.58	0.023	0.0344
Creek 705	705-05	Primary	VA25A4183-002	2025-02-24	3.1	26.6	59.3	23.9	23.9	7.48	46	<3.0	0.85	0.0078	<0.050	0.62	0.023	0.0333
Creek 705	705-05	Duplicate	VA25A4183-003	2025-02-24	3.0	26.5	59.3	23.4	23.4	7.49	50	<3.0	0.77	0.0098	<0.050	0.62	0.023	0.0336
Creek 705	705-05	Primary	VA25A5561-002	2025-03-11	<2.0	26.0	56.4	22.5	26.7	7.62	42.7	<1.0	0.79	0.0082	<0.050	0.62	0.022	0.0576
Creek 705	705-05	Primary	VA25A9690-001	2025-04-27	3.9	14.8	40.5	19.1	17.7	7.10	53	3.8	2.27	<0.0050	<0.050	0.52	0.021	0.0330
Creek 705	705-05	Duplicate	VA25A9690-002	2025-04-27	3.6	14.7	39.5	19.4	17.4	7.10	51	<3.0	2.16	0.0053	<0.050	0.61	0.022	0.0114
Creek 705	705-05	Primary	VA25B0438-002	2025-05-05	2.7	13.6	32.7	15.8	15.4	7.09	42	<3.0	0.97	0.0078	<0.050	<0.50	<0.020	0.0061
Creek 705	705-05	Duplicate	VA25B0438-008	2025-05-05	2.7	13.8	33.3	15.8	15.5	7.09	45	<3.0	0.99	0.0052	<0.050	<0.50	<0.020	0.0056
Creek 705	705-05	Primary	VA25B5930-001	2025-06-27	<2.0	22.5	44.1	19.7	20.1	7.23	50	<1.0	0.61	0.0056	<0.050	<0.50	0.020	<0.0050
Creek 705	705-05	Primary	VA25B7427-008	2025-07-14	2.9	24.5	49.5	22.6	22.3	7.44	54	<3.0	1.11	0.0070	<0.050	<0.50	<0.020	<0.0050
Creek 705	705-05	Primary	VA25B9438-001	2025-08-04	3.8	31.2	62.2	26.8	29.0	7.30	56	1.6	2.37	0.0074	<0.050	<0.50	0.022	<0.0050
Creek 705	705-05	Primary	VA25C3886-003	2025-09-10	<2.0	38.3	73.3	33.5	34.9	7.64	66	<3.0	2.27	0.0213	<0.050	<0.50	0.028	<0.0050
Creek 705	705-05	Primary	VA25C8358-007	2025-10-20	<2.0	31.2	62.4	26.7	25.0	7.26	41	5.0	2.75	<0.0050	<0.050	0.73	0.023	<0.0050
Creek 705	705-05	Primary	VA25D0570-001	2025-11-12	<2.0	25.3	50.4	23.7	23.2	7.42	41	<1.0	1.51	0.0051	<0.050	0.66	0.021	0.0090
Creek 705	705-05	Primary	VA25D3939-003	2025-12-17	3.3	24.5	50.3	22.8	22.5	7.16	56	47.9	10.1	0.0072	<0.050	0.60	0.023	<0.0050
Creek 705	705-10	Primary	VA25A0226-002	2025-01-05	2.4	29.7	60.9	26.2	27.4	7.63	62	<3.0	0.51	<0.0050	<0.050	<0.50	0.025	0.0311
Creek 705	705-10	Primary	VA25A2544-003	2025-02-03	<2.0	30.4	66.7	28.9	28.1	7.60	39	<3.0	0.31	<0.0050	<0.050	0.50	0.025	0.0558
Creek 705	705-10	Primary	VA25A5321-001	2025-03-05	<2.0	31.6	69.0	28.8	28.6	7.68	50	<3.0	0.34	<0.0050	<0.050	0.52	0.022	0.0617
Creek 705	705-10	Duplicate	VA25A5321-002	2025-03-05	<2.0	31.8	69.8	28.6	27.6	7.68	56	<3.0	0.37	<0.0050	<0.050	0.51	0.022	0.0622
Creek 705	705-10	Primary	VA25A7634-001	2025-04-03	2.0	29.9	64.0	27.8	29.0	7.55	62	<3.0	1.58	0.0050	<0.050	0.52	0.026	0.0489

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Anions/Nutrients						Organic/Inorganic Carbon		Cyanides			Total Metals		
					Nitrite (as N) (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrogen, Total (mg/L)	Ortho-Phosphorus, Dissolved (as P) (mg/L)	Total Phosphorus (as P) (mg/L)	Sulphate (as SO_4) (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Cyanide, Total (mg/L)	Cyanide, Weak Acid Dissociable (mg/L)	Thiocyanate (mg/L)	Aluminum, Total (mg/L)	Antimony, Total (mg/L)	Arsenic, Total (mg/L)
Chedakuz Creek	CC-30	Primary	VA25A5560-002	2025-03-11	<0.0010	0.281	5.99	0.0052	0.0249	4.31	-	-	<0.0050	<0.0050	<0.50	0.0200	<0.00010	0.00052
Chedakuz Creek	CC-30	Primary	VA25A8058-002	2025-04-09	<0.0010	0.333	8.44	0.0064	0.0355	5.72	-	-	<0.0050	<0.0050	<0.50	0.224	<0.00010	0.00096
Chedakuz Creek	CC-30	Primary	VA25B7192-002	2025-07-13	<0.0010	0.306	7.28	0.0057	0.0208	3.14	-	-	<0.0050	<0.0050	<0.50	0.0248	<0.00010	0.00101
Chedakuz Creek	CC-30	Duplicate	VA25B7192-003	2025-07-13	<0.0010	0.300	7.49	0.0061	0.0206	3.15	-	-	<0.0050	<0.0050	<0.50	0.0403	<0.00010	0.00096
Chedakuz Creek	CC-30	Primary	VA25C6737-003	2025-10-05	<0.0010	0.241	5.67	0.0064	0.0188	3.59	0.208	-	<0.0050	<0.0050	<0.50	0.0183	<0.00010	0.00082
Chedakuz Creek	CC-40	Primary	VA25A1845-001	2025-01-26	0.0015	0.208	5.64	0.0055	0.0157	5.00	-	-	<0.0050	<0.0050	<0.50	0.0211	<0.00010	0.00066
Chedakuz Creek	CC-40	Primary	VA25A3507-001	2025-02-17	0.0022	0.266	6.14	0.0049	0.0157	4.92	-	-	<0.0050	<0.0050	<0.50	0.0183	<0.00010	0.00061
Chedakuz Creek	CC-40	Primary	VA25A5560-003	2025-03-11	<0.0010	0.280	5.74	0.0061	0.0292	4.62	-	-	<0.0050	<0.0050	<0.50	0.0184	<0.00010	0.00063
Chedakuz Creek	CC-40	Primary	VA25A8058-001	2025-04-09	<0.0010	0.294	7.63	0.0058	0.0356	5.15	-	-	<0.0050	<0.0050	<0.50	0.210	<0.00010	0.00096
Chedakuz Creek	CC-40	Primary	VA25B0438-006	2025-05-05	<0.0010	0.329	10.0	0.0035	0.0221	4.33	-	-	<0.0050	<0.0050	<0.50	0.131	<0.00010	0.00059
Chedakuz Creek	CC-40	Primary	VA25B1094-003	2025-05-12	<0.0010	0.290	8.55	0.0012	0.0164	4.02	-	-	<0.0050	<0.0050	<0.50	0.0532	<0.00010	0.00055
Chedakuz Creek	CC-40	Primary	VA25B1721-001	2025-05-19	<0.0010	0.404	10.5	0.0022	0.0356	3.92	-	-	<0.0050	<0.0050	<0.50	0.299	<0.00010	0.00076
Chedakuz Creek	CC-40	Primary	VA25B2427-003	2025-05-26	<0.0010	0.316	9.97	0.0015	0.0241	4.08	-	-	<0.0050	<0.0050	<0.50	0.113	<0.00010	0.00066
Chedakuz Creek	CC-40	Primary	VA25B3822-003	2025-06-02	<0.0010	0.302	8.53	0.0041	0.0199	3.89	-	-	<0.0050	<0.0050	<0.50	0.0944	<0.00010	0.00072
Chedakuz Creek	CC-40	Primary	VA25B5256-001	2025-06-22	<0.0010	0.284	8.33	0.0046	0.0234	3.57	-	-	<0.0050	<0.0050	<0.50	0.0896	<0.00010	0.00103
Chedakuz Creek	CC-40	Duplicate	VA25B5256-002	2025-06-22	<0.0010	0.314	8.52	0.0047	0.0220	3.56	-	-	<0.0050	<0.0050	<0.50	0.0945	<0.00010	0.00104
Chedakuz Creek	CC-40	Primary	VA25B7192-001	2025-07-13	<0.0010	0.293	6.87	0.0059	0.0190	3.37	-	-	<0.0050	<0.0050	<0.50	0.0190	<0.00010	0.00101
Chedakuz Creek	CC-40	Primary	VA25B9374-001	2025-08-03	<0.0010	0.301	6.91	0.0090	0.0221	3.28	-	-	<0.0050	<0.0050	<0.50	0.0232	<0.00010	0.00139
Chedakuz Creek	CC-40	Duplicate	VA25B9374-002	2025-08-03	<0.0010	0.277	6.89	0.0087	0.0216	3.21	-	-	<0.0050	<0.0050	<0.50	0.0274	<0.00010	0.00149
Chedakuz Creek	CC-40	Primary	VA25C4967-009	2025-09-17	<0.0010	0.232	5.51	0.0106	0.0217	3.68	0.214	-	<0.0050	<0.0050	<0.50	0.0196	<0.00010	0.00112
Chedakuz Creek	CC-40	Primary	VA25C6737-001	2025-10-05	<0.0010	0.247	5.42	0.0066	0.0188	4.14	0.197	-	<0.0050	<0.0050	<0.50	0.0205	<0.00010	0.00093
Chedakuz Creek	CC-40	Duplicate	VA25C6737-002	2025-10-05	<0.0010	0.237	5.44	0.0068	0.0189	4.16	0.197	-	<0.0050	<0.0050	<0.50	0.0203	<0.00010	0.00095
Chedakuz Creek	CC-40	Primary	VA25C7563-004	2025-10-14	<0.0010	0.233	5.10	0.0086	0.0182	4.00	0.183	-	<0.0050	<0.0050	<0.50	0.0180	<0.00010	0.00089
Chedakuz Creek	CC-40	Primary	VA25C8358-001	2025-10-20	<0.0010	0.226	4.97	0.0067	0.0167	4.44	0.194	-	<0.0050	<0.0050	<0.50	0.0165	<0.00010	0.00088
Chedakuz Creek	CC-40	Primary	VA25C8919-007	2025-10-27	<0.0010	0.198	4.99	0.0050	0.0182	4.22	0.197	-	<0.0050	<0.0050	<0.50	0.0398	<0.00010	0.00080
Chedakuz Creek	CC-40	Primary	VA25C9101-001	2025-10-29	<0.0010	0.203	5.53	0.0080	0.0179	4.36	0.234	-	<0.0050	<0.0050	<0.50	0.0281	<0.00010	0.00079
Chedakuz Creek	CC-40	Primary	VA25D1004-001	2025-11-17	<0.0010	0.215	5.16	0.0066	0.0175	4.38	0.205	-	<0.0050	<0.0050	<0.50	0.0323	<0.00010	0.00071
Chedakuz Creek	CC-40	Duplicate	VA25D1004-002	2025-11-17	<0.0010	0.207	5.14	0.0067	0.0194	4.40	0.205	-	<0.0050	<0.0050	<0.50	0.0289	<0.00010	0.00074
Chedakuz Creek	CC-40	Primary	VA25D4214-006	2025-12-27	<0.0010	0.250	5.76	0.0042	0.0154	4.34	0.309	-	<0.0050	<0.0050	<0.50	0.0259	<0.00010	0.00055
Creek 705	705-05	Primary	VA25A1845-006	2025-01-26	<0.0010	0.211	5.89	<0.0010	0.0064	1.81	-	-	<0.0050	<0.0050	<0.50	0.0381	<0.00010	0.00026
Creek 705	705-05	Primary	VA25A4183-002	2025-02-24	<0.0010	0.200	6.14	<0.0010	0.0083	1.83	-	-	<0.0050	<0.0050	<0.50	0.0384	<0.00010	0.00027
Creek 705	705-05	Duplicate	VA25A4183-003	2025-02-24	<0.0010	0.202	6.54	<0.0010	0.0084	1.83	-	-	<0.0050	<0.0050	<0.50	0.0384	<0.00010	0.00026
Creek 705	705-05	Primary	VA25A5561-002	2025-03-11	<0.0010	0.192	5.78	<0.0010	0.0070	2.03	-	<0.0010	<0.0050	<0.0050	<0.50	0.0387	<0.00010	0.00031
Creek 705	705-05	Primary	VA25A9690-001	2025-04-27	<0.0010	0.346	14.1	<0.0010	0.0181	1.49	-	-	<0.0050	<0.0050	0.65	0.211	<0.00010	0.00026
Creek 705	705-05	Duplicate	VA25A9690-002	2025-04-27	<0.0010	0.345	15.1	<0.0010	0.0179	1.46	-	-	<0.0050	<0.0050	0.61	0.208	<0.00010	0.00024
Creek 705	705-05	Primary	VA25B0438-002	2025-05-05	<0.0010	0.326	13.3	<0.0010	0.0116	1.26	-	-	<0.0050	<0.0050	<0.50	0.127	<0.00010	0.00022
Creek 705	705-05	Duplicate	VA25B0438-008	2025-05-05	<0.0010	0.311	13.4	<0.0010	0.0114	1.26	-	-	<0.0050	<0.0050	<0.50	0.130	<0.00010	0.00018
Creek 705	705-05	Primary	VA25B5930-001	2025-06-27	<0.0010	0.216	9.09	<0.0010	0.0096	0.85	-	<0.0010	<0.0050	<0.0050	<0.50	0.0728	<0.00010	0.00035
Creek 705	705-05	Primary	VA25B7427-008	2025-07-14	<0.0010	0.235	7.28	0.0021	0.0120	1.04	-	-	<0.0050	<0.0050	<0.50	0.0565	<0.00010	0.00037
Creek 705	705-05	Primary	VA25B9438-001	2025-08-04	<0.0010	0.290	6.88	0.0029	0.0200	0.64	-	<0.0010	<0.0050	<0.0050	<0.50	0.0575	<0.00010	0.00084
Creek 705	705-05	Primary	VA25C3886-003	2025-09-10	<0.0010	0.253	6.10	0.0037	0.0196	0.33	0.261	-	<0.0050	<0.0050	<0.50	0.0448	<0.00010	0.00068
Creek 705	705-05	Primary	VA25C8358-007	2025-10-20	<0.0010	0.273	5.09	0.0021	0.0233	0.97	0.230	-	<0.0050	<0.0050	<0.50	0.0279	<0.00010	0.00042
Creek 705	705-05	Primary	VA25D0570-001	2025-11-12	<0.0010	0.205	7.38	<0.0010	0.0124	1.55	0.281	<0.0010	<0.0050	<0.0050	<0.50	0.101	<0.00010	0.00040
Creek 705	705-05	Primary	VA25D3939-003	2025-12-17	<0.0010	0.241	7.25	<0.0010	0.0122	1.83	0.262	-	<0.0050	<0.0050	<0.50	0.128	<0.00010	0.00034
Creek 705	705-10	Primary	VA25A0226-002	2025-01-05	<0.0010	0.184	6.77	<0.0010	0.0049	1.94	-	-	<0.0050	<0.0050	<0.50	0.0642	<0.00010	0.00020
Creek 705	705-10	Primary	VA25A2544-003	2025-02-03	<0.0010	0.134	6.30	<0.0010	0.0044	2.06	-	-	<0.0050	<0.0050	<0.50	0.0400	<0.00010	0.00021
Creek 705	705-10	Primary	VA25A5321-001	2025-03-05	<0.0010	0.150	5.72	<0.0010	0.0052	2.59	-	-	<0.0050	<0.0050	<0.50	0.0337	<0.00010	0.00021
Creek 705	705-10	Duplicate	VA25A5321-002	2025-03-05	<0.0010	0.154	6.03	<0.0010	0.0045	2.57	-	-	<0.0050	<0.0050	<0.50	0.0323	<0.00010	0.00020
Creek 705	705-10	Primary	VA25A7634-001	2025-04-03	<0.0010	0.237	8.88	<0.0010	0.0097	2.06	-	-	<0.0050	<0.0050	0.66	0.146	<0.00010	0.00028

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Barium, Total (mg/L)	Beryllium, Total (mg/L)	Bismuth, Total (mg/L)	Boron, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Lithium, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
Chedakuz Creek	CC-30	Primary	VA25A5560-002	2025-03-11	0.00855	<0.000020	<0.000050	<0.010	<0.0000050	24.1	<0.00050	<0.00010	<0.00050	0.266	<0.000050	<0.0010	6.17	0.0235
Chedakuz Creek	CC-30	Primary	VA25A8058-002	2025-04-09	0.0111	<0.000020	<0.000050	<0.010	<0.0000050	18.1	<0.00050	0.00014	0.00066	0.668	0.000095	<0.0010	4.68	0.0670
Chedakuz Creek	CC-30	Primary	VA25B7192-002	2025-07-13	0.00836	<0.000020	<0.000050	<0.010	<0.0000050	19.7	<0.00050	<0.00010	<0.00050	0.356	<0.000050	<0.0010	4.98	0.0640
Chedakuz Creek	CC-30	Duplicate	VA25B7192-003	2025-07-13	0.00854	<0.000020	<0.000050	<0.010	<0.0000050	19.9	<0.00050	<0.00010	<0.00050	0.384	<0.000050	<0.0010	4.98	0.0754
Chedakuz Creek	CC-30	Primary	VA25C6737-003	2025-10-05	0.00938	<0.000020	<0.000050	<0.010	<0.0000050	23.5	<0.00050	0.00012	<0.00050	0.596	<0.000050	<0.0010	5.69	0.0421
Chedakuz Creek	CC-40	Primary	VA25A1845-001	2025-01-26	0.0101	<0.000020	<0.000050	<0.010	<0.0000050	25.9	<0.00050	<0.00010	<0.00050	0.334	<0.000050	<0.0010	6.51	0.0297
Chedakuz Creek	CC-40	Primary	VA25A3507-001	2025-02-17	0.0108	<0.000020	<0.000050	<0.010	<0.0000050	25.9	<0.00050	<0.00010	<0.00050	0.293	<0.000050	<0.0010	6.60	0.0361
Chedakuz Creek	CC-40	Primary	VA25A5560-003	2025-03-11	0.00908	<0.000020	<0.000050	<0.010	<0.0000050	24.5	<0.00050	<0.00010	<0.00050	0.336	<0.000050	<0.0010	6.30	0.0286
Chedakuz Creek	CC-40	Primary	VA25A8058-001	2025-04-09	0.0107	<0.000020	<0.000050	<0.010	<0.0000050	18.4	<0.00050	0.00012	0.00057	0.686	0.000085	<0.0010	4.95	0.0635
Chedakuz Creek	CC-40	Primary	VA25B0438-006	2025-05-05	0.00951	<0.000020	<0.000050	<0.010	<0.0000050	16.2	<0.00050	<0.00010	0.00062	0.361	0.000053	<0.0010	3.50	0.0408
Chedakuz Creek	CC-40	Primary	VA25B1094-003	2025-05-12	0.00805	<0.000020	<0.000050	<0.010	<0.0000050	16.3	<0.00050	<0.00010	<0.00050	0.185	<0.000050	<0.0010	3.80	0.0262
Chedakuz Creek	CC-40	Primary	VA25B1721-001	2025-05-19	0.0110	<0.000020	<0.000050	<0.010	0.0000062	14.4	<0.00050	0.00018	0.00084	0.613	0.000143	<0.0010	3.51	0.0838
Chedakuz Creek	CC-40	Primary	VA25B2427-003	2025-05-26	0.00936	<0.000020	<0.000050	<0.010	<0.0000050	16.0	<0.00050	<0.00010	0.00058	0.294	<0.000050	<0.0010	4.20	0.0404
Chedakuz Creek	CC-40	Primary	VA25B3822-003	2025-06-02	0.00939	<0.000020	<0.000050	<0.010	<0.0000050	17.5	<0.00050	<0.00010	0.00055	0.240	<0.000050	<0.0010	4.45	0.0527
Chedakuz Creek	CC-40	Primary	VA25B5256-001	2025-06-22	0.00919	<0.000020	<0.000050	<0.010	<0.0000050	19.8	<0.00050	<0.00010	0.00055	0.344	<0.000050	<0.0010	4.75	0.0684
Chedakuz Creek	CC-40	Duplicate	VA25B5256-002	2025-06-22	0.00926	<0.000020	<0.000050	<0.010	<0.0000050	19.3	<0.00050	<0.00010	0.00054	0.334	<0.000050	<0.0010	4.71	0.0675
Chedakuz Creek	CC-40	Primary	VA25B7192-001	2025-07-13	0.00859	<0.000020	<0.000050	<0.010	<0.0000050	20.0	<0.00050	<0.00010	<0.00050	0.303	<0.000050	<0.0010	5.34	0.0541
Chedakuz Creek	CC-40	Primary	VA25B9374-001	2025-08-03	0.00878	<0.000020	<0.000050	<0.010	<0.0000050	22.3	<0.00050	<0.00010	<0.00050	0.387	<0.000050	<0.0010	5.35	0.0485
Chedakuz Creek	CC-40	Duplicate	VA25B9374-002	2025-08-03	0.00909	<0.000020	<0.000050	<0.010	<0.0000050	22.0	<0.00050	<0.00010	0.00101	0.416	<0.000050	<0.0010	5.65	0.0502
Chedakuz Creek	CC-40	Primary	VA25C4967-009	2025-09-17	0.00931	<0.000020	<0.000050	<0.010	<0.0000050	24.9	<0.00050	0.00014	<0.00050	0.452	<0.000050	<0.0010	6.52	0.0366
Chedakuz Creek	CC-40	Primary	VA25C6737-001	2025-10-05	0.00886	<0.000020	<0.000050	<0.010	<0.0000050	24.8	<0.00050	<0.00010	<0.00050	0.549	<0.000050	<0.0010	6.67	0.0310
Chedakuz Creek	CC-40	Duplicate	VA25C6737-002	2025-10-05	0.00937	<0.000020	<0.000050	<0.010	<0.0000050	24.1	<0.00050	<0.00010	<0.00050	0.564	<0.000050	<0.0010	6.49	0.0322
Chedakuz Creek	CC-40	Primary	VA25C7563-004	2025-10-14	0.00871	<0.000020	<0.000050	<0.010	<0.0000050	23.7	<0.00050	<0.00010	<0.00050	0.593	<0.000050	<0.0010	6.39	0.0335
Chedakuz Creek	CC-40	Primary	VA25C8358-001	2025-10-20	0.00929	<0.000020	<0.000050	<0.010	<0.0000050	24.4	<0.00050	<0.00010	<0.00050	0.609	<0.000050	<0.0010	7.01	0.0324
Chedakuz Creek	CC-40	Primary	VA25C8919-007	2025-10-27	0.00918	<0.000020	<0.000050	<0.010	<0.0000050	23.9	<0.00050	<0.00010	<0.00050	0.536	<0.000050	<0.0010	6.09	0.0315
Chedakuz Creek	CC-40	Primary	VA25C9101-001	2025-10-29	0.00911	<0.000020	<0.000050	<0.010	<0.0000050	22.6	<0.00050	0.00013	<0.00050	0.559	<0.000050	<0.0010	5.79	0.0318
Chedakuz Creek	CC-40	Primary	VA25D1004-001	2025-11-17	0.00931	<0.000020	<0.000050	<0.010	<0.0000050	22.7	<0.00050	0.00010	<0.00050	0.535	<0.000050	<0.0010	5.87	0.0374
Chedakuz Creek	CC-40	Duplicate	VA25D1004-002	2025-11-17	0.00899	<0.000020	<0.000050	<0.010	<0.0000050	22.3	<0.00050	0.00011	<0.00050	0.528	<0.000050	<0.0010	5.96	0.0336
Chedakuz Creek	CC-40	Primary	VA25D4214-006	2025-12-27	0.0101	<0.000020	<0.000050	<0.010	<0.0000050	26.1	<0.00050	<0.00010	<0.00050	0.325	<0.000050	<0.0010	6.52	0.0354
Creek 705	705-05	Primary	VA25A1845-006	2025-01-26	0.00752	<0.000020	<0.000050	<0.010	<0.0000050	7.62	<0.00050	<0.00010	<0.00050	0.207	<0.000050	<0.0010	1.30	0.0176
Creek 705	705-05	Primary	VA25A4183-002	2025-02-24	0.00734	<0.000020	<0.000050	<0.010	0.0000050	7.48	<0.00050	<0.00010	<0.00050	0.279	<0.000050	<0.0010	1.27	0.0256
Creek 705	705-05	Duplicate	VA25A4183-003	2025-02-24	0.00728	<0.000020	<0.000050	<0.010	<0.0000050	7.35	<0.00050	<0.00010	<0.00050	0.262	<0.000050	<0.0010	1.24	0.0237
Creek 705	705-05	Primary	VA25A5561-002	2025-03-11	0.00695	<0.000020	<0.000050	<0.010	<0.0000050	8.54	<0.00050	<0.00010	<0.00050	0.264	<0.000050	<0.0010	1.31	0.0273
Creek 705	705-05	Primary	VA25A9690-001	2025-04-27	0.00866	0.000026	<0.000050	<0.010	0.0000056	5.62	<0.00050	<0.00010	0.00053	0.222	<0.000050	<0.0010	0.889	0.0423
Creek 705	705-05	Duplicate	VA25A9690-002	2025-04-27	0.00857	0.000028	<0.000050	<0.010	<0.0000050	5.51	<0.00050	<0.00010	0.00052	0.216	<0.000050	<0.0010	0.881	0.0421
Creek 705	705-05	Primary	VA25B0438-002	2025-05-05	0.00642	0.000029	<0.000050	<0.010	<0.0000050	4.95	<0.00050	<0.00010	<0.00050	0.141	<0.000050	<0.0010	0.748	0.00782
Creek 705	705-05	Duplicate	VA25B0438-008	2025-05-05	0.00653	0.000027	<0.000050	<0.010	<0.0000050	4.98	<0.00050	<0.00010	<0.00050	0.157	<0.000050	<0.0010	0.747	0.0116
Creek 705	705-05	Primary	VA25B5930-001	2025-06-27	0.00691	<0.000020	<0.000050	<0.010	<0.0000050	6.36	<0.00050	<0.00010	<0.00050	0.211	<0.000050	<0.0010	1.03	0.0260
Creek 705	705-05	Primary	VA25B7427-008	2025-07-14	0.00764	<0.000020	<0.000050	<0.010	<0.0000050	7.16	<0.00050	<0.00010	<0.00050	0.340	<0.000050	<0.0010	1.08	0.0385
Creek 705	705-05	Primary	VA25B9438-001	2025-08-04	0.0106	<0.000020	<0.000050	<0.010	<0.0000050	9.26	<0.00050	0.00011	<0.00050	1.15	<0.000050	<0.0010	1.44	0.101
Creek 705	705-05	Primary	VA25C3886-003	2025-09-10	0.0102	<0.000020	<0.000050	<0.010	<0.0000050	11.1	<0.00050	<0.00010	<0.00050	1.31	<0.000050	<0.0010	1.74	0.0485
Creek 705	705-05	Primary	VA25C8358-007	2025-10-20	0.00848	<0.000020	<0.000050	<0.010	<0.0000050	7.69	<0.00050	<0.00010	<0.00050	1.03	<0.000050	<0.0010	1.40	0.100
Creek 705	705-05	Primary	VA25D0570-001	2025-11-12	0.00802	<0.000020	<0.000050	<0.010	<0.0000050	7.23	<0.00050	0.00015	<0.00050	0.585	<0.000050	<0.0010	1.24	0.130
Creek 705	705-05	Primary	VA25D3939-003	2025-12-17	0.00686	<0.000020	<0.000050	<0.010	<0.0000050	7.08	<0.00050	<0.00010	<0.00050	0.377	<0.000050	<0.0010	1.16	0.0383
Creek 705	705-10	Primary	VA25A0226-002	2025-01-05	0.00884	<0.000020	<0.000050	<0.010	<0.0000050	8.45	<0.00050	<0.00010	<0.00050	0.089	<0.000050	<0.0010	1.52	0.00254
Creek 705	705-10	Primary	VA25A2544-003	2025-02-03	0.00821	<0.000020	<0.000050	<0.010	<0.0000050	8.72	<0.00050	<0.00010	<0.00050	0.094	<0.000050	<0.0010	1.54	0.00218
Creek 705	705-10	Primary	VA25A5321-001	2025-03-05	0.00887	<0.000020	<0.000050	<0.010	<0.0000050	8.88	<0.00050	<0.00010	<0.00050	0.101	<0.000050	<0.0010	1.55	0.00241
Creek 705	705-10	Duplicate	VA25A5321-002	2025-03-05	0.00887	<0.000020	<0.000050	<0.010	<0.0000050	8.52	<0.00050	<0.00010	<0.00050	0.102	<0.000050	<0.0010	1.55	0.00249
Creek 705	705-10	Primary	VA25A7634-001	2025-04-03	0.00964	<0.000020	<0.000050	<0.010	<0.0000050	8.93	<0.00050	<0.00010	0.00054	0.221	0.000053	<0.0010	1.62	0.00575

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Mercury, Total (mg/L)	Molybdenum, Total (mg/L)	Nickel, Total (mg/L)	Phosphorus, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silicon, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Strontium, Total (mg/L)	Sulphur, Total (mg/L)	Thallium, Total (mg/L)	Tin, Total (mg/L)	Titanium, Total (mg/L)
Chedakuz Creek	CC-30	Primary	VA25A5560-002	2025-03-11	<0.0000050	0.000929	<0.00050	<0.050	1.16	<0.000050	5.46	<0.000010	4.40	0.120	1.50	<0.000010	<0.00010	0.00081
Chedakuz Creek	CC-30	Primary	VA25A8058-002	2025-04-09	<0.0000050	0.000779	0.00090	<0.050	1.37	0.000080	5.07	<0.000010	3.63	0.0971	1.68	<0.000010	<0.00010	0.00921
Chedakuz Creek	CC-30	Primary	VA25B7192-002	2025-07-13	<0.0000050	0.000873	<0.00050	<0.050	0.817	<0.000050	3.80	<0.000010	3.87	0.105	0.70	<0.000010	<0.00010	0.00079
Chedakuz Creek	CC-30	Duplicate	VA25B7192-003	2025-07-13	<0.0000050	0.000834	<0.00050	<0.050	0.812	0.000094	3.76	<0.000010	3.99	0.106	0.93	<0.000010	<0.00010	0.00139
Chedakuz Creek	CC-30	Primary	VA25C6737-003	2025-10-05	<0.0000050	0.00102	<0.00050	<0.050	1.04	0.000055	4.18	<0.000010	4.82	0.124	1.13	<0.000010	<0.00010	0.00078
Chedakuz Creek	CC-40	Primary	VA25A1845-001	2025-01-26	<0.0000050	0.000904	<0.00050	<0.050	0.999	<0.000050	6.13	<0.000010	5.34	0.128	1.43	<0.000010	<0.00010	0.00099
Chedakuz Creek	CC-40	Primary	VA25A3507-001	2025-02-17	<0.0000050	0.000962	<0.00050	<0.050	1.13	0.000064	6.20	<0.000010	5.51	0.131	1.57	<0.000010	<0.00010	0.00067
Chedakuz Creek	CC-40	Primary	VA25A5560-003	2025-03-11	<0.0000050	0.000995	<0.00050	<0.050	1.27	0.000068	5.53	<0.000010	4.72	0.121	1.61	<0.000010	<0.00010	0.00067
Chedakuz Creek	CC-40	Primary	VA25A8058-001	2025-04-09	<0.0000050	0.000791	0.00080	<0.050	1.32	0.000067	4.89	<0.000010	3.74	0.0982	1.58	<0.000010	<0.00010	0.00816
Chedakuz Creek	CC-40	Primary	VA25B0438-006	2025-05-05	<0.0000050	0.000577	<0.00050	<0.050	0.972	0.000072	4.83	<0.000010	3.13	0.0804	1.05	<0.000010	<0.00010	0.00545
Chedakuz Creek	CC-40	Primary	VA25B1094-003	2025-05-12	<0.0000050	0.000583	<0.00050	<0.050	0.786	0.000097	4.07	<0.000010	3.19	0.0827	1.37	<0.000010	<0.00010	0.00200
Chedakuz Creek	CC-40	Primary	VA25B1721-001	2025-05-19	<0.0000050	0.000538	0.00060	<0.050	0.906	<0.000050	4.89	<0.000010	3.00	0.0734	1.29	<0.000010	<0.00010	0.0121
Chedakuz Creek	CC-40	Primary	VA25B2427-003	2025-05-26	<0.0000050	0.000602	<0.00050	<0.050	0.828	0.000072	4.28	<0.000010	3.29	0.0828	1.45	<0.000010	<0.00010	0.00435
Chedakuz Creek	CC-40	Primary	VA25B3822-003	2025-06-02	<0.0000050	0.000646	<0.00050	<0.050	0.840	0.000077	4.69	<0.000010	3.74	0.0936	1.16	<0.000010	<0.00010	0.00342
Chedakuz Creek	CC-40	Primary	VA25B5256-001	2025-06-22	<0.0000050	0.000875	<0.00050	<0.050	0.872	0.000072	4.38	<0.000010	3.79	0.103	1.32	<0.000010	<0.00010	0.00378
Chedakuz Creek	CC-40	Duplicate	VA25B5256-002	2025-06-22	<0.0000050	0.000851	<0.00050	<0.050	0.867	0.000085	4.32	<0.000010	3.72	0.106	1.18	<0.000010	<0.00010	0.00363
Chedakuz Creek	CC-40	Primary	VA25B7192-001	2025-07-13	<0.0000050	0.000921	<0.00050	<0.050	0.856	0.000088	3.90	<0.000010	4.15	0.109	0.84	<0.000010	<0.00010	0.00074
Chedakuz Creek	CC-40	Primary	VA25B9374-001	2025-08-03	<0.0000050	0.00123	<0.00050	<0.050	1.03	0.000084	4.28	<0.000010	4.66	0.122	1.16	<0.000010	<0.00010	0.00097
Chedakuz Creek	CC-40	Duplicate	VA25B9374-002	2025-08-03	<0.0000050	0.00121	<0.00050	<0.050	1.05	0.000085	4.27	<0.000010	4.76	0.121	1.27	<0.000010	<0.00010	0.00114
Chedakuz Creek	CC-40	Primary	VA25C4967-009	2025-09-17	<0.0000050	0.00122	<0.00050	<0.050	1.19	<0.000050	4.12	<0.000010	5.56	0.133	1.19	<0.000010	<0.00010	0.00099
Chedakuz Creek	CC-40	Primary	VA25C6737-001	2025-10-05	<0.0000050	0.00112	<0.00050	<0.050	1.12	0.000063	4.41	<0.000010	5.40	0.131	1.32	<0.000010	<0.00010	0.00091
Chedakuz Creek	CC-40	Duplicate	VA25C6737-002	2025-10-05	<0.0000050	0.00111	<0.00050	<0.050	1.14	<0.000050	4.42	<0.000010	5.51	0.129	1.32	<0.000010	<0.00010	0.00098
Chedakuz Creek	CC-40	Primary	VA25C7563-004	2025-10-14	<0.0000050	0.00107	<0.00050	<0.050	1.02	<0.000050	4.91	<0.000010	5.56	0.124	1.42	<0.000010	<0.00010	0.00077
Chedakuz Creek	CC-40	Primary	VA25C8358-001	2025-10-20	<0.0000050	0.00112	<0.00050	<0.050	1.03	<0.000050	4.57	<0.000010	5.76	0.128	1.40	<0.000010	<0.00010	0.00061
Chedakuz Creek	CC-40	Primary	VA25C8919-007	2025-10-27	<0.0000050	0.000992	<0.00050	<0.050	1.13	0.000052	5.23	<0.000010	5.00	0.121	1.40	<0.000010	<0.00010	0.00160
Chedakuz Creek	CC-40	Primary	VA25C9101-001	2025-10-29	<0.0000050	0.000981	<0.00050	<0.050	1.07	0.000070	5.10	<0.000010	4.92	0.117	1.65	<0.000010	<0.00010	0.00095
Chedakuz Creek	CC-40	Primary	VA25D1004-001	2025-11-17	<0.0000050	0.000930	<0.00050	<0.050	0.935	0.000062	5.38	<0.000010	4.77	0.124	1.69	<0.000010	<0.00010	0.00113
Chedakuz Creek	CC-40	Duplicate	VA25D1004-002	2025-11-17	<0.0000050	0.000883	<0.00050	<0.050	0.946	0.000072	5.36	<0.000010	4.79	0.122	1.55	<0.000010	<0.00010	0.00139
Chedakuz Creek	CC-40	Primary	VA25D4214-006	2025-12-27	<0.0000050	0.000750	<0.00050	<0.050	0.995	<0.000050	5.60	<0.000010	4.81	0.120	1.45	<0.000010	<0.00010	0.00128
Creek 705	705-05	Primary	VA25A1845-006	2025-01-26	<0.0000050	0.000576	<0.00050	<0.050	0.387	<0.000050	3.82	<0.000010	2.38	0.0624	<0.50	<0.000010	<0.00010	0.00068
Creek 705	705-05	Primary	VA25A4183-002	2025-02-24	<0.0000050	0.000560	<0.00050	<0.050	0.410	<0.000050	3.22	<0.000010	2.29	0.0596	0.74	<0.000010	<0.00010	0.00069
Creek 705	705-05	Duplicate	VA25A4183-003	2025-02-24	<0.0000050	0.000559	<0.00050	<0.050	0.395	<0.000050	3.10	<0.000010	2.24	0.0597	0.66	<0.000010	<0.00010	0.00083
Creek 705	705-05	Primary	VA25A5561-002	2025-03-11	<0.0000050	0.000699	<0.00050	<0.050	0.404	<0.000050	3.26	<0.000010	2.32	0.0695	0.64	<0.000010	<0.00010	0.00084
Creek 705	705-05	Primary	VA25A9690-001	2025-04-27	0.0000061	0.000373	<0.00050	<0.050	0.550	<0.000050	4.36	<0.000010	1.68	0.0470	0.51	<0.000010	<0.00010	0.00374
Creek 705	705-05	Duplicate	VA25A9690-002	2025-04-27	0.0000065	0.000342	<0.00050	<0.050	0.545	<0.000050	4.21	<0.000010	1.60	0.0485	<0.50	<0.000010	<0.00010	0.00382
Creek 705	705-05	Primary	VA25B0438-002	2025-05-05	0.0000051	0.000311	<0.00050	<0.050	0.435	<0.000050	3.75	<0.000010	1.46	0.0402	<0.50	<0.000010	<0.00010	0.00158
Creek 705	705-05	Duplicate	VA25B0438-008	2025-05-05	0.0000053	0.000302	<0.00050	<0.050	0.439	<0.000050	3.80	<0.000010	1.46	0.0394	<0.50	<0.000010	<0.00010	0.00170
Creek 705	705-05	Primary	VA25B5930-001	2025-06-27	<0.0000050	0.000509	<0.00050	<0.050	0.254	<0.000050	3.74	<0.000010	1.80	0.0505	<0.50	<0.000010	<0.00010	0.00122
Creek 705	705-05	Primary	VA25B7427-008	2025-07-14	<0.0000050	0.000607	<0.00050	<0.050	0.321	<0.000050	3.42	<0.000010	1.85	0.0557	<0.50	<0.000010	<0.00010	0.00110
Creek 705	705-05	Primary	VA25B9438-001	2025-08-04	<0.0000050	0.000736	<0.00050	<0.050	0.379	<0.000050	3.25	<0.000010	2.15	0.0764	<0.50	<0.000010	<0.00010	0.00143
Creek 705	705-05	Primary	VA25C3886-003	2025-09-10	<0.0000050	0.000577	<0.00050	<0.050	0.514	<0.000050	3.05	<0.000010	2.37	0.0847	<0.50	<0.000010	<0.00010	0.00086
Creek 705	705-05	Primary	VA25C8358-007	2025-10-20	<0.0000050	0.000328	<0.00050	<0.050	0.589	<0.000050	3.27	<0.000010	2.14	0.0627	<0.50	<0.000010	<0.00010	0.00052
Creek 705	705-05	Primary	VA25D0570-001	2025-11-12	<0.0000050	0.000505	<0.00050	<0.050	0.442	<0.000050	3.06	<0.000010	2.19	0.0555	0.60	<0.000010	<0.00010	0.00260
Creek 705	705-05	Primary	VA25D3939-003	2025-12-17	<0.0000050	0.000536	<0.00050	<0.050	0.438	<0.000050	3.16	<0.000010	2.34	0.0577	<0.50	<0.000010	<0.00010	0.00363
Creek 705	705-10	Primary	VA25A0226-002	2025-01-05	<0.0000050	0.000456	<0.00050	<0.050	0.325	<0.000050	4.50	<0.000010	2.70	0.0654	0.55	<0.000010	<0.00010	0.00114
Creek 705	705-10	Primary	VA25A2544-003	2025-02-03	<0.0000050	0.000527	<0.00050	<0.050	0.354	<0.000050	4.17	<0.000010	2.36	0.0634	<0.50	<0.000010	<0.00010	0.00058
Creek 705	705-10	Primary	VA25A5321-001	2025-03-05	<0.0000050	0.000466	<0.00050	<0.050	0.372	<0.000050	3.86	<0.000010	2.52	0.0630	0.89	<0.000010	<0.00010	0.00057
Creek 705	705-10	Duplicate	VA25A5321-002	2025-03-05	<0.0000050	0.000488	<0.00050	<0.050	0.364	<0.000050	3.93	<0.000010	2.52	0.0638	0.88	<0.000010	<0.00010	0.00049
Creek 705	705-10	Primary	VA25A7634-001	2025-04-03	<0.0000050	0.000426	<0.00050	<0.050	0.464	<0.000050	4.49	<0.000010	2.62	0.0598	0.66	<0.000010	<0.00010	0.00478

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals			Dissolved Metals										
					Uranium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)	Aluminum, Dissolved (mg/L)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Beryllium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L)	Boron, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Cobalt, Dissolved (mg/L)
Chedakuz Creek	CC-30	Primary	VA25A5560-002	2025-03-11	0.000191	<0.00050	<0.0030	0.0030	<0.00010	0.00047	0.00831	<0.000020	<0.000050	<0.010	<0.0000050	22.0	<0.00050	<0.00010
Chedakuz Creek	CC-30	Primary	VA25A8058-002	2025-04-09	0.000168	0.00125	<0.0030	0.0196	<0.00010	0.00055	0.00856	<0.000020	<0.000050	<0.010	<0.0000050	19.5	<0.00050	<0.00010
Chedakuz Creek	CC-30	Primary	VA25B7192-002	2025-07-13	0.000141	0.00072	<0.0030	0.0074	<0.00010	0.00088	0.00807	<0.000020	<0.000050	<0.010	<0.0000050	20.4	<0.00050	<0.00010
Chedakuz Creek	CC-30	Duplicate	VA25B7192-003	2025-07-13	0.000148	0.00074	<0.0030	0.0078	<0.00010	0.00089	0.00806	<0.000020	<0.000050	<0.010	<0.0000050	20.0	<0.00050	<0.00010
Chedakuz Creek	CC-30	Primary	VA25C6737-003	2025-10-05	0.000158	0.00065	<0.0030	0.0029	<0.00010	0.00064	0.00856	<0.000020	<0.000050	<0.010	<0.0000050	23.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25A1845-001	2025-01-26	0.000233	<0.00050	<0.0030	0.0032	<0.00010	0.00058	0.00939	<0.000020	<0.000050	<0.010	<0.0000050	23.2	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25A3507-001	2025-02-17	0.000217	<0.00050	<0.0030	0.0024	<0.00010	0.00055	0.0104	<0.000020	<0.000050	<0.010	<0.0000050	24.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25A5560-003	2025-03-11	0.000223	<0.00050	<0.0030	0.0025	<0.00010	0.00057	0.00880	<0.000020	<0.000050	<0.010	<0.0000050	22.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25A8058-001	2025-04-09	0.000168	0.00128	<0.0030	0.0159	<0.00010	0.00053	0.00849	<0.000020	<0.000050	<0.010	<0.0000050	19.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B0438-006	2025-05-05	0.000102	0.00073	<0.0030	0.0184	<0.00010	0.00047	0.00774	<0.000020	<0.000050	<0.010	<0.0000050	15.0	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B1094-003	2025-05-12	0.000108	0.00052	<0.0030	0.0129	<0.00010	0.00046	0.00728	<0.000020	<0.000050	<0.010	<0.0000050	16.5	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B1721-001	2025-05-19	0.000102	0.00123	<0.0030	0.0270	<0.00010	0.00047	0.00814	<0.000020	<0.000050	<0.010	<0.0000050	14.3	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B2427-003	2025-05-26	0.000118	0.00073	<0.0030	0.0135	<0.00010	0.00049	0.00731	<0.000020	<0.000050	<0.010	<0.0000050	16.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B3822-003	2025-06-02	0.000128	0.00067	<0.0030	0.0128	<0.00010	0.00059	0.00748	<0.000020	<0.000050	<0.010	<0.0000050	17.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B5256-001	2025-06-22	0.000140	0.00094	<0.0030	0.0100	<0.00010	0.00084	0.00839	<0.000020	<0.000050	<0.010	<0.0000050	20.4	<0.00050	<0.00010
Chedakuz Creek	CC-40	Duplicate	VA25B5256-002	2025-06-22	0.000143	0.00093	<0.0030	0.0131	<0.00010	0.00084	0.00838	<0.000020	<0.000050	<0.010	<0.0000050	20.1	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B7192-001	2025-07-13	0.000157	0.00071	<0.0030	0.0065	<0.00010	0.00094	0.00844	<0.000020	<0.000050	<0.010	<0.0000050	20.2	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25B9374-001	2025-08-03	0.000191	0.00080	<0.0030	0.0035	<0.00010	0.00124	0.00959	<0.000020	<0.000050	<0.010	<0.0000050	23.9	<0.00050	<0.00010
Chedakuz Creek	CC-40	Duplicate	VA25B9374-002	2025-08-03	0.000192	0.00088	<0.0030	0.0043	<0.00010	0.00126	0.00919	<0.000020	<0.000050	<0.010	<0.0000050	22.9	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25C4967-009	2025-09-17	0.000233	0.00068	<0.0030	0.0044	<0.00010	0.00108	0.00913	<0.000020	<0.000050	<0.010	<0.0000050	25.8	<0.00050	0.00012
Chedakuz Creek	CC-40	Primary	VA25C6737-001	2025-10-05	0.000216	0.00066	<0.0030	0.0034	<0.00010	0.00081	0.00859	<0.000020	<0.000050	<0.010	<0.0000050	25.5	<0.00050	<0.00010
Chedakuz Creek	CC-40	Duplicate	VA25C6737-002	2025-10-05	0.000217	0.00065	<0.0030	0.0032	<0.00010	0.00077	0.00852	<0.000020	<0.000050	<0.010	<0.0000050	24.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25C7563-004	2025-10-14	0.000230	0.00051	<0.0030	0.0026	<0.00010	0.00077	0.00839	<0.000020	<0.000050	<0.010	<0.0000050	24.7	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25C8358-001	2025-10-20	0.000240	0.00056	<0.0030	0.0024	<0.00010	0.00071	0.00906	<0.000020	<0.000050	<0.010	<0.0000050	25.4	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25C8919-007	2025-10-27	0.000200	0.00052	<0.0030	0.0024	<0.00010	0.00063	0.00871	<0.000020	<0.000050	<0.010	<0.0000050	22.4	<0.00050	<0.00010
Chedakuz Creek	CC-40	Primary	VA25C9101-001	2025-10-29	0.000187	<0.00050	<0.0030	0.0033	<0.00010	0.00069	0.00889	<0.000020	<0.000050	<0.010	<0.0000050	21.4	<0.00050	0.00012
Chedakuz Creek	CC-40	Primary	VA25D1004-001	2025-11-17	0.000187	<0.00050	<0.0030	0.0028	<0.00010	0.00063	0.00827	<0.000020	<0.000050	<0.010	<0.0000050	21.6	<0.00050	<0.00010
Chedakuz Creek	CC-40	Duplicate	VA25D1004-002	2025-11-17	0.000194	<0.00050	<0.0030	0.0032	<0.00010	0.00062	0.00834	<0.000020	<0.000050	<0.010	<0.0000050	22.8	<0.00050	0.00010
Chedakuz Creek	CC-40	Primary	VA25D4214-006	2025-12-27	0.000172	<0.00050	<0.0030	0.0025	<0.00010	0.00044	0.0104	<0.000020	<0.000050	<0.010	<0.0000050	23.5	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25A1845-006	2025-01-26	0.000135	<0.00050	<0.0030	0.0292	<0.00010	0.00024	0.00680	<0.000020	<0.000050	<0.010	<0.0000050	7.20	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25A4183-002	2025-02-24	0.000130	<0.00050	<0.0030	0.0291	<0.00010	0.00026	0.00710	<0.000020	<0.000050	<0.010	<0.0000050	7.53	<0.00050	<0.00010
Creek 705	705-05	Duplicate	VA25A4183-003	2025-02-24	0.000128	<0.00050	<0.0030	0.0285	<0.00010	0.00026	0.00720	<0.000020	<0.000050	<0.010	<0.0000050	7.38	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25A5561-002	2025-03-11	0.000137	<0.00050	<0.0030	0.0268	<0.00010	0.00025	0.00698	<0.000020	<0.000050	<0.010	<0.0000050	7.01	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25A9690-001	2025-04-27	0.000183	<0.00050	<0.0030	0.144	<0.00010	0.00021	0.00811	0.000025	<0.000050	<0.010	<0.0000050	6.21	<0.00050	<0.00010
Creek 705	705-05	Duplicate	VA25A9690-002	2025-04-27	0.000177	<0.00050	<0.0030	0.133	<0.00010	0.00018	0.00776	0.000026	<0.000050	<0.010	<0.0000050	6.33	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25B0438-002	2025-05-05	0.000189	<0.00050	<0.0030	0.122	<0.00010	0.00021	0.00589	0.000027	<0.000050	<0.010	<0.0000050	5.05	<0.00050	<0.00010
Creek 705	705-05	Duplicate	VA25B0438-008	2025-05-05	0.000194	<0.00050	<0.0030	0.123	<0.00010	0.00019	0.00616	0.000026	<0.000050	<0.010	<0.0000050	5.05	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25B5930-001	2025-06-27	0.000179	<0.00050	<0.0030	0.0496	<0.00010	0.00028	0.00680	0.000021	<0.000050	<0.010	<0.0000050	6.28	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25B7427-008	2025-07-14	0.000141	<0.00050	<0.0030	0.0356	<0.00010	0.00034	0.00781	<0.000020	<0.000050	<0.010	<0.0000050	7.26	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25B9438-001	2025-08-04	0.000110	0.00052	<0.0030	0.0318	<0.00010	0.00061	0.00967	<0.000020	<0.000050	<0.010	<0.0000050	8.52	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25C3886-003	2025-09-10	0.000079	<0.00050	<0.0030	0.0219	<0.00010	0.00054	0.00998	<0.000020	<0.000050	<0.010	<0.0000050	10.5	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25C8358-007	2025-10-20	0.000053	<0.00050	<0.0030	0.0199	<0.00010	0.00035	0.00898	<0.000020	<0.000050	<0.010	<0.0000050	8.42	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25D0570-001	2025-11-12	0.000109	<0.00050	<0.0030	0.0442	<0.00010	0.00027	0.00613	<0.000020	<0.000050	<0.010	<0.0000050	7.53	<0.00050	<0.00010
Creek 705	705-05	Primary	VA25D3939-003	2025-12-17	0.000143	<0.00050	<0.0030	0.0823	<0.00010	0.00028	0.00649	<0.000020	<0.000050	<0.010	<0.0000050	7.18	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25A0226-002	2025-01-05	0.000126	<0.00050	<0.0030	0.0516	<0.00010	0.00019	0.00843	<0.000020	<0.000050	<0.010	<0.0000050	8.05	0.00050	<0.00010
Creek 705	705-10	Primary	VA25A2544-003	2025-02-03	0.000123	<0.00050	<0.0030	0.0326	<0.00010	0.00016	0.00854	<0.000020	<0.000050	<0.010	<0.0000050	9.05	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25A5321-001	2025-03-05	0.000130	<0.00050	<0.0030	0.0296	<0.00010	0.00018	0.00926	<0.000020	<0.000050	<0.010	<0.0000050	8.75	<0.00050	<0.00010
Creek 705	705-10	Duplicate	VA25A5321-002	2025-03-05	0.000126	<0.00050	<0.0030	0.0306	<0.00010	0.00017	0.00939	<0.000020	<0.000050	<0.010	<0.0000050	8.74	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25A7634-001	2025-04-03	0.000156	<0.00050	<0.0030	0.0981	<0.00010	0.00019	0.00994	<0.000020	<0.000050	<0.010	<0.0000050	8.52	<0.00050	<0.00010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals												
					Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Lithium, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Phosphorus, Dissolved (mg/L)	Potassium, Dissolved (mg/L)	Selenium, Dissolved (mg/L)	Silicon, Dissolved (mg/L)	Silver, Dissolved (mg/L)
Chedakuz Creek	CC-30	Primary	VA25A5560-002	2025-03-11	0.00031	0.166	<0.000050	<0.0010	5.70	0.0186	<0.0000050	0.000821	<0.00050	<0.050	1.18	0.000059	5.31	<0.000010
Chedakuz Creek	CC-30	Primary	VA25A8058-002	2025-04-09	0.00041	0.211	<0.000050	<0.0010	4.69	0.0356	<0.0000050	0.000710	<0.00050	<0.050	1.33	0.000071	4.44	<0.000010
Chedakuz Creek	CC-30	Primary	VA25B7192-002	2025-07-13	0.00036	0.225	<0.000050	<0.0010	5.07	0.0541	<0.0000050	0.000760	<0.00050	<0.050	0.828	0.000075	3.83	<0.000010
Chedakuz Creek	CC-30	Duplicate	VA25B7192-003	2025-07-13	0.00034	0.237	<0.000050	<0.0010	4.92	0.0536	<0.0000050	0.000776	<0.00050	<0.050	0.831	0.000055	3.73	<0.000010
Chedakuz Creek	CC-30	Primary	VA25C6737-003	2025-10-05	0.00023	0.382	<0.000050	<0.0010	5.48	0.0337	<0.0000050	0.000951	<0.00050	<0.050	1.03	<0.000050	4.00	<0.000010
Chedakuz Creek	CC-40	Primary	VA25A1845-001	2025-01-26	0.00028	0.195	<0.000050	<0.0010	6.18	0.0251	<0.0000050	0.000865	<0.00050	<0.050	1.08	<0.000050	5.78	<0.000010
Chedakuz Creek	CC-40	Primary	VA25A3507-001	2025-02-17	0.00030	0.180	<0.000050	<0.0010	6.26	0.0323	<0.0000050	0.000923	<0.00050	<0.050	1.12	0.000077	5.97	<0.000010
Chedakuz Creek	CC-40	Primary	VA25A5560-003	2025-03-11	0.00030	0.228	<0.000050	<0.0010	6.13	0.0249	<0.0000050	0.000878	<0.00050	<0.050	1.27	0.000069	5.23	<0.000010
Chedakuz Creek	CC-40	Primary	VA25A8058-001	2025-04-09	0.00036	0.239	<0.000050	<0.0010	4.79	0.0345	<0.0000050	0.000700	<0.00050	<0.050	1.26	0.000054	4.43	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B0438-006	2025-05-05	0.00048	0.122	<0.000050	<0.0010	3.84	0.0159	<0.0000050	0.000550	<0.00050	<0.050	0.937	0.000086	4.66	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B1094-003	2025-05-12	0.00042	0.091	<0.000050	<0.0010	3.74	0.0158	<0.0000050	0.000583	<0.00050	<0.050	0.789	0.000050	4.04	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B1721-001	2025-05-19	0.00054	0.131	<0.000050	<0.0010	3.25	0.0412	0.0000052	0.000501	<0.00050	<0.050	0.901	0.000075	4.21	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B2427-003	2025-05-26	0.00044	0.081	<0.000050	<0.0010	3.56	0.0173	<0.0000050	0.000598	<0.00050	<0.050	0.859	0.000057	4.16	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B3822-003	2025-06-02	0.00025	0.085	<0.000050	<0.0010	4.45	0.0292	<0.0000050	0.000582	<0.00050	<0.050	0.762	<0.000050	4.50	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B5256-001	2025-06-22	0.00044	0.152	<0.000050	<0.0010	4.67	0.0426	<0.0000050	0.000821	<0.00050	<0.050	0.905	0.000062	4.03	<0.000010
Chedakuz Creek	CC-40	Duplicate	VA25B5256-002	2025-06-22	0.00045	0.159	<0.000050	<0.0010	4.61	0.0426	<0.0000050	0.000817	<0.00050	<0.050	0.897	0.000064	3.97	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B7192-001	2025-07-13	0.00038	0.221	<0.000050	<0.0010	5.21	0.0458	<0.0000050	0.000793	<0.00050	<0.050	0.879	0.000069	3.86	<0.000010
Chedakuz Creek	CC-40	Primary	VA25B9374-001	2025-08-03	0.00039	0.270	<0.000050	<0.0010	6.18	0.0360	<0.0000050	0.00120	<0.00050	<0.050	1.07	0.000062	4.26	<0.000010
Chedakuz Creek	CC-40	Duplicate	VA25B9374-002	2025-08-03	0.00038	0.277	<0.000050	<0.0010	6.13	0.0352	<0.0000050	0.00117	<0.00050	<0.050	1.06	0.000118	4.29	<0.000010
Chedakuz Creek	CC-40	Primary	VA25C4967-009	2025-09-17	0.00029	0.334	<0.000050	<0.0010	6.63	0.0286	<0.0000050	0.00125	<0.00050	<0.050	1.29	<0.000050	3.96	<0.000010
Chedakuz Creek	CC-40	Primary	VA25C6737-001	2025-10-05	0.00024	0.377	<0.000050	<0.0010	6.28	0.0255	<0.0000050	0.00105	<0.00050	<0.050	1.13	<0.000050	4.17	<0.000010
Chedakuz Creek	CC-40	Duplicate	VA25C6737-002	2025-10-05	0.00025	0.359	<0.000050	<0.0010	6.37	0.0252	<0.0000050	0.00107	<0.00050	<0.050	1.13	<0.000050	4.14	<0.000010
Chedakuz Creek	CC-40	Primary	VA25C7563-004	2025-10-14	0.00026	0.440	<0.000050	<0.0010	6.71	0.0294	<0.0000050	0.00106	<0.00050	<0.050	1.03	<0.000050	4.74	<0.000010
Chedakuz Creek	CC-40	Primary	VA25C8358-001	2025-10-20	0.00025	0.401	<0.000050	<0.0010	6.19	0.0262	<0.0000050	0.000982	<0.00050	<0.050	1.00	0.000055	4.52	<0.000010
Chedakuz Creek	CC-40	Primary	VA25C8919-007	2025-10-27	0.00027	0.358	<0.000050	<0.0010	5.99	0.0248	<0.0000050	0.000939	<0.00050	<0.050	1.13	<0.000050	4.68	<0.000010
Chedakuz Creek	CC-40	Primary	VA25C9101-001	2025-10-29	0.00024	0.379	<0.000050	<0.0010	5.89	0.0271	<0.0000050	0.000922	<0.00050	<0.050	1.09	0.000068	5.21	<0.000010
Chedakuz Creek	CC-40	Primary	VA25D1004-001	2025-11-17	0.00025	0.343	<0.000050	<0.0010	6.22	0.0270	<0.0000050	0.000835	<0.00050	<0.050	0.950	<0.000050	5.10	<0.000010
Chedakuz Creek	CC-40	Duplicate	VA25D1004-002	2025-11-17	0.00024	0.343	<0.000050	<0.0010	5.97	0.0257	<0.0000050	0.000795	<0.00050	<0.050	0.913	0.000057	5.19	<0.000010
Chedakuz Creek	CC-40	Primary	VA25D4214-006	2025-12-27	0.00028	0.170	<0.000050	<0.0010	6.15	0.0283	<0.0000050	0.000739	<0.00050	<0.050	0.954	<0.000050	5.44	<0.000010
Creek 705	705-05	Primary	VA25A1845-006	2025-01-26	0.00023	0.153	<0.000050	<0.0010	1.20	0.0140	<0.0000050	0.000523	<0.00050	<0.050	0.404	<0.000050	3.57	<0.000010
Creek 705	705-05	Primary	VA25A4183-002	2025-02-24	0.00026	0.200	<0.000050	<0.0010	1.23	0.0212	<0.0000050	0.000556	<0.00050	<0.050	0.410	<0.000050	3.32	<0.000010
Creek 705	705-05	Duplicate	VA25A4183-003	2025-02-24	0.00026	0.203	<0.000050	<0.0010	1.21	0.0209	<0.0000050	0.000572	<0.00050	<0.050	0.400	<0.000050	3.39	<0.000010
Creek 705	705-05	Primary	VA25A5561-002	2025-03-11	0.00030	0.201	<0.000050	<0.0010	1.22	0.0221	<0.0000050	0.000554	<0.00050	<0.050	0.400	<0.000050	3.04	<0.000010
Creek 705	705-05	Primary	VA25A9690-001	2025-04-27	0.00052	0.145	<0.000050	<0.0010	0.871	0.0320	0.0000062	0.000349	<0.00050	<0.050	0.543	<0.000050	4.21	<0.000010
Creek 705	705-05	Duplicate	VA25A9690-002	2025-04-27	0.00048	0.143	<0.000050	<0.0010	0.861	0.0320	0.0000060	0.000328	<0.00050	<0.050	0.530	<0.000050	3.95	<0.000010
Creek 705	705-05	Primary	VA25B0438-002	2025-05-05	0.00048	0.104	<0.000050	<0.0010	0.784	0.00425	<0.0000050	0.000293	<0.00050	<0.050	0.442	<0.000050	3.86	<0.000010
Creek 705	705-05	Duplicate	VA25B0438-008	2025-05-05	0.00043	0.106	<0.000050	<0.0010	0.770	0.00400	<0.0000050	0.000293	<0.00050	<0.050	0.432	<0.000050	3.69	<0.000010
Creek 705	705-05	Primary	VA25B5930-001	2025-06-27	0.00042	0.158	<0.000050	<0.0010	0.968	0.0178	<0.0000050	0.000510	<0.00050	<0.050	0.264	<0.000050	3.74	<0.000010
Creek 705	705-05	Primary	VA25B7427-008	2025-07-14	0.00030	0.243	<0.000050	<0.0010	1.10	0.0284	<0.0000050	0.000594	<0.00050	<0.050	0.310	<0.000050	3.34	<0.000010
Creek 705	705-05	Primary	VA25B9438-001	2025-08-04	0.00027	0.769	<0.000050	<0.0010	1.35	0.0727	<0.0000050	0.000657	<0.00050	<0.050	0.346	<0.000050	2.96	<0.000010
Creek 705	705-05	Primary	VA25C3886-003	2025-09-10	0.00024	0.904	<0.000050	<0.0010	1.77	0.0150	<0.0000050	0.000583	<0.00050	<0.050	0.502	<0.000050	3.06	<0.000010
Creek 705	705-05	Primary	VA25C8358-007	2025-10-20	<0.00020	0.739	<0.000050	<0.0010	1.38	0.103	<0.0000050	0.000316	<0.00050	<0.050	0.594	<0.000050	3.09	<0.000010
Creek 705	705-05	Primary	VA25D0570-001	2025-11-12	0.00027	0.329	<0.000050	<0.0010	1.18	0.0280	<0.0000050	0.000450	<0.00050	<0.050	0.426	<0.000050	2.88	<0.000010
Creek 705	705-05	Primary	VA25D3939-003	2025-12-17	0.00033	0.258	<0.000050	<0.0010	1.19	0.0275	<0.0000050	0.000520	<0.00050	<0.050	0.447	<0.000050	2.76	<0.000010
Creek 705	705-10	Primary	VA25A0226-002	2025-01-05	0.00052	0.081	<0.000050	<0.0010	1.48	0.00177	<0.0000050	0.000465	<0.00050	<0.050	0.367	<0.000050	4.40	<0.000010
Creek 705	705-10	Primary	VA25A2544-003	2025-02-03	0.00030	0.076	<0.000050	<0.0010	1.54	0.00110	<0.0000050	0.000505	<0.00050	<0.050	0.373	<0.000050	4.27	<0.000010
Creek 705	705-10	Primary	VA25A5321-001	2025-03-05	0.00039	0.087	<0.000050	<0.0010	1.69	0.00203	<0.0000050	0.000476	<0.00050	<0.050	0.402	<0.000050	3.94	<0.000010
Creek 705	705-10	Duplicate	VA25A5321-002	2025-03-05	0.00036	0.086	<0.000050	<0.0010	1.64	0.00188	<0.0000050	0.000473	<0.00050	<0.050	0.396	<0.000050	4.01	<0.000010
Creek 705	705-10	Primary	VA25A7634-001	2025-04-03	0.00048	0.162	<0.000050	<0.0010	1.58	0.00285	<0.0000050	0.000409	<0.00050	<0.050	0.483	<0.000050	4.37	<0.000010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals								
					Sodium, Dissolved (mg/L)	Strontium, Dissolved (mg/L)	Sulphur, Dissolved (mg/L)	Thallium, Dissolved (mg/L)	Tin, Dissolved (mg/L)	Titanium, Dissolved (mg/L)	Uranium, Dissolved (mg/L)	Vanadium, Dissolved (mg/L)	Zinc, Dissolved (mg/L)
Chedakuz Creek	CC-30	Primary	VA25A5560-002	2025-03-11	4.40	0.114	1.13	<0.000010	<0.00010	<0.00030	0.000190	0.00051	<0.0010
Chedakuz Creek	CC-30	Primary	VA25A8058-002	2025-04-09	3.65	0.0944	1.75	<0.000010	<0.00010	0.00081	0.000151	<0.00050	<0.0010
Chedakuz Creek	CC-30	Primary	VA25B7192-002	2025-07-13	3.81	0.0960	0.99	<0.000010	<0.00010	0.00059	0.000132	0.00050	<0.0010
Chedakuz Creek	CC-30	Duplicate	VA25B7192-003	2025-07-13	3.86	0.100	1.00	<0.000010	<0.00010	<0.00030	0.000129	0.00052	<0.0010
Chedakuz Creek	CC-30	Primary	VA25C6737-003	2025-10-05	4.68	0.120	1.01	<0.000010	<0.00010	<0.00030	0.000158	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25A1845-001	2025-01-26	5.01	0.118	1.63	<0.000010	<0.00010	<0.00030	0.000203	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25A3507-001	2025-02-17	5.47	0.128	1.69	<0.000010	<0.00010	<0.00030	0.000207	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25A5560-003	2025-03-11	4.73	0.114	1.23	<0.000010	<0.00010	<0.00030	0.000225	0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25A8058-001	2025-04-09	3.60	0.0962	1.44	<0.000010	<0.00010	0.00074	0.000160	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25B0438-006	2025-05-05	3.28	0.0762	1.45	<0.000010	<0.00010	0.00045	0.000102	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25B1094-003	2025-05-12	3.13	0.0845	1.33	<0.000010	<0.00010	0.00032	0.000098	<0.00050	0.0012
Chedakuz Creek	CC-40	Primary	VA25B1721-001	2025-05-19	3.17	0.0736	0.99	<0.000010	<0.00010	0.00097	0.000082	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25B2427-003	2025-05-26	3.18	0.0853	1.24	<0.000010	<0.00010	<0.00030	0.000097	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25B3822-003	2025-06-02	3.43	0.0840	1.14	<0.000010	<0.00010	0.00031	0.000113	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25B5256-001	2025-06-22	3.77	0.105	1.34	<0.000010	<0.00010	<0.00030	0.000132	0.00057	<0.0010
Chedakuz Creek	CC-40	Duplicate	VA25B5256-002	2025-06-22	3.74	0.104	1.14	<0.000010	<0.00010	0.00052	0.000132	0.00056	<0.0010
Chedakuz Creek	CC-40	Primary	VA25B7192-001	2025-07-13	3.99	0.103	1.00	<0.000010	<0.00010	<0.00030	0.000136	0.00052	<0.0010
Chedakuz Creek	CC-40	Primary	VA25B9374-001	2025-08-03	4.70	0.130	1.33	<0.000010	<0.00010	<0.00030	0.000179	0.00067	<0.0010
Chedakuz Creek	CC-40	Duplicate	VA25B9374-002	2025-08-03	4.70	0.127	1.47	<0.000010	<0.00010	<0.00030	0.000179	0.00068	<0.0010
Chedakuz Creek	CC-40	Primary	VA25C4967-009	2025-09-17	5.65	0.128	1.40	<0.000010	<0.00010	<0.00030	0.000221	0.00054	<0.0010
Chedakuz Creek	CC-40	Primary	VA25C6737-001	2025-10-05	5.21	0.129	1.26	<0.000010	<0.00010	<0.00030	0.000204	<0.00050	<0.0010
Chedakuz Creek	CC-40	Duplicate	VA25C6737-002	2025-10-05	5.31	0.130	1.12	<0.000010	<0.00010	<0.00030	0.000201	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25C7563-004	2025-10-14	5.30	0.125	1.27	<0.000010	<0.00010	<0.00030	0.000224	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25C8358-001	2025-10-20	5.04	0.122	1.33	<0.000010	<0.00010	<0.00030	0.000224	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25C8919-007	2025-10-27	5.17	0.121	1.55	<0.000010	<0.00010	<0.00030	0.000196	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25C9101-001	2025-10-29	4.76	0.114	1.54	<0.000010	<0.00010	<0.00030	0.000179	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25D1004-001	2025-11-17	4.90	0.104	1.34	<0.000010	<0.00010	<0.00030	0.000174	<0.00050	<0.0010
Chedakuz Creek	CC-40	Duplicate	VA25D1004-002	2025-11-17	4.61	0.107	1.31	<0.000010	<0.00010	<0.00030	0.000190	<0.00050	<0.0010
Chedakuz Creek	CC-40	Primary	VA25D4214-006	2025-12-27	4.79	0.114	1.80	<0.000010	<0.00010	<0.00030	0.000159	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25A1845-006	2025-01-26	2.26	0.0578	0.57	<0.000010	<0.00010	0.00047	0.000121	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25A4183-002	2025-02-24	2.33	0.0592	<0.50	<0.000010	<0.00010	0.00047	0.000122	<0.00050	<0.0010
Creek 705	705-05	Duplicate	VA25A4183-003	2025-02-24	2.32	0.0599	0.57	<0.000010	<0.00010	0.00042	0.000121	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25A5561-002	2025-03-11	2.24	0.0596	<0.50	<0.000010	<0.00010	0.00063	0.000134	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25A9690-001	2025-04-27	1.67	0.0515	<0.50	<0.000010	<0.00010	0.00220	0.000183	<0.00050	0.0011
Creek 705	705-05	Duplicate	VA25A9690-002	2025-04-27	1.64	0.0506	<0.50	<0.000010	<0.00010	0.00203	0.000185	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25B0438-002	2025-05-05	1.59	0.0398	0.56	<0.000010	<0.00010	0.00136	0.000187	<0.00050	<0.0010
Creek 705	705-05	Duplicate	VA25B0438-008	2025-05-05	1.53	0.0385	<0.50	<0.000010	<0.00010	0.00139	0.000192	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25B5930-001	2025-06-27	1.84	0.0479	<0.50	<0.000010	<0.00010	0.00072	0.000166	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25B7427-008	2025-07-14	1.86	0.0557	<0.50	<0.000010	<0.00010	0.00053	0.000140	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25B9438-001	2025-08-04	2.11	0.0674	<0.50	<0.000010	<0.00010	0.00074	0.000098	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25C3886-003	2025-09-10	2.39	0.0876	<0.50	<0.000010	<0.00010	0.00046	0.000075	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25C8358-007	2025-10-20	2.15	0.0636	<0.50	<0.000010	<0.00010	0.00047	0.000054	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25D0570-001	2025-11-12	2.26	0.0530	<0.50	<0.000010	<0.00010	0.00120	0.000093	<0.00050	<0.0010
Creek 705	705-05	Primary	VA25D3939-003	2025-12-17	2.41	0.0552	0.60	<0.000010	<0.00010	0.00220	0.000139	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25A0226-002	2025-01-05	2.33	0.0661	0.84	<0.000010	<0.00010	0.00105	0.000133	<0.00050	0.0022
Creek 705	705-10	Primary	VA25A2544-003	2025-02-03	2.40	0.0623	<0.50	<0.000010	<0.00010	0.00046	0.000116	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25A5321-001	2025-03-05	2.70	0.0656	0.70	<0.000010	<0.00010	0.00051	0.000119	<0.00050	<0.0010
Creek 705	705-10	Duplicate	VA25A5321-002	2025-03-05	2.59	0.0633	0.70	<0.000010	<0.00010	0.00046	0.000117	<0.00050	0.0012
Creek 705	705-10	Primary	VA25A7634-001	2025-04-03	2.42	0.0653	<0.50	<0.000010	<0.00010	0.00336	0.000130	<0.00050	<0.0010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Physical Tests									Anions/Nutrients				
					Acidity (as $CaCO_3$) (mg/L)	Alkalinity, Total (as $CaCO_3$) (mg/L)	Conductivity (µS/cm)	Hardness, Dissolved (as $CaCO_3$) (mg/L)	Hardness, From Total Ca/Mg (as $CaCO_3$) (mg/L)	pH (pH Units)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Ammonia, Total (as N) (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as N) (mg/L)
Creek 705	705-10	Primary	VA25B0438-003	2025-05-05	2.6	16.4	38.1	18.4	18.8	7.22	45	<3.0	1.75	<0.0050	<0.050	<0.50	<0.020	0.0058
Creek 705	705-10	Primary	VA25B1094-007	2025-05-12	2.6	16.9	41.9	18.7	19.6	7.36	53	<3.0	1.36	<0.0050	<0.050	<0.50	0.022	<0.0050
Creek 705	705-10	Primary	VA25B1721-004	2025-05-19	3.2	13.3	37.1	18.0	18.9	7.25	66	8.0	3.88	0.0054	<0.050	<0.50	0.020	<0.0050
Creek 705	705-10	Duplicate	VA25B1721-005	2025-05-19	3.2	13.8	36.6	18.4	18.8	7.24	62	8.8	4.02	0.0066	<0.050	<0.50	0.021	<0.0050
Creek 705	705-10	Primary	VA25B2427-004	2025-05-26	2.5	18.0	41.9	19.3	19.0	7.48	58	<3.0	1.17	<0.0050	<0.050	<0.50	<0.020	<0.0050
Creek 705	705-10	Primary	VA25B3822-004	2025-06-02	2.4	19.9	44.1	19.8	20.1	7.38	45	<3.0	1.05	0.0061	<0.050	<0.50	0.024	<0.0050
Creek 705	705-10	Primary	VA25B5784-001	2025-06-25	2.1	27.6	53.2	24.3	24.8	7.66	53	<1.0	0.51	0.0223	<0.050	<0.50	0.027	<0.0050
Creek 705	705-10	Primary	VA25B7427-007	2025-07-14	<2.0	27.2	54.7	24.8	25.2	7.61	60	<3.0	0.70	<0.0050	<0.050	<0.50	0.020	<0.0050
Creek 705	705-10	Primary	VA25B9438-002	2025-08-04	2.0	34.4	69.7	29.9	32.9	7.69	56	1.2	0.32	<0.0050	<0.050	<0.50	0.026	0.0423
Creek 705	705-10	Primary	VA25C3699-002	2025-09-09	3.0	41.9	79.8	36.3	35.5	7.59	62	<3.0	0.40	<0.0050	<0.050	<0.50	0.029	0.0986
Creek 705	705-10	Duplicate	VA25C3699-003	2025-09-09	3.0	41.7	84.2	36.7	36.6	7.60	69	<3.0	0.40	0.0088	<0.050	<0.50	0.028	0.0960
Creek 705	705-10	Primary	VA25C7355-001	2025-10-07	2.1	37.8	76.2	34.6	34.9	7.74	68	<3.0	0.19	<0.0050	<0.050	<0.50	0.030	0.0074
Creek 705	705-10	Duplicate	VA25C7355-002	2025-10-07	<2.0	37.9	77.0	33.9	35.0	7.67	67	<3.0	0.20	<0.0050	<0.050	<0.50	0.031	0.0069
Creek 705	705-10	Primary	VA25C7563-008	2025-10-14	<2.0	40.2	78.5	34.9	34.7	7.69	60	<3.0	0.19	<0.0050	<0.050	<0.50	0.024	0.0214
Creek 705	705-10	Primary	VA25C8047-007	2025-10-18	2.1	37.4	73.6	34.0	31.3	7.68	53	<3.0	0.31	<0.0050	<0.050	<0.50	0.025	0.0209
Creek 705	705-10	Primary	VA25C8919-005	2025-10-26	<2.0	31.2	64.9	27.3	28.0	7.61	53	<3.0	0.48	<0.0050	<0.050	0.80	0.025	<0.0050
Creek 705	705-10	Primary	VA25C9101-005	2025-10-29	<2.0	30.9	64.2	27.4	27.8	7.75	56	<3.0	0.49	<0.0050	<0.050	0.75	0.022	<0.0050
Creek 705	705-10	Primary	VA25C9690-001	2025-11-02	2.2	33.2	67.7	30.8	30.3	7.65	54	<3.0	0.27	<0.0050	<0.050	0.65	0.026	0.0077
Creek 705	705-10	Duplicate	VA25C9690-002	2025-11-02	2.3	33.2	67.7	31.3	31.6	7.61	62	<3.0	0.28	<0.0050	<0.050	0.65	0.027	0.0072
Creek 705	705-10	Primary	VA25D3069-001	2025-12-08	2.4	29.9	64.0	27.3	27.7	7.51	53	1.3	0.99	<0.0050	<0.050	0.57	0.023	0.0204
Fawnie Creek	FC-01	Primary	VA25A0226-001	2025-01-05	2.0	31.7	66.2	29.3	27.9	7.73	48	<3.0	<0.10	<0.0050	<0.050	<0.50	<0.020	0.0400
Fawnie Creek	FC-01	Primary	VA25A2544-001	2025-02-03	<2.0	36.9	78.5	33.2	33.5	7.69	48	<3.0	<0.10	<0.0050	<0.050	<0.50	0.023	0.0553
Fawnie Creek	FC-01	Primary	VA25A6295-001	2025-03-19	<2.0	41.1	83.7	36.4	36.0	7.85	53	<1.0	<0.10	<0.0050	<0.050	<0.50	0.025	0.0686
Fawnie Creek	FC-01	Duplicate	VA25A6295-002	2025-03-19	<2.0	41.4	83.7	37.8	36.4	7.85	53	<1.0	<0.10	<0.0050	<0.050	<0.50	0.024	0.0679
Fawnie Creek	FC-01	Primary	VA25A7634-002	2025-04-03	<2.0	40.9	83.6	35.8	37.3	7.81	55	<3.0	0.36	<0.0050	<0.050	<0.50	0.023	0.0614
Fawnie Creek	FC-01	Primary	VA25B0438-007	2025-05-05	2.2	18.4	42.1	19.6	19.9	7.38	46	<3.0	0.90	0.0057	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25B1094-006	2025-05-12	2.2	18.1	42.6	19.3	19.2	7.47	48	<3.0	0.52	<0.0050	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25B1721-006	2025-05-19	2.6	13.2	33.5	15.6	16.1	7.32	48	4.4	2.44	<0.0050	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25B2427-005	2025-05-26	2.4	14.3	32.9	15.8	14.9	7.40	43	<3.0	1.70	<0.0050	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25B3822-005	2025-06-02	2.2	14.8	33.9	14.8	15.5	7.36	43	<3.0	0.45	0.0068	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25B5629-001	2025-06-23	2.0	19.3	41.0	19.1	18.7	7.33	46	<3.0	0.46	<0.0050	<0.050	<0.50	<0.020	0.0123
Fawnie Creek	FC-01	Primary	VA25B7427-006	2025-07-14	<2.0	24.7	49.0	22.9	21.8	7.58	47	<3.0	0.14	0.0101	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25B9438-003	2025-08-04	<2.0	29.6	60.7	25.5	28.6	7.75	52	<1.0	0.12	<0.0050	<0.050	<0.50	<0.020	0.0054
Fawnie Creek	FC-01	Primary	VA25C5489-001	2025-09-23	<2.0	38.3	73.3	34.6	33.7	7.79	54	<3.0	<0.10	0.0330	<0.050	<0.50	0.022	<0.0050
Fawnie Creek	FC-01	Primary	VA25C7355-003	2025-10-07	<2.0	33.2	71.3	31.7	31.4	7.62	60	<3.0	<0.10	0.0054	<0.050	<0.50	0.023	<0.0050
Fawnie Creek	FC-01	Primary	VA25C7563-007	2025-10-14	<2.0	38.2	76.0	32.5	33.0	7.77	54	<3.0	0.38	<0.0050	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25C8047-006	2025-10-18	2.2	35.9	72.8	34.1	30.9	7.69	51	<3.0	0.61	<0.0050	<0.050	<0.50	<0.020	0.0203
Fawnie Creek	FC-01	Primary	VA25C8919-006	2025-10-27	2.0	33.2	69.2	30.5	30.3	7.68	54	<3.0	0.36	<0.0050	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25C9101-004	2025-10-29	<2.0	34.2	70.7	28.6	29.9	7.84	55	<3.0	0.37	<0.0050	<0.050	<0.50	<0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25C9690-003	2025-11-02	2.0	34.5	70.1	30.7	31.3	7.72	57	<3.0	0.11	<0.0050	<0.050	<0.50	0.020	<0.0050
Fawnie Creek	FC-01	Primary	VA25D3069-002	2025-12-08	2.0	37.6	74.8	32.7	34.2	7.72	54	<1.0	<0.10	0.0074	<0.050	<0.50	0.020	0.0479

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Anions/Nutrients						Organic/Inorganic Carbon		Cyanides			Total Metals		
					Nitrite (as N) (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrogen, Total (mg/L)	Ortho-Phosphorus, Dissolved (as P) (mg/L)	Total Phosphorus (as P) (mg/L)	Sulphate (as SO_4) (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	Cyanide, Total (mg/L)	Cyanide, Weak Acid Dissociable (mg/L)	Thiocyanate (mg/L)	Aluminum, Total (mg/L)	Antimony, Total (mg/L)	Arsenic, Total (mg/L)
Creek 705	705-10	Primary	VA25B0438-003	2025-05-05	<0.0010	0.334	16.0	<0.0010	0.0150	1.30	-	-	<0.0050	<0.0050	<0.50	0.230	<0.00010	0.00022
Creek 705	705-10	Primary	VA25B1094-007	2025-05-12	<0.0010	0.263	14.0	<0.0010	0.0157	1.22	-	-	<0.0050	<0.0050	<0.50	0.181	<0.00010	0.00019
Creek 705	705-10	Primary	VA25B1721-004	2025-05-19	<0.0010	0.417	20.8	<0.0010	0.0230	0.96	-	-	<0.0050	<0.0050	0.63	0.340	<0.00010	0.00024
Creek 705	705-10	Duplicate	VA25B1721-005	2025-05-19	<0.0010	0.407	21.1	<0.0010	0.0220	0.97	-	-	<0.0050	<0.0050	0.59	0.357	<0.00010	0.00024
Creek 705	705-10	Primary	VA25B2427-004	2025-05-26	<0.0010	0.253	13.4	<0.0010	0.0085	1.27	-	-	<0.0050	<0.0050	<0.50	0.158	<0.00010	0.00020
Creek 705	705-10	Primary	VA25B3822-004	2025-06-02	<0.0010	0.229	11.2	<0.0010	0.0078	1.35	-	-	<0.0050	<0.0050	<0.50	0.155	<0.00010	0.00021
Creek 705	705-10	Primary	VA25B5784-001	2025-06-25	<0.0010	0.203	9.92	<0.0010	0.0066	1.28	-	<0.0010	<0.0050	<0.0050	<0.50	0.104	<0.00010	0.00025
Creek 705	705-10	Primary	VA25B7427-007	2025-07-14	<0.0010	0.220	8.10	<0.0010	0.0073	1.24	-	-	<0.0050	<0.0050	<0.50	0.0696	<0.00010	0.00027
Creek 705	705-10	Primary	VA25B9438-002	2025-08-04	<0.0010	0.174	6.57	<0.0010	0.0053	1.20	-	<0.0010	<0.0050	<0.0050	<0.50	0.0374	<0.00010	0.00027
Creek 705	705-10	Primary	VA25C3699-002	2025-09-09	<0.0010	0.153	5.07	0.0017	0.0063	1.46	-	-	<0.0050	<0.0050	<0.50	0.0534	<0.00010	0.00022
Creek 705	705-10	Duplicate	VA25C3699-003	2025-09-09	<0.0010	0.151	5.07	0.0013	0.0060	1.44	-	-	<0.0050	<0.0050	<0.50	0.0352	<0.00010	0.00020
Creek 705	705-10	Primary	VA25C7355-001	2025-10-07	<0.0010	0.115	4.33	<0.0010	0.0031	1.14	0.127	-	<0.0050	<0.0050	<0.50	0.0162	<0.00010	0.00018
Creek 705	705-10	Duplicate	VA25C7355-002	2025-10-07	<0.0010	0.120	4.29	<0.0010	0.0030	1.14	0.125	-	<0.0050	<0.0050	<0.50	0.0187	<0.00010	0.00016
Creek 705	705-10	Primary	VA25C7563-008	2025-10-14	<0.0010	0.131	4.35	<0.0010	0.0032	1.30	0.131	-	<0.0050	<0.0050	<0.50	0.0644	<0.00010	0.00017
Creek 705	705-10	Primary	VA25C8047-007	2025-10-18	<0.0010	0.100	4.31	<0.0010	0.0033	1.35	0.131	-	<0.0050	<0.0050	<0.50	0.0162	<0.00010	0.00015
Creek 705	705-10	Primary	VA25C8919-005	2025-10-26	<0.0010	0.157	5.55	<0.0010	0.0057	1.50	0.148	-	<0.0050	<0.0050	<0.50	0.0274	<0.00010	0.00020
Creek 705	705-10	Primary	VA25C9101-005	2025-10-29	<0.0010	0.181	6.42	<0.0010	0.0057	1.57	0.173	-	<0.0050	<0.0050	<0.50	0.0318	<0.00010	0.00017
Creek 705	705-10	Primary	VA25C9690-001	2025-11-02	<0.0010	0.135	5.80	<0.0010	0.0041	2.11	0.167	-	<0.0050	<0.0050	<0.50	0.0262	<0.00010	0.00018
Creek 705	705-10	Duplicate	VA25C9690-002	2025-11-02	<0.0010	0.147	6.30	<0.0010	0.0041	2.10	0.160	-	<0.0050	<0.0050	<0.50	0.0279	<0.00010	0.00019
Creek 705	705-10	Primary	VA25D3069-001	2025-12-08	<0.0010	0.171	4.86	<0.0010	0.0055	2.10	0.176	<0.0010	<0.0050	<0.0050	<0.50	0.0305	<0.00010	0.00020
Fawnie Creek	FC-01	Primary	VA25A0226-001	2025-01-05	<0.0010	<0.050	1.82	0.0040	0.0059	2.44	-	-	<0.0050	<0.0050	<0.50	0.0146	<0.00010	0.00080
Fawnie Creek	FC-01	Primary	VA25A2544-001	2025-02-03	<0.0010	<0.050	1.50	0.0049	0.0064	2.70	-	-	<0.0050	<0.0050	<0.50	0.0106	<0.00010	0.00085
Fawnie Creek	FC-01	Primary	VA25A6295-001	2025-03-19	<0.0010	<0.050	0.996	0.00475	0.0073	3.13	-	<0.001	<0.0050	<0.0050	<0.50	0.0082	<0.00010	0.00093
Fawnie Creek	FC-01	Duplicate	VA25A6295-002	2025-03-19	<0.0010	<0.050	1.02	0.00530	0.0082	3.12	-	<0.001	<0.0050	<0.0050	<0.50	0.0084	<0.00010	0.00093
Fawnie Creek	FC-01	Primary	VA25A7634-002	2025-04-03	<0.0010	0.050	1.11	0.0044	0.0072	2.72	-	-	<0.0050	<0.0050	<0.50	0.0180	<0.00010	0.00093
Fawnie Creek	FC-01	Primary	VA25B0438-007	2025-05-05	<0.0010	0.233	9.26	0.0019	0.0090	1.64	-	-	<0.0050	<0.0050	<0.50	0.0984	<0.00010	0.00054
Fawnie Creek	FC-01	Primary	VA25B1094-006	2025-05-12	<0.0010	0.162	7.49	0.0013	0.0056	1.56	-	-	<0.0050	<0.0050	<0.50	0.0890	<0.00010	0.00046
Fawnie Creek	FC-01	Primary	VA25B1721-006	2025-05-19	<0.0010	0.273	12.3	<0.0010	0.0187	1.23	-	-	<0.0050	<0.0050	<0.50	0.242	<0.00010	0.00039
Fawnie Creek	FC-01	Primary	VA25B2427-005	2025-05-26	<0.0010	0.174	9.06	<0.0010	0.0069	1.25	-	-	<0.0050	<0.0050	<0.50	0.153	<0.00010	0.00038
Fawnie Creek	FC-01	Primary	VA25B3822-005	2025-06-02	<0.0010	0.165	6.97	<0.0010	0.0118	1.42	-	-	<0.0050	<0.0050	<0.50	0.105	<0.00010	0.00039
Fawnie Creek	FC-01	Primary	VA25B5629-001	2025-06-23	<0.0010	0.123	5.41	<0.0010	0.0053	1.34	-	<0.0010	<0.0050	<0.0050	<0.50	0.0737	<0.00010	0.00058
Fawnie Creek	FC-01	Primary	VA25B7427-006	2025-07-14	<0.0010	0.126	4.03	0.0018	0.0050	1.42	-	-	<0.0050	<0.0050	<0.50	0.0574	<0.00010	0.00063
Fawnie Creek	FC-01	Primary	VA25B9438-003	2025-08-04	<0.0010	0.085	3.25	0.0020	0.0045	1.52	-	<0.0010	<0.0050	<0.0050	<0.50	0.0232	<0.00010	0.00087
Fawnie Creek	FC-01	Primary	VA25C5489-001	2025-09-23	<0.0010	0.086	1.42	0.0019	0.0022	2.40	0.073	-	<0.0050	<0.0050	<0.50	0.0118	<0.00010	0.00072
Fawnie Creek	FC-01	Primary	VA25C7355-003	2025-10-07	0.0010	0.067	2.34	0.0016	0.0040	2.36	0.075	-	<0.0050	<0.0050	<0.50	0.0139	<0.00010	0.00073
Fawnie Creek	FC-01	Primary	VA25C7563-007	2025-10-14	<0.0010	0.085	1.66	0.0015	0.0035	2.40	0.062	-	<0.0050	<0.0050	<0.50	0.0109	<0.00010	0.00067
Fawnie Creek	FC-01	Primary	VA25C8047-006	2025-10-18	<0.0010	<0.050	1.73	<0.0010	0.0036	2.39	0.060	-	<0.0050	<0.0050	<0.50	0.0103	<0.00010	0.00065
Fawnie Creek	FC-01	Primary	VA25C8919-006	2025-10-27	<0.0010	0.073	2.22	<0.0010	0.0042	2.43	0.068	-	<0.0050	<0.0050	<0.50	0.0122	<0.00010	0.00069
Fawnie Creek	FC-01	Primary	VA25C9101-004	2025-10-29	<0.0010	0.061	2.09	0.0010	0.0043	2.38	0.068	-	<0.0050	<0.0050	<0.50	0.0119	<0.00010	0.00070
Fawnie Creek	FC-01	Primary	VA25C9690-003	2025-11-02	<0.0010	<0.050	2.18	0.0022	0.0038	2.53	0.061	-	<0.0050	<0.0050	<0.50	0.0114	<0.00010	0.00073
Fawnie Creek	FC-01	Primary	VA25D3069-002	2025-12-08	<0.0010	0.053	1.77	0.0039	0.0072	2.54	0.096	<0.0010	<0.0050	<0.0050	<0.50	0.0096	<0.00010	0.00080

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Barium, Total (mg/L)	Beryllium, Total (mg/L)	Bismuth, Total (mg/L)	Boron, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Lithium, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
Creek 705	705-10	Primary	VA25B0438-003	2025-05-05	0.00860	0.000029	<0.000050	<0.010	0.0000058	5.98	<0.00050	<0.00010	0.00074	0.228	<0.000050	<0.0010	0.952	0.0102
Creek 705	705-10	Primary	VA25B1094-007	2025-05-12	0.00816	0.000028	<0.000050	<0.010	<0.0000050	6.27	<0.00050	<0.00010	0.00063	0.159	<0.000050	<0.0010	0.970	0.00548
Creek 705	705-10	Primary	VA25B1721-004	2025-05-19	0.00917	0.000045	<0.000050	<0.010	<0.0000050	5.98	<0.00050	<0.00010	0.00091	0.300	0.000064	<0.0010	0.958	0.0135
Creek 705	705-10	Duplicate	VA25B1721-005	2025-05-19	0.00928	0.000044	<0.000050	<0.010	0.0000077	5.92	<0.00050	0.00010	0.00093	0.315	0.000067	<0.0010	0.990	0.0148
Creek 705	705-10	Primary	VA25B2427-004	2025-05-26	0.00780	0.000028	<0.000050	<0.010	<0.0000050	5.85	<0.00050	<0.00010	0.00062	0.129	<0.000050	<0.0010	1.07	0.00535
Creek 705	705-10	Primary	VA25B3822-004	2025-06-02	0.00843	0.000024	<0.000050	<0.010	<0.0000050	6.31	<0.00050	<0.00010	0.00063	0.113	<0.000050	<0.0010	1.06	0.00725
Creek 705	705-10	Primary	VA25B5784-001	2025-06-25	0.00887	0.000022	<0.000050	<0.010	<0.0000050	7.76	<0.00050	<0.00010	0.00057	0.115	<0.000050	<0.0010	1.32	0.00419
Creek 705	705-10	Primary	VA25B7427-007	2025-07-14	0.00857	<0.000020	<0.000050	<0.010	<0.0000050	7.94	<0.00050	<0.00010	<0.00050	0.143	<0.000050	<0.0010	1.31	0.00425
Creek 705	705-10	Primary	VA25B9438-002	2025-08-04	0.0110	<0.000020	<0.000050	<0.010	<0.0000050	10.3	<0.00050	<0.00010	<0.00050	0.144	<0.000050	<0.0010	1.74	0.00372
Creek 705	705-10	Primary	VA25C3699-002	2025-09-09	0.0135	<0.000020	<0.000050	<0.010	<0.0000050	10.7	<0.00050	<0.00010	<0.00050	0.070	<0.000050	<0.0010	2.13	0.00882
Creek 705	705-10	Duplicate	VA25C3699-003	2025-09-09	0.0128	<0.000020	<0.000050	<0.010	<0.0000050	11.2	<0.00050	<0.00010	<0.00050	0.044	<0.000050	<0.0010	2.11	0.00524
Creek 705	705-10	Primary	VA25C7355-001	2025-10-07	0.00986	<0.000020	<0.000050	<0.010	<0.0000050	10.7	<0.00050	<0.00010	<0.00050	0.066	<0.000050	<0.0010	1.98	0.00156
Creek 705	705-10	Duplicate	VA25C7355-002	2025-10-07	0.0109	<0.000020	<0.000050	<0.010	<0.0000050	10.8	<0.00050	<0.00010	<0.00050	0.068	<0.000050	<0.0010	1.96	0.00175
Creek 705	705-10	Primary	VA25C7563-008	2025-10-14	0.0101	<0.000020	<0.000050	<0.010	<0.0000050	10.6	<0.00050	<0.00010	<0.00050	0.114	<0.000050	<0.0010	1.99	0.00802
Creek 705	705-10	Primary	VA25C8047-007	2025-10-18	0.00917	<0.000020	<0.000050	<0.010	<0.0000050	9.51	<0.00050	<0.00010	<0.00050	0.049	<0.000050	<0.0010	1.83	0.00139
Creek 705	705-10	Primary	VA25C8919-005	2025-10-26	0.00888	<0.000020	<0.000050	<0.010	<0.0000050	8.59	<0.00050	<0.00010	<0.00050	0.169	<0.000050	<0.0010	1.58	0.00206
Creek 705	705-10	Primary	VA25C9101-005	2025-10-29	0.00850	<0.000020	<0.000050	<0.010	<0.0000050	8.58	<0.00050	<0.00010	<0.00050	0.159	<0.000050	<0.0010	1.56	0.00224
Creek 705	705-10	Primary	VA25C9690-001	2025-11-02	0.00927	<0.000020	<0.000050	<0.010	<0.0000050	9.20	<0.00050	<0.00010	<0.00050	0.105	<0.000050	<0.0010	1.79	0.00183
Creek 705	705-10	Duplicate	VA25C9690-002	2025-11-02	0.00934	<0.000020	<0.000050	<0.010	<0.0000050	9.65	<0.00050	<0.00010	<0.00050	0.106	<0.000050	<0.0010	1.83	0.00181
Creek 705	705-10	Primary	VA25D3069-001	2025-12-08	0.00860	<0.000020	<0.000050	<0.010	<0.0000050	8.51	<0.00050	<0.00010	<0.00050	0.151	<0.000050	<0.0010	1.56	0.00220
Fawnie Creek	FC-01	Primary	VA25A0226-001	2025-01-05	0.00332	<0.000020	<0.000050	<0.010	<0.0000050	9.40	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.07	0.00013
Fawnie Creek	FC-01	Primary	VA25A2544-001	2025-02-03	0.00363	<0.000020	<0.000050	<0.010	0.0000057	11.4	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.23	<0.00010
Fawnie Creek	FC-01	Primary	VA25A6295-001	2025-03-19	0.00414	<0.000020	<0.000050	<0.010	<0.0000050	12.1	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.40	0.00014
Fawnie Creek	FC-01	Duplicate	VA25A6295-002	2025-03-19	0.00412	<0.000020	<0.000050	<0.010	0.0000054	12.3	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.37	<0.00010
Fawnie Creek	FC-01	Primary	VA25A7634-002	2025-04-03	0.00397	<0.000020	<0.000050	<0.010	0.0000087	12.6	<0.00050	<0.00010	<0.00050	0.011	<0.000050	<0.0010	1.41	0.00031
Fawnie Creek	FC-01	Primary	VA25B0438-007	2025-05-05	0.00269	<0.000020	<0.000050	<0.010	0.0000098	6.88	<0.00050	<0.00010	0.00070	0.072	<0.000050	<0.0010	0.654	0.00142
Fawnie Creek	FC-01	Primary	VA25B1094-006	2025-05-12	0.00257	<0.000020	<0.000050	<0.010	0.0000089	6.67	<0.00050	<0.00010	0.00056	0.050	<0.000050	<0.0010	0.613	0.00087
Fawnie Creek	FC-01	Primary	VA25B1721-006	2025-05-19	0.00283	<0.000020	<0.000050	<0.010	0.0000145	5.61	<0.00050	<0.00010	0.00074	0.144	<0.000050	<0.0010	0.511	0.00396
Fawnie Creek	FC-01	Primary	VA25B2427-005	2025-05-26	0.00246	<0.000020	<0.000050	<0.010	0.0000144	5.13	<0.00050	<0.00010	0.00056	0.079	<0.000050	<0.0010	0.502	0.00163
Fawnie Creek	FC-01	Primary	VA25B3822-005	2025-06-02	0.00293	<0.000020	<0.000050	<0.010	0.0000144	5.41	<0.00050	<0.00010	0.00056	0.034	<0.000050	<0.0010	0.479	0.00144
Fawnie Creek	FC-01	Primary	VA25B5629-001	2025-06-23	0.00270	<0.000020	<0.000050	<0.010	0.0000142	6.47	<0.00050	<0.00010	0.00053	0.035	<0.000050	<0.0010	0.619	0.00130
Fawnie Creek	FC-01	Primary	VA25B7427-006	2025-07-14	0.00301	<0.000020	<0.000050	<0.010	0.0000079	7.57	<0.00050	<0.00010	<0.00050	0.037	<0.000050	<0.0010	0.694	0.00138
Fawnie Creek	FC-01	Primary	VA25B9438-003	2025-08-04	0.00378	<0.000020	<0.000050	<0.010	0.0000080	9.93	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	0.935	0.00035
Fawnie Creek	FC-01	Primary	VA25C5489-001	2025-09-23	0.00443	<0.000020	<0.000050	<0.010	<0.0000050	11.5	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.22	0.00022
Fawnie Creek	FC-01	Primary	VA25C7355-003	2025-10-07	0.00349	<0.000020	<0.000050	<0.010	0.0000062	10.7	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.13	0.00023
Fawnie Creek	FC-01	Primary	VA25C7563-007	2025-10-14	0.00366	<0.000020	<0.000050	<0.010	0.0000067	11.2	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.22	0.00020
Fawnie Creek	FC-01	Primary	VA25C8047-006	2025-10-18	0.00366	<0.000020	<0.000050	<0.010	0.0000070	10.5	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.14	0.00024
Fawnie Creek	FC-01	Primary	VA25C8919-006	2025-10-27	0.00351	<0.000020	<0.000050	<0.010	<0.0000050	10.3	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.12	0.00014
Fawnie Creek	FC-01	Primary	VA25C9101-004	2025-10-29	0.00346	<0.000020	<0.000050	<0.010	0.0000062	10.2	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.08	0.00022
Fawnie Creek	FC-01	Primary	VA25C9690-003	2025-11-02	0.00350	<0.000020	<0.000050	<0.010	<0.0000050	10.6	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.17	0.00016
Fawnie Creek	FC-01	Primary	VA25D3069-002	2025-12-08	0.00376	<0.000020	<0.000050	<0.010	0.0000057	11.7	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	1.22	0.00016

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals													
					Mercury, Total (mg/L)	Molybdenum, Total (mg/L)	Nickel, Total (mg/L)	Phosphorus, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silicon, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Strontium, Total (mg/L)	Sulphur, Total (mg/L)	Thallium, Total (mg/L)	Tin, Total (mg/L)	Titanium, Total (mg/L)
Creek 705	705-10	Primary	VA25B0438-003	2025-05-05	0.0000064	0.000284	<0.00050	<0.050	0.408	<0.000050	4.09	<0.000010	1.54	0.0432	<0.50	<0.000010	<0.00010	<0.00540
Creek 705	705-10	Primary	VA25B1094-007	2025-05-12	0.0000052	0.000252	<0.00050	<0.050	0.324	<0.000050	4.63	<0.000010	1.61	0.0446	0.61	<0.000010	<0.00010	0.00330
Creek 705	705-10	Primary	VA25B1721-004	2025-05-19	0.0000098	0.000232	<0.00050	<0.050	0.335	<0.000050	4.40	<0.000010	1.44	0.0408	<0.50	<0.000010	<0.00010	0.00762
Creek 705	705-10	Duplicate	VA25B1721-005	2025-05-19	0.0000075	0.000227	<0.00050	<0.050	0.339	<0.000050	4.39	<0.000010	1.49	0.0411	<0.50	<0.000010	<0.00010	0.00894
Creek 705	705-10	Primary	VA25B2427-004	2025-05-26	0.0000063	0.000315	<0.00050	<0.050	0.294	<0.000050	3.96	<0.000010	1.64	0.0436	<0.50	<0.000010	<0.00010	0.00286
Creek 705	705-10	Primary	VA25B3822-004	2025-06-02	<0.0000050	0.000343	<0.00050	<0.050	0.304	<0.000050	3.95	<0.000010	1.84	0.0459	<0.50	<0.000010	<0.00010	0.00251
Creek 705	705-10	Primary	VA25B5784-001	2025-06-25	<0.0000050	0.000387	<0.00050	<0.050	0.301	<0.000050	4.77	<0.000010	2.06	0.0511	<0.50	<0.000010	<0.00010	0.00160
Creek 705	705-10	Primary	VA25B7427-007	2025-07-14	<0.0000050	0.000450	<0.00050	<0.050	0.312	<0.000050	4.00	<0.000010	1.94	0.0557	<0.50	<0.000010	<0.00010	0.00121
Creek 705	705-10	Primary	VA25B9438-002	2025-08-04	<0.0000050	0.000556	<0.00050	<0.050	0.388	<0.000050	3.99	<0.000010	2.26	0.0718	0.63	<0.000010	<0.00010	0.00055
Creek 705	705-10	Primary	VA25C3699-002	2025-09-09	<0.0000050	0.000552	<0.00050	<0.050	0.463	<0.000050	3.89	<0.000010	2.72	0.0745	<0.50	<0.000010	<0.00010	0.00119
Creek 705	705-10	Duplicate	VA25C3699-003	2025-09-09	<0.0000050	0.000558	<0.00050	<0.050	0.464	<0.000050	3.80	<0.000010	2.70	0.0728	<0.50	<0.000010	<0.00010	0.00070
Creek 705	705-10	Primary	VA25C7355-001	2025-10-07	<0.0000050	0.000513	<0.00050	<0.050	0.399	<0.000050	3.55	<0.000010	2.66	0.0740	<0.50	<0.000010	<0.00010	0.00034
Creek 705	705-10	Duplicate	VA25C7355-002	2025-10-07	<0.0000050	0.000482	<0.00050	<0.050	0.395	<0.000050	3.48	<0.000010	2.62	0.0734	<0.50	<0.000010	<0.00010	0.00038
Creek 705	705-10	Primary	VA25C7563-008	2025-10-14	<0.0000050	0.000502	<0.00050	<0.050	0.384	<0.000050	3.82	<0.000010	2.59	0.0729	<0.50	<0.000010	<0.00010	0.00187
Creek 705	705-10	Primary	VA25C8047-007	2025-10-18	<0.0000050	0.000499	<0.00050	<0.050	0.363	<0.000050	3.78	<0.000010	2.60	0.0707	<0.50	<0.000010	<0.00010	<0.00030
Creek 705	705-10	Primary	VA25C8919-005	2025-10-26	<0.0000050	0.000447	<0.00050	<0.050	0.416	<0.000050	3.87	<0.000010	2.31	0.0625	0.71	<0.000010	<0.00010	0.00069
Creek 705	705-10	Primary	VA25C9101-005	2025-10-29	<0.0000050	0.000465	<0.00050	<0.050	0.398	<0.000050	3.62	<0.000010	2.36	0.0601	<0.50	<0.000010	<0.00010	0.00076
Creek 705	705-10	Primary	VA25C9690-001	2025-11-02	<0.0000050	0.000461	<0.00050	<0.050	0.390	<0.000050	3.72	<0.000010	2.52	0.0604	0.59	<0.000010	<0.00010	0.00051
Creek 705	705-10	Duplicate	VA25C9690-002	2025-11-02	<0.0000050	0.000451	<0.00050	<0.050	0.397	<0.000050	3.72	<0.000010	2.66	0.0618	0.69	<0.000010	<0.00010	0.00052
Creek 705	705-10	Primary	VA25D3069-001	2025-12-08	<0.0000050	0.000489	<0.00050	<0.050	0.383	<0.000050	2.79	<0.000010	2.37	0.0601	0.68	<0.000010	<0.00010	0.00054
Fawnie Creek	FC-01	Primary	VA25A0226-001	2025-01-05	<0.0000050	0.000573	<0.00050	<0.050	0.312	<0.000050	5.32	<0.000010	2.35	0.0487	0.66	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25A2544-001	2025-02-03	<0.0000050	0.000755	<0.00050	<0.050	0.357	<0.000050	5.46	<0.000010	2.18	0.0493	0.74	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25A6295-001	2025-03-19	<0.0000050	0.000840	<0.00050	<0.050	0.370	0.000058	5.61	<0.000010	2.51	0.0544	0.56	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Duplicate	VA25A6295-002	2025-03-19	<0.0000050	0.000856	<0.00050	<0.050	0.369	<0.000050	5.60	<0.000010	2.49	0.0542	<0.50	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25A7634-002	2025-04-03	<0.0000050	0.000790	<0.00050	<0.050	0.378	0.000073	5.55	<0.000010	2.58	0.0549	0.92	<0.000010	<0.00010	0.00046
Fawnie Creek	FC-01	Primary	VA25B0438-007	2025-05-05	<0.0000050	0.000291	<0.00050	<0.050	0.309	0.000051	4.30	<0.000010	1.27	0.0296	<0.50	<0.000010	<0.00010	0.00126
Fawnie Creek	FC-01	Primary	VA25B1094-006	2025-05-12	<0.0000050	0.000294	<0.00050	<0.050	0.265	<0.000050	4.30	<0.000010	1.24	0.0296	<0.50	<0.000010	<0.00010	0.00119
Fawnie Creek	FC-01	Primary	VA25B1721-006	2025-05-19	<0.0000050	0.000192	<0.00050	<0.050	0.281	<0.000050	3.92	<0.000010	0.978	0.0257	<0.50	<0.000010	<0.00010	0.00452
Fawnie Creek	FC-01	Primary	VA25B2427-005	2025-05-26	<0.0000050	0.000198	<0.00050	<0.050	0.226	<0.000050	3.89	<0.000010	1.02	0.0239	<0.50	<0.000010	<0.00010	0.00212
Fawnie Creek	FC-01	Primary	VA25B3822-005	2025-06-02	<0.0000050	0.000213	<0.00050	<0.050	0.252	<0.000050	3.96	<0.000010	1.09	0.0254	<0.50	<0.000010	<0.00010	0.00085
Fawnie Creek	FC-01	Primary	VA25B5629-001	2025-06-23	<0.0000050	0.000269	<0.00050	<0.050	0.275	<0.000050	4.65	<0.000010	1.35	0.0297	<0.50	<0.000010	<0.00010	0.00155
Fawnie Creek	FC-01	Primary	VA25B7427-006	2025-07-14	<0.0000050	0.000346	<0.00050	<0.050	0.299	<0.000050	4.71	<0.000010	1.40	0.0347	<0.50	<0.000010	<0.00010	0.00160
Fawnie Creek	FC-01	Primary	VA25B9438-003	2025-08-04	<0.0000050	0.000474	<0.00050	<0.050	0.354	<0.000050	5.54	<0.000010	1.81	0.0450	0.52	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25C5489-001	2025-09-23	<0.0000050	0.000687	<0.00050	<0.050	0.413	<0.000050	5.54	<0.000010	2.45	0.0538	0.68	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25C7355-003	2025-10-07	<0.0000050	0.000582	<0.00050	<0.050	0.344	<0.000050	5.25	<0.000010	2.06	0.0491	0.88	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25C7563-007	2025-10-14	<0.0000050	0.000675	<0.00050	<0.050	0.348	<0.000050	5.28	<0.000010	2.17	0.0505	0.82	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25C8047-006	2025-10-18	<0.0000050	0.000647	<0.00050	<0.050	0.338	<0.000050	5.34	<0.000010	2.17	0.0495	0.75	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25C8919-006	2025-10-27	<0.0000050	0.000588	<0.00050	<0.050	0.347	<0.000050	5.47	<0.000010	2.02	0.0462	0.75	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25C9101-004	2025-10-29	<0.0000050	0.000617	<0.00050	<0.050	0.328	<0.000050	5.06	<0.000010	1.99	0.0450	0.84	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25C9690-003	2025-11-02	<0.0000050	0.000618	<0.00050	<0.050	0.325	<0.000050	5.47	<0.000010	2.13	0.0467	0.68	<0.000010	<0.00010	<0.00030
Fawnie Creek	FC-01	Primary	VA25D3069-002	2025-12-08	<0.0000050	0.000708	<0.00050	<0.050	0.346	0.000071	5.36	<0.000010	2.18	0.0494	0.55	0.000010	<0.00010	<0.00030

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Total Metals			Dissolved Metals										
					Uranium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)	Aluminum, Dissolved (mg/L)	Antimony, Dissolved (mg/L)	Arsenic, Dissolved (mg/L)	Barium, Dissolved (mg/L)	Beryllium, Dissolved (mg/L)	Bismuth, Dissolved (mg/L)	Boron, Dissolved (mg/L)	Cadmium, Dissolved (mg/L)	Calcium, Dissolved (mg/L)	Chromium, Dissolved (mg/L)	Cobalt, Dissolved (mg/L)
Creek 705	705-10	Primary	VA25B0438-003	2025-05-05	0.000219	<0.00050	<0.0030	0.156	<0.00010	0.00019	0.00721	0.000026	<0.000050	<0.010	<0.0000050	5.76	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25B1094-007	2025-05-12	0.000199	<0.00050	<0.0030	0.130	<0.00010	0.00018	0.00727	0.000024	<0.000050	<0.010	<0.0000050	5.92	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25B1721-004	2025-05-19	0.000265	0.00066	<0.0030	0.203	<0.00010	0.00020	0.00815	0.000036	<0.000050	<0.010	0.0000050	5.62	<0.00050	<0.00010
Creek 705	705-10	Duplicate	VA25B1721-005	2025-05-19	0.000270	0.00066	<0.0030	0.196	<0.00010	0.00020	0.00806	0.000038	<0.000050	<0.010	<0.0000050	5.81	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25B2427-004	2025-05-26	0.000250	<0.00050	<0.0030	0.120	<0.00010	0.00018	0.00714	0.000025	<0.000050	<0.010	<0.0000050	6.12	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25B3822-004	2025-06-02	0.000227	<0.00050	<0.0030	0.105	<0.00010	0.00019	0.00724	<0.000020	<0.000050	<0.010	<0.0000050	6.11	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25B5784-001	2025-06-25	0.000201	<0.00050	<0.0030	0.0810	<0.00010	0.00022	0.00854	0.000022	<0.000050	<0.010	<0.0000050	7.51	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25B7427-007	2025-07-14	0.000170	<0.00050	<0.0030	0.0586	<0.00010	0.00022	0.00914	<0.000020	<0.000050	<0.010	<0.0000050	7.77	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25B9438-002	2025-08-04	0.000118	<0.00050	<0.0030	0.0259	<0.00010	0.00024	0.0110	<0.000020	<0.000050	<0.010	<0.0000050	9.27	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25C3699-002	2025-09-09	0.000101	<0.00050	<0.0030	0.0187	<0.00010	0.00018	0.0122	<0.000020	<0.000050	<0.010	<0.0000050	11.2	<0.00050	<0.00010
Creek 705	705-10	Duplicate	VA25C3699-003	2025-09-09	0.000100	<0.00050	<0.0030	0.0187	<0.00010	0.00020	0.0125	<0.000020	<0.000050	<0.010	<0.0000050	11.3	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25C7355-001	2025-10-07	0.000091	<0.00050	<0.0030	0.0120	<0.00010	0.00016	0.0105	<0.000020	<0.000050	<0.010	<0.0000050	10.7	<0.00050	<0.00010
Creek 705	705-10	Duplicate	VA25C7355-002	2025-10-07	0.000086	<0.00050	<0.0030	0.0145	<0.00010	0.00016	0.0101	<0.000020	<0.000050	<0.010	<0.0000050	10.4	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25C7563-008	2025-10-14	0.000099	<0.00050	<0.0030	0.0124	<0.00010	0.00014	0.00977	<0.000020	<0.000050	<0.010	<0.0000050	10.6	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25C8047-007	2025-10-18	0.000086	<0.00050	<0.0030	0.0129	<0.00010	0.00014	0.0101	<0.000020	<0.000050	<0.010	<0.0000050	10.4	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25C8919-005	2025-10-26	0.000091	<0.00050	<0.0030	0.0212	<0.00010	0.00018	0.00874	<0.000020	<0.000050	<0.010	<0.0000050	8.30	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25C9101-005	2025-10-29	0.000092	<0.00050	<0.0030	0.0244	<0.00010	0.00018	0.00906	<0.000020	<0.000050	<0.010	<0.0000050	8.34	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25C9690-001	2025-11-02	0.000090	<0.00050	<0.0030	0.0192	<0.00010	0.00016	0.00869	<0.000020	<0.000050	<0.010	<0.0000050	9.55	<0.00050	<0.00010
Creek 705	705-10	Duplicate	VA25C9690-002	2025-11-02	0.000090	<0.00050	<0.0030	0.0204	<0.00010	0.00018	0.00886	<0.000020	<0.000050	<0.010	<0.0000050	9.73	<0.00050	<0.00010
Creek 705	705-10	Primary	VA25D3069-001	2025-12-08	0.000100	<0.00050	<0.0030	0.0202	<0.00010	0.00017	0.00852	<0.000020	<0.000050	<0.010	<0.0000050	8.41	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25A0226-001	2025-01-05	0.000038	<0.00050	<0.0030	0.0115	<0.00010	0.00075	0.00323	<0.000020	<0.000050	<0.010	<0.0000050	10.0	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25A2544-001	2025-02-03	0.000054	<0.00050	<0.0030	0.0079	<0.00010	0.00079	0.00353	<0.000020	<0.000050	<0.010	0.0000057	11.3	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25A6295-001	2025-03-19	0.000081	0.00055	<0.0030	0.0067	<0.00010	0.00088	0.00396	<0.000020	<0.000050	<0.010	<0.0000050	12.4	<0.00050	<0.00010
Fawnie Creek	FC-01	Duplicate	VA25A6295-002	2025-03-19	0.000073	0.00056	<0.0030	0.0069	<0.00010	0.00089	0.00394	<0.000020	<0.000050	<0.010	0.0000051	12.9	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25A7634-002	2025-04-03	0.000084	<0.00050	<0.0030	0.0061	<0.00010	0.00090	0.00405	<0.000020	<0.000050	<0.010	<0.0000050	12.2	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B0438-007	2025-05-05	0.000042	<0.00050	<0.0030	0.0816	<0.00010	0.00053	0.00245	<0.000020	<0.000050	<0.010	0.0000096	6.70	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B1094-006	2025-05-12	0.000036	<0.00050	<0.0030	0.0673	<0.00010	0.00044	0.00245	<0.000020	<0.000050	<0.010	0.0000054	6.70	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B1721-006	2025-05-19	0.000038	0.00053	<0.0030	0.140	<0.00010	0.00032	0.00224	<0.000020	<0.000050	<0.010	0.0000135	5.43	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B2427-005	2025-05-26	0.000038	<0.00050	<0.0030	0.106	<0.00010	0.00033	0.00198	<0.000020	<0.000050	<0.010	0.0000151	5.57	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B3822-005	2025-06-02	0.000037	<0.00050	<0.0030	0.0837	<0.00010	0.00038	0.00210	<0.000020	<0.000050	<0.010	0.0000111	5.13	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B5629-001	2025-06-23	0.000035	<0.00050	<0.0030	0.0483	<0.00010	0.00051	0.00248	<0.000020	<0.000050	<0.010	0.0000118	6.68	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B7427-006	2025-07-14	0.000039	0.00059	<0.0030	0.0326	<0.00010	0.00060	0.00290	<0.000020	<0.000050	<0.010	0.0000088	8.02	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25B9438-003	2025-08-04	0.000035	0.00057	<0.0030	0.0184	<0.00010	0.00069	0.00366	<0.000020	<0.000050	<0.010	0.0000057	8.80	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25C5489-001	2025-09-23	0.000047	0.00053	<0.0030	0.0100	<0.00010	0.00074	0.00428	<0.000020	<0.000050	<0.010	0.0000058	11.9	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25C7355-003	2025-10-07	0.000044	<0.00050	<0.0030	0.0123	<0.00010	0.00074	0.00371	<0.000020	<0.000050	<0.010	0.0000051	10.9	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25C7563-007	2025-10-14	0.000048	<0.00050	<0.0030	0.0081	<0.00010	0.00065	0.00364	<0.000020	<0.000050	<0.010	<0.0000050	11.0	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25C8047-006	2025-10-18	0.000046	<0.00050	<0.0030	0.0090	<0.00010	0.00069	0.00399	<0.000020	<0.000050	<0.010	0.0000078	11.7	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25C8919-006	2025-10-27	0.000039	<0.00050	<0.0030	0.0100	<0.00010	0.00066	0.00358	<0.000020	<0.000050	<0.010	0.0000051	10.4	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25C9101-004	2025-10-29	0.000043	<0.00050	<0.0030	0.0110	<0.00010	0.00074	0.00357	<0.000020	<0.000050	<0.010	<0.0000050	9.61	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25C9690-003	2025-11-02	0.000047	0.00061	<0.0030	0.0094	<0.00010	0.00068	0.00340	<0.000020	<0.000050	<0.010	<0.0000050	10.4	<0.00050	<0.00010
Fawnie Creek	FC-01	Primary	VA25D3069-002	2025-12-08	0.000060	0.00052	<0.0030	0.0084	<0.00010	0.00076	0.00390	<0.000020	<0.000050	<0.010	0.0000056	11.1	<0.00050	<0.00010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals												
					Copper, Dissolved (mg/L)	Iron, Dissolved (mg/L)	Lead, Dissolved (mg/L)	Lithium, Dissolved (mg/L)	Magnesium, Dissolved (mg/L)	Manganese, Dissolved (mg/L)	Mercury, Dissolved (mg/L)	Molybdenum, Dissolved (mg/L)	Nickel, Dissolved (mg/L)	Phosphorus, Dissolved (mg/L)	Potassium, Dissolved (mg/L)	Selenium, Dissolved (mg/L)	Silicon, Dissolved (mg/L)	Silver, Dissolved (mg/L)
Creek 705	705-10	Primary	VA25B0438-003	2025-05-05	0.00061	0.117	<0.000050	<0.0010	0.990	0.00176	0.0000063	0.000274	<0.00050	<0.050	0.392	<0.000050	4.14	<0.000010
Creek 705	705-10	Primary	VA25B1094-007	2025-05-12	0.00056	0.109	<0.000050	<0.0010	0.947	0.00144	<0.0000050	0.000256	<0.00050	<0.050	0.320	<0.000050	4.08	<0.000010
Creek 705	705-10	Primary	VA25B1721-004	2025-05-19	0.00079	0.141	<0.000050	<0.0010	0.965	0.00244	0.0000162	0.000205	<0.00050	<0.050	0.360	0.000076	4.05	<0.000010
Creek 705	705-10	Duplicate	VA25B1721-005	2025-05-19	0.00080	0.135	<0.000050	<0.0010	0.955	0.00222	0.0000152	0.000208	<0.00050	<0.050	0.357	0.000072	3.99	<0.000010
Creek 705	705-10	Primary	VA25B2427-004	2025-05-26	0.00059	0.084	<0.000050	<0.0010	0.978	0.00127	0.0000060	0.000309	<0.00050	<0.050	0.312	0.000051	4.19	<0.000010
Creek 705	705-10	Primary	VA25B3822-004	2025-06-02	0.00039	0.065	<0.000050	<0.0010	1.11	0.00155	0.0000075	0.000325	<0.00050	<0.050	0.300	0.000053	3.97	<0.000010
Creek 705	705-10	Primary	VA25B5784-001	2025-06-25	0.00057	0.083	<0.000050	<0.0010	1.34	0.00190	<0.0000050	0.000378	<0.00050	<0.050	0.309	<0.000050	4.40	<0.000010
Creek 705	705-10	Primary	VA25B7427-007	2025-07-14	0.00043	0.116	<0.000050	<0.0010	1.32	0.00220	<0.0000050	0.000442	<0.00050	<0.050	0.314	<0.000050	4.04	<0.000010
Creek 705	705-10	Primary	VA25B9438-002	2025-08-04	0.00034	0.114	<0.000050	<0.0010	1.64	0.00226	<0.0000050	0.000512	<0.00050	<0.050	0.362	<0.000050	3.78	<0.000010
Creek 705	705-10	Primary	VA25C3699-002	2025-09-09	0.00034	0.019	<0.000050	<0.0010	2.02	0.00248	<0.0000050	0.000518	<0.00050	<0.050	0.468	<0.000050	3.86	<0.000010
Creek 705	705-10	Duplicate	VA25C3699-003	2025-09-09	0.00034	0.019	<0.000050	<0.0010	2.06	0.00234	<0.0000050	0.000529	<0.00050	<0.050	0.479	<0.000050	3.82	<0.000010
Creek 705	705-10	Primary	VA25C7355-001	2025-10-07	0.00040	0.057	<0.000050	<0.0010	1.91	0.00116	<0.0000050	0.000507	<0.00050	<0.050	0.400	<0.000050	3.60	<0.000010
Creek 705	705-10	Duplicate	VA25C7355-002	2025-10-07	0.00026	0.056	<0.000050	<0.0010	1.93	0.00116	<0.0000050	0.000490	<0.00050	<0.050	0.402	<0.000050	3.47	<0.000010
Creek 705	705-10	Primary	VA25C7563-008	2025-10-14	0.00025	0.048	<0.000050	<0.0010	2.04	0.00100	<0.0000050	0.000476	<0.00050	<0.050	0.383	<0.000050	3.75	<0.000010
Creek 705	705-10	Primary	VA25C8047-007	2025-10-18	0.00024	0.045	<0.000050	<0.0010	1.94	0.00100	<0.0000050	0.000522	<0.00050	<0.050	0.392	<0.000050	3.80	<0.000010
Creek 705	705-10	Primary	VA25C8919-005	2025-10-26	0.00031	0.150	<0.000050	<0.0010	1.60	0.00151	<0.0000050	0.000423	<0.00050	<0.050	0.426	<0.000050	3.53	<0.000010
Creek 705	705-10	Primary	VA25C9101-005	2025-10-29	0.00034	0.136	<0.000050	<0.0010	1.59	0.00152	<0.0000050	0.000437	<0.00050	<0.050	0.408	<0.000050	3.70	<0.000010
Creek 705	705-10	Primary	VA25C9690-001	2025-11-02	0.00029	0.079	<0.000050	<0.0010	1.69	0.00114	<0.0000050	0.000441	<0.00050	<0.050	0.403	<0.000050	3.33	<0.000010
Creek 705	705-10	Duplicate	VA25C9690-002	2025-11-02	0.00034	0.083	<0.000050	<0.0010	1.71	0.00146	<0.0000050	0.000540	<0.00050	<0.050	0.418	<0.000050	3.52	<0.000010
Creek 705	705-10	Primary	VA25D3069-001	2025-12-08	0.00028	0.125	0.000054	<0.0010	1.54	0.00116	<0.0000050	0.000507	<0.00050	<0.050	0.392	<0.000050	2.82	<0.000010
Fawnie Creek	FC-01	Primary	VA25A0226-001	2025-01-05	0.00026	<0.010	<0.000050	<0.0010	1.05	<0.00010	<0.0000050	0.000596	<0.00050	<0.050	0.330	<0.000050	5.19	<0.000010
Fawnie Creek	FC-01	Primary	VA25A2544-001	2025-02-03	<0.00020	<0.010	<0.000050	<0.0010	1.20	<0.00010	<0.0000050	0.000698	<0.00050	<0.050	0.361	<0.000050	5.47	<0.000010
Fawnie Creek	FC-01	Primary	VA25A6295-001	2025-03-19	<0.00020	<0.010	<0.000050	<0.0010	1.33	<0.00010	<0.0000050	0.000801	<0.00050	<0.050	0.382	0.000070	5.47	<0.000010
Fawnie Creek	FC-01	Duplicate	VA25A6295-002	2025-03-19	<0.00020	<0.010	<0.000050	<0.0010	1.36	<0.00010	<0.0000050	0.000850	<0.00050	<0.050	0.395	0.000058	5.38	<0.000010
Fawnie Creek	FC-01	Primary	VA25A7634-002	2025-04-03	<0.00020	<0.010	<0.000050	<0.0010	1.31	0.00012	<0.0000050	0.000848	<0.00050	<0.050	0.378	<0.000050	5.28	<0.000010
Fawnie Creek	FC-01	Primary	VA25B0438-007	2025-05-05	0.00064	0.047	<0.000050	<0.0010	0.689	0.00072	<0.0000050	0.000286	<0.00050	<0.050	0.324	<0.000050	4.16	<0.000010
Fawnie Creek	FC-01	Primary	VA25B1094-006	2025-05-12	0.00054	0.034	<0.000050	<0.0010	0.620	0.00044	<0.0000050	0.000266	<0.00050	<0.050	0.277	<0.000050	4.28	<0.000010
Fawnie Creek	FC-01	Primary	VA25B1721-006	2025-05-19	0.00062	0.054	<0.000050	<0.0010	0.489	0.00090	0.0000095	0.000183	<0.00050	<0.050	0.280	<0.000050	3.71	<0.000010
Fawnie Creek	FC-01	Primary	VA25B2427-005	2025-05-26	0.00052	0.036	<0.000050	<0.0010	0.453	0.00048	<0.0000050	0.000204	<0.00050	<0.050	0.238	<0.000050	4.00	<0.000010
Fawnie Creek	FC-01	Primary	VA25B3822-005	2025-06-02	0.00033	0.021	<0.000050	<0.0010	0.494	0.00035	0.0000055	0.000197	<0.00050	<0.050	0.258	<0.000050	3.76	<0.000010
Fawnie Creek	FC-01	Primary	VA25B5629-001	2025-06-23	0.00051	0.014	<0.000050	<0.0010	0.595	0.00033	<0.0000050	0.000269	<0.00050	<0.050	0.272	<0.000050	4.46	<0.000010
Fawnie Creek	FC-01	Primary	VA25B7427-006	2025-07-14	0.00038	<0.010	<0.000050	<0.0010	0.701	0.00016	<0.0000050	0.000335	<0.00050	<0.050	0.282	<0.000050	4.76	<0.000010
Fawnie Creek	FC-01	Primary	VA25B9438-003	2025-08-04	0.00034	<0.010	<0.000050	<0.0010	0.866	0.00023	<0.0000050	0.000462	<0.00050	<0.050	0.333	<0.000050	4.96	<0.000010
Fawnie Creek	FC-01	Primary	VA25C5489-001	2025-09-23	0.00022	<0.010	<0.000050	<0.0010	1.18	0.00011	<0.0000050	0.000704	<0.00050	<0.050	0.424	<0.000050	5.54	<0.000010
Fawnie Creek	FC-01	Primary	VA25C7355-003	2025-10-07	0.00029	<0.010	<0.000050	<0.0010	1.08	0.00011	<0.0000050	0.000607	<0.00050	<0.050	0.348	<0.000050	5.18	<0.000010
Fawnie Creek	FC-01	Primary	VA25C7563-007	2025-10-14	0.00023	<0.010	<0.000050	<0.0010	1.23	0.00014	<0.0000050	0.000679	<0.00050	<0.050	0.353	<0.000050	5.35	<0.000010
Fawnie Creek	FC-01	Primary	VA25C8047-006	2025-10-18	0.00023	<0.010	<0.000050	<0.0010	1.18	0.00018	<0.0000050	0.000735	<0.00050	<0.050	0.356	<0.000050	5.56	<0.000010
Fawnie Creek	FC-01	Primary	VA25C8919-006	2025-10-27	0.00034	<0.010	<0.000050	<0.0010	1.09	<0.00010	<0.0000050	0.000577	<0.00050	<0.050	0.345	<0.000050	4.94	<0.000010
Fawnie Creek	FC-01	Primary	VA25C9101-004	2025-10-29	0.00024	<0.010	<0.000050	<0.0010	1.11	0.00019	<0.0000050	0.000606	<0.00050	<0.050	0.338	<0.000050	5.13	<0.000010
Fawnie Creek	FC-01	Primary	VA25C9690-003	2025-11-02	0.00026	<0.010	<0.000050	<0.0010	1.14	0.00014	<0.0000050	0.000625	<0.00050	<0.050	0.340	<0.000050	4.66	<0.000010
Fawnie Creek	FC-01	Primary	VA25D3069-002	2025-12-08	<0.00020	<0.010	<0.000050	<0.0010	1.22	<0.00010	<0.0000050	0.000744	<0.00050	<0.050	0.354	<0.000050	5.55	<0.000010

Appendix B-1: Surface Water Quality Laboratory Results, January to December 2025

Watershed	Site	Replicate	Laboratory ID	Date	Dissolved Metals								
					Sodium, Dissolved (mg/L)	Strontium, Dissolved (mg/L)	Sulphur, Dissolved (mg/L)	Thallium, Dissolved (mg/L)	Tin, Dissolved (mg/L)	Titanium, Dissolved (mg/L)	Uranium, Dissolved (mg/L)	Vanadium, Dissolved (mg/L)	Zinc, Dissolved (mg/L)
Creek 705	705-10	Primary	VA25B0438-003	2025-05-05	1.74	0.0429	<0.50	<0.000010	<0.00010	0.00216	0.000220	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25B1094-007	2025-05-12	1.61	0.0448	<0.50	<0.000010	<0.00010	0.00183	0.000188	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25B1721-004	2025-05-19	1.58	0.0413	<0.50	<0.000010	<0.00010	0.00268	0.000237	<0.00050	<0.0010
Creek 705	705-10	Duplicate	VA25B1721-005	2025-05-19	1.56	0.0403	<0.50	<0.000010	<0.00010	0.00269	0.000232	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25B2427-004	2025-05-26	1.62	0.0454	<0.50	<0.000010	<0.00010	0.00133	0.000220	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25B3822-004	2025-06-02	1.84	0.0444	<0.50	<0.000010	<0.00010	0.00112	0.000215	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25B5784-001	2025-06-25	2.08	0.0528	<0.50	<0.000010	<0.00010	0.00109	0.000196	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25B7427-007	2025-07-14	2.03	0.0570	<0.50	<0.000010	<0.00010	0.00077	0.000166	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25B9438-002	2025-08-04	2.33	0.0671	<0.50	<0.000010	<0.00010	<0.00030	0.000108	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25C3699-002	2025-09-09	2.65	0.0780	<0.50	<0.000010	<0.00010	<0.00030	0.000092	<0.00050	<0.0010
Creek 705	705-10	Duplicate	VA25C3699-003	2025-09-09	2.66	0.0788	0.56	<0.000010	<0.00010	<0.00030	0.000092	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25C7355-001	2025-10-07	2.70	0.0749	<0.50	<0.000010	<0.00010	<0.00030	0.000086	<0.00050	<0.0010
Creek 705	705-10	Duplicate	VA25C7355-002	2025-10-07	2.70	0.0741	<0.50	<0.000010	<0.00010	<0.00030	0.000089	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25C7563-008	2025-10-14	2.58	0.0719	<0.50	<0.000010	<0.00010	<0.00030	0.000083	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25C8047-007	2025-10-18	2.61	0.0723	<0.50	<0.000010	<0.00010	<0.00030	0.000082	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25C8919-005	2025-10-26	2.47	0.0613	<0.50	<0.000010	<0.00010	0.00047	0.000091	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25C9101-005	2025-10-29	2.34	0.0579	<0.50	<0.000010	<0.00010	0.00045	0.000086	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25C9690-001	2025-11-02	2.38	0.0665	0.56	<0.000010	<0.00010	0.00033	0.000084	<0.00050	<0.0010
Creek 705	705-10	Duplicate	VA25C9690-002	2025-11-02	2.51	0.0672	0.93	<0.000010	<0.00010	0.00046	0.000086	<0.00050	<0.0010
Creek 705	705-10	Primary	VA25D3069-001	2025-12-08	2.51	0.0659	0.84	<0.000010	<0.00010	0.00032	0.000092	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25A0226-001	2025-01-05	1.98	0.0474	0.84	<0.000010	<0.00010	<0.00030	0.000042	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25A2544-001	2025-02-03	2.19	0.0492	0.61	<0.000010	<0.00010	<0.00030	0.000055	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25A6295-001	2025-03-19	2.29	0.0521	0.95	<0.000010	<0.00010	<0.00030	0.000079	<0.00050	<0.0010
Fawnie Creek	FC-01	Duplicate	VA25A6295-002	2025-03-19	2.34	0.0524	0.82	<0.000010	<0.00010	<0.00030	0.000078	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25A7634-002	2025-04-03	2.41	0.0569	<0.50	<0.000010	<0.00010	<0.00030	0.000077	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25B0438-007	2025-05-05	1.38	0.0292	0.69	<0.000010	<0.00010	0.00071	0.000043	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25B1094-006	2025-05-12	1.25	0.0295	<0.50	<0.000010	<0.00010	0.00044	0.000036	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25B1721-006	2025-05-19	1.04	0.0246	<0.50	<0.000010	<0.00010	0.00092	0.000032	<0.00050	0.0018
Fawnie Creek	FC-01	Primary	VA25B2427-005	2025-05-26	1.01	0.0253	<0.50	<0.000010	<0.00010	0.00055	0.000033	<0.00050	0.0016
Fawnie Creek	FC-01	Primary	VA25B3822-005	2025-06-02	1.09	0.0239	<0.50	<0.000010	<0.00010	0.00041	0.000030	<0.00050	0.0016
Fawnie Creek	FC-01	Primary	VA25B5629-001	2025-06-23	1.32	0.0301	<0.50	<0.000010	<0.00010	<0.00030	0.000037	<0.00050	0.0010
Fawnie Creek	FC-01	Primary	VA25B7427-006	2025-07-14	1.46	0.0352	<0.50	<0.000010	<0.00010	<0.00030	0.000034	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25B9438-003	2025-08-04	1.70	0.0394	<0.50	<0.000010	<0.00010	<0.00030	0.000033	0.00051	<0.0010
Fawnie Creek	FC-01	Primary	VA25C5489-001	2025-09-23	2.36	0.0538	0.76	<0.000010	<0.00010	<0.00030	0.000047	0.00058	<0.0010
Fawnie Creek	FC-01	Primary	VA25C7355-003	2025-10-07	2.11	0.0494	0.74	<0.000010	<0.00010	<0.00030	0.000041	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25C7563-007	2025-10-14	2.22	0.0511	0.65	<0.000010	<0.00010	<0.00030	0.000051	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25C8047-006	2025-10-18	2.18	0.0535	0.76	0.000012	<0.00010	<0.00030	0.000054	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25C8919-006	2025-10-27	1.98	0.0463	0.67	<0.000010	<0.00010	<0.00030	0.000040	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25C9101-004	2025-10-29	2.01	0.0450	0.70	<0.000010	<0.00010	<0.00030	0.000043	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25C9690-003	2025-11-02	1.98	0.0486	0.56	<0.000010	<0.00010	<0.00030	0.000042	<0.00050	<0.0010
Fawnie Creek	FC-01	Primary	VA25D3069-002	2025-12-08	2.21	0.0496	0.93	<0.000010	<0.00010	<0.00030	0.000049	<0.00050	<0.0010

Notes:
'-' indicates parameter was not analyzed.
'<' indicates value was below the detection limit.
[a] Value was identified as an outlier and excluded from the AEMP dataset for all data analyses.

Appendix B-2 Surface Water Field Results, January to December 2025

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Davidson Creek	DC-05	2025-01-12	0.2	7.87	58	13.2	90.9	1.35
Davidson Creek	DC-05	2025-02-03	0	7.91	51	14.14	96.7	0.95
Davidson Creek	DC-05	2025-03-25	0.7	7.96	80	15.44	107.9	8.04
Davidson Creek	DC-05	2025-04-04	0.4	7.91	64	14.94	103.5	11.51
Davidson Creek	DC-05	2025-05-04	2.2	7.06	23	14.66	106.7	3.5
Davidson Creek	DC-05	2025-05-11	4.3	7.7	290[a]	13.07	106	6.89
Davidson Creek	DC-05	2025-05-14	4	7.55	24.9	14.07	107.3	3.38
Davidson Creek	DC-05	2025-05-25	5.9	8.41	21.1	13.55	108.6	4.22
Davidson Creek	DC-05	2025-06-01	6.4	9.01	22	13.71	111.3	3.55
Davidson Creek	DC-05	2025-06-29	12.5	7.51	83	11.3	106	14.22
Davidson Creek	DC-05	2025-07-08	9.9	7.78	65	11.5	101.6	9.65
Davidson Creek	DC-05	2025-08-10	16.8	8.27	7.99	7.51	87.9	10.58
Davidson Creek	DC-05	2025-09-14	12.1	8.64	118	11.9	110	3.96
Davidson Creek	DC-05	2025-09-23	8.1	7.87	82	12.1	102	2.19
Davidson Creek	DC-05	2025-10-07	7.3	8.4	52	13.38	110.8	12.67
Davidson Creek	DC-05	2025-10-14	3.1	8.09	52	13.63	101.6	2.19
Davidson Creek	DC-05	2025-10-18	1.8	8.05	56	14.13	101.5	1.84
Davidson Creek	DC-05	2025-10-29	2.9	7.8	45	14.3	106	13.08
Davidson Creek	DC-05	2025-10-31	1.8	8.05	46	13.73	98.7	15.69
Davidson Creek	DC-05	2025-11-09	3.3	7.92	57.6	14.5	109	3.62
Davidson Creek	DC-05	2025-11-16	1.00	7.62	49	15	106	3.12
Davidson Creek	DC-05	2025-12-05	0	7.83	50	14.6	100	2.13
Davidson Creek	DC-10	2025-01-12	0.1	7.59	59	12.99	89.3	1.18
Davidson Creek	DC-10	2025-02-04	0	7.59	52	14.59	99.7	1
Davidson Creek	DC-10	2025-03-25	0.6	7.85	77	15.49	108	7.57
Davidson Creek	DC-10	2025-04-04	0.5	7.78	66	14.64	101.7	12.93
Davidson Creek	DC-10	2025-05-04	2.6	7.24	24	14.2	105.9	4.28
Davidson Creek	DC-10	2025-06-29	12.5	7.49	39	10.7	101	13.23
Davidson Creek	DC-10	2025-07-08	9.9	7.56	65	11.42	100.9	6.38
Davidson Creek	DC-10	2025-08-10	13.6	7.81	74	10.7	103	4.75
Davidson Creek	DC-10	2025-09-15	8	7.82	109	12	101	1.27

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Davidson Creek	DC-10	2025-10-29	2.2	7.54	46	14.3	104	12.64
Davidson Creek	DC-10	2025-11-26	0	7.53	51	14.8	101	2.83
Davidson Creek	DC-10	2025-12-08	0.2	7.85	55	14.58	100.3	1.05
Davidson Creek	DC-15	2025-01-12	0.2	7.85	51	12.89	88.7	1.2
Davidson Creek	DC-15	2025-02-04	0	7.6	60	12.93	88.5	0.88
Davidson Creek	DC-15	2025-03-25	0.4	7.95	79	15.78	109.3	4.67
Davidson Creek	DC-15	2025-04-04	0.5	7.93	78	14.97	104	5.02
Davidson Creek	DC-15	2025-05-11	3.8	7.55	361[a]	12.88	101.8	8.02
Davidson Creek	DC-15	2025-06-29	10.5	7.62	42	11.9	106	17.3
Davidson Creek	DC-15	2025-07-08	10.4	7.76	67	11.7	104.6	2.6
Davidson Creek	DC-15	2025-08-06	11.60	7.98	70.3	9.36	97.2	1.12
Davidson Creek	DC-15	2025-09-17	9.1	8.1	86	10.22	99.8	0.75
Davidson Creek	DC-15	2025-10-20	3	8.04	69	13.77	102.4	3.75
Davidson Creek	DC-15	2025-11-03	0	8.02	56	15	103	3.62
Davidson Creek	DC-15	2025-12-08	0.3	7.94	65	14.87	102.6	1.57
Davidson Creek	DC-20	2025-01-13	0.1	7.81	73	12.94	88.7	1.35
Davidson Creek	DC-20	2025-02-04	0.2	7.71	60	13.79	94.9	1.21
Davidson Creek	DC-20	2025-03-04	0	7.27	69.9	12.44	85	3.1
Davidson Creek	DC-20	2025-04-01	0.2	7.93	76	14	96.4	4.97
Davidson Creek	DC-20	2025-05-04	3.9	7.11	39.9	12.37	104.5	4.15
Davidson Creek	DC-20	2025-05-11	4	7.5	424	13.06	102.7	5.57
Davidson Creek	DC-20	2025-05-14	5.3	7.44	37.9	13.39	105.8	2.61
Davidson Creek	DC-20	2025-05-25	7.6	7.7	35.5	13.12	109.6	2.99
Davidson Creek	DC-20	2025-06-01	7.6	7.25	36	12.97	108.6	6.73
Davidson Creek	DC-20	2025-06-23	11.3	7.45	52	12.1	111	7.33
Davidson Creek	DC-20	2025-07-07	11.9	7.72	66	11.92	110.4	2.44
Davidson Creek	DC-20	2025-08-10	13.3	7.74	88	11	105	3.21
Davidson Creek	DC-20	2025-09-17	9.9	-	87.7	9.94	97.7	0.9
Davidson Creek	DC-20	2025-10-08	4	7.71	70	13.8	105	1.19
Davidson Creek	DC-20	2025-10-14	2.9	7.84	66	14.6	108	1.67
Davidson Creek	DC-20	2025-10-20	2	7.6	81	14.7	106	1.39

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Davidson Creek	DC-20	2025-10-29	1.1	7.59	63	15.1	106	3.33
Davidson Creek	DC-20	2025-10-31	2.7	7.64	63	14.8	109	2.28
Davidson Creek	DC-20	2025-11-26	0	7.66	67	15	102	2.07
Davidson Creek	DC-20	2025-12-08	0	7.78	67	14.78	101	1.18
Creek 661	661-01	2025-01-20	0	6.96	22	11.67	79.8	0.29
Creek 661	661-01	2025-04-15	0	6.82	13	13.62	93.1	0.32
Creek 661	661-01	2025-05-04	0	6.46	10	14.65	100.2	0.59
Creek 661	661-01	2025-05-11	2.5	6.3	106[a]	14.13	103.6	0.39
Creek 661	661-01	2025-05-14	5.5	6.73	11	12.4	99	0
Creek 661	661-01	2025-05-25	7.1	7.09	15	11.8	97	1.58
Creek 661	661-01	2025-06-01	6.9	7.15	11	11.9	98	2.62
Creek 661	661-01	2025-06-23	9.1	7.76	16	11.25	97.6	0.71
Creek 661	661-01	2025-07-14	9.8	7.51	22	11.5	101	0
Creek 661	661-01	2025-08-11	10	7.7	25	10.7	95	2.8
Creek 661	661-01	2025-09-14	8.4	6.69	32	6.88	69.3	0
Creek 661	661-01	2025-09-24	6.6	7.86	29	11.2	92	0.23
Creek 661	661-01	2025-10-07	4.6	7.82	22	12.6	98	0
Creek 661	661-01	2025-10-13	0.5	8.1	21	13.4	93	1.1
Creek 661	661-01	2025-10-18	2.5	8.02	22	12.64	92.8	0.15
Creek 661	661-01	2025-10-26	0.7	7.69	20	13.59	94.8	0
Creek 661	661-01	2025-10-29	0.3	8.04	20	13.82	95.3	0
Creek 661	661-01	2025-11-12	0.3	7.92	23	14.2	98	0.45
Creek 661	661-01	2025-12-12	0	7.42	20	14.2	97	0.8
Creek 661	661-03	2025-01-06	0	7.76	56	12.73	87.1	0.34
Creek 661	661-03	2025-04-15	0	6.82	25	14.01	95.7	4.79
Creek 661	661-03	2025-05-04	0.5	7.06	26	13.61	94.5	0.62
Creek 661	661-03	2025-06-24	6.7	7.24	60	11.4	93	0.88
Creek 661	661-03	2025-07-14	7.8	7.43	83	10.8	91	1
Creek 661	661-03	2025-09-19	5.9	7.51	94	11.8	95	1.22
Creek 661	661-03	2025-11-10	2	7.53	58	13.7	99	0.99
Creek 661	661-04	2025-01-20	0	7.35	58	12.9	88.2	0.17

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Creek 661	661-04	2025-02-24	0	7.77	41	13.64	93.2	0.72
Creek 661	661-04	2025-03-07	0.2	7.54	49.5	12.11	83.4	18.89
Creek 661	661-04	2025-04-14	0.4	7.73	34	14.35	99.2	8.83
Creek 661	661-04	2025-05-05	2	6.81	23	14.72	106.5	1.43
Creek 661	661-04	2025-06-27	9.1	7.6	39	11.92	103.3	6.79
Creek 661	661-04	2025-07-14	12.4	7.75	59	11.2	105	13.07
Creek 661	661-04	2025-08-11	10.2	7.65	65	11.3	100	2.9
Creek 661	661-04	2025-09-17	8.9	7.77	73	11.85	102.2	2.67
Creek 661	661-04	2025-10-13	0.5	7.79	48	14.8	102	2.08
Creek 661	661-04	2025-11-18	0	7.56	54	15.1	103	1.99
Creek 661	661-04	2025-12-09	0.1	7.09	51	14.1	96	1.96
Creek 661	661-05	2025-01-13	0.8	7.98	62	12.58	87.9	0.76
Creek 661	661-05	2025-02-18	0	7.66	46	14.38	98.3	2.13
Creek 661	661-05	2025-03-07	0.9	7.78	55.2	11.75	82.5	13.82
Creek 661	661-05	2025-04-15	0.2	7.5	30	14.85	102.2	22.33
Creek 661	661-05	2025-05-04	2.7	7.37	34	14.08	103.8	6.38
Creek 661	661-05	2025-06-06	6.5	7.57	43	12.8	104	1.6
Creek 661	661-05	2025-06-27	7.1	7.99	50	12.16	100.5	7.23
Creek 661	661-05	2025-07-08	7.3	7.77	61	11.85	98.5	2.84
Creek 661	661-05	2025-08-11	8.7	7.72	71	11.8	102	2.86
Creek 661	661-05	2025-09-10	6.4	7.85	70	12.66	102.7	1.42
Creek 661	661-05	2025-10-21	3.2	7.53	73	14.1	105	1.97
Creek 661	661-05	2025-11-12	1.8	7.77	61	13.7	98	2.67
Creek 661	661-05	2025-12-09	0.6	7.26	57	14.8	103	1.65
Creek 661	661-10	2025-01-06	0	7.83	50	13.01	89	1.67
Creek 661	661-10	2025-02-18	0.2	7.45	42	13.95	95.9	2.41
Creek 661	661-10	2025-03-10	0	6.94	53100[a]	11.14	84.7	9.79
Creek 661	661-10	2025-04-15	0	7.26	28	14.83	101.4	9.86
Creek 661	661-10	2025-05-04	0.7	6.86	16	14.53	101.4	3.32
Creek 661	661-10	2025-05-11	2.9	7.12	189[a]	14.18	104.9	2.42
Creek 661	661-10	2025-05-14	3.3	6.96	18	13.5	101	0.48

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Creek 661	661-10	2025-05-25	5	7.31	17	12.8	101	1.84
Creek 661	661-10	2025-06-01	5.1	7.02	20	13.2	104	3.14
Creek 661	661-10	2025-06-24	10.4	7.3	34	11.5	103	0.37
Creek 661	661-10	2025-07-14	10.7	7.62	52	11.4	102	1.11
Creek 661	661-10	2025-08-11	12.4	7.71	67	10.6	99	4.23
Creek 661	661-10	2025-09-14	10	7.56	63	9.3	95.3	3.64
Creek 661	661-10	2025-09-23	8.7	7.79	72	11.8	101	1.6
Creek 661	661-10	2025-10-07	5.9	7.77	53	12.4	99	1.03
Creek 661	661-10	2025-10-13	0.7	8.08	45	14.1	98	1.38
Creek 661	661-10	2025-10-18	2.1	7.81	44	13.14	97	1.29
Creek 661	661-10	2025-10-26	1.5	7.68	46	13.9	99.2	4.99
Creek 661	661-10	2025-10-28	0.3	7.58	44	14.9	103	1.52
Creek 661	661-10	2025-11-10	1	7.63	48	14.7	104	1.9
Creek 661	661-10	2025-12-26	0	7.15	48	13.3	91	1.14
Creek 661	661-20	2025-02-18	0	7.81	81	14.86	101.6	0.12
Creek 661	661-20	2025-02-28	0	7.93	74	15.32	105.7	0.21
Creek 661	661-20	2025-04-04	0.9	7.97	85	15.24	107.1	4.51
Creek 661	661-20	2025-07-14	11.1	8.15	115	11.9	108	0.57
Creek 661	661-20	2025-11-10	2	8.07	92	14.9	108	1.54
Chedakuz Creek	CC-03	2025-01-06	0	7.83	161	12.88	88.2	0.6
Chedakuz Creek	CC-03	2025-02-18	0.2	7.77	119	14.32	98.7	0.6
Chedakuz Creek	CC-03	2025-02-28	0	7.79	100	14.12	96.6	0.05
Chedakuz Creek	CC-03	2025-03-10	-0.2	7.61	125	11.52	88.3	0.47
Chedakuz Creek	CC-03	2025-04-10	0.3	7.92	86	15.26	15.4	4.31
Chedakuz Creek	CC-03	2025-05-04	5.5	7.57	69	13.24	105.2	2.38
Chedakuz Creek	CC-03	2025-05-11	7.4	7.94	86	13.15	109.3	1.24
Chedakuz Creek	CC-03	2025-05-14	6.8	7.54	86	13.1	107	0.9
Chedakuz Creek	CC-03	2025-05-25	8.7	7.91	74	12.2	105	2.72
Chedakuz Creek	CC-03	2025-06-01	8.5	7.83	84	12.5	107	4.08
Chedakuz Creek	CC-03	2025-06-24	12.1	7.99	119	11.6	108	0.84
Chedakuz Creek	CC-03	2025-07-14	11.6	8.21	167	11.8	108	0.56

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Chedakuz Creek	CC-03	2025-08-11	13.1	8.14	172	11.3	108	2.15
Chedakuz Creek	CC-03	2025-09-19	7.3	8.19	173	12.6	105	0.17
Chedakuz Creek	CC-03	2025-10-07	6.3	8.13	155	13.1	106	0.11
Chedakuz Creek	CC-03	2025-10-13	0.1	8.1	131	15.4	106	1.24
Chedakuz Creek	CC-03	2025-10-18	1.8	8.09	132	14.6	105	0.63
Chedakuz Creek	CC-03	2025-10-26	2.5	8.16	136	14.12	103.5	0
Chedakuz Creek	CC-03	2025-10-28	0.3	7.88	127	15.1	104	0.16
Chedakuz Creek	CC-03	2025-11-10	2.3	8.14	147	14.7	107	1.06
Chedakuz Creek	CC-03	2025-12-26	0	7.59	136	15.3	105	0.72
Chedakuz Creek	CC-05	2025-02-18	0	7.63	107	14.01	95.8	0.11
Chedakuz Creek	CC-05	2025-02-28	0	7.89	92	14.34	88.1	0.21
Chedakuz Creek	CC-05	2025-05-04	4.5	7.37	47	14.03	108.4	4.92
Chedakuz Creek	CC-05	2025-07-14	11.7	8.21	141	11.8	109	0.63
Chedakuz Creek	CC-05	2025-11-10	1.8	7.97	116	14.4	103	1.12
Chedakuz Creek	CC-10	2025-02-17	1.6	7.71	75	12.87	92.2	0
Chedakuz Creek	CC-10	2025-05-14	5.2	7.45	102.2	10.99	86.4	1.21
Chedakuz Creek	CC-10	2025-08-03	22.5	9.13	155	14.1	163	1.9
Chedakuz Creek	CC-10	2025-11-26	1.12	-	84	12.6	90	-
Chedakuz Creek	CC-15	2025-01-13	0	7.45	68	12.76	87.5	0.4
Chedakuz Creek	CC-15	2025-02-17	0	7.47	72	13.32	91.2	0.11
Chedakuz Creek	CC-15	2025-03-09	2.1	7.42	87.8	10.48	76.1	1.37
Chedakuz Creek	CC-15	2025-04-01	4.7	8.05	100	14.23	110.6	4.38
Chedakuz Creek	CC-15	2025-05-05	4.5	7.07	80.1	20.54	159	1.71
Chedakuz Creek	CC-15	2025-05-12	8.6	8.16	93.4	13.96	119.6	2.26
Chedakuz Creek	CC-15	2025-05-19	7.9	7.51	81	13.2	111	5.92
Chedakuz Creek	CC-15	2025-05-26	10.2	8.18	79	12.5	111	2.94
Chedakuz Creek	CC-15	2025-06-02	11.2	7.78	89	12.5	114	4.17
Chedakuz Creek	CC-15	2025-06-23	13.5	7.8	93	11.5	110	0.97
Chedakuz Creek	CC-15	2025-07-07	14.4	7.81	109	11.41	111.8	1.48
Chedakuz Creek	CC-15	2025-08-04	19.3	8.94	124	13.4	145.4	2.36
Chedakuz Creek	CC-15	2025-09-17	12.2	7.52	121	9.05	84.5	0.93

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Chedakuz Creek	CC-15	2025-10-08	4.2	7.65	87	12.4	96	2.01
Chedakuz Creek	CC-15	2025-10-14	6.2	7.97	91	14	113	1.79
Chedakuz Creek	CC-15	2025-10-20	4.4	7.57	108	12.8	99	4.12
Chedakuz Creek	CC-15	2025-10-27	2.2	7.64	83	14.3	104	2.57
Chedakuz Creek	CC-15	2025-10-29	2.4	7.59	84	14	103	2.33
Chedakuz Creek	CC-15	2025-11-26	2.23	-	82	13.4	93	-
Chedakuz Creek	CC-15	2025-12-27	0	7.42	66	13.6	93	2.82
Chedakuz Creek	CC-20	2025-01-26	0	7.72	70	14.24	97.5	0.92
Chedakuz Creek	CC-20	2025-02-17	0	7.54	71	13.76	94.1	0.09
Chedakuz Creek	CC-20	2025-03-11	1.7	8.18	85.4	13.6	97.7	1.4
Chedakuz Creek	CC-20	2025-04-09	2.6	7.94	87	14.88	109.5	6.58
Chedakuz Creek	CC-20	2025-05-05	4.3	7.32	79.2	21.8	162	1.71
Chedakuz Creek	CC-20	2025-05-12	8.2	8.07	92.5	14.36	121.9	2.13
Chedakuz Creek	CC-20	2025-05-19	7.7	7.45	80	13.1	110	6.25
Chedakuz Creek	CC-20	2025-05-26	10.1	8.1	79	12.6	112	3.37
Chedakuz Creek	CC-20	2025-06-02	11.6	7.83	91	12.4	114	4.27
Chedakuz Creek	CC-20	2025-06-23	12.8	7.62	92	11.2	106	0.81
Chedakuz Creek	CC-20	2025-07-07	13.8	7.79	108	11.31	109.4	1.73
Chedakuz Creek	CC-20	2025-08-10	16	8.23	118	11.9	120	5.8
Chedakuz Creek	CC-20	2025-09-17	12.3	7.66	121	11.45	107.1	0
Chedakuz Creek	CC-20	2025-10-08	3.9	7.63	88	12.5	95	0.67
Chedakuz Creek	CC-20	2025-10-14	5.9	8.02	93	14.2	114	1.67
Chedakuz Creek	CC-20	2025-10-20	5	7.62	111	14	109	1.51
Chedakuz Creek	CC-20	2025-10-27	2.4	7.66	85	14.7	108	2.26
Chedakuz Creek	CC-20	2025-10-29	3.8	7.84	90	14.23	108.1	1.44
Chedakuz Creek	CC-20	2025-11-26	1.48	-	82	13.6	94	-
Chedakuz Creek	CC-20	2025-12-27	0	7.36	84	13.9	95	1.14
Chedakuz Creek	CC-30	2025-03-11	0	7.53	91.7	11.19	76.5	0.81
Chedakuz Creek	CC-30	2025-04-09	2.3	7.91	89	14.18	103.4	6.93
Chedakuz Creek	CC-30	2025-07-13	15.1	8.17	132	11.6	116	4.18
Chedakuz Creek	CC-30	2025-10-05	7.7	8.17	112	13.9	116	0.56

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Chedakuz Creek	CC-40	2025-01-26	0.2	7.55	82	12.59	86.6	0.91
Chedakuz Creek	CC-40	2025-02-17	0	7.22	84	10.09	69	0.53
Chedakuz Creek	CC-40	2025-03-11	0	7.53	94	11.02	75.4	0.95
Chedakuz Creek	CC-40	2025-04-09	0	7.18	83	14.69	100.5	7.18
Chedakuz Creek	CC-40	2025-05-05	5.9	7.37	75	12.24	98	2.72
Chedakuz Creek	CC-40	2025-05-12	8	7.75	88	12.61	106.6	1.58
Chedakuz Creek	CC-40	2025-05-19	7.3	7.32	75	12.2	102	7.51
Chedakuz Creek	CC-40	2025-05-26	9.8	7.79	74	11.7	104	4.2
Chedakuz Creek	CC-40	2025-10-05	5.8	7.8	115	13.1	105	0.56
Chedakuz Creek	CC-40	2025-10-14	0.5	8.17	97	14.4	100	1.25
Chedakuz Creek	CC-40	2025-10-27	1.1	7.88	100	14.9	105	1.77
Chedakuz Creek	CC-40	2025-10-29	0.8	7.97	99	14.31	100.2	1.12
Chedakuz Creek	CC-40	2025-10-20	2.6	7.72	127	13.6	100	2.11
Chedakuz Creek	CC-40	2025-06-22	15.5	7.88	104	11.3	113	0.11
Chedakuz Creek	CC-40	2025-06-02	9.9	7.69	85	12.5	111	4.88
Chedakuz Creek	CC-40	2025-07-13	13.6	7.94	132	11	106	0.94
Chedakuz Creek	CC-40	2025-08-03	16.7	7.86	160	10.1	104	2.79
Chedakuz Creek	CC-40	2025-09-17	10.7	7.73	167	11.6	105	1.62
Chedakuz Creek	CC-40	2025-11-17	0	7.95	102	15.3	104	2.11
Chedakuz Creek	CC-40	2025-12-27	0	7.06	96	12.9	88	1.37
Creek 705	705-05	2025-01-26	0.1	7.87	24	13.4	91.8	0.31
Creek 705	705-05	2025-02-24	0	7.73	25	13.12	89.7	0.2
Creek 705	705-05	2025-03-11	1.30	7.68	38.5	10.97	91	1.11
Creek 705	705-05	2025-04-27	2.3	7	24	13.53	98.6	1.27
Creek 705	705-05	2025-05-05	3	6.69	19.9	20	148.7	0.15
Creek 705	705-05	2025-06-27	11.2	6.68	26	11	100	0.6
Creek 705	705-05	2025-07-14	12	7.12	41	9.6	89	0.67
Creek 705	705-05	2025-08-04	12.3	6.76	47	7.97	74.5	2.17
Creek 705	705-05	2025-09-10	9.7	6.92	57	8.73	88.8	3.56
Creek 705	705-05	2025-10-20	2.1	7.75	43	12	87	1.88
Creek 705	705-05	2025-11-12	0.100	7.45	31	13.3	91	1.54

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Creek 705	705-05	2025-12-17	0.1	7.68	30	14.2	97	1.33
Creek 705	705-10	2025-01-05	0	7.59	27	13.44	92	0.04
Creek 705	705-10	2025-02-03	0	7.63	29	13.69	93.7	0.42
Creek 705	705-10	2025-03-05	0.1	7.88	35.7	11.57	79.2	0.2
Creek 705	705-10	2025-04-03	0.1	7.6	37	14.54	99.6	3.33
Creek 705	705-10	2025-05-05	1.7	6.86	23	15.18	108.7	1.3
Creek 705	705-10	2025-05-12	2.5	7.32	50.4	12.69	97.7	0.88
Creek 705	705-10	2025-05-19	2.4	7.3	21.7	14.43	105.3	3.26
Creek 705	705-10	2025-05-26	4.4	8.18	22.4	13.34	102.8	1.46
Creek 705	705-10	2025-06-02	6.9	7.14	26	12.8	105	3.23
Creek 705	705-10	2025-06-25	9.6	7.43	32	11.8	104	1.02
Creek 705	705-10	2025-07-14	11	7.71	43	11.7	106	0.5
Creek 705	705-10	2025-08-04	11.2	7.46	51	11.45	104.2	0.83
Creek 705	705-10	2025-09-09	11.1	7.44	59	8.67	89.9	0.25
Creek 705	705-10	2025-10-07	4.3	7.81	45	12.87	99	0
Creek 705	705-10	2025-10-14	1.2	7.78	40	14.02	99.2	0.28
Creek 705	705-10	2025-10-18	1.9	7.94	42	13.57	98	0.07
Creek 705	705-10	2025-10-26	1.7	7.67	38	14.03	100.6	0
Creek 705	705-10	2025-10-29	0.6	7.69	35	15	104	0.11
Creek 705	705-10	2025-11-02	0.1	7.78	36	14.8	101	0.06
Creek 705	705-10	2025-12-08	0.100	7.95	35.3	13.79	94.7	0.45
Fawnie Creek	FC-01	2025-01-05	0	7.45	28	12.96	88.7	0
Fawnie Creek	FC-01	2025-02-03	0	7.63	33	14.14	96.7	0.1
Fawnie Creek	FC-01	2025-03-19	0.2	7.8	44.4	11.4	78.4	0
Fawnie Creek	FC-01	2025-04-03	0.6	7.73	50	14.91	103.8	2.47
Fawnie Creek	FC-01	2025-05-05	0.9	7.03	24	15.64	109.7	0.44
Fawnie Creek	FC-01	2025-05-12	2.2	7.53	29.1	12.95	98.8	0.41
Fawnie Creek	FC-01	2025-05-19	1.8	7.64	19.6	14.87	106.9	1.79
Fawnie Creek	FC-01	2025-05-26	3.2	8.23	16.7	13.76	102.9	1.56
Fawnie Creek	FC-01	2025-06-02	5.8	7.41	19	13.2	105	2.87
Fawnie Creek	FC-01	2025-06-23	10.2	7.46	27	12.1	108	0.91

Appendix B-2: Surface Water Field Results, January to December 2025

Watershed	Site	Date	Temperature (°C)	pH (pH Units)	Conductivity (µS/cm)	Dissolved Oxygen Concentration (mg/L)	Dissolved Oxygen Saturation (%)	Turbidity (NTU)
Fawnie Creek	FC-01	2025-07-14	9.9	7.8	38	12.1	107	0.29
Fawnie Creek	FC-01	2025-08-04	11.5	7.78	45	11.86	108.8	0.58
Fawnie Creek	FC-01	2025-09-14	9.9	7.76	68	12	106	0.21
Fawnie Creek	FC-01	2025-09-23	7.4	8.36	54	12.86	107.1	2.62
Fawnie Creek	FC-01	2025-10-07	5.2	7.95	43	13.16	103.7	0
Fawnie Creek	FC-01	2025-10-14	1.7	7.74	42	14.34	102.9	0.02
Fawnie Creek	FC-01	2025-10-18	2.1	7.93	43	14.34	103.9	0.06
Fawnie Creek	FC-01	2025-10-27	0.4	7.76	38	15	104	0
Fawnie Creek	FC-01	2025-10-29	0.6	7.89	39	15	105	0
Fawnie Creek	FC-01	2025-11-02	0.3	7.83	37	16	110	1.52
Fawnie Creek	FC-01	2025-12-08	0.300	7.71	40.8	14.73	101.6	0

Notes:
"-" indicates parameter was not measured/recorded.

[a] Measurement was identified as erronous (e.g., transcription or probe operation errors) and excluded from the AEMP dataset for all data analyses.

Appendix B-3 Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Physical Tests									Anions and Nutrients							
			pH	Total Suspended Solids	Total Dissolved Solids	Conductivity	Turbidity	Acidity (as $CaCO_3$)	Alkalinity (as $CaCO_3$), Total	Hardness (as $CaCO_3$), Total	Hardness (as $CaCO_3$), Dissolved	Bromide	Chloride	Fluoride	Sulphate	Total Kjeldahl Nitrogen	Ammonia, Total (as N)	Nitrate (as N)	Nitrite (as N)
			pH Units	mg/L	mg/L	µS/cm	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Field Blank	VA25A0356-005	2025-01-06	5.49	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	0.0100	<0.0050	<0.0010
	VA25A0824-002	2025-01-12	5.47	<3.0	<10	<2.0	<0.10	2.4	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A1481-006	2025-01-20	5.41	<3.0	<10	<2.0	<0.10	2.6	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A1845-007	2025-01-26	5.57	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A2544-006	2025-02-03	5.21	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A3507-006	2025-02-17	5.41	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	0.0068	<0.0050	<0.0010
	VA25A4183-005	2025-02-24	5.30	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A4598-005	2025-02-28	5.37	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A5321-003	2025-03-05	5.33	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	0.0058	<0.0050	<0.0010
	VA25A5268-004	2025-03-09	5.58	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A6295-003	2025-03-19	5.34	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A6706-003	2025-03-25	5.21	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	0.0076	<0.0050	<0.0010
	VA25A7634-003	2025-04-03	5.35	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A8058-007	2025-04-09	5.37	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A8451-003	2025-04-14	5.38	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B0611-004	2025-05-06	5.30	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B1094-004	2025-05-12	5.41	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B1312-006	2025-05-13	5.14	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B1721-007	2025-05-19	5.65	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B2427-006	2025-05-26	5.53	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B2953-008	2025-06-01	5.58	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B5784-002	2025-06-25	5.36	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B6834-009	2025-07-07	5.34	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B7192-004	2025-07-13	5.37	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B9374-004	2025-08-03	5.34	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C0017-005	2025-08-10	5.67	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C3699-004	2025-09-09	5.42	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C4967-010	2025-09-17	5.33	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C6737-004	2025-10-05	5.68	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C7416-013	2025-10-13	5.52	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C8047-005	2025-10-18	5.62	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C8919-010	2025-10-26	5.55	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C9101-006	2025-10-29	5.67	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C9690-005	2025-11-03	5.4	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D1976-009	2025-11-26	5.32	<3.0	<10	<2.0	<0.10	2.2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D3210-004	2025-12-09	5.35	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D3435-003	2025-12-12	5.37	<3.0	<10	<2.0	<0.10	2.1	1.4	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D3939-005	2025-12-17	5.42	<3.0	<10	<2.0	<0.10	2.1	1.2	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	0.0081	<0.0050	<0.0010
	VA25D4214-004	2025-12-26	6.14	<3.0	<10	<2.0	<0.10	2.1	1.3	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Anions and Nutrients		Cyanides			Organic / Inorganic Carbon		Total Metals								
			Ortho-phosphorus, Dissolved	Total Phosphorus	Cyanide, Total	Cyanide, Weak Acid Dissociable	Thiocyanate	Total Organic Carbon	Dissolved Organic Carbon	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Boron	Total Cadmium	Total Calcium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Field Blank	VA25A0356-005	2025-01-06	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A0824-002	2025-01-12	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A1481-006	2025-01-20	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A1845-007	2025-01-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A2544-006	2025-02-03	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A3507-006	2025-02-17	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A4183-005	2025-02-24	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A4598-005	2025-02-28	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A5321-003	2025-03-05	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A5268-004	2025-03-09	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A6295-003	2025-03-19	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A6706-003	2025-03-25	<0.0010	<0.0020	<0.0050	<0.0050	0.57	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A7634-003	2025-04-03	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A8058-007	2025-04-09	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A8451-003	2025-04-14	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B0611-004	2025-05-06	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B1094-004	2025-05-12	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B1312-006	2025-05-13	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B1721-007	2025-05-19	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B2427-006	2025-05-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B2953-008	2025-06-01	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B5784-002	2025-06-25	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B6834-009	2025-07-07	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B7192-004	2025-07-13	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B9374-004	2025-08-03	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C0017-005	2025-08-10	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C3699-004	2025-09-09	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C4967-010	2025-09-17	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C6737-004	2025-10-05	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C7416-013	2025-10-13	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C8047-005	2025-10-18	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C8919-010	2025-10-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C9101-006	2025-10-29	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C9690-005	2025-11-03	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D1976-009	2025-11-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D3210-004	2025-12-09	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D3435-003	2025-12-12	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D3939-005	2025-12-17	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D4214-004	2025-12-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Total Metals															
			Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Molybdenum	Total Nickel	Total Phosphorus	Total Potassium	Total Selenium	Total Silicon	Total Silver
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Field Blank	VA25A0356-005	2025-01-06	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A0824-002	2025-01-12	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A1481-006	2025-01-20	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A1845-007	2025-01-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A2544-006	2025-02-03	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A3507-006	2025-02-17	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A4183-005	2025-02-24	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A4598-005	2025-02-28	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A5321-003	2025-03-05	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A5268-004	2025-03-09	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A6295-003	2025-03-19	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A6706-003	2025-03-25	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A7634-003	2025-04-03	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A8058-007	2025-04-09	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A8451-003	2025-04-14	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B0611-004	2025-05-06	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B1094-004	2025-05-12	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B1312-006	2025-05-13	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B1721-007	2025-05-19	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B2427-006	2025-05-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B2953-008	2025-06-01	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B5784-002	2025-06-25	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B6834-009	2025-07-07	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B7192-004	2025-07-13	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B9374-004	2025-08-03	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C0017-005	2025-08-10	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C3699-004	2025-09-09	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C4967-010	2025-09-17	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C6737-004	2025-10-05	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C7416-013	2025-10-13	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C8047-005	2025-10-18	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C8919-010	2025-10-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C9101-006	2025-10-29	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C9690-005	2025-11-03	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D1976-009	2025-11-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D3210-004	2025-12-09	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D3435-003	2025-12-12	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D3939-005	2025-12-17	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D4214-004	2025-12-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Total Metals									Dissolved Metals						
			Total Sodium	Total Strontium	Total Sulfur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium	Dissolved Bismuth	Dissolved Boron
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Field Blank	VA25A0356-005	2025-01-06	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A0824-002	2025-01-12	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A1481-006	2025-01-20	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A1845-007	2025-01-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A2544-006	2025-02-03	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	0.0044	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A3507-006	2025-02-17	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A4183-005	2025-02-24	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A4598-005	2025-02-28	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A5321-003	2025-03-05	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A5268-004	2025-03-09	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A6295-003	2025-03-19	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A6706-003	2025-03-25	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A7634-003	2025-04-03	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A8058-007	2025-04-09	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A8451-003	2025-04-14	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B0611-004	2025-05-06	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B1094-004	2025-05-12	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B1312-006	2025-05-13	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B1721-007	2025-05-19	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B2427-006	2025-05-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B2953-008	2025-06-01	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B5784-002	2025-06-25	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B6834-009	2025-07-07	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B7192-004	2025-07-13	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B9374-004	2025-08-03	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C0017-005	2025-08-10	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C3699-004	2025-09-09	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C4967-010	2025-09-17	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C6737-004	2025-10-05	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C7416-013	2025-10-13	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C8047-005	2025-10-18	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C8919-010	2025-10-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C9101-006	2025-10-29	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C9690-005	2025-11-03	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25D1976-009	2025-11-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25D3210-004	2025-12-09	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25D3435-003	2025-12-12	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25D3939-005	2025-12-17	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25D4214-004	2025-12-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Dissolved Metals															
			Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Mercury	Dissolved Molybdenum	Dissolved Nickel	Dissolved Phosphorus	Dissolved Potassium	Dissolved Selenium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Field Blank	VA25A0356-005	2025-01-06	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A0824-002	2025-01-12	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A1481-006	2025-01-20	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A1845-007	2025-01-26	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A2544-006	2025-02-03	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A3507-006	2025-02-17	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A4183-005	2025-02-24	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A4598-005	2025-02-28	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A5321-003	2025-03-05	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A5268-004	2025-03-09	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A6295-003	2025-03-19	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A6706-003	2025-03-25	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A7634-003	2025-04-03	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A8058-007	2025-04-09	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25A8451-003	2025-04-14	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B0611-004	2025-05-06	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B1094-004	2025-05-12	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B1312-006	2025-05-13	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B1721-007	2025-05-19	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B2427-006	2025-05-26	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B2953-008	2025-06-01	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B5784-002	2025-06-25	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B6834-009	2025-07-07	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B7192-004	2025-07-13	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B9374-004	2025-08-03	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C0017-005	2025-08-10	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C3699-004	2025-09-09	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C4967-010	2025-09-17	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C6737-004	2025-10-05	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C7416-013	2025-10-13	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C8047-005	2025-10-18	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C8919-010	2025-10-26	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C9101-006	2025-10-29	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C9690-005	2025-11-03	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25D1976-009	2025-11-26	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25D3210-004	2025-12-09	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25D3435-003	2025-12-12	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25D3939-005	2025-12-17	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25D4214-004	2025-12-26	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Dissolved Metals										
			Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulfur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Field Blank	VA25A0356-005	2025-01-06	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A0824-002	2025-01-12	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A1481-006	2025-01-20	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A1845-007	2025-01-26	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A2544-006	2025-02-03	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A3507-006	2025-02-17	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A4183-005	2025-02-24	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A4598-005	2025-02-28	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A5321-003	2025-03-05	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A5268-004	2025-03-09	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A6295-003	2025-03-19	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A6706-003	2025-03-25	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A7634-003	2025-04-03	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A8058-007	2025-04-09	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A8451-003	2025-04-14	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B0611-004	2025-05-06	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B1094-004	2025-05-12	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B1312-006	2025-05-13	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	0.00085	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B1721-007	2025-05-19	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B2427-006	2025-05-26	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B2953-008	2025-06-01	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B5784-002	2025-06-25	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B6834-009	2025-07-07	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B7192-004	2025-07-13	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B9374-004	2025-08-03	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C0017-005	2025-08-10	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C3699-004	2025-09-09	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C4967-010	2025-09-17	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C6737-004	2025-10-05	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C7416-013	2025-10-13	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C8047-005	2025-10-18	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C8919-010	2025-10-26	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C9101-006	2025-10-29	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C9690-005	2025-11-03	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25D1976-009	2025-11-26	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25D3210-004	2025-12-09	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25D3435-003	2025-12-12	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25D3939-005	2025-12-17	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25D4214-004	2025-12-26	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Physical Tests									Anions and Nutrients							
			pH	Total Suspended Solids	Total Dissolved Solids	Conductivity	Turbidity	Acidity (as $CaCO_3$)	Alkalinity (as $CaCO_3$), Total	Hardness (as $CaCO_3$), Total	Hardness (as $CaCO_3$), Dissolved	Bromide	Chloride	Fluoride	Sulphate	Total Kjeldahl Nitrogen	Ammonia, Total (as N)	Nitrate (as N)	Nitrite (as N)
			pH Units	mg/L	mg/L	µS/cm	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Travel Blank	VA25A0356-006	2025-01-06	5.28	<3.0	<10	<2.0	<0.10	2.1	<1.0	-	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A0964-005	2025-01-13	5.44	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A1670-001	2025-01-21	5.34	<3.0	<10	<2.0	<0.10	2.4	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A1845-008	2025-01-26	5.54	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A2777-005	2025-02-05	5.31	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A3507-007	2025-02-17	5.31	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A4183-006	2025-02-24	5.22	<3.0	<10	<2.0	<0.10	2.2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A4598-006	2025-02-28	5.21	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A5321-004	2025-03-05	5.28	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A5560-005	2025-03-11	5.75	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A6295-004	2025-03-19	5.32	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A6706-006	2025-03-25	5.28	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A7611-007	2025-04-04	5.49	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A8257-003	2025-04-10	5.52	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A8451-004	2025-04-14	5.41	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25A9690-003	2025-04-27	5.33	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B0611-005	2025-05-06	5.25	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B1094-005	2025-05-12	5.34	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B1312-007	2025-05-13	5.07	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B1721-008	2025-05-19	5.58	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B2601-007	2025-05-27	5.57	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B2953-007	2025-06-01	5.60	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B3822-006	2025-06-02	5.43	<3.0	<10	<2.0	<0.10	2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B5932-004	2025-06-28	5.27	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B5984-004	2025-06-29	5.13	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B6834-008	2025-07-07	5.39	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B7192-005	2025-07-13	5.3	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25B9374-005	2025-08-03	5.28	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C0017-006	2025-08-10	5.59	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C3886-002	2025-09-10	5.72	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C4972-003	2025-09-20	5.24	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C5489-004	2025-09-23	6.06	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C6737-005	2025-10-05	5.53	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C7563-009	2025-10-14	5.33	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C8358-008	2025-10-20	5.21	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C8919-011	2025-10-26	5.65	<3.0	<10	<2.0	<0.10	2.1	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	0.0011
	VA25C9101-007	2025-10-29	5.49	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25C9690-006	2025-11-03	5.37	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D1976-010	2025-11-26	5.88	<3.0	<10	<2.0	<0.10	2.2	1	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D3210-005	2025-12-10	5.25	<3.0	<10	<2.0	<0.10	2	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D3435-004	2025-12-13	5.32	<3.0	<10	<2.0	<0.10	<2.0	<1.0	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D3939-004	2025-12-17	5.33	<3.0	<10	<2.0	<0.10	2	1.1	<0.60	-	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010
	VA25D4214-005	2025-12-26	5.4	<3.0	<10	<2.0	<0.10	2.3	<1.0	<0.60	<0.60	<0.050	<0.50	<0.020	<0.30	<0.050	<0.0050	<0.0050	<0.0010

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Anions and Nutrients		Cyanides			Organic / Inorganic Carbon		Total Metals								
			Ortho-phosphorus, Dissolved	Total Phosphorus	Cyanide, Total	Cyanide, Weak Acid Dissociable	Thiocyanate	Total Organic Carbon	Dissolved Organic Carbon	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Boron	Total Cadmium	Total Calcium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Travel Blank	VA25A0356-006	2025-01-06	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-
	VA25A0964-005	2025-01-13	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A1670-001	2025-01-21	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A1845-008	2025-01-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A2777-005	2025-02-05	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A3507-007	2025-02-17	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A4183-006	2025-02-24	<0.0010	<0.0020	<0.0050	<0.0050	-	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A4598-006	2025-02-28	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A5321-004	2025-03-05	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A5560-005	2025-03-11	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A6295-004	2025-03-19	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A6706-006	2025-03-25	<0.0010	<0.0020	<0.0050	<0.0050	0.53	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A7611-007	2025-04-04	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A8257-003	2025-04-10	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A8451-004	2025-04-14	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25A9690-003	2025-04-27	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B0611-005	2025-05-06	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B1094-005	2025-05-12	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B1312-007	2025-05-13	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B1721-008	2025-05-19	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B2601-007	2025-05-27	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B2953-007	2025-06-01	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B3822-006	2025-06-02	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B5932-004	2025-06-28	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B5984-004	2025-06-29	-	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B6834-008	2025-07-07	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B7192-005	2025-07-13	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25B9374-005	2025-08-03	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C0017-006	2025-08-10	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C3886-002	2025-09-10	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C4972-003	2025-09-20	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C5489-004	2025-09-23	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C6737-005	2025-10-05	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C7563-009	2025-10-14	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C8358-008	2025-10-20	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C8919-011	2025-10-26	<0.0010	<0.0020	-	-	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C9101-007	2025-10-29	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25C9690-006	2025-11-03	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D1976-010	2025-11-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D3210-005	2025-12-10	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D3435-004	2025-12-13	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D3939-004	2025-12-17	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	-	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050
	VA25D4214-005	2025-12-26	<0.0010	<0.0020	<0.0050	<0.0050	<0.50	<0.50	<0.50	<0.0030	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Total Metals															
			Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Molybdenum	Total Nickel	Total Phosphorus	Total Potassium	Total Selenium	Total Silicon	Total Silver
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Travel Blank	VA25A0356-006	2025-01-06	-	-	-	-	-	-	-	-	<0.0000050	-	-	-	-	-	-	-
	VA25A0964-005	2025-01-13	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A1670-001	2025-01-21	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A1845-008	2025-01-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A2777-005	2025-02-05	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A3507-007	2025-02-17	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A4183-006	2025-02-24	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A4598-006	2025-02-28	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A5321-004	2025-03-05	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A5560-005	2025-03-11	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A6295-004	2025-03-19	0.00072	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A6706-006	2025-03-25	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A7611-007	2025-04-04	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	0.00013	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A8257-003	2025-04-10	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A8451-004	2025-04-14	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25A9690-003	2025-04-27	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B0611-005	2025-05-06	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B1094-005	2025-05-12	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B1312-007	2025-05-13	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B1721-008	2025-05-19	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B2601-007	2025-05-27	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B2953-007	2025-06-01	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B3822-006	2025-06-02	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B5932-004	2025-06-28	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B5984-004	2025-06-29	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B6834-008	2025-07-07	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B7192-005	2025-07-13	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25B9374-005	2025-08-03	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C0017-006	2025-08-10	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C3886-002	2025-09-10	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C4972-003	2025-09-20	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C5489-004	2025-09-23	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C6737-005	2025-10-05	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C7563-009	2025-10-14	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C8358-008	2025-10-20	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C8919-011	2025-10-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C9101-007	2025-10-29	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25C9690-006	2025-11-03	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D1976-010	2025-11-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D3210-005	2025-12-10	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D3435-004	2025-12-13	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D3939-004	2025-12-17	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010
	VA25D4214-005	2025-12-26	<0.00050	<0.00010	<0.00050	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050	<0.10	<0.000010

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Total Metals									Dissolved Metals						
			Total Sodium	Total Strontium	Total Sulfur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium	Dissolved Bismuth	Dissolved Boron
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Travel Blank	VA25A0356-006	2025-01-06	-	-	-	-	-	-	-	-	-	0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25A0964-005	2025-01-13	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A1670-001	2025-01-21	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A1845-008	2025-01-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A2777-005	2025-02-05	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A3507-007	2025-02-17	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A4183-006	2025-02-24	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A4598-006	2025-02-28	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A5321-004	2025-03-05	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A5560-005	2025-03-11	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A6295-004	2025-03-19	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A6706-006	2025-03-25	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A7611-007	2025-04-04	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A8257-003	2025-04-10	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A8451-004	2025-04-14	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25A9690-003	2025-04-27	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B0611-005	2025-05-06	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B1094-005	2025-05-12	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B1312-007	2025-05-13	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25B1721-008	2025-05-19	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B2601-007	2025-05-27	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B2953-007	2025-06-01	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B3822-006	2025-06-02	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B5932-004	2025-06-28	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B5984-004	2025-06-29	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B6834-008	2025-07-07	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B7192-005	2025-07-13	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25B9374-005	2025-08-03	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25C0017-006	2025-08-10	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25C3886-002	2025-09-10	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C4972-003	2025-09-20	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25C5489-004	2025-09-23	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25C6737-005	2025-10-05	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C7563-009	2025-10-14	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25C8358-008	2025-10-20	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25C8919-011	2025-10-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25C9101-007	2025-10-29	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25C9690-006	2025-11-03	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25D1976-010	2025-11-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010
	VA25D3210-005	2025-12-10	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25D3435-004	2025-12-13	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25D3939-004	2025-12-17	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	-	-	-	-	-	-	-
	VA25D4214-005	2025-12-26	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0030	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Dissolved Metals															
			Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Mercury	Dissolved Molybdenum	Dissolved Nickel	Dissolved Phosphorus	Dissolved Potassium	Dissolved Selenium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Travel Blank	VA25A0356-006	2025-01-06	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.0050	<0.00010	-	<0.000050	<0.00050	<0.050	<0.050	<0.000050
	VA25A0964-005	2025-01-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A1670-001	2025-01-21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A1845-008	2025-01-26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A2777-005	2025-02-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A3507-007	2025-02-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A4183-006	2025-02-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A4598-006	2025-02-28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A5321-004	2025-03-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A5560-005	2025-03-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A6295-004	2025-03-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A6706-006	2025-03-25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A7611-007	2025-04-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A8257-003	2025-04-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A8451-004	2025-04-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25A9690-003	2025-04-27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B0611-005	2025-05-06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B1094-005	2025-05-12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B1312-007	2025-05-13	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25B1721-008	2025-05-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B2601-007	2025-05-27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B2953-007	2025-06-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B3822-006	2025-06-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B5932-004	2025-06-28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B5984-004	2025-06-29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B6834-008	2025-07-07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B7192-005	2025-07-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25B9374-005	2025-08-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25C0017-006	2025-08-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25C3886-002	2025-09-10	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C4972-003	2025-09-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25C5489-004	2025-09-23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25C6737-005	2025-10-05	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C7563-009	2025-10-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25C8358-008	2025-10-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25C8919-011	2025-10-26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25C9101-007	2025-10-29	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25C9690-006	2025-11-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25D1976-010	2025-11-26	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050
	VA25D3210-005	2025-12-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25D3435-004	2025-12-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25D3939-004	2025-12-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VA25D4214-005	2025-12-26	<0.0000050	<0.050	<0.00050	<0.00010	<0.00020	<0.010	<0.000050	<0.0010	<0.100	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.100	<0.000050

Appendix B-3: Surface Water Quality Field and Travel Blank Laboratory Results, January to December 2025

QAQC Sample Type	Laboratory ID	Date	Dissolved Metals										
			Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulfur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Travel Blank	VA25A0356-006	2025-01-06	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25A0964-005	2025-01-13	-	-	-	-	-	-	-	-	-	-	-
	VA25A1670-001	2025-01-21	-	-	-	-	-	-	-	-	-	-	-
	VA25A1845-008	2025-01-26	-	-	-	-	-	-	-	-	-	-	-
	VA25A2777-005	2025-02-05	-	-	-	-	-	-	-	-	-	-	-
	VA25A3507-007	2025-02-17	-	-	-	-	-	-	-	-	-	-	-
	VA25A4183-006	2025-02-24	-	-	-	-	-	-	-	-	-	-	-
	VA25A4598-006	2025-02-28	-	-	-	-	-	-	-	-	-	-	-
	VA25A5321-004	2025-03-05	-	-	-	-	-	-	-	-	-	-	-
	VA25A5560-005	2025-03-11	-	-	-	-	-	-	-	-	-	-	-
	VA25A6295-004	2025-03-19	-	-	-	-	-	-	-	-	-	-	-
	VA25A6706-006	2025-03-25	-	-	-	-	-	-	-	-	-	-	-
	VA25A7611-007	2025-04-04	-	-	-	-	-	-	-	-	-	-	-
	VA25A8257-003	2025-04-10	-	-	-	-	-	-	-	-	-	-	-
	VA25A8451-004	2025-04-14	-	-	-	-	-	-	-	-	-	-	-
	VA25A9690-003	2025-04-27	-	-	-	-	-	-	-	-	-	-	-
	VA25B0611-005	2025-05-06	-	-	-	-	-	-	-	-	-	-	-
	VA25B1094-005	2025-05-12	-	-	-	-	-	-	-	-	-	-	-
	VA25B1312-007	2025-05-13	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25B1721-008	2025-05-19	-	-	-	-	-	-	-	-	-	-	-
	VA25B2601-007	2025-05-27	-	-	-	-	-	-	-	-	-	-	-
	VA25B2953-007	2025-06-01	-	-	-	-	-	-	-	-	-	-	-
	VA25B3822-006	2025-06-02	-	-	-	-	-	-	-	-	-	-	-
	VA25B5932-004	2025-06-28	-	-	-	-	-	-	-	-	-	-	-
	VA25B5984-004	2025-06-29	-	-	-	-	-	-	-	-	-	-	-
	VA25B6834-008	2025-07-07	-	-	-	-	-	-	-	-	-	-	-
	VA25B7192-005	2025-07-13	-	-	-	-	-	-	-	-	-	-	-
	VA25B9374-005	2025-08-03	-	-	-	-	-	-	-	-	-	-	-
	VA25C0017-006	2025-08-10	-	-	-	-	-	-	-	-	-	-	-
	VA25C3886-002	2025-09-10	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C4972-003	2025-09-20	-	-	-	-	-	-	-	-	-	-	-
	VA25C5489-004	2025-09-23	-	-	-	-	-	-	-	-	-	-	-
	VA25C6737-005	2025-10-05	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C7563-009	2025-10-14	-	-	-	-	-	-	-	-	-	-	-
	VA25C8358-008	2025-10-20	-	-	-	-	-	-	-	-	-	-	-
	VA25C8919-011	2025-10-26	-	-	-	-	-	-	-	-	-	-	-
	VA25C9101-007	2025-10-29	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25C9690-006	2025-11-03	-	-	-	-	-	-	-	-	-	-	-
	VA25D1976-010	2025-11-26	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010
	VA25D3210-005	2025-12-10	-	-	-	-	-	-	-	-	-	-	-
	VA25D3435-004	2025-12-13	-	-	-	-	-	-	-	-	-	-	-
	VA25D3939-004	2025-12-17	-	-	-	-	-	-	-	-	-	-	-
	VA25D4214-005	2025-12-26	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.000010	<0.00010	<0.00030	<0.000010	<0.00050	<0.0010

Notes:

QA/QC = Quality Assurance and Quality Control
"<" indicates value was below the detection limit.

"-" indicates parameter was not analyzed.

Gray shading indicates value was equal to or greater than detection limit.

Appendix B-4 Surface Water Quality Relative Percent Difference Results, January to December 2025

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-01-06				2025-01-12				2025-01-13				2025-01-20			
			661-10				DC-05				661-05				661-04			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.41	7.44	0.1	0.4%	7.59	7.60	0.1	0.13%	7.81	7.83	0.1	0.26%	7.69	7.71	0.1	0.26%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	70	70	13	0%	74	72	13	2.74%	58	58	13	-	70	62	13	-
	Conductivity	µS/cm	85.6	85.9	2	0.35%	95.9	96.0	2	0.1%	102	101	2	0.99%	92.8	92.8	2	0%
	Turbidity	NTU	1.22	1.24	0.1	1.63%	2.76	2.60	0.1	5.97%	1.64	1.64	0.1	0%	1.15	1.05	0.1	9.09%
	Acidity (as $CaCO_3$)	mg/L	2.8	2.8	2	-	<2.0	<2.0	2	-	2.0	2.1	2	-	2.4	2.2	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	38.6	39.4	1	2.05%	44.0	43.6	1	0.91%	50.2	50.1	1	0.2%	40.7	40.5	1	0.49%
	Hardness (as $CaCO_3$), total	mg/L	32.8	34.8	0.6	5.92%	41.4	40.2	0.6	2.94%	40.0	40.8	0.6	1.98%	36.8	36.8	0.6	0%
	Hardness (as $CaCO_3$), dissolved	mg/L	35.8	35.7	0.6	0.28%	40.4	39.8	0.6	1.5%	41.0	39.5	0.6	3.73%	37.0	37.3	0.6	0.81%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	0.71	0.73	0.5	-	0.91	0.92	0.5	-	<0.50	<0.50	0.5	-	1.10	1.10	0.5	-
	Fluoride	mg/L	0.040	0.040	0.02	-	0.044	0.044	0.02	-	0.061	0.058	0.02	-	0.054	0.046	0.02	-
	Sulphate	mg/L	2.74	2.77	0.3	1.09%	3.35	3.35	0.3	0%	1.37	1.38	0.3	-	4.75	4.75	0.3	0%
	Total Kjeldahl nitrogen	mg/L	0.115	0.142	0.05	-	0.092	0.090	0.05	-	0.060	0.076	0.05	-	0.064	0.064	0.05	-
	Ammonia, total (as N)	mg/L	0.0111	0.0104	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	0.0052	<0.0050	0.005	-
	Nitrate (as N)	mg/L	0.0947	0.0979	0.005	3.32%	0.149	0.150	0.005	0.67%	0.0553	0.0551	0.005	0.36%	0.180	0.180	0.005	0%
	Nitrite (as N)	mg/L	<0.0010	0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0071	0.0065	0.001	8.82%	0.0049	0.0047	0.001	-	0.0367	0.0369	0.001	0.54%	0.0138	0.0136	0.001	1.46%
	Total phosphorus	mg/L	0.0160	0.0159	0.002	0.63%	0.0138	0.0138	0.002	0%	0.0473	0.0474	0.002	0.21%	0.0195	0.0190	0.002	2.6%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	0.64	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	4.82	4.74	0.5	1.67%	3.44	3.55	0.5	3.15%	2.17	1.94	0.5	-	2.96	2.49	0.5	-
	Dissolved organic carbon	mg/L	4.70	4.48	0.5	4.79%	3.30	3.20	0.5	3.08%	2.07	1.82	0.5	-	2.22	2.22	0.5	-
Total Metals	Total Aluminum	mg/L	0.0623	0.0608	0.003	2.44%	0.220	0.183	0.003	18.36%	0.0899	0.0879	0.003	2.25%	0.0864	0.0567	0.003	41.51%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	0.00010	0.00010	0.0001	-
	Total Arsenic	mg/L	0.00076	0.00074	0.0001	2.67%	0.00061	0.00059	0.0001	3.33%	0.00121	0.00122	0.0001	0.82%	0.00138	0.00133	0.0001	3.69%
	Total Barium	mg/L	0.00544	0.00525	0.0001	3.55%	0.00936	0.00879	0.0001	6.28%	0.00512	0.00511	0.0001	0.2%	0.00500	0.00473	0.0001	5.55%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	0.0000173	0.0000193	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	0.0000152	0.0000097	0.000005	-
	Total Calcium	mg/L	9.10	9.92	0.05	8.62%	12.6	12.1	0.05	4.05%	11.3	11.5	0.05	1.75%	10.3	10.3	0.05	0%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00086	0.00083	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.181	0.186	0.01	2.72%	0.176	0.145	0.01	19.31%	0.163	0.163	0.01	0%	0.096	0.071	0.01	29.94%
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	0.000093	0.000076	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000056	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	2.45	2.44	0.1	0.41%	2.42	2.43	0.1	0.41%	2.85	2.93	0.1	2.77%	2.68	2.70	0.1	0.74%
	Total Manganese	mg/L	0.0155	0.0154	0.0001	0.65%	0.0249	0.0174	0.0001	35.46%	0.00893	0.00841	0.0001	6%	0.0112	0.00910	0.0001	20.69%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000480	0.000503	0.00005	4.68%	0.000712	0.000680	0.00005	4.6%	0.000792	0.000816	0.00005	2.99%	0.000595	0.000586	0.00005	1.52%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	0.073	0.066	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.459	0.473	0.1	-	0.531	0.524	0.1	1.33%	0.530	0.549	0.1	3.52%	0.602	0.604	0.1	0.33%
	Total Selenium	mg/L	<0.000050	<0.000050	0.00005	-	0.000090	0.000113	0.00005	-	0.000070	0.000071	0.00005	-	0.000056	<0.000050	0.00005	-
	Total Silicon	mg/L	7.66	7.47	0.1	2.51%	6.89	6.86	0.1	0.44%	8.82	9.01	0.1	2.13%	7.97	7.92	0.1	0.63%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-01-26				2025-02-17				2025-02-24				2025-02-28			
			CC-20				CC-15				705-05				CC-05			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.99	7.98	0.1	0.13%	8.05	8.08	0.1	0.37%	7.48	7.49	0.1	0.13%	8.26	8.27	0.1	0.12%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	108	116	13	7.14%	121	125	13	3.25%	46	50	13	-	142	136	20	4.32%
	Conductivity	µS/cm	153	154	2	0.65%	166	248	2	39.61%	59.3	59.3	2	0%	215	214	2	0.47%
	Turbidity	NTU	0.60	0.59	0.1	1.68%	0.63	0.59	0.1	6.56%	0.85	0.77	0.1	9.88%	0.63	0.55	0.1	13.56%
	Acidity (as $CaCO_3$)	mg/L	<2.0	<2.0	2	-	<2.0	<2.0	2	-	3.1	3.0	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	79.2	79.3	1	0.13%	84.0	129	1	42.25%	26.6	26.5	1	0.38%	112	112	1	0%
	Hardness (as $CaCO_3$), total	mg/L	74.3	76.8	0.6	3.31%	80.1	77.5	0.6	3.3%	23.9	23.4	0.6	2.11%	99.8	99.2	0.6	0.6%
	Hardness (as $CaCO_3$), dissolved	mg/L	70.2	70.5	0.6	0.43%	73.0	74.9	0.6	2.57%	23.9	23.4	0.6	2.11%	94.6	97.2	0.6	2.71%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	0.62	0.62	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.059	0.061	0.02	-	0.065	0.064	0.02	-	0.023	0.023	0.02	-	0.063	0.069	0.02	-
	Sulphate	mg/L	4.66	4.64	0.3	0.43%	4.64	4.65	0.3	0.22%	1.83	1.83	0.3	0%	4.14	4.17	0.3	0.72%
	Total Kjeldahl nitrogen	mg/L	0.220	0.209	0.05	-	0.250	0.322	0.05	25.17%	0.200	0.202	0.05	-	0.213	0.224	0.05	-
	Ammonia, total (as N)	mg/L	0.0093	0.0089	0.005	-	0.0155	0.0181	0.005	-	0.0078	0.0098	0.005	-	0.0065	0.0206	0.005	-
	Nitrate (as N)	mg/L	0.0744	0.0754	0.005	1.34%	0.0861	0.0863	0.005	0.23%	0.0333	0.0336	0.005	0.9%	0.0510	0.0518	0.005	1.56%
	Nitrite (as N)	mg/L	0.0010	<0.0010	0.001	-	0.0021	0.0020	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0096	0.0099	0.001	3.08%	0.0099	0.0101	0.001	2%	<0.0010	<0.0010	0.001	-	0.0169	0.0170	0.001	0.59%
	Total phosphorus	mg/L	0.0224	0.0183	0.002	20.15%	0.0198	0.0202	0.002	2%	0.0083	0.0084	0.002	-	0.0264	0.0331	0.002	22.52%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	6.47	6.00	0.5	7.54%	7.21	7.04	0.5	2.39%	5.84	6.34	0.5	8.21%	5.78	5.70	0.5	1.39%
	Dissolved organic carbon	mg/L	6.44	6.28	0.5	2.52%	7.18	7.12	0.5	0.84%	6.14	6.54	0.5	6.31%	5.43	5.62	0.5	3.44%
Total Metals	Total Aluminum	mg/L	0.0171	0.0148	0.003	-	0.0100	0.0096	0.003	-	0.0384	0.0384	0.003	0%	0.0157	0.0150	0.003	4.56%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00060	0.00060	0.0001	0%	0.00062	0.00062	0.0001	0%	0.00027	0.00026	0.0001	-	0.00069	0.00067	0.0001	2.94%
	Total Barium	mg/L	0.00869	0.00845	0.0001	2.8%	0.00821	0.00822	0.0001	0.12%	0.00734	0.00728	0.0001	0.82%	0.00838	0.00833	0.0001	0.6%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	20.7	21.9	0.05	5.63%	23.3	22.6	0.05	3.05%	7.48	7.35	0.05	1.75%	26.1	26.1	0.05	0%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.129	0.130	0.01	0.77%	0.109	0.108	0.01	0.92%	0.279	0.262	0.01	6.28%	0.110	0.112	0.01	1.8%
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	5.49	5.36	0.1	2.4%	5.32	5.12	0.1	3.83%	1.27	1.24	0.1	2.39%	8.41	8.26	0.1	1.8%
	Total Manganese	mg/L	0.0184	0.0188	0.0001	2.15%	0.0194	0.0188	0.0001	3.14%	0.0256	0.0237	0.0001	7.71%	0.0165	0.0172	0.0001	4.15%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000685	0.000690	0.00005	0.73%	0.000709	0.000722	0.00005	1.82%	0.000560	0.000559	0.00005	0.18%	0.000788	0.000769	0.00005	2.44%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.856	0.881	0.1	2.88%	1.01	0.992	0.1	1.8%	0.410	0.395	0.1	-	1.29	1.30	0.1	0.77%
	Total Selenium	mg/L	0.000072	0.000055	0.00005	-	0.000051	0.000056	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000067	0.000063	0.00005	-
	Total Silicon	mg/L	5.22	5.27	0.1	0.95%	5.37	5.31	0.1	1.12%	3.22	3.10	0.1	3.8%	6.55	6.59	0.1	0.61%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-03-05				2025-03-09				2025-03-10				2025-03-19			
			705-10				CC-15				CC-03				FC-01			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.68	7.68	0.1	0%	7.91	7.93	0.1	0.25%	8.29	8.30	0.1	0.12%	7.85	7.85	0.1	0%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	6.2	4.6	3	-	<3.0	3.2	3	-	<1.0	<1.0	1	-
	Total dissolved solids	mg/L	50	56	10	11.32%	99	97	10	2.04%	117	118	10	0.85%	53	53	13	-
	Conductivity	µS/cm	69.0	69.8	2	1.15%	150	154	2	2.63%	207	207	2	0%	83.7	83.7	2	0%
	Turbidity	NTU	0.34	0.37	0.1	-	2.17	2.29	0.1	5.38%	0.44	0.48	0.1	-	<0.10	<0.10	0.1	-
	Acidity (as $CaCO_3$)	mg/L	<2.0	<2.0	2	-	2.2	2.1	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	31.6	31.8	1	0.63%	75.2	76.3	1	1.45%	109	112	1	2.71%	41.1	41.4	1	0.73%
	Hardness (as $CaCO_3$), total	mg/L	28.6	27.6	0.6	3.56%	74.8	76.4	0.6	2.12%	100	101	0.6	1%	36.0	36.4	0.6	1.1%
	Hardness (as $CaCO_3$), dissolved	mg/L	28.8	28.6	0.6	0.7%	70.7	70.2	0.6	0.71%	102	103	0.6	0.98%	36.4	37.8	0.6	3.77%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	0.52	0.51	0.5	-	0.52	0.57	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.022	0.022	0.02	-	0.065	0.064	0.02	-	0.069	0.066	0.02	-	0.025	0.024	0.02	-
	Sulphate	mg/L	2.59	2.57	0.3	0.78%	4.60	4.60	0.3	0%	4.09	4.10	0.3	0.24%	3.13	3.12	0.3	0.32%
	Total Kjeldahl nitrogen	mg/L	0.150	0.154	0.05	-	0.368	0.298	0.05	21.02%	0.270	0.280	0.05	3.64%	<0.050	<0.050	0.05	-
	Ammonia, total (as N)	mg/L	<0.0050	<0.0050	0.005	-	0.0199	0.0199	0.005	-	0.0154	0.0105	0.005	-	<0.0050	<0.0050	0.005	-
	Nitrate (as N)	mg/L	0.0617	0.0622	0.005	0.81%	0.0495	0.0484	0.005	2.25%	0.0510	0.0575	0.005	11.98%	0.0686	0.0679	0.005	1.03%
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	<0.0010	<0.0010	0.001	-	0.0159	0.0102	0.001	43.68%	0.0106	0.0103	0.001	2.87%	0.00475	0.00530	0.001	-
	Total phosphorus	mg/L	0.0052	0.0045	0.002	-	0.0365	0.0415	0.002	12.82%	0.0199	0.0196	0.002	1.52%	0.0073	0.0082	0.002	-
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	5.89	6.03	0.5	2.35%	6.60	7.03	0.5	6.31%	6.28	6.21	0.5	1.12%	1.97	1.26	0.5	-
	Dissolved organic carbon	mg/L	5.72	6.03	0.5	5.28%	6.29	7.19	0.5	13.35%	6.05	6.29	0.5	3.89%	0.996	1.02	0.5	-
Total Metals	Total Aluminum	mg/L	0.0337	0.0323	0.003	4.24%	0.0605	0.0774	0.003	24.51%	0.0174	0.0170	0.003	2.33%	0.0082	0.0084	0.003	-
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00021	0.00020	0.0001	-	0.00063	0.00071	0.0001	11.94%	0.00056	0.00056	0.0001	0%	0.00093	0.00093	0.0001	0%
	Total Barium	mg/L	0.00887	0.00887	0.0001	0%	0.00905	0.00937	0.0001	3.47%	0.00809	0.00847	0.0001	4.59%	0.00414	0.00412	0.0001	0.48%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	0.0000054	0.000005	-
	Total Calcium	mg/L	8.88	8.52	0.05	4.14%	21.2	21.9	0.05	3.25%	26.8	27.2	0.05	1.48%	12.1	12.3	0.05	1.64%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.101	0.102	0.01	0.99%	0.198	0.221	0.01	10.98%	0.088	0.086	0.01	2.3%	<0.010	<0.010	0.01	-
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	1.55	1.55	0.1	0%	5.31	5.27	0.1	0.76%	8.03	8.10	0.1	0.87%	1.40	1.37	0.1	2.17%
	Total Manganese	mg/L	0.00241	0.00249	0.0001	3.27%	0.0346	0.0365	0.0001	5.34%	0.0175	0.0168	0.0001	4.08%	0.00014	<0.00010	0.0001	-
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000466	0.000488	0.00005	4.61%	0.000751	0.000742	0.00005	1.21%	0.000689	0.000700	0.00005	1.58%	0.000840	0.000856	0.00005	1.89%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.372	0.364	0.1	-	1.12	1.16	0.1	3.51%	1.21	1.21	0.1	0%	0.370	0.369	0.1	-
	Total Selenium	mg/L	<0.000050	<0.000050	0.00005	-	0.000057	0.000080	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000058	<0.000050	0.00005	-
	Total Silicon	mg/L	3.86	3.93	0.1	1.8%	5.00	5.17	0.1	3.34%	5.37	5.34	0.1	0.56%	5.61	5.60	0.1	0.18%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-03-25				2025-04-01				2025-04-04				2025-04-09			
			DC-10				CC-15				DC-05				CC-20			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.88	7.90	0.1	0.25%	8.01	7.98	0.1	0.38%	7.85	7.86	0.1	0.13%	7.99	7.99	0.1	0%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-	7.3	5.9	3	-
	Total dissolved solids	mg/L	95	89	13	6.52%	102	109	13	6.64%	75	67	13	11.27%	89	92	13	3.31%
	Conductivity	µS/cm	131	131	2	0%	152	165	2	8.2%	108	108	2	0%	142	138	2	2.86%
	Turbidity	NTU	5.49	5.23	0.1	4.85%	2.63	2.57	0.1	2.31%	9.38	9.32	0.1	0.64%	4.14	3.92	0.1	5.46%
	Acidity (as $CaCO_3$)	mg/L	<2.0	<2.0	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	63.4	62.4	1	1.59%	75.6	74.9	1	0.93%	52.6	54.9	1	4.28%	66.2	65.5	1	1.06%
	Hardness (as $CaCO_3$), total	mg/L	55.7	57.0	0.6	2.31%	66.9	67.2	0.6	0.45%	50.8	51.2	0.6	0.78%	66.2	65.4	0.6	1.22%
	Hardness (as $CaCO_3$), dissolved	mg/L	56.4	56.4	0.6	0%	69.7	69.8	0.6	0.14%	46.3	47.1	0.6	1.71%	65.8	65.7	0.6	0.15%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	0.65	0.65	0.5	-	0.60	0.58	0.5	-	0.58	0.57	0.5	-	0.65	0.62	0.5	-
	Fluoride	mg/L	0.042	0.042	0.02	-	0.061	0.059	0.02	-	0.042	0.043	0.02	-	0.058	0.058	0.02	-
	Sulphate	mg/L	4.01	4.02	0.3	0.25%	4.03	4.06	0.3	0.74%	3.29	3.29	0.3	0%	6.14	6.11	0.3	0.49%
	Total Kjeldahl nitrogen	mg/L	0.056	0.061	0.05	-	0.358	0.383	0.05	6.75%	0.139	0.125	0.05	-	0.354	0.341	0.05	3.74%
	Ammonia, total (as N)	mg/L	<0.0050	<0.0050	0.005	-	0.0447	0.0426	0.005	4.81%	<0.0050	<0.0050	0.005	-	0.0111	0.0083	0.005	-
	Nitrate (as N)	mg/L	0.0853	0.0874	0.005	2.43%	0.0447	0.0419	0.005	6.47%	0.143	0.146	0.005	2.08%	0.0652	0.0647	0.005	0.77%
	Nitrite (as N)	mg/L	0.0012	0.0011	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0044	0.0045	0.001	-	0.0452	0.0443	0.001	2.01%	0.0028	0.0023	0.001	-	0.0050	0.0051	0.001	1.98%
	Total phosphorus	mg/L	0.0136	0.0131	0.002	3.75%	0.0821	0.0835	0.002	1.69%	0.0169	0.0160	0.002	5.47%	0.0294	0.0330	0.002	11.54%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	0.53	0.61	0.5	-	0.51	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	1.60	1.81	0.5	-	7.82	7.88	0.5	0.76%	3.13	3.21	0.5	2.52%	9.46	9.31	0.5	1.6%
	Dissolved organic carbon	mg/L	1.75	1.51	0.5	-	7.52	7.68	0.5	2.11%	3.00	2.96	0.5	1.34%	8.69	8.65	0.5	0.46%
Total Metals	Total Aluminum	mg/L	0.336	0.320	0.003	4.88%	0.0882	0.130	0.003	38.31%	0.526	0.499	0.003	5.27%	0.192	0.235	0.003	20.14%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00085	0.00080	0.0001	6.06%	0.00069	0.00073	0.0001	5.63%	0.00095	0.00091	0.0001	4.3%	0.00096	0.00098	0.0001	2.06%
	Total Barium	mg/L	0.0122	0.0117	0.0001	4.18%	0.00921	0.00981	0.0001	6.31%	0.0121	0.0116	0.0001	4.22%	0.0104	0.0109	0.0001	4.69%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	0.000022	0.000021	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	<0.0000050	0.0000062	0.000005	-	<0.0000050	0.0000062	0.000005	-	0.0000097	0.0000088	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	16.2	16.8	0.05	3.64%	19.2	19.5	0.05	1.55%	15.0	15.3	0.05	1.98%	19.2	19.0	0.05	1.05%
	Total Chromium	mg/L	0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00054	0.00054	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	0.00010	0.0001	-	0.00014	0.00014	0.0001	-	0.00011	0.00012	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	0.00055	0.00064	0.0005	-	0.00063	0.00061	0.0005	-	0.00066	0.00069	0.0005	-
	Total Iron	mg/L	0.232	0.223	0.01	3.96%	0.216	0.272	0.01	22.95%	0.375	0.359	0.01	4.36%	0.388	0.438	0.01	12.11%
	Total Lead	mg/L	0.000225	0.000210	0.00005	-	<0.000050	0.000058	0.00005	-	0.000278	0.000270	0.00005	2.92%	0.000068	0.000090	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	3.70	3.65	0.1	1.36%	4.60	4.50	0.1	2.2%	3.25	3.16	0.1	2.81%	4.43	4.36	0.1	1.59%
	Total Manganese	mg/L	0.00832	0.00848	0.0001	1.9%	0.0461	0.0464	0.0001	0.65%	0.0152	0.0153	0.0001	0.66%	0.0576	0.0593	0.0001	2.91%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000969	0.000945	0.00005	2.51%	0.000802	0.000802	0.00005	0%	0.000824	0.000779	0.00005	5.61%	0.000720	0.000676	0.00005	6.3%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00076	0.00085	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	0.070	0.091	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.679	0.674	0.1	0.74%	1.64	1.60	0.1	2.47%	0.656	0.652	0.1	0.61%	1.15	1.12	0.1	2.64%
	Total Selenium	mg/L	0.000100	0.000071	0.00005	-	0.000117	0.000109	0.00005	-	0.000125	0.000086	0.00005	-	0.000070	0.000082	0.00005	-
	Total Silicon	mg/L	7.13	6.90	0.1	3.28%	4.73	4.77	0.1	0.84%	7.15	7.16	0.1	0.14%	5.19	5.27	0.1	1.53%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-04-14				2025-04-27				2025-05-04				2025-05-05			
			661-04				705-05				CC-05				705-05			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.44	7.45	0.1	0.13%	7.10	7.10	0.1	0%	7.73	7.73	0.1	0%	7.09	7.09	0.1	0%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	3.8	<3.0	3	-	7.7	7.7	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	80	74	10	7.79%	53	51	10	3.85%	83	77	13	7.5%	42	45	10	-
	Conductivity	µS/cm	75.4	73.8	2	2.14%	40.5	39.5	2	2.5%	76.7	76.0	2	0.92%	32.7	33.3	2	1.82%
	Turbidity	NTU	8.54	8.38	0.1	1.89%	2.27	2.16	0.1	4.97%	3.47	3.38	0.1	2.63%	0.97	0.99	0.1	2.04%
	Acidity (as $CaCO_3$)	mg/L	2.0	2.1	2	-	3.9	3.6	2	-	<2.0	<2.0	2	-	2.7	2.7	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	29.1	28.7	1	1.38%	14.8	14.7	1	0.68%	37.8	37.6	1	0.53%	13.6	13.8	1	1.46%
	Hardness (as $CaCO_3$), total	mg/L	30.4	30.2	0.6	0.66%	17.7	17.4	0.6	1.71%	37.8	38.4	0.6	1.57%	15.4	15.5	0.6	0.65%
	Hardness (as $CaCO_3$), dissolved	mg/L	28.6	28.4	0.6	0.7%	19.1	19.4	0.6	1.56%	36.9	36.4	0.6	1.36%	15.8	15.8	0.6	0%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	1.36	1.35	0.5	-	0.52	0.61	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.038	0.040	0.02	-	0.021	0.022	0.02	-	0.043	0.044	0.02	-	<0.020	<0.020	0.02	-
	Sulphate	mg/L	4.79	4.78	0.3	0.21%	1.49	1.46	0.3	-	1.98	1.99	0.3	0.5%	1.26	1.26	0.3	-
	Total Kjeldahl nitrogen	mg/L	0.228	0.234	0.05	-	0.346	0.345	0.05	0.29%	0.494	0.493	0.05	0.2%	0.326	0.311	0.05	4.71%
	Ammonia, total (as N)	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	0.0053	0.005	-	0.0296	0.0168	0.005	-	0.0078	0.0052	0.005	-
	Nitrate (as N)	mg/L	0.121	0.123	0.005	1.64%	0.0330	0.0114	0.005	-	0.0062	0.0062	0.005	-	0.0061	0.0056	0.005	-
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0112	0.0113	0.001	0.89%	<0.0010	<0.0010	0.001	-	0.0051	0.0053	0.001	3.85%	<0.0010	<0.0010	0.001	-
	Total phosphorus	mg/L	0.0374	0.0358	0.002	4.37%	0.0181	0.0179	0.002	1.11%	0.0349	0.0393	0.002	11.86%	0.0116	0.0114	0.002	1.74%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	0.65	0.61	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	8.62	8.65	0.5	0.35%	14.7	15.3	0.5	4%	15.2	15.9	0.5	4.5%	13.2	13.1	0.5	0.76%
	Dissolved organic carbon	mg/L	8.85	10.2	0.5	14.17%	14.1	15.1	0.5	6.85%	14.2	14.8	0.5	4.14%	13.3	13.4	0.5	0.75%
Total Metals	Total Aluminum	mg/L	0.525	0.498	0.003	5.28%	0.211	0.208	0.003	1.43%	0.309	0.305	0.003	1.3%	0.127	0.130	0.003	2.33%
	Total Antimony	mg/L	0.00015	0.00013	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00153	0.00145	0.0001	5.37%	0.00026	0.00024	0.0001	-	0.00076	0.00074	0.0001	2.67%	0.00022	0.00018	0.0001	-
	Total Barium	mg/L	0.00889	0.00849	0.0001	4.6%	0.00866	0.00857	0.0001	1.04%	0.00652	0.00645	0.0001	1.08%	0.00642	0.00653	0.0001	1.7%
	Total Beryllium	mg/L	0.000023	0.000022	0.00002	-	0.000026	0.000028	0.00002	-	0.000022	0.000021	0.00002	-	0.000029	0.000027	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	0.0000339	0.0000303	0.000005	11.21%	0.0000056	<0.0000050	0.000005	-	0.0000117	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	8.32	8.33	0.05	0.12%	5.62	5.51	0.05	1.98%	10.4	10.5	0.05	0.96%	4.95	4.98	0.05	0.6%
	Total Chromium	mg/L	0.00071	0.00064	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	0.00052	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	0.00016	0.00015	0.0001	-	<0.00010	<0.00010	0.0001	-	0.00015	0.00014	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	0.00076	0.00076	0.0005	-	0.00053	0.00052	0.0005	-	0.00094	0.00094	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.454	0.446	0.01	1.78%	0.222	0.216	0.01	2.74%	0.410	0.387	0.01	5.77%	0.141	0.157	0.01	10.74%
	Total Lead	mg/L	0.000386	0.000370	0.00005	4.23%	<0.000050	<0.000050	0.00005	-	0.000081	0.000095	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	2.34	2.29	0.1	2.16%	0.889	0.881	0.1	0.9%	2.87	2.97	0.1	3.42%	0.748	0.747	0.1	0.13%
	Total Manganese	mg/L	0.0175	0.0170	0.0001	2.9%	0.0423	0.0421	0.0001	0.47%	0.0335	0.0314	0.0001	6.47%	0.00782	0.0116	0.0001	38.93%
	Total Mercury	mg/L	0.0000057	<0.0000050	0.000005	-	0.0000061	0.0000065	0.000005	-	0.0000051	0.0000051	0.000005	-	0.0000051	0.0000053	0.000005	-
	Total Molybdenum	mg/L	0.000359	0.000356	0.00005	0.84%	0.000373	0.000342	0.00005	8.67%	0.000464	0.000471	0.00005	1.5%	0.000311	0.000302	0.00005	2.94%
	Total Nickel	mg/L	<0.00050	0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	0.061	0.062	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.956	0.943	0.1	1.37%	0.550	0.545	0.1	0.91%	0.670	0.688	0.1	2.65%	0.435	0.439	0.1	-
	Total Selenium	mg/L	0.000053	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000074	0.000069	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Silicon	mg/L	7.16	7.06	0.1	1.41%	4.36	4.21	0.1	3.5%	4.70	4.77	0.1	1.48%	3.75	3.80	0.1	1.32%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-05-11				2025-05-14				2025-05-14				2025-05-19			
			CC-03				661-01				661-10				705-10			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.95	7.97	0.1	0.25%	6.70	6.70	0.1	0%	7.03	7.03	0.1	0%	7.25	7.24	0.1	0.14%
	Total suspended solids	mg/L	<3.0	4.8	3	-	<3.0	<3.0	3	-	4.2	3.0	3	-	8.0	8.8	3	-
	Total dissolved solids	mg/L	84	79	13	6.13%	41	45	10	-	47	50	10	-	66	62	10	6.25%
	Conductivity	µS/cm	120	121	2	0.83%	17.0	17.4	2	2.33%	28.3	28.4	2	0.35%	37.1	36.6	2	1.36%
	Turbidity	NTU	1.08	1.08	0.1	0%	0.43	0.40	0.1	-	1.27	1.45	0.1	13.24%	3.88	4.02	0.1	3.54%
	Acidity (as $CaCO_3$)	mg/L	<2.0	<2.0	2	-	2.4	2.3	2	-	<2.0	<2.0	2	-	3.2	3.2	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	61.8	61.7	1	0.16%	5.9	5.8	1	1.71%	10.6	10.6	1	0%	13.3	13.8	1	3.69%
	Hardness (as $CaCO_3$), total	mg/L	59.3	61.4	0.6	3.48%	6.92	7.29	0.6	5.21%	12.3	12.2	0.6	0.82%	18.9	18.8	0.6	0.53%
	Hardness (as $CaCO_3$), dissolved	mg/L	57.6	58.3	0.6	1.21%	6.94	6.99	0.6	0.72%	12.3	12.9	0.6	4.76%	18.0	18.4	0.6	2.2%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.060	0.060	0.02	-	0.027	0.026	0.02	-	0.035	0.036	0.02	-	0.020	0.021	0.02	-
	Sulphate	mg/L	2.00	1.96	0.3	2.02%	0.32	0.31	0.3	-	0.91	0.92	0.3	-	0.96	0.97	0.3	-
	Total Kjeldahl nitrogen	mg/L	0.414	0.400	0.05	3.44%	0.304	0.316	0.05	3.87%	0.275	0.319	0.05	14.81%	0.417	0.407	0.05	2.43%
	Ammonia, total (as N)	mg/L	0.0085	0.0075	0.005	-	<0.0050	<0.0050	0.005	-	0.0063	0.0062	0.005	-	0.0054	0.0066	0.005	-
	Nitrate (as N)	mg/L	0.0061	0.0061	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0035	0.0035	0.001	-	<0.0010	<0.0010	0.001	-	0.0029	0.0029	0.001	-	<0.0010	<0.0010	0.001	-
	Total phosphorus	mg/L	0.0177	0.0168	0.002	5.22%	0.0112	0.0126	0.002	11.76%	0.0175	0.0166	0.002	5.28%	0.0230	0.0220	0.002	4.44%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	0.63	0.59	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	11.0	10.7	0.5	2.76%	14.0	13.9	0.5	0.72%	14.5	14.8	0.5	2.05%	21.8	22.6	0.5	3.6%
	Dissolved organic carbon	mg/L	10.8	10.6	0.5	1.87%	13.5	14.2	0.5	5.05%	14.3	14.4	0.5	0.7%	20.8	21.1	0.5	1.43%
Total Metals	Total Aluminum	mg/L	0.0810	0.0761	0.003	6.24%	0.203	0.204	0.003	0.49%	0.249	0.224	0.003	10.57%	0.340	0.357	0.003	4.88%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00053	0.00048	0.0001	-	0.00052	0.00054	0.0001	3.77%	0.00063	0.00060	0.0001	4.88%	0.00024	0.00024	0.0001	-
	Total Barium	mg/L	0.00604	0.00590	0.0001	2.35%	0.00270	0.00266	0.0001	1.49%	0.00363	0.00346	0.0001	4.8%	0.00917	0.00928	0.0001	1.19%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	0.000027	0.000024	0.00002	-	0.000027	0.000032	0.00002	-	0.000045	0.000044	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	0.0000124	0.0000070	0.000005	-	<0.0000050	0.0000077	0.000005	-
	Total Calcium	mg/L	15.9	16.2	0.05	1.87%	1.96	2.10	0.05	6.9%	3.49	3.42	0.05	2.03%	5.98	5.92	0.05	1.01%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	0.00054	0.00054	0.0005	-	0.00070	0.00068	0.0005	-	0.00091	0.00093	0.0005	-
	Total Iron	mg/L	0.138	0.119	0.01	14.79%	0.130	0.131	0.01	0.77%	0.200	0.173	0.01	14.48%	0.300	0.315	0.01	4.88%
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000062	<0.000050	0.00005	-	0.000064	0.000067	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	4.76	5.08	0.1	6.5%	0.493	0.496	0.1	-	0.862	0.884	0.1	2.52%	0.958	0.990	0.1	3.29%
	Total Manganese	mg/L	0.0286	0.0245	0.0001	15.44%	0.00488	0.00508	0.0001	4.02%	0.00784	0.00638	0.0001	20.53%	0.0135	0.0148	0.0001	9.19%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	0.0000057	0.000005	-	0.0000058	0.0000056	0.000005	-	0.0000098	0.0000075	0.000005	-
	Total Molybdenum	mg/L	0.000591	0.000603	0.00005	2.01%	0.000092	0.000089	0.00005	-	0.000188	0.000173	0.00005	-	0.000232	0.000227	0.00005	-
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.736	0.775	0.1	5.16%	0.172	0.176	0.1	-	0.285	0.283	0.1	-	0.335	0.339	0.1	-
	Total Selenium	mg/L	<0.000050	0.000053	0.00005	-	<0.000050	0.000064	0.00005	-	0.000059	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Silicon	mg/L	3.56	3.47	0.1	2.56%	3.77	3.82	0.1	1.32%	4.52	4.66	0.1	3.05%	4.40	4.39	0.1	0.23%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-05-25				2025-06-01				2025-06-22				2025-06-24			
			661-10				DC-20				CC-40				CC-03			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.23	7.23	0.1	0%	7.63	7.64	0.1	0.13%	7.97	7.99	0.1	0.25%	8.14	8.13	0.1	0.12%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	5.2	5.2	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	48	45	10	-	68	50	13	-	97	99	13	2.04%	133	135	13	1.49%
	Conductivity	µS/cm	33.1	33.0	2	0.3%	59.0	63.2	2	6.87%	140	139	2	0.72%	168	168	2	0%
	Turbidity	NTU	0.80	0.74	0.1	7.79%	6.42	6.38	0.1	0.63%	2.25	2.19	0.1	2.7%	1.28	1.11	0.1	14.23%
	Acidity (as $CaCO_3$)	mg/L	3.2	3.3	2	-	2.1	2.1	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	12.1	12.3	1	1.64%	28.0	28.0	1	0%	71.7	71.9	1	0.28%	88.9	89.1	1	0.22%
	Hardness (as $CaCO_3$), total	mg/L	13.8	13.6	0.6	1.46%	27.0	26.9	0.6	0.37%	69.0	67.6	0.6	2.05%	91.0	90.9	0.6	0.11%
	Hardness (as $CaCO_3$), dissolved	mg/L	13.7	13.8	0.6	0.73%	26.0	26.1	0.6	0.38%	70.2	69.2	0.6	1.43%	86.0	89.2	0.6	3.65%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	<0.50	<0.50	0.5	-	0.70	0.70	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.033	0.033	0.02	-	0.034	0.034	0.02	-	0.051	0.052	0.02	-	0.056	0.056	0.02	-
	Sulphate	mg/L	1.10	1.10	0.3	-	1.65	1.64	0.3	0.61%	3.57	3.56	0.3	0.28%	6.49	6.46	0.3	0.46%
	Total Kjeldahl nitrogen	mg/L	0.299	0.296	0.05	1.01%	0.218	0.215	0.05	-	0.284	0.314	0.05	10.03%	0.293	0.283	0.05	3.47%
	Ammonia, total (as N)	mg/L	0.0056	0.0061	0.005	-	0.0050	<0.0050	0.005	-	0.0100	0.0084	0.005	-	0.0092	0.0092	0.005	-
	Nitrate (as N)	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	0.0071	0.0073	0.005	-
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0031	0.0033	0.001	-	0.0014	0.0017	0.001	-	0.0046	0.0047	0.001	-	0.0100	0.0105	0.001	4.88%
	Total phosphorus	mg/L	0.0140	0.0332	0.002	81.36%	0.0147	0.0151	0.002	2.68%	0.0234	0.0220	0.002	6.17%	0.0234	0.0223	0.002	4.81%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	15.0	15.2	0.5	1.32%	8.36	8.24	0.5	1.45%	9.02	8.55	0.5	5.35%	8.59	8.36	0.5	2.71%
	Dissolved organic carbon	mg/L	14.7	15.0	0.5	2.02%	7.85	7.92	0.5	0.89%	8.33	8.52	0.5	2.26%	7.32	7.48	0.5	2.16%
Total Metals	Total Aluminum	mg/L	0.209	0.189	0.003	10.05%	0.441	0.431	0.003	2.29%	0.0896	0.0945	0.003	5.32%	0.0380	0.0274	0.003	32.42%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	0.00012	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00065	0.00061	0.0001	6.35%	0.00117	0.00112	0.0001	4.37%	0.00103	0.00104	0.0001	0.97%	0.00086	0.00085	0.0001	1.17%
	Total Barium	mg/L	0.00373	0.00358	0.0001	4.1%	0.00863	0.00840	0.0001	2.7%	0.00919	0.00926	0.0001	0.76%	0.00745	0.00737	0.0001	1.08%
	Total Beryllium	mg/L	<0.000020	0.000026	0.00002	-	0.000029	0.000029	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	0.0000111	0.0000096	0.000005	-	0.0000145	0.0000110	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	3.89	3.85	0.05	1.03%	8.14	8.12	0.05	0.25%	19.8	19.3	0.05	2.56%	26.7	26.9	0.05	0.75%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	0.00013	0.00013	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	0.00068	0.00066	0.0005	-	0.00093	0.00093	0.0005	-	0.00055	0.00054	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.165	0.156	0.01	5.61%	0.383	0.393	0.01	2.58%	0.344	0.334	0.01	2.95%	0.147	0.135	0.01	8.51%
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	0.000369	0.000354	0.00005	4.15%	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	0.993	0.980	0.1	1.32%	1.62	1.62	0.1	0%	4.75	4.71	0.1	0.85%	5.91	5.76	0.1	2.57%
	Total Manganese	mg/L	0.00606	0.00530	0.0001	13.38%	0.0185	0.0183	0.0001	1.09%	0.0684	0.0675	0.0001	1.32%	0.0396	0.0357	0.0001	10.36%
	Total Mercury	mg/L	0.0000079	0.0000064	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000186	0.000175	0.00005	-	0.000446	0.000459	0.00005	2.87%	0.000875	0.000851	0.00005	2.78%	0.000883	0.000860	0.00005	2.64%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.319	0.312	0.1	-	0.671	0.667	0.1	0.6%	0.872	0.867	0.1	0.58%	0.808	0.790	0.1	2.25%
	Total Selenium	mg/L	<0.000050	<0.000050	0.00005	-	0.000050	<0.000050	0.00005	-	0.000072	0.000085	0.00005	-	0.000059	<0.000050	0.00005	-
	Total Silicon	mg/L	4.82	4.71	0.1	2.31%	5.16	5.15	0.1	0.19%	4.38	4.32	0.1	1.38%	5.93	5.84	0.1	1.53%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-06-27				2025-07-07				2025-07-08				2025-07-13			
			661-04				CC-20				DC-05				CC-30			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.55	7.55	0.1	0%	8.05	8.06	0.1	0.12%	7.85	7.85	0.1	0%	8.13	8.13	0.1	0%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	3.2	<3.0	3	-	<3.0	3.8	3	-
	Total dissolved solids	mg/L	70	63	13	-	102	98	13	4%	52	59	13	-	104	107	13	2.84%
	Conductivity	µS/cm	59.1	59.2	2	0.17%	139	139	2	0%	89.8	90.4	2	0.67%	152	152	2	0%
	Turbidity	NTU	8.00	7.40	0.1	7.79%	1.68	1.48	0.1	12.66%	11.8	10.6	0.1	10.71%	2.1	2.39	0.1	12.92%
	Acidity (as $CaCO_3$)	mg/L	2.5	2.1	2	-	<2.0	<2.0	2	-	2	2	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	29.7	28.8	1	3.08%	69.2	69.7	1	0.72%	42.4	43.1	1	1.64%	77	76.3	1	0.91%
	Hardness (as $CaCO_3$), total	mg/L	26.2	26.3	0.6	0.38%	66.8	63.6	0.6	4.91%	41.8	40.5	0.6	3.16%	69.7	70.2	0.6	0.71%
	Hardness (as $CaCO_3$), dissolved	mg/L	24.6	25.1	0.6	2.01%	64.1	65.3	0.6	1.85%	39.6	39.6	0.6	0%	71.8	70.2	0.6	2.25%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	0.63	0.62	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.041	0.041	0.02	-	0.051	0.053	0.02	-	0.043	0.042	0.02	-	0.053	0.054	0.02	-
	Sulphate	mg/L	1.22	1.21	0.3	-	3.55	3.57	0.3	0.56%	2.9	2.89	0.3	0.35%	3.14	3.15	0.3	0.32%
	Total Kjeldahl nitrogen	mg/L	0.181	0.172	0.05	-	0.316	0.301	0.05	4.86%	0.196	0.199	0.05	-	0.306	0.3	0.05	1.98%
	Ammonia, total (as N)	mg/L	0.0083	<0.0050	0.005	-	0.0085	0.0078	0.005	-	0.0142	0.0112	0.005	-	0.0091	0.009	0.005	-
	Nitrate (as N)	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	0.0747	0.0737	0.005	1.35%	0.0063	<0.0050	0.005	-
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	0.0012	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0058	0.0061	0.001	5.04%	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	0.0057	0.0061	0.001	6.78%
	Total phosphorus	mg/L	0.0217	0.0227	0.002	4.5%	0.0192	0.016	0.002	18.18%	0.0197	0.0213	0.002	7.80%	0.0208	0.0206	0.002	0.97%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	7.52	8.07	0.5	7.06%	7.9	8.13	0.5	2.87%	5.68	6.11	0.5	7.29%	8.08	7.47	0.5	7.85%
	Dissolved organic carbon	mg/L	7.15	7.64	0.5	6.63%	7.44	8.15	0.5	9.11%	5.54	5.71	0.5	3.02%	7.28	7.49	0.5	2.84%
Total Metals	Total Aluminum	mg/L	0.496	0.512	0.003	3.17%	0.0364	0.0398	0.003	8.92%	0.671	0.667	0.003	0.60%	0.0248	0.0403	0.003	47.62%
	Total Antimony	mg/L	0.00012	0.00012	0.0001	-	<0.00010	<0.00010	0.0001	-	0.00011	0.00011	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00146	0.00149	0.0001	2.03%	0.00076	0.00081	0.0001	6.37%	0.00175	0.00176	0.0001	0.57%	0.00101	0.00096	0.0001	5.08%
	Total Barium	mg/L	0.00732	0.00729	0.0001	0.41%	0.008	0.00819	0.0001	2.35%	0.0126	0.0124	0.0001	1.60%	0.00836	0.00854	0.0001	2.13%
	Total Beryllium	mg/L	0.000020	0.000024	0.00002	-	<0.000020	<0.000020	0.00002	-	0.000032	0.000037	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	0.0000311	0.0000349	0.000005	11.52%	<0.0000050	<0.0000050	0.000005	-	0.0000343	0.0000352	0.000005	2.59%	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	7.63	7.62	0.05	0.13%	19.4	18.1	0.05	6.93%	12.6	12.1	0.05	4.05%	19.7	19.9	0.05	1.01%
	Total Chromium	mg/L	0.00066	0.00064	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00057	0.00061	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	0.00016	0.00016	0.0001	-	<0.00010	<0.00010	0.0001	-	0.00029	0.00032	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	0.00072	0.00076	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00094	0.00094	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.378	0.395	0.01	4.4%	0.181	0.193	0.01	6.42%	0.451	0.43	0.01	4.77%	0.356	0.384	0.01	7.57%
	Total Lead	mg/L	0.000300	0.000300	0.00005	0%	<0.000050	<0.000050	0.00005	-	0.000604	0.000586	0.00005	3.03%	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	1.75	1.77	0.1	1.14%	4.46	4.48	0.1	0.45%	2.52	2.5	0.1	0.80%	4.98	4.98	0.1	0%
	Total Manganese	mg/L	0.0203	0.0222	0.0001	8.94%	0.0264	0.0272	0.0001	2.99%	0.0464	0.0474	0.0001	2.13%	0.064	0.0754	0.0001	16.36%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000411	0.000398	0.00005	3.21%	0.000732	0.000711	0.00005	2.91%	0.000711	0.000754	0.00005	5.87%	0.000873	0.000834	0.00005	4.57%
	Total Nickel	mg/L	0.00054	0.00054	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.531	0.537	0.1	1.12%	0.838	0.858	0.1	2.36%	0.724	0.746	0.1	2.99%	0.817	0.812	0.1	0.61%
	Total Selenium	mg/L	0.000060	0.000071	0.00005	-	0.000087	0.000076	0.00005	-	<0.000050	0.000087	0.00005	-	<0.000050	0.000094	0.00005	-
	Total Silicon	mg/L	6.94	7.10	0.1	2.28%	3.77	3.77	0.1	0%	6.32	6.22	0.1	1.59%	3.8	3.76	0.1	1.06%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-08-03				2025-08-04				2025-08-10				2025-09-09			
			CC-40				CC-15				DC-20				705-10			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	8.1	8.09	0.1	0.12%	8.58	8.57	0.1	0.12%	7.92	7.94	0.1	0.25%	7.59	7.6	0.1	0.13%
	Total suspended solids	mg/L	3.2	<3.0	3	-	<3.0	<3.0	3	-	3.5	8.3	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	100	104	13	3.92%	96	102	13	6.06%	88	85	13	3.47%	62	69	13	-
	Conductivity	µS/cm	170	170	2	0%	140	140	2	0%	118	119	2	0.84%	79.8	84.2	2	5.37%
	Turbidity	NTU	1.56	1.59	0.1	1.90%	1.9	1.79	0.1	5.96%	4.26	4.25	0.1	0.24%	0.4	0.4	0.1	-
	Acidity (as $CaCO_3$)	mg/L	<2.0	<2.0	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-	3	3	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	86.4	87.4	1	1.15%	69.2	70.7	1	2.14%	56.3	56.6	1	0.53%	41.9	41.7	1	0.48%
	Hardness (as $CaCO_3$), total	mg/L	77.7	78.2	0.6	0.64%	71.4	71.4	0.6	0%	49.8	49.9	0.6	0.20%	35.5	36.6	0.6	3.05%
	Hardness (as $CaCO_3$), dissolved	mg/L	85.1	82.4	0.6	3.22%	65.5	67.1	0.6	2.41%	51.5	53.4	0.6	3.62%	36.3	36.7	0.6	1.10%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	0.87	0.86	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.07	0.067	0.02	-	0.056	0.055	0.02	-	0.046	0.046	0.02	-	0.029	0.028	0.02	-
	Sulphate	mg/L	3.28	3.21	0.3	2.16%	3.27	3.27	0.3	0%	2.93	2.86	0.3	2.42%	1.46	1.44	0.3	-
	Total Kjeldahl nitrogen	mg/L	0.301	0.277	0.05	8.30%	0.321	0.316	0.05	1.57%	0.176	0.203	0.05	-	0.153	0.151	0.05	-
	Ammonia, total (as N)	mg/L	0.0109	0.0107	0.005	-	0.0091	0.0082	0.005	-	0.0083	0.0085	0.005	-	<0.0050	0.0088	0.005	-
	Nitrate (as N)	mg/L	0.0054	0.0055	0.005	-	0.0053	0.0053	0.005	-	<0.0050	<0.0050	0.005	-	0.0986	0.096	0.005	2.67%
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.009	0.0087	0.001	3.39%	0.0038	0.0042	0.001	-	0.0048	0.0047	0.001	-	0.0017	0.0013	0.001	-
	Total phosphorus	mg/L	0.0221	0.0216	0.002	2.29%	0.0198	0.0204	0.002	2.99%	0.0151	0.021	0.002	32.69%	0.0063	0.006	0.002	-
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	6.83	6.86	0.5	0.44%	7.64	7.93	0.5	3.73%	4.92	4.97	0.5	1.01%	5.32	5.03	0.5	5.60%
	Dissolved organic carbon	mg/L	6.91	6.89	0.5	0.29%	7.57	7.31	0.5	3.49%	4.88	4.63	0.5	5.26%	5.07	5.07	0.5	0%
Total Metals	Total Aluminum	mg/L	0.0232	0.0274	0.003	16.60%	0.0312	0.0352	0.003	12.05%	0.0627	0.286	0.003	128.08%	0.0534	0.0352	0.003	41.08%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00139	0.00149	0.0001	6.94%	0.00114	0.00119	0.0001	4.29%	0.00126	0.00151	0.0001	18.05%	0.00022	0.0002	0.0001	-
	Total Barium	mg/L	0.00878	0.00909	0.0001	3.47%	0.00812	0.00798	0.0001	1.74%	0.0107	0.0136	0.0001	23.87%	0.0135	0.0128	0.0001	5.32%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	0.0000054	0.000005	-	0.0000061	0.0000086	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	22.3	22	0.05	1.35%	20.8	20.5	0.05	1.45%	14.4	14.4	0.05	0%	10.7	11.2	0.05	4.57%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	0.00013	0.00013	0.0001	-	0.00053	0.00067	0.0001	23.33%	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	0.00101	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	0.00061	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.387	0.416	0.01	7.22%	0.233	0.244	0.01	4.61%	0.553	0.88	0.01	45.64%	0.07	0.044	0.01	-
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	0.000182	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	5.35	5.65	0.1	5.45%	4.72	4.92	0.1	4.15%	3.35	3.38	0.1	0.89%	2.13	2.11	0.1	0.94%
	Total Manganese	mg/L	0.0485	0.0502	0.0001	3.44%	0.0286	0.029	0.0001	1.39%	0.0307	0.0757	0.0001	84.59%	0.00882	0.00524	0.0001	50.92%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	0.000005	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.00123	0.00121	0.00005	1.64%	0.000794	0.000808	0.00005	1.75%	0.000851	0.000864	0.00005	1.52%	0.000552	0.000558	0.00005	1.08%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	0.00052	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	1.03	1.05	0.1	1.92%	0.848	0.866	0.1	2.10%	0.818	0.846	0.1	3.37%	0.463	0.464	0.1	-
	Total Selenium	mg/L	0.000084	0.000085	0.00005	-	0.000088	0.000071	0.00005	-	0.000064	0.000065	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Silicon	mg/L	4.28	4.27	0.1	0.23%	3.91	3.95	0.1	1.02%	6.18	6.46	0.1	4.43%	3.89	3.8	0.1	2.34%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-09-17				2025-09-24				2025-09-30				2025-10-05			
			661-04				661-01				661-01				CC-40			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.85	7.85	0.1	0%	7.38	7.41	0.1	0.41%	7.23	7.24	0.1	0.14%	8.15	8.16	0.1	0.12%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	8.2	<3.0	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	76	79	13	3.87%	30	30	10	-	33	32	10	-	119	122	10	2.49%
	Conductivity	µS/cm	104	103	2	0.97%	34.2	34.1	2	0.29%	36	36.5	2	1.38%	183	183	2	-
	Turbidity	NTU	2.96	3.09	0.1	4.30%	0.19	0.19	0.1	-	0.61	0.24	0.1	-	2.23	2.17	0.1	2.73%
	Acidity (as $CaCO_3$)	mg/L	<2.0	<2.0	2	-	<2.0	<2.0	2	-	2.5	2.2	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	48.6	48.6	1	0%	16.5	16.5	1	0%	16.7	16.7	1	0%	94.5	95.2	1	0.74%
	Hardness (as $CaCO_3$), total	mg/L	43.6	44.8	0.6	2.71%	13.8	13.7	0.6	0.73%	13.9	14.1	0.6	1.43%	89.4	86.9	0.6	2.84%
	Hardness (as $CaCO_3$), dissolved	mg/L	44.9	45.1	0.6	0.44%	13.4	13.8	0.6	2.94%	14.1	13.7	0.6	2.88%	89.5	87.6	0.6	2.15%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	1.07	1.08	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	0.58	0.58	0.5	-
	Fluoride	mg/L	0.046	0.05	0.02	-	0.023	0.023	0.02	-	0.026	0.026	0.02	-	0.074	0.076	0.02	-
	Sulphate	mg/L	2.81	2.82	0.3	0.36%	0.39	0.38	0.3	-	0.63	0.66	0.3	-	4.14	4.16	0.3	0.48%
	Total Kjeldahl nitrogen	mg/L	0.101	0.104	0.05	-	0.15	0.107	0.05	-	0.104	0.147	0.05	-	0.247	0.237	0.05	-
	Ammonia, total (as N)	mg/L	0.0053	0.0056	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	0.0093	0.0091	0.005	-
	Nitrate (as N)	mg/L	<0.0050	<0.0050	0.005	-	0.047	0.0462	0.005	1.72%	0.0139	0.024	0.005	-	<0.0050	<0.0050	0.005	-
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0079	0.0075	0.001	5.19%	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	0.0066	0.0068	0.001	2.99%
	Total phosphorus	mg/L	0.0157	0.0156	0.002	0.64%	0.0096	0.0024	0.002	-	0.0035	0.0072	0.002	-	0.0188	0.0189	0.002	0.53%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	3.07	3.18	0.5	3.52%	4.32	4.42	0.5	2.29%	3.7	4.08	0.5	9.77%	5.6	5.77	0.5	2.99%
	Dissolved organic carbon	mg/L	3.49	3.1	0.5	11.84%	4.26	4.13	0.5	3.10%	3.64	3.92	0.5	7.41%	5.42	5.44	0.5	0.37%
Total Metals	Total Aluminum	mg/L	0.133	0.142	0.003	6.55%	0.12	0.0521	0.003	78.91%	0.0366	0.0863	0.003	80.88%	0.0205	0.0203	0.003	0.98%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00158	0.00152	0.0001	3.87%	0.0006	0.00038	0.0001	-	0.00039	0.00055	0.0001	-	0.00093	0.00095	0.0001	2.13%
	Total Barium	mg/L	0.00641	0.00641	0.0001	0%	0.00372	0.00288	0.0001	25.45%	0.00275	0.00345	0.0001	22.58%	0.00886	0.00937	0.0001	5.60%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	0.0000163	0.0000179	0.000005	-	0.0000173	<0.0000050	0.000005	-	<0.0000050	0.0000115	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	12.2	12.6	0.05	3.23%	3.9	3.86	0.05	1.03%	3.91	3.91	0.05	0.00%	24.8	24.1	0.05	2.86%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	0.0001	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.166	0.173	0.01	4.13%	0.216	0.091	0.01	81.43%	0.058	0.169	0.01	97.80%	0.549	0.564	0.01	2.70%
	Total Lead	mg/L	0.000086	0.000089	0.00005	-	0.000099	<0.000050	0.00005	-	<0.000050	0.000057	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	3.19	3.25	0.1	1.86%	1	0.993	0.1	0.70%	1.01	1.05	0.1	3.88%	6.67	6.49	0.1	2.74%
	Total Manganese	mg/L	0.0178	0.0179	0.0001	0.56%	0.068	0.0245	0.0001	94.05%	0.0135	0.0613	0.0001	127.81%	0.031	0.0322	0.0001	3.80%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000909	0.000938	0.00005	3.14%	0.000171	0.000162	0.00005	-	0.000208	0.000214	0.00005	-	0.00112	0.00111	0.00005	0.90%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.698	0.693	0.1	0.72%	0.248	0.224	0.1	-	0.25	0.297	0.1	-	1.12	1.14	0.1	1.77%
	Total Selenium	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000063	<0.000050	0.00005	-
	Total Silicon	mg/L	7.56	7.46	0.1	1.33%	5.44	5.28	0.1	2.99%	5	5.04	0.1	0.80%	4.41	4.42	0.1	0.23%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-10-07				2025-10-14				2025-10-20				2025-10-26			
			705-10				DC-05				CC-15				CC-03			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.74	7.67	0.1	0.91%	7.81	7.88	0.1	0.89%	7.93	7.91	0.1	0.25%	8.2	8.1	0.1	1.23%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	4.6	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	68	67	13	1.48%	72	68	10	5.71%	82	90	13	9.30%	144	144	13	-
	Conductivity	µS/cm	76.2	77	2	1.04%	90.5	87.9	2	2.91%	144	146	2	1.38%	222	221	2	0.45%
	Turbidity	NTU	0.19	0.2	0.1	-	2.46	3.78	0.1	42.31%	1.29	1.28	0.1	0.78%	0.43	0.41	0.1	-
	Acidity (as $CaCO_3$)	mg/L	2.1	<2.0	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	37.8	37.9	1	0.26%	40.5	39	1	3.77%	73	72.4	1	0.83%	114	113	1	0.88%
	Hardness (as $CaCO_3$), total	mg/L	34.9	35	0.6	0.29%	38.9	36.8	0.6	5.55%	68.2	68.9	0.6	1.02%	109	112	0.6	2.71%
	Hardness (as $CaCO_3$), dissolved	mg/L	34.6	33.9	0.6	2.04%	36.7	35.5	0.6	3.32%	71	73.3	0.6	3.19%	106	109	0.6	2.79%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	<0.50	<0.50	0.5	-	1.46	1.58	0.5	-	0.52	0.52	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.03	0.031	0.02	-	0.032	0.034	0.02	-	0.055	0.055	0.02	-	0.065	0.063	0.02	-
	Sulphate	mg/L	1.14	1.14	0.3	-	4.25	4.32	0.3	1.63%	4.03	4.01	0.3	0.50%	7.93	7.92	0.3	0.13%
	Total Kjeldahl nitrogen	mg/L	0.115	0.120	0.05	-	0.19	0.208	0.05	-	0.269	0.264	0.05	1.88%	0.15	0.14	0.05	-
	Ammonia, total (as N)	mg/L	<0.0050	<0.0050	0.005	-	0.0078	0.0114	0.005	-	0.0087	0.0084	0.005	-	<0.0050	<0.0050	0.005	-
	Nitrate (as N)	mg/L	0.0074	0.0069	0.005	-	0.0673	0.0395	0.005	52.06%	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Nitrite (as N)	mg/L	<0.0010	<0.0010	0.001	-	0.0024	0.0023	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	0.0022	0.0021	0.001	-	0.0062	0.0064	0.001	3.17%
	Total phosphorus	mg/L	0.0031	0.003	0.002	-	0.0074	0.0089	0.002	-	0.0144	0.016	0.002	10.53%	0.0144	0.0152	0.002	5.41%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	4.43	4.39	0.5	0.91%	3.92	3.89	0.5	0.77%	6.17	6.59	0.5	6.58%	4.33	4.28	0.5	1.16%
	Dissolved organic carbon	mg/L	4.33	4.29	0.5	0.93%	3.76	3.67	0.5	2.42%	5.9	6.13	0.5	3.82%	4.22	4.12	0.5	2.40%
Total Metals	Total Aluminum	mg/L	0.0162	0.0187	0.003	14.33%	0.149	0.177	0.003	17.18%	0.0282	0.035	0.003	21.52%	0.0085	0.0075	0.003	-
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	0.00011	0.00012	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00018	0.00016	0.0001	-	0.00094	0.001	0.0001	6.19%	0.00062	0.00061	0.0001	1.63%	0.00058	0.00054	0.0001	7.14%
	Total Barium	mg/L	0.00986	0.0109	0.0001	10.02%	0.00757	0.00711	0.0001	6.27%	0.00858	0.0083	0.0001	3.32%	0.00624	0.00616	0.0001	1.29%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	0.0000186	0.0000211	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	10.7	10.8	0.05	0.93%	11.6	10.9	0.05	6.22%	19	19.5	0.05	2.60%	30.1	31.3	0.05	3.91%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	0.00101	0.00101	0.0001	-	0.00014	0.00014	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	0.00063	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.066	0.068	0.01	2.99%	0.15	0.167	0.01	10.73%	0.216	0.242	0.01	11.35%	0.096	0.096	0.01	-
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	0.000119	0.000126	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	1.98	1.96	0.1	1.02%	2.42	2.32	0.1	4.22%	5.04	4.9	0.1	2.82%	8.1	8.11	0.1	0.12%
	Total Manganese	mg/L	0.00156	0.00175	0.0001	11.48%	0.0303	0.0275	0.0001	9.69%	0.0297	0.0306	0.0001	2.99%	0.0125	0.0135	0.0001	7.69%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000513	0.000482	0.00005	6.23%	0.000723	0.000746	0.00005	3.13%	0.000652	0.000676	0.00005	3.61%	0.000816	0.000818	0.00005	0.24%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.399	0.395	0.1	-	0.645	0.732	0.1	12.64%	0.863	0.842	0.1	2.46%	1.18	1.17	0.1	0.85%
	Total Selenium	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	0.000058	0.00005	-	0.000063	0.000068	0.00005	-	<0.000050	0.000058	0.00005	-
	Total Silicon	mg/L	3.55	3.48	0.1	1.99%	5.39	5.06	0.1	6.32%	3.58	3.85	0.1	7.27%	7.35	7.17	0.1	2.48%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-10-31				2025-11-02				2025-11-10				2025-11-17			
			DC-05				705-10				661-20				CC-40			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.56	7.56	0.1	-	7.65	7.61	0.1	0.52%	8.06	8.06	0.1	-	8.16	8.15	0.1	0.12%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	79	76	10	3.87%	54	62	13	-	101	102	13	0.99%	110	118	13	7.02%
	Conductivity	µS/cm	76	76.3	2	0.39%	67.7	67.7	2	-	142	141	2	0.71%	172	171	2	0.58%
	Turbidity	NTU	18.9	19.1	0.1	1.05%	0.27	0.28	0.1	-	0.41	0.41	0.1	-	1.92	1.71	0.1	11.57%
	Acidity (as $CaCO_3$)	mg/L	<2.0	2	2	-	2.2	2.3	2	-	<2.0	<2.0	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	33.6	33.7	1	0.30%	33.2	33.2	1	-	74.2	73.8	1	0.54%	89.4	88.7	1	0.79%
	Hardness (as $CaCO_3$), total	mg/L	35.5	36	0.6	1.40%	30.3	31.6	0.6	4.20%	70.3	67.7	0.6	3.77%	80.9	80.2	0.6	0.87%
	Hardness (as $CaCO_3$), dissolved	mg/L	33.5	33.6	0.6	0.30%	30.8	31.3	0.6	1.61%	67.5	69.5	0.6	2.92%	79.5	81.5	0.6	2.48%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	0.88	0.88	0.5	-	0.65	0.65	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.032	0.032	0.02	-	0.026	0.027	0.02	-	0.067	0.063	0.02	-	0.064	0.064	0.02	-
	Sulphate	mg/L	5.04	5.03	0.3	0.20%	2.11	2.1	0.3	0.48%	3.23	2.77	0.3	15.33%	4.38	4.4	0.3	0.46%
	Total Kjeldahl nitrogen	mg/L	0.166	0.174	0.05	-	0.135	0.147	0.05	-	0.111	0.208	0.05	-	0.215	0.207	0.05	-
	Ammonia, total (as N)	mg/L	0.0091	0.009	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	0.0089	0.0055	0.005	-
	Nitrate (as N)	mg/L	0.101	0.102	0.005	0.99%	0.0077	0.0072	0.005	-	<0.0050	<0.0050	0.005	-	0.0075	0.0072	0.005	-
	Nitrite (as N)	mg/L	0.0017	0.0016	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Ortho-phosphorus, dissolved	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	0.0188	0.0175	0.001	7.16%	0.0066	0.0067	0.001	1.50%
	Total phosphorus	mg/L	0.0234	0.0231	0.002	1.29%	0.0041	0.0041	0.002	-	0.0234	0.038	0.002	47.56%	0.0175	0.0194	0.002	10.30%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	7.68	5.88	0.5	26.55%	5.58	5.98	0.5	6.92%	3.36	4.47	0.5	28.35%	5.39	5.48	0.5	1.66%
	Dissolved organic carbon	mg/L	6.02	5.81	0.5	3.55%	5.8	6.3	0.5	8.26%	3.52	3.6	0.5	2.25%	5.16	5.14	0.5	0.39%
Total Metals	Total Aluminum	mg/L	0.849	0.835	0.003	1.66%	0.0262	0.0279	0.003	6.28%	0.0161	0.149	0.003	160.99%	0.0323	0.0289	0.003	11.11%
	Total Antimony	mg/L	0.00012	0.00012	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.0017	0.00162	0.0001	4.82%	0.00018	0.00019	0.0001	-	0.00084	0.00099	0.0001	16.39%	0.00071	0.00074	0.0001	4.14%
	Total Barium	mg/L	0.0149	0.0145	0.0001	2.72%	0.00927	0.00934	0.0001	0.75%	0.00697	0.00868	0.0001	21.85%	0.00931	0.00899	0.0001	3.50%
	Total Beryllium	mg/L	0.000042	0.00004	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	0.0000279	0.0000299	0.000005	6.92%	<0.0000050	<0.0000050	0.000005	-	<0.0000050	0.0000148	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	10.8	11	0.05	1.83%	9.2	9.65	0.05	4.77%	19	18	0.05	5.41%	22.7	22.3	0.05	1.78%
	Total Chromium	mg/L	0.00085	0.00087	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	0.00051	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	0.0014	0.00139	0.0001	0.72%	<0.00010	<0.00010	0.0001	-	<0.00010	0.00011	0.0001	-	0.0001	0.00011	0.0001	-
	Total Copper	mg/L	0.00127	0.00132	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.728	0.707	0.01	2.93%	0.105	0.106	0.01	0.95%	0.111	0.379	0.01	109.39%	0.535	0.528	0.01	1.32%
	Total Lead	mg/L	0.000849	0.00082	0.00005	3.48%	<0.000050	<0.000050	0.00005	-	<0.000050	0.00009	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	2.07	2.06	0.1	0.48%	1.79	1.83	0.1	2.21%	5.55	5.53	0.1	0.36%	5.87	5.96	0.1	1.52%
	Total Manganese	mg/L	0.0298	0.0302	0.0001	1.33%	0.00183	0.00181	0.0001	1.10%	0.00569	0.0441	0.0001	154.29%	0.0374	0.0336	0.0001	10.70%
	Total Mercury	mg/L	<0.0000050	0.000006	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000706	0.000683	0.00005	3.31%	0.000461	0.000451	0.00005	2.19%	0.000933	0.00097	0.00005	3.89%	0.00093	0.000883	0.00005	5.18%
	Total Nickel	mg/L	0.00071	0.0007	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.687	0.687	0.1	-	0.39	0.397	0.1	-	0.799	0.794	0.1	0.63%	0.935	0.946	0.1	1.17%
	Total Selenium	mg/L	<0.000050	0.000053	0.00005	-	<0.000050	<0.000050	0.00005	-	0.00006	0.00009	0.00005	-	0.000062	0.000072	0.00005	-
	Total Silicon	mg/L	6.81	6.83	0.1	0.29%	3.72	3.72	0.1	-	7.53	7.59	0.1	0.79%	5.38	5.36	0.1	0.37%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-11-26				2025-12-08				2025-12-12				2025-12-26			
			CC-15				DC-15				661-01				CC-03			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Physical tests	pH	pH units	7.89	7.9	0.1	0.13%	7.92	7.93	0.1	0.13%	7.17	7.24	0.1	0.97%	8.24	8.25	0.1	0.12%
	Total suspended solids	mg/L	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-	<3.0	<3.0	3	-
	Total dissolved solids	mg/L	106	109	13	2.79%	84	82	13	2.41%	37	35	10	-	158	157	20	0.63%
	Conductivity	µS/cm	148	148	2	-	119	119	2	-	34.3	34.3	2	-	246	245	2	0.41%
	Turbidity	NTU	1.29	1.21	0.1	6.40%	0.99	0.97	0.1	2.04%	0.38	0.38	0.1	-	0.93	0.92	0.1	1.08%
	Acidity (as $CaCO_3$)	mg/L	2.5	2.5	2	-	2.2	2.1	2	-	2.9	2.6	2	-	<2.0	<2.0	2	-
	Alkalinity (as $CaCO_3$), total	mg/L	77.8	77.9	1	0.13%	56.1	57	1	1.59%	16.4	15.7	1	4.36%	131	131	1	-
	Hardness (as $CaCO_3$), total	mg/L	72.8	72.1	0.6	0.97%	54.7	51.7	0.6	5.64%	13.3	13.3	0.6	-	129	131	0.6	1.54%
	Hardness (as $CaCO_3$), dissolved	mg/L	76.6	76.7	0.6	0.13%	54.3	54.8	0.6	0.92%	13.3	13.1	0.6	1.52%	128	124	0.6	3.17%
Anions and Nutrients	Bromide	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Chloride	mg/L	<0.50	<0.50	0.5	-	<0.50	0.52	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Fluoride	mg/L	0.055	0.055	0.02	-	0.042	0.043	0.02	-	0.027	0.027	0.02	-	0.059	0.061	0.02	-
	Sulphate	mg/L	4.49	4.48	0.3	0.22%	4.83	4.86	0.3	0.62%	0.45	0.45	0.3	-	8.06	8.02	0.3	0.50%
	Total Kjeldahl nitrogen	mg/L	0.276	0.266	0.05	3.69%	0.066	0.084	0.05	-	0.144	0.143	0.05	-	0.223	0.219	0.05	-
	Ammonia, total (as N)	mg/L	0.0156	0.0133	0.005	-	<0.0050	0.0075	0.005	-	<0.0050	<0.0050	0.005	-	0.0579	0.0599	0.005	3.40%
	Nitrate (as N)	mg/L	0.0426	0.0432	0.005	1.40%	0.0879	0.088	0.005	0.11%	0.029	0.0294	0.005	1.37%	0.107	0.107	0.005	-
	Nitrite (as N)	mg/L	0.001	0.0011	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	0.0016	0.0015	0.001	-
	Ortho-phosphorus, dissolved	mg/L	0.0096	0.0098	0.001	2.06%	0.0016	0.0035	0.001	-	<0.0010	<0.0010	0.001	-	0.0101	0.0104	0.001	2.93%
	Total phosphorus	mg/L	0.0205	0.0198	0.002	3.47%	0.0081	0.0072	0.002	-	0.0044	0.0045	0.002	-	0.0207	0.0212	0.002	2.39%
Cyanides	Cyanide, total	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Cyanide, weak acid dissociable	mg/L	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-	<0.0050	<0.0050	0.005	-
	Thiocyanate	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
Organic / Inorganic Carbon	Total organic carbon	mg/L	6.35	6.21	0.5	2.23%	3	2.79	0.5	7.25%	4.77	4.99	0.5	4.51%	3.74	3.62	0.5	3.26%
	Dissolved organic carbon	mg/L	6	6.09	0.5	1.49%	2.61	2.57	0.5	1.54%	4.93	4.86	0.5	1.43%	3.45	3.47	0.5	0.58%
Total Metals	Total Aluminum	mg/L	0.0198	0.0178	0.003	10.64%	0.124	0.0444	0.003	94.54%	0.0438	0.0419	0.003	4.43%	0.0171	0.0182	0.003	6.23%
	Total Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Arsenic	mg/L	0.00063	0.00064	0.0001	1.57%	0.00068	0.00058	0.0001	15.87%	0.00047	0.00046	0.0001	-	0.00069	0.0007	0.0001	1.44%
	Total Barium	mg/L	0.00781	0.00801	0.0001	2.53%	0.00989	0.00895	0.0001	9.98%	0.00275	0.00271	0.0001	1.47%	0.00752	0.00794	0.0001	5.43%
	Total Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	0.00002	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Total Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Total Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Calcium	mg/L	20.6	20.5	0.05	0.49%	16.1	14.9	0.05	7.74%	3.62	3.63	0.05	0.28%	35.3	35.6	0.05	0.85%
	Total Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Cobalt	mg/L	0.00012	0.00012	0.0001	-	0.00104	0.00103	0.0001	0.97%	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Copper	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Iron	mg/L	0.191	0.183	0.01	4.28%	0.147	0.062	0.01	81.34%	0.098	0.094	0.01	4.17%	0.181	0.185	0.01	2.19%
	Total Lead	mg/L	<0.000050	<0.000050	0.00005	-	0.000081	<0.000050	0.00005	-	0.000058	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Total Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Total Magnesium	mg/L	5.19	5.09	0.1	1.95%	3.53	3.52	0.1	0.28%	1.03	1.03	0.1	-	9.8	10.2	0.1	4%
	Total Manganese	mg/L	0.0288	0.0288	0.0001	-	0.0154	0.00519	0.0001	99.17%	0.0118	0.0114	0.0001	3.45%	0.0268	0.0278	0.0001	3.66%
	Total Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Total Molybdenum	mg/L	0.000638	0.000622	0.00005	2.54%	0.000709	0.000661	0.00005	7.01%	0.000205	0.00018	0.00005	-	0.000871	0.000868	0.00005	0.35%
	Total Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00071	<0.00050	0.0005	-
	Total Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Total Potassium	mg/L	0.866	0.862	0.1	0.46%	0.633	0.622	0.1	1.75%	0.248	0.242	0.1	-	1.21	1.24	0.1	2.45%
	Total Selenium	mg/L	0.000069	<0.000050	0.00005	-	0.000074	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	0.000054	0.00005	-
	Total Silicon	mg/L	4.72	4.62	0.1	2.14%	6.58	6.37	0.1	3.24%	4.47	4.51	0.1	0.89%	8.28	8.16	0.1	1.46%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-01-06				2025-01-12				2025-01-13				2025-01-20			
			661-10				DC-05				661-05				661-04			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	3.41	3.31	0.05	2.98%	3.02	3.04	0.05	0.66%	3.62	3.74	0.05	3.26%	3.31	3.49	0.05	5.29%
	Total Strontium	mg/L	0.0596	0.0666	0.0002	11.09%	0.0838	0.0816	0.0002	2.66%	0.0790	0.0816	0.0002	3.24%	0.0713	0.0690	0.0002	3.28%
	Total Sulfur	mg/L	1.04	1.01	0.5	-	1.09	0.95	0.5	-	<0.50	<0.50	0.5	-	1.24	1.52	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00134	0.00130	0.0003	-	0.00560	0.00478	0.0003	15.8%	0.00228	0.00229	0.0003	0.44%	0.00234	0.00149	0.0003	-
	Total Uranium	mg/L	0.000064	0.000068	0.00001	6.06%	0.000233	0.000228	0.00001	2.17%	0.000185	0.000186	0.00001	0.54%	0.000083	0.000071	0.00001	15.58%
	Total Vanadium	mg/L	0.00066	0.00067	0.0005	-	0.00067	0.00059	0.0005	-	0.00171	0.00174	0.0005	-	0.00067	0.00060	0.0005	-
	Total Zinc	mg/L	0.0033	0.0035	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	0.0113	0.0109	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0354	0.0351	0.001	0.85%	0.0442	0.0414	0.001	6.54%	0.0238	0.0236	0.001	0.84%	0.0184	0.0179	0.001	2.75%
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00065	0.00065	0.0001	0%	0.00049	0.00045	0.0001	-	0.00117	0.00112	0.0001	4.37%	0.00120	0.00122	0.0001	1.65%
	Dissolved Barium	mg/L	0.00509	0.00491	0.0001	3.6%	0.00740	0.00732	0.0001	1.09%	0.00454	0.00444	0.0001	2.23%	0.00427	0.00424	0.0001	0.71%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	0.0000133	0.0000123	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	0.0000081	0.0000095	0.000005	-
	Dissolved Calcium	mg/L	10.4	10.4	0.05	0%	12.1	11.9	0.05	1.67%	11.8	11.2	0.05	5.22%	10.8	10.8	0.05	0%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00075	0.00067	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00024	0.00026	0.0002	-	0.00022	0.00021	0.0002	-	<0.00020	<0.00020	0.0002	-	<0.00020	<0.00020	0.0002	-
	Dissolved Iron	mg/L	0.111	0.114	0.01	2.67%	0.035	0.034	0.01	-	0.060	0.061	0.01	1.65%	0.030	0.031	0.01	-
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	2.39	2.37	0.1	0.84%	2.48	2.45	0.1	1.22%	2.81	2.80	0.1	0.36%	2.44	2.50	0.1	2.43%
	Dissolved Manganese	mg/L	0.0118	0.0121	0.0001	2.51%	0.00320	0.00308	0.0001	3.82%	0.00496	0.00504	0.0001	1.6%	0.00633	0.00653	0.0001	3.11%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000507	0.000519	0.00005	2.34%	0.000631	0.000675	0.00005	6.74%	0.000750	0.000745	0.00005	0.67%	0.000575	0.000595	0.00005	3.42%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.449	0.441	0.1	-	0.541	0.530	0.1	2.05%	0.548	0.516	0.1	6.02%	0.594	0.601	0.1	1.17%
	Dissolved Selenium	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000069	0.000071	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Silicon	mg/L	7.12	7.24	0.05	1.67%	6.84	6.58	0.05	3.87%	8.20	8.21	0.05	0.12%	7.72	7.81	0.05	1.16%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	3.32	3.39	0.05	2.09%	3.01	3.08	0.05	2.3%	4.01	3.87	0.05	3.55%	3.40	3.46	0.05	1.75%
	Dissolved Strontium	mg/L	0.0650	0.0649	0.0002	0.15%	0.0786	0.0842	0.0002	6.88%	0.0783	0.0770	0.0002	1.67%	0.0703	0.0699	0.0002	0.57%
	Dissolved Sulfur	mg/L	0.81	0.84	0.5	-	0.78	0.78	0.5	-	<0.50	<0.50	0.5	-	1.32	1.12	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00076	0.00079	0.0003	-	0.00097	0.00077	0.0003	-	0.00059	0.00067	0.0003	-	0.00030	0.00031	0.0003	-
	Dissolved Uranium	mg/L	0.000064	0.000062	0.00001	3.17%	0.000200	0.000201	0.00001	0.5%	0.000161	0.000164	0.00001	1.85%	0.000061	0.000062	0.00001	1.63%
	Dissolved Vanadium	mg/L	0.00055	0.00052	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00157	0.00158	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	0.0030	0.0033	0.001	-	<0.0010	<0.0010	0.001	-	0.0013	<0.0010	0.001	-	0.0098	0.0100	0.001	2.02%

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-01-26				2025-02-17				2025-02-24				2025-02-28			
			CC-20				CC-15				705-05				CC-05			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	3.82	3.97	0.05	3.85%	4.23	4.21	0.05	0.47%	2.29	2.24	0.05	2.21%	5.14	5.05	0.05	1.77%
	Total Strontium	mg/L	0.113	0.111	0.0002	1.79%	0.114	0.112	0.0002	1.77%	0.0596	0.0597	0.0002	0.17%	0.130	0.132	0.0002	1.53%
	Total Sulfur	mg/L	1.45	1.52	0.5	-	1.61	1.62	0.5	-	0.74	0.66	0.5	-	1.46	1.56	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00069	0.00061	0.0003	-	<0.00030	0.00032	0.0003	-	0.00069	0.00083	0.0003	-	0.00054	0.00051	0.0003	-
	Total Uranium	mg/L	0.000133	0.000136	0.00001	2.23%	0.000128	0.000126	0.00001	1.57%	0.000130	0.000128	0.00001	1.55%	0.000291	0.000286	0.00001	1.73%
	Total Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Zinc	mg/L	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0026	0.0021	0.001	-	0.0018	0.0016	0.001	-	0.0291	0.0285	0.001	2.08%	0.0035	0.0031	0.001	-
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00054	0.00054	0.0001	0%	0.00056	0.00058	0.0001	3.51%	0.00026	0.00026	0.0001	-	0.00067	0.00066	0.0001	1.5%
	Dissolved Barium	mg/L	0.00837	0.00833	0.0001	0.48%	0.00812	0.00815	0.0001	0.37%	0.00710	0.00720	0.0001	1.4%	0.00840	0.00862	0.0001	2.59%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	20.2	20.1	0.05	0.5%	20.9	21.6	0.05	3.29%	7.53	7.38	0.05	2.01%	25.0	26.3	0.05	5.07%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00029	0.00031	0.0002	-	0.00028	0.00026	0.0002	-	0.00026	0.00026	0.0002	-	<0.00020	<0.00020	0.0002	-
	Dissolved Iron	mg/L	0.080	0.079	0.01	1.26%	0.068	0.070	0.01	2.9%	0.200	0.203	0.01	1.49%	0.061	0.061	0.01	0%
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	4.81	4.94	0.1	2.67%	5.06	5.09	0.1	0.59%	1.23	1.21	0.1	1.64%	7.82	7.66	0.1	2.07%
	Dissolved Manganese	mg/L	0.0162	0.0165	0.0001	1.83%	0.0176	0.0175	0.0001	0.57%	0.0212	0.0209	0.0001	1.43%	0.0134	0.0133	0.0001	0.75%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000655	0.000654	0.00005	0.15%	0.000682	0.000698	0.00005	2.32%	0.000556	0.000572	0.00005	2.84%	0.000743	0.000777	0.00005	4.47%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.941	0.959	0.1	1.89%	0.968	0.960	0.1	0.83%	0.410	0.400	0.1	-	1.30	1.31	0.1	0.77%
	Dissolved Selenium	mg/L	0.000056	0.000068	0.00005	-	0.000060	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	0.000076	0.00005	-
	Dissolved Silicon	mg/L	4.91	4.99	0.05	1.62%	5.10	5.20	0.05	1.94%	3.32	3.39	0.05	2.09%	6.68	6.54	0.05	2.12%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	3.90	3.92	0.05	0.51%	4.18	4.14	0.05	0.96%	2.33	2.32	0.05	0.43%	5.20	5.18	0.05	0.39%
	Dissolved Strontium	mg/L	0.108	0.107	0.0002	0.93%	0.109	0.111	0.0002	1.82%	0.0592	0.0599	0.0002	1.18%	0.117	0.124	0.0002	5.81%
	Dissolved Sulfur	mg/L	1.40	1.49	0.5	-	1.54	1.48	0.5	-	<0.50	0.57	0.5	-	1.49	1.37	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	<0.00030	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-	0.00047	0.00042	0.0003	-	<0.00030	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000127	0.000120	0.00001	5.67%	0.000118	0.000121	0.00001	2.51%	0.000122	0.000121	0.00001	0.82%	0.000260	0.000269	0.00001	3.4%
	Dissolved Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-03-05				2025-03-09				2025-03-10				2025-03-19			
			705-10				CC-15				CC-03				FC-01			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	2.52	2.52	0.05	0%	3.94	3.93	0.05	0.25%	4.97	5.10	0.05	2.58%	2.51	2.49	0.05	0.8%
	Total Strontium	mg/L	0.0630	0.0638	0.0002	1.26%	0.113	0.117	0.0002	3.48%	0.117	0.121	0.0002	3.36%	0.0544	0.0542	0.0002	0.37%
	Total Sulfur	mg/L	0.89	0.88	0.5	-	1.48	1.83	0.5	-	1.43	1.28	0.5	-	0.56	<0.50	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00057	0.00049	0.0003	-	0.00273	0.00330	0.0003	18.91%	0.00085	<0.00090	0.0003, [illegible]	-	<0.00030	<0.00030	0.0003	-
	Total Uranium	mg/L	0.000130	0.000126	0.00001	3.12%	0.000158	0.000161	0.00001	1.88%	0.000157	0.000166	0.00001	5.57%	0.000081	0.000073	0.00001	10.39%
	Total Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	0.00060	0.00061	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00055	0.00056	0.0005	-
	Total Zinc	mg/L	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0296	0.0306	0.001	3.32%	0.0035	0.0042	0.001	-	0.0021	0.0023	0.001	-	0.0067	0.0069	0.001	2.94%
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00018	0.00017	0.0001	-	0.00058	0.00059	0.0001	1.71%	0.00057	0.00055	0.0001	3.57%	0.00088	0.00089	0.0001	1.13%
	Dissolved Barium	mg/L	0.00926	0.00939	0.0001	1.39%	0.00808	0.00836	0.0001	3.41%	0.00744	0.00767	0.0001	3.04%	0.00396	0.00394	0.0001	0.51%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	0.0000051	0.000005	-
	Dissolved Calcium	mg/L	8.75	8.74	0.05	0.11%	19.9	19.7	0.05	1.01%	26.6	27.3	0.05	2.6%	12.4	12.9	0.05	3.95%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00039	0.00036	0.0002	-	0.00033	0.00058	0.0002	-	<0.00020	<0.00020	0.0002	-	<0.00020	<0.00020	0.0002	-
	Dissolved Iron	mg/L	0.087	0.086	0.01	1.16%	0.105	0.110	0.01	4.65%	0.035	0.037	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	1.69	1.64	0.1	3%	5.11	5.11	0.1	0%	8.62	8.57	0.1	0.58%	1.33	1.36	0.1	2.23%
	Dissolved Manganese	mg/L	0.00203	0.00188	0.0001	7.67%	0.0299	0.0322	0.0001	7.41%	0.00662	0.00674	0.0001	1.8%	<0.00010	<0.00010	0.0001	-
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000476	0.000473	0.00005	0.63%	0.000735	0.000739	0.00005	0.54%	0.000708	0.000708	0.00005	0%	0.000801	0.000850	0.00005	5.94%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.402	0.396	0.1	-	1.10	1.20	0.1	8.7%	1.26	1.27	0.1	0.79%	0.382	0.395	0.1	-
	Dissolved Selenium	mg/L	<0.000050	<0.000050	0.00005	-	0.000055	0.000072	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000070	0.000058	0.00005	-
	Dissolved Silicon	mg/L	3.94	4.01	0.05	1.76%	4.89	4.90	0.05	0.2%	5.33	5.30	0.05	0.56%	5.47	5.38	0.05	1.66%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	2.70	2.59	0.05	4.16%	3.60	3.86	0.05	6.97%	4.61	4.67	0.05	1.29%	2.29	2.34	0.05	2.16%
	Dissolved Strontium	mg/L	0.0656	0.0633	0.0002	3.57%	0.107	0.108	0.0002	0.93%	0.116	0.119	0.0002	2.55%	0.0521	0.0524	0.0002	0.57%
	Dissolved Sulfur	mg/L	0.70	0.70	0.5	-	1.82	1.47	0.5	-	1.38	1.40	0.5	-	0.95	0.82	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00051	0.00046	0.0003	-	<0.00030	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000119	0.000117	0.00001	1.69%	0.000141	0.000142	0.00001	0.71%	0.000147	0.000152	0.00001	3.34%	0.000079	0.000078	0.00001	1.27%
	Dissolved Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	<0.0010	0.0012	0.001	-	<0.0010	0.0038	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-03-25				2025-04-01				2025-04-04				2025-04-09			
			DC-10				CC-15				DC-05				CC-20			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	3.88	3.97	0.05	2.29%	3.79	3.82	0.05	0.79%	3.64	3.62	0.05	0.55%	3.32	3.12	0.05	6.21%
	Total Strontium	mg/L	0.111	0.115	0.0002	3.54%	0.106	0.109	0.0002	2.79%	0.0939	0.0923	0.0002	1.72%	0.102	0.0986	0.0002	3.39%
	Total Sulfur	mg/L	1.31	1.40	0.5	-	1.32	1.51	0.5	-	1.02	1.01	0.5	-	1.75	1.91	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00755	0.00702	0.0003	7.28%	0.00338	0.00610	0.0003	57.38%	0.0131	0.0125	0.0003	4.69%	0.00627	0.00915	0.0003	37.35%
	Total Uranium	mg/L	0.000434	0.000422	0.00001	2.8%	0.000167	0.000174	0.00001	4.11%	0.000289	0.000283	0.00001	2.1%	0.000156	0.000162	0.00001	3.77%
	Total Vanadium	mg/L	0.00086	0.00087	0.0005	-	0.00067	0.00077	0.0005	-	0.00114	0.00110	0.0005	-	0.00106	0.00112	0.0005	-
	Total Zinc	mg/L	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0319	0.0372	0.001	15.34%	0.0082	0.0113	0.001	31.79%	0.0510	0.0508	0.001	0.39%	0.0278	0.0263	0.001	5.55%
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00049	0.00052	0.0001	-	0.00061	0.00060	0.0001	1.65%	0.00051	0.00054	0.0001	5.71%	0.00066	0.00058	0.0001	12.9%
	Dissolved Barium	mg/L	0.00878	0.00888	0.0001	1.13%	0.00757	0.00780	0.0001	2.99%	0.00814	0.00816	0.0001	0.25%	0.00925	0.00924	0.0001	0.11%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	16.8	17.0	0.05	1.18%	19.9	19.8	0.05	0.5%	14.0	14.1	0.05	0.71%	19.0	18.9	0.05	0.53%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	<0.00020	<0.00020	0.0002	-	0.00039	0.00042	0.0002	-	0.00022	0.00021	0.0002	-	0.00045	0.00045	0.0002	-
	Dissolved Iron	mg/L	0.018	0.022	0.01	-	0.088	0.092	0.01	4.44%	0.038	0.038	0.01	-	0.109	0.111	0.01	1.82%
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	3.51	3.39	0.1	3.48%	4.85	4.94	0.1	1.84%	2.76	2.88	0.1	4.26%	4.45	4.50	0.1	1.12%
	Dissolved Manganese	mg/L	0.00163	0.00171	0.0001	4.79%	0.0403	0.0395	0.0001	2.01%	0.00318	0.00324	0.0001	1.87%	0.0428	0.0421	0.0001	1.65%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000943	0.000937	0.00005	0.64%	0.000769	0.000794	0.00005	3.2%	0.000869	0.000832	0.00005	4.35%	0.000638	0.000664	0.00005	3.99%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	0.062	0.053	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.601	0.595	0.1	1%	1.55	1.52	0.1	1.95%	0.553	0.568	0.1	2.68%	1.14	1.10	0.1	3.57%
	Dissolved Selenium	mg/L	0.000066	0.000073	0.00005	-	0.000075	<0.000050	0.00005	-	0.000057	0.000082	0.00005	-	0.000068	0.000059	0.00005	-
	Dissolved Silicon	mg/L	6.43	6.30	0.05	2.04%	4.57	4.39	0.05	4.02%	6.14	6.05	0.05	1.48%	4.62	4.78	0.05	3.4%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	3.82	3.79	0.05	0.79%	3.76	3.71	0.05	1.34%	3.32	3.25	0.05	2.13%	3.32	3.28	0.05	1.21%
	Dissolved Strontium	mg/L	0.112	0.110	0.0002	1.8%	0.104	0.107	0.0002	2.84%	0.103	0.0980	0.0002	4.98%	0.0996	0.101	0.0002	1.4%
	Dissolved Sulfur	mg/L	1.33	1.12	0.5	-	1.28	1.11	0.5	-	0.63	0.82	0.5	-	1.91	1.75	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00084	0.00110	0.0003	-	<0.00030	0.00031	0.0003	-	0.00146	0.00160	0.0003	-	0.00108	0.00103	0.0003	-
	Dissolved Uranium	mg/L	0.000394	0.000392	0.00001	0.51%	0.000155	0.000160	0.00001	3.17%	0.000253	0.000246	0.00001	2.81%	0.000142	0.000144	0.00001	1.4%
	Dissolved Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-04-14				2025-04-27				2025-05-04				2025-05-05			
			661-04				705-05				CC-05				705-05			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	0.000019	0.000018	0.00001	-	<0.000010	<0.000010	0.00001	-	0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	3.09	3.11	0.05	0.65%	1.68	1.60	0.05	4.88%	2.86	2.90	0.05	1.39%	1.46	1.46	0.05	0%
	Total Strontium	mg/L	0.0590	0.0581	0.0002	1.54%	0.0470	0.0485	0.0002	3.14%	0.0513	0.0523	0.0002	1.93%	0.0402	0.0394	0.0002	2.01%
	Total Sulfur	mg/L	1.69	1.71	0.5	-	0.51	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.0143	0.0136	0.0003	5.02%	0.00374	0.00382	0.0003	2.12%	0.00978	0.0101	0.0003	3.22%	0.00158	0.00170	0.0003	7.32%
	Total Uranium	mg/L	0.000086	0.000079	0.00001	8.48%	0.000183	0.000177	0.00001	3.33%	0.000131	0.000128	0.00001	2.32%	0.000189	0.000194	0.00001	2.61%
	Total Vanadium	mg/L	0.00138	0.00136	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00123	0.00123	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Zinc	mg/L	0.0147	0.0144	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.164	0.164	0.001	0%	0.144	0.133	0.001	7.94%	0.118	0.116	0.001	1.71%	0.122	0.123	0.001	0.82%
	Dissolved Antimony	mg/L	0.00011	0.00011	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00124	0.00107	0.0001	14.72%	0.00021	0.00018	0.0001	-	0.00055	0.00052	0.0001	5.61%	0.00021	0.00019	0.0001	-
	Dissolved Barium	mg/L	0.00568	0.00574	0.0001	1.05%	0.00811	0.00776	0.0001	4.41%	0.00455	0.00446	0.0001	2%	0.00589	0.00616	0.0001	4.48%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	0.000025	0.000026	0.00002	-	<0.000020	<0.000020	0.00002	-	0.000027	0.000026	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	0.0000466	0.0000206	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	8.15	7.96	0.05	2.36%	6.21	6.33	0.05	1.91%	10.1	9.98	0.05	1.2%	5.05	5.05	0.05	0%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00042	0.00046	0.0002	-	0.00052	0.00048	0.0002	-	0.00071	0.00066	0.0002	-	0.00048	0.00043	0.0002	-
	Dissolved Iron	mg/L	0.141	0.136	0.01	3.61%	0.145	0.143	0.01	1.39%	0.123	0.121	0.01	1.64%	0.104	0.106	0.01	1.9%
	Dissolved Lead	mg/L	0.000112	0.000093	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	2.01	2.07	0.1	2.94%	0.871	0.861	0.1	1.15%	2.84	2.79	0.1	1.78%	0.784	0.770	0.1	1.8%
	Dissolved Manganese	mg/L	0.00712	0.00666	0.0001	6.68%	0.0320	0.0320	0.0001	0%	0.00591	0.00540	0.0001	9.02%	0.00425	0.00400	0.0001	6.06%
	Dissolved Mercury	mg/L	<0.0000050	0.0000062	0.000005	-	0.0000062	0.0000060	0.000005	-	<0.0000050	0.0000051	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000336	0.000335	0.00005	0.3%	0.000349	0.000328	0.00005	6.2%	0.000459	0.000441	0.00005	4%	0.000293	0.000293	0.00005	0%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.869	0.879	0.1	1.14%	0.543	0.530	0.1	2.42%	0.675	0.654	0.1	3.16%	0.442	0.432	0.1	-
	Dissolved Selenium	mg/L	0.000077	0.000058	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000077	0.000071	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Silicon	mg/L	6.51	6.62	0.05	1.68%	4.21	3.95	0.05	6.37%	4.44	4.31	0.05	2.97%	3.86	3.69	0.05	4.5%
	Dissolved Silver	mg/L	0.000014	0.000011	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	2.81	2.91	0.05	3.5%	1.67	1.64	0.05	1.81%	2.89	2.81	0.05	2.81%	1.59	1.53	0.05	3.85%
	Dissolved Strontium	mg/L	0.0554	0.0559	0.0002	0.9%	0.0515	0.0506	0.0002	1.76%	0.0511	0.0508	0.0002	0.59%	0.0398	0.0385	0.0002	3.32%
	Dissolved Sulfur	mg/L	1.58	1.49	0.5	-	<0.50	<0.50	0.5	-	0.66	0.60	0.5	-	0.56	<0.50	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00471	0.00465	0.0003	1.28%	0.00220	0.00203	0.0003	8.04%	0.00250	0.00269	0.0003	7.32%	0.00136	0.00139	0.0003	-
	Dissolved Uranium	mg/L	0.000068	0.000069	0.00001	1.46%	0.000183	0.000185	0.00001	1.09%	0.000092	0.000094	0.00001	2.15%	0.000187	0.000192	0.00001	2.64%
	Dissolved Vanadium	mg/L	0.00066	0.00067	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00069	0.00067	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	0.0129	0.0122	0.001	5.58%	0.0011	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-05-11				2025-05-14				2025-05-14				2025-05-19			
			CC-03				661-01				661-10				705-10			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	2.98	3.08	0.05	3.3%	1.52	1.46	0.05	4.03%	1.82	1.81	0.05	0.55%	1.44	1.49	0.05	3.41%
	Total Strontium	mg/L	0.0733	0.0727	0.0002	0.82%	0.0171	0.0178	0.0002	4.01%	0.0259	0.0254	0.0002	1.95%	0.0408	0.0411	0.0002	0.73%
	Total Sulfur	mg/L	0.69	0.64	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00322	0.00308	0.0003	4.44%	0.00121	0.00126	0.0003	-	0.00412	0.00316	0.0003	26.37%	0.00762	0.00894	0.0003	15.94%
	Total Uranium	mg/L	0.000054	0.000053	0.00001	1.87%	0.000075	0.000080	0.00001	6.45%	0.000109	0.000104	0.00001	4.69%	0.000265	0.000270	0.00001	1.87%
	Total Vanadium	mg/L	0.00057	0.00056	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00075	0.00072	0.0005	-	0.00066	0.00066	0.0005	-
	Total Zinc	mg/L	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	0.0032	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0253	0.0261	0.001	3.11%	0.199	0.199	0.001	0%	0.180	0.186	0.001	3.28%	0.203	0.196	0.001	3.51%
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00043	0.00040	0.0001	-	0.00050	0.00047	0.0001	-	0.00055	0.00054	0.0001	1.83%	0.00020	0.00020	0.0001	-
	Dissolved Barium	mg/L	0.00517	0.00521	0.0001	0.77%	0.00281	0.00275	0.0001	2.16%	0.00334	0.00327	0.0001	2.12%	0.00815	0.00806	0.0001	1.11%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	0.000024	0.000027	0.00002	-	0.000024	0.000024	0.00002	-	0.000036	0.000038	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	0.0000084	0.0000091	0.000005	-	0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	15.5	15.9	0.05	2.55%	1.95	1.96	0.05	0.51%	3.42	3.65	0.05	6.51%	5.62	5.81	0.05	3.32%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00029	0.00030	0.0002	-	0.00053	0.00051	0.0002	-	0.00068	0.00067	0.0002	-	0.00079	0.00080	0.0002	-
	Dissolved Iron	mg/L	0.052	0.049	0.01	-	0.117	0.115	0.01	1.72%	0.138	0.139	0.01	0.72%	0.141	0.135	0.01	4.35%
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	4.60	4.52	0.1	1.75%	0.503	0.510	0.1	1.38%	0.909	0.920	0.1	1.2%	0.965	0.955	0.1	1.04%
	Dissolved Manganese	mg/L	0.00815	0.00618	0.0001	27.49%	0.00205	0.00198	0.0001	3.47%	0.00366	0.00389	0.0001	6.09%	0.00244	0.00222	0.0001	9.44%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	0.0000051	0.000005	-	<0.0000050	<0.0000050	0.000005	-	0.0000162	0.0000152	0.000005	-
	Dissolved Molybdenum	mg/L	0.000527	0.000597	0.00005	12.46%	0.000085	0.000079	0.00005	-	0.000157	0.000164	0.00005	-	0.000205	0.000208	0.00005	-
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.764	0.753	0.1	1.45%	0.189	0.193	0.1	-	0.309	0.322	0.1	-	0.360	0.357	0.1	-
	Dissolved Selenium	mg/L	0.000053	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000076	0.000072	0.00005	-
	Dissolved Silicon	mg/L	3.36	3.32	0.05	1.2%	3.92	3.83	0.05	2.32%	4.72	4.65	0.05	1.49%	4.05	3.99	0.05	1.49%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	3.06	2.99	0.05	2.31%	1.42	1.48	0.05	4.14%	1.87	1.88	0.05	0.53%	1.58	1.56	0.05	1.27%
	Dissolved Strontium	mg/L	0.0704	0.0729	0.0002	3.49%	0.0161	0.0169	0.0002	4.85%	0.0236	0.0235	0.0002	0.42%	0.0413	0.0403	0.0002	2.45%
	Dissolved Sulfur	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00099	0.00091	0.0003	-	0.00097	0.00096	0.0003	-	0.00190	0.00184	0.0003	3.21%	0.00268	0.00269	0.0003	0.37%
	Dissolved Uranium	mg/L	0.000046	0.000047	0.00001	-	0.000072	0.000071	0.00001	1.4%	0.000088	0.000094	0.00001	6.59%	0.000237	0.000232	0.00001	2.13%
	Dissolved Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00063	0.00066	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	0.0026	0.0027	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-05-25				2025-06-01				2025-06-22				2025-06-24			
			661-10				DC-20				CC-40				CC-03			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	0.000011	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	1.93	1.87	0.05	3.16%	2.41	2.26	0.05	6.42%	3.79	3.72	0.05	1.86%	3.52	3.39	0.05	3.76%
	Total Strontium	mg/L	0.0271	0.0256	0.0002	5.69%	0.0502	0.0513	0.0002	2.17%	0.103	0.106	0.0002	2.87%	0.101	0.0983	0.0002	2.71%
	Total Sulfur	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	1.32	1.18	0.5	-	2.40	2.51	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00265	0.00247	0.0003	7.03%	0.00931	0.00944	0.0003	1.39%	0.00378	0.00363	0.0003	4.05%	0.00176	0.00105	0.0003	-
	Total Uranium	mg/L	0.000103	0.000106	0.00001	2.87%	0.000168	0.000163	0.00001	3.02%	0.000140	0.000143	0.00001	2.12%	0.000108	0.000106	0.00001	1.87%
	Total Vanadium	mg/L	0.00080	0.00078	0.0005	-	0.00096	0.00097	0.0005	-	0.00094	0.00093	0.0005	-	0.00064	0.00063	0.0005	-
	Total Zinc	mg/L	0.0034	0.0032	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.154	0.158	0.001	2.56%	0.0837	0.105	0.001	22.58%	0.0100	0.0131	0.001	26.84%	0.0074	0.0072	0.001	2.74%
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00056	0.00058	0.0001	3.51%	0.00066	0.00070	0.0001	5.88%	0.00084	0.00084	0.0001	0%	0.00078	0.00081	0.0001	3.77%
	Dissolved Barium	mg/L	0.00315	0.00309	0.0001	1.92%	0.00641	0.00670	0.0001	4.42%	0.00839	0.00838	0.0001	0.12%	0.00677	0.00698	0.0001	3.05%
	Dissolved Beryllium	mg/L	<0.000020	0.000023	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	0.0000095	0.0000099	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	3.86	3.90	0.05	1.03%	7.64	7.70	0.05	0.78%	20.4	20.1	0.05	1.48%	24.6	25.2	0.05	2.41%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00070	0.00061	0.0002	-	0.00062	0.00065	0.0002	-	0.00044	0.00045	0.0002	-	0.00029	0.00032	0.0002	-
	Dissolved Iron	mg/L	0.122	0.120	0.01	1.65%	0.110	0.119	0.01	7.86%	0.152	0.159	0.01	4.5%	0.075	0.079	0.01	5.19%
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	0.983	0.993	0.1	1.01%	1.69	1.68	0.1	0.59%	4.67	4.61	0.1	1.29%	5.96	6.37	0.1	6.65%
	Dissolved Manganese	mg/L	0.00347	0.00371	0.0001	6.69%	0.0111	0.0110	0.0001	0.9%	0.0426	0.0426	0.0001	0%	0.0178	0.0182	0.0001	2.22%
	Dissolved Mercury	mg/L	<0.0000050	0.0000060	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000171	0.000185	0.00005	-	0.000422	0.000399	0.00005	5.6%	0.000821	0.000817	0.00005	0.49%	0.000892	0.000854	0.00005	4.35%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.343	0.342	0.1	-	0.672	0.664	0.1	1.2%	0.905	0.897	0.1	0.89%	0.835	0.886	0.1	5.93%
	Dissolved Selenium	mg/L	0.000057	<0.000050	0.00005	-	0.000050	0.000072	0.00005	-	0.000062	0.000064	0.00005	-	0.000067	<0.000050	0.00005	-
	Dissolved Silicon	mg/L	4.88	4.83	0.05	1.03%	4.54	4.53	0.05	0.22%	4.03	3.97	0.05	1.5%	5.84	5.71	0.05	2.25%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	1.92	1.92	0.05	0%	2.31	2.29	0.05	0.87%	3.77	3.74	0.05	0.8%	3.73	3.70	0.05	0.81%
	Dissolved Strontium	mg/L	0.0264	0.0264	0.0002	0%	0.0510	0.0500	0.0002	1.98%	0.105	0.104	0.0002	0.96%	0.104	0.105	0.0002	0.96%
	Dissolved Sulfur	mg/L	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	1.34	1.14	0.5	-	2.30	2.24	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00142	0.00156	0.0003	-	0.00131	0.00175	0.0003	-	<0.00030	0.00052	0.0003	-	0.00031	0.00034	0.0003	-
	Dissolved Uranium	mg/L	0.000094	0.000095	0.00001	1.06%	0.000130	0.000127	0.00001	2.33%	0.000132	0.000132	0.00001	0%	0.000099	0.000098	0.00001	1.02%
	Dissolved Vanadium	mg/L	0.00068	0.00067	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00057	0.00056	0.0005	-	0.00059	0.00057	0.0005	-
	Dissolved Zinc	mg/L	0.0032	0.0031	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-06-27				2025-07-07				2025-07-08				2025-07-13			
			661-04				CC-20				DC-05				CC-30			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	2.75	2.82	0.05	2.51%	3.49	3.54	0.05	1.42%	2.95	2.96	0.05	0.34%	3.87	3.99	0.05	3.05%
	Total Strontium	mg/L	0.0472	0.0472	0.0002	0%	0.105	0.104	0.0002	0.96%	0.0825	0.0844	0.0002	2.28%	0.105	0.106	0.0002	0.95%
	Total Sulfur	mg/L	<0.50	<0.50	0.5	-	1.21	1.11	0.5	-	0.85	0.84	0.5	-	0.7	0.93	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.0123	0.0131	0.0003	6.3%	0.00118	0.00141	0.0003	-	0.0134	0.014	0.0003	4.38%	0.00079	0.00139	0.0003	-
	Total Uranium	mg/L	0.000096	0.000104	0.00001	8%	0.000112	0.00011	0.00001	1.80%	0.00025	0.000258	0.00001	3.15%	0.000141	0.000148	0.00001	4.84%
	Total Vanadium	mg/L	0.00145	0.00156	0.0005	-	0.00054	0.00057	0.0005	-	0.00117	0.00119	0.0005	-	0.00072	0.00074	0.0005	-
	Total Zinc	mg/L	0.0122	0.0134	0.003	-	<0.0030	<0.0030	0.003	-	0.0065	0.0068	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0933	0.117	0.001	22.54%	0.0079	0.0081	0.001	2.50%	0.116	0.11	0.001	5.31%	0.0074	0.0078	0.001	5.26%
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00117	0.00113	0.0001	3.48%	0.00063	0.00072	0.0001	13.33%	0.00078	0.0008	0.0001	2.53%	0.00088	0.00089	0.0001	1.13%
	Dissolved Barium	mg/L	0.00424	0.00441	0.0001	3.93%	0.00699	0.00734	0.0001	4.88%	0.00862	0.00842	0.0001	2.35%	0.00807	0.00806	0.0001	0.12%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	0.0000212	0.0000200	0.000005	-	<0.0000050	<0.0000050	0.000005	-	0.0000142	0.0000185	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	7.08	7.28	0.05	2.79%	18.7	19	0.05	1.59%	12	12	0.05	0%	20.4	20	0.05	1.98%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	0.00016	0.00017	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00046	0.00045	0.0002	-	0.00034	0.00034	0.0002	-	0.00051	0.0005	0.0002	-	0.00036	0.00034	0.0002	-
	Dissolved Iron	mg/L	0.076	0.089	0.01	15.76%	0.107	0.105	0.01	1.89%	0.058	0.052	0.01	10.91%	0.225	0.237	0.01	5.19%
	Dissolved Lead	mg/L	<0.000050	0.000062	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000059	0.000068	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	1.68	1.68	0.1	0%	4.22	4.34	0.1	2.80%	2.34	2.35	0.1	0.43%	5.07	4.92	0.1	3%
	Dissolved Manganese	mg/L	0.00889	0.00908	0.0001	2.11%	0.0193	0.018	0.0001	6.97%	0.0328	0.0338	0.0001	3%	0.0541	0.0536	0.0001	0.93%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000395	0.000434	0.00005	9.41%	0.000681	0.000665	0.00005	2.38%	0.000691	0.000686	0.00005	0.73%	0.00076	0.000776	0.00005	2.08%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.463	0.469	0.1	-	0.776	0.791	0.1	1.91%	0.679	0.684	0.1	0.73%	0.828	0.831	0.1	0.36%
	Dissolved Selenium	mg/L	<0.000050	<0.000050	0.00005	-	0.000057	0.000076	0.00005	-	0.00005	<0.000050	0.00005	-	0.000075	0.000055	0.00005	-
	Dissolved Silicon	mg/L	5.59	5.78	0.05	3.34%	3.34	3.58	0.05	6.94%	5.58	5.69	0.05	1.95%	3.83	3.73	0.05	2.65%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	2.63	2.73	0.05	3.73%	3.2	3.37	0.05	5.18%	2.79	2.83	0.05	1.42%	3.81	3.86	0.05	1.30%
	Dissolved Strontium	mg/L	0.0457	0.0455	0.0002	0.44%	0.0935	0.1	0.0002	6.72%	0.0826	0.0836	0.0002	1.20%	0.096	0.1	0.0002	4.08%
	Dissolved Sulfur	mg/L	<0.50	<0.50	0.5	-	1.2	1.3	0.5	-	1.11	0.81	0.5	-	0.99	1	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00222	0.00306	0.0003	31.82%	0.00031	<0.00030	0.0003	-	0.00237	0.00188	0.0003	23.06%	0.00059	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000067	0.000071	0.00001	5.8%	0.000099	0.000101	0.00001	2%	0.000202	0.000203	0.00001	0.49%	0.000132	0.000129	0.00001	2.30%
	Dissolved Vanadium	mg/L	0.00073	0.00074	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.0005	0.00052	0.0005	-
	Dissolved Zinc	mg/L	0.0091	0.0093	0.001	2.17%	<0.0010	<0.0010	0.001	-	0.0013	0.0016	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-08-03				2025-08-04				2025-08-10				2025-09-09			
			CC-40				CC-15				DC-20				705-10			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	4.66	4.76	0.05	2.12%	3.46	3.53	0.05	2%	3.58	3.57	0.05	0.28%	2.72	2.7	0.05	0.74%
	Total Strontium	mg/L	0.122	0.121	0.0002	0.82%	0.111	0.11	0.0002	0.90%	0.097	0.0985	0.0002	1.53%	0.0745	0.0728	0.0002	2.31%
	Total Sulfur	mg/L	1.16	1.27	0.5	-	1.55	1.43	0.5	-	1.01	1.06	0.5	-	<0.50	<0.50	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00097	0.00114	0.0003	-	0.00111	0.0013	0.0003	-	0.0018	0.0103	0.0003	140.50%	0.00119	0.0007	0.0003	-
	Total Uranium	mg/L	0.000191	0.000192	0.00001	0.52%	0.000127	0.000122	0.00001	4.02%	0.000153	0.000196	0.00001	24.64%	0.000101	0.0001	0.00001	1%
	Total Vanadium	mg/L	0.0008	0.00088	0.0005	-	0.0007	0.00073	0.0005	-	0.00084	0.00146	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Zinc	mg/L	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0035	0.0043	0.001	-	0.0082	0.0078	0.001	5%	0.0151	0.0197	0.001	26.44%	0.0187	0.0187	0.001	0%
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00124	0.00126	0.0001	1.60%	0.00096	0.00087	0.0001	9.84%	0.00111	0.0011	0.0001	0.90%	0.00018	0.0002	0.0001	-
	Dissolved Barium	mg/L	0.00959	0.00919	0.0001	4.26%	0.00756	0.00749	0.0001	0.93%	0.0105	0.0105	0.0001	0%	0.0122	0.0125	0.0001	2.43%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	23.9	22.9	0.05	4.27%	18.6	19.1	0.05	2.65%	14.6	15.3	0.05	4.68%	11.2	11.3	0.05	0.89%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	0.00012	0.0001	0.0001	-	0.00048	0.00048	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00039	0.00038	0.0002	-	0.00033	0.00032	0.0002	-	0.00032	0.0003	0.0002	-	0.00034	0.00034	0.0002	-
	Dissolved Iron	mg/L	0.27	0.277	0.01	2.56%	0.12	0.132	0.01	9.52%	0.393	0.378	0.01	3.89%	0.019	0.019	0.01	-
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	6.18	6.13	0.1	0.81%	4.62	4.72	0.1	2.14%	3.65	3.68	0.1	0.82%	2.02	2.06	0.1	1.96%
	Dissolved Manganese	mg/L	0.036	0.0352	0.0001	2.25%	0.0202	0.0189	0.0001	6.65%	0.0229	0.0247	0.0001	7.56%	0.00248	0.00234	0.0001	5.81%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.0012	0.00117	0.00005	2.53%	0.000758	0.000735	0.00005	3.08%	0.00088	0.000827	0.00005	6.21%	0.000518	0.000529	0.00005	2.10%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	1.07	1.06	0.1	0.94%	0.824	0.821	0.1	0.36%	0.839	0.829	0.1	1.20%	0.468	0.479	0.1	-
	Dissolved Selenium	mg/L	0.000062	0.000118	0.00005	-	0.000079	0.000051	0.00005	-	0.000058	0.000052	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Silicon	mg/L	4.26	4.29	0.05	0.70%	3.46	3.52	0.05	1.72%	5.68	5.69	0.05	0.18%	3.86	3.82	0.05	1.04%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	4.7	4.7	0.05	0%	3.69	3.57	0.05	3.31%	3.79	3.73	0.05	1.60%	2.65	2.66	0.05	0.38%
	Dissolved Strontium	mg/L	0.13	0.127	0.0002	2.33%	0.0983	0.101	0.0002	2.71%	0.103	0.1	0.0002	2.96%	0.078	0.0788	0.0002	1.02%
	Dissolved Sulfur	mg/L	1.33	1.47	0.5	-	1.13	1.29	0.5	-	0.79	0.89	0.5	-	<0.50	0.56	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	<0.00030	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-	0.00036	0.00038	0.0003	-	<0.00030	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000179	0.000179	0.00001	0%	0.000121	0.00013	0.00001	7.17%	0.00014	0.000142	0.00001	1.42%	0.000092	0.000092	0.00001	0%
	Dissolved Vanadium	mg/L	0.00067	0.00068	0.0005	-	0.00059	0.00059	0.0005	-	0.00064	0.00066	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-09-17				2025-09-24				2025-09-30				2025-10-05			
			661-04				661-01				661-01				CC-40			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	4	3.99	0.05	0.25%	2.28	2.3	0.05	0.87%	2.32	2.31	0.05	0.43%	5.4	5.51	0.05	2.02%
	Total Strontium	mg/L	0.0808	0.0804	0.0002	0.50%	0.0309	0.0318	0.0002	2.87%	0.0323	0.0322	0.0002	0.31%	0.131	0.129	0.0002	1.54%
	Total Sulfur	mg/L	0.93	0.82	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	1.32	1.32	0.5	-
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00421	0.00435	0.0003	3.27%	0.00198	0.00065	0.0003	-	0.00035	0.0012	0.0003	-	0.00091	0.00098	0.0003	-
	Total Uranium	mg/L	0.000116	0.000116	0.00001	0%	0.000048	0.000033	0.00001	-	0.000028	3.7E-05	0.00001	-	0.000216	0.000217	0.00001	0.46%
	Total Vanadium	mg/L	0.00085	0.00088	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00066	0.00065	0.0005	-
	Total Zinc	mg/L	0.0066	0.0068	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0287	0.0318	0.001	10.25%	0.0386	0.0364	0.001	5.87%	0.0353	0.0338	0.001	4.34%	0.0034	0.0032	0.001	-
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.0014	0.00145	0.0001	3.51%	0.00036	0.00034	0.0001	-	0.00034	0.00036	0.0001	-	0.00081	0.00077	0.0001	5.06%
	Dissolved Barium	mg/L	0.00554	0.00539	0.0001	2.74%	0.00265	0.00256	0.0001	3.45%	0.00527	0.00273	0.0001	63.50%	0.00859	0.00852	0.0001	0.82%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	0.0000123	0.0000163	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	13	13	0.05	0%	3.8	3.94	0.05	3.62%	3.9	3.72	0.05	4.72%	25.5	24.6	0.05	3.59%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.0002	<0.00020	0.0002	-	0.00024	0.00022	0.0002	-	0.00024	0.00022	0.0002	-	0.00024	0.00025	0.0002	-
	Dissolved Iron	mg/L	0.051	0.054	0.01	5.71%	0.048	0.047	0.01	-	0.049	0.048	0.01	-	0.377	0.359	0.01	4.89%
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	3.02	3.07	0.1	1.64%	0.952	0.958	0.1	0.63%	1.07	1.08	0.1	0.93%	6.28	6.37	0.1	1.42%
	Dissolved Manganese	mg/L	0.0122	0.0126	0.0001	3.23%	0.0104	0.0103	0.0001	0.97%	0.0309	0.0128	0.0001	82.84%	0.0255	0.0252	0.0001	1.18%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000946	0.000937	0.00005	0.96%	0.000157	0.000146	0.00005	-	0.000178	0.000162	0.00005	-	0.00105	0.00107	0.00005	1.89%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.712	0.728	0.1	2.22%	0.238	0.224	0.1	-	0.325	0.283	0.1	-	1.13	1.13	0.1	-
	Dissolved Selenium	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Silicon	mg/L	7.08	7.19	0.05	1.54%	5.03	5.03	0.05	0%	4.89	4.71	0.05	4%	4.17	4.14	0.05	0.72%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	3.93	3.98	0.05	1.26%	2.11	2.15	0.05	1.88%	2.44	2.44	0.05	0.00%	5.21	5.31	0.05	1.90%
	Dissolved Strontium	mg/L	0.0811	0.0794	0.0002	2.12%	0.0321	0.0317	0.0002	1.25%	0.0331	0.0308	0.0002	7.20%	0.129	0.13	0.0002	0.77%
	Dissolved Sulfur	mg/L	0.89	0.96	0.5	-	<0.50	<0.50	0.5	-	<0.50	<0.50	0.5	-	1.26	1.12	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00066	0.00076	0.0003	-	0.00036	0.00033	0.0003	-	0.00039	0.00034	0.0003	-	<0.00030	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000106	0.000106	0.00001	0%	0.000029	0.000031	0.00001	-	0.000028	2.6E-05	0.00001	-	0.000204	0.000201	0.00001	1.48%
	Dissolved Vanadium	mg/L	0.00054	0.00058	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	0.0049	0.0053	0.001	-	<0.0010	<0.0010	0.001	-	0.0014	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-10-07				2025-10-14				2025-10-20				2025-10-26			
			705-10				DC-05				CC-15				CC-03			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	2.66	2.62	0.05	1.52%	3.2	3.19	0.05	0.31%	3.85	3.75	0.05	2.63%	4.88	4.71	0.05	3.55%
	Total Strontium	mg/L	0.074	0.0734	0.0002	0.81%	0.0823	0.077	0.0002	6.65%	0.105	0.108	0.0002	2.82%	0.119	0.123	0.0002	3.31%
	Total Sulfur	mg/L	<0.50	<0.50	0.5	-	1.06	0.9	0.5	-	1.1	1.29	0.5	-	3.08	2.79	0.5	9.88%
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00034	0.00038	0.0003	-	0.00318	0.00397	0.0003	22.10%	0.00106	0.00127	0.0003	-	<0.00030	<0.00030	0.0003	-
	Total Uranium	mg/L	0.000091	0.000086	0.00001	5.65%	0.000181	0.000211	0.00001	15.31%	0.000106	0.000108	0.00001	1.87%	0.000197	0.000196	0.00001	0.51%
	Total Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	0.00063	0.00079	0.0005	-	<0.00050	0.00051	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Zinc	mg/L	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.012	0.0145	0.001	18.87%	0.0247	0.0304	0.001	20.69%	0.0027	0.0046	0.001	-	0.0021	0.0034	0.001	-
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00016	0.00016	0.0001	-	0.00068	0.00076	0.0001	11.11%	0.00052	0.00054	0.0001	3.77%	0.00053	0.00053	0.0001	-
	Dissolved Barium	mg/L	0.0105	0.0101	0.0001	3.88%	0.00602	0.00546	0.0001	9.76%	0.00833	0.00832	0.0001	0.12%	0.0061	0.00603	0.0001	1.15%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	0.0000127	0.0000102	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	10.7	10.4	0.05	2.84%	11	10.7	0.05	2.76%	20.7	21.5	0.05	3.79%	29.3	30.2	0.05	3.03%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	<0.00010	<0.00010	0.0001	-	0.00092	0.00093	0.0001	1.08%	0.00013	0.00013	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.0004	0.00026	0.0002	-	0.00034	0.00037	0.0002	-	0.00025	0.0003	0.0002	-	<0.00020	<0.00020	0.0002	-
	Dissolved Iron	mg/L	0.057	0.056	0.01	1.77%	0.047	0.042	0.01	-	0.14	0.144	0.01	2.82%	0.066	0.066	0.01	-
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	1.91	1.93	0.1	1.04%	2.23	2.13	0.1	4.59%	4.68	4.77	0.1	1.90%	8.05	8.09	0.1	0.50%
	Dissolved Manganese	mg/L	0.00116	0.00116	0.0001	-	0.0236	0.0207	0.0001	13.09%	0.0247	0.0255	0.0001	3.19%	0.00578	0.00576	0.0001	0.35%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000507	0.00049	0.00005	3.41%	0.000664	0.000678	0.00005	2.09%	0.000612	0.000667	0.00005	8.60%	0.000838	0.000845	0.00005	0.83%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.4	0.402	0.1	-	0.62	0.686	0.1	10.11%	0.82	0.824	0.1	0.49%	1.19	1.19	0.1	-
	Dissolved Selenium	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	0.000082	0.00005	-	<0.000050	0.00006	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Silicon	mg/L	3.6	3.47	0.05	3.68%	5.09	4.89	0.05	4.01%	3.52	3.65	0.05	3.63%	6.64	6.68	0.05	0.60%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	2.7	2.7	0.05	-	3.01	2.93	0.05	2.69%	3.65	3.66	0.05	0.27%	4.95	4.81	0.05	2.87%
	Dissolved Strontium	mg/L	0.0749	0.0741	0.0002	1.07%	0.0806	0.0754	0.0002	6.67%	0.102	0.105	0.0002	2.90%	0.12	0.118	0.0002	1.68%
	Dissolved Sulfur	mg/L	<0.50	<0.50	0.5	-	1.37	1.44	0.5	-	1.13	1.23	0.5	-	2.69	2.66	0.5	1.12%
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	<0.00030	<0.00030	0.0003	-	0.0004	0.00036	0.0003	-	<0.00030	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000086	0.000089	0.00001	3.43%	0.000172	0.000204	0.00001	17.02%	0.000113	0.000116	0.00001	2.62%	0.000192	0.000188	0.00001	2.11%
	Dissolved Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	<0.0010	<0.0010	0.001	-	0.0012	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

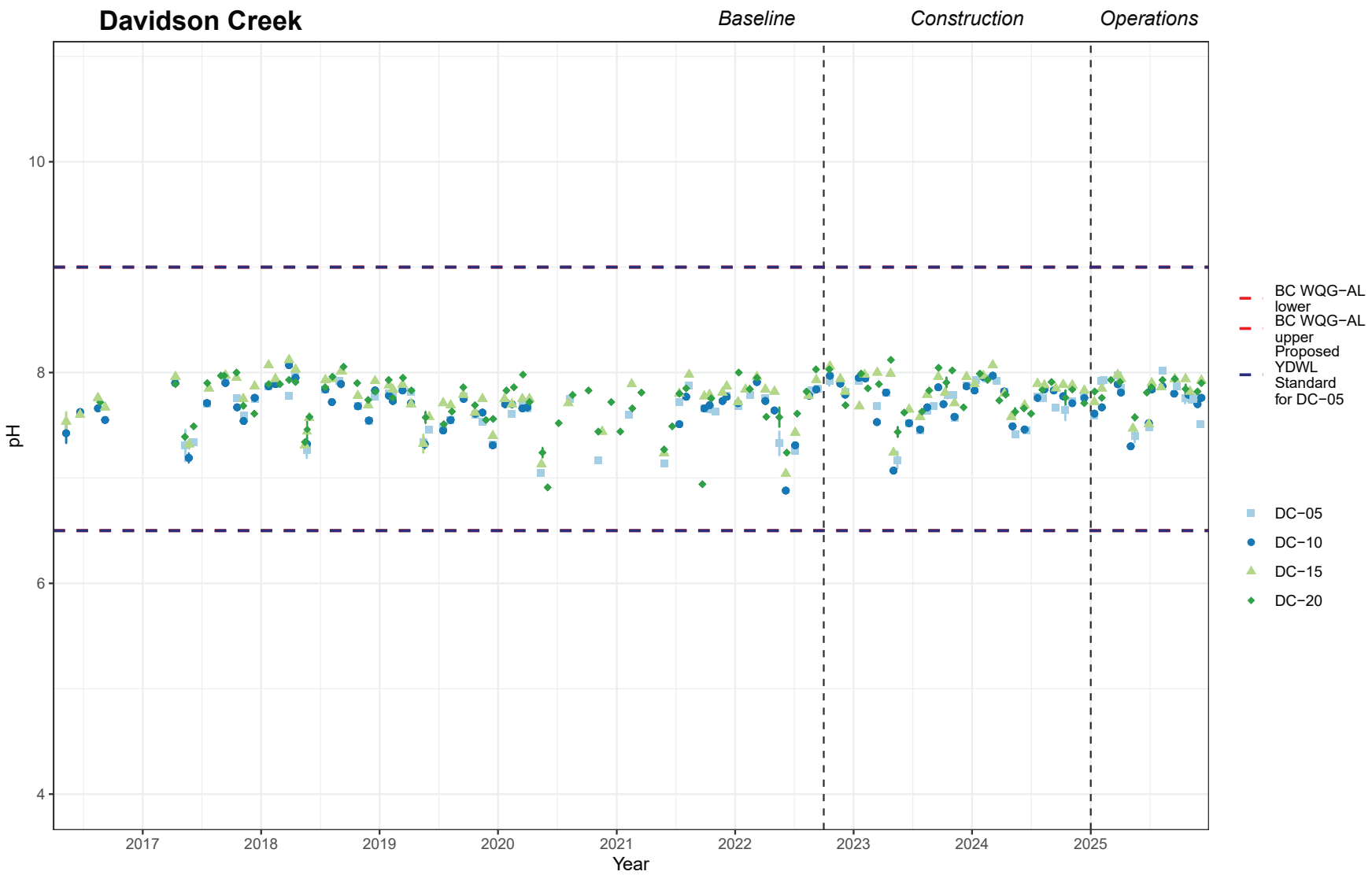
Class	Parameter	Units	2025-10-31				2025-11-02				2025-11-10				2025-11-17			
			DC-05				705-10				661-20				CC-40			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	0.000018	0.000016	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	3.05	3.03	0.05	0.66%	2.52	2.66	0.05	5.41%	4.41	4.57	0.05	3.56%	4.77	4.79	0.05	0.42%
	Total Strontium	mg/L	0.0745	0.0746	0.0002	0.13%	0.0604	0.0618	0.0002	2.29%	0.0959	0.0984	0.0002	2.57%	0.124	0.122	0.0002	1.63%
	Total Sulfur	mg/L	1.52	1.52	0.5	-	0.59	0.69	0.5	-	0.9	0.81	0.5	-	1.69	1.55	0.5	-
	Total Thallium	mg/L	0.000013	0.000013	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.0219	0.0212	0.0003	3.25%	0.00051	0.00052	0.0003	-	0.00053	0.00639	0.0003	-	0.00113	0.00139	0.0003	-
	Total Uranium	mg/L	0.000282	0.000283	0.00001	0.35%	0.00009	0.00009	0.00001	-	0.000281	0.000321	0.00001	13.29%	0.000187	0.000194	0.00001	3.67%
	Total Vanadium	mg/L	0.0017	0.00171	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00063	0.00112	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Zinc	mg/L	0.0085	0.0088	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0931	0.0763	0.001	19.83%	0.0192	0.0204	0.001	6.06%	0.0077	0.0083	0.001	7.50%	0.0028	0.0032	0.001	-
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00068	0.00067	0.0001	1.48%	0.00016	0.00018	0.0001	-	0.00085	0.00084	0.0001	1.18%	0.00063	0.00062	0.0001	1.60%
	Dissolved Barium	mg/L	0.00773	0.00769	0.0001	0.52%	0.00869	0.00886	0.0001	1.94%	0.00658	0.00677	0.0001	2.85%	0.00827	0.00834	0.0001	0.84%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	0.0000426	0.0000091	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	10.3	10.3	0.05	-	9.55	9.73	0.05	1.87%	17.9	18.6	0.05	3.84%	21.6	22.8	0.05	5.41%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	0.0011	0.00109	0.0001	0.91%	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	0.0001	0.0001	-
	Dissolved Copper	mg/L	0.00055	0.00059	0.0002	-	0.00029	0.00034	0.0002	-	<0.00020	<0.00020	0.0002	-	0.00025	0.00024	0.0002	-
	Dissolved Iron	mg/L	0.095	0.082	0.01	14.69%	0.079	0.083	0.01	4.94%	0.074	0.08	0.01	7.79%	0.343	0.343	0.01	-
	Dissolved Lead	mg/L	0.000144	0.000087	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	1.9	1.92	0.1	1.05%	1.69	1.71	0.1	1.18%	5.53	5.59	0.1	1.08%	6.22	5.97	0.1	4.10%
	Dissolved Manganese	mg/L	0.0139	0.0134	0.0001	3.66%	0.00114	0.00146	0.0001	24.62%	0.00306	0.0032	0.0001	4.47%	0.027	0.0257	0.0001	4.93%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000712	0.000653	0.00005	8.64%	0.000441	0.00054	0.00005	20.18%	0.000919	0.000909	0.00005	1.09%	0.000835	0.000795	0.00005	4.91%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.545	0.54	0.1	0.92%	0.403	0.418	0.1	-	0.81	0.792	0.1	2.25%	0.95	0.913	0.1	3.97%
	Dissolved Selenium	mg/L	0.000085	0.000071	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000054	0.000082	0.00005	-	<0.000050	0.000057	0.00005	-
	Dissolved Silicon	mg/L	5.54	5.58	0.05	0.72%	3.33	3.52	0.05	5.55%	7.63	7.92	0.05	3.73%	5.1	5.19	0.05	1.75%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	2.84	2.79	0.05	1.78%	2.38	2.51	0.05	5.32%	4.59	4.73	0.05	3%	4.9	4.61	0.05	6.10%
	Dissolved Strontium	mg/L	0.0792	0.076	0.0002	4.12%	0.0665	0.0672	0.0002	1.05%	0.09	0.0899	0.0002	0.11%	0.104	0.107	0.0002	2.84%
	Dissolved Sulfur	mg/L	1.64	1.84	0.5	-	0.56	0.93	0.5	-	0.71	0.63	0.5	-	1.34	1.31	0.5	-
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	0.00349	0.00283	0.0003	20.89%	0.00033	0.00046	0.0003	-	<0.00030	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000191	0.000191	0.00001	-	0.000084	0.000086	0.00001	2.35%	0.000286	0.000277	0.00001	3.20%	0.000174	0.00019	0.00001	8.79%
	Dissolved Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	0.00059	0.00057	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	0.0038	0.004	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Appendix B-4: Surface Water Quality Relative Percent Difference Results, January to December 2025

Class	Parameter	Units	2025-11-26				2025-12-08				2025-12-12				2025-12-26			
			CC-15				DC-15				661-01				CC-03			
			Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)	Primary	Duplicate	DL	RPD (%)
Total Metals *(cont'd)*	Total Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Sodium	mg/L	3.85	3.97	0.05	3.07%	3.49	3.46	0.05	0.86%	2.07	2.11	0.05	1.91%	5.25	5.65	0.05	7.34%
	Total Strontium	mg/L	0.109	0.107	0.0002	1.85%	0.0964	0.095	0.0002	1.46%	0.0304	0.0291	0.0002	4.37%	0.128	0.13	0.0002	1.55%
	Total Sulfur	mg/L	1.61	1.49	0.5	-	1.48	1.51	0.5	-	<0.50	<0.50	0.5	-	2.99	2.69	0.5	10.56%
	Total Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Total Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Total Titanium	mg/L	0.00065	0.0006	0.0003	-	0.00412	0.00111	0.0003	-	0.00043	0.00045	0.0003	-	0.00071	0.00091	0.0003	-
	Total Uranium	mg/L	0.00011	0.000112	0.00001	1.80%	0.000193	0.00018	0.00001	6.97%	0.000024	0.000023	0.00001	-	0.000251	0.000256	0.00001	1.97%
	Total Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	0.00064	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Total Zinc	mg/L	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-	<0.0030	<0.0030	0.003	-
Dissolved Metals	Dissolved Aluminum	mg/L	0.0026	0.003	0.001	-	0.0125	0.0126	0.001	0.80%	0.0353	0.0354	0.001	0.28%	0.0019	0.0016	0.001	-
	Dissolved Antimony	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Arsenic	mg/L	0.00055	0.00056	0.0001	1.80%	0.00049	0.00051	0.0001	-	0.00039	0.0004	0.0001	-	0.00061	0.00058	0.0001	5.04%
	Dissolved Barium	mg/L	0.00738	0.00739	0.0001	0.14%	0.00876	0.00877	0.0001	0.11%	0.00258	0.00262	0.0001	1.54%	0.00774	0.00757	0.0001	2.22%
	Dissolved Beryllium	mg/L	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-	<0.000020	<0.000020	0.00002	-
	Dissolved Bismuth	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Boron	mg/L	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-	<0.010	<0.010	0.01	-
	Dissolved Cadmium	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Calcium	mg/L	22.4	22.4	0.05	-	15.8	16	0.05	1.26%	3.63	3.6	0.05	0.83%	35.2	33.9	0.05	3.76%
	Dissolved Chromium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Cobalt	mg/L	0.00012	0.00011	0.0001	-	0.00096	0.00099	0.0001	3.08%	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Copper	mg/L	0.00027	0.00024	0.0002	-	<0.00020	<0.00020	0.0002	-	<0.00020	<0.00020	0.0002	-	<0.00020	<0.00020	0.0002	-
	Dissolved Iron	mg/L	0.106	0.113	0.01	6.39%	0.026	0.028	0.01	-	0.078	0.077	0.01	1.29%	0.088	0.089	0.01	1.13%
	Dissolved Lead	mg/L	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-
	Dissolved Lithium	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-
	Dissolved Magnesium	mg/L	5.02	5.04	0.1	0.40%	3.6	3.6	0.1	-	1.02	1.01	0.1	0.99%	9.85	9.48	0.1	3.83%
	Dissolved Manganese	mg/L	0.0224	0.023	0.0001	2.64%	0.00208	0.00206	0.0001	0.97%	0.00965	0.00945	0.0001	2.09%	0.00773	0.0077	0.0001	0.39%
	Dissolved Mercury	mg/L	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-	<0.0000050	<0.0000050	0.000005	-
	Dissolved Molybdenum	mg/L	0.000613	0.00061	0.00005	0.49%	0.000748	0.000727	0.00005	2.85%	0.000187	0.000191	0.00005	-	0.000853	0.000894	0.00005	4.69%
	Dissolved Nickel	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Phosphorus	mg/L	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-	<0.050	<0.050	0.05	-
	Dissolved Potassium	mg/L	0.844	0.853	0.1	1.06%	0.65	0.65	0.1	-	0.24	0.241	0.1	-	1.21	1.18	0.1	2.51%
	Dissolved Selenium	mg/L	0.000051	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	<0.000050	<0.000050	0.00005	-	0.000054	<0.000050	0.00005	-
	Dissolved Silicon	mg/L	4.49	4.45	0.05	0.89%	6.45	6.57	0.05	1.84%	4.33	4.35	0.05	0.46%	7.77	8.04	0.05	3.42%
	Dissolved Silver	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Sodium	mg/L	3.77	3.65	0.05	3.23%	3.69	3.62	0.05	1.92%	2.06	2.01	0.05	2.46%	5.54	5.47	0.05	1.27%
	Dissolved Strontium	mg/L	0.111	0.109	0.0002	1.82%	0.101	0.103	0.0002	1.96%	0.03	0.0311	0.0002	3.60%	0.132	0.13	0.0002	1.53%
	Dissolved Sulfur	mg/L	1.74	1.52	0.5	-	1.6	1.76	0.5	-	<0.50	<0.50	0.5	-	2.62	2.94	0.5	11.51%
	Dissolved Thallium	mg/L	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-	<0.000010	<0.000010	0.00001	-
	Dissolved Tin	mg/L	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-	<0.00010	<0.00010	0.0001	-
	Dissolved Titanium	mg/L	<0.00030	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-	0.00033	<0.00030	0.0003	-	<0.00030	<0.00030	0.0003	-
	Dissolved Uranium	mg/L	0.000105	0.000111	0.00001	5.56%	0.000161	0.00016	0.00001	0.62%	0.000021	0.000025	0.00001	-	0.000231	0.000238	0.00001	2.99%
	Dissolved Vanadium	mg/L	<0.00050	<0.00050	0.0005	-	<0.00050	<0.00050	0.0005	-	<0.00050	0.0005	0.0005	-	<0.00050	<0.00050	0.0005	-
	Dissolved Zinc	mg/L	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-	<0.0010	<0.0010	0.001	-

Notes:
DL = Detection Limit; RPD = Relative Percent Difference
"<" value is below the detection limit.
"-" indicates RPD was not computed because one or both concentrations were less than 5 times the detection limit.
Light gray shading indicates RPD was between 20 and 50%; dark gray shading indicated RPD was greater than 50%.

Appendix C Monthly Mean Surface Water Quality Graphs, Blackwater Mine Project Streams, 2016 to 2025



Error bars represent standard error of the mean.
Proposed YDWL Standard for DC−05 is 6.5 to 9 pH units.
BC WQG−AL upper limit is 9.0 pH units and lower limit is 6.5 pH units.
pH values are laboratory−measured.

Figure C-1a: Monthly Mean Laboratory pH, Davidson Creek Sites, 2016 to 2025

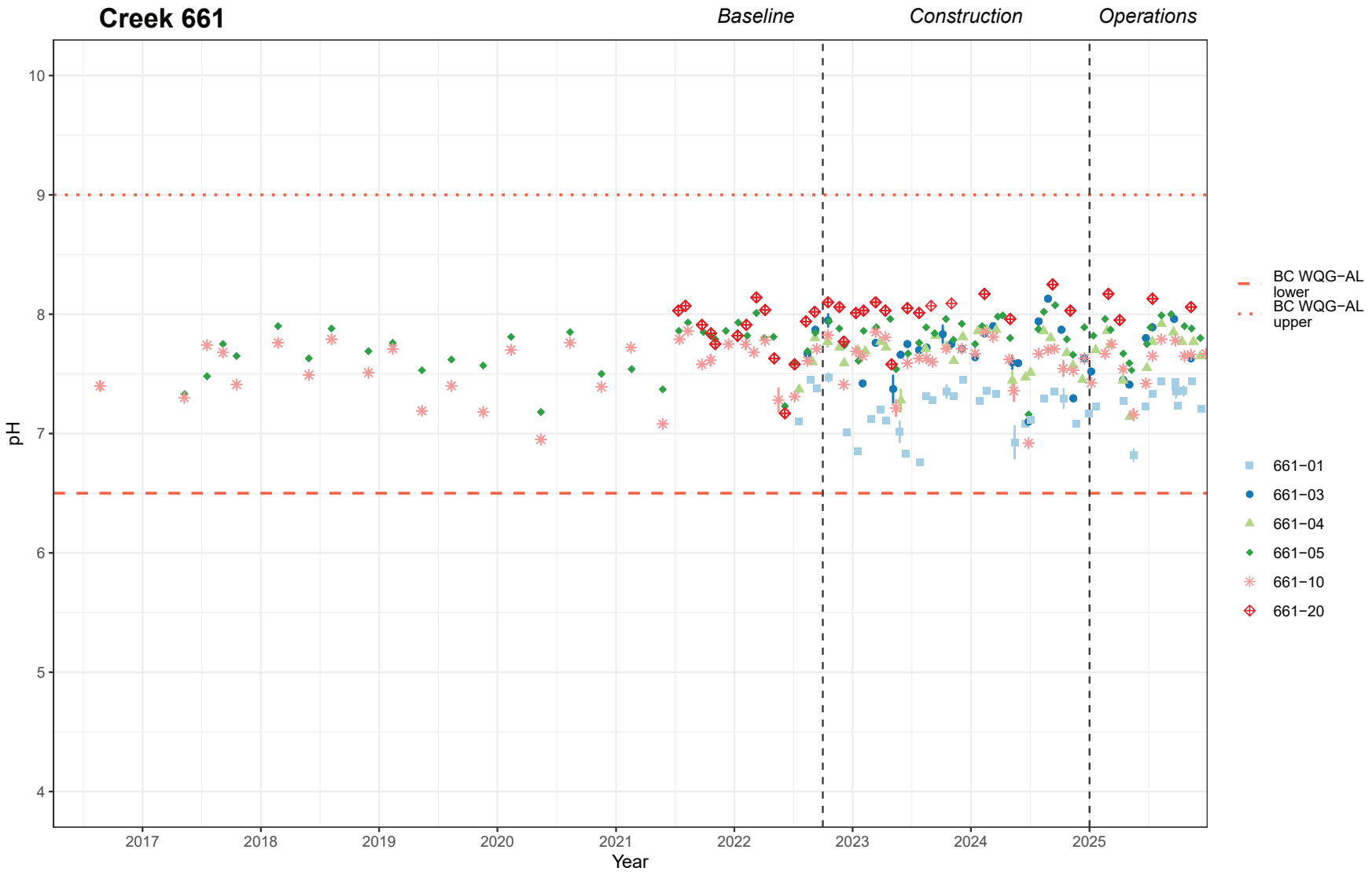
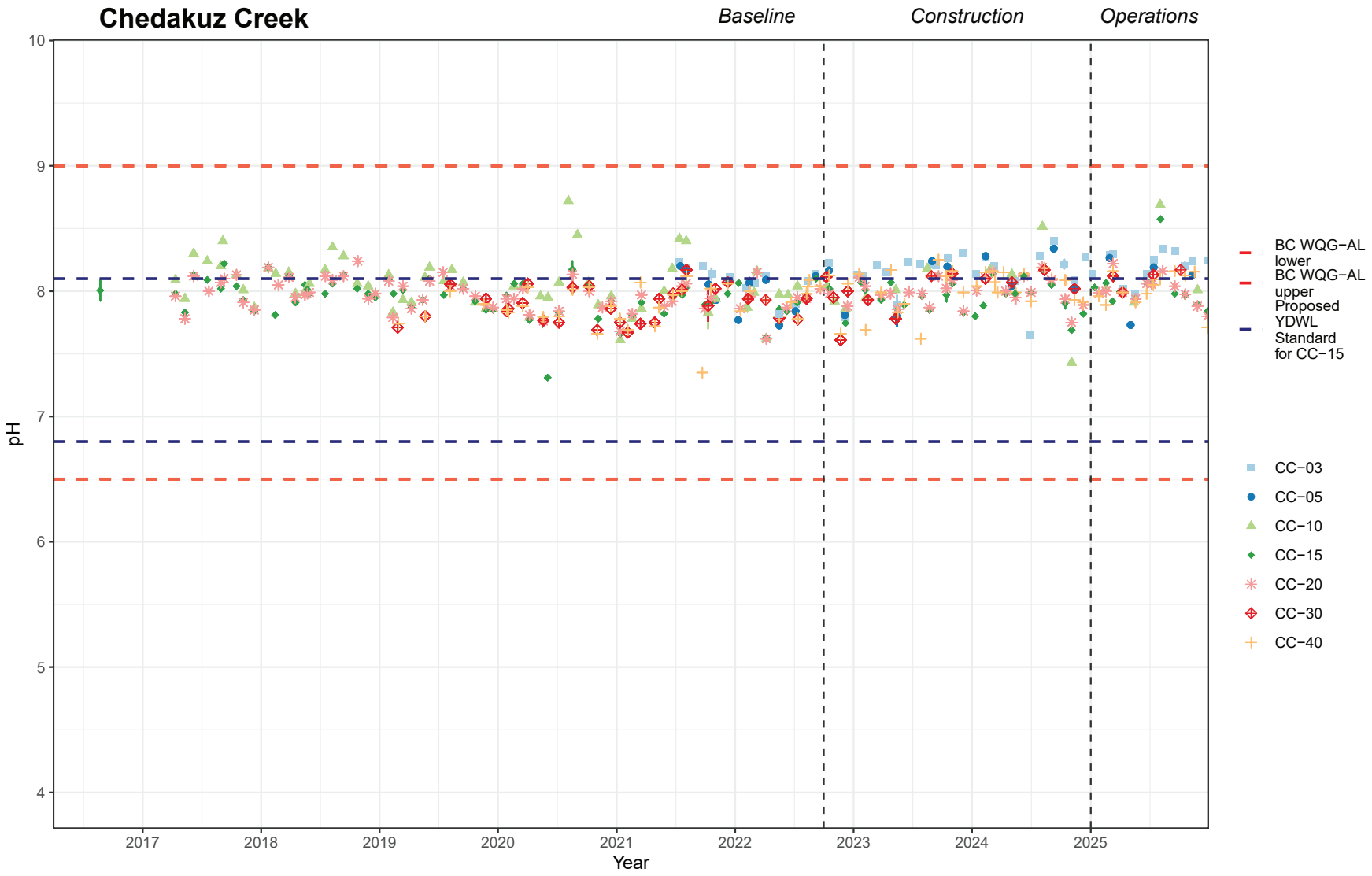


Figure C-1b: Monthly Mean Laboratory pH, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Proposed YDWL Standard for CC−15 is 6.8 to 8.1 pH units.
BC WQG−AL upper limit is 9.0 pH units and lower limit is 6.5 pH units.
pH values are laboratory−measured.

Figure C-1c: Monthly Mean Laboratory pH, Chedakuz Creek Sites, 2016 to 2025

Figure C-1d: Monthly Mean Laboratory pH, Regional Control Sites Sites, 2016 to 2025

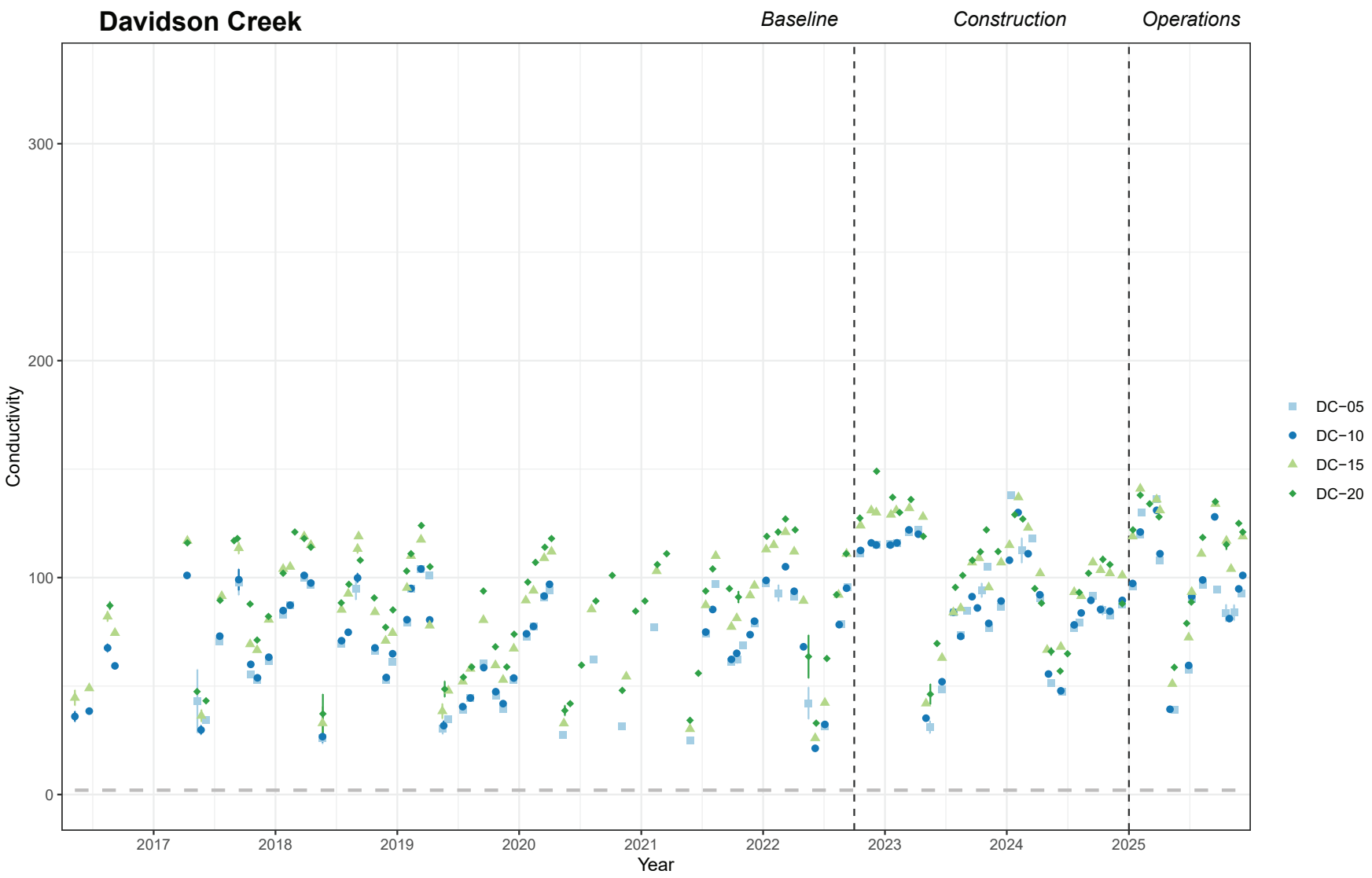


Figure C-2a: Monthly Mean Conductivity Concentrations, Davidson Creek Sites, 2016 to 2025

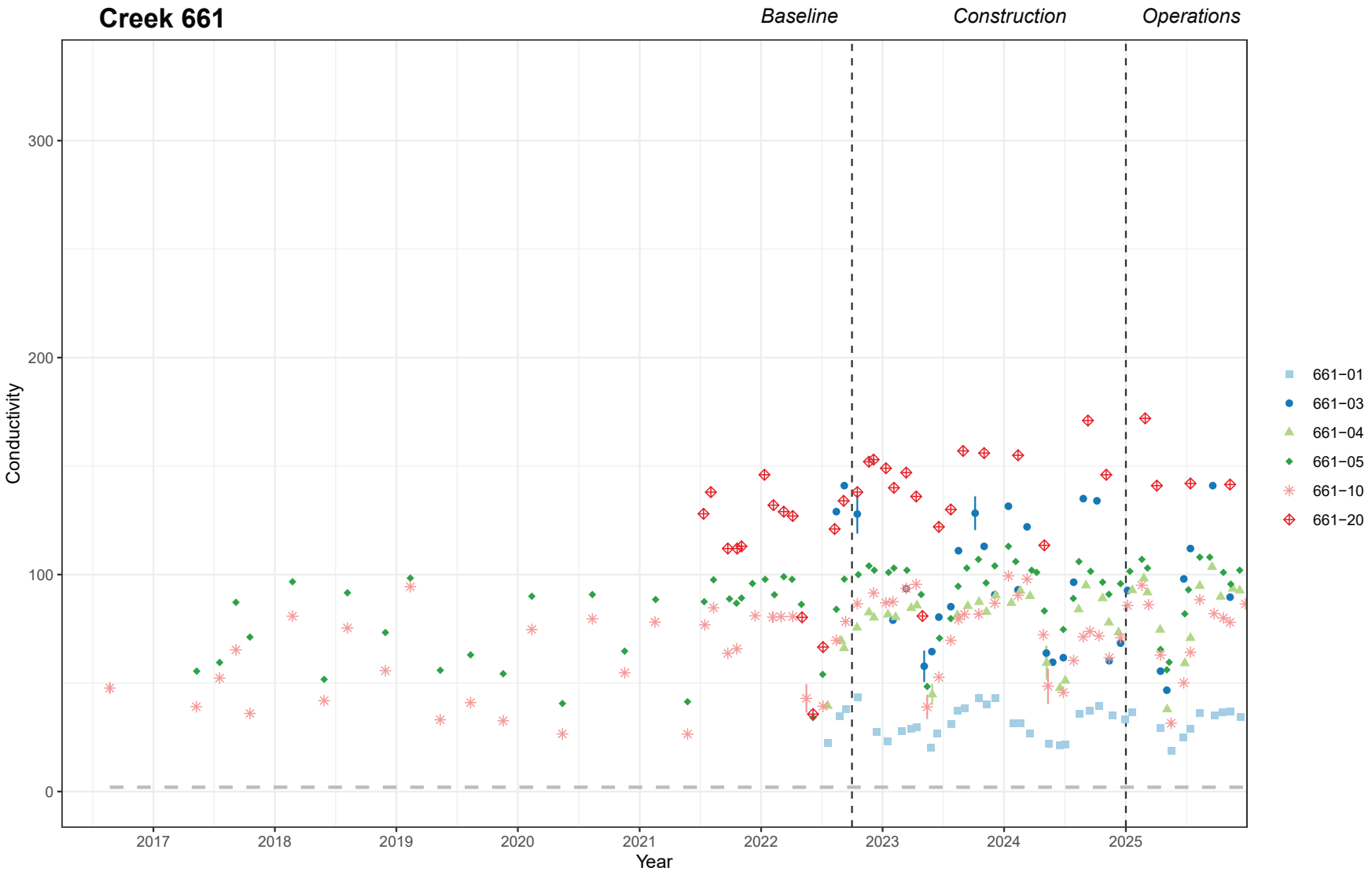


Figure C-2b: Monthly Mean Conductivity Concentrations, Creek 661 Sites, 2016 to 2025

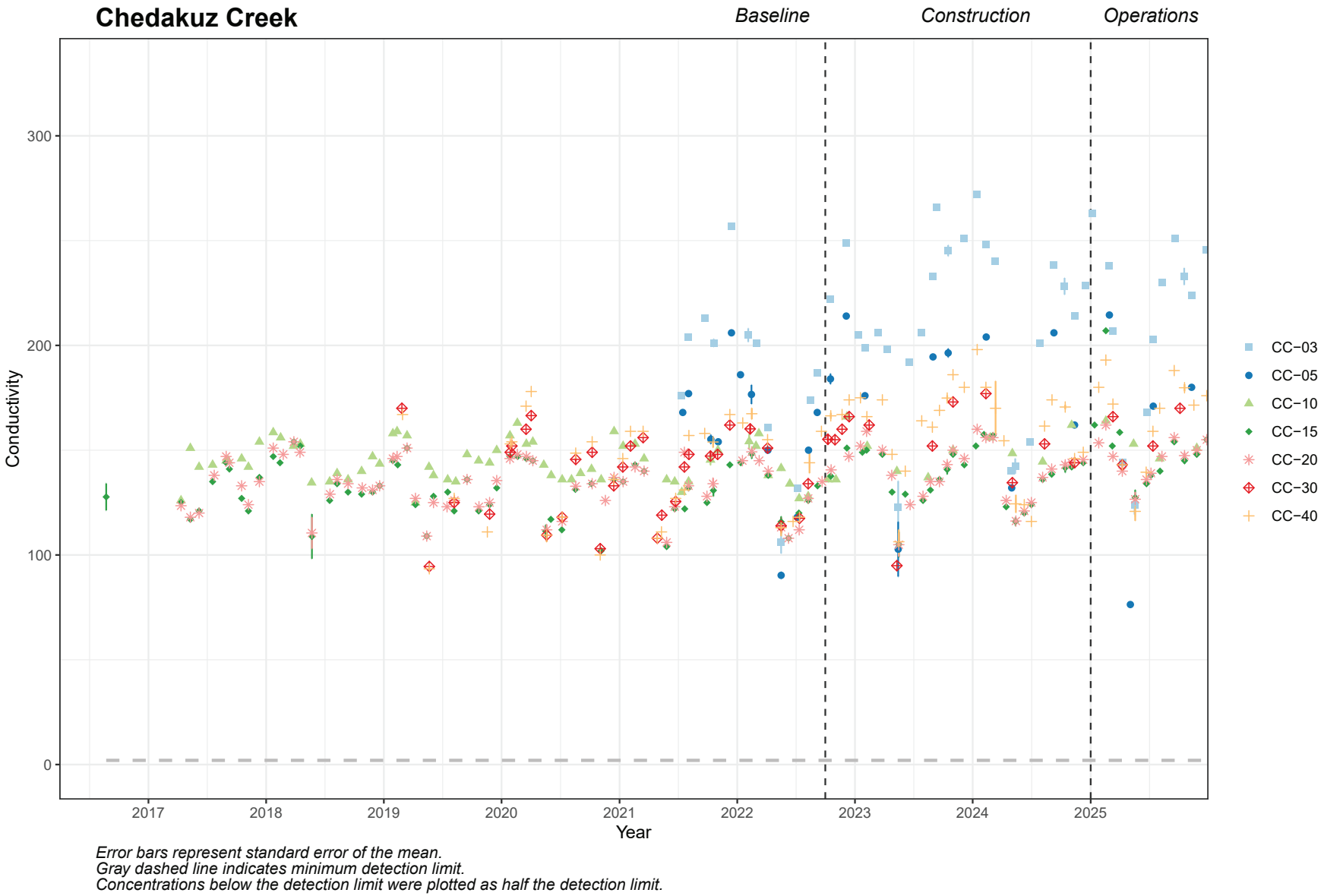


Figure C-2c: Monthly Mean Conductivity Concentrations, Chedakuz Creek Sites, 2016 to 2025

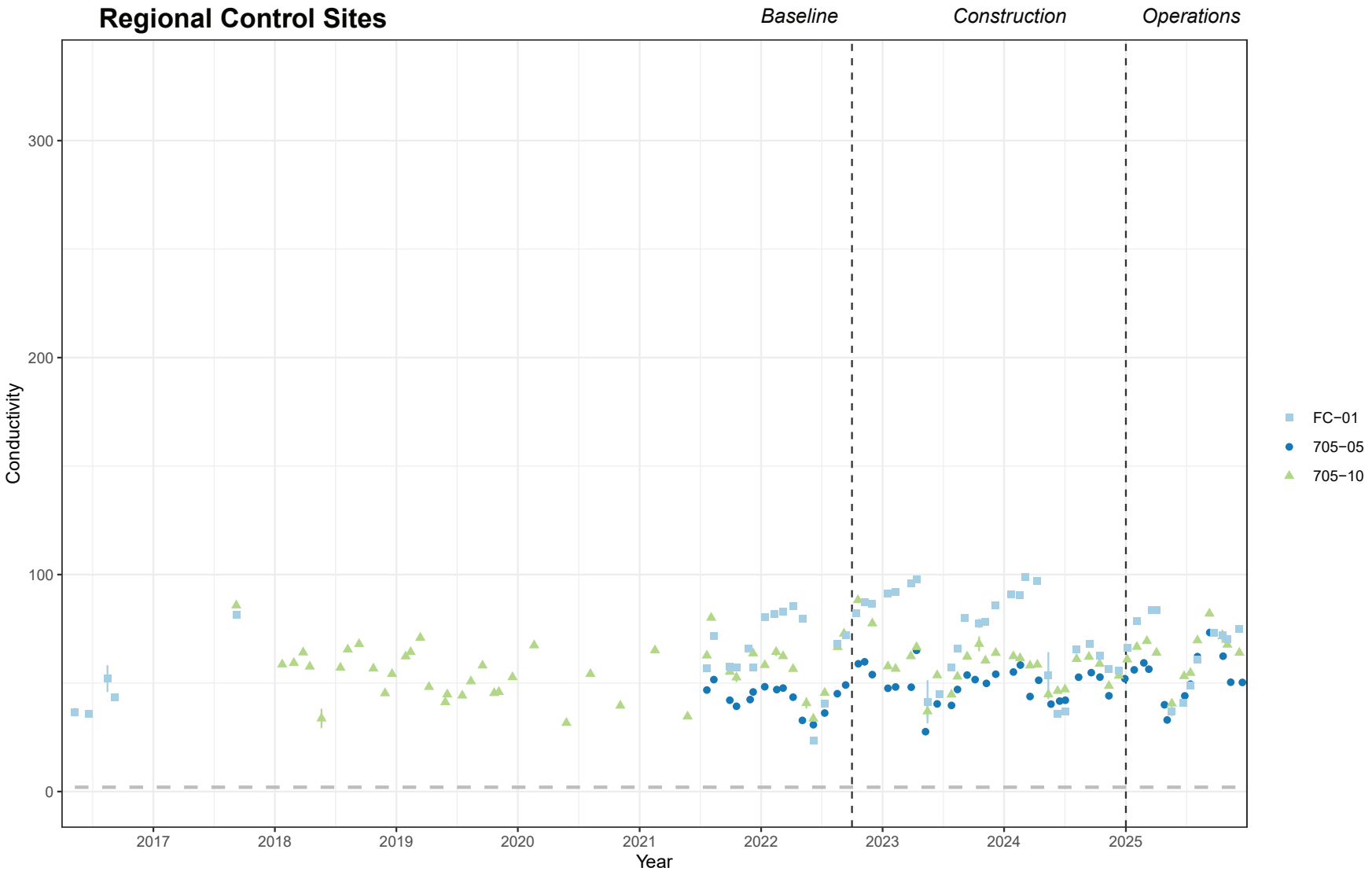


Figure C-2d: Monthly Mean Conductivity Concentrations, Regional Control Sites Sites, 2016 to 2025

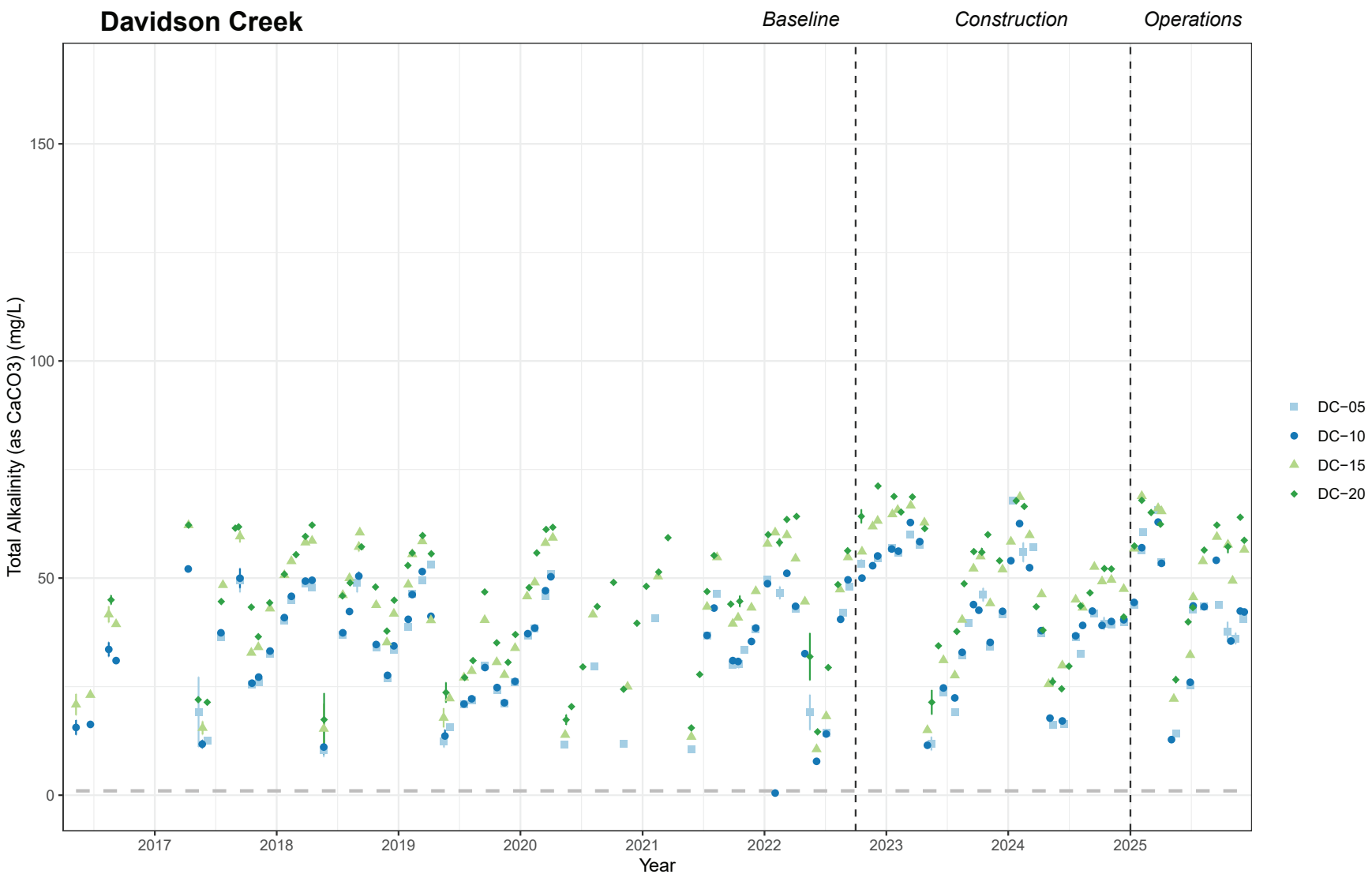


Figure C-3a: Monthly Mean Alkalinity Concentrations, Davidson Creek Sites, 2016 to 2025

Figure C-3b: Monthly Mean Alkalinity Concentrations, Creek 661 Sites, 2016 to 2025

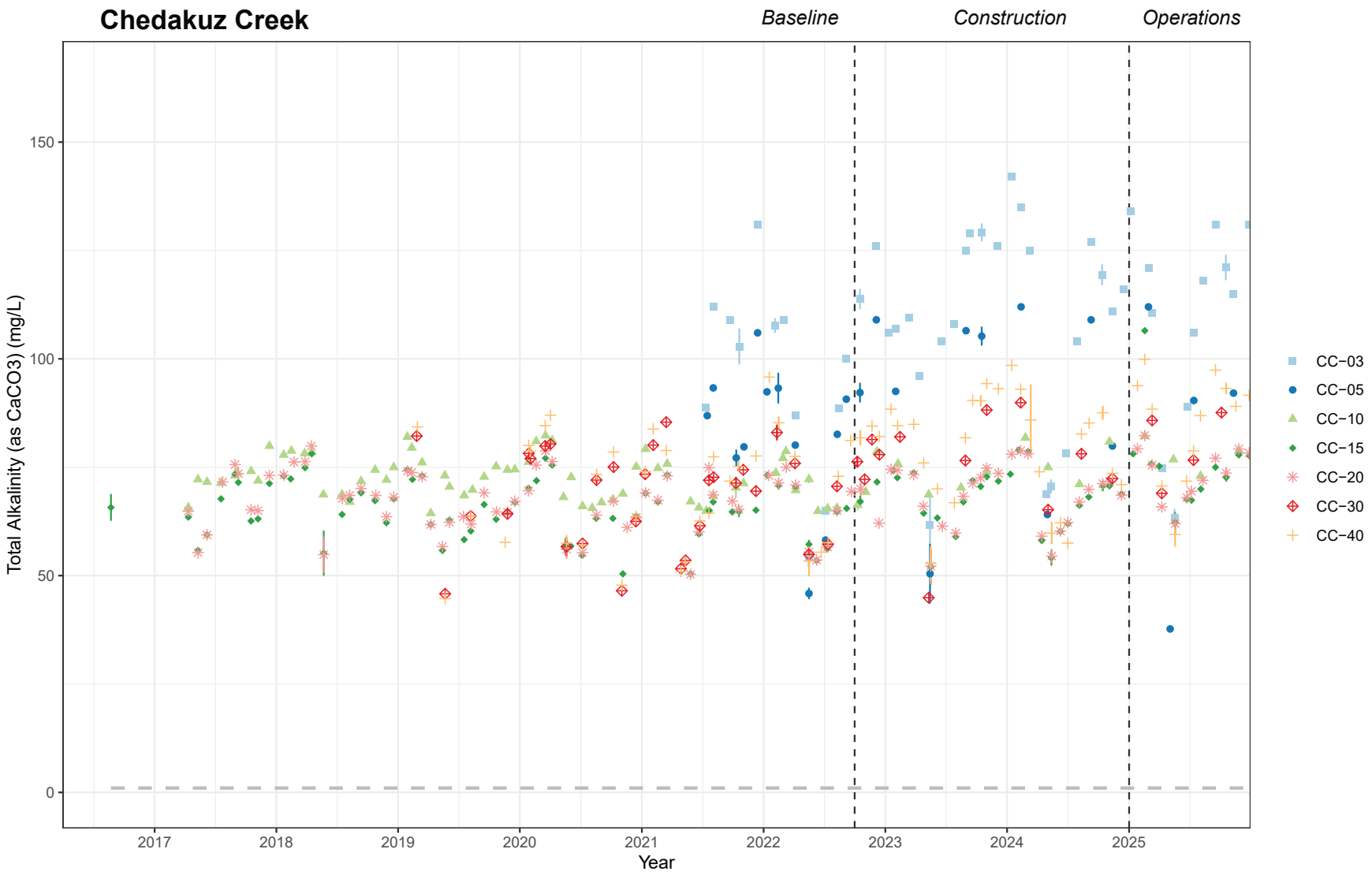


Figure C-3c: Monthly Mean Alkalinity Concentrations, Chedakuz Creek Sites, 2016 to 2025

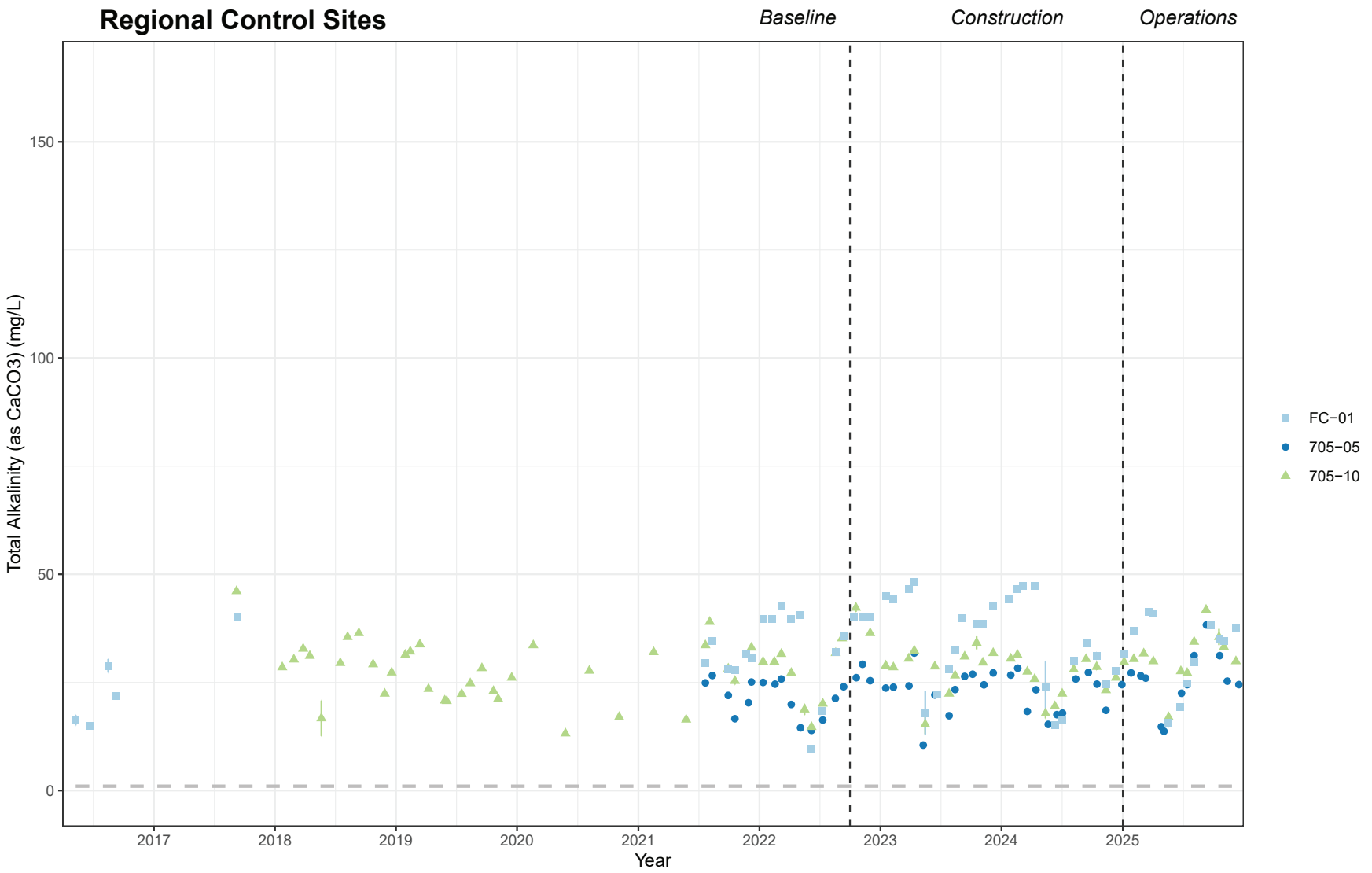


Figure C-3d: Monthly Mean Alkalinity Concentrations, Regional Control Sites Sites, 2016 to 2025

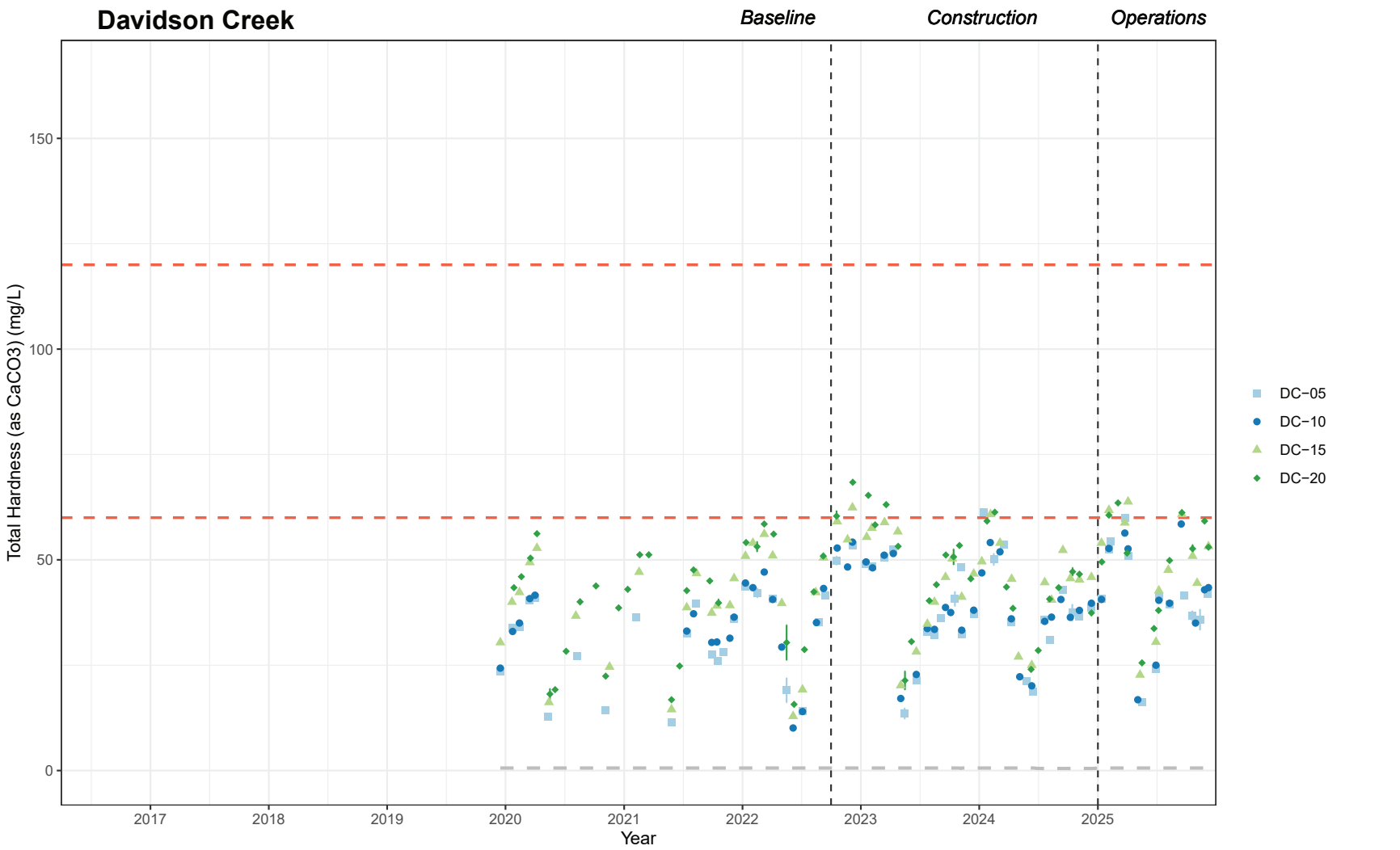
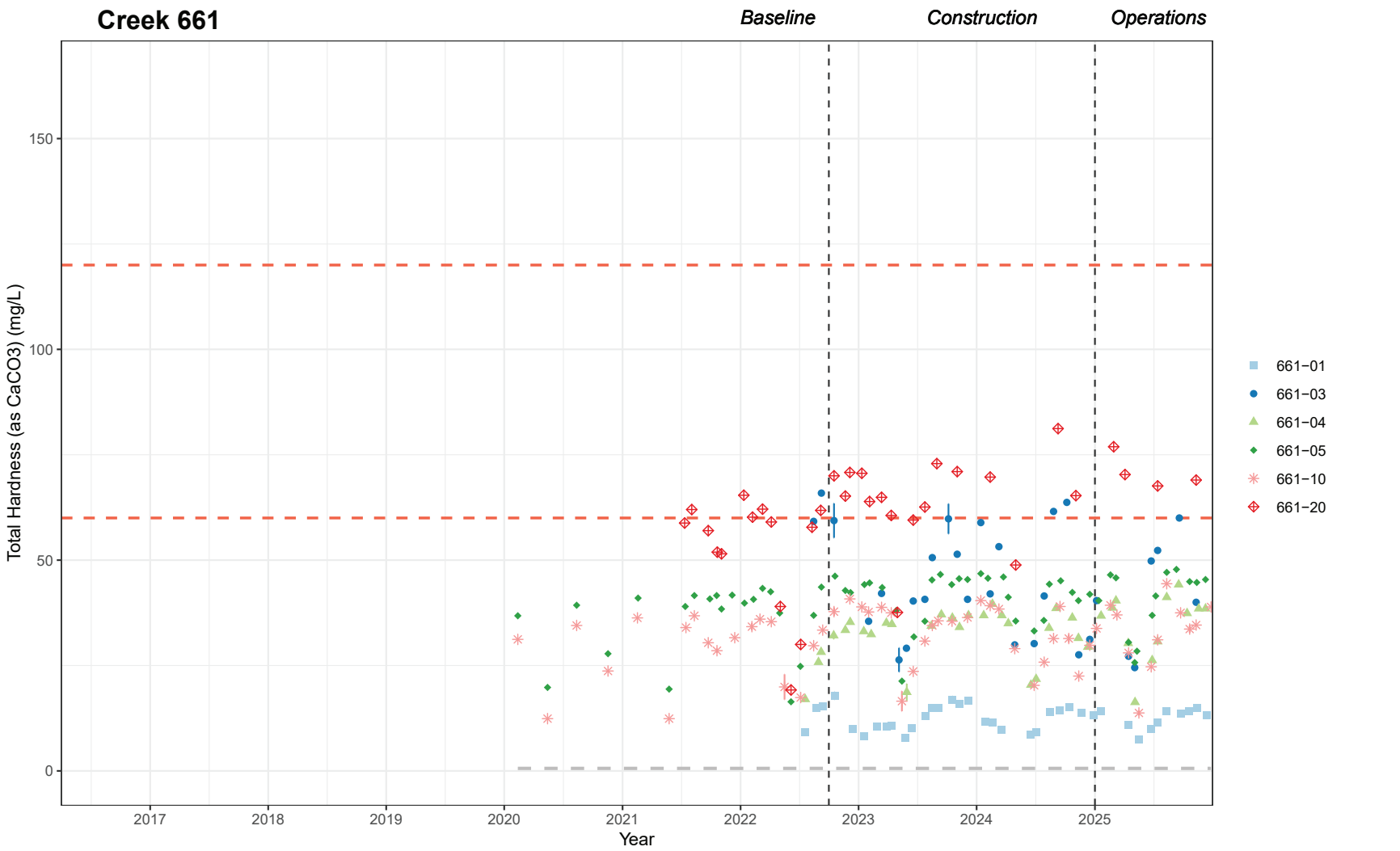


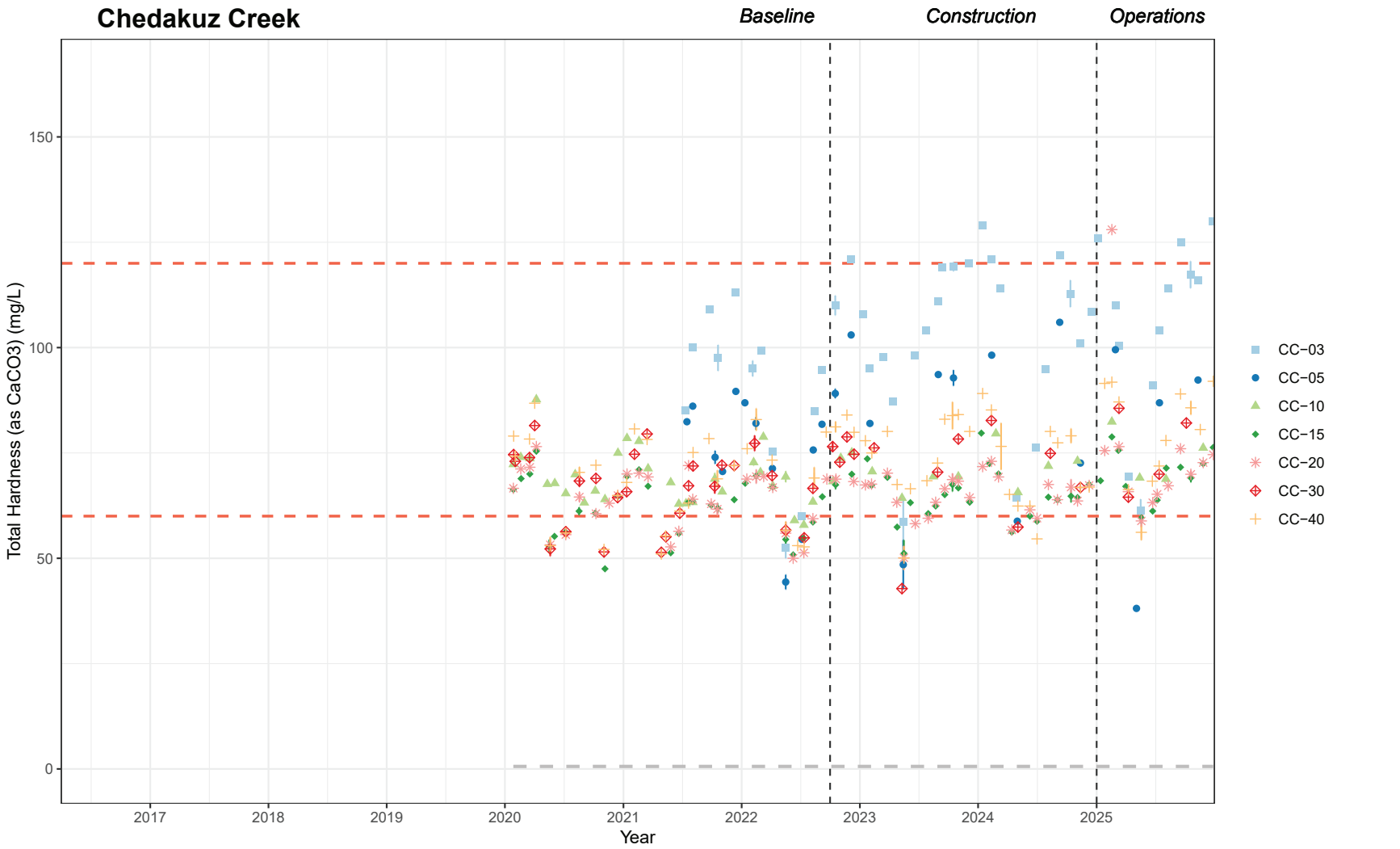
Figure C-4a: Monthly Mean Hardness Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Red dashed lines indicate classification ranges for hardness concentrations (Briggs et al. 1977):
< 60 mg/L, soft;
61 − 120 mg/L, moderately hard, 121−180 mg/L,hard;
> 180 mg/L, very hard.

Figure C-4b: Monthly Mean Hardness Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Red dashed lines indicate classification ranges for hardness concentrations (Briggs et al. 1977):
< 60 mg/L, soft;
61 − 120 mg/L, moderately hard, 121−180 mg/L,hard;
> 180 mg/L, very hard.

Figure C-4c: Monthly Mean Hardness Concentrations, Chedakuz Creek Sites, 2016 to 2025

Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Red dashed lines indicate classification ranges for hardness concentrations (Briggs et al. 1977):
< 60 mg/L, soft;
61 − 120 mg/L, moderately hard, 121−180 mg/L,hard;
> 180 mg/L, very hard.

Figure C-4d: Monthly Mean Hardness Concentrations, Regional Control Sites Sites, 2016 to 2025

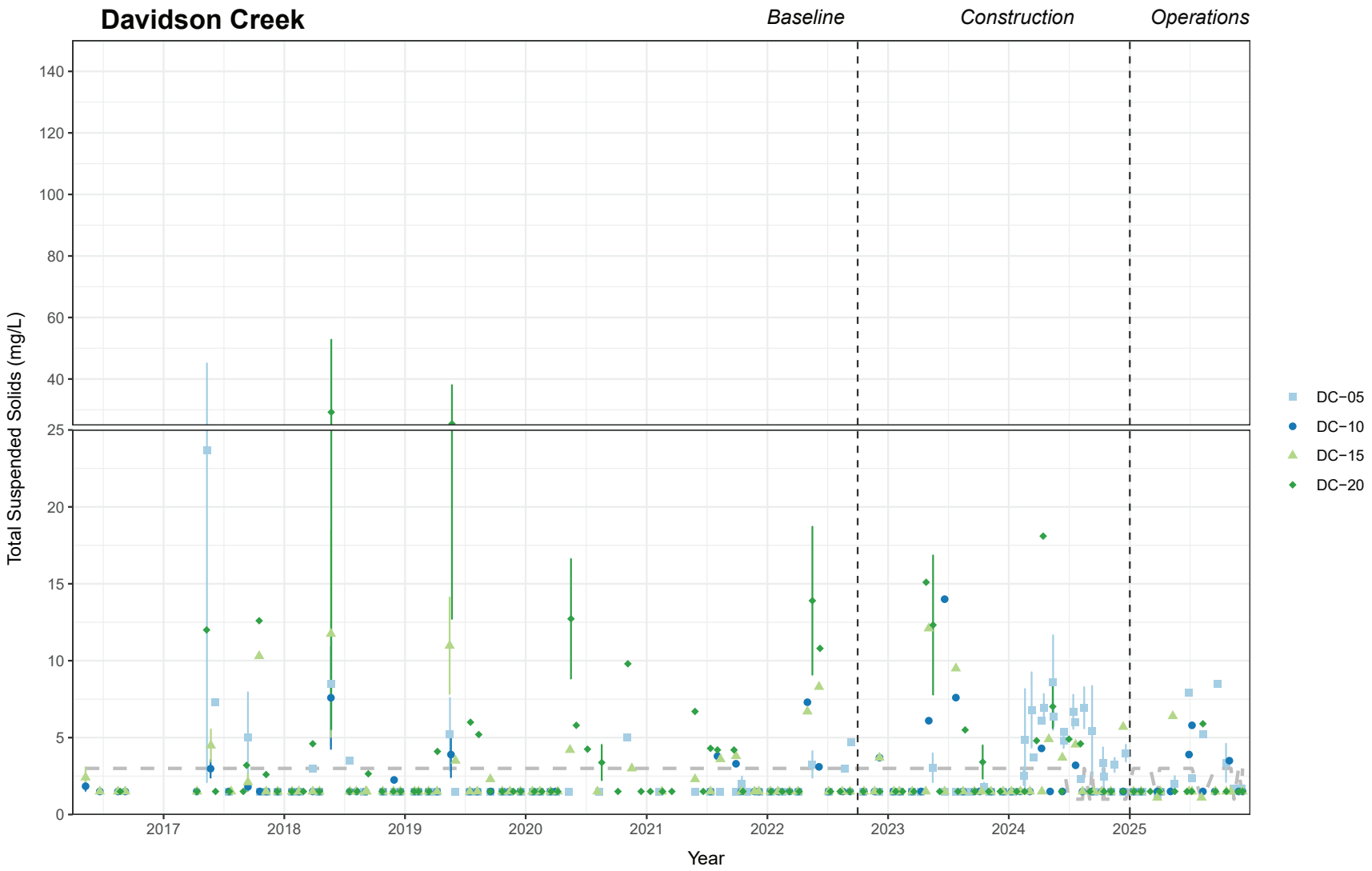
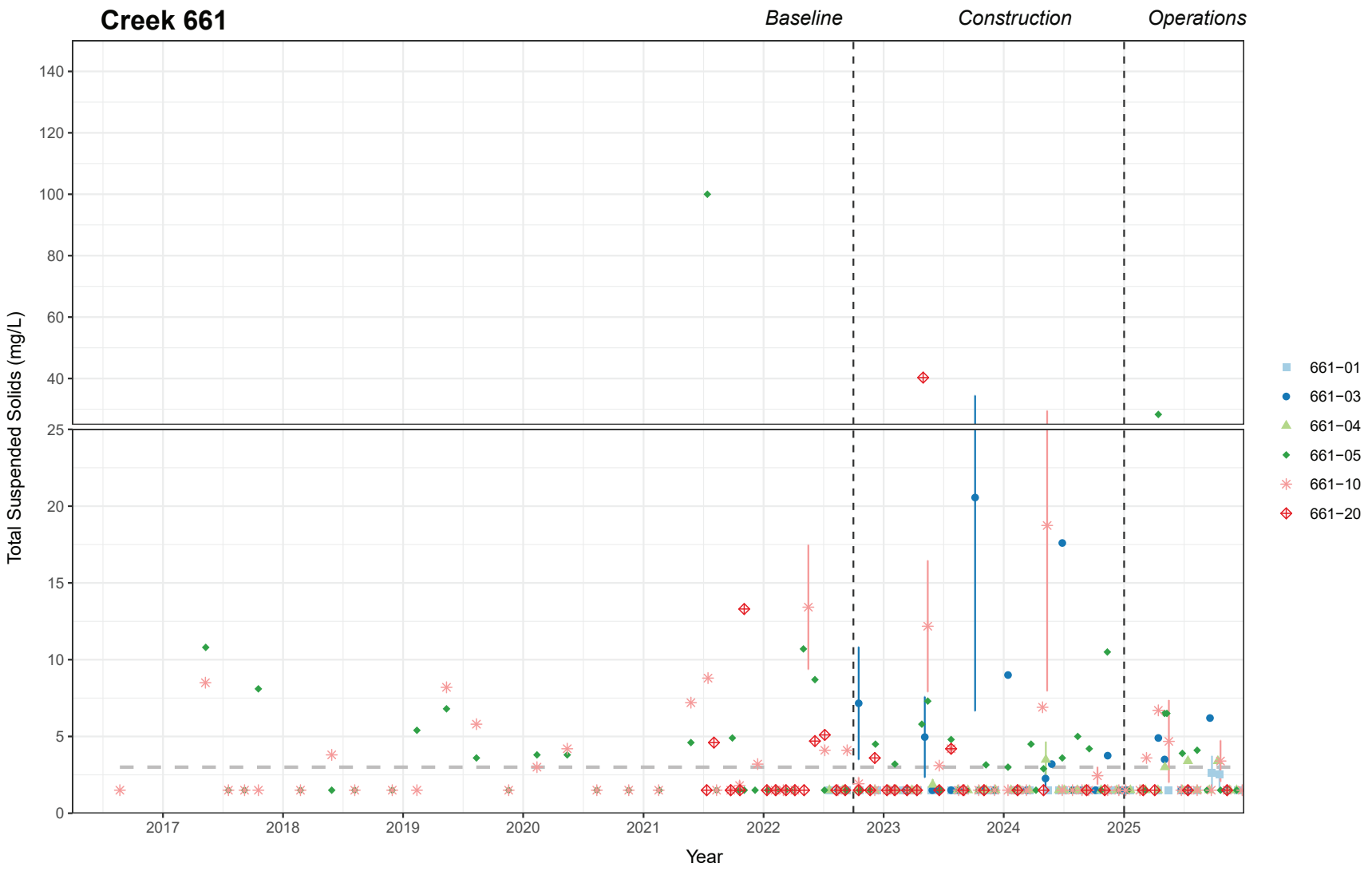


Figure C-5a: Monthly Mean Total Suspended Solids Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Water quality guidelines for suspended solids are dependent on background levels.

Figure C-5b: Monthly Mean Total Suspended Solids Concentrations, Creek 661 Sites, 2016 to 2025

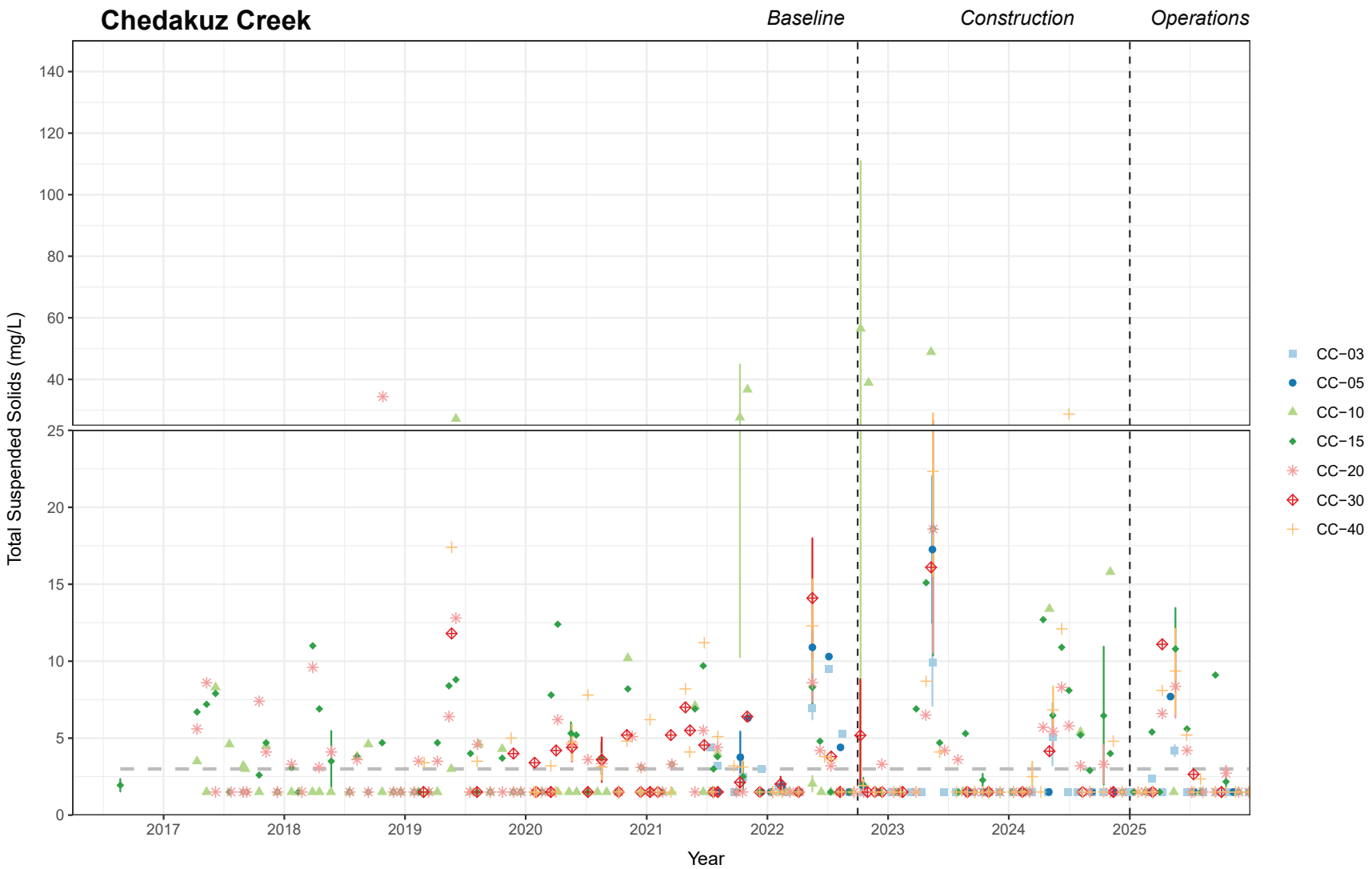


Figure C-5c: Monthly Mean Total Suspended Solids Concentrations, Chedakuz Creek Sites, 2016 to 2025

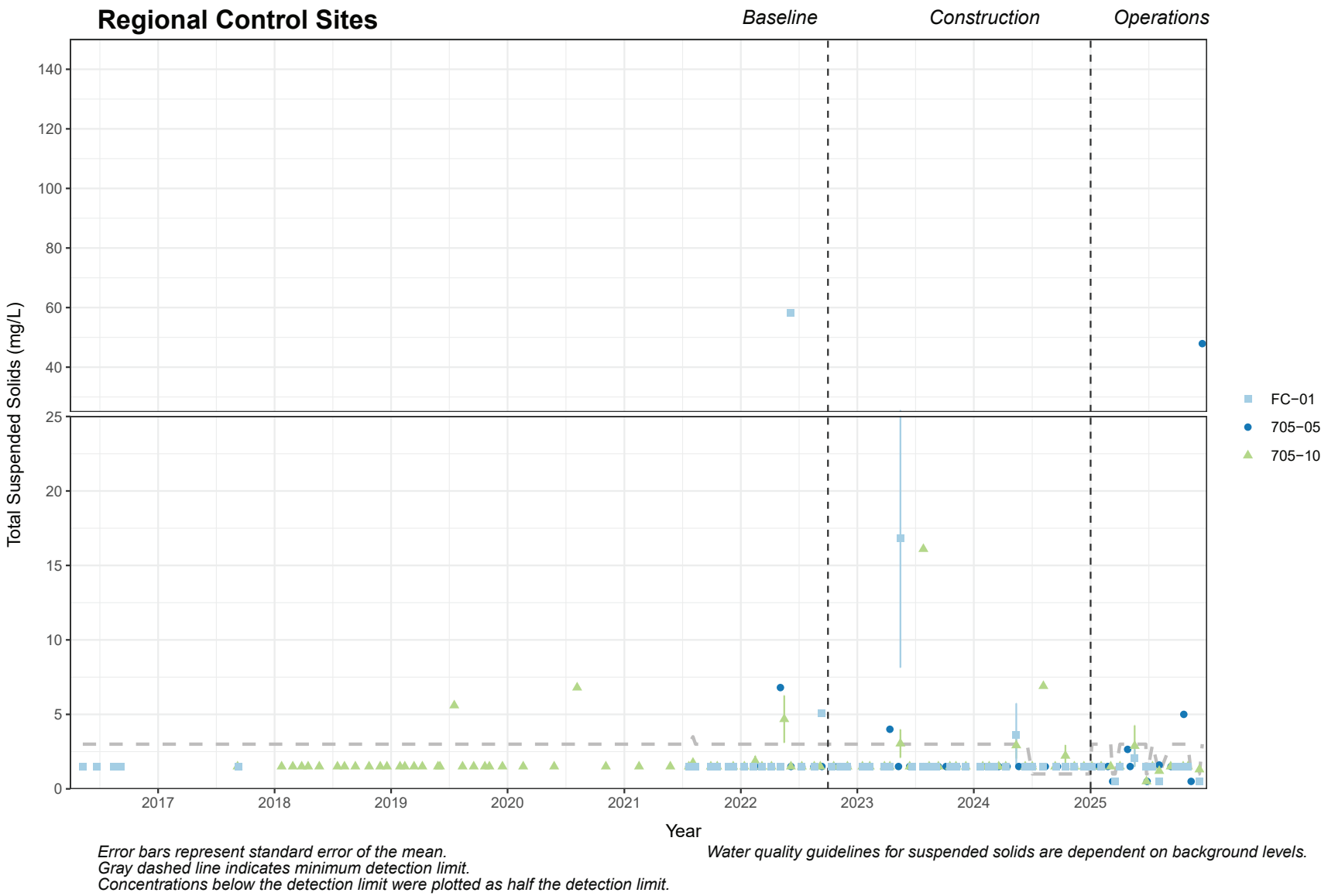
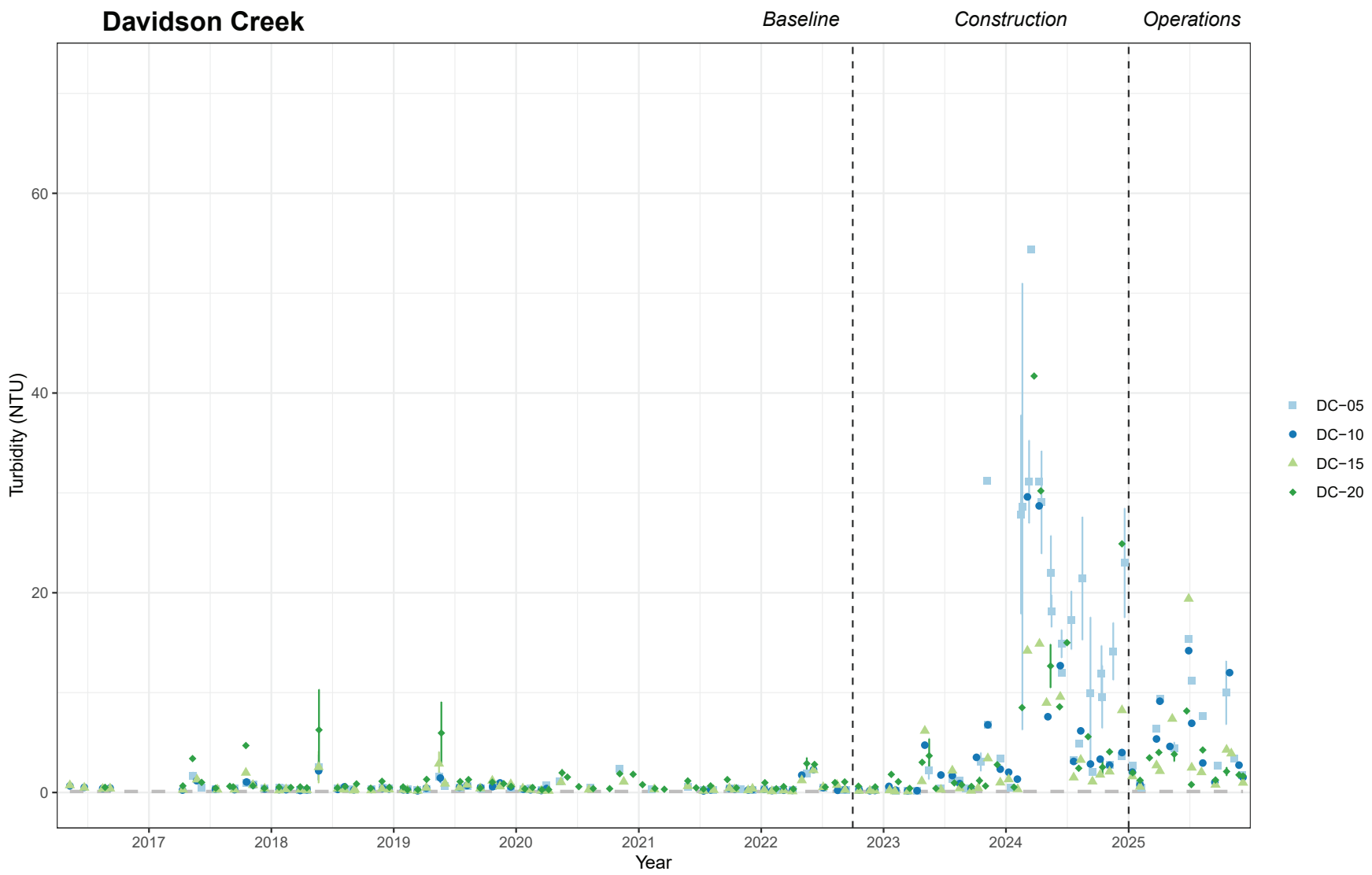
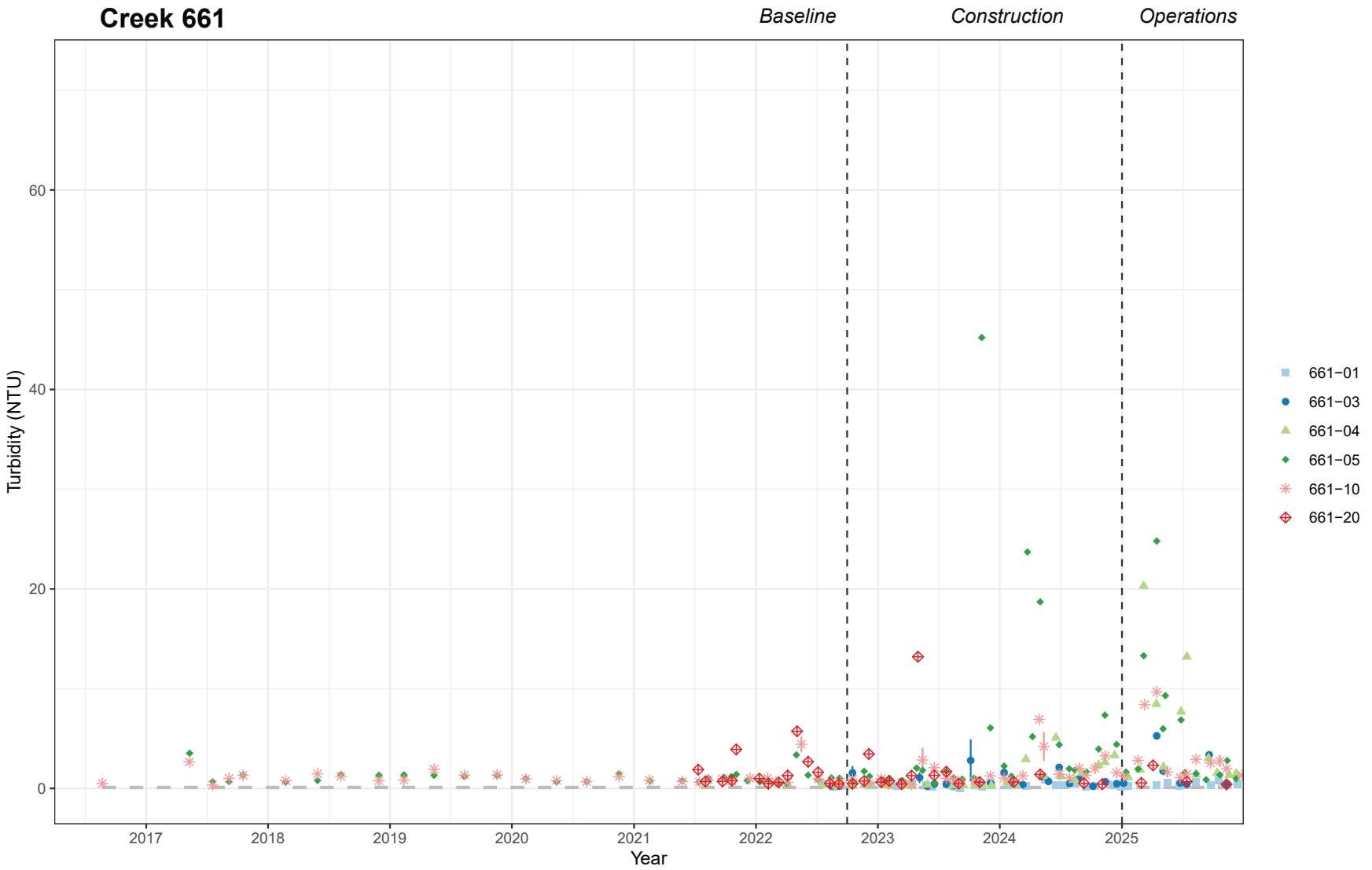


Figure C-5d: Monthly Mean Total Suspended Solids Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Water quality guidelines for turbidity are dependent on background levels.
Proposed YDWL Standard for DC−05 is the BC WQG−AL

Figure C-6a: Monthly Mean Turbidity Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Water quality guidelines for turbidity are dependent on background levels.

Figure C-6b: Monthly Mean Turbidity Concentrations, Creek 661 Sites, 2016 to 2025

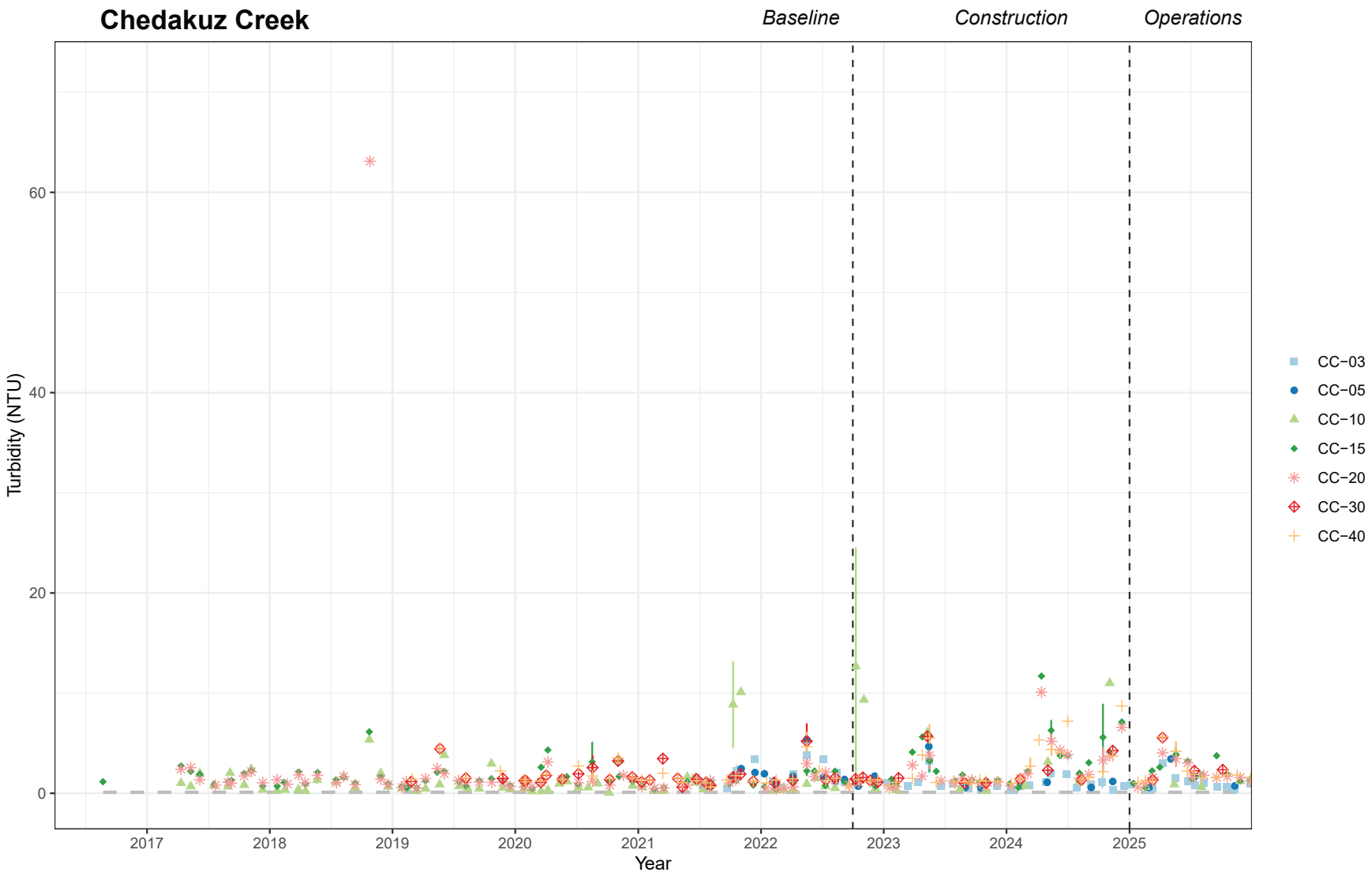


Figure C-6c: Monthly Mean Turbidity Concentrations, Chedakuz Creek Sites, 2016 to 2025

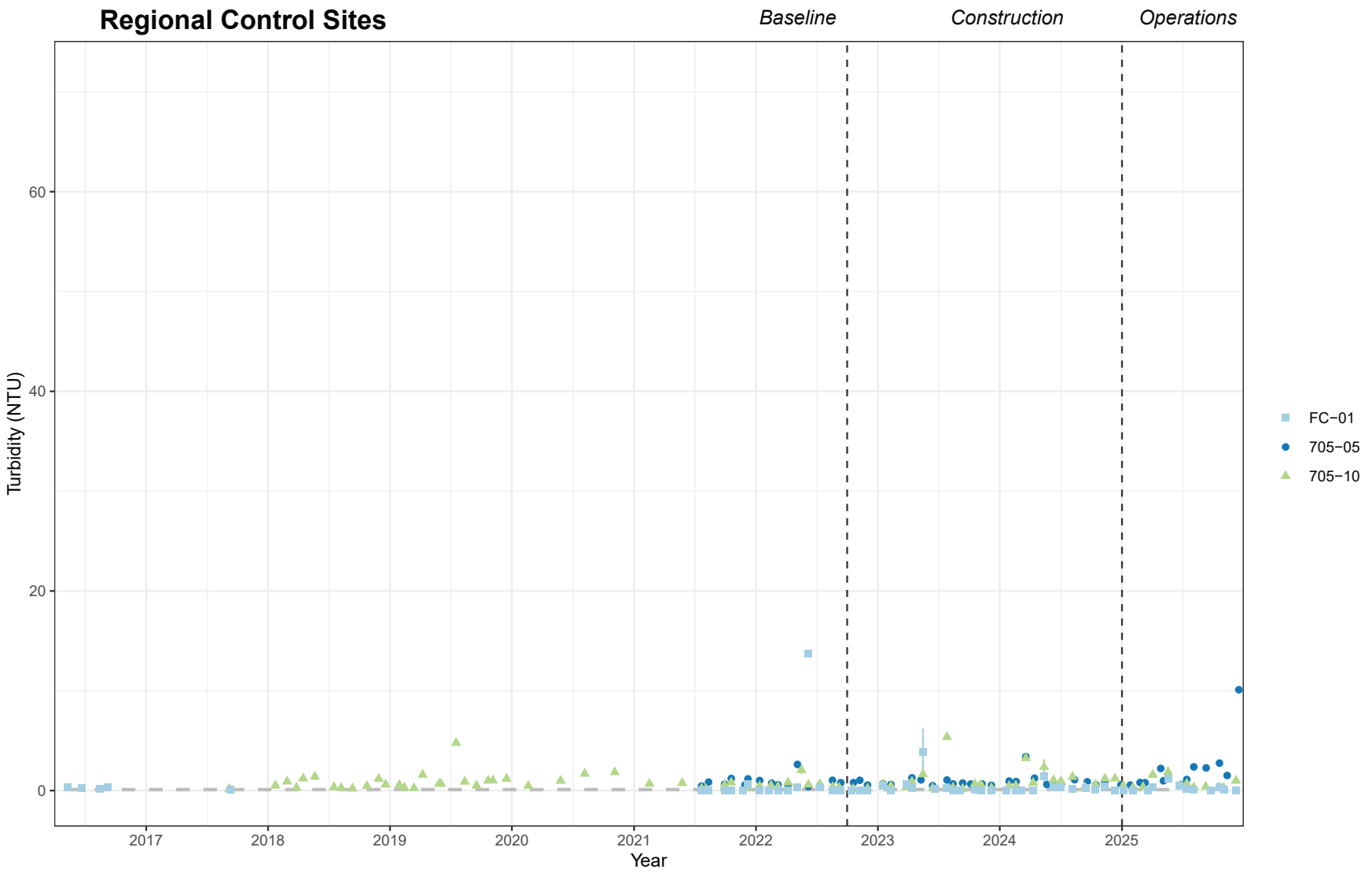


Figure C-6d: Monthly Mean Turbidity Concentrations, Regional Control Sites Sites, 2016 to 2025

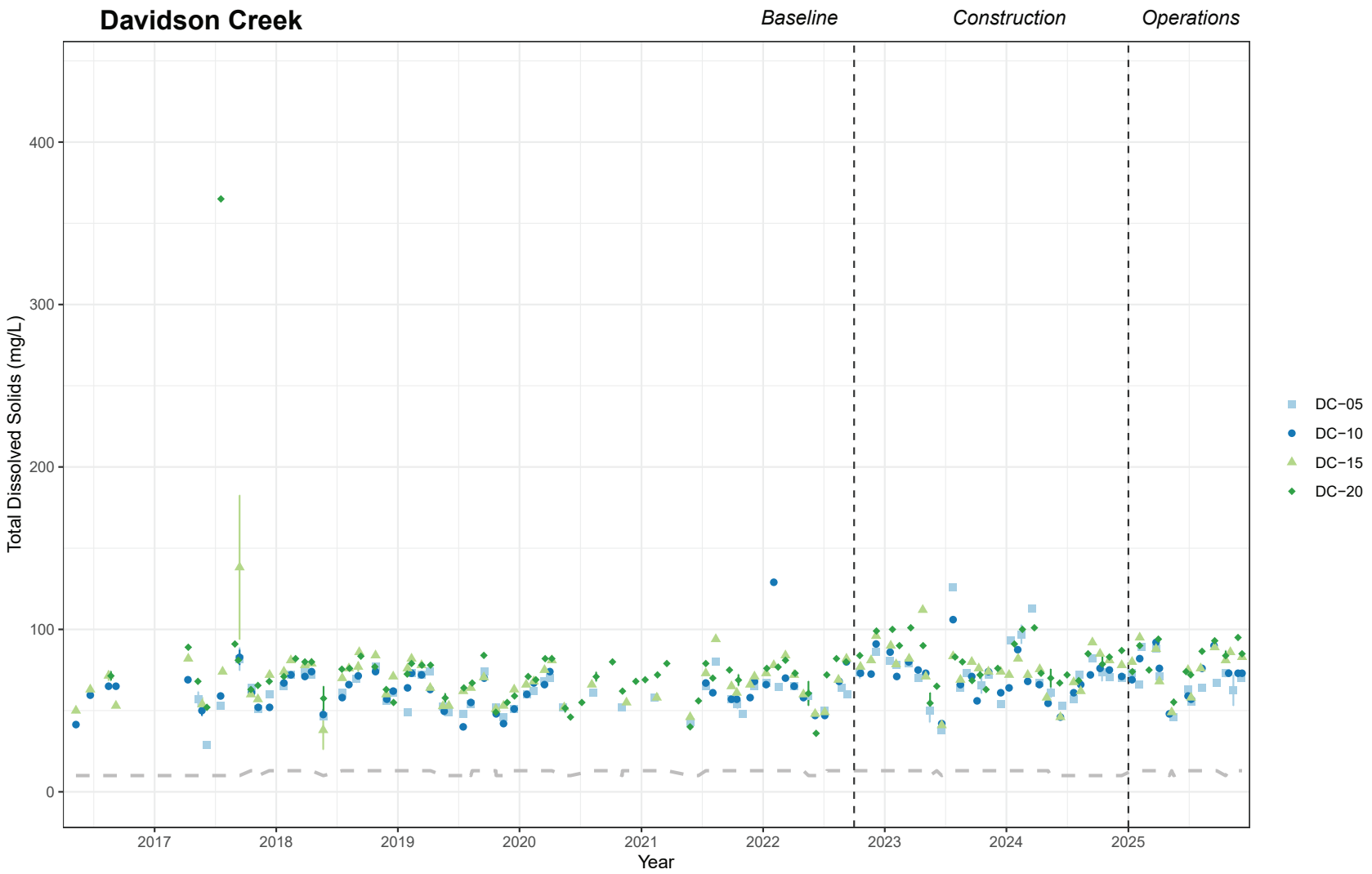


Figure C-7a: Monthly Mean Total Dissolved Solids Concentrations, Davidson Creek Sites, 2016 to 2025

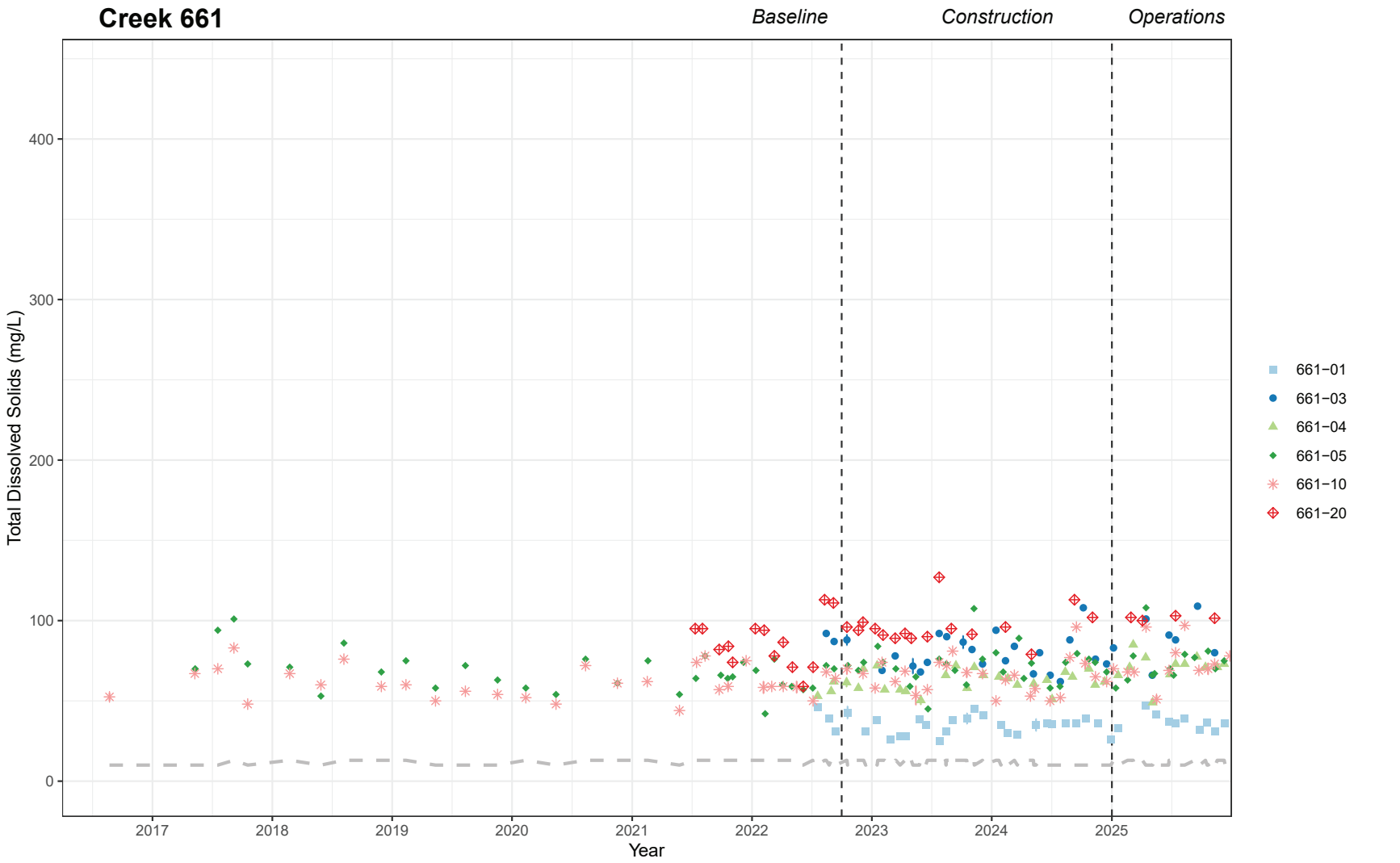
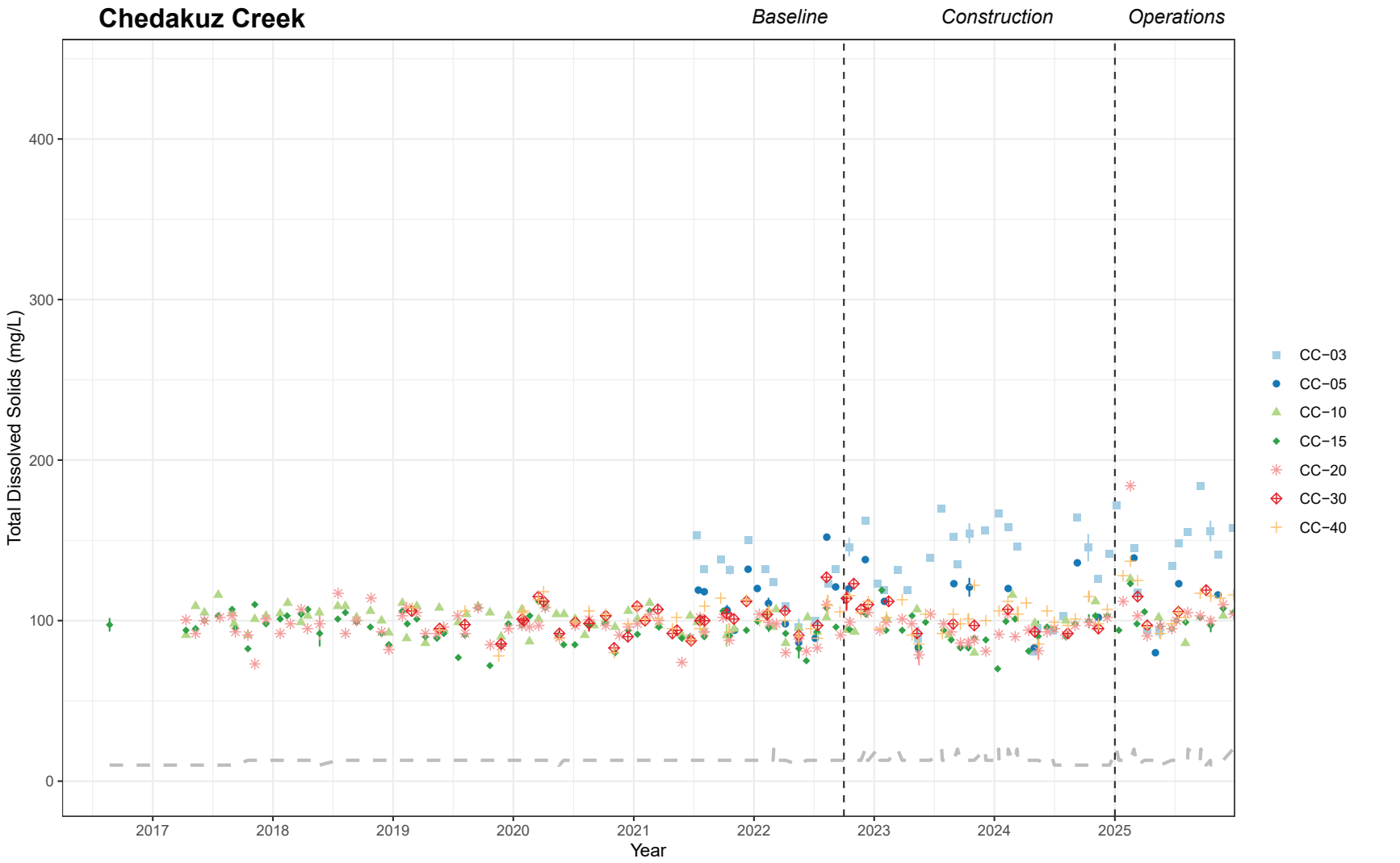


Figure C-7b: Monthly Mean Total Dissolved Solids Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

No WQG−AL guideline is available for this parameter. A benchmark of 500 mg/L will be used as identified in the effects assessment for the Joint MA/EMA Application (BW Gold 2022).

Figure C-7c: Monthly Mean Total Dissolved Solids Concentrations, Chedakuz Creek Sites, 2016 to 2025

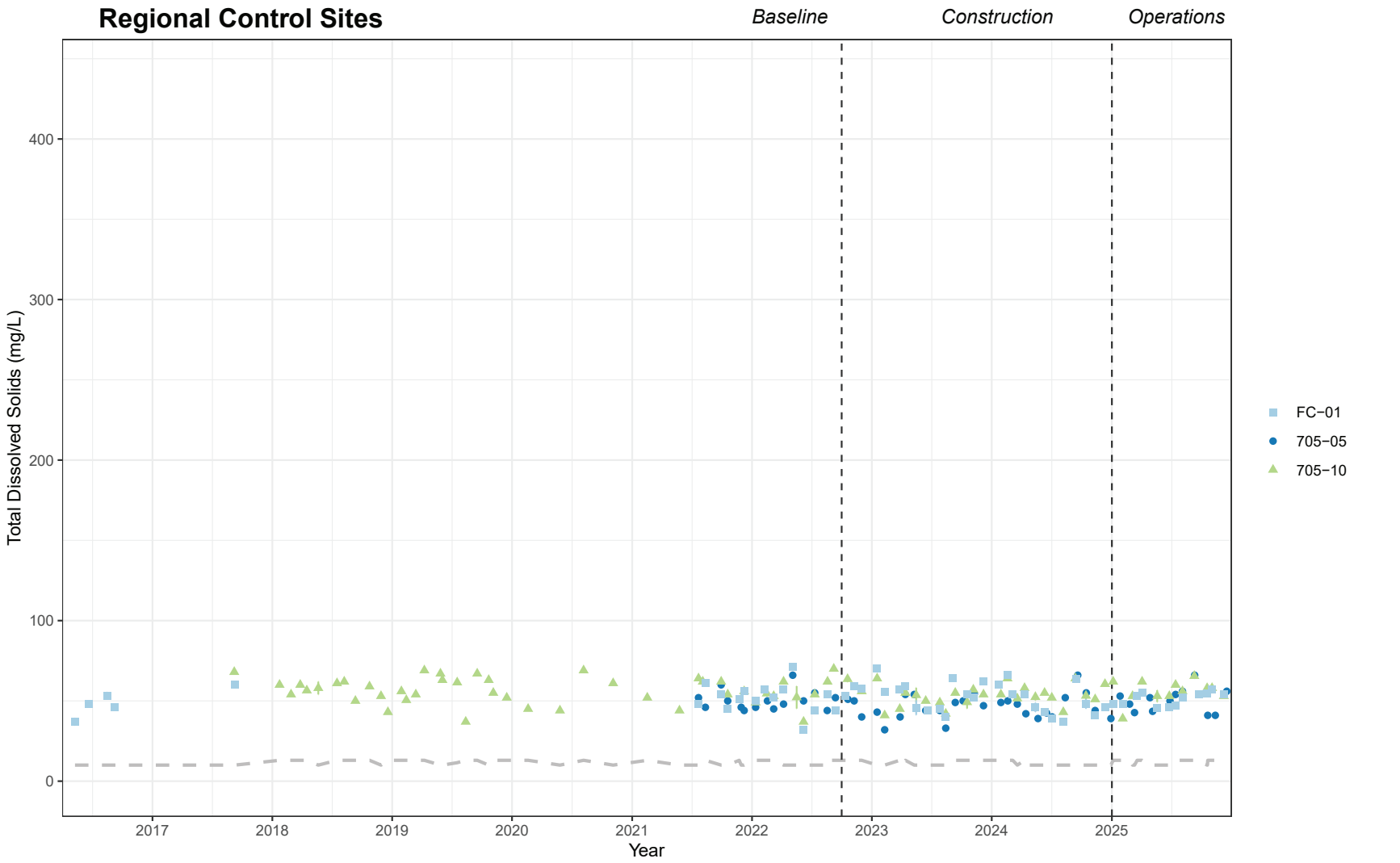


Figure C-7d: Monthly Mean Total Dissolved Solids Concentrations, Regional Control Sites Sites, 2016 to 2025

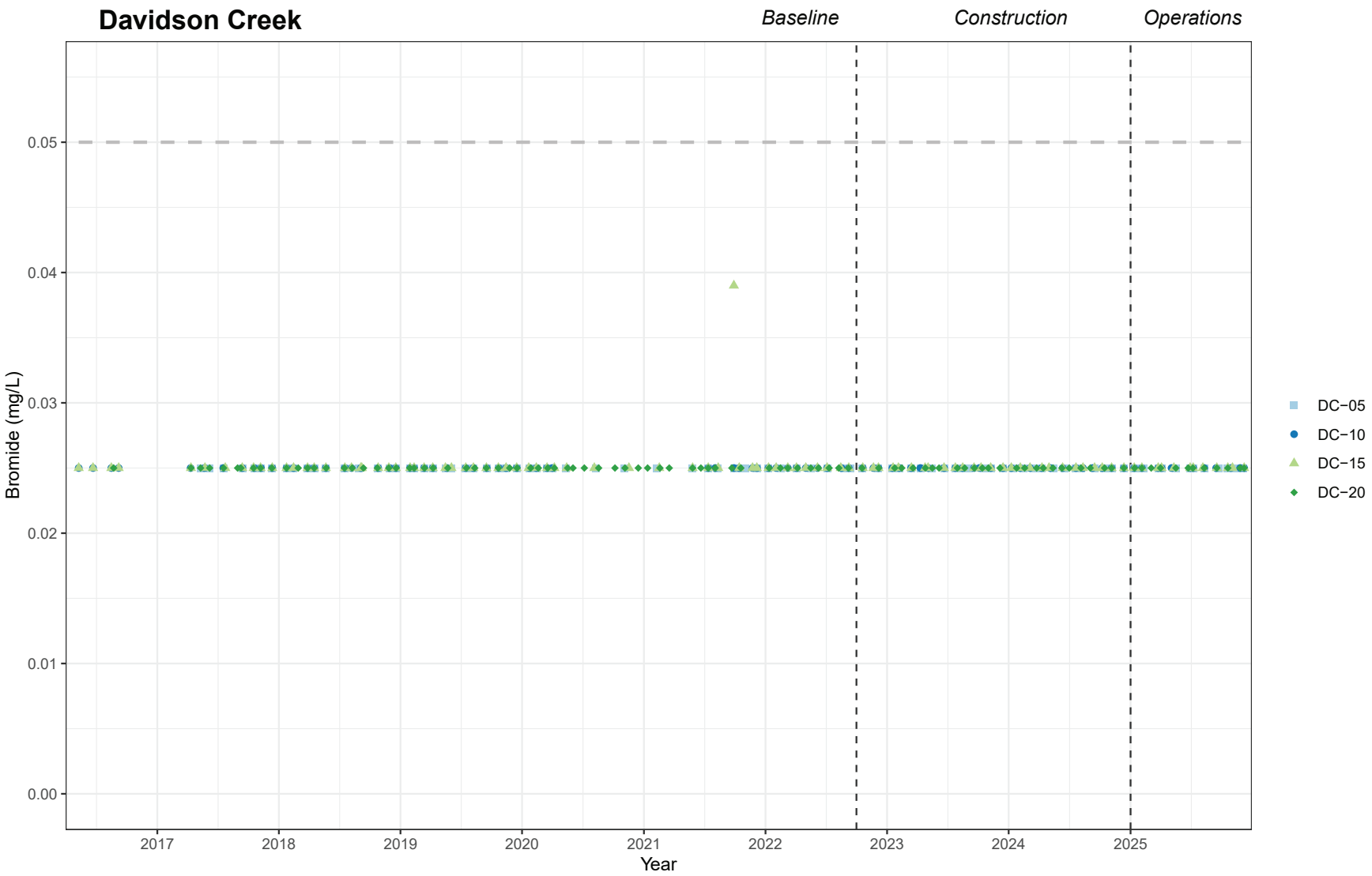


Figure C-8a: Monthly Mean Bromide Concentrations, Davidson Creek Sites, 2016 to 2025

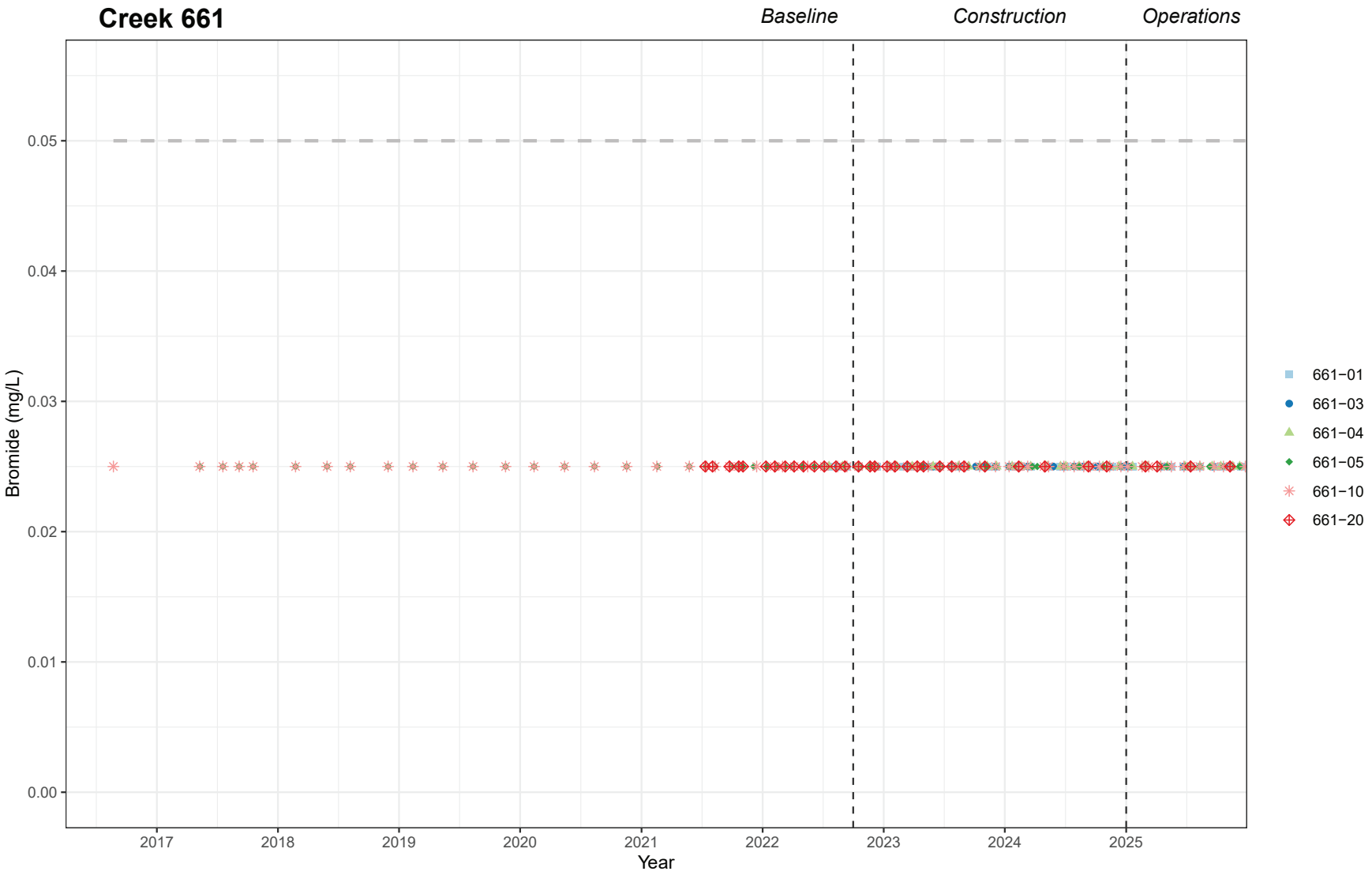


Figure C-8b: Monthly Mean Bromide Concentrations, Creek 661 Sites, 2016 to 2025

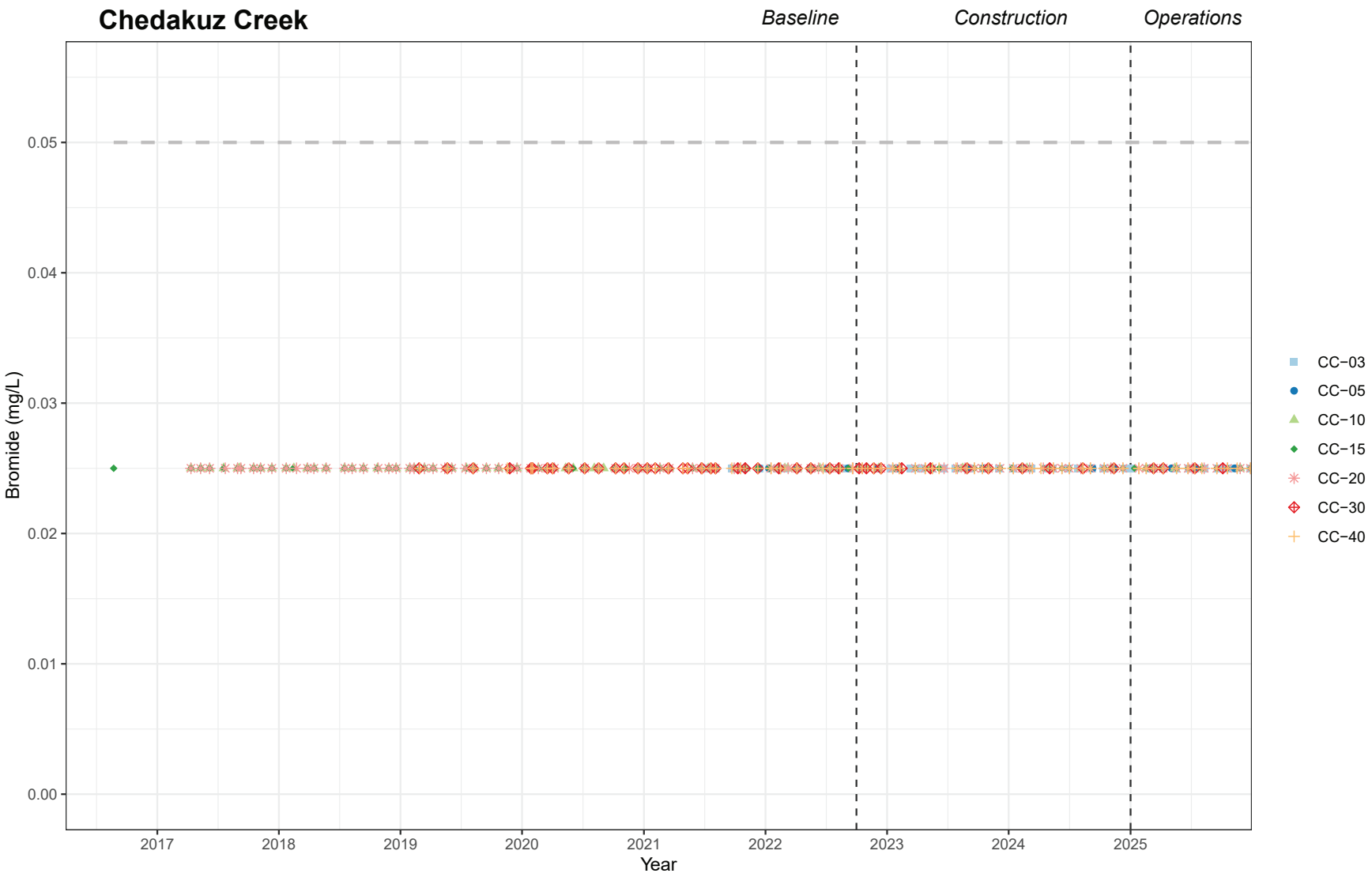


Figure C-8c: Monthly Mean Bromide Concentrations, Chedakuz Creek Sites, 2016 to 2025

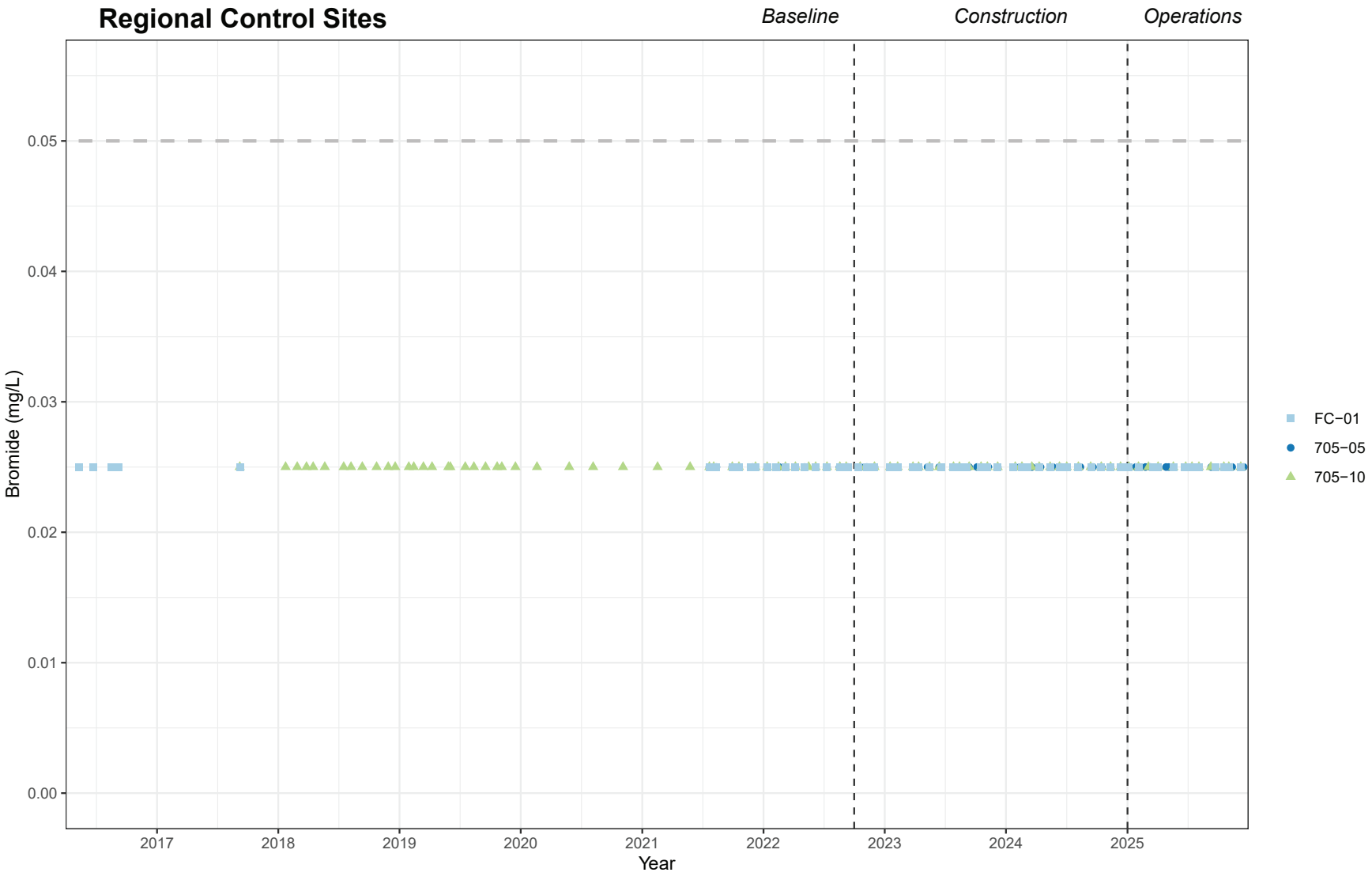


Figure C-8d: Monthly Mean Bromide Concentrations, Regional Control Sites Sites, 2016 to 2025

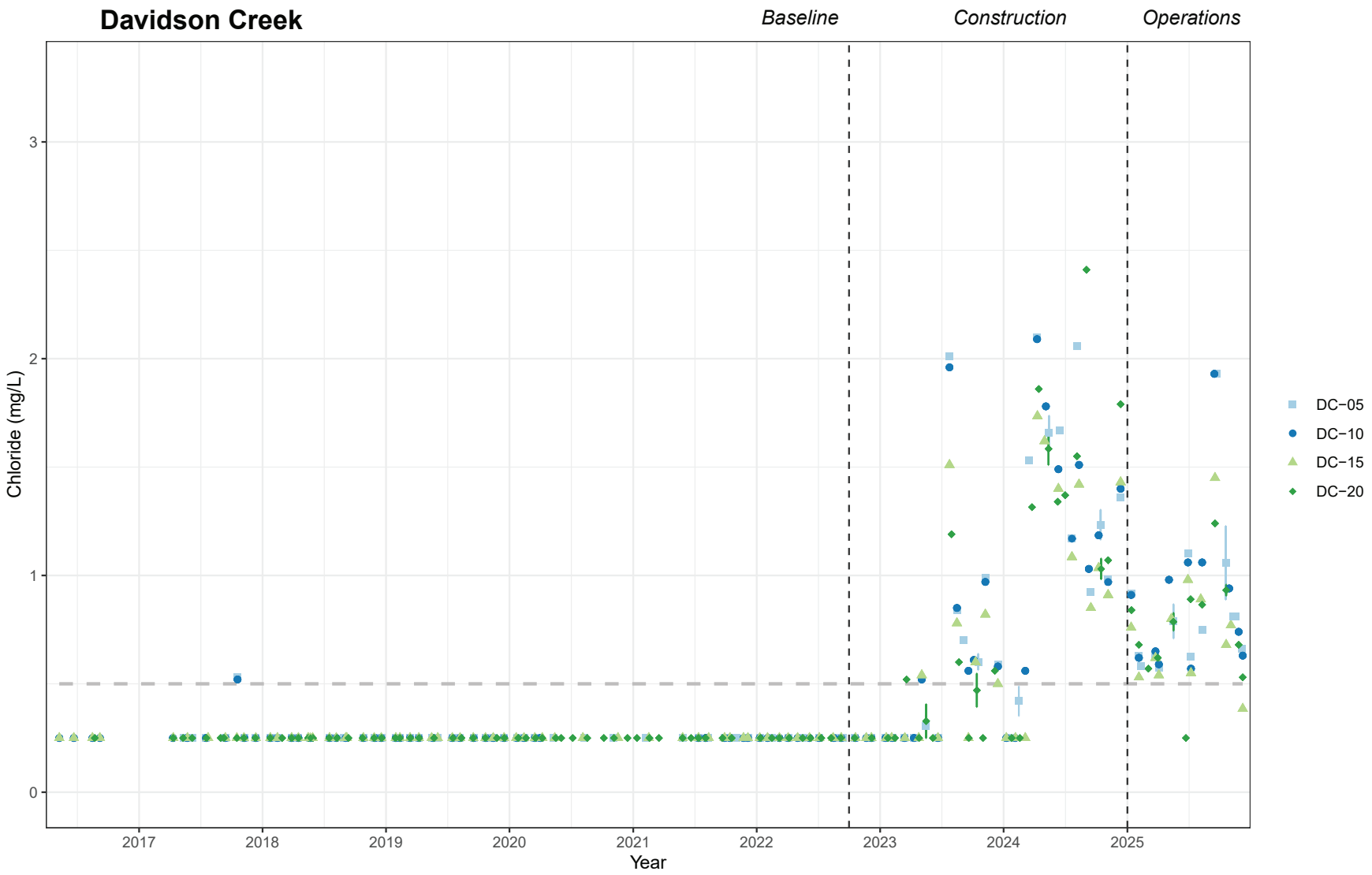


Figure C-9a: Monthly Mean Chloride Concentrations, Davidson Creek Sites, 2016 to 2025

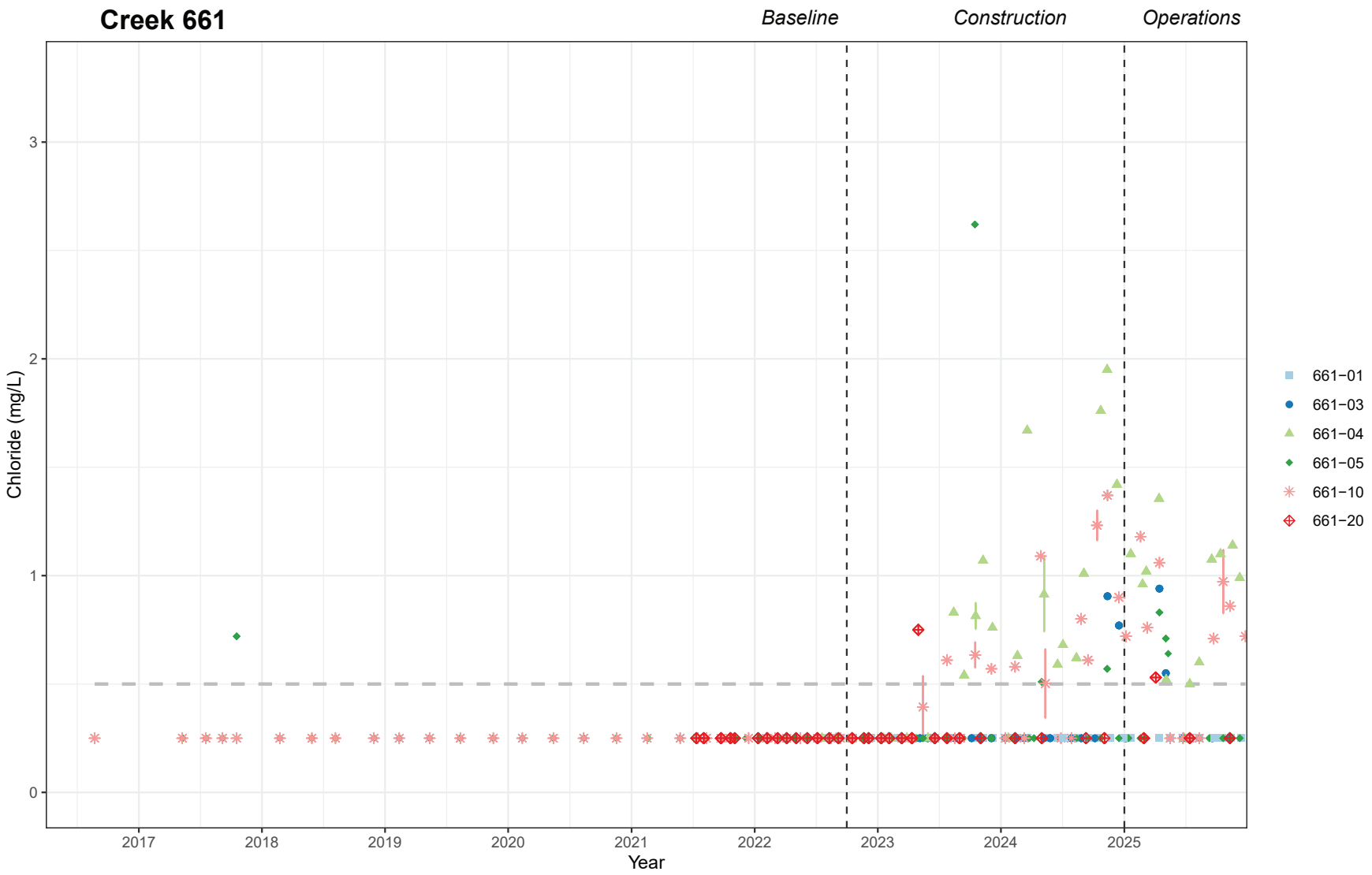


Figure C-9b: Monthly Mean Chloride Concentrations, Creek 661 Sites, 2016 to 2025

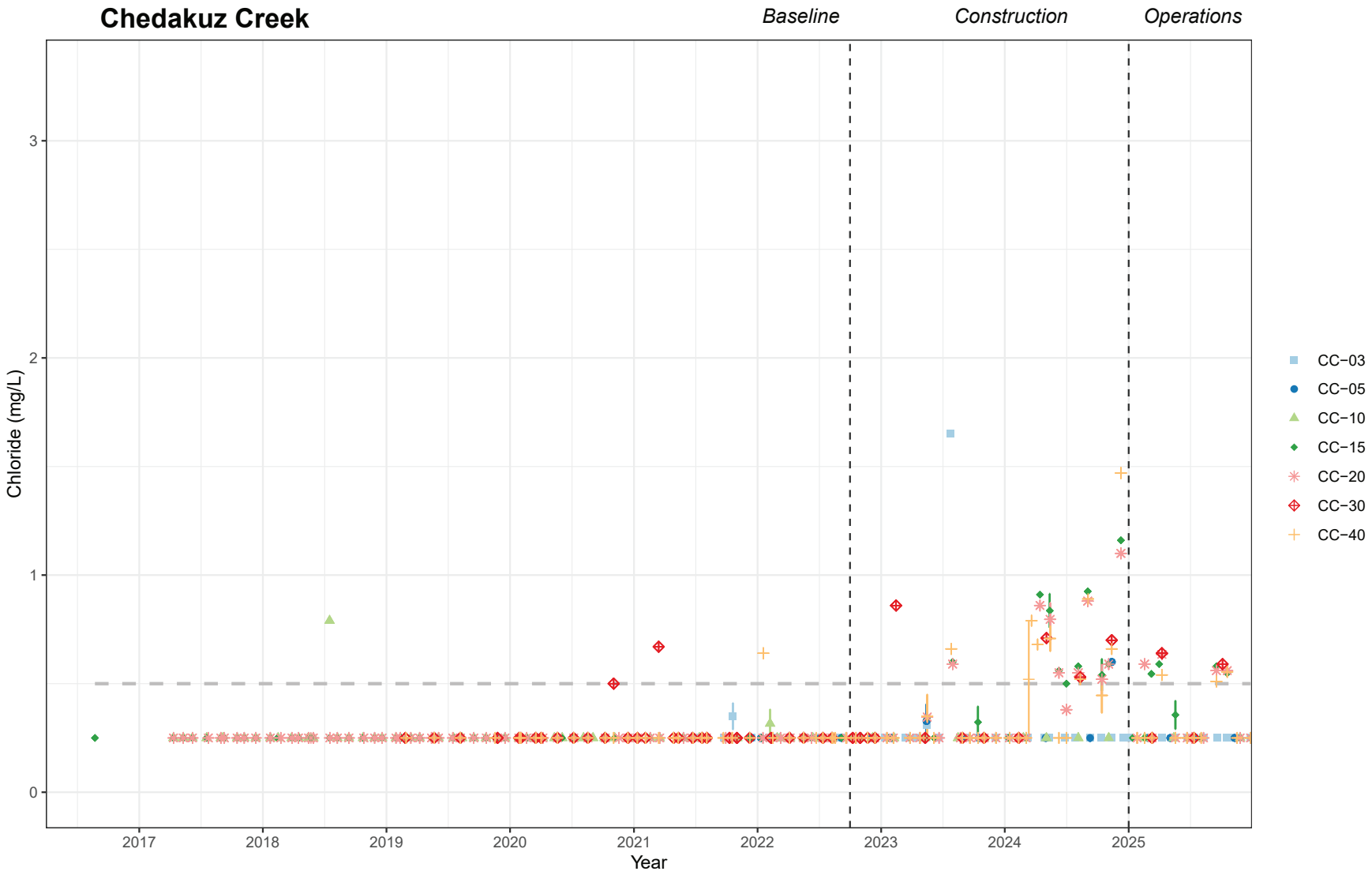


Figure C-9c: Monthly Mean Chloride Concentrations, Chedakuz Creek Sites, 2016 to 2025

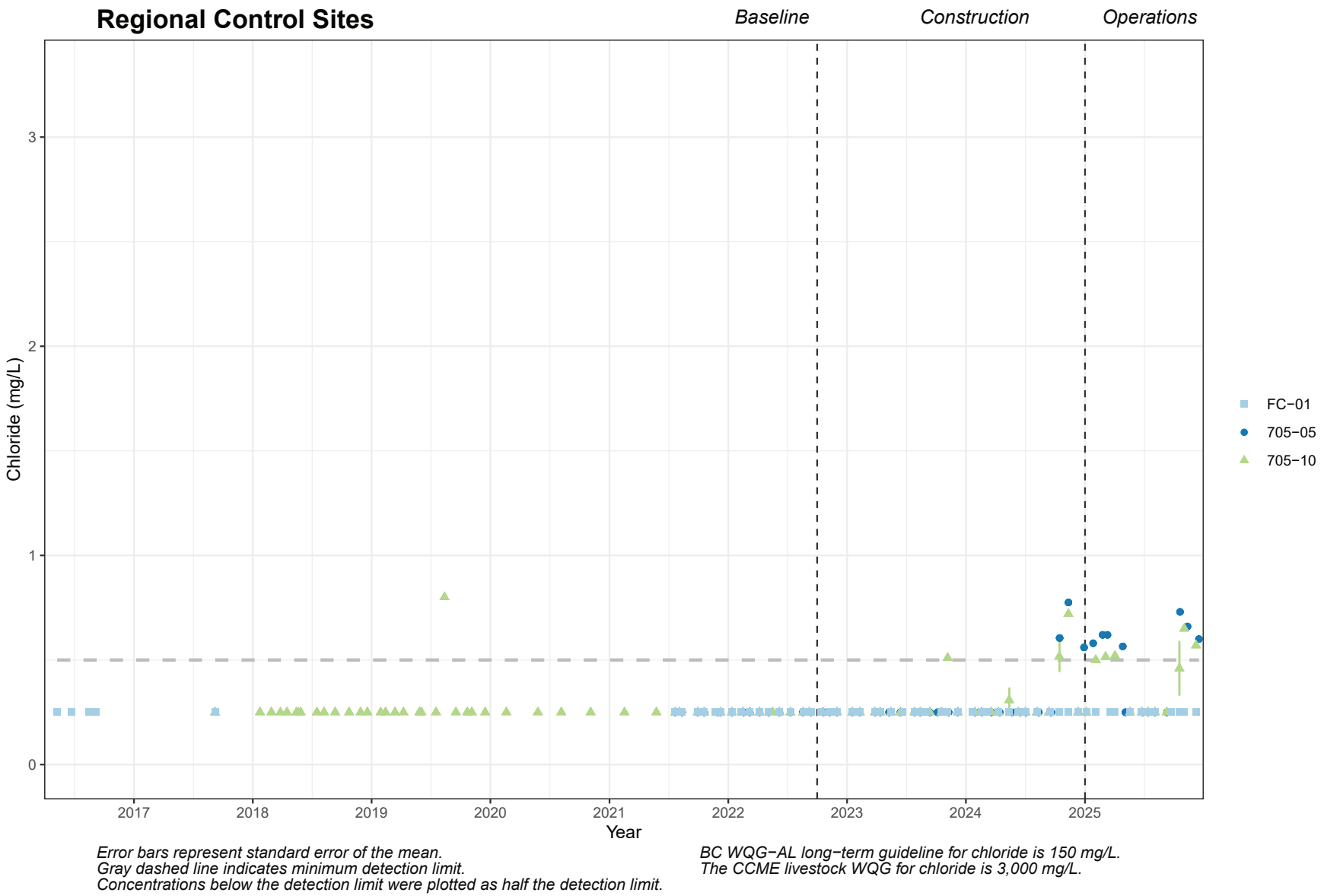


Figure C-9d: Monthly Mean Chloride Concentrations, Regional Control Sites Sites, 2016 to 2025

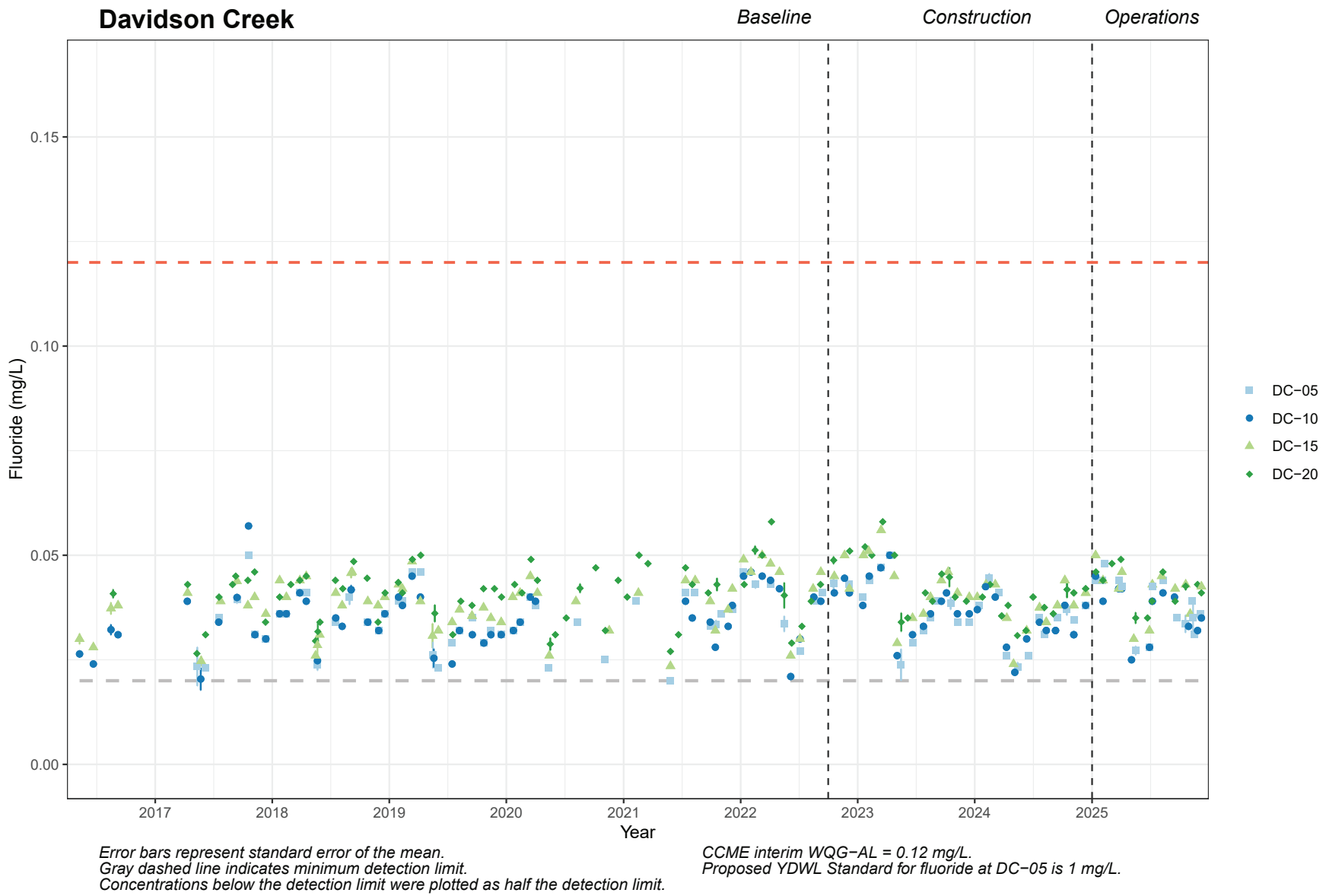


Figure C-10a: Monthly Mean Fluoride Concentrations, Davidson Creek Sites, 2016 to 2025

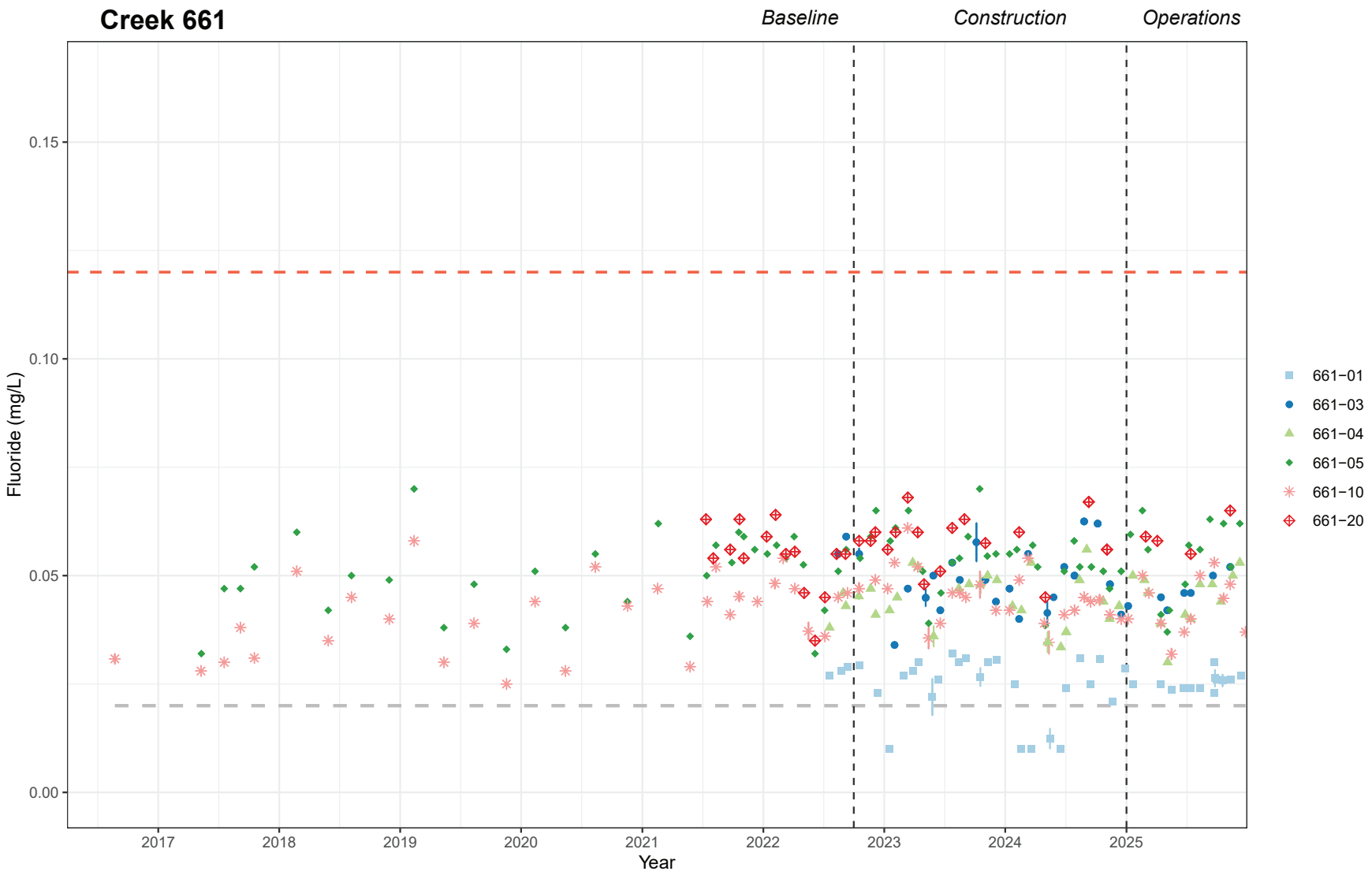


Figure C-10b: Monthly Mean Fluoride Concentrations, Creek 661 Sites, 2016 to 2025

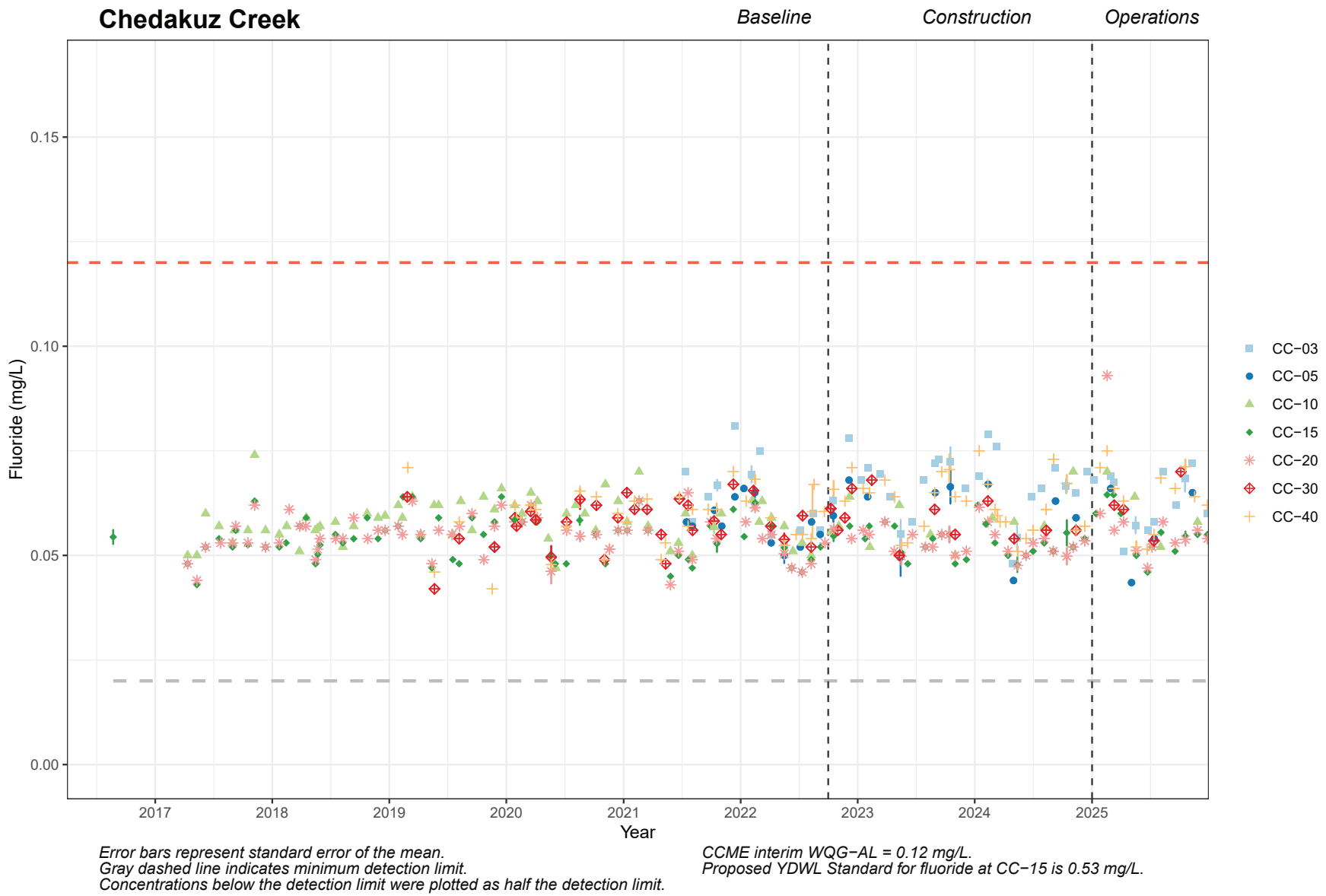


Figure C-10c: Monthly Mean Fluoride Concentrations, Chedakuz Creek Sites, 2016 to 2025

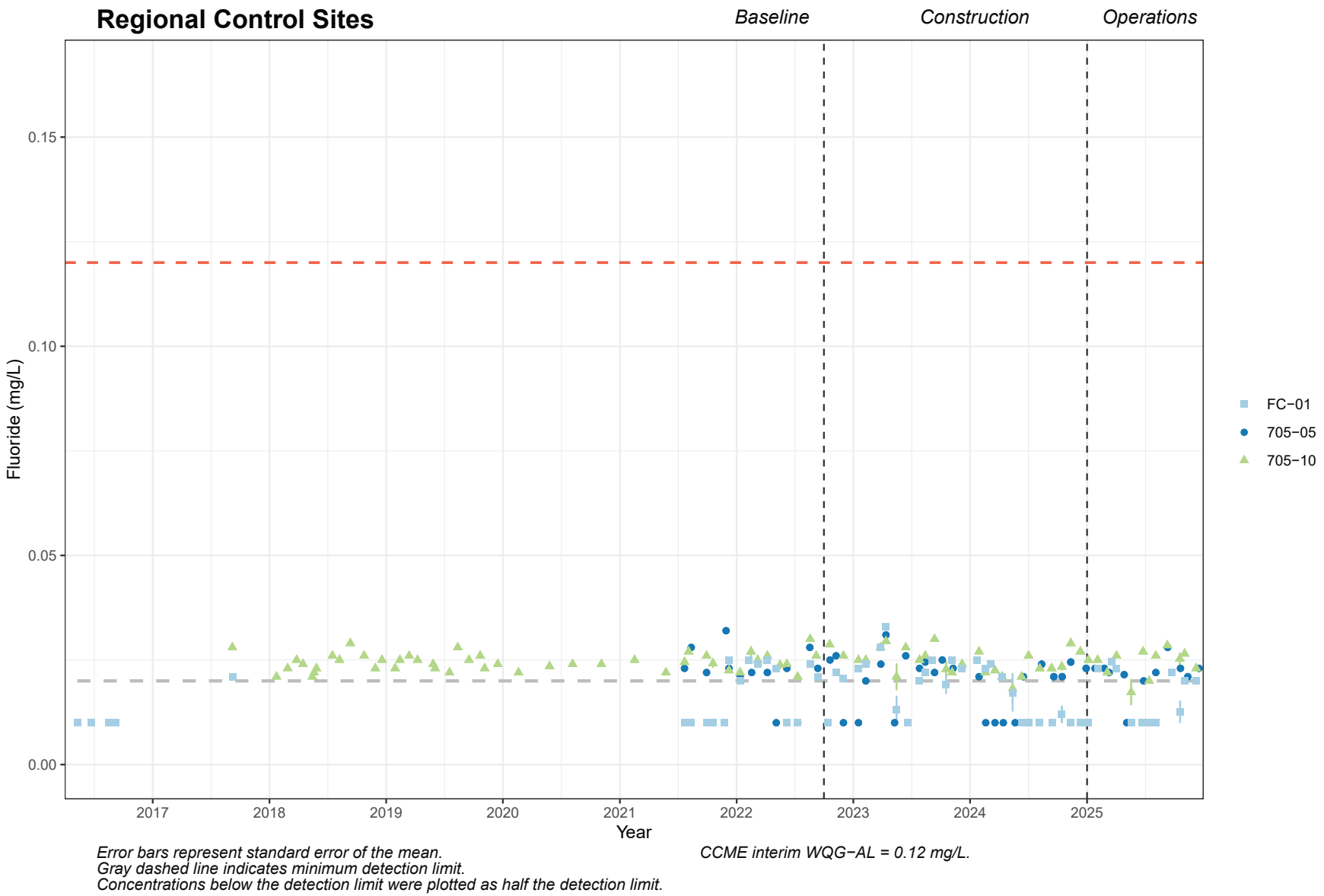


Figure C-10d: Monthly Mean Fluoride Concentrations, Regional Control Sites Sites, 2016 to 2025

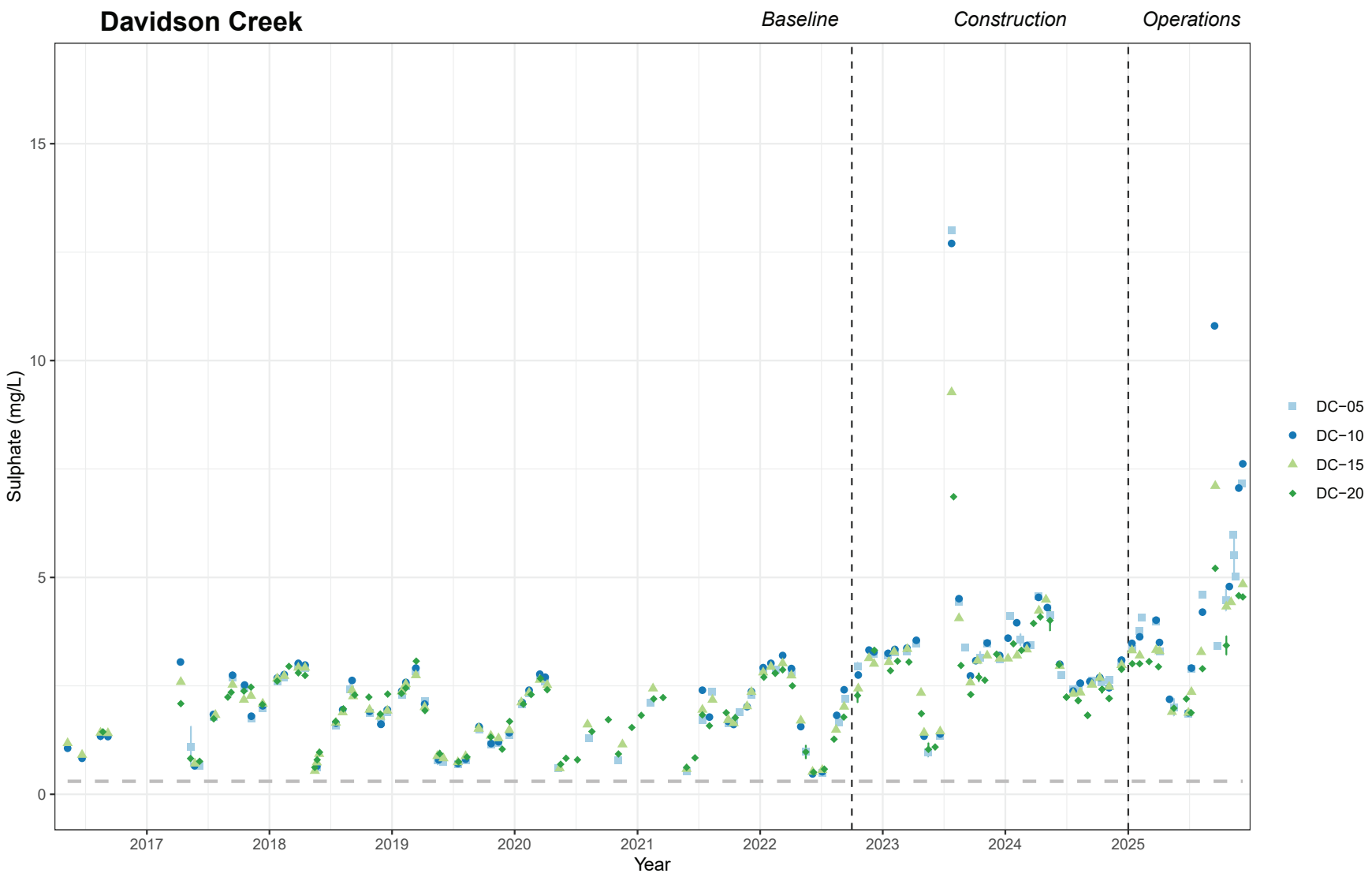


Figure C-11a: Monthly Mean Sulphate Concentrations, Davidson Creek Sites, 2016 to 2025

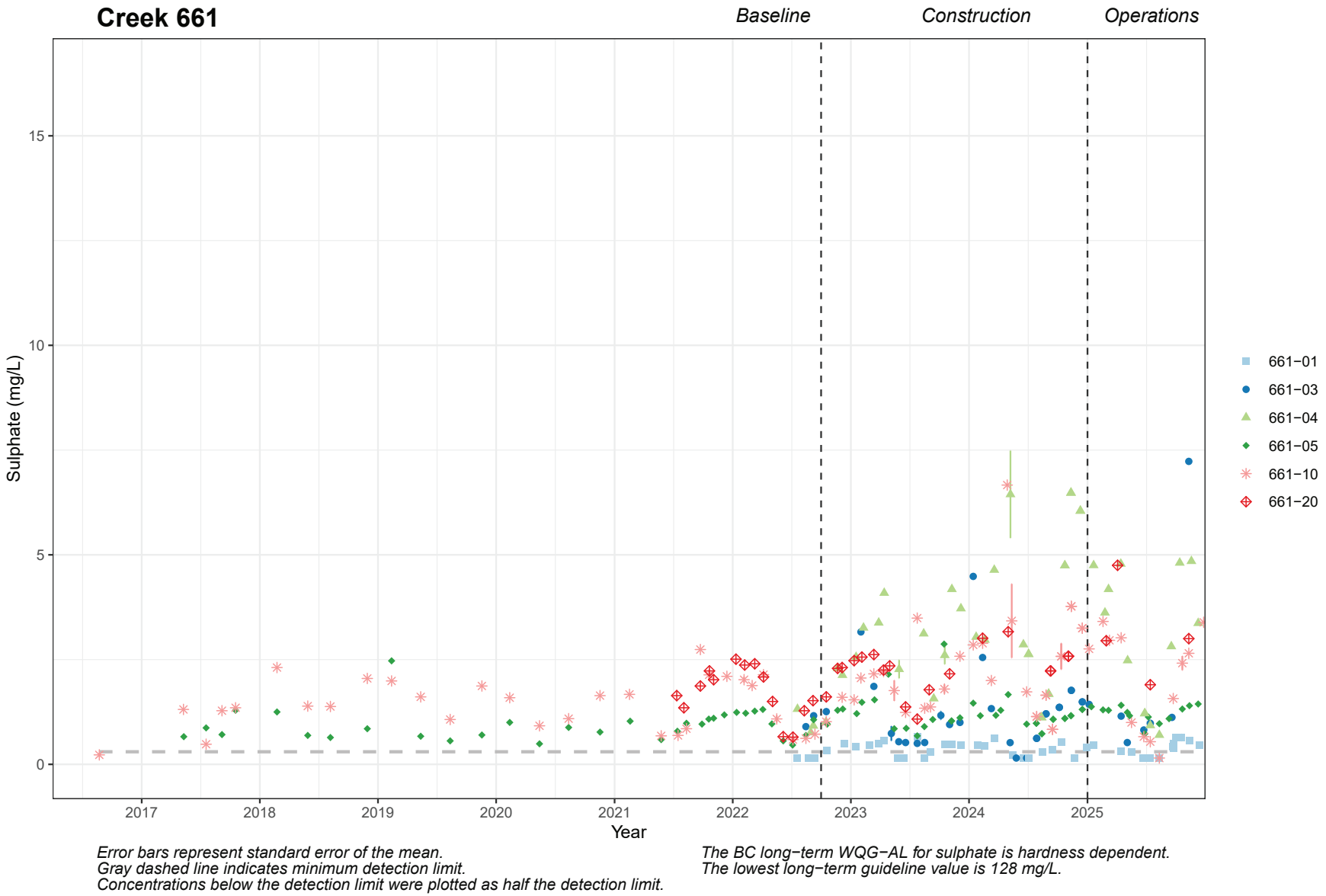


Figure C-11b: Monthly Mean Sulphate Concentrations, Creek 661 Sites, 2016 to 2025

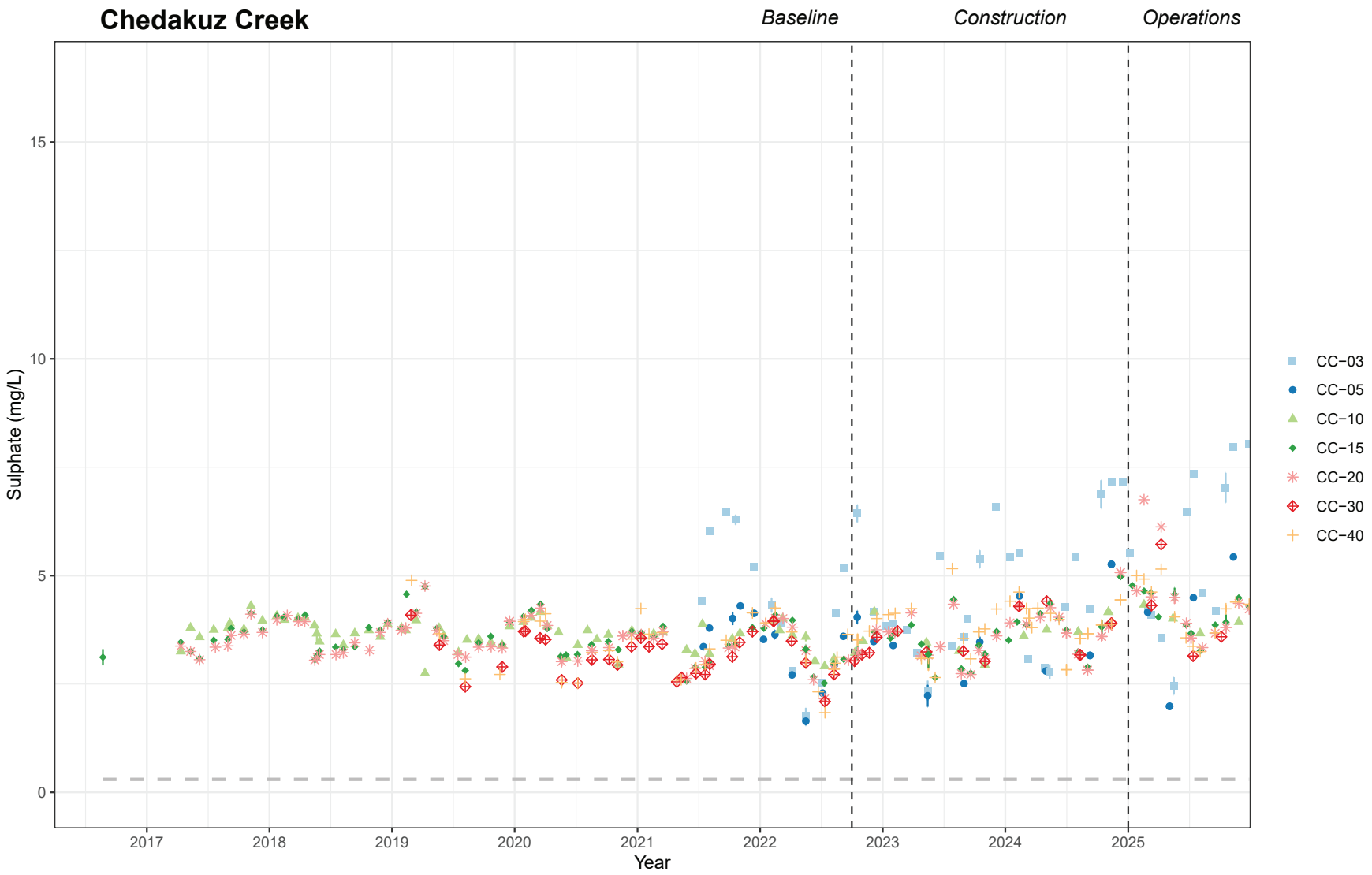


Figure C-11c: Monthly Mean Sulphate Concentrations, Chedakuz Creek Sites, 2016 to 2025

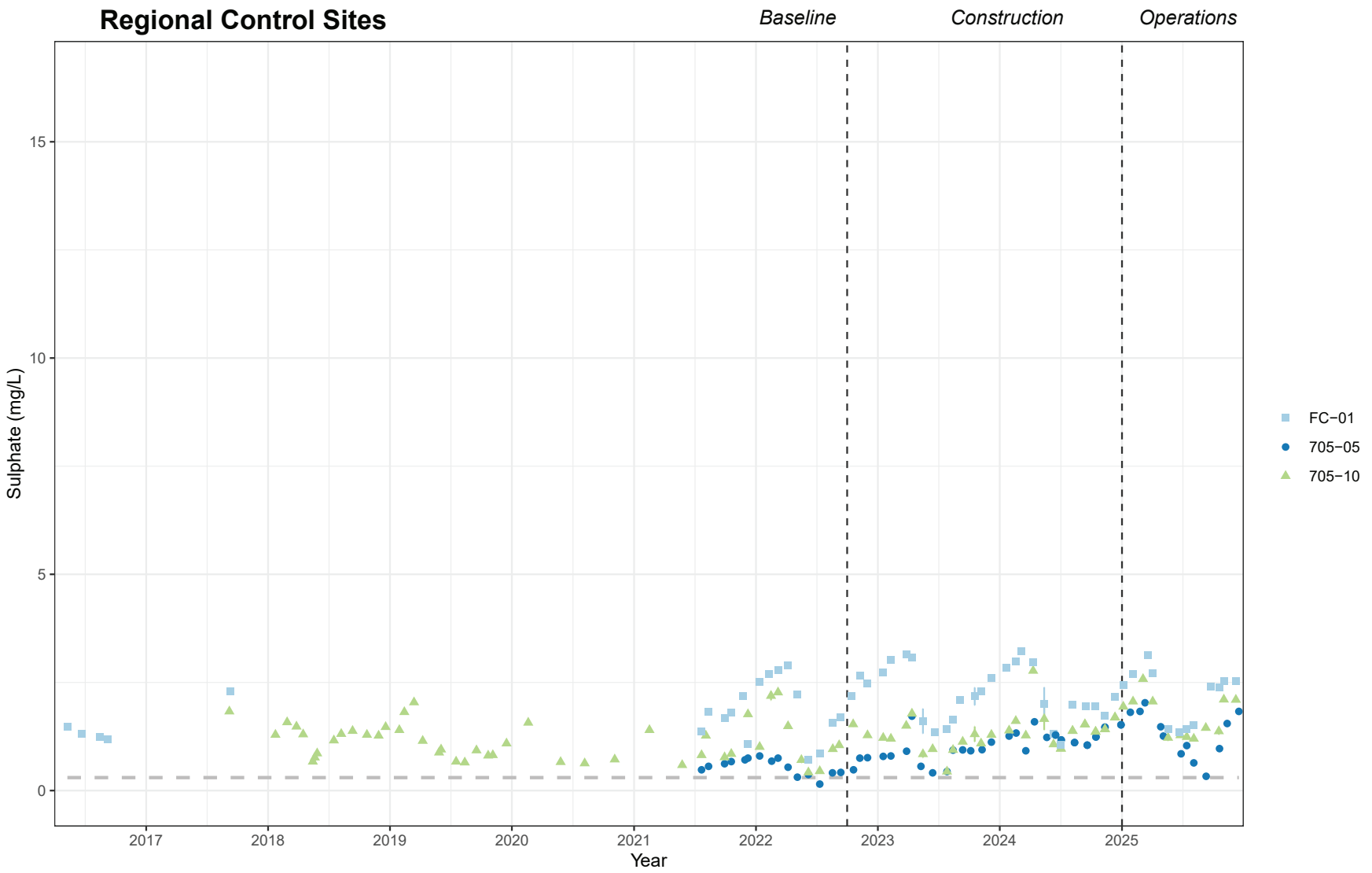
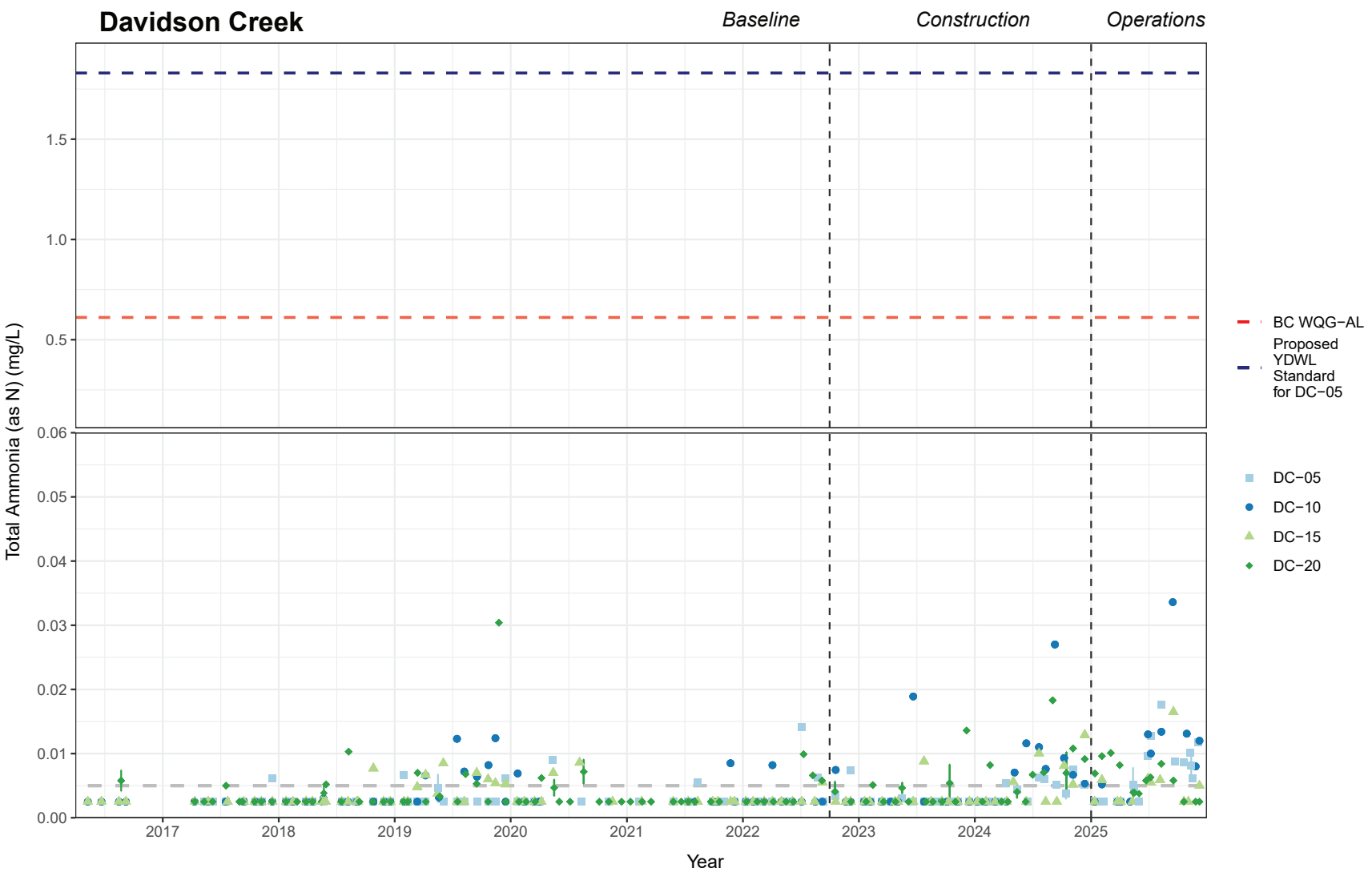


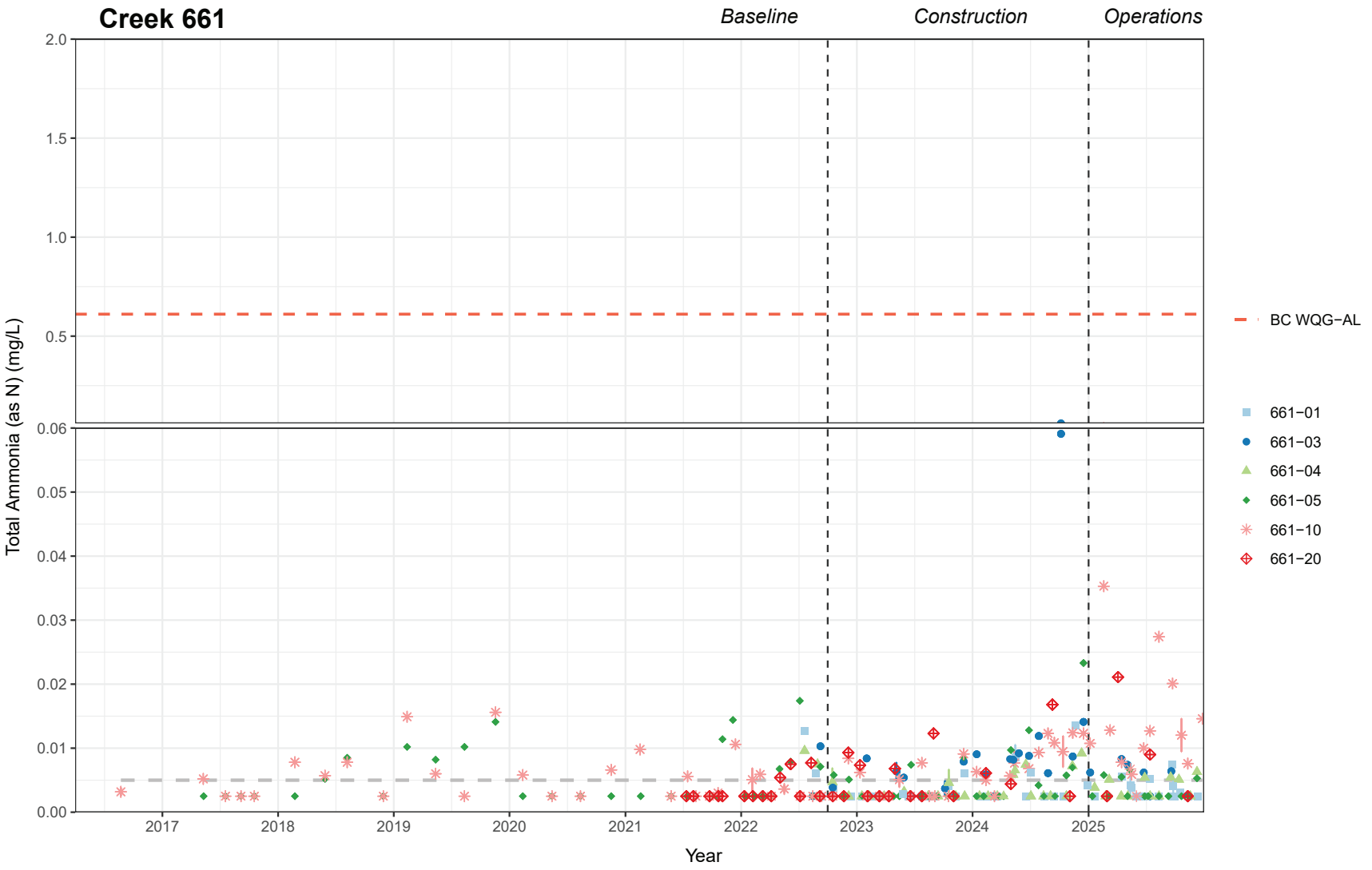
Figure C-11d: Monthly Mean Sulphate Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Minimum pH and temperature dependent BC WQG−AL long−term guideline for total ammonia−N is 0.611 mg/L.

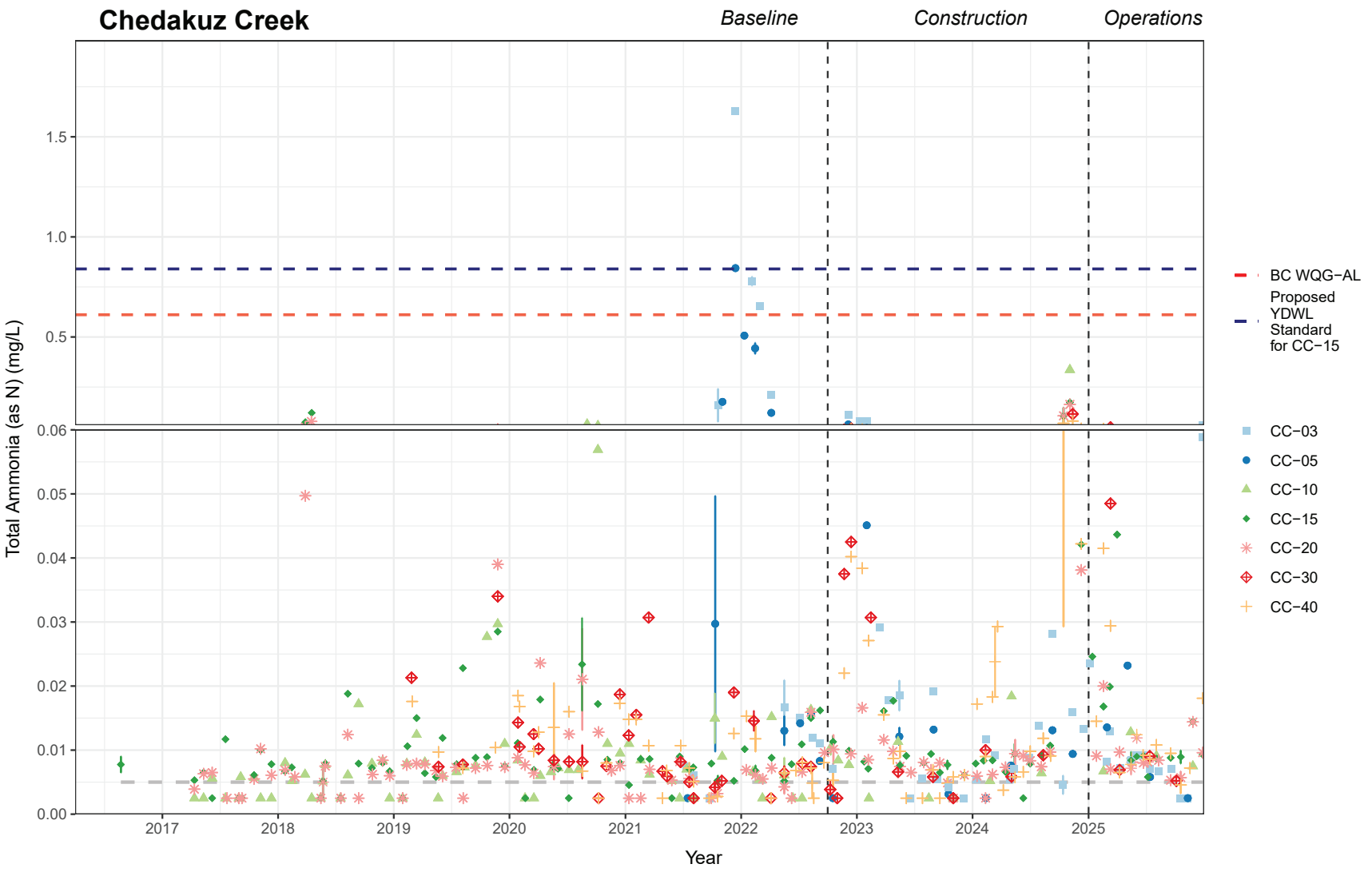
Proposed YDWL Standard for ammonia−N at DC−05 is 1.83 mg/L.

Figure C-12a: Monthly Mean Total Ammonia-N Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Minimum pH and temperature dependent BC WQG−AL long−term guideline for total ammonia−N is 0.611 mg/L.

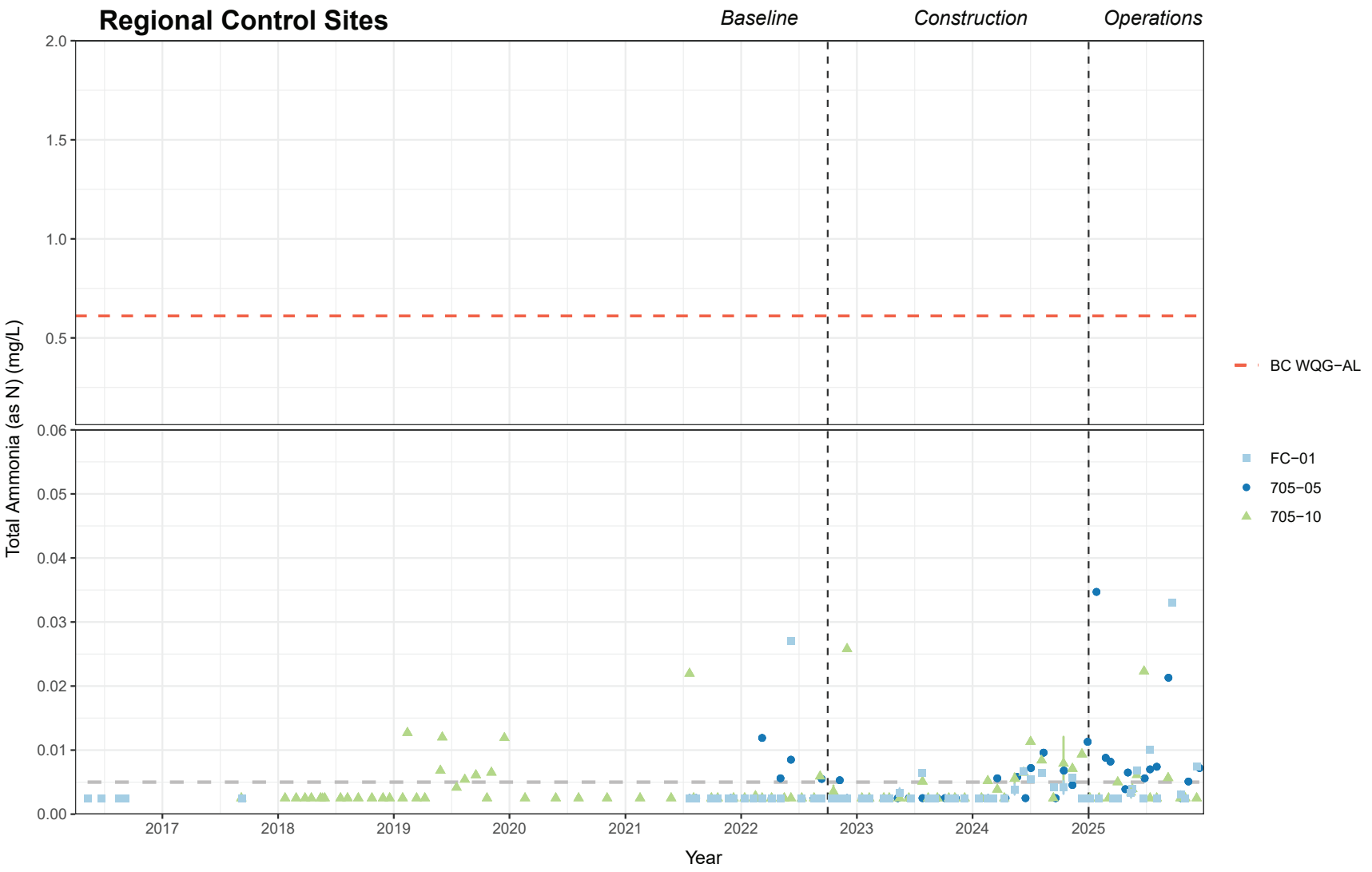
Figure C-12b: Monthly Mean Total Ammonia-N Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Minimum pH and temperature dependent BC WQG−AL long−term guideline for total ammonia−N is 0.611 mg/L.

Proposed YDWL Standard for ammonia−N at CC−15 is 0.84 mg/L.

Figure C-12c: Monthly Mean Total Ammonia-N Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
Minimum pH and temperature dependent BC WQG−AL long−term guideline for total ammonia−N is 0.611 mg/L.

Figure C-12d: Monthly Mean Total Ammonia-N Concentrations, Regional Control Sites Sites, 2016 to 2025

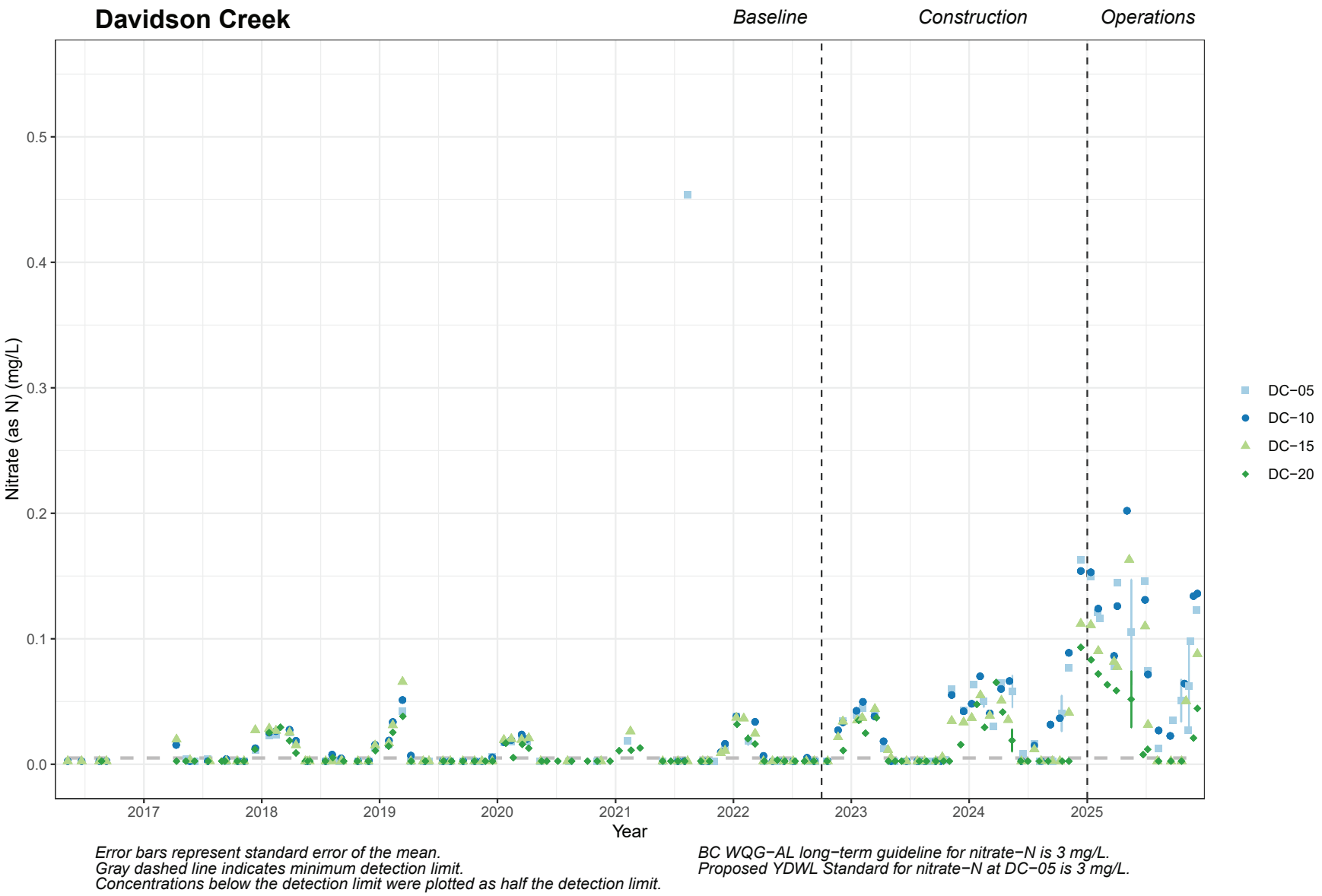


Figure C-13a: Monthly Mean Nitrate-N Concentrations, Davidson Creek Sites, 2016 to 2025

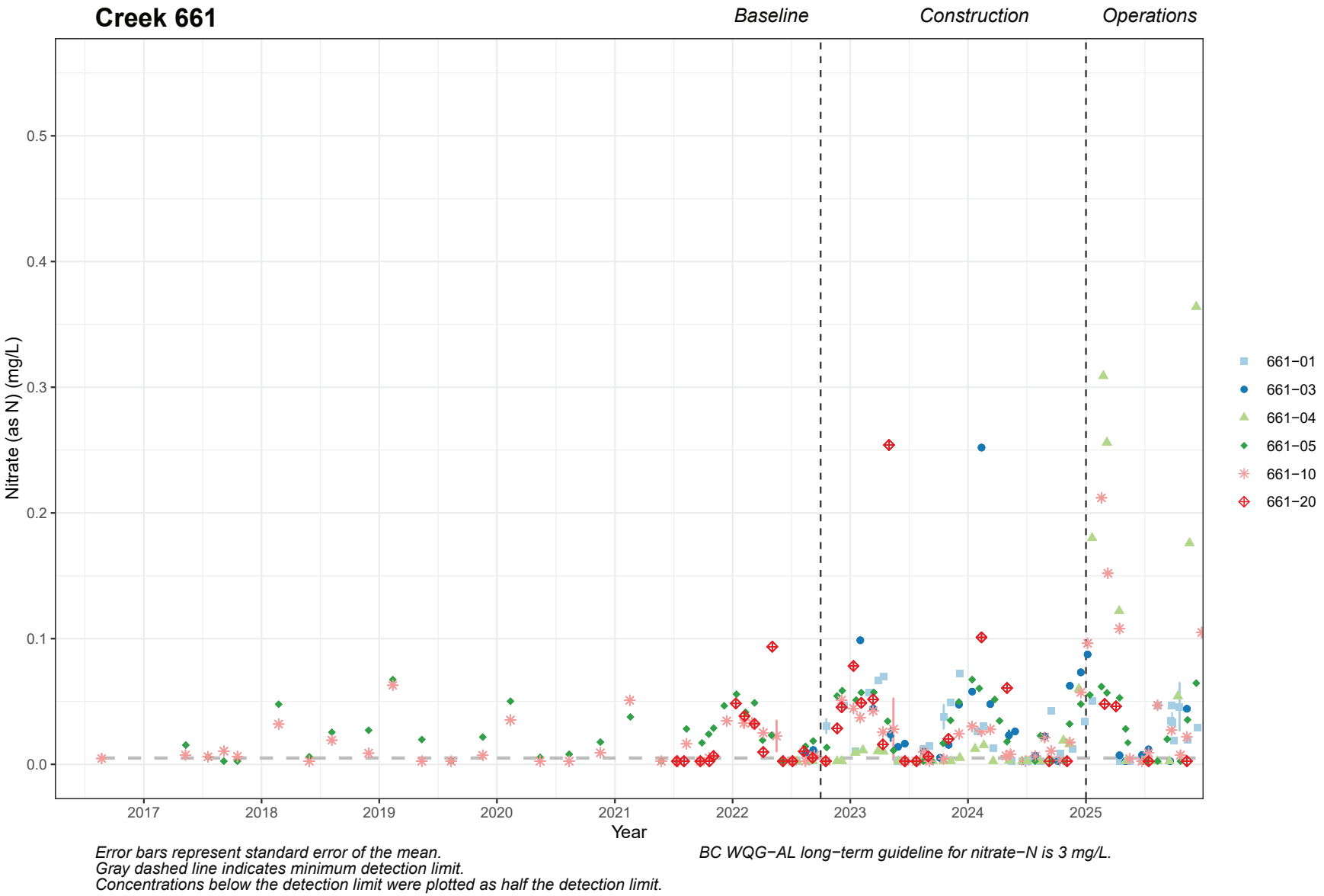


Figure C-13b: Monthly Mean Nitrate-N Concentrations, Creek 661 Sites, 2016 to 2025

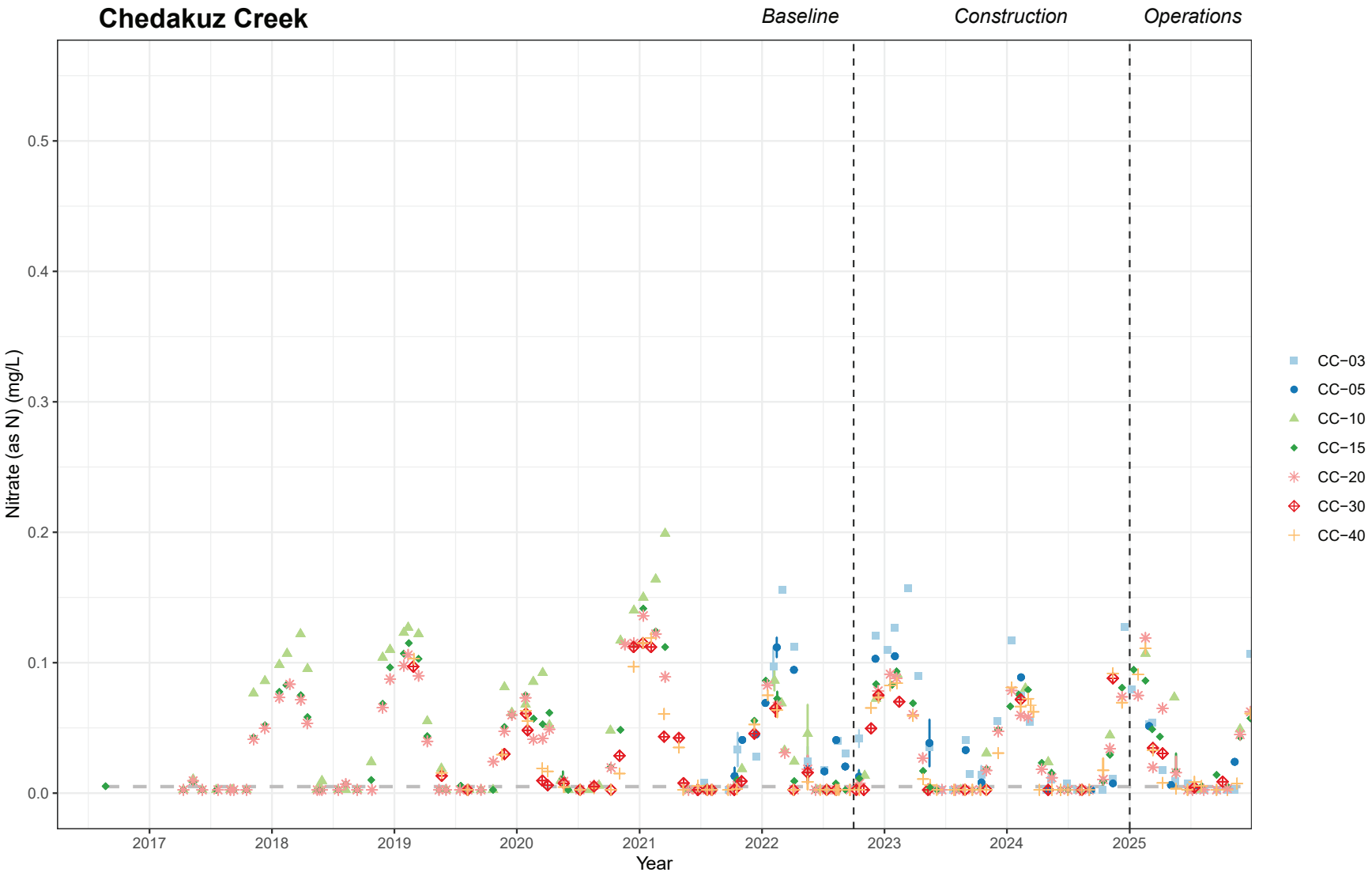


Figure C-13c: Monthly Mean Nitrate-N Concentrations, Chedakuz Creek Sites, 2016 to 2025

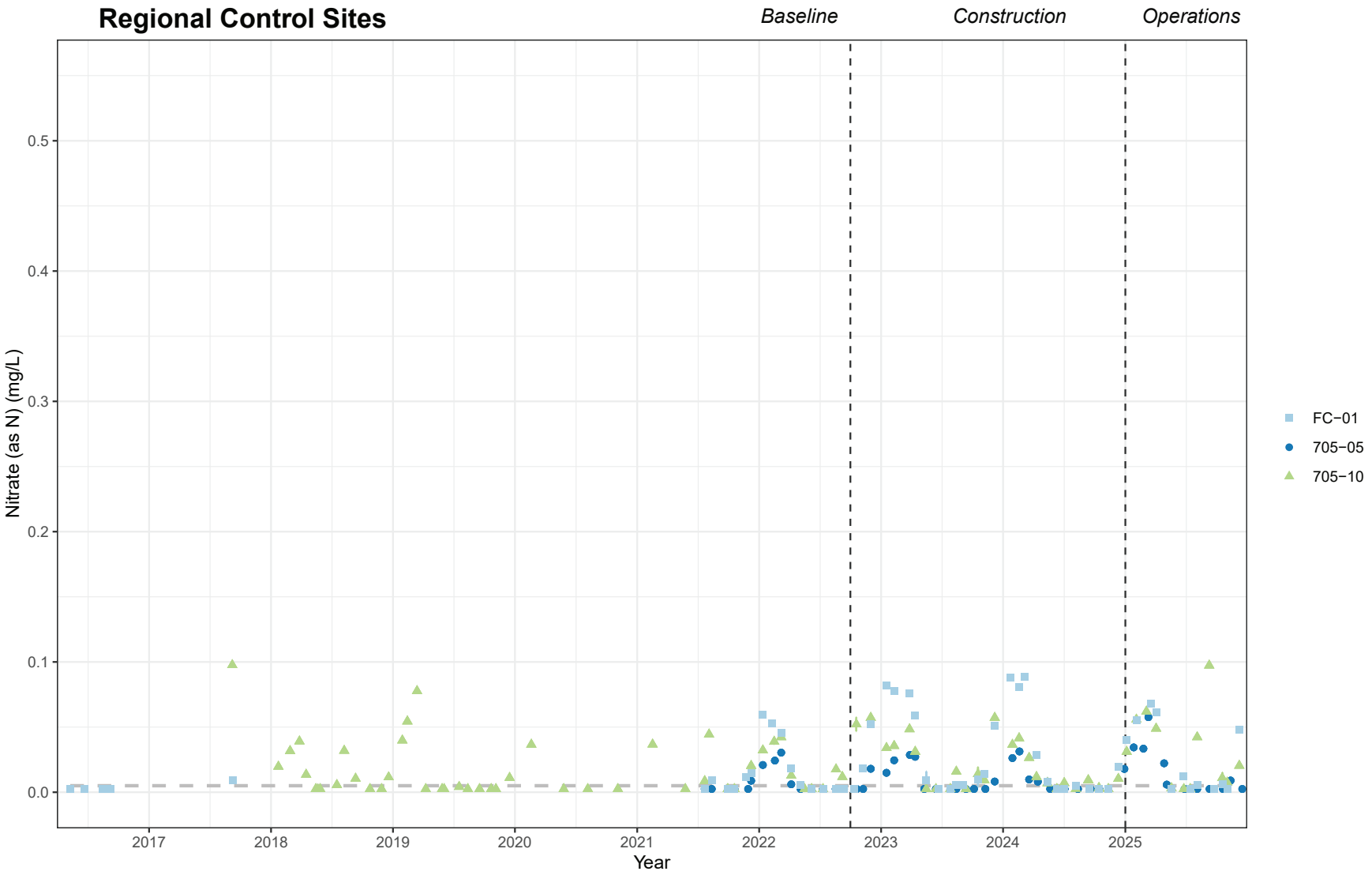


Figure C-13d: Monthly Mean Nitrate-N Concentrations, Regional Control Sites Sites, 2016 to 2025

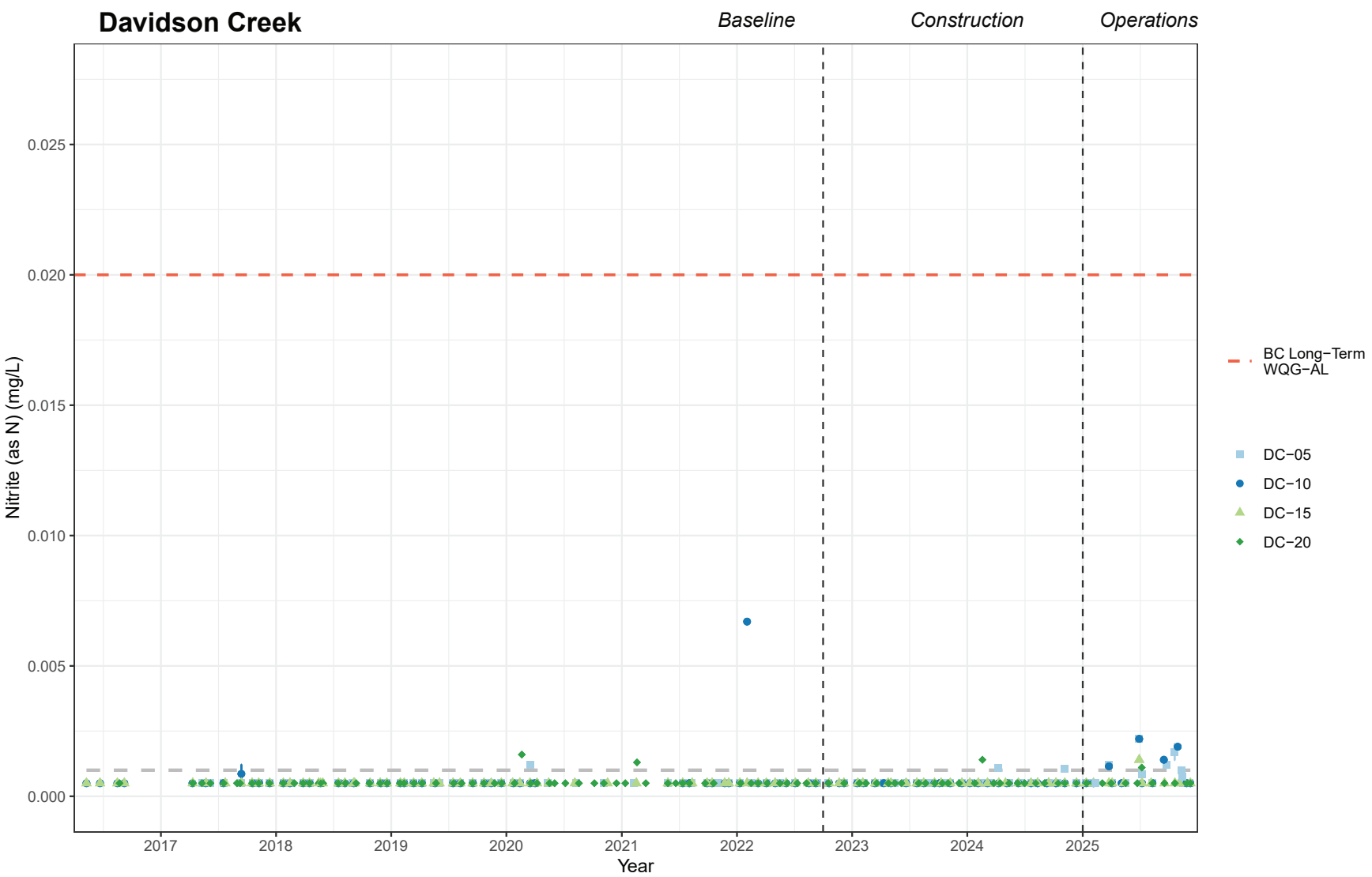


Figure C-14a: Monthly Mean Nitrite-N Concentrations, Davidson Creek Sites, 2016 to 2025

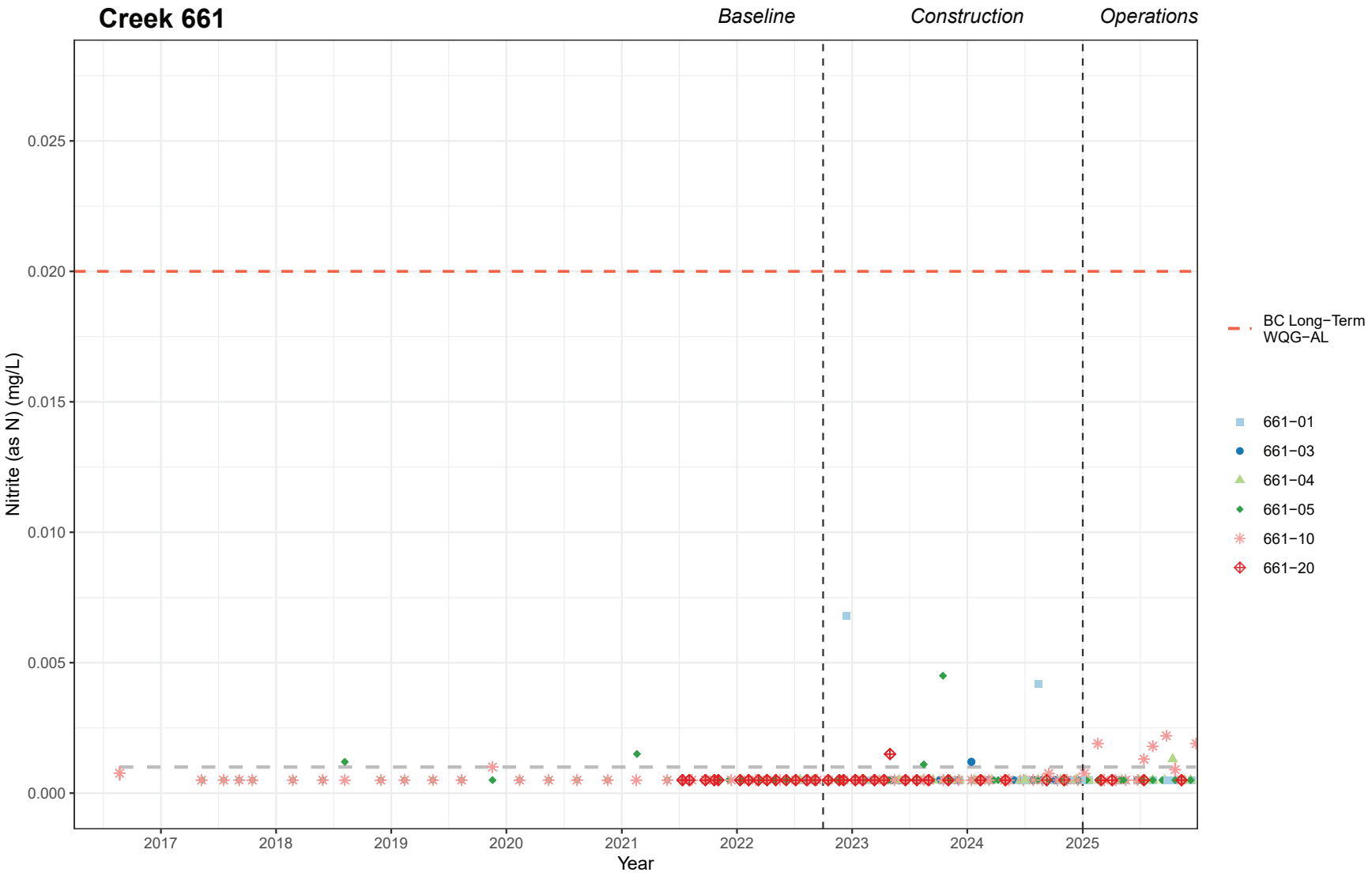


Figure C-14b: Monthly Mean Nitrite-N Concentrations, Creek 661 Sites, 2016 to 2025

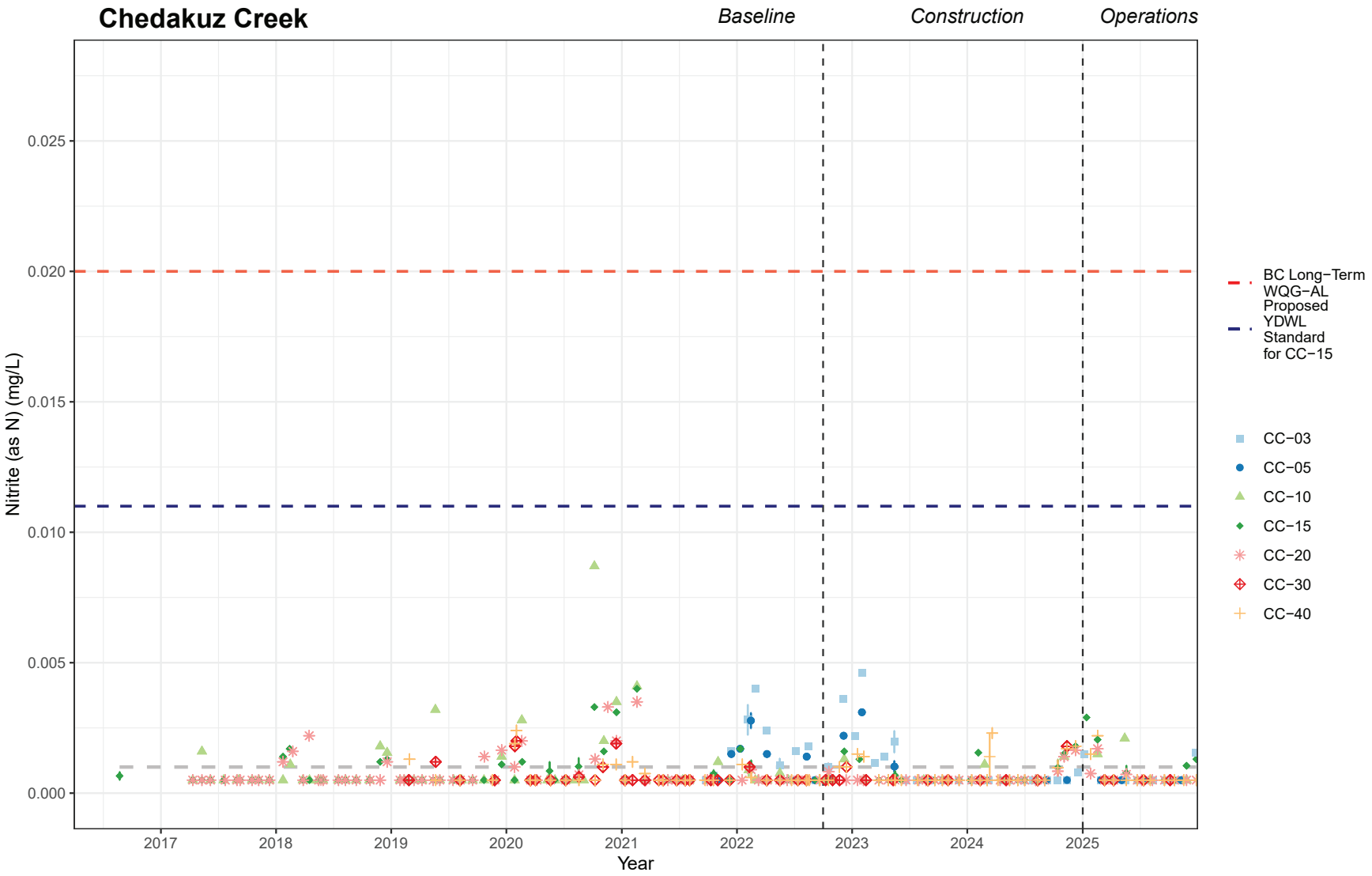


Figure C-14c: Monthly Mean Nitrite-N Concentrations, Chedakuz Creek Sites, 2016 to 2025

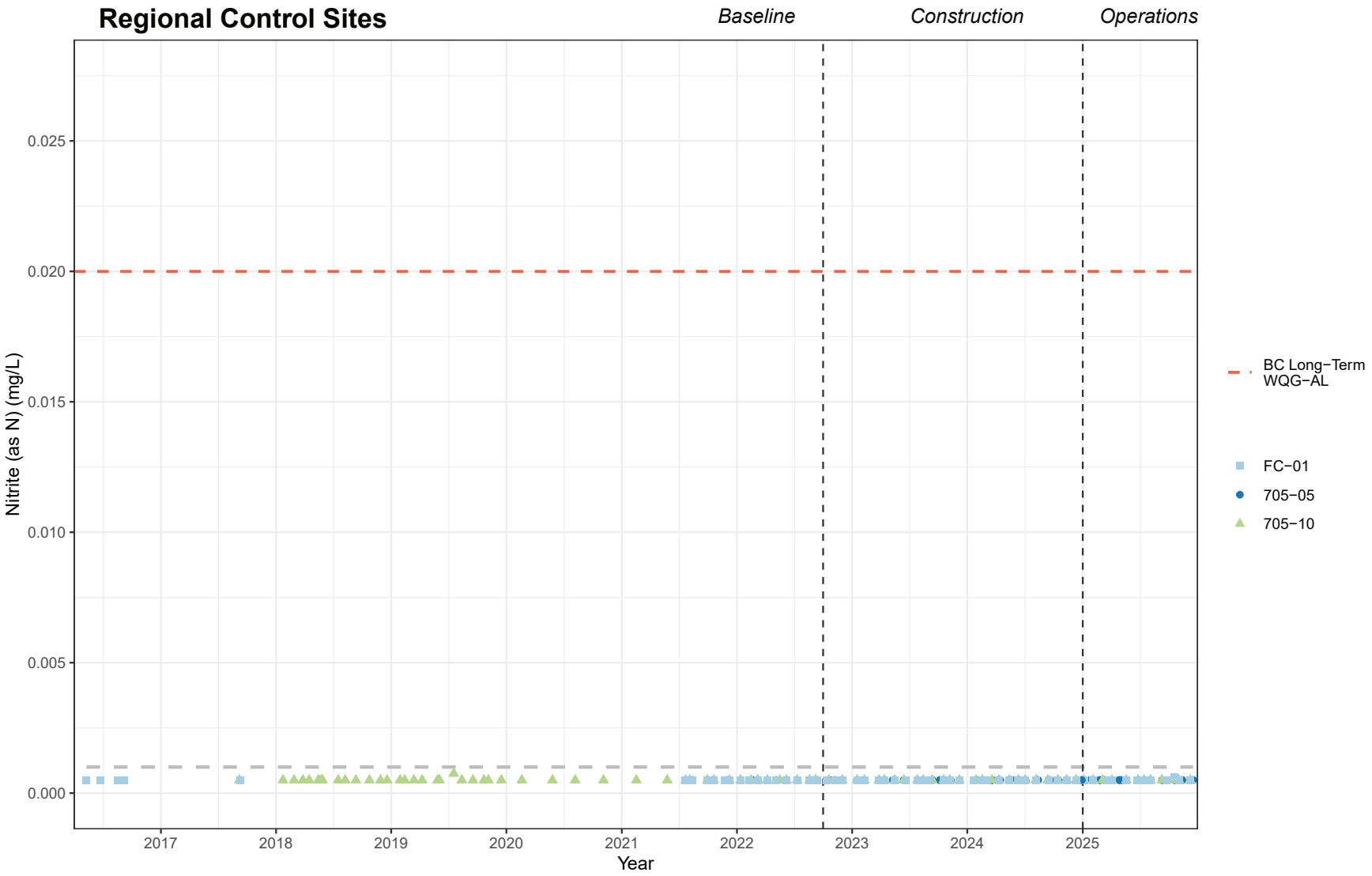
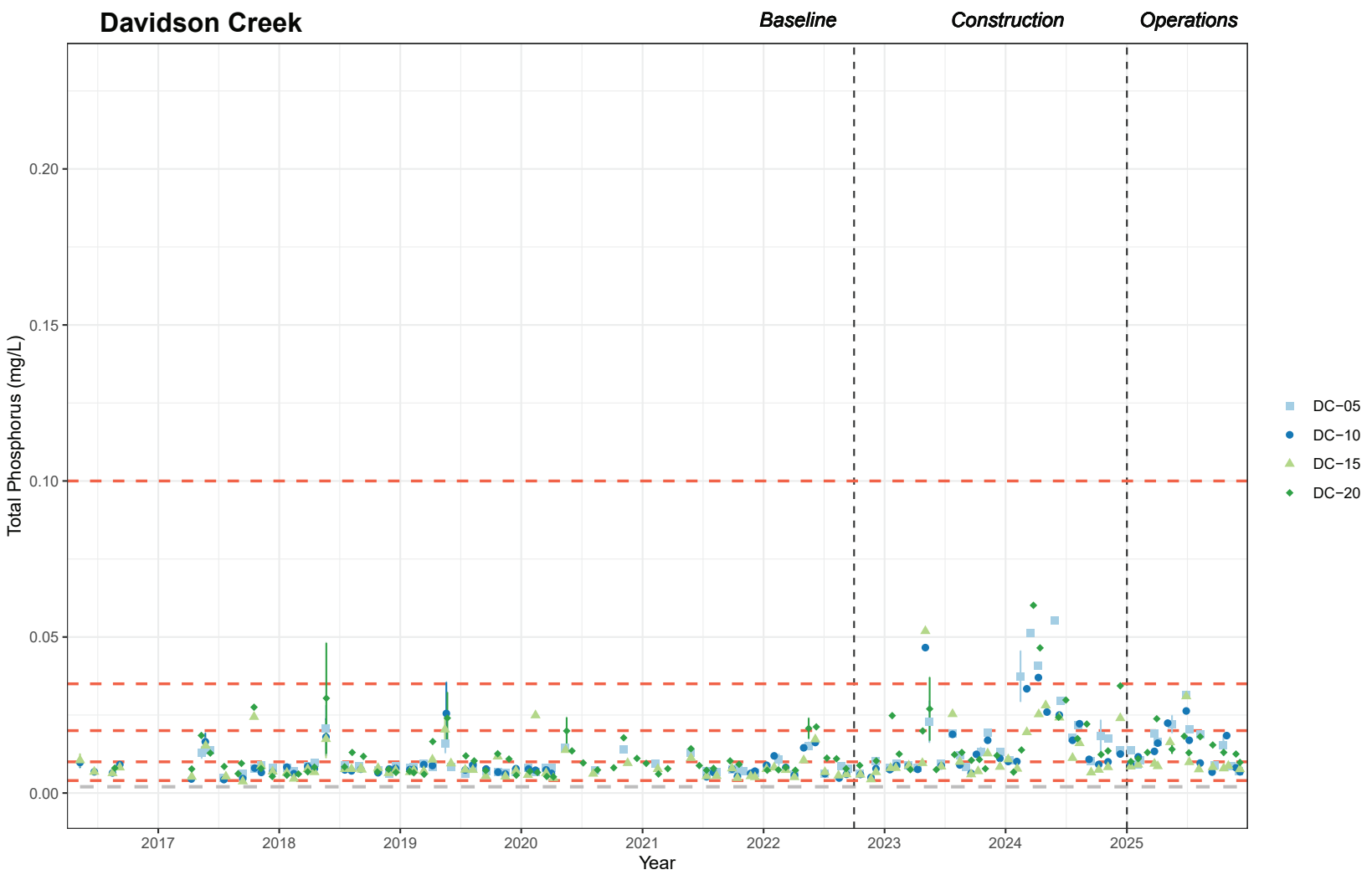


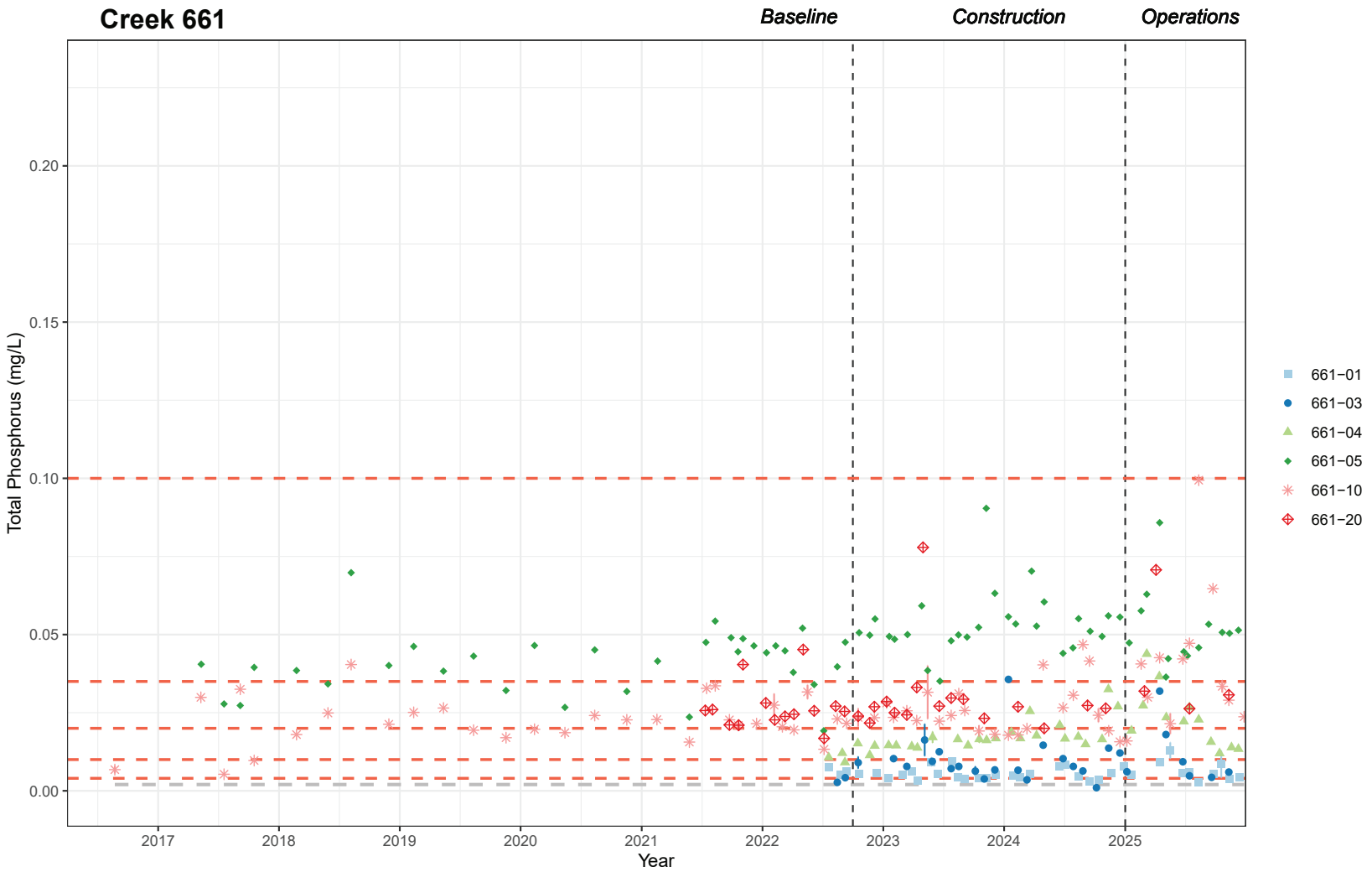
Figure C-14d: Monthly Mean Nitrite-N Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Red dashed lines indicate CCME trigger ranges for total phosphorus in Canadian lakes and rivers.
Hyper−eutrophic > 0.1 mg/L; Eutrophic 0.035 to 0.1 mg/L
Meso−eutrophic 0.02 to 0.035 mg/L; Mesotrophic 0.01 to 0.02 mg/L
Oligotrophic 0.004 to 0.01 mg/L; Ultra−oligotrophic < 0.004 mg/L

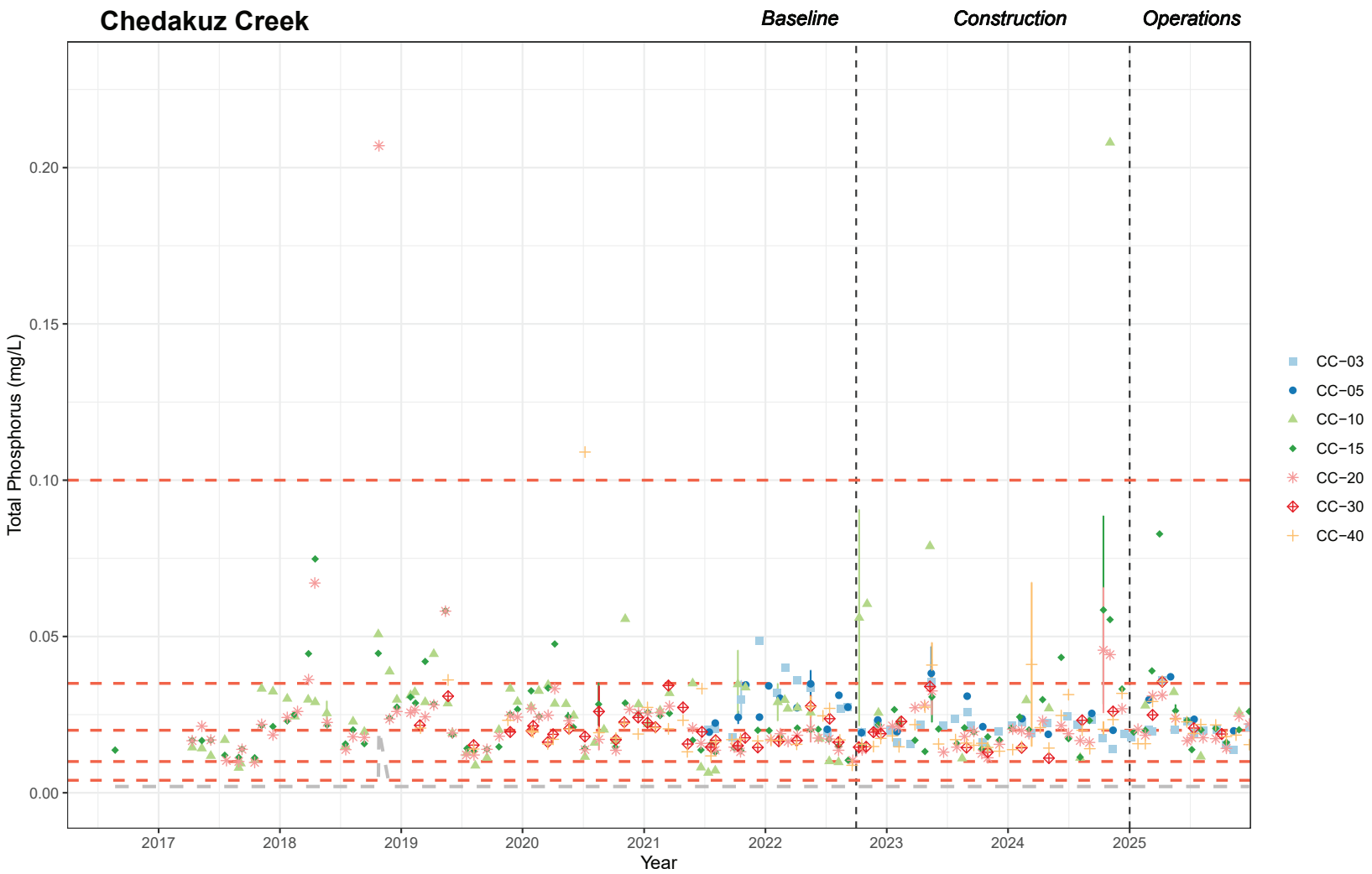
Figure C-15a: Monthly Mean Total Phophorus Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Red dashed lines indicate CCME trigger ranges for total phosphorus in Canadian lakes and rivers.
Hyper−eutrophic > 0.1 mg/L; Eutrophic 0.035 to 0.1 mg/L
Meso−eutrophic 0.02 to 0.035 mg/L; Mesotrophic 0.01 to 0.02 mg/L
Oligotrophic 0.004 to 0.01 mg/L; Ultra−oligotrophic < 0.004 mg/L

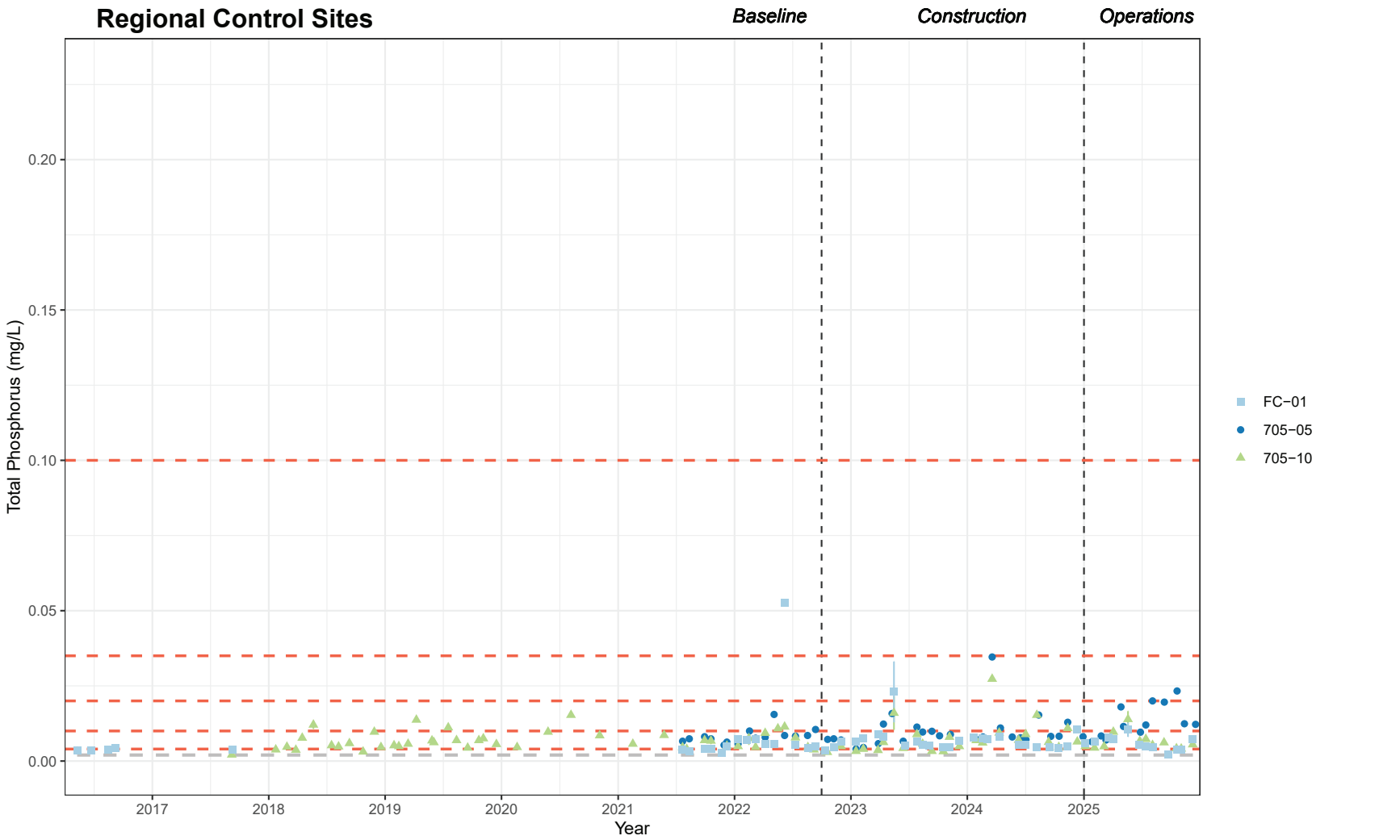
Figure C-15b: Monthly Mean Total Phophorus Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Red dashed lines indicate CCME trigger ranges for total phosphorus in Canadian lakes and rivers.
Hyper−eutrophic > 0.1 mg/L; Eutrophic 0.035 to 0.1 mg/L
Meso−eutrophic 0.02 to 0.035 mg/L; Mesotrophic 0.01 to 0.02 mg/L
Oligotrophic 0.004 to 0.01 mg/L; Ultra−oligotrophic < 0.004 mg/L

Figure C-15c: Monthly Mean Total Phophorus Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Red dashed lines indicate CCME trigger ranges for total phosphorus in Canadian lakes and rivers.
Hyper−eutrophic > 0.1 mg/L; Eutrophic 0.035 to 0.1 mg/L
Meso−eutrophic 0.02 to 0.035 mg/L; Mesotrophic 0.01 to 0.02 mg/L
Oligotrophic 0.004 to 0.01 mg/L; Ultra−oligotrophic < 0.004 mg/L

Figure C-15d: Monthly Mean Total Phophorus Concentrations, Regional Control Sites Sites, 2016 to 2025

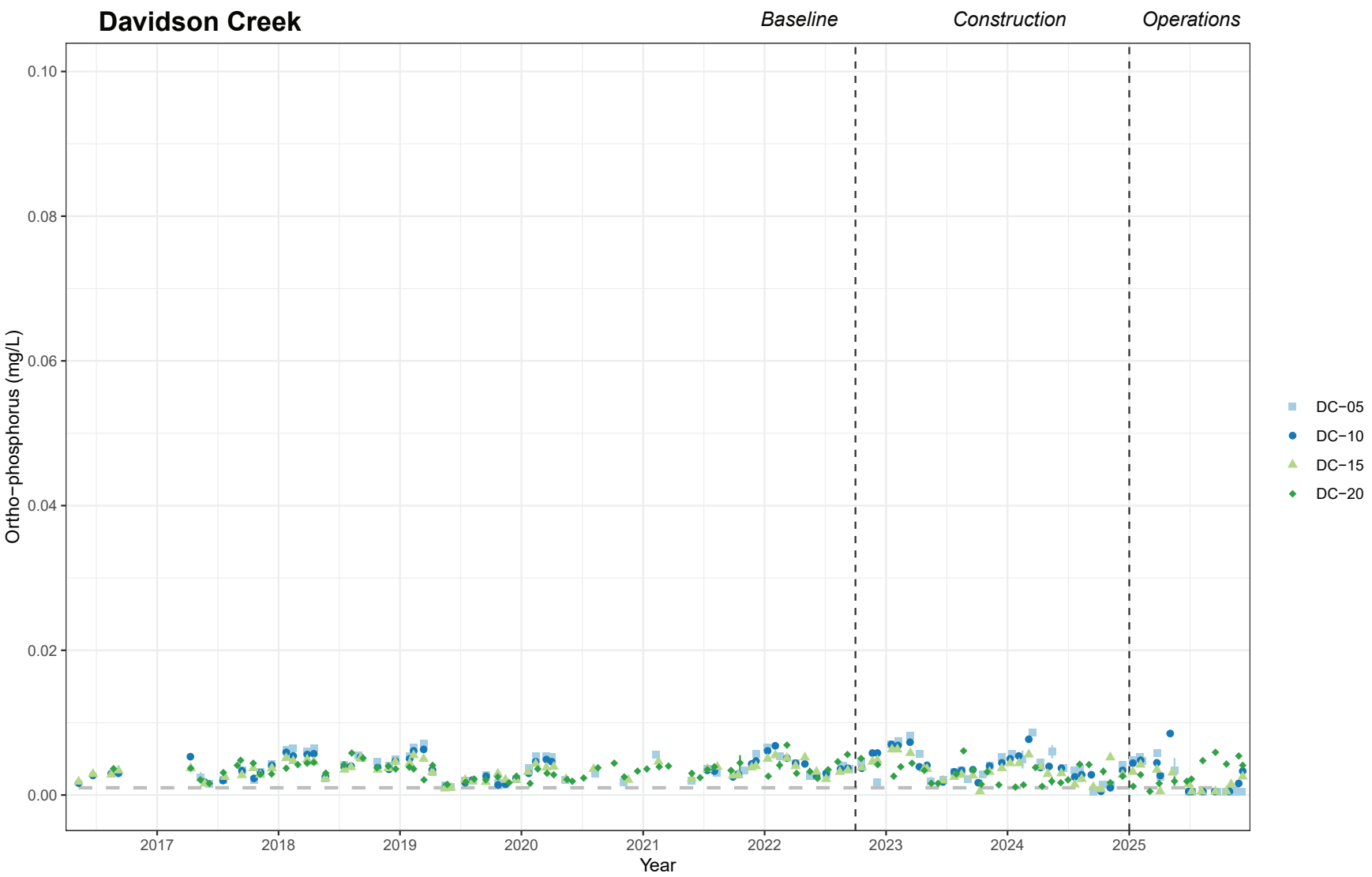
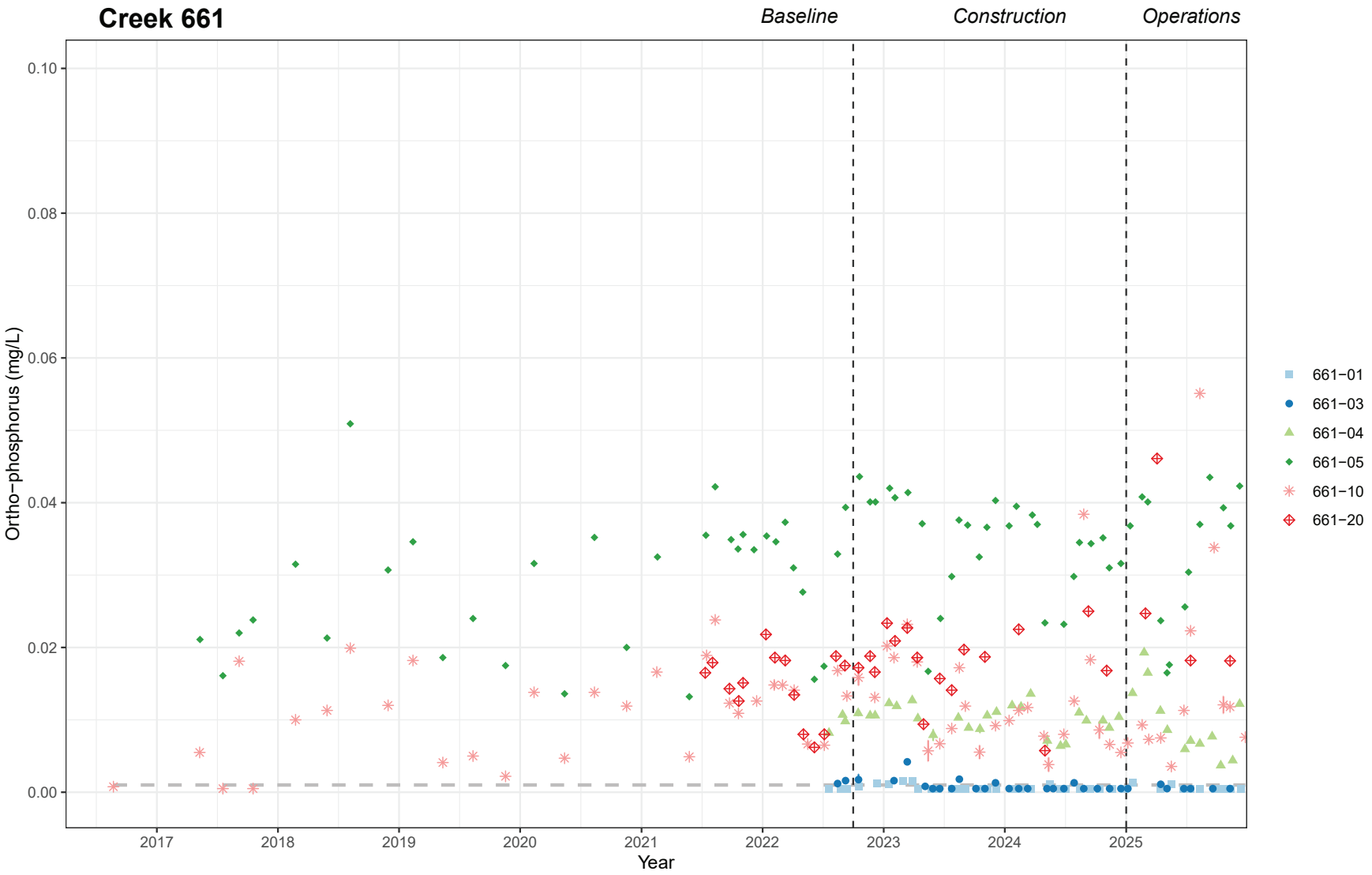
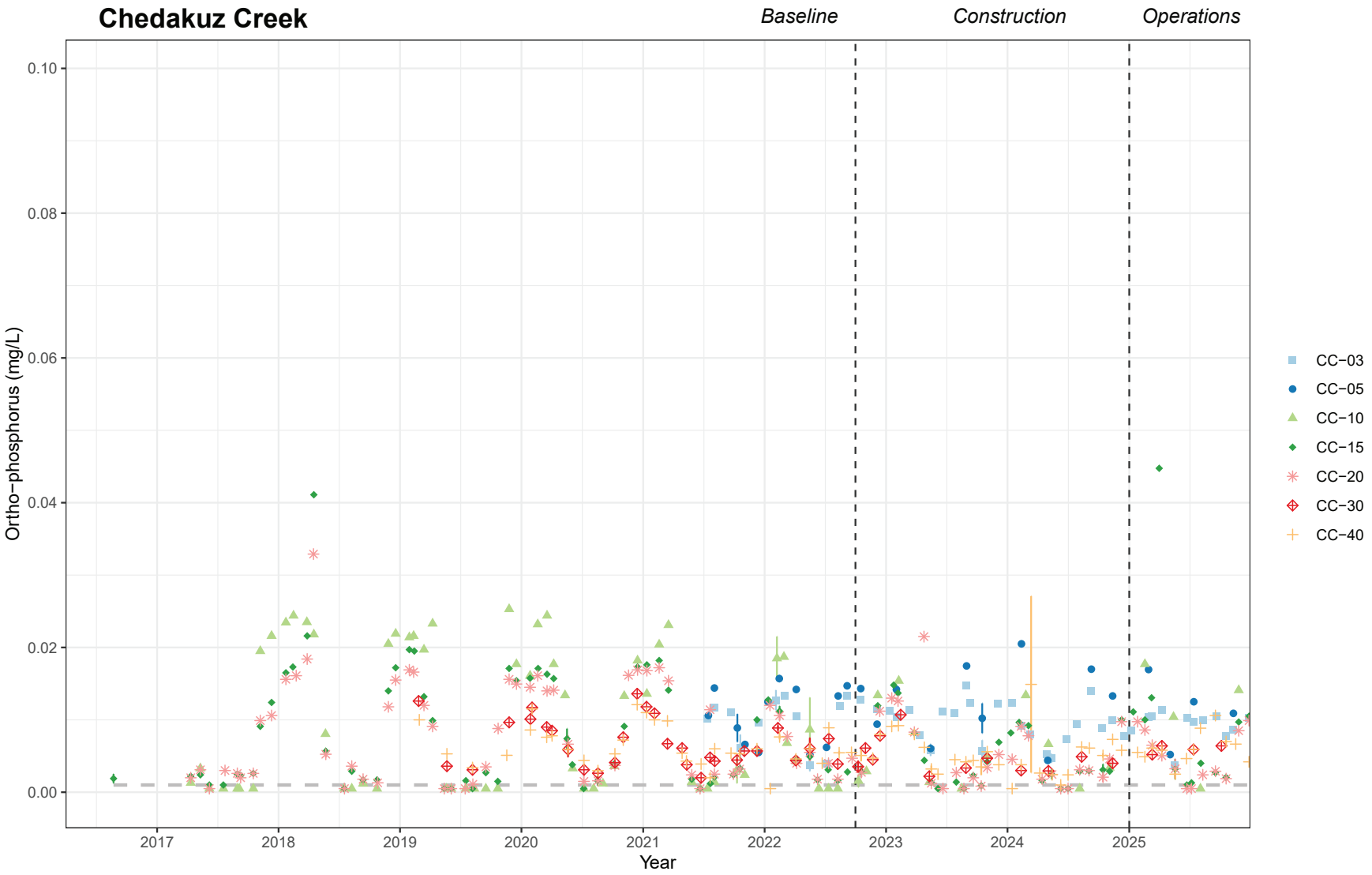


Figure C-16a: Monthly Mean Orthophosphate Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-16b: Monthly Mean Orthophosphate Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-16c: Monthly Mean Orthophosphate Concentrations, Chedakuz Creek Sites, 2016 to 2025

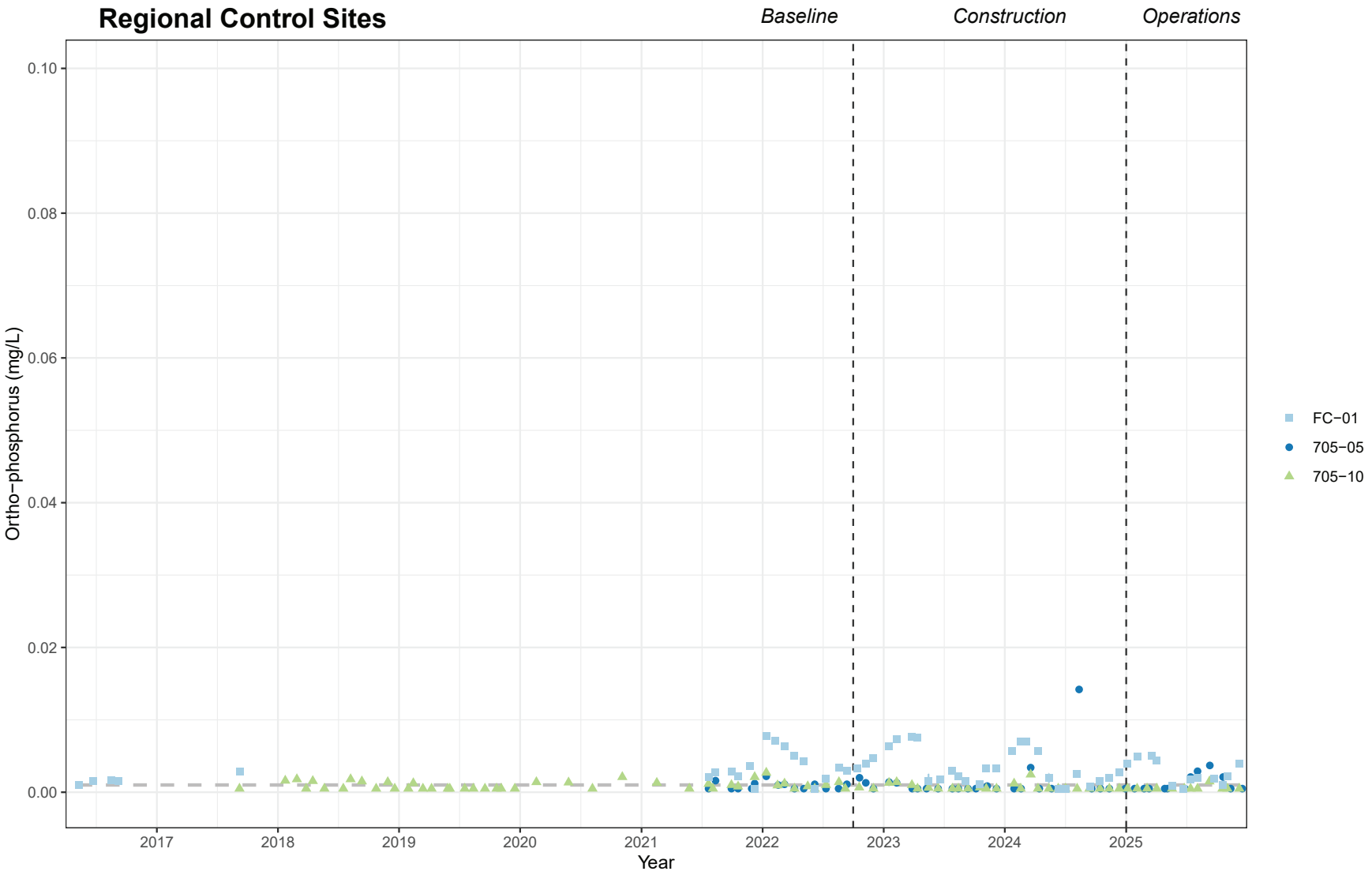
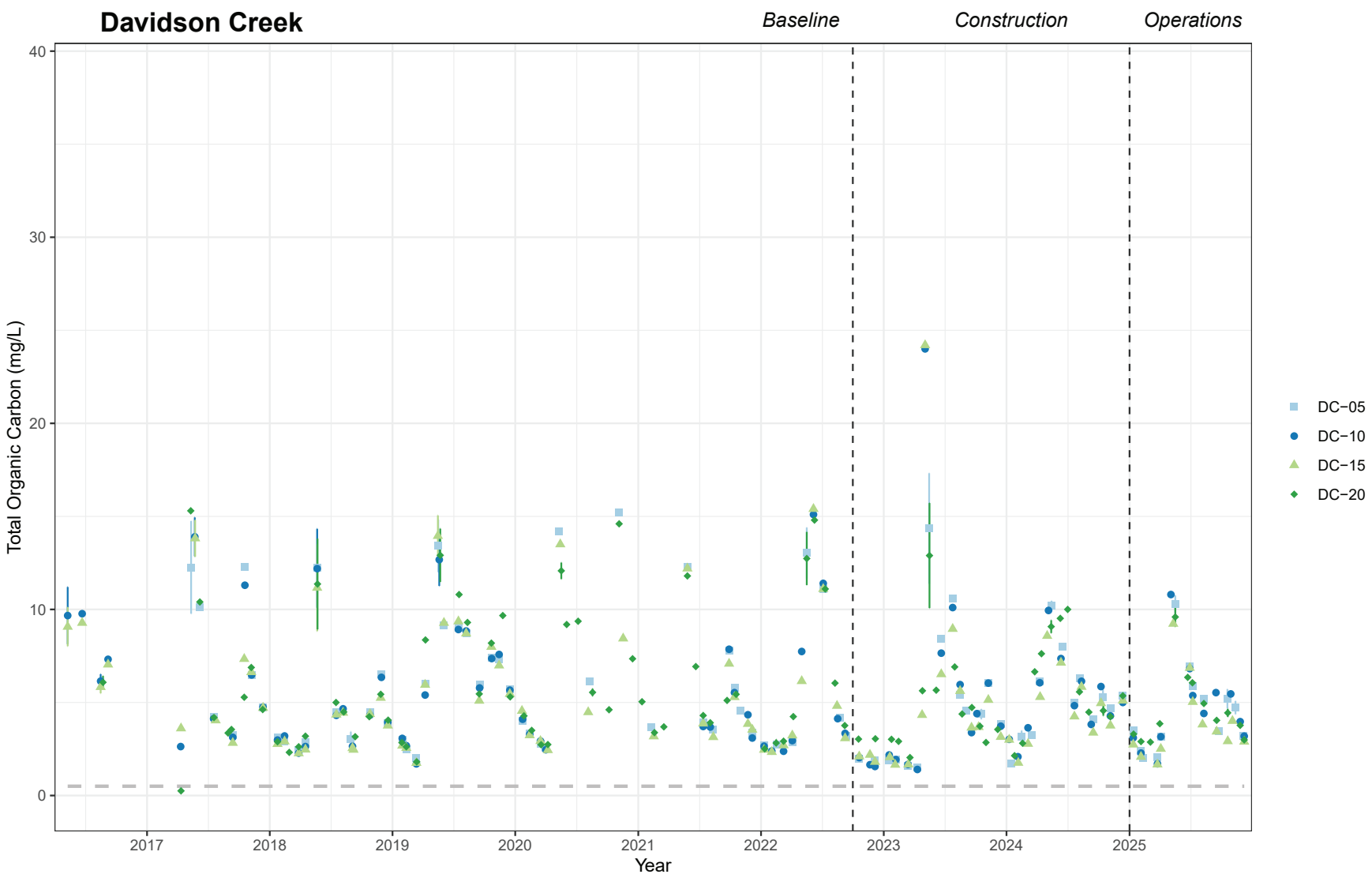
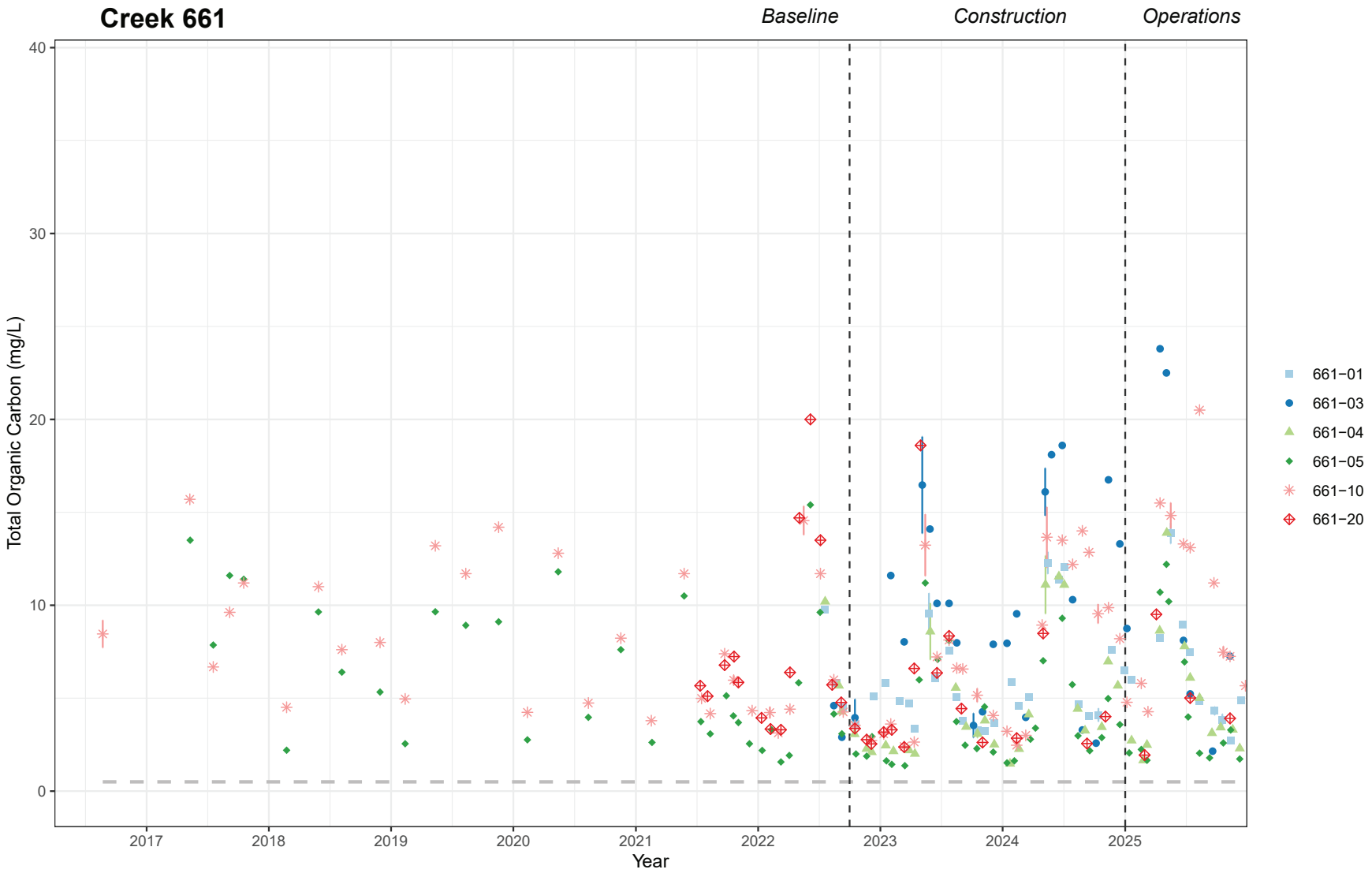


Figure C-16d: Monthly Mean Orthophosphate Concentrations, Regional Control Sites Sites, 2016 to 2025



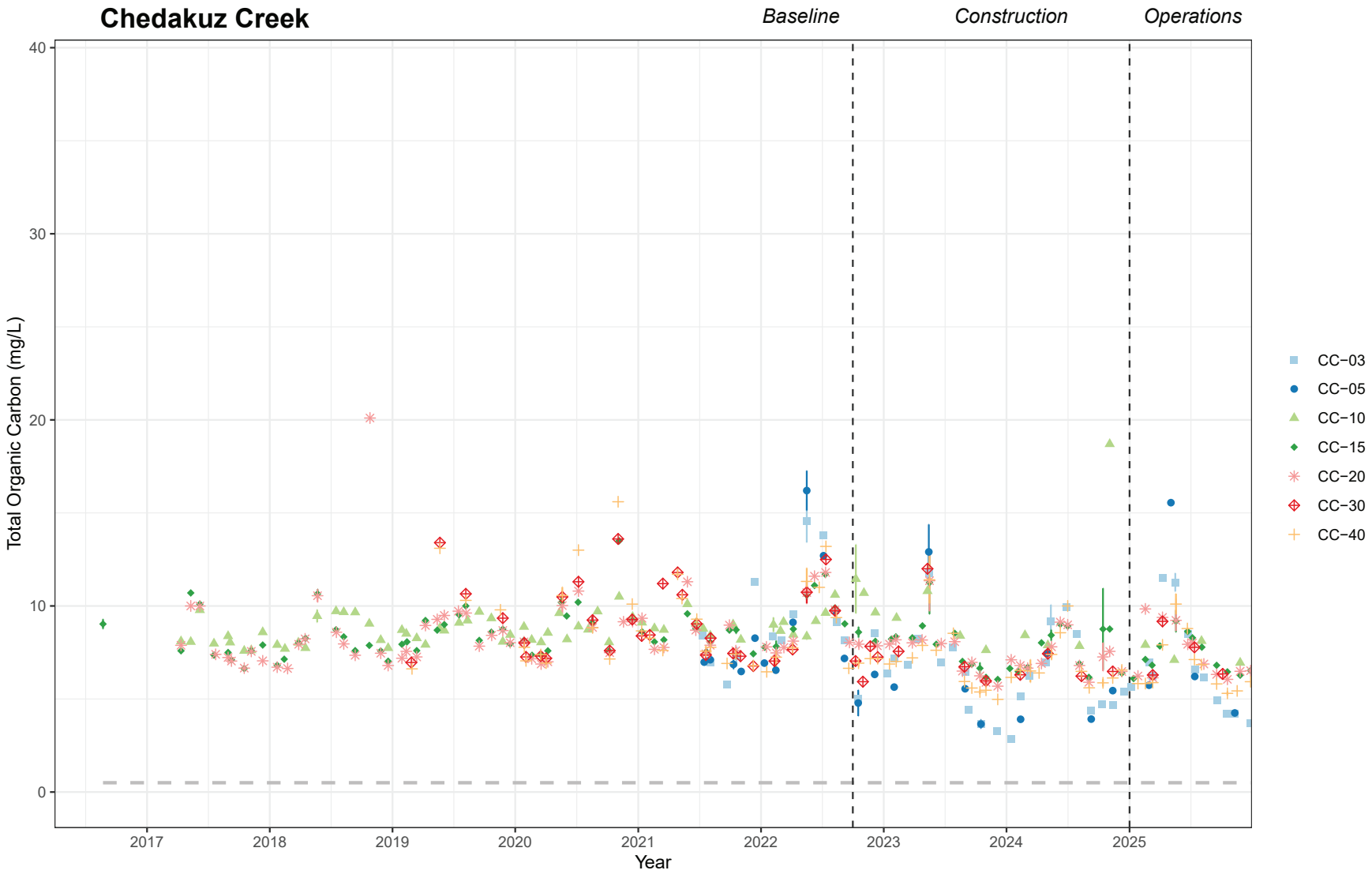
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total organic carbon is based on the site−specific seasonal baseline concentrations.

Figure C-17a: Monthly Mean TOC Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total organic carbon is based on the site−specific seasonal baseline concentrations.

Figure C-17b: Monthly Mean TOC Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total organic carbon is based on the site−specific seasonal baseline concentrations.

Figure C-17c: Monthly Mean TOC Concentrations, Chedakuz Creek Sites, 2016 to 2025

Figure C-17d: Monthly Mean TOC Concentrations, Regional Control Sites Sites, 2016 to 2025

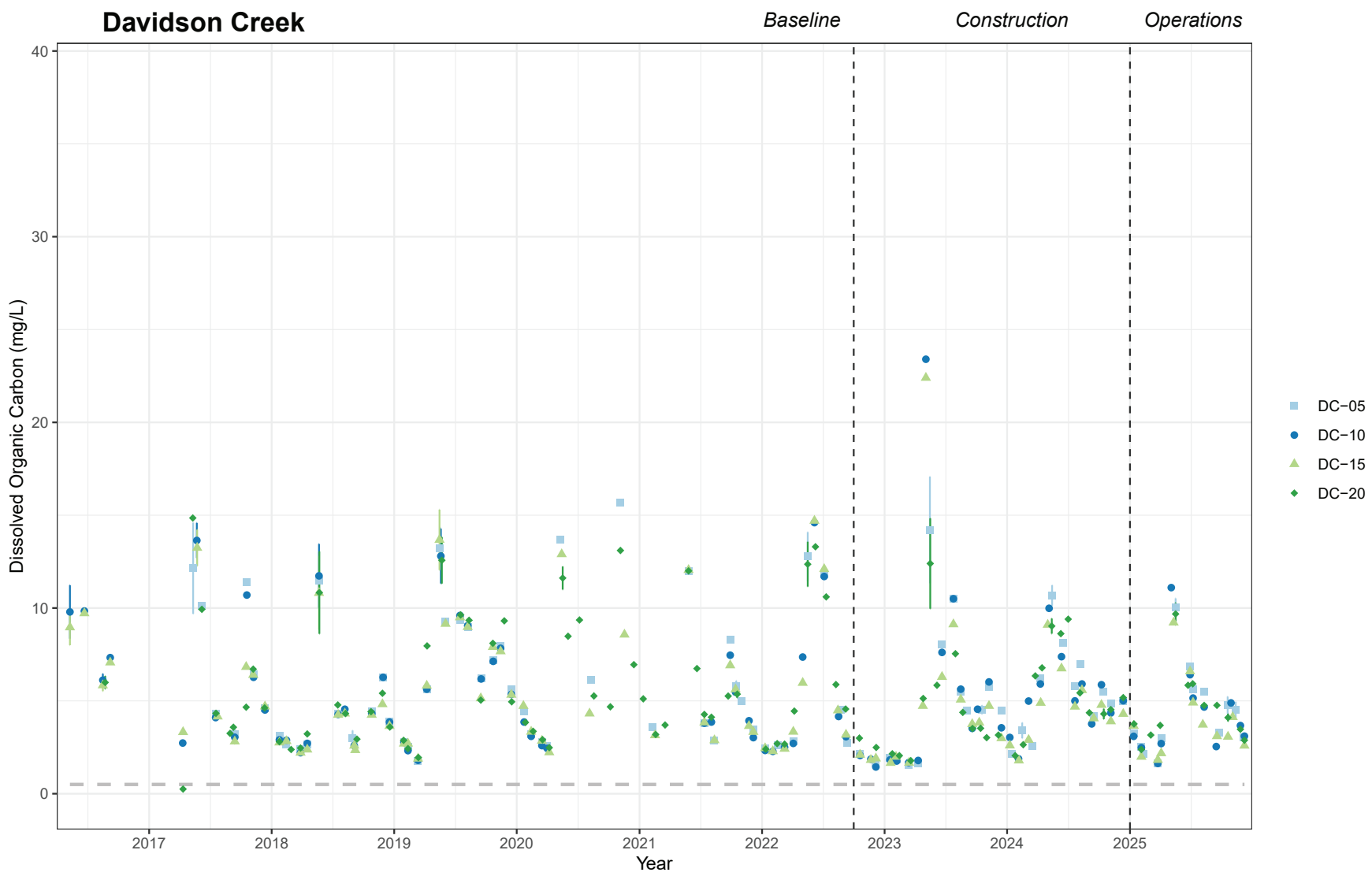


Figure C-18a: Monthly Mean DOC Concentrations, Davidson Creek Sites, 2016 to 2025

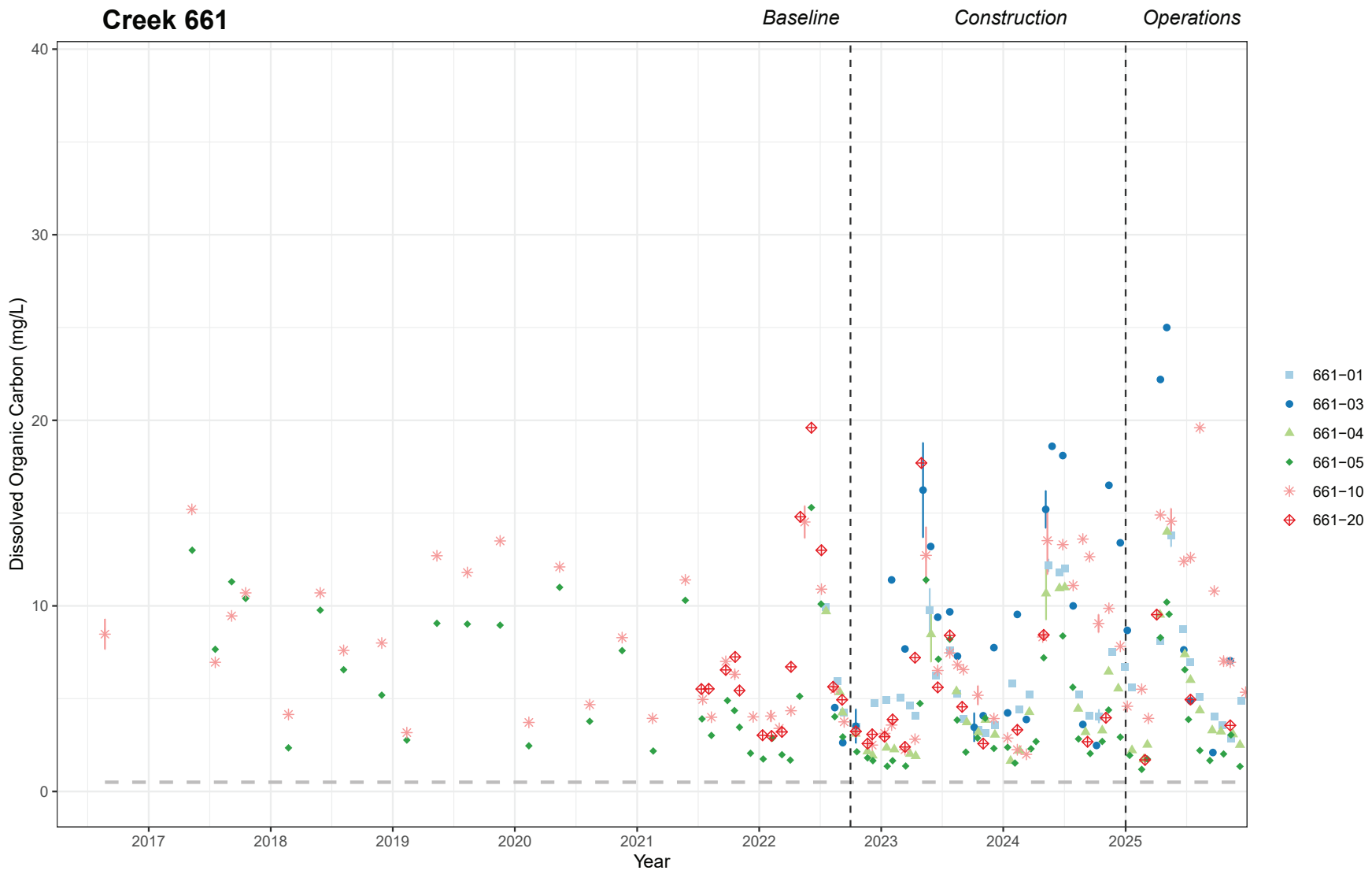


Figure C-18b: Monthly Mean DOC Concentrations, Creek 661 Sites, 2016 to 2025

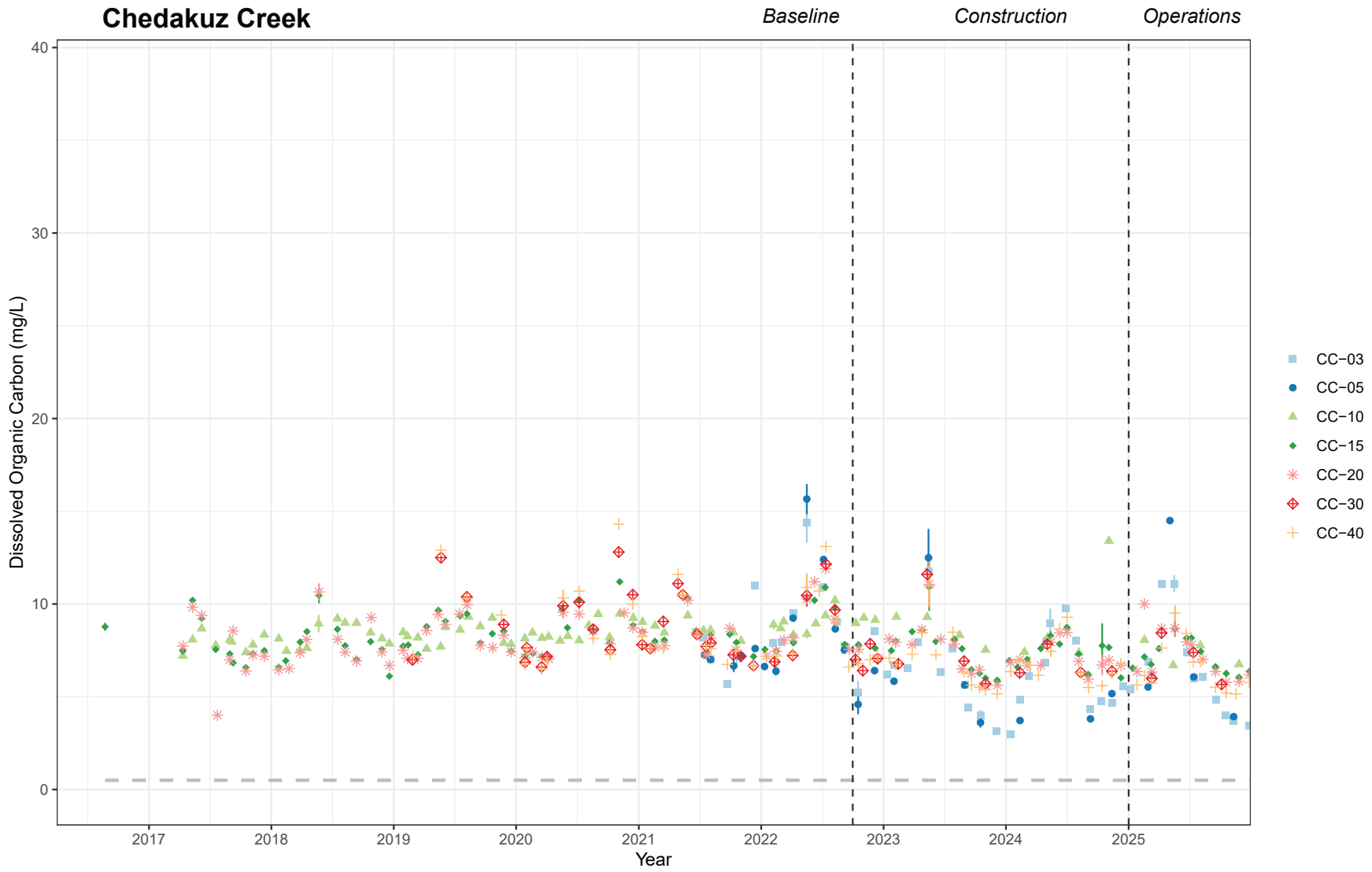


Figure C-18c: Monthly Mean DOC Concentrations, Chedakuz Creek Sites, 2016 to 2025

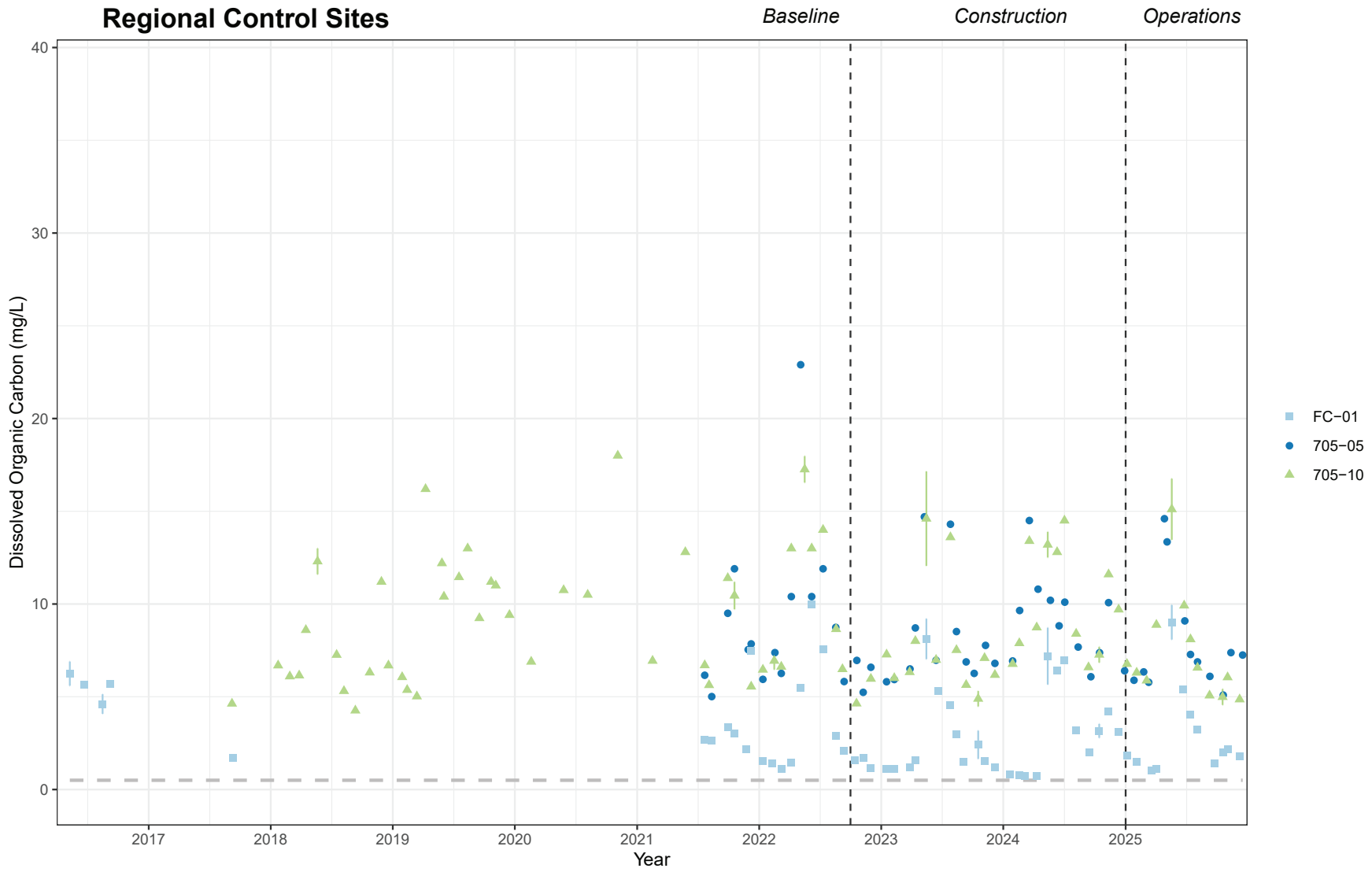


Figure C-18d: Monthly Mean DOC Concentrations, Regional Control Sites Sites, 2016 to 2025

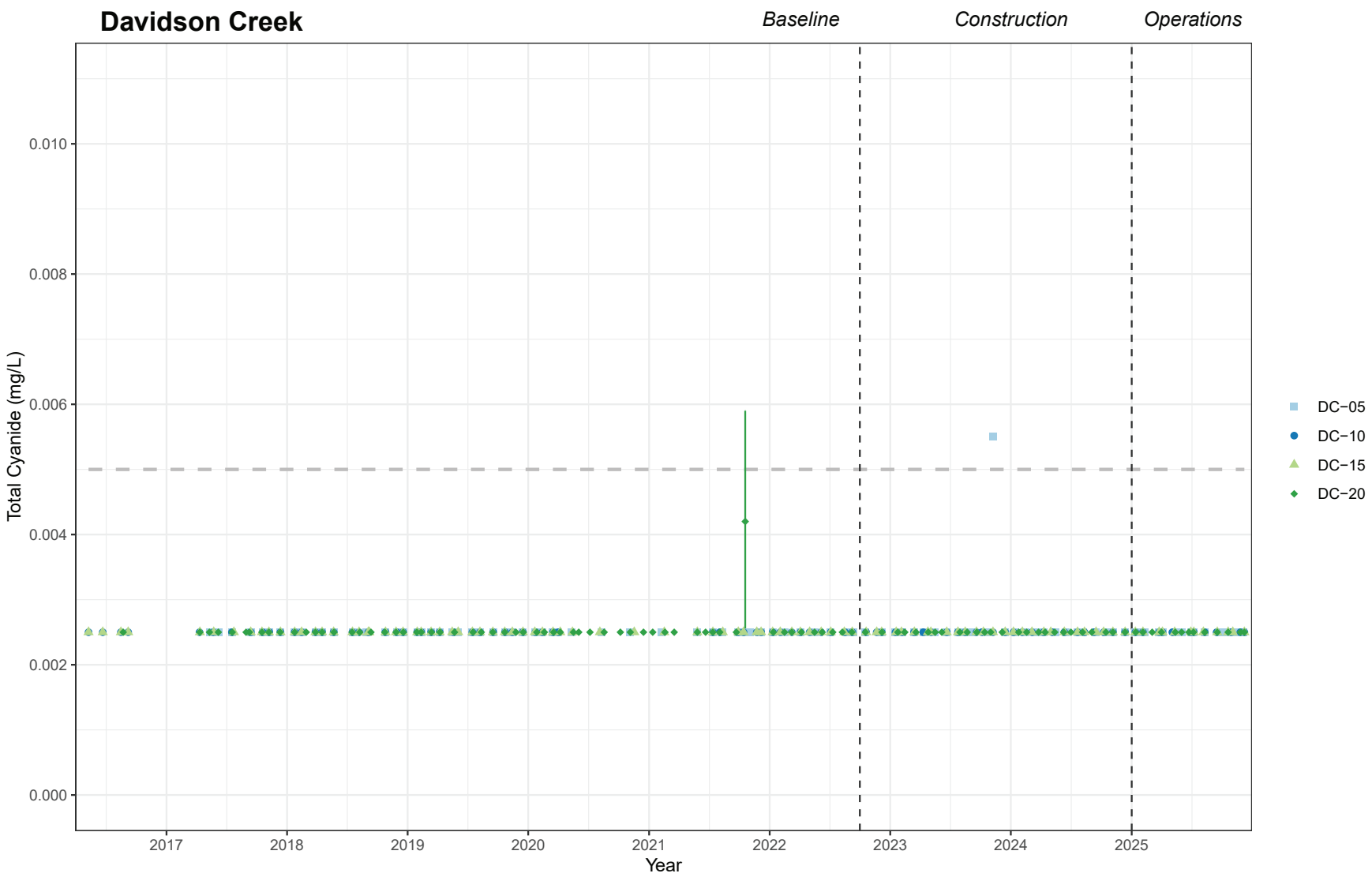


Figure C-19a: Monthly Mean Total Cyanide Concentrations, Davidson Creek Sites, 2016 to 2025

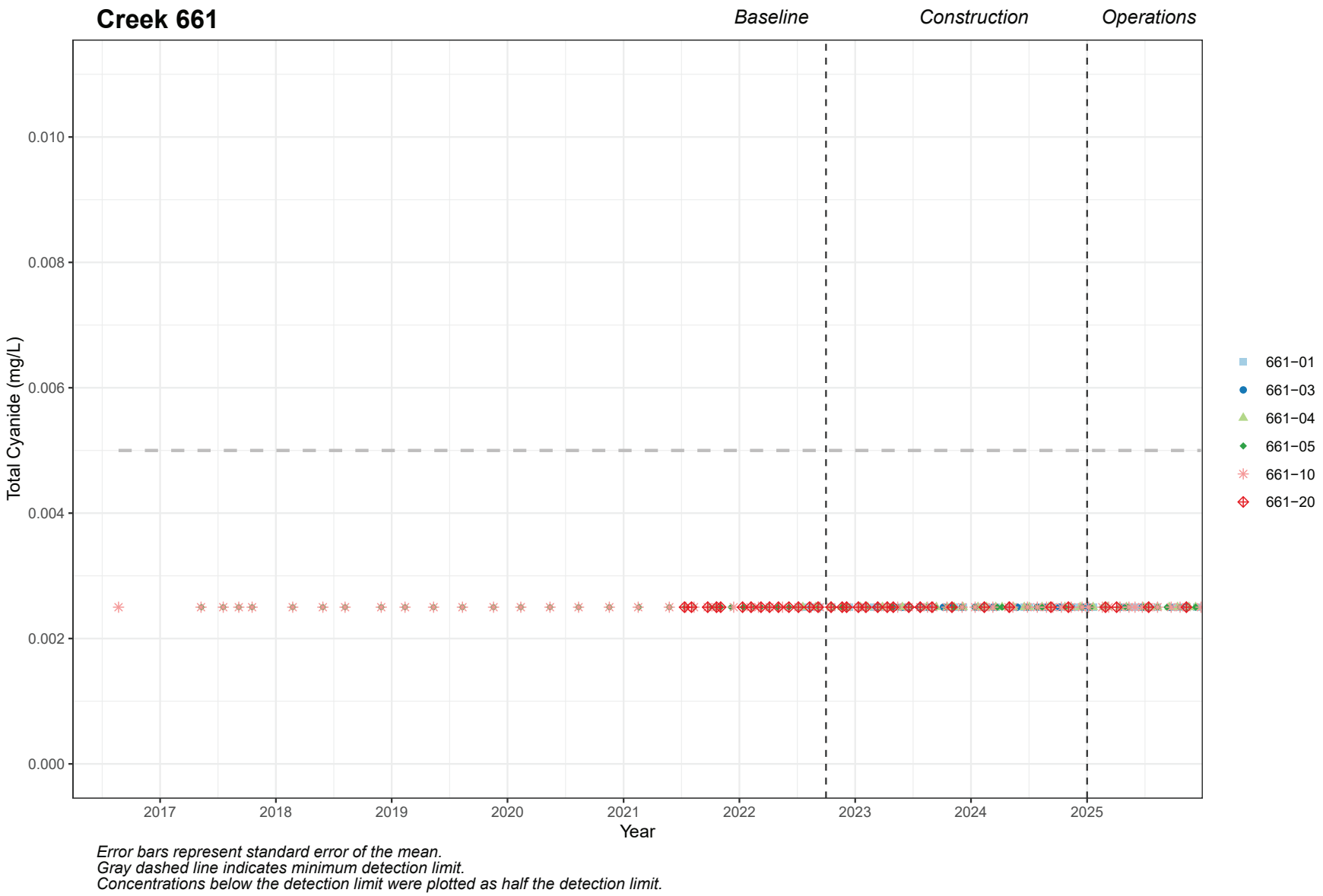


Figure C-19b: Monthly Mean Total Cyanide Concentrations, Creek 661 Sites, 2016 to 2025

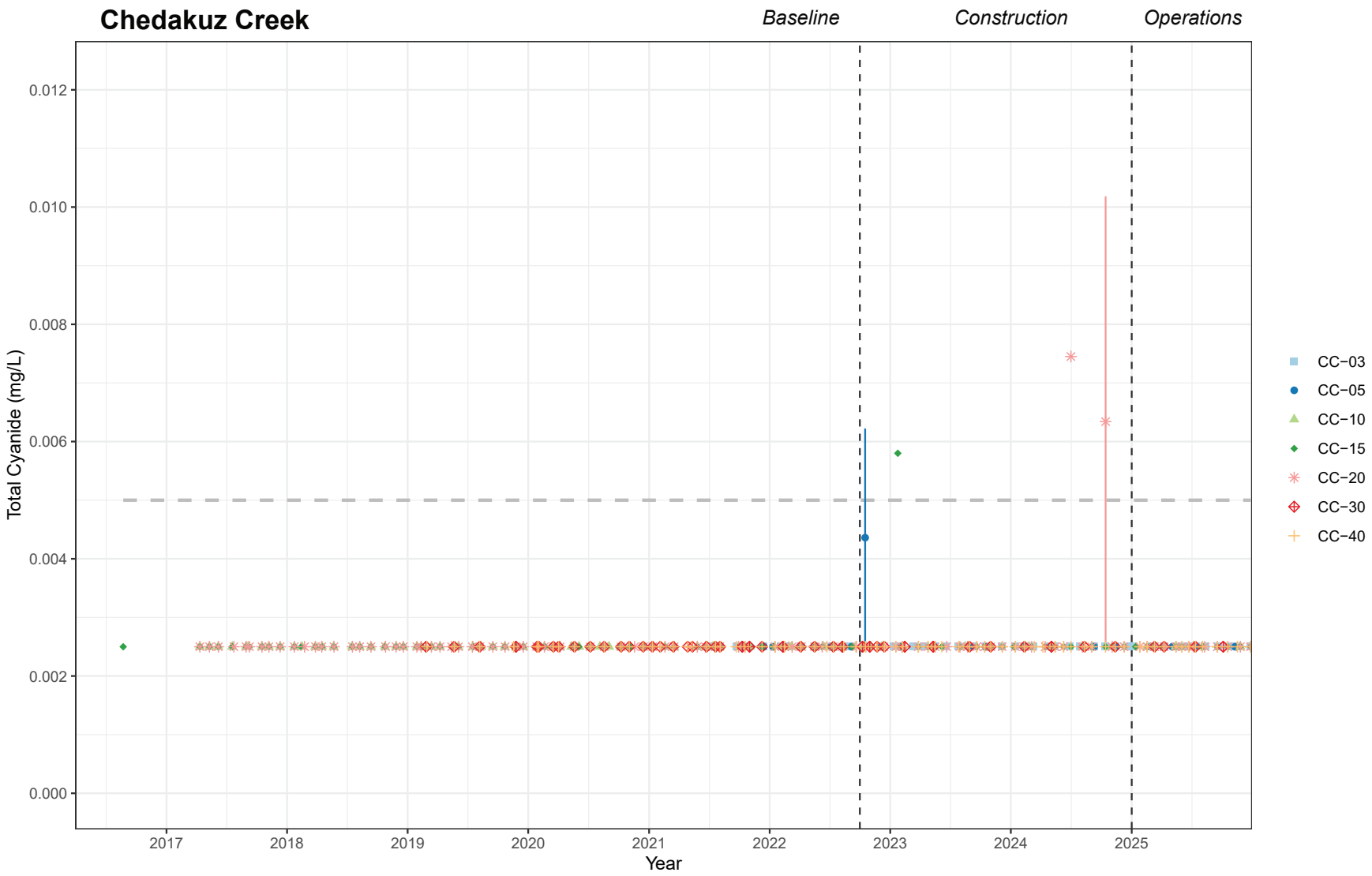


Figure C-19c: Monthly Mean Total Cyanide Concentrations, Chedakuz Creek Sites, 2016 to 2025

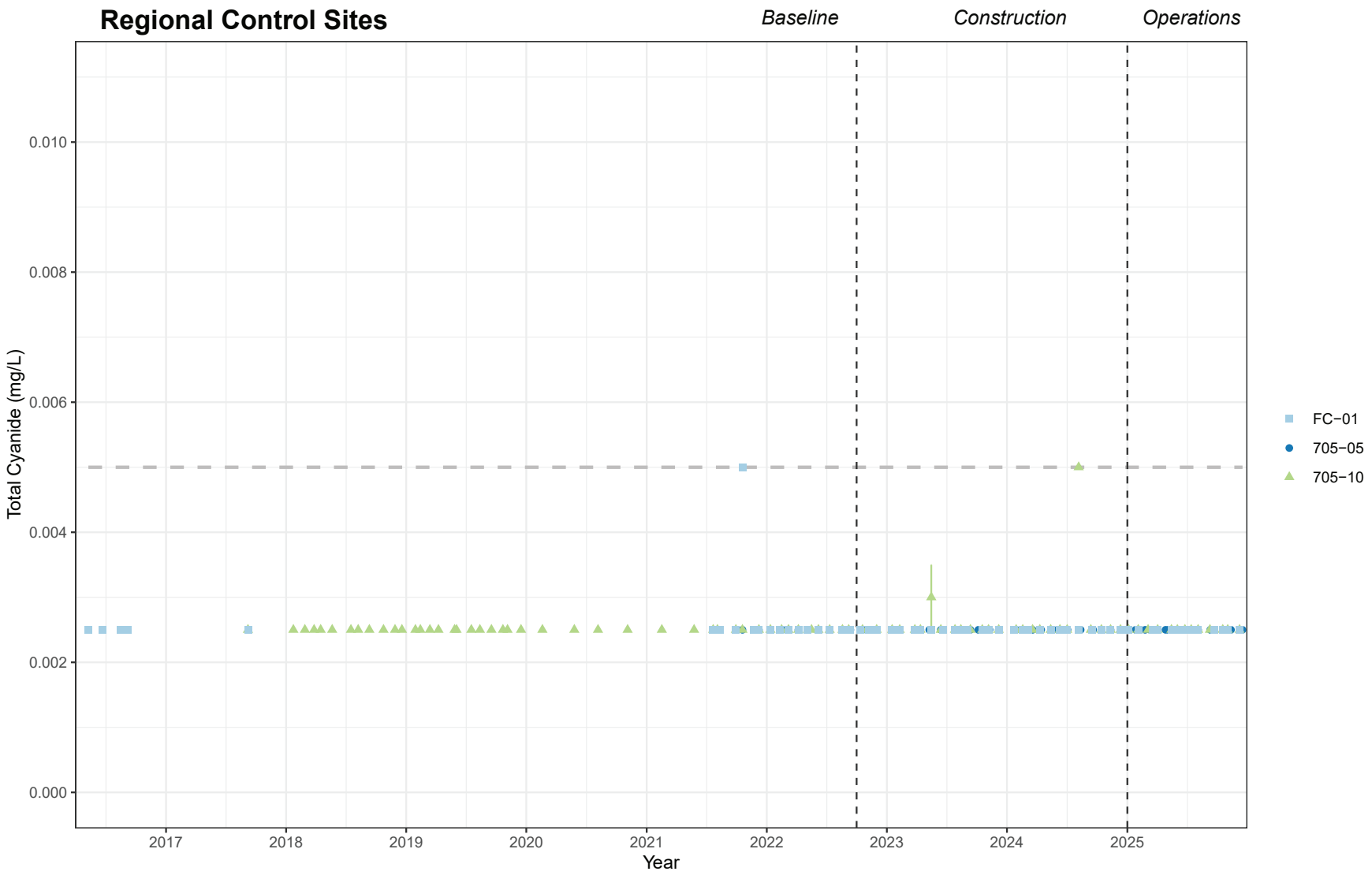
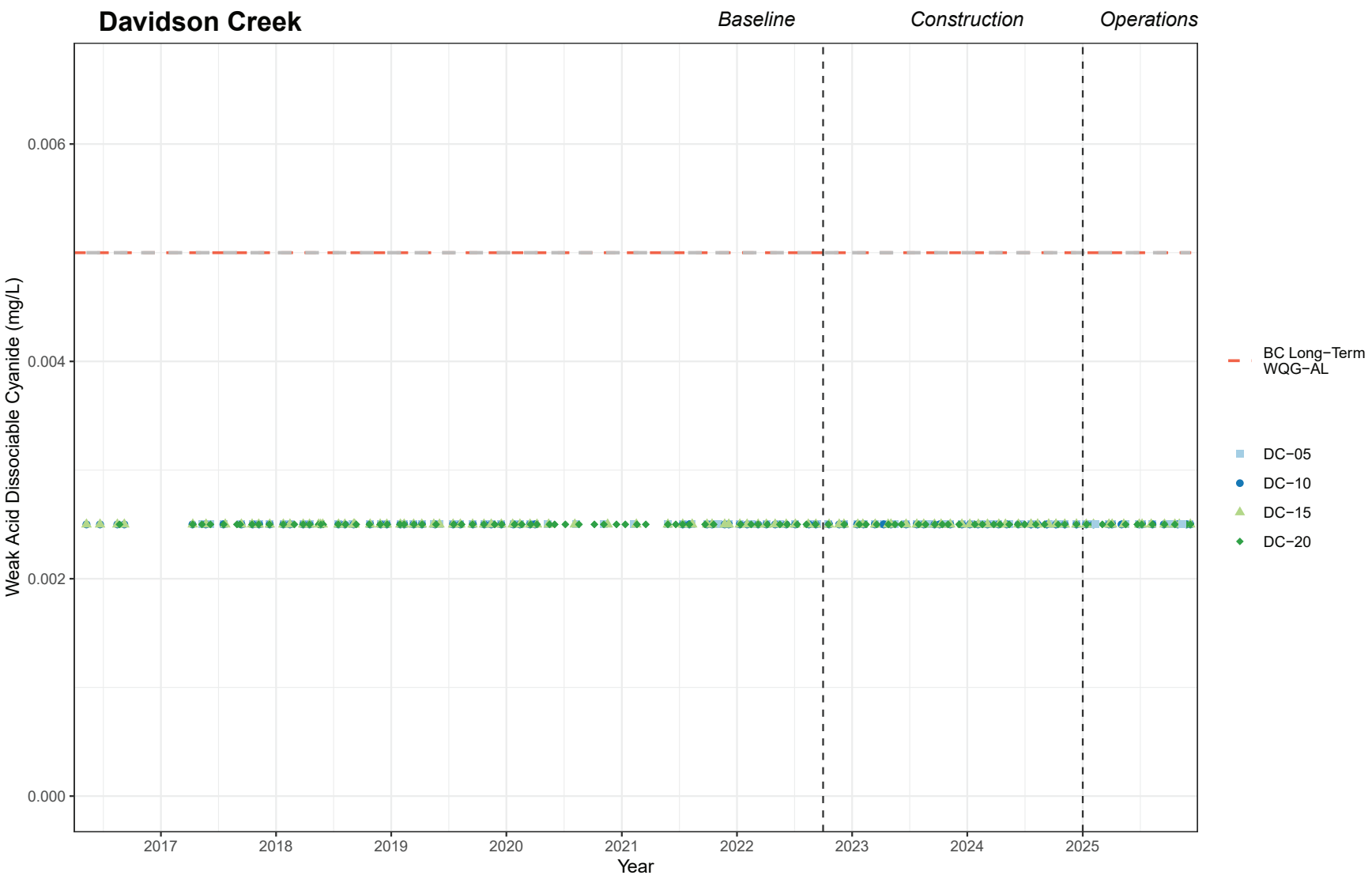


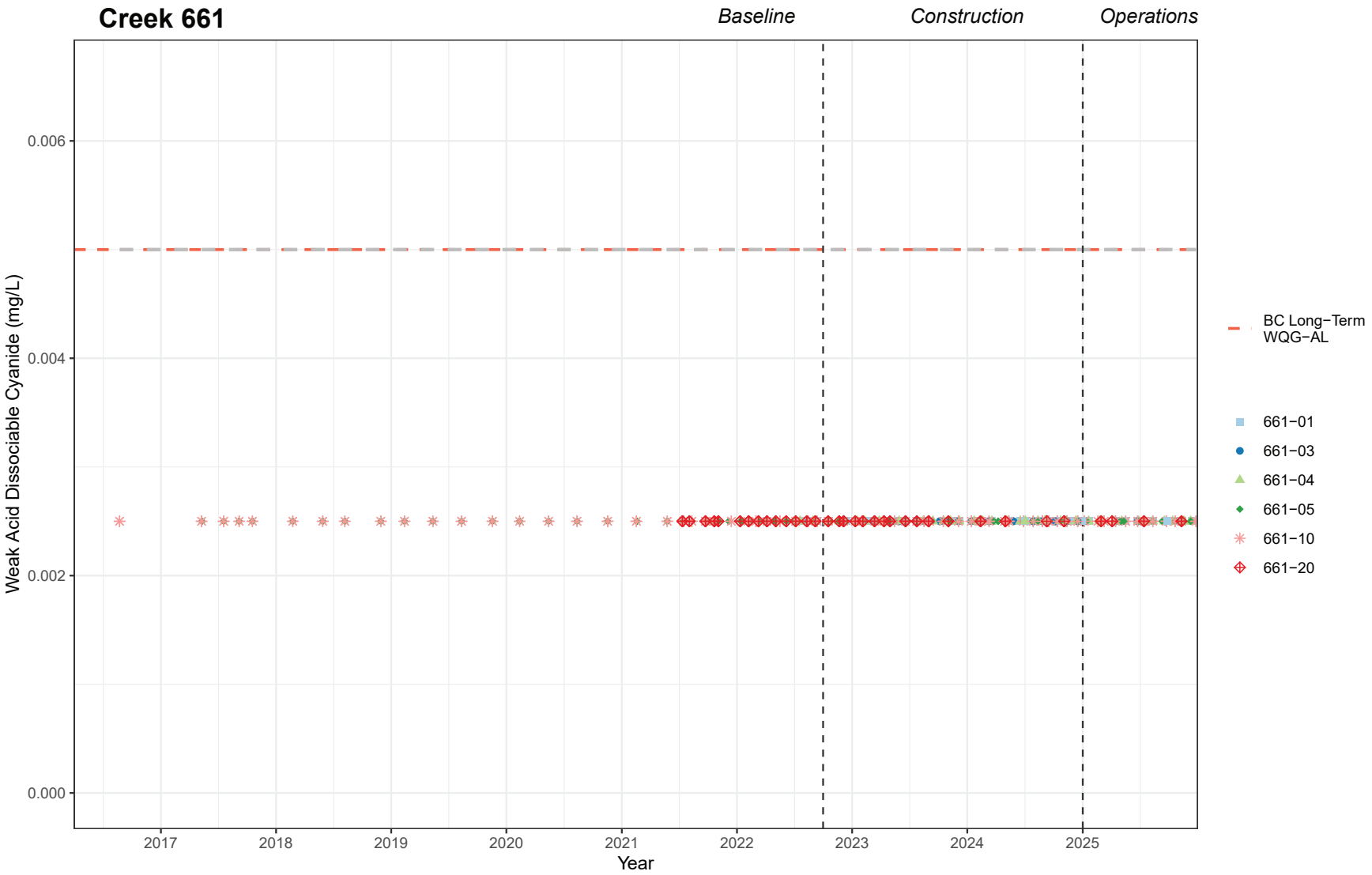
Figure C-19d: Monthly Mean Total Cyanide Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC long−term WQG−AL for cyanide, weak acid dissociable is 0.005 mg/L.

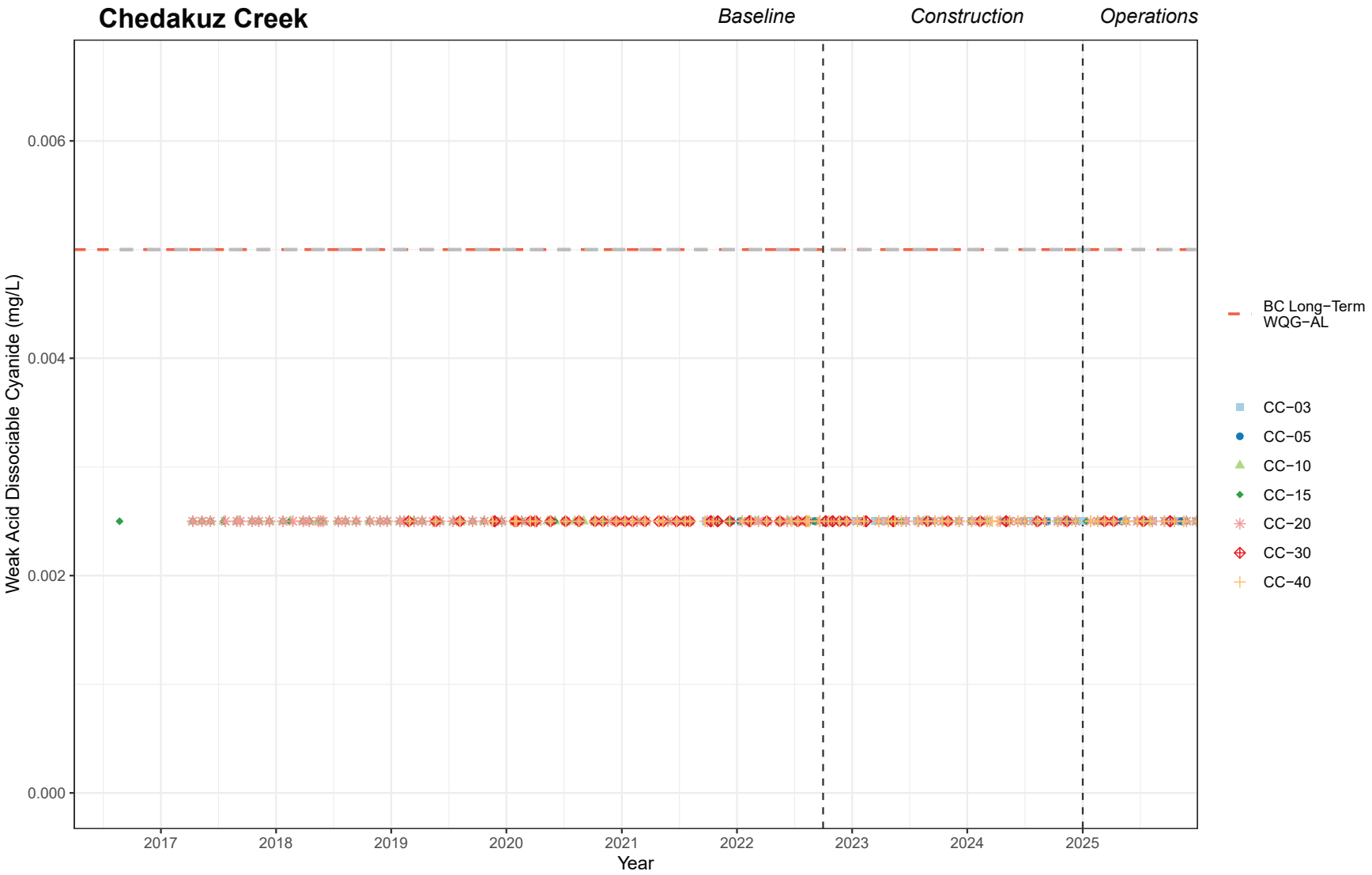
Proposed YDWL Standard for cyanide, weak acid dissociable is 0.005 mg/L.

Figure C-20a: Monthly Mean Weak Acid Dissociable Cyanide Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC long−term WQG−AL for cyanide, weak acid dissociable is 0.005 mg/L.

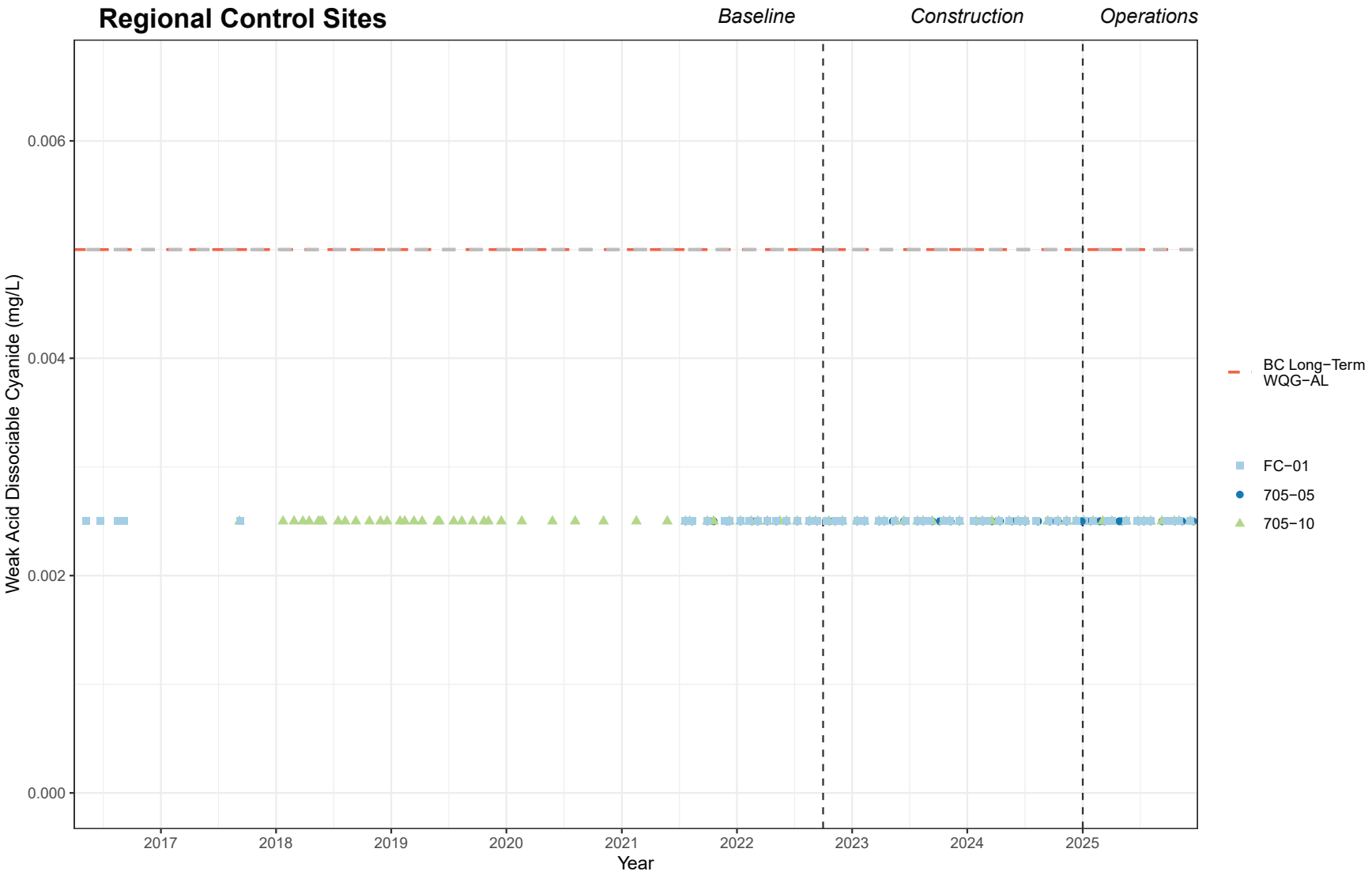
Figure C-20b: Monthly Mean Weak Acid Dissociable Cyanide Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC long−term WQG−AL for cyanide, weak acid dissociable is 0.005 mg/L.

Proposed YDWL Standard for cyanide, weak acid dissociable is 0.005 mg/L.

Figure C-20c: Monthly Mean Weak Acid Dissociable Cyanide Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The BC long−term WQG−AL for cyanide, weak acid dissociable is 0.005 mg/L.

Figure C-20d: Monthly Mean Weak Acid Dissociable Cyanide Concentrations, Regional Control Sites Sites, 2016 to 2025

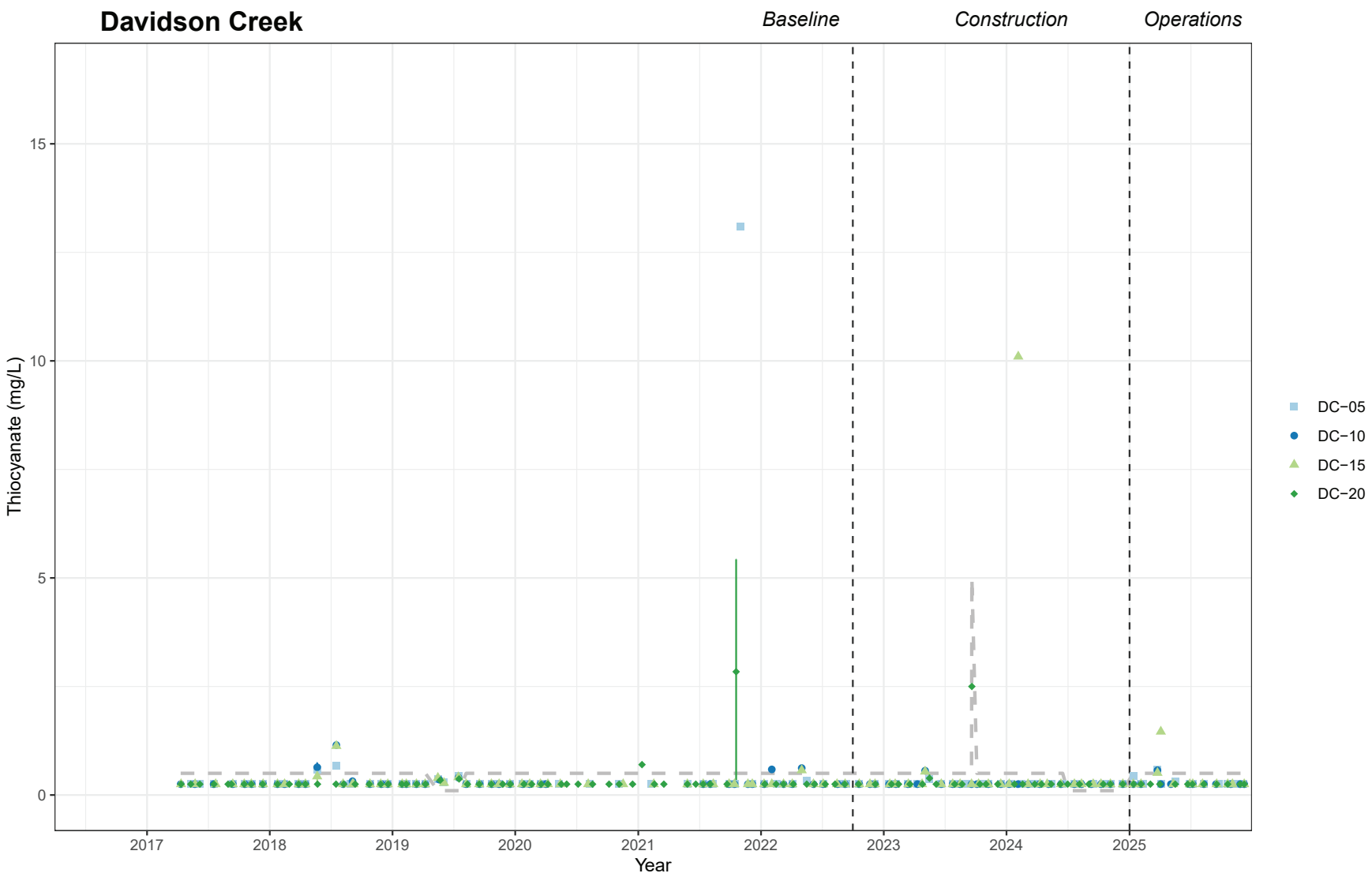


Figure C-21a: Monthly Mean Thiocyanate (mg/L) Concentrations, Davidson Creek Sites, 2016 to 2025

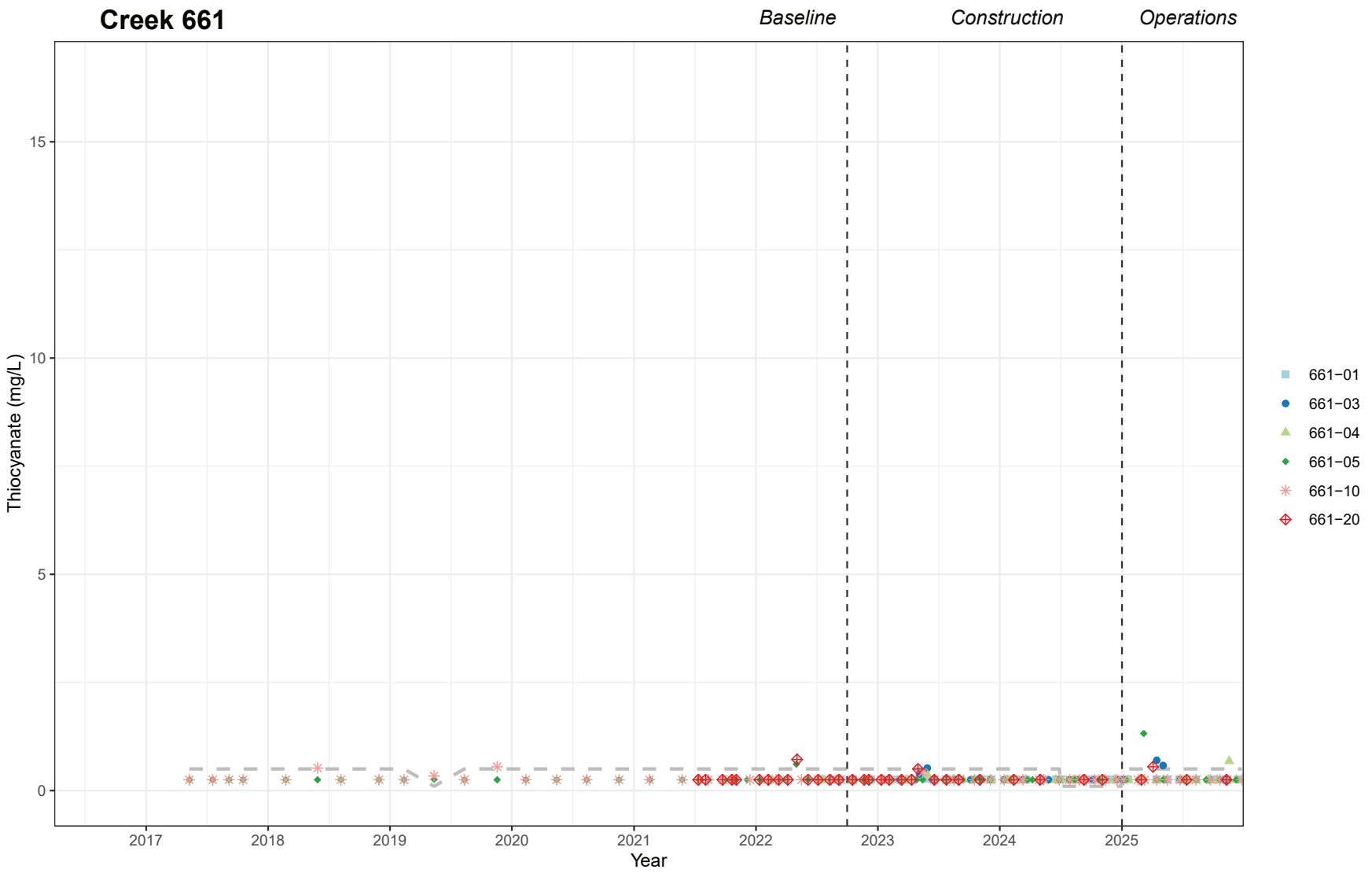


Figure C-21b: Monthly Mean Thiocyanate (mg/L) Concentrations, Creek 661 Sites, 2016 to 2025

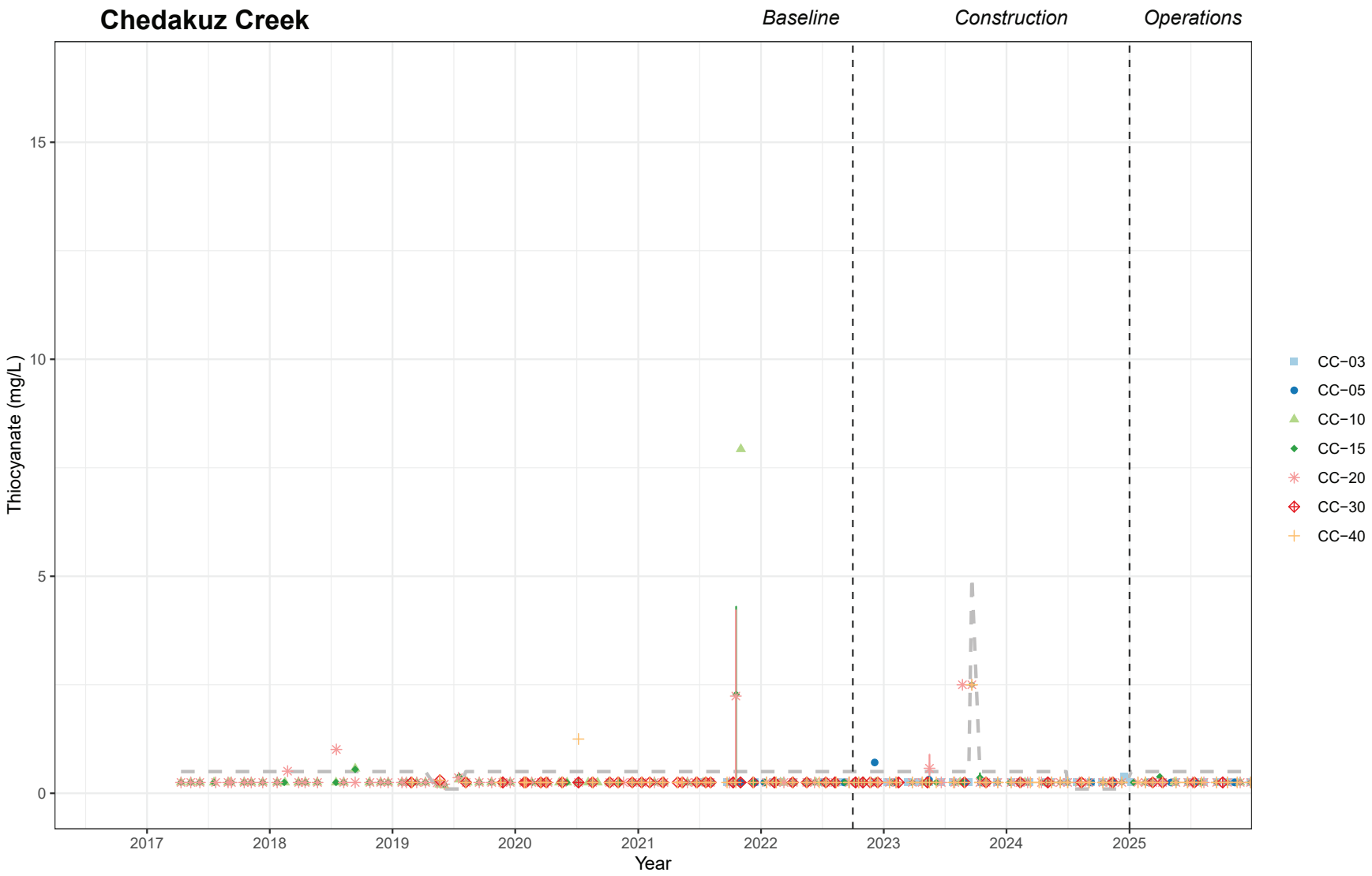


Figure C-21c: Monthly Mean Thiocyanate (mg/L) Concentrations, Chedakuz Creek Sites, 2016 to 2025

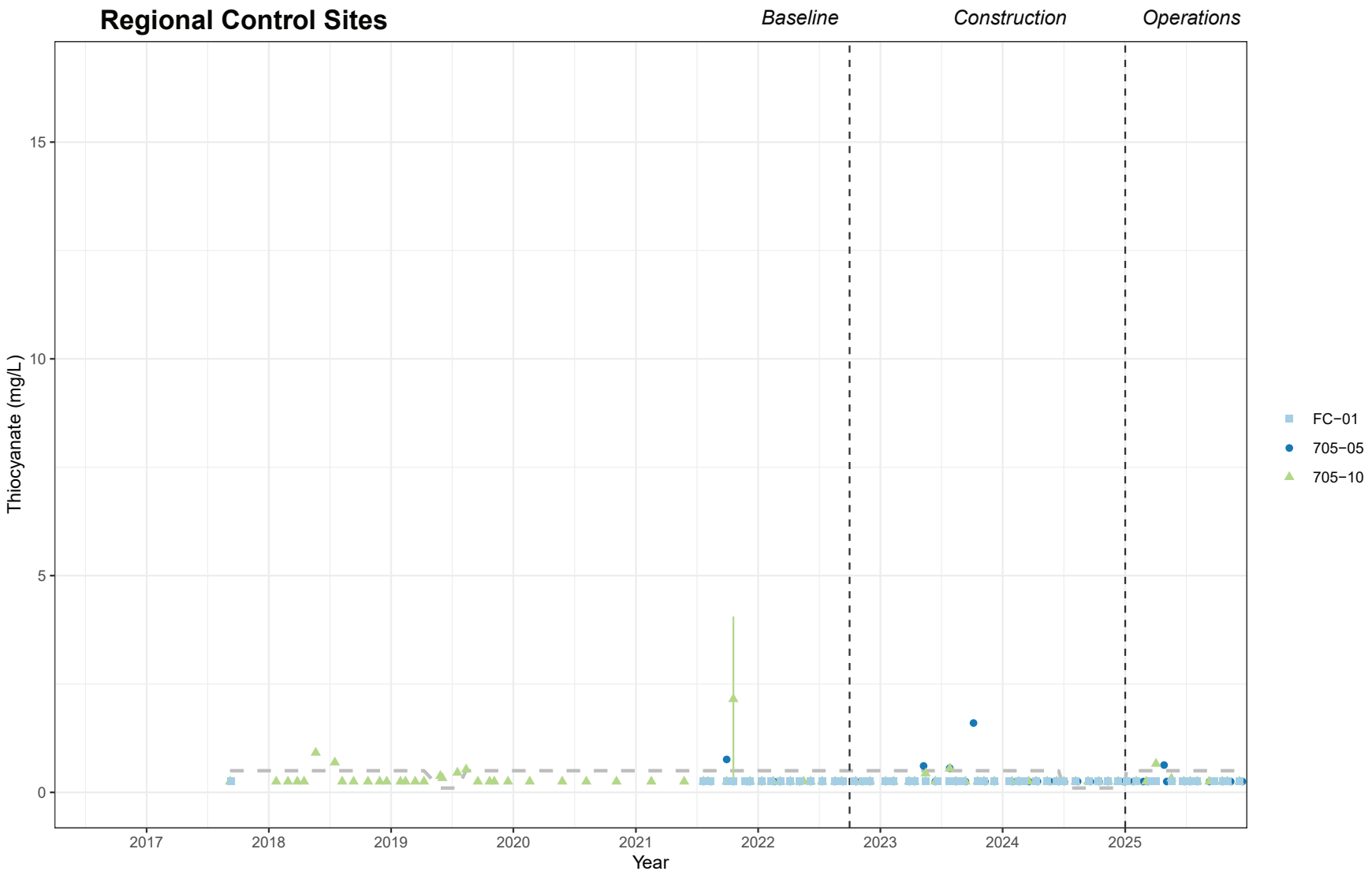


Figure C-21d: Monthly Mean Thiocyanate (mg/L) Concentrations, Regional Control Sites Sites, 2016 to 2025

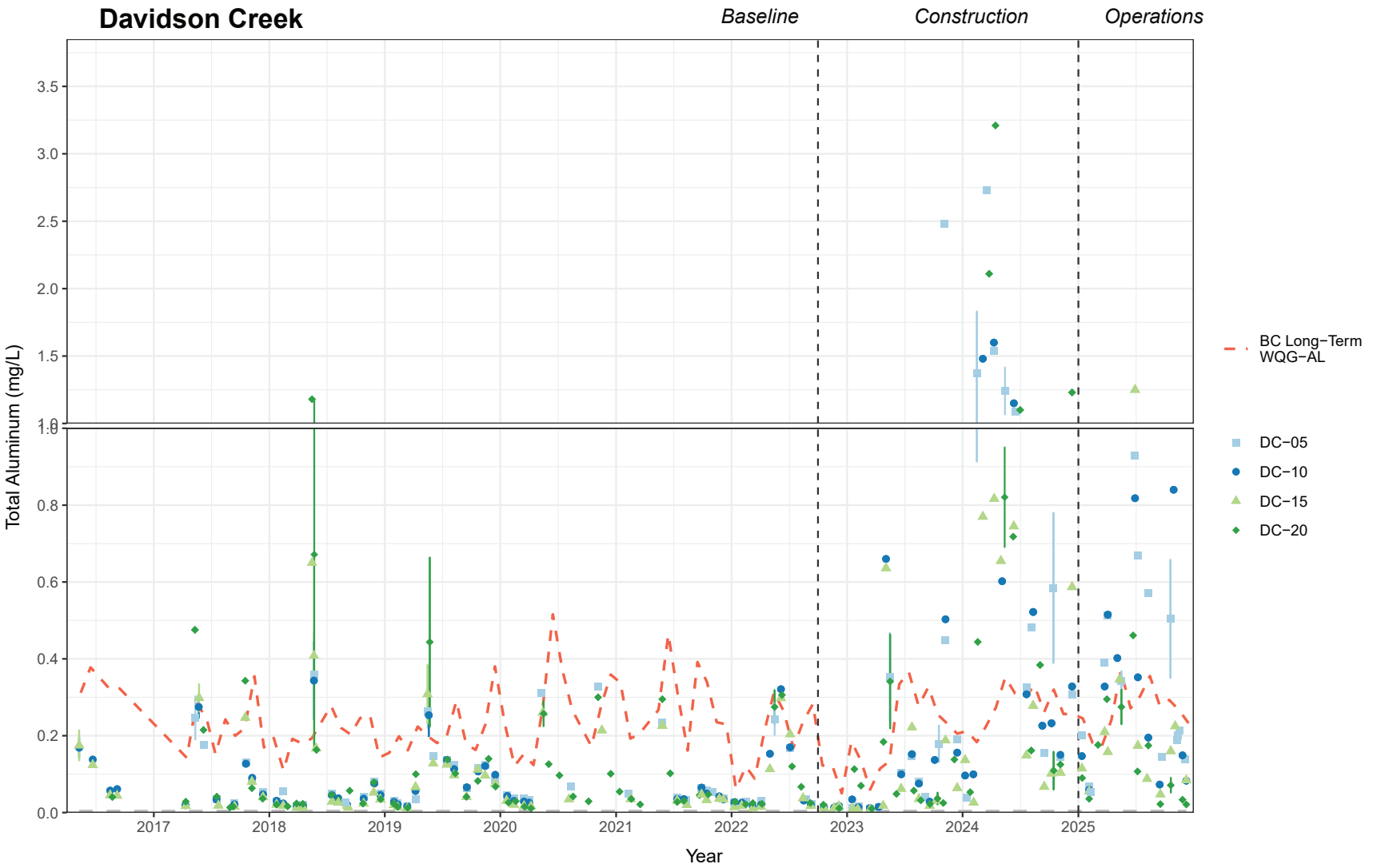
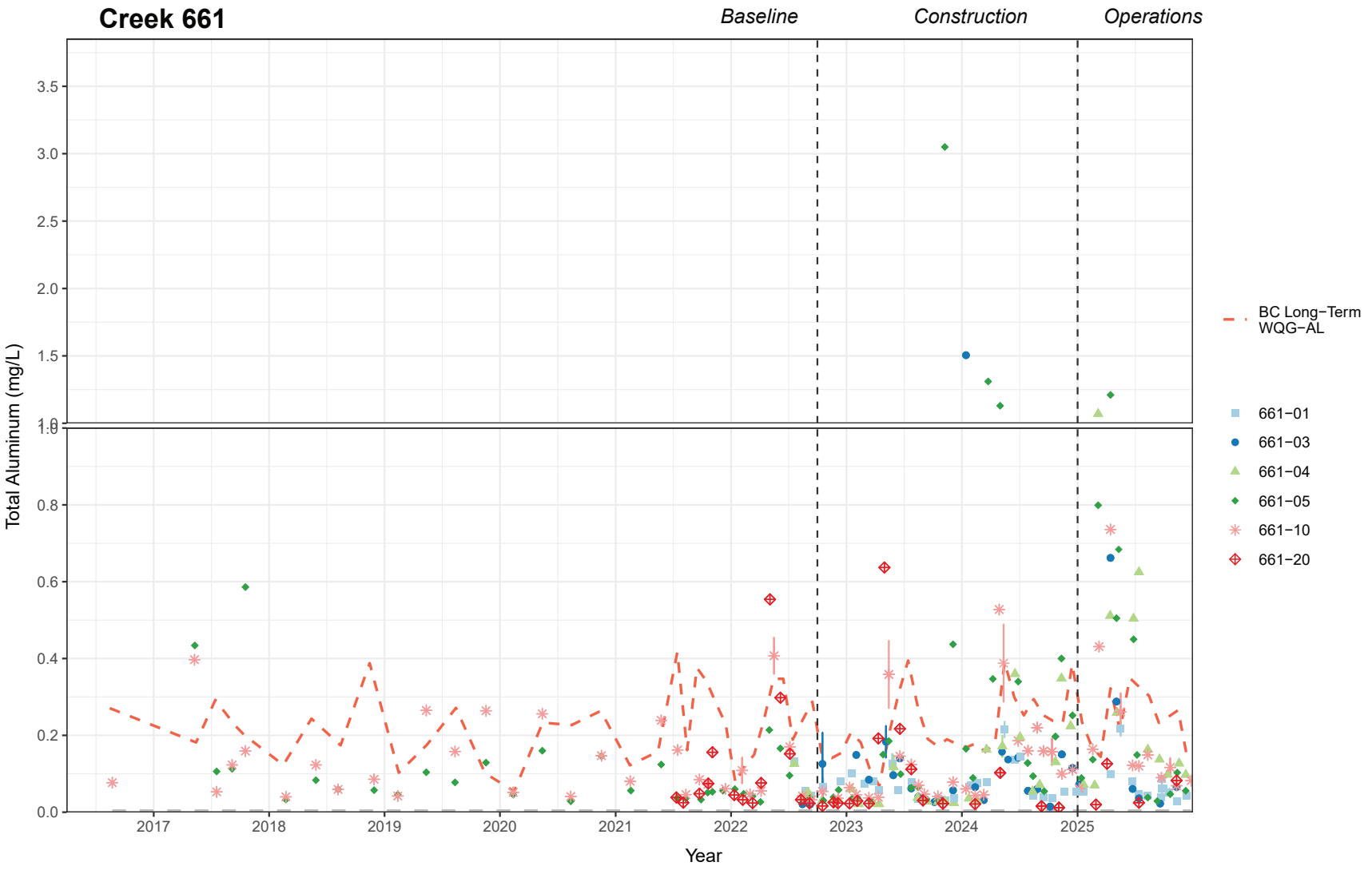
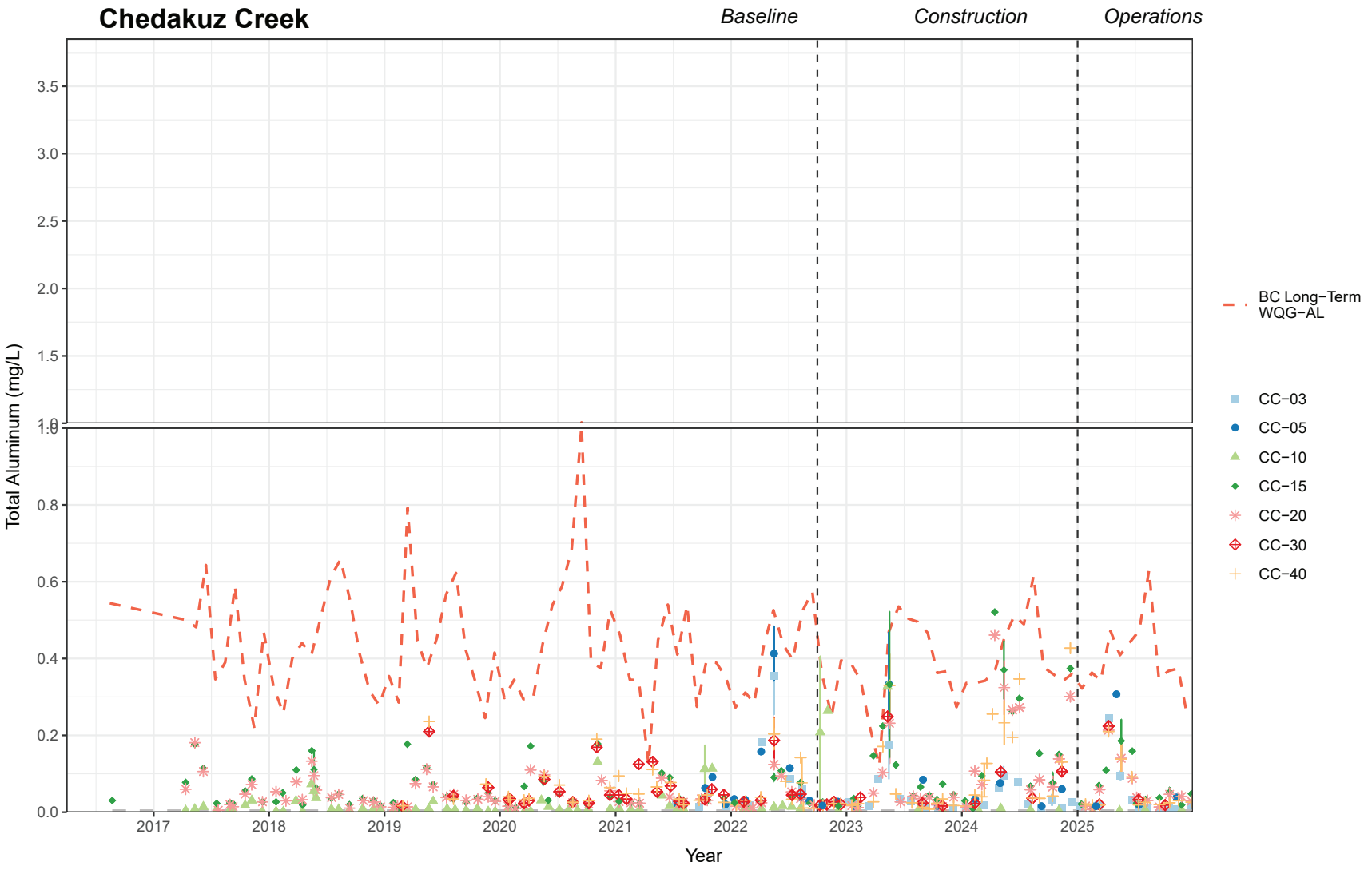


Figure C-22a: Monthly Mean Total Aluminum Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total aluminum is pH, hardness, and DOC dependent.
The monthly mean calculated guideline is plotted

Figure C-22b: Monthly Mean Total Aluminum Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total aluminum is pH, hardness, and DOC dependent.
The monthly mean calculated guideline is plotted

Figure C-22c: Monthly Mean Total Aluminum Concentrations, Chedakuz Creek Sites, 2016 to 2025

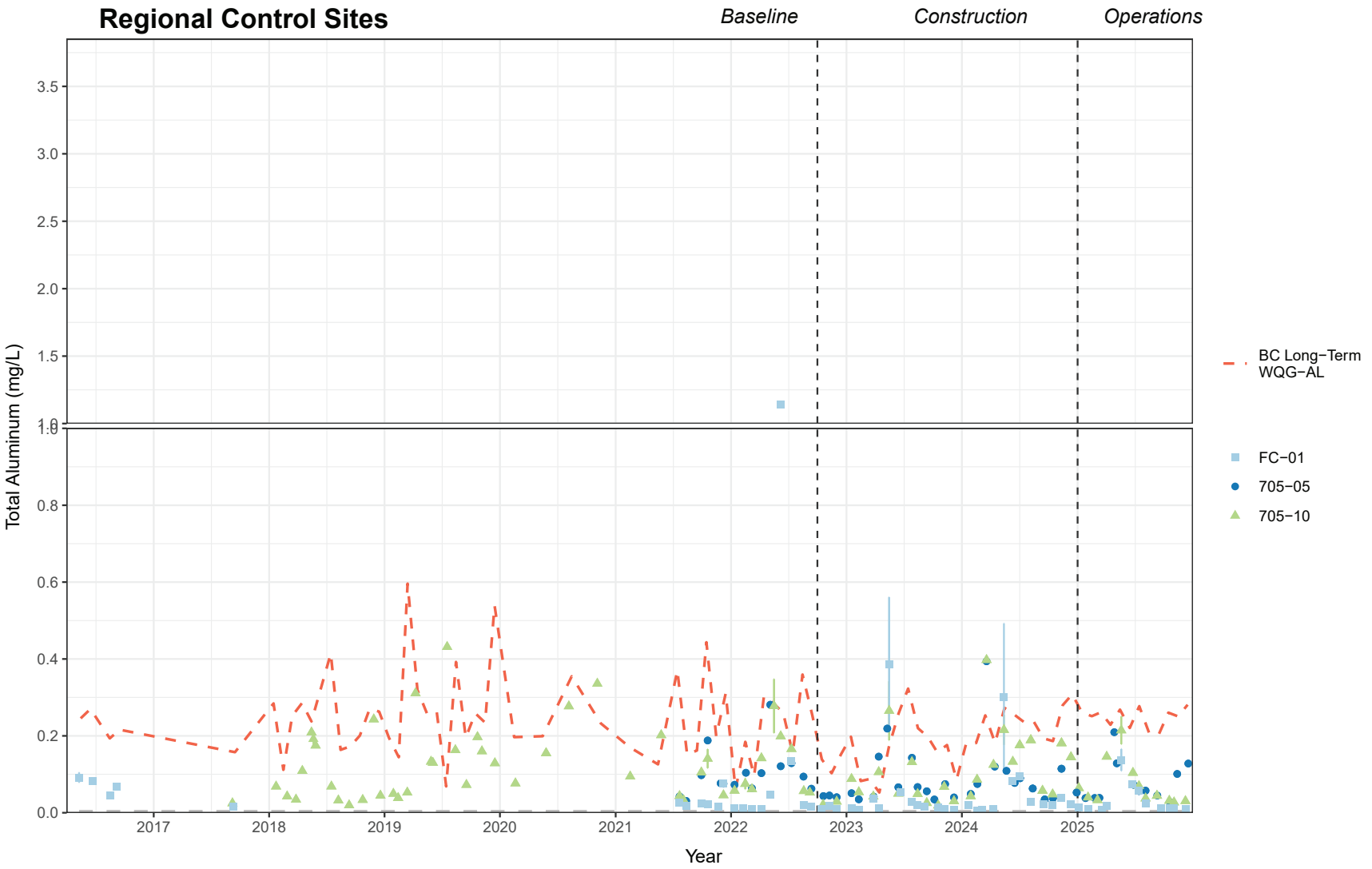


Figure C-22d: Monthly Mean Total Aluminum Concentrations, Regional Control Sites Sites, 2016 to 2025

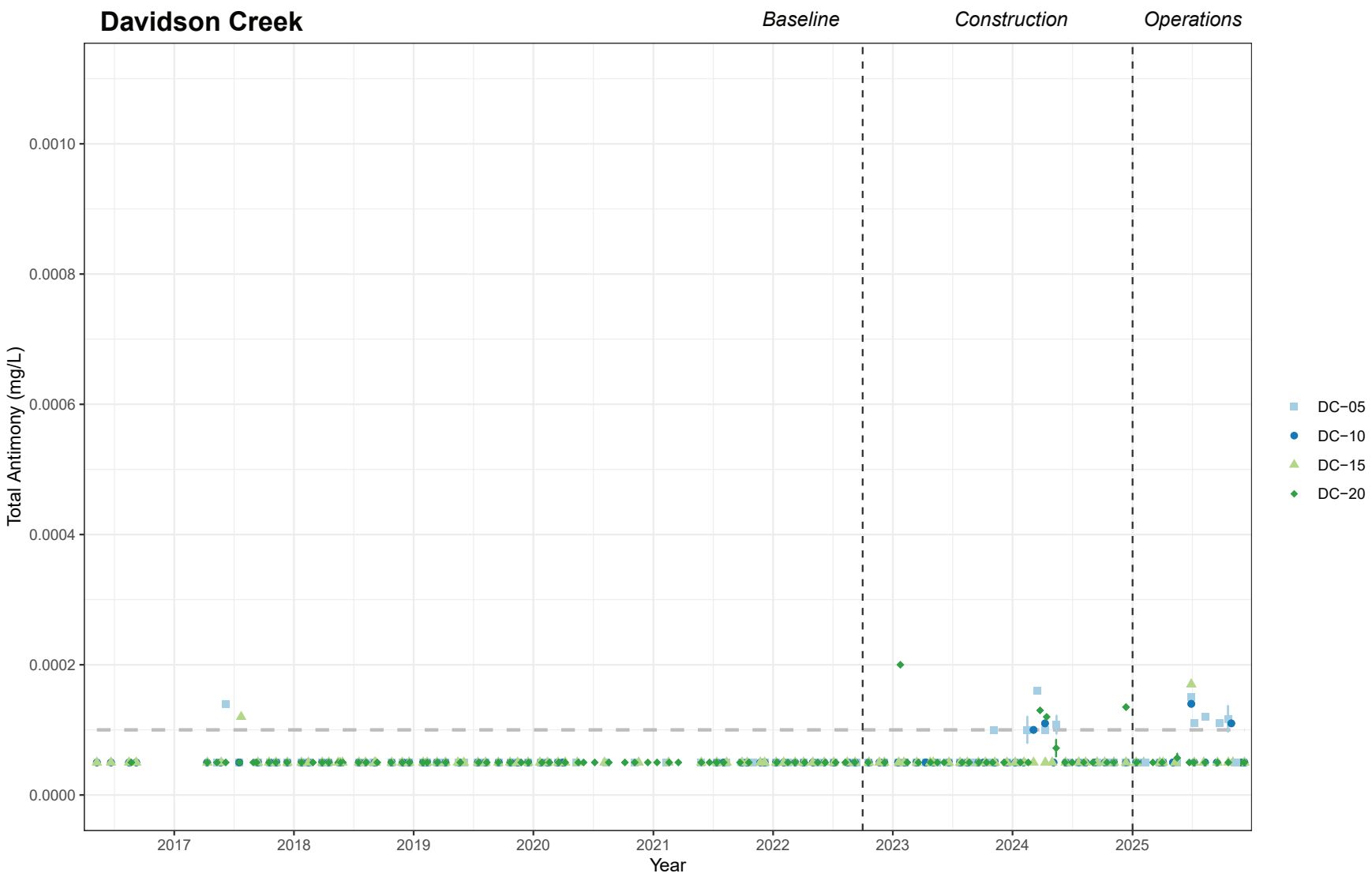
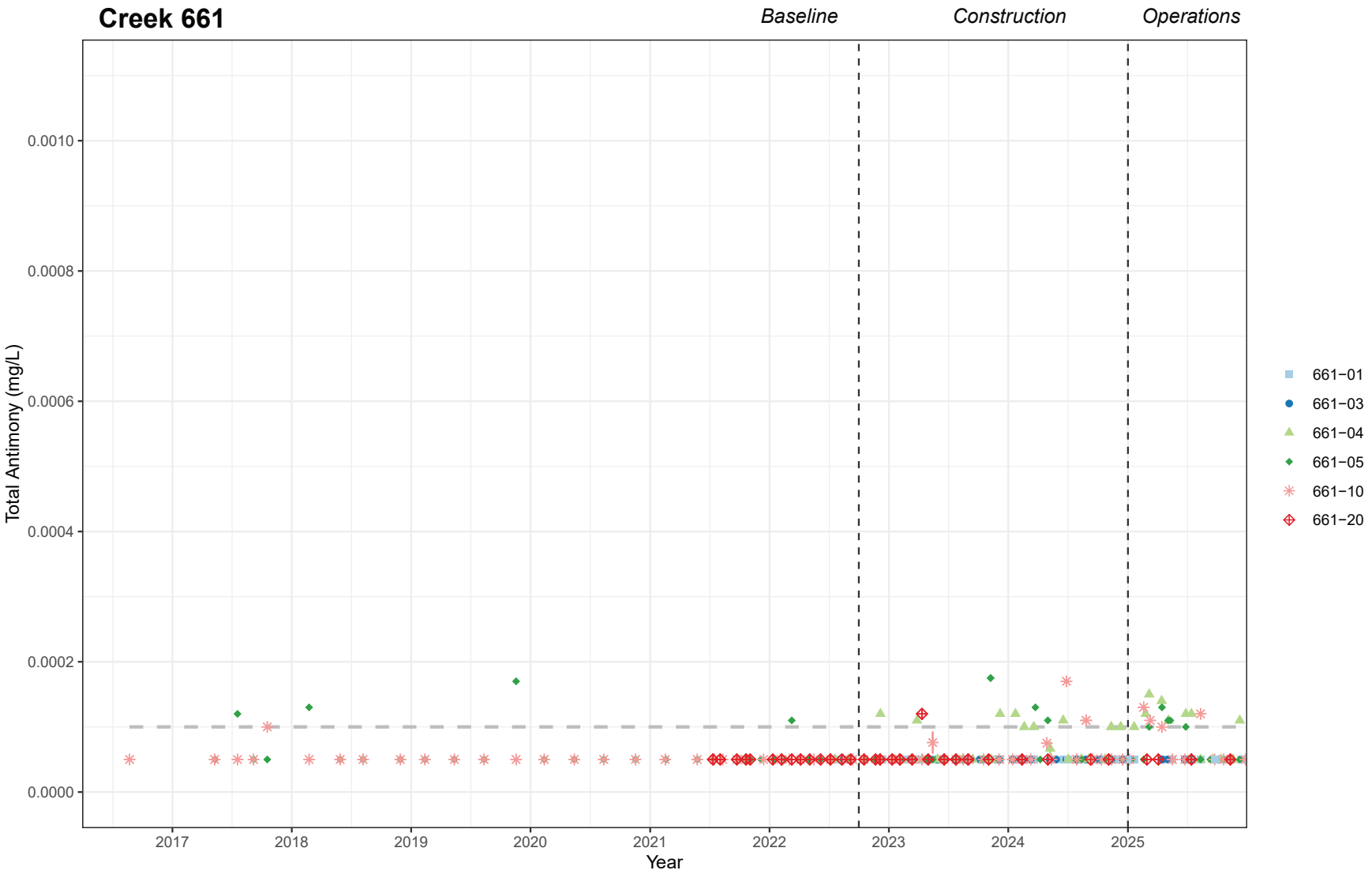


Figure C-23a: Monthly Mean Total Antimony Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for antimony = 0.074 mg/L.

Figure C-23b: Monthly Mean Total Antimony Concentrations, Creek 661 Sites, 2016 to 2025

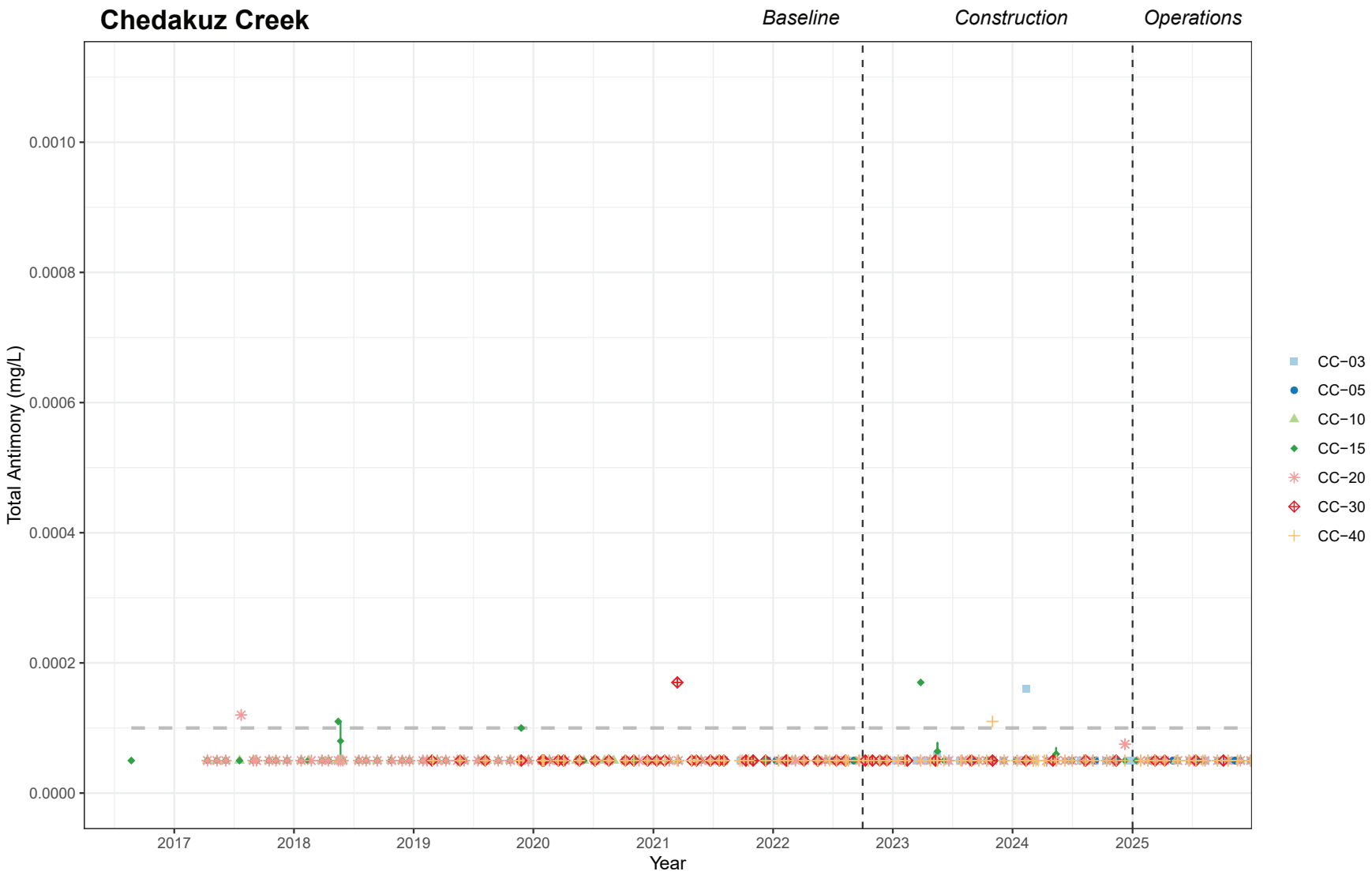


Figure C-23c: Monthly Mean Total Antimony Concentrations, Chedakuz Creek Sites, 2016 to 2025

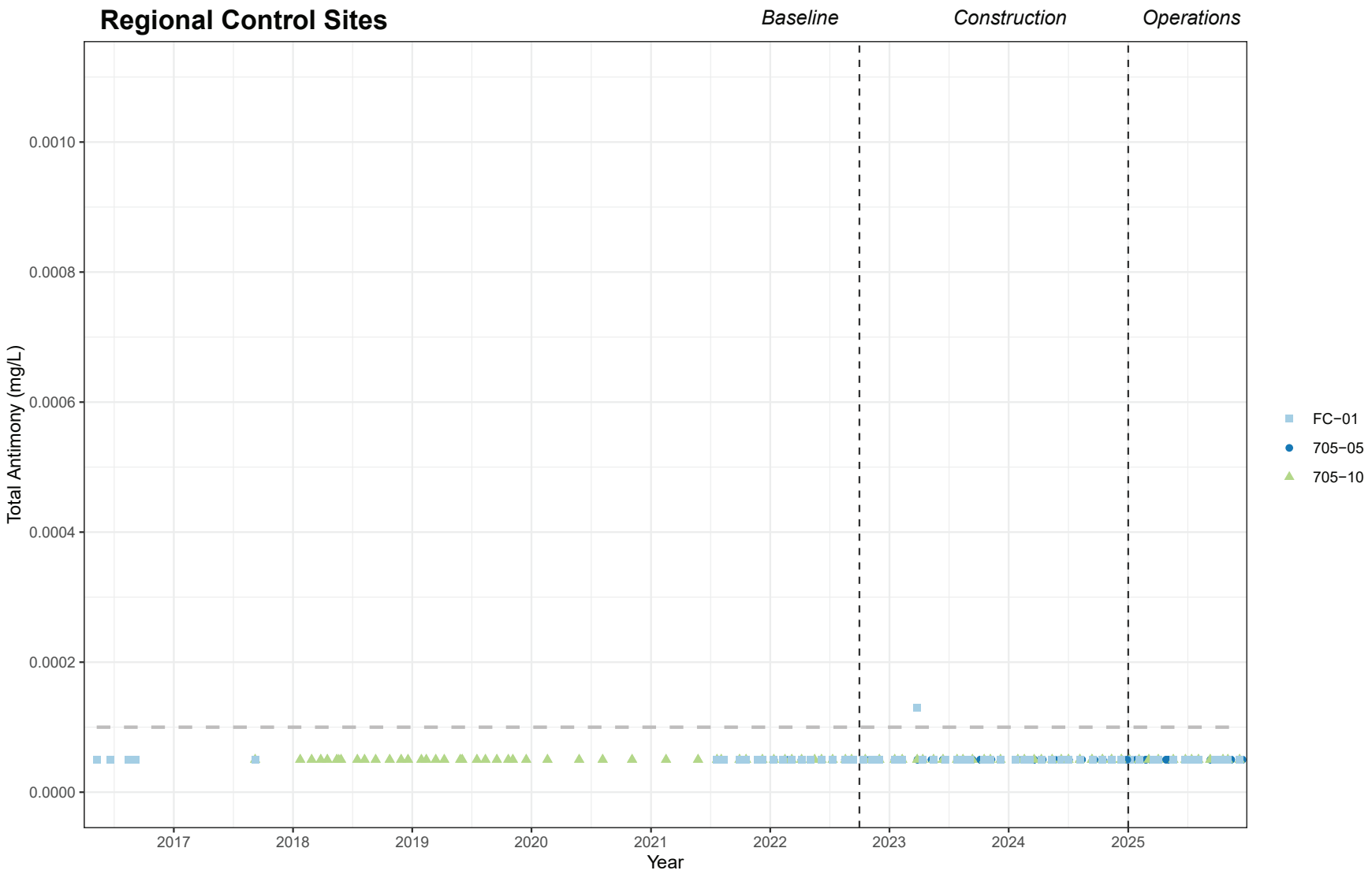


Figure C-23d: Monthly Mean Total Antimony Concentrations, Regional Control Sites Sites, 2016 to 2025

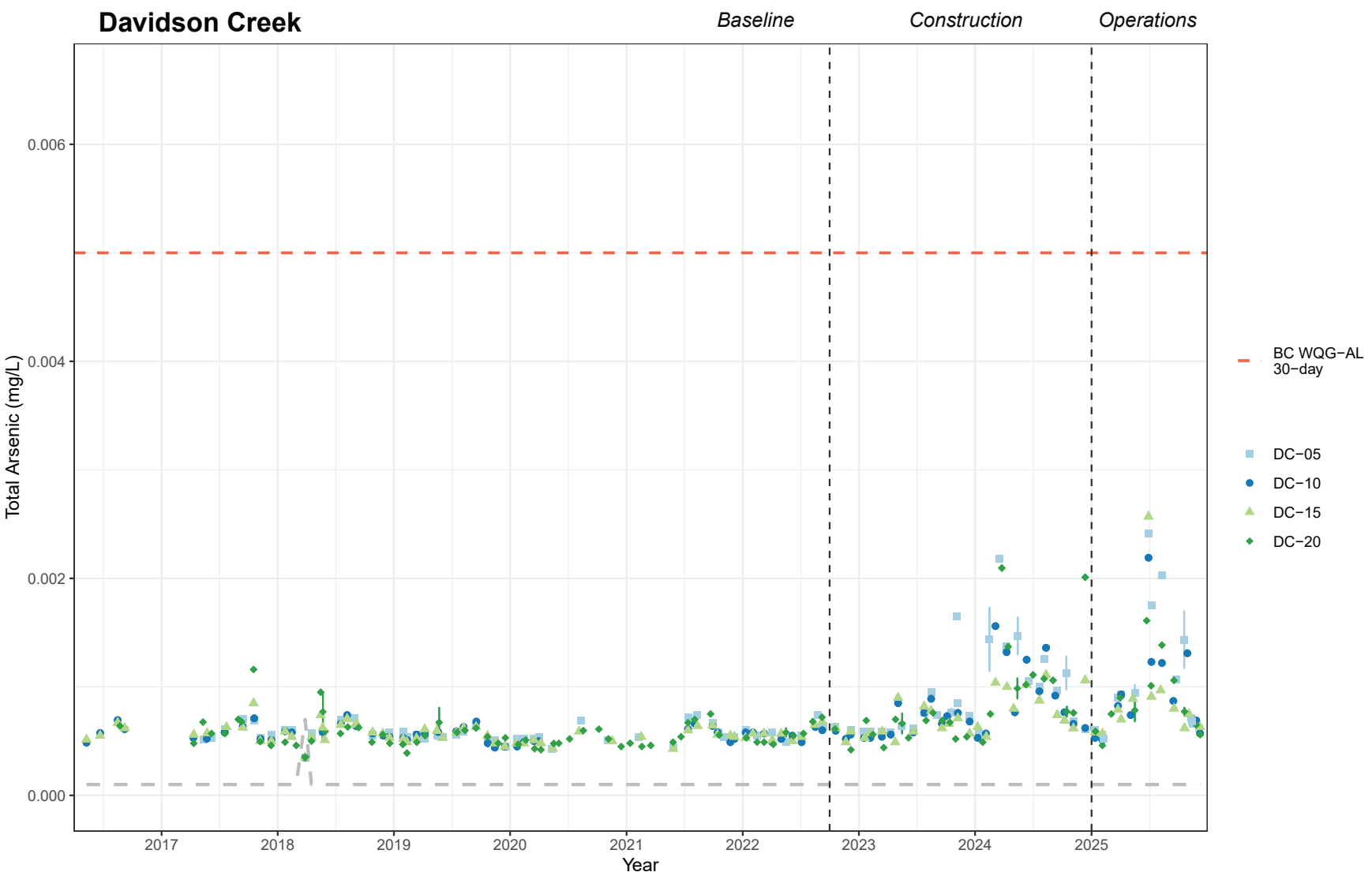
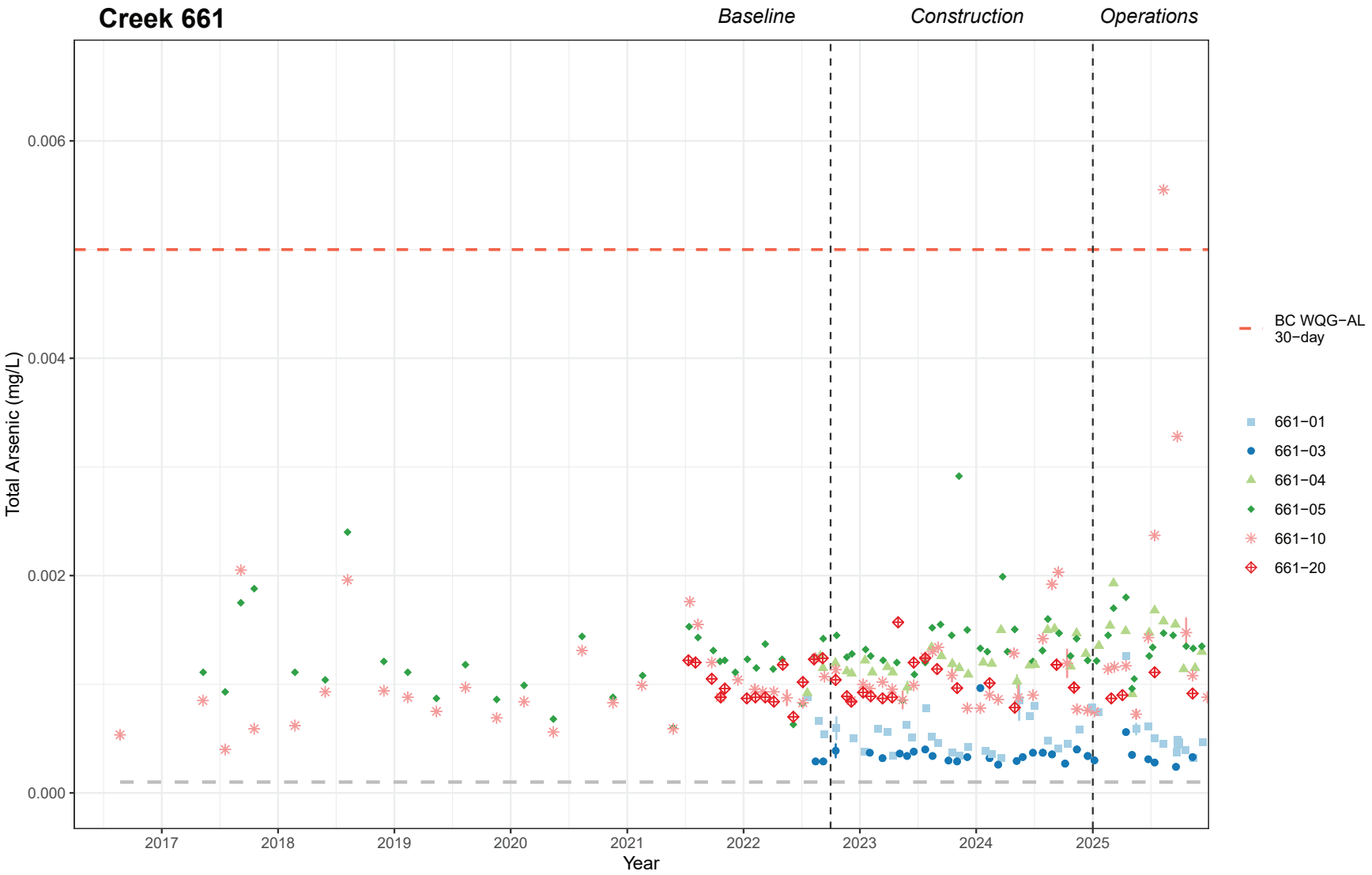
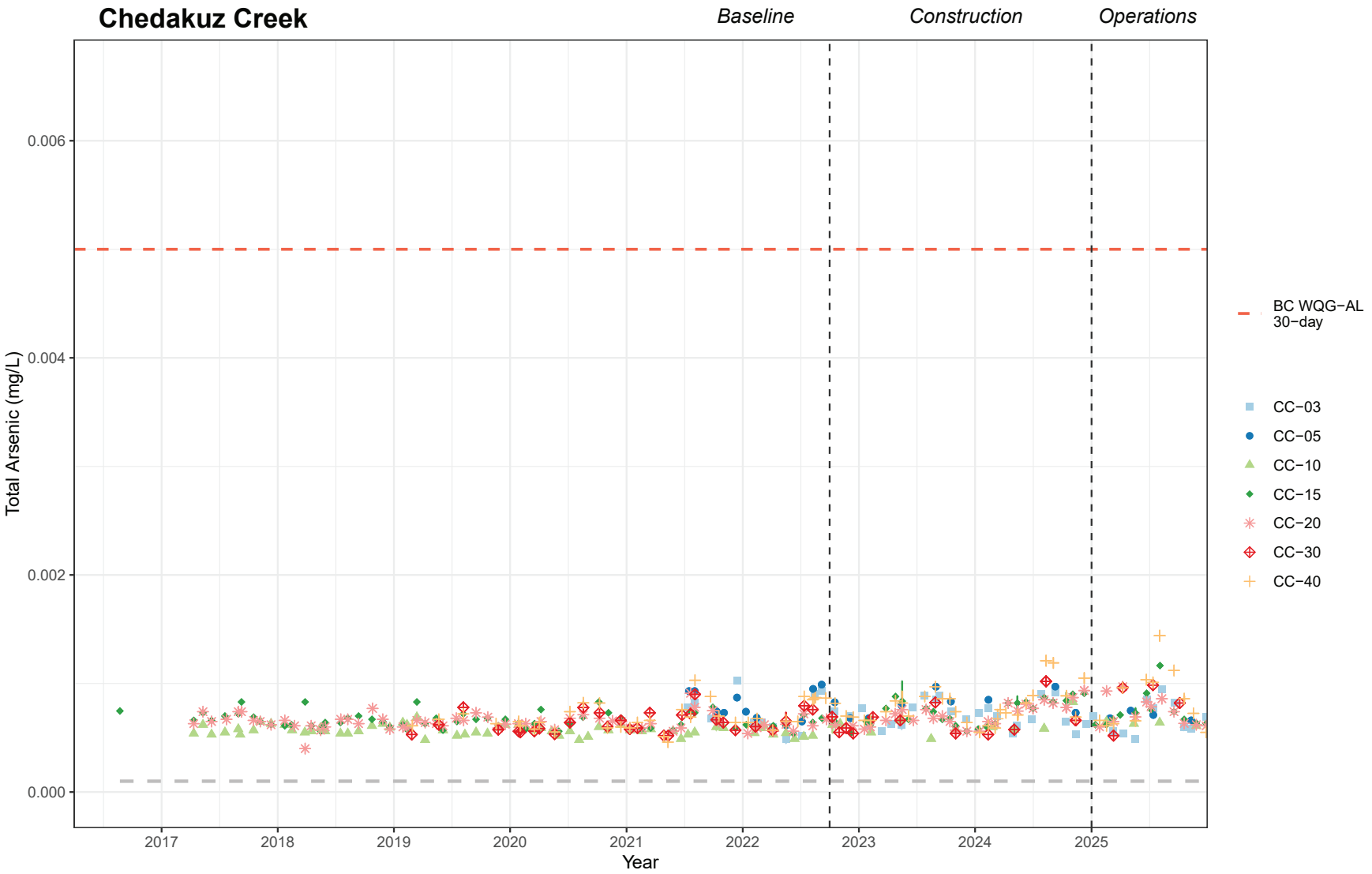


Figure C-24a: Monthly Mean Total Arsenic Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total arsenic = 0.005 mg/L for a 30−day period.

Figure C-24b: Monthly Mean Total Arsenic Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total arsenic = 0.005 mg/L for a 30−day period.

Figure C-24c: Monthly Mean Total Arsenic Concentrations, Chedakuz Creek Sites, 2016 to 2025

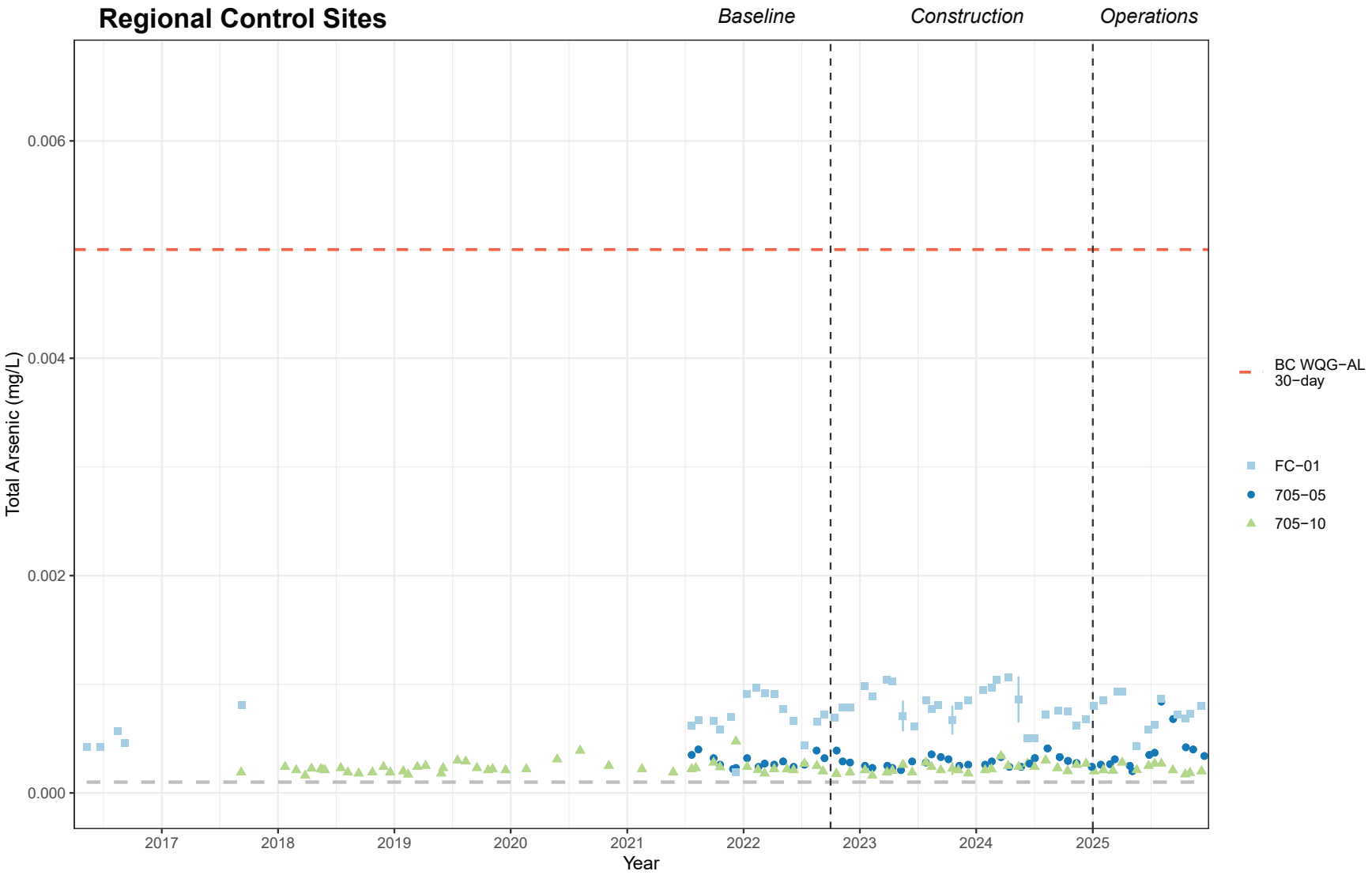


Figure C-24d: Monthly Mean Total Arsenic Concentrations, Regional Control Sites Sites, 2016 to 2025

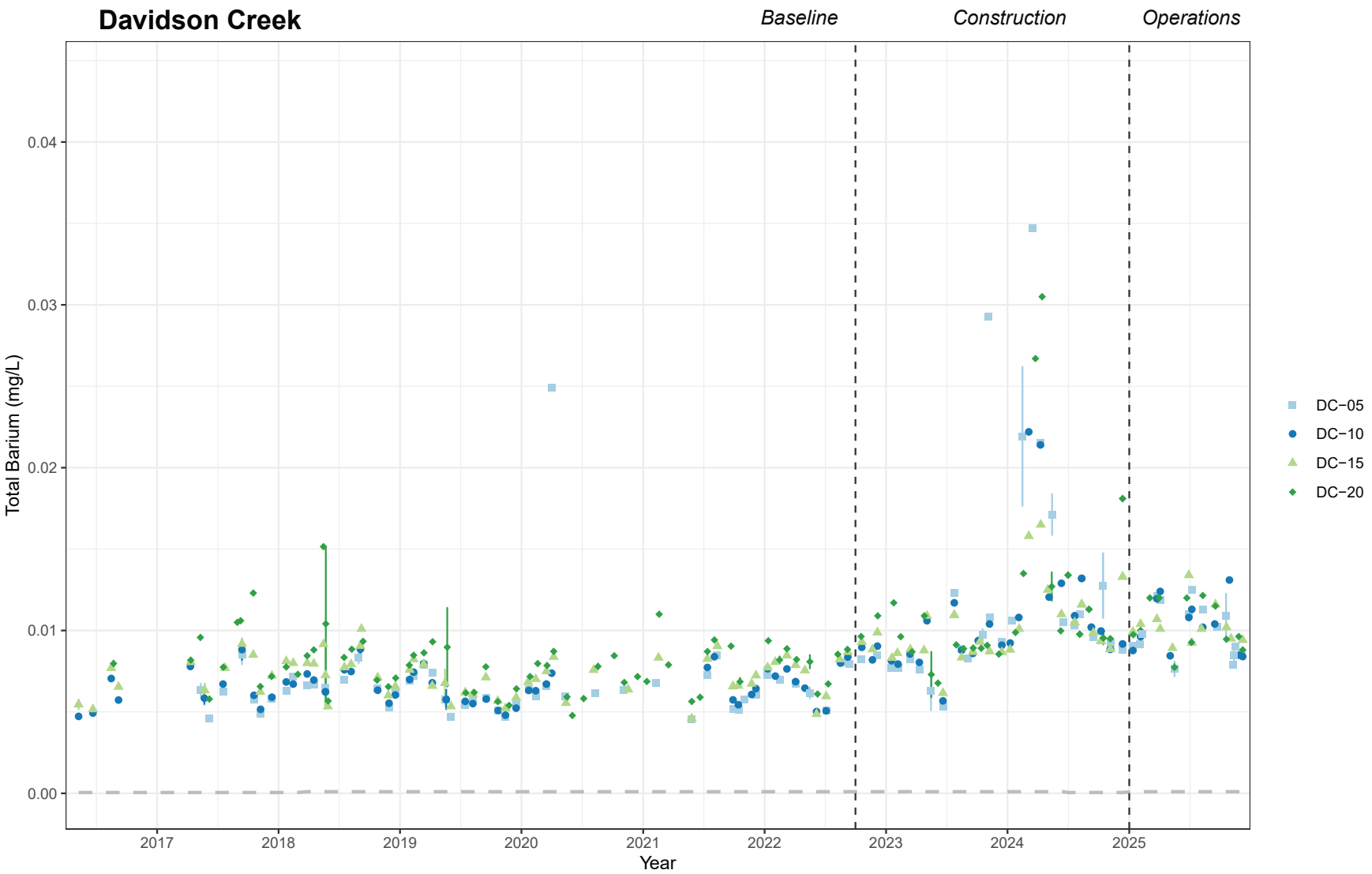
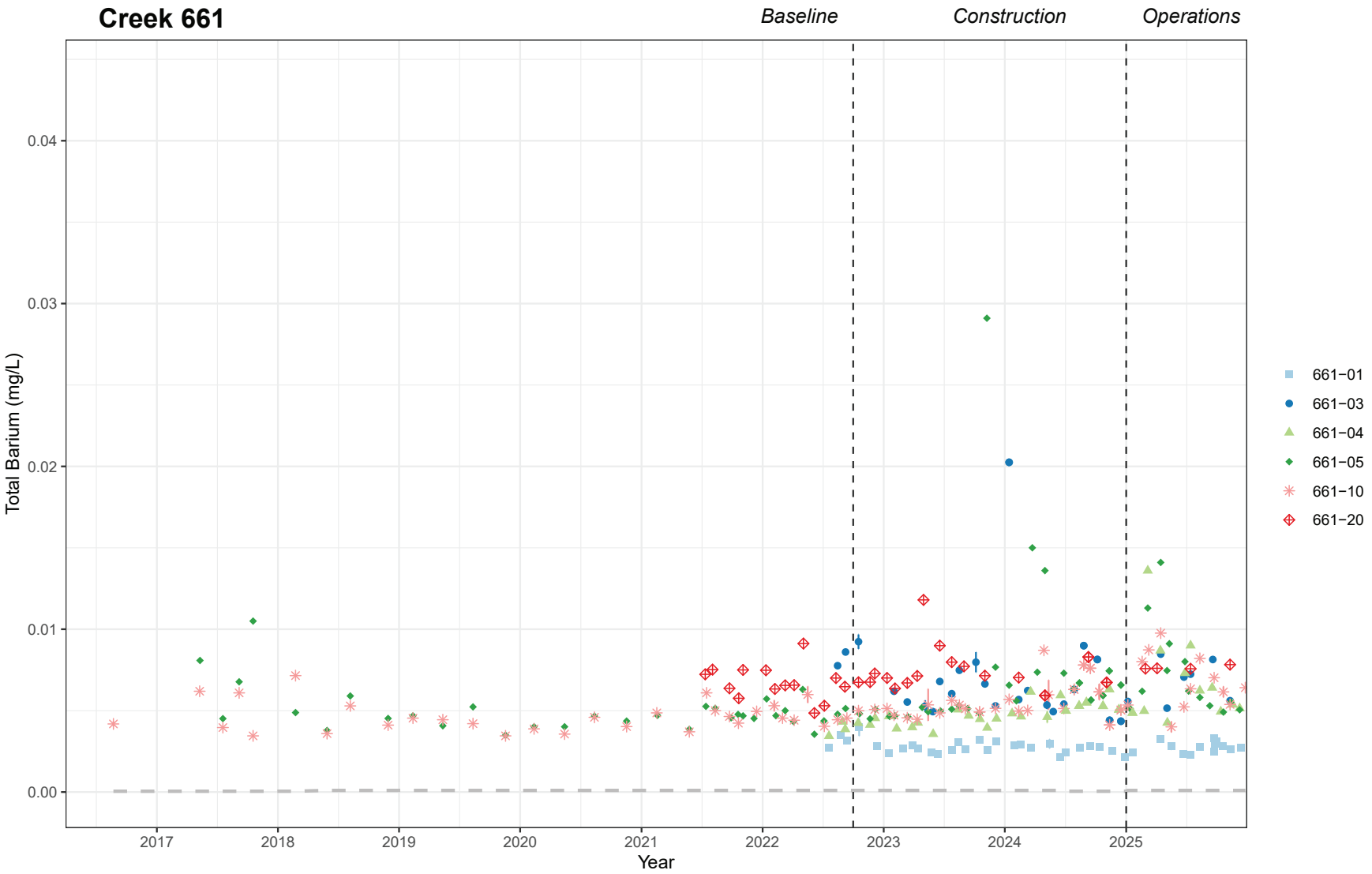


Figure C-25a: Monthly Mean Total Barium Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term interim guideline for total barium = 1 mg/L.

Figure C-25b: Monthly Mean Total Barium Concentrations, Creek 661 Sites, 2016 to 2025

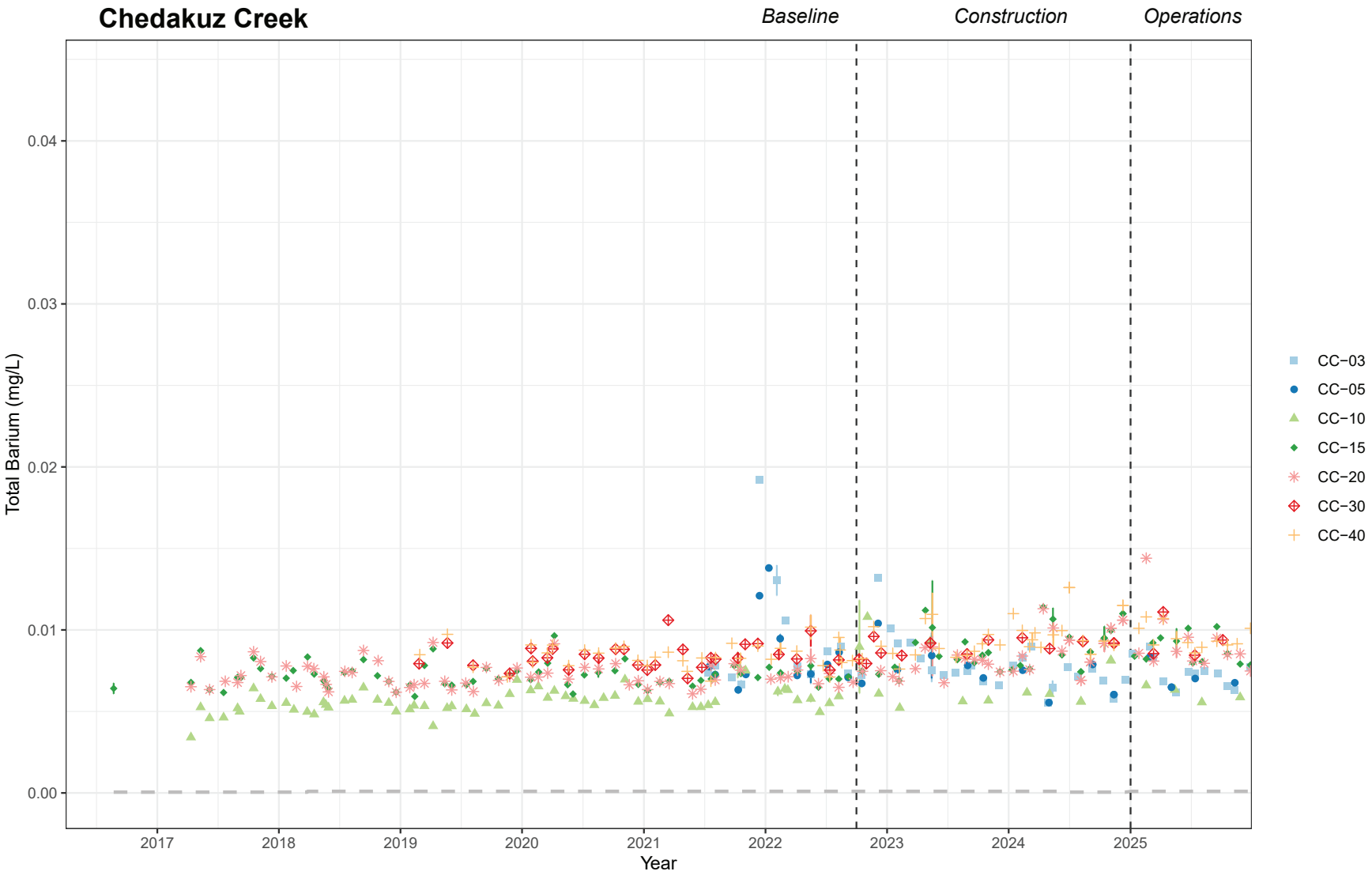


Figure C-25c: Monthly Mean Total Barium Concentrations, Chedakuz Creek Sites, 2016 to 2025

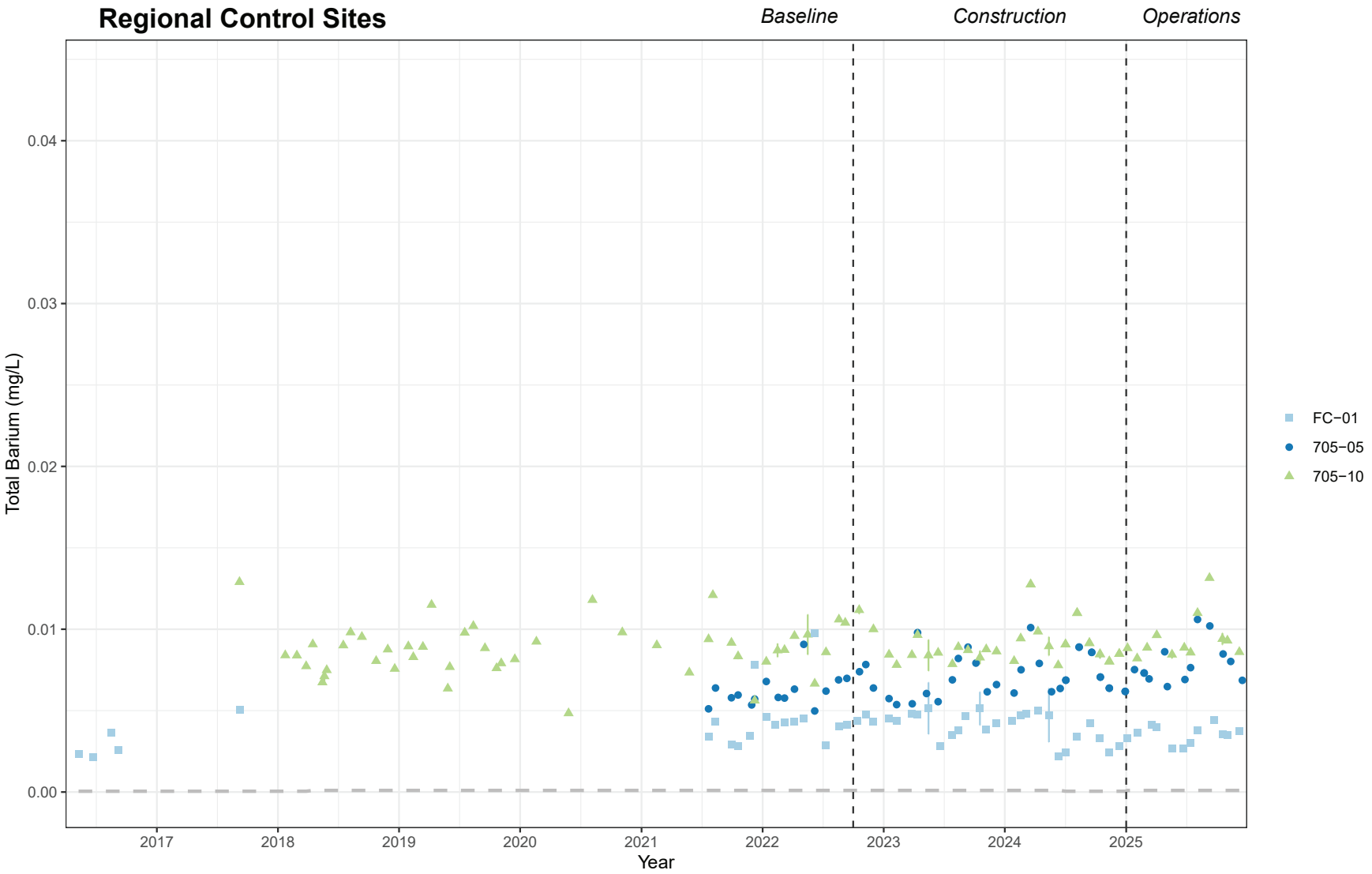
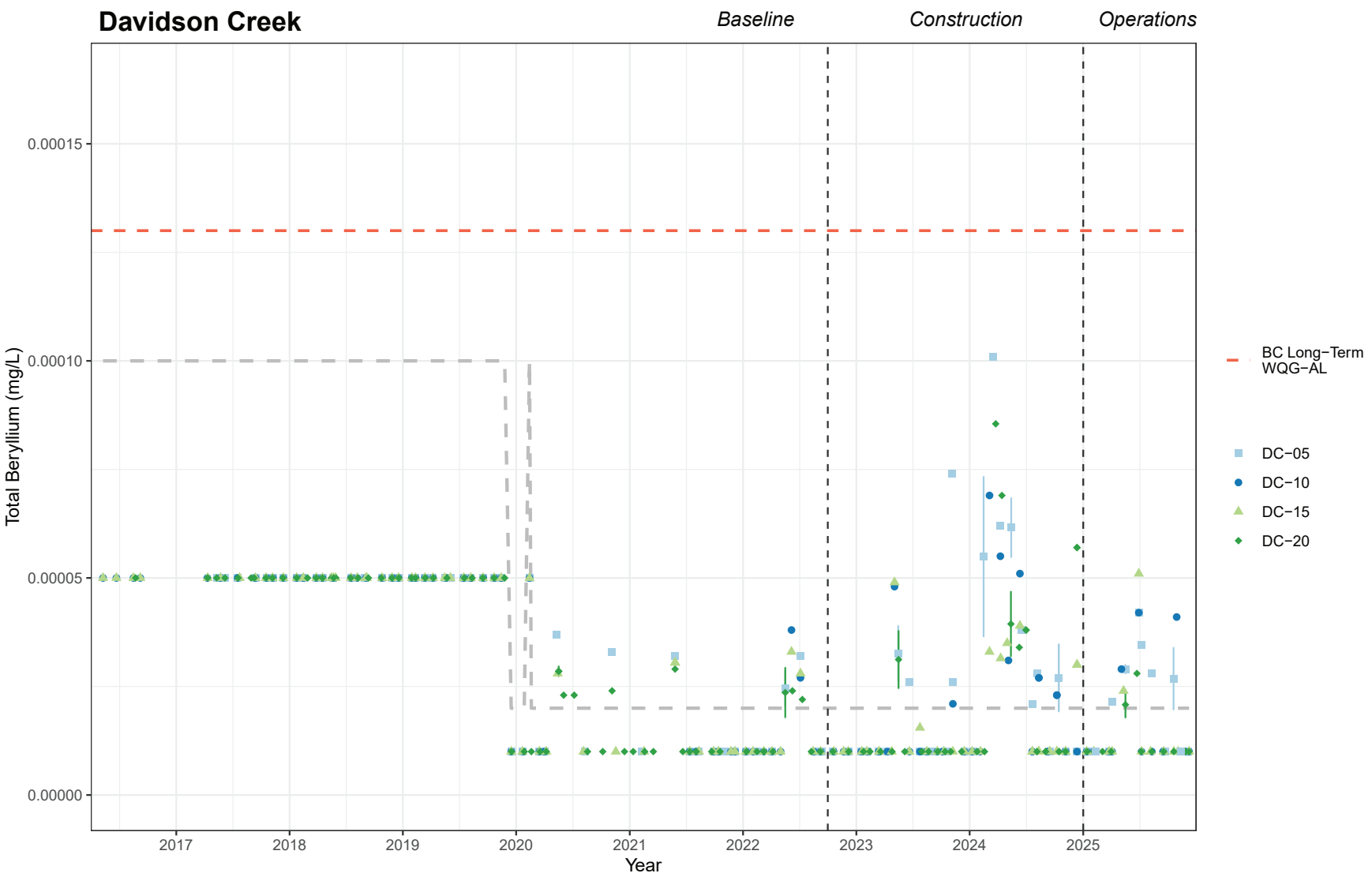
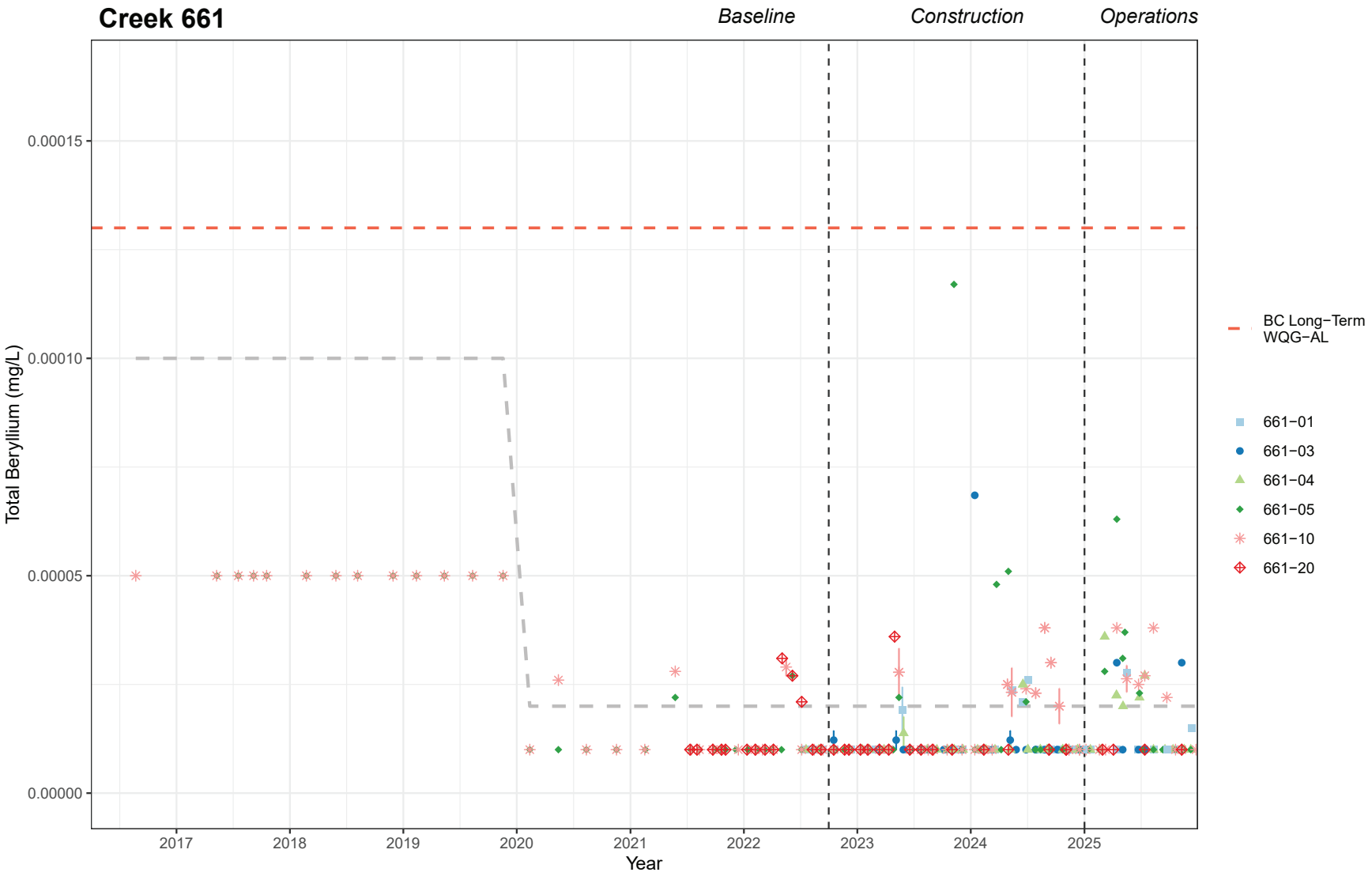


Figure C-25d: Monthly Mean Total Barium Concentrations, Regional Control Sites Sites, 2016 to 2025



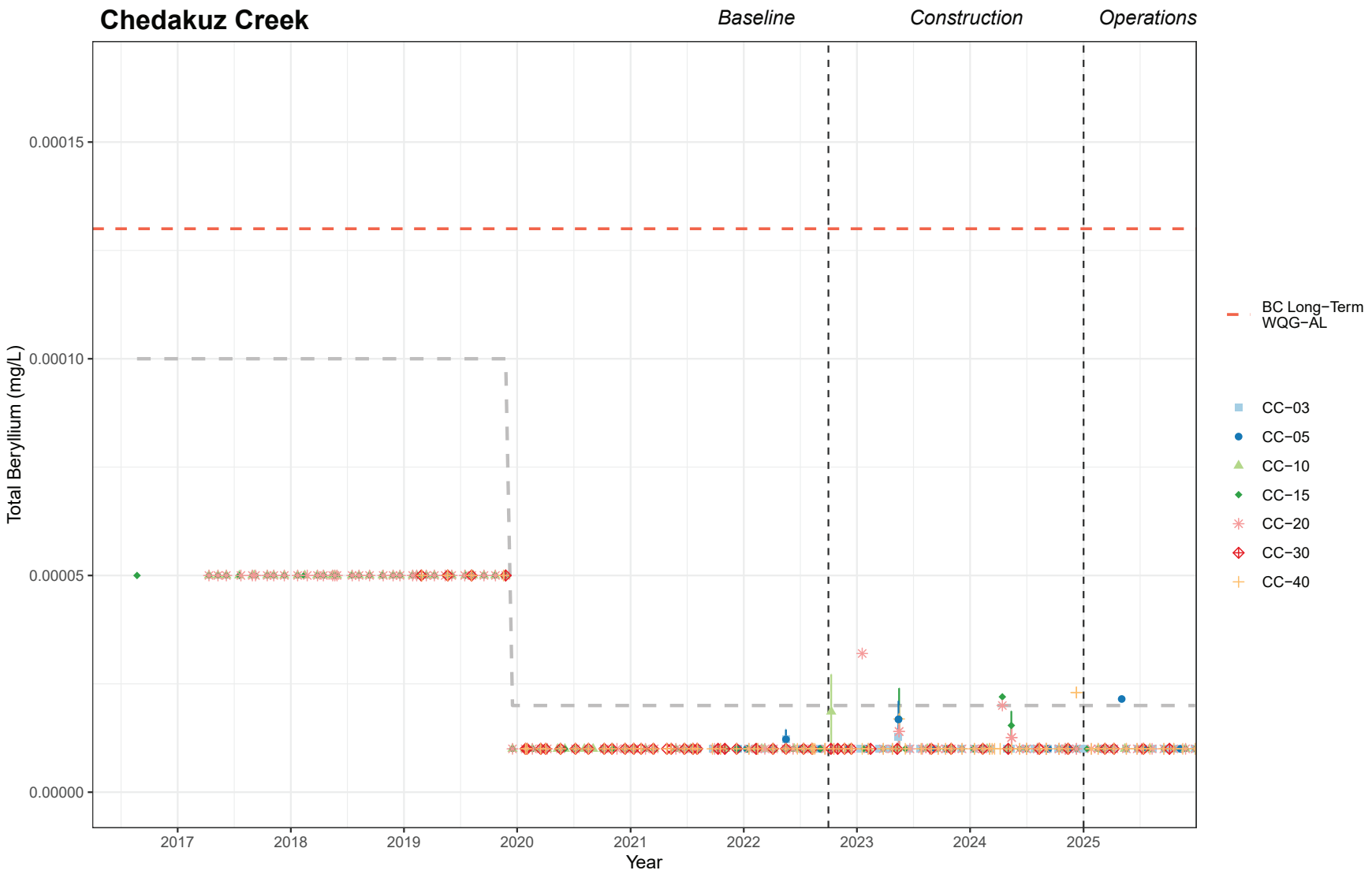
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term interim guideline for total beryllium = 0.00013 mg/L.

Figure C-26a: Monthly Mean Total Beryllium Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term interim guideline for total beryllium = 0.00013 mg/L.

Figure C-26b: Monthly Mean Total Beryllium Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term interim guideline for total beryllium = 0.00013 mg/L.

Figure C-26c: Monthly Mean Total Beryllium Concentrations, Chedakuz Creek Sites, 2016 to 2025

Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term interim guideline for total beryllium = 0.00013 mg/L.

Figure C-26d: Monthly Mean Total Beryllium Concentrations, Regional Control Sites Sites, 2016 to 2025

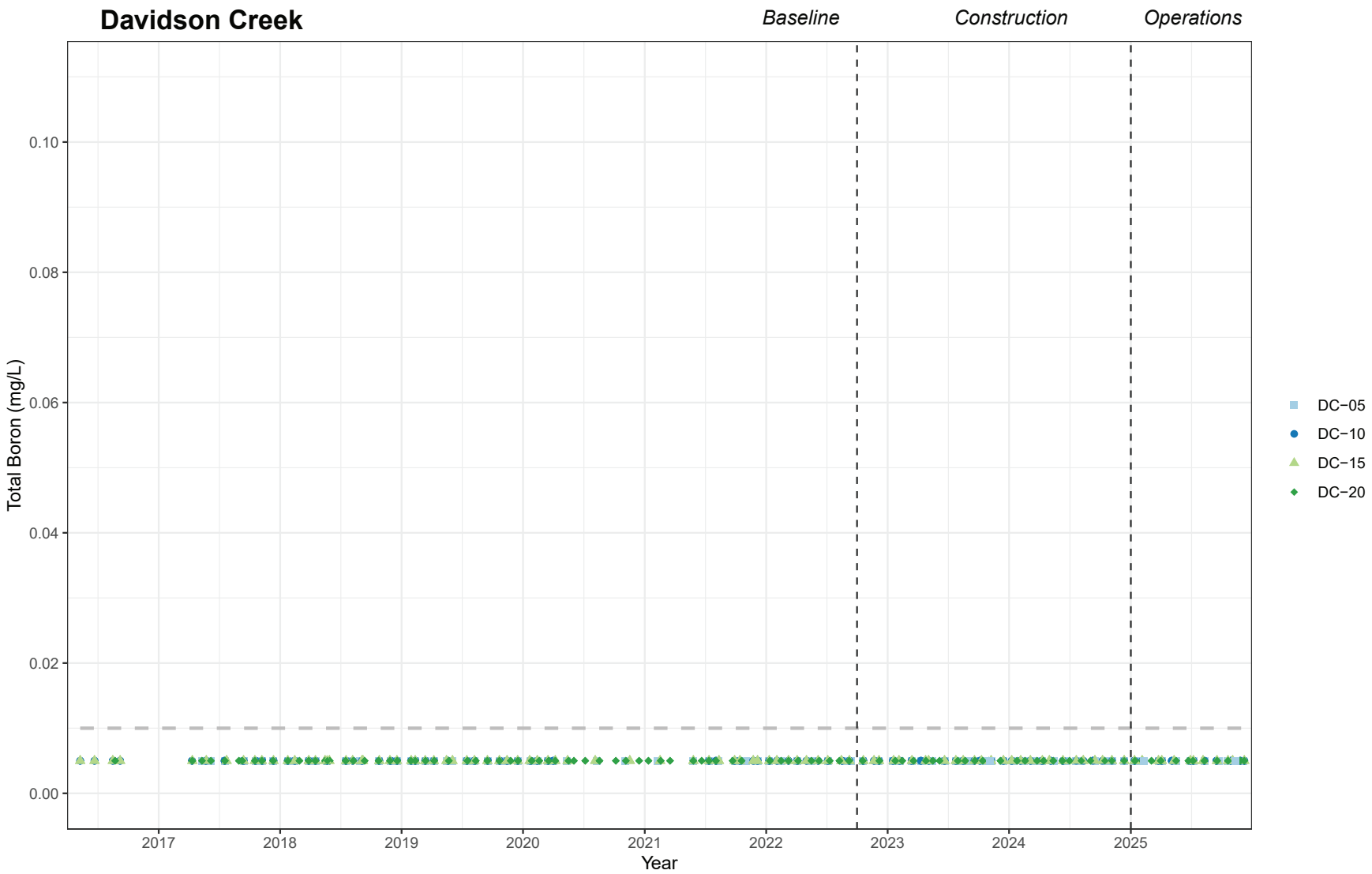
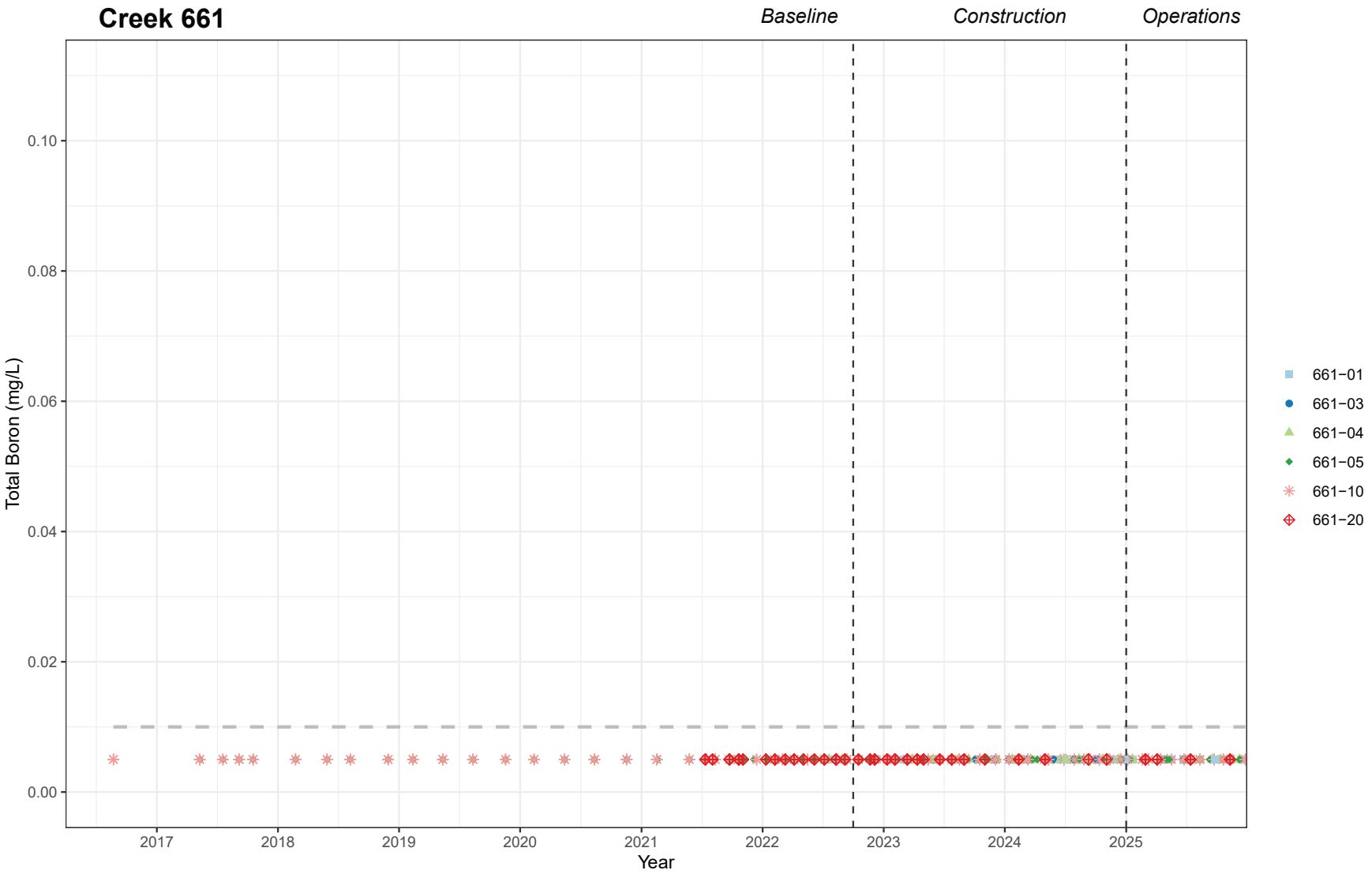


Figure C-27a: Monthly Mean Total Boron Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC 30−day WQG−AL for total boron = 1.2 mg/L.

Figure C-27b: Monthly Mean Total Boron Concentrations, Creek 661 Sites, 2016 to 2025

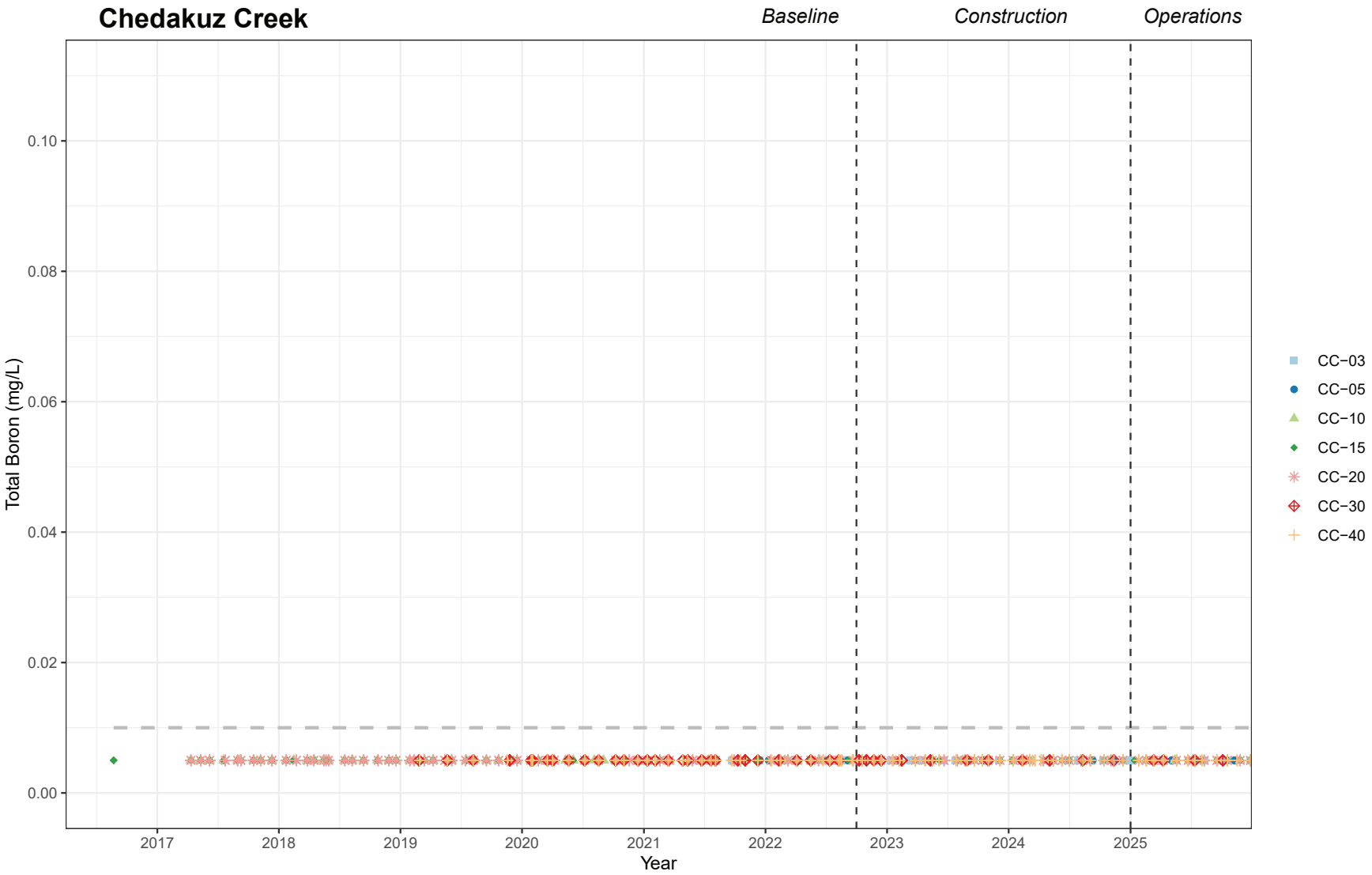


Figure C-27c: Monthly Mean Total Boron Concentrations, Chedakuz Creek Sites, 2016 to 2025

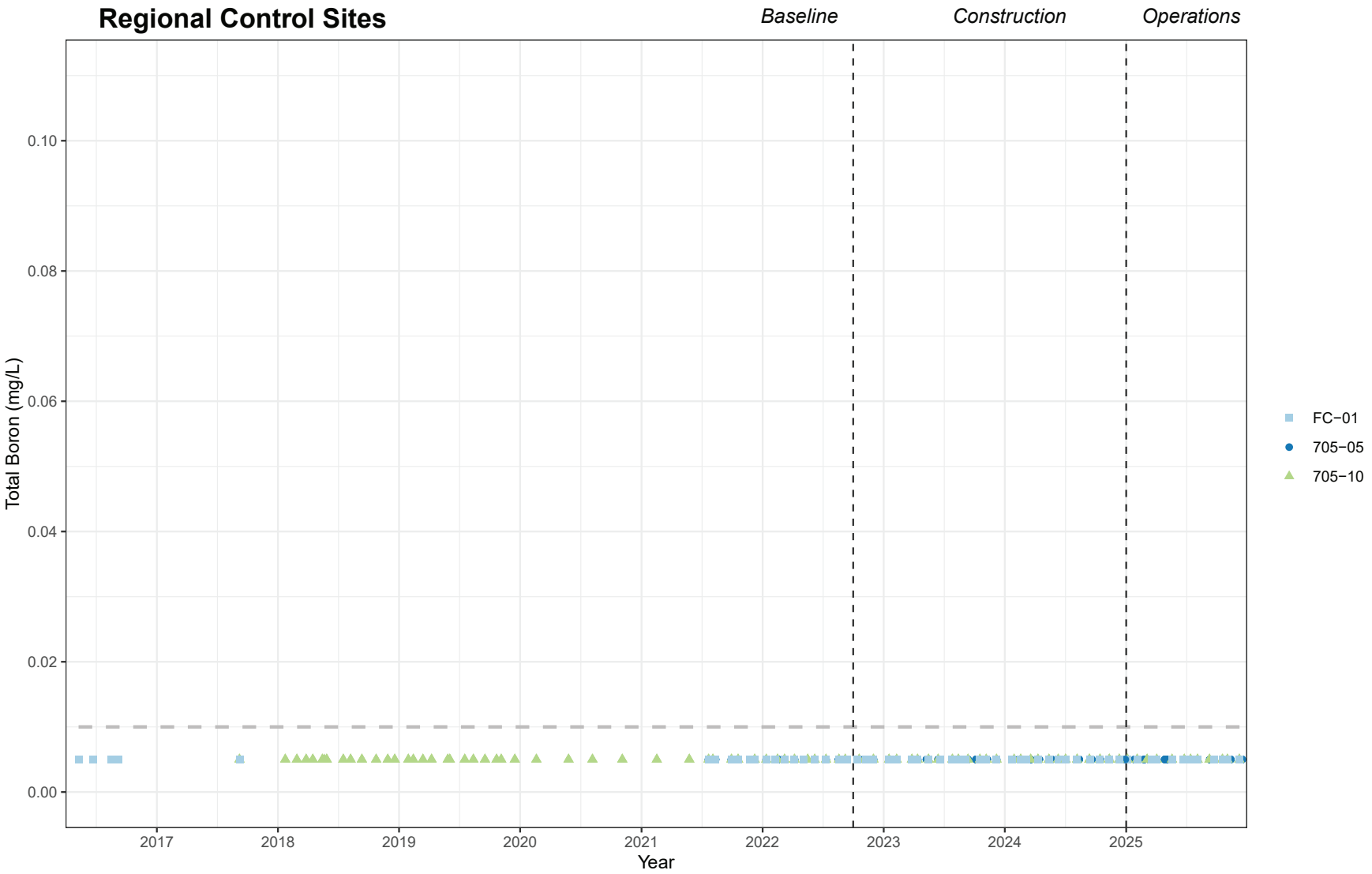


Figure C-27d: Monthly Mean Total Boron Concentrations, Regional Control Sites Sites, 2016 to 2025

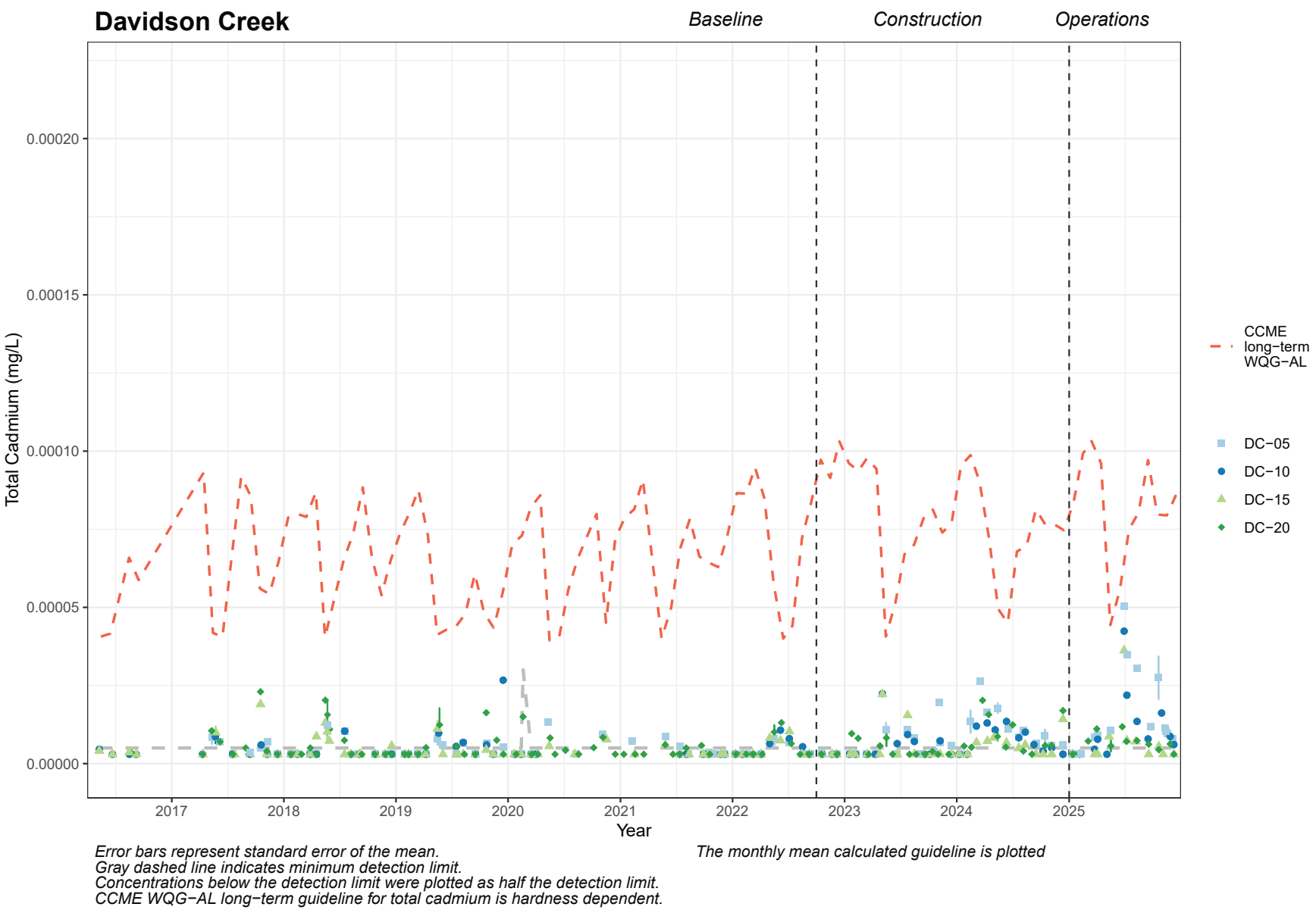
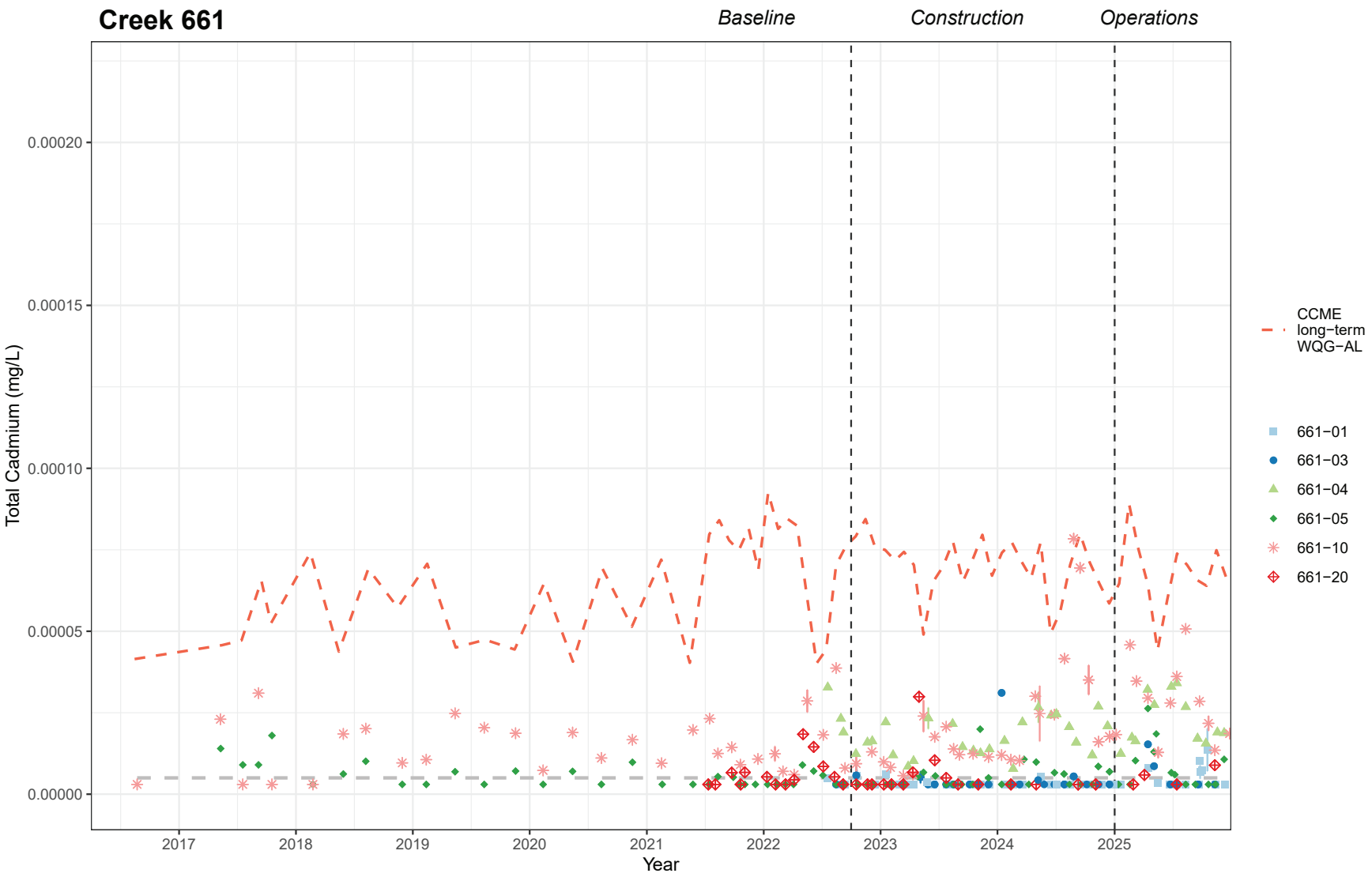


Figure C-28a: Monthly Mean Total Cadmium Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
CCME WQG−AL long−term guideline for total cadmium is hardness dependent.

The monthly mean calculated guideline is plotted

Figure C-28b: Monthly Mean Total Cadmium Concentrations, Creek 661 Sites, 2016 to 2025

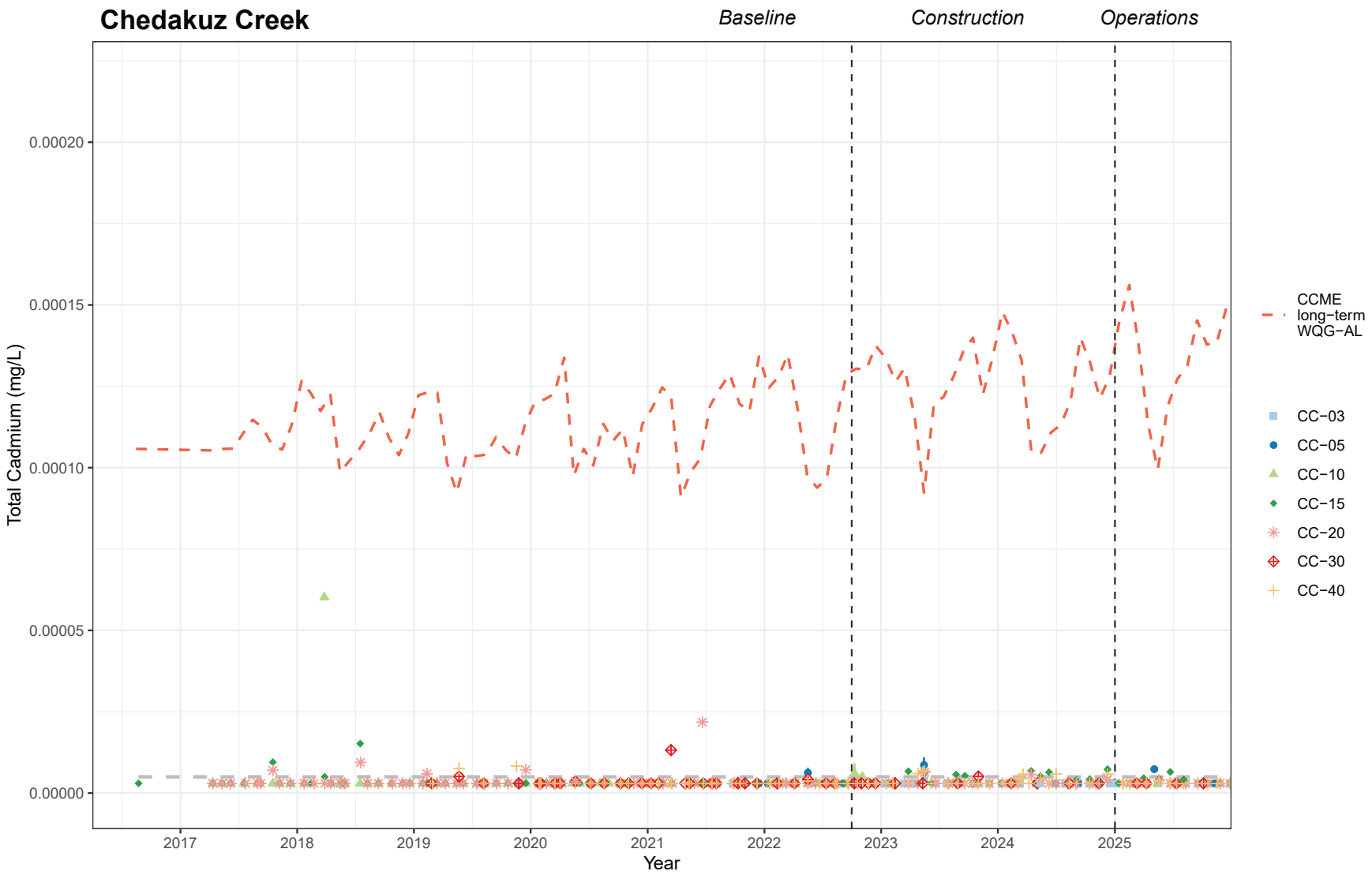


Figure C-28c: Monthly Mean Total Cadmium Concentrations, Chedakuz Creek Sites, 2016 to 2025

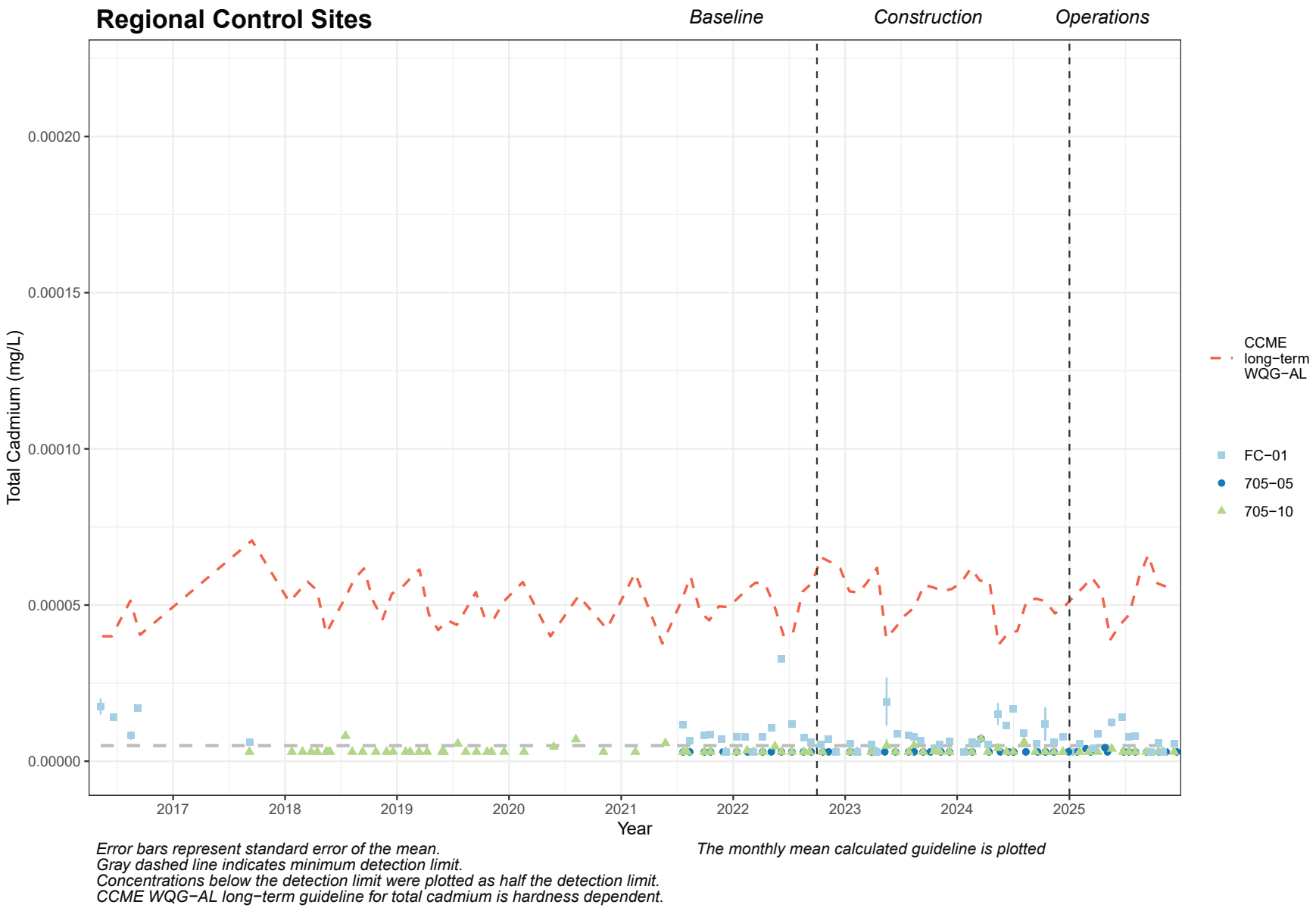
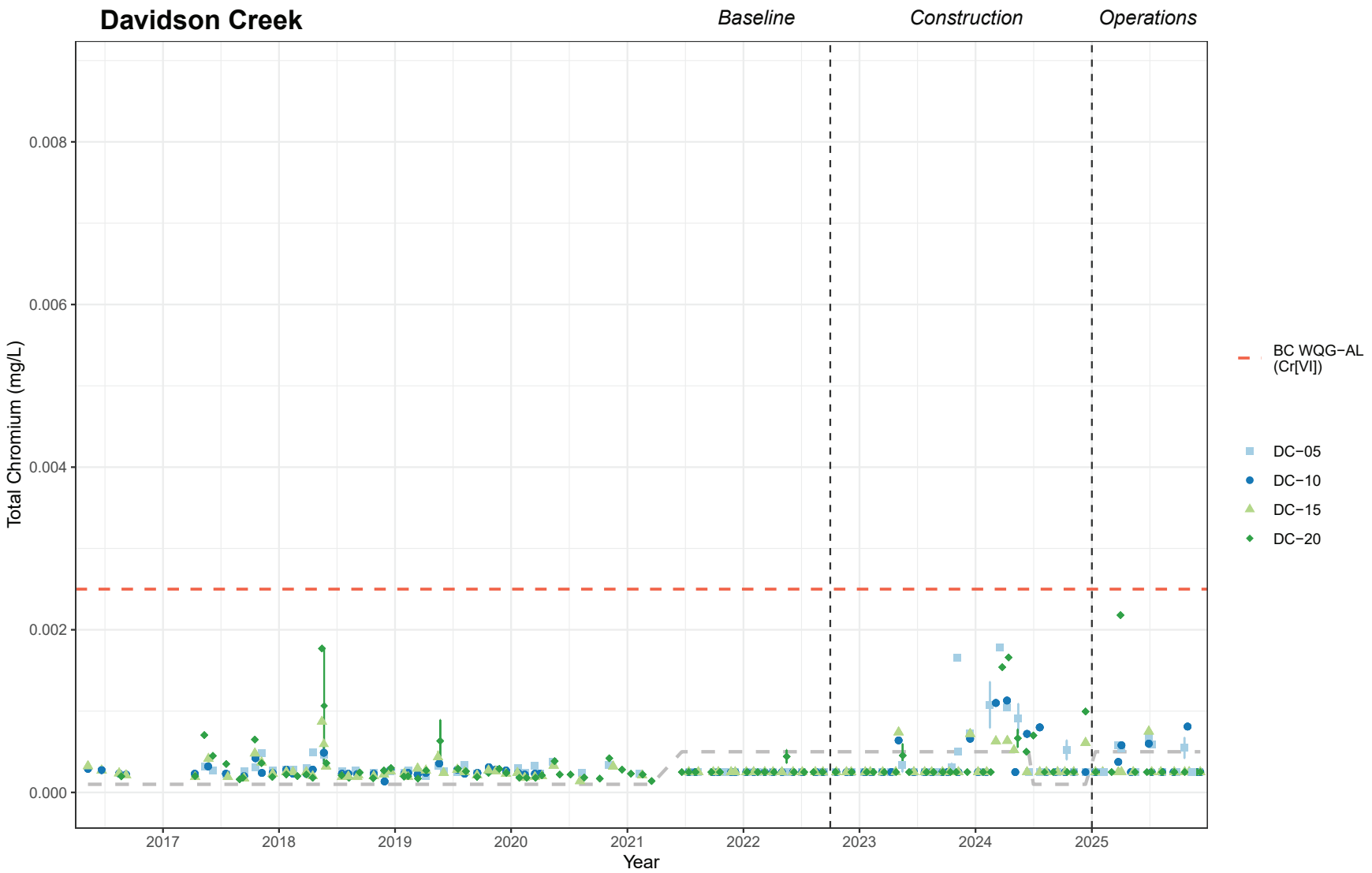
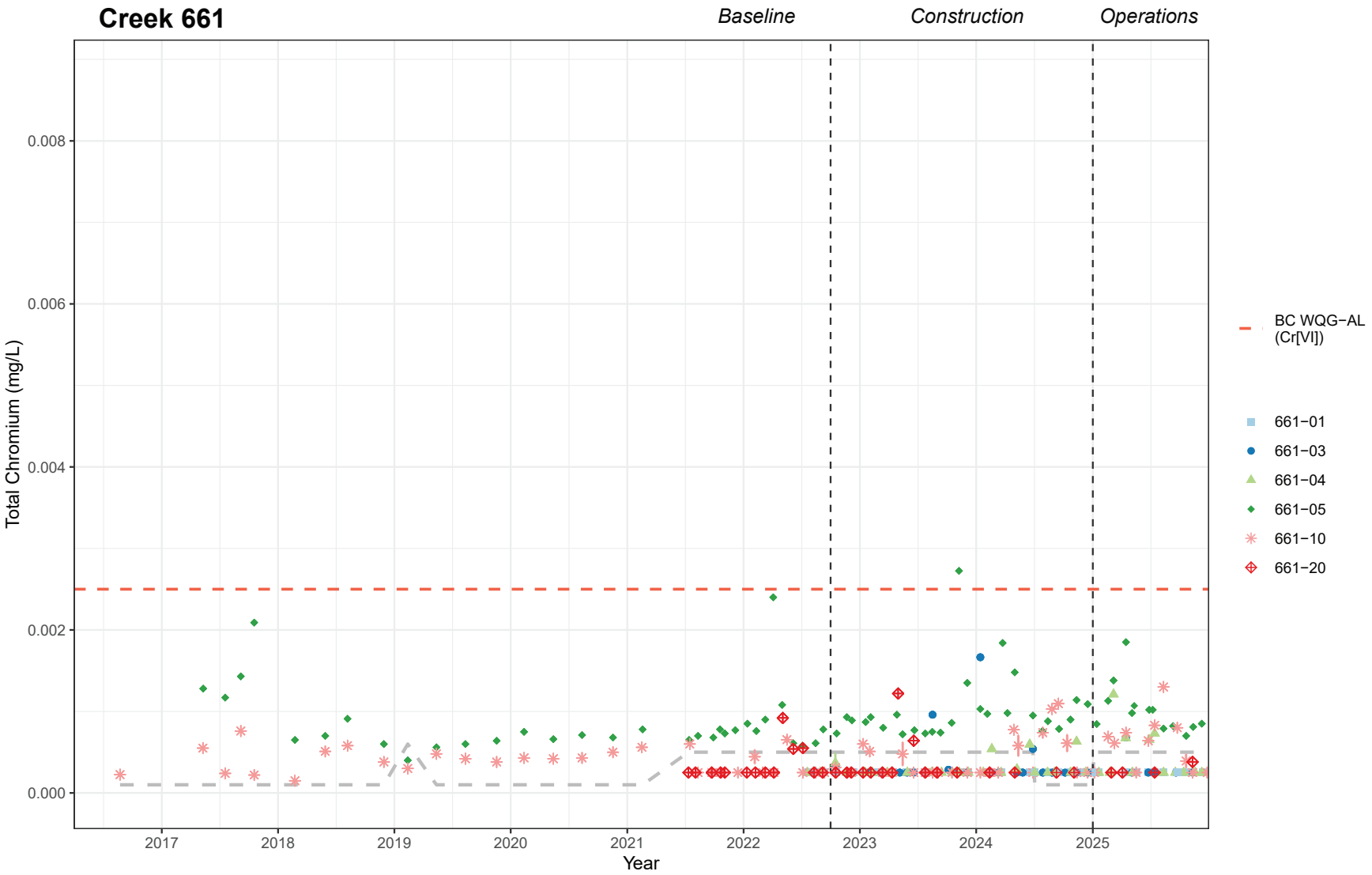


Figure C-28d: Monthly Mean Total Cadmium Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
There is no BC WQG−AL for total chromium, the BC WQL−AL for hexavalent chromium (Cr[VI] 0.0025mg/L) is plotted for comparison.

Figure C-29a: Monthly Mean Total Chromium Concentrations, Davidson Creek Sites, 2016 to 2025

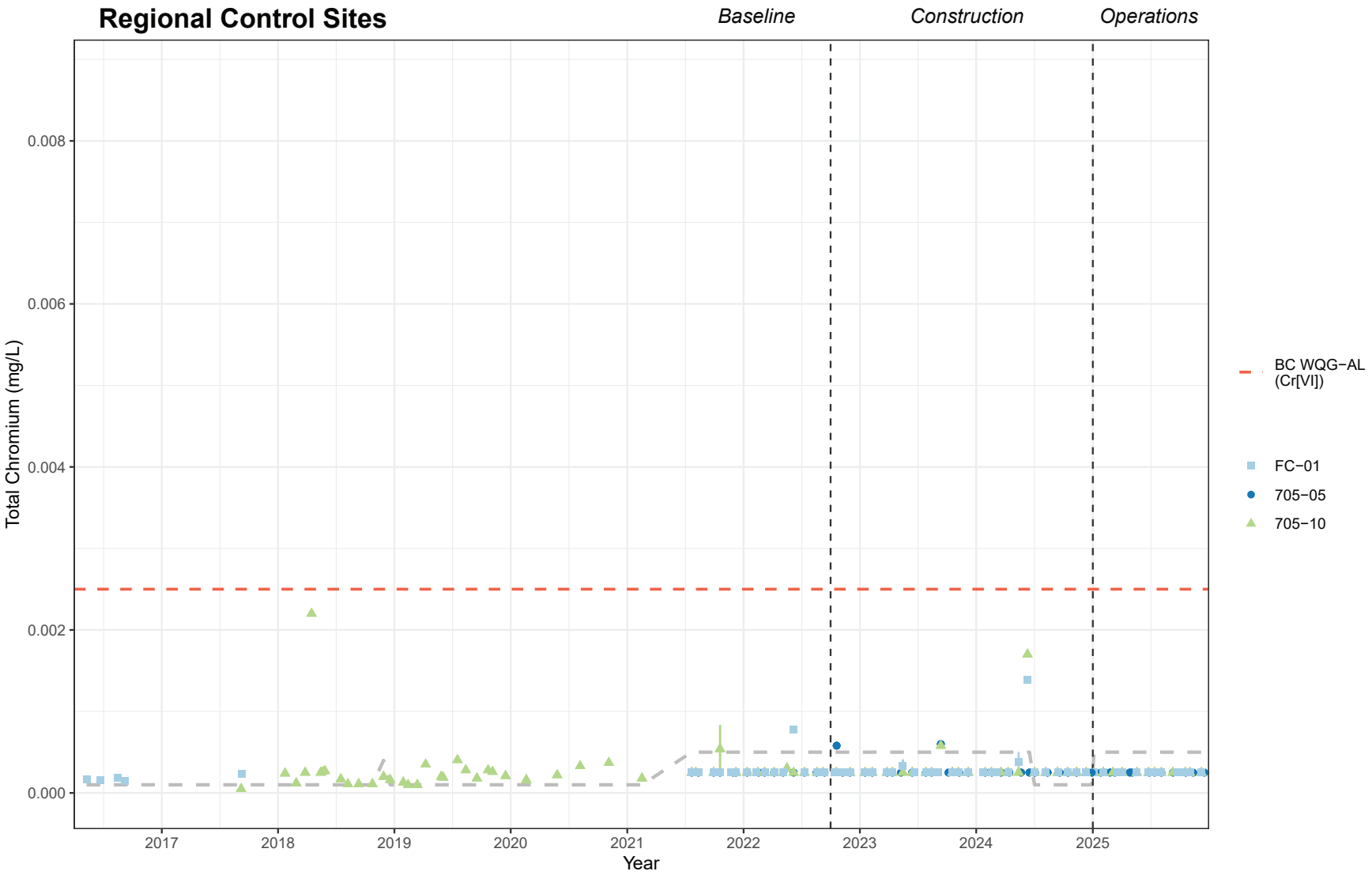


Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
There is no BC WQG−AL for total chromium, the BC WQL−AL for hexavalent chromium (Cr[VI] 0.0025mg/L) is plotted for comparison.

Figure C-29b: Monthly Mean Total Chromium Concentrations, Creek 661 Sites, 2016 to 2025

Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
There is no BC WQG−AL for total chromium, the BC WQL−AL for hexavalent chromium (Cr[VI] 0.0025mg/L) is plotted for comparison.

Figure C-29c: Monthly Mean Total Chromium Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
There is no BC WQG−AL for total chromium, the BC WQL−AL for hexavalent chromium (Cr[VI] 0.0025mg/L) is plotted for comparison.

Figure C-29d: Monthly Mean Total Chromium Concentrations, Regional Control Sites Sites, 2016 to 2025

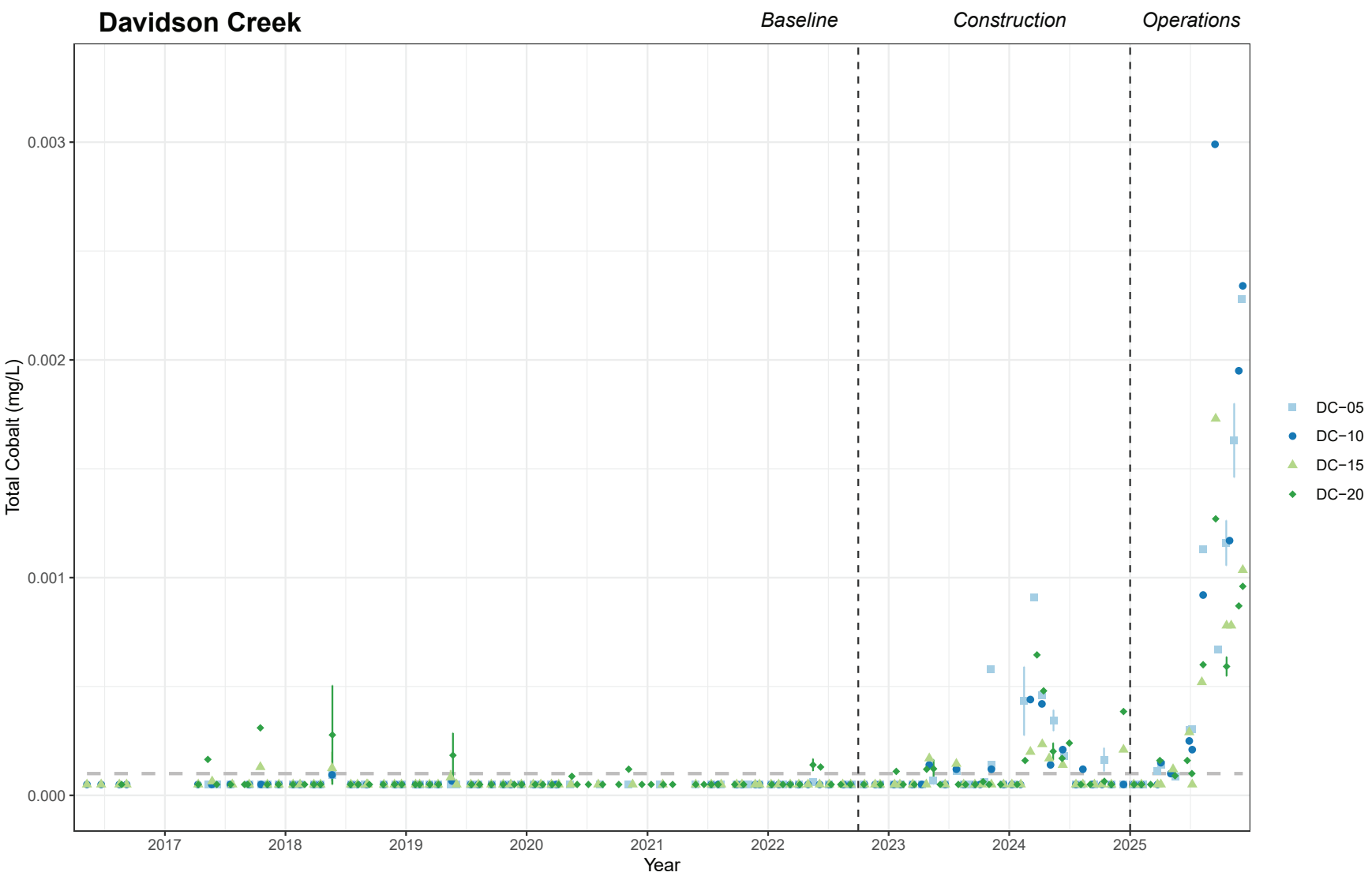


Figure C-30a: Monthly Mean Total Cobalt Concentrations, Davidson Creek Sites, 2016 to 2025

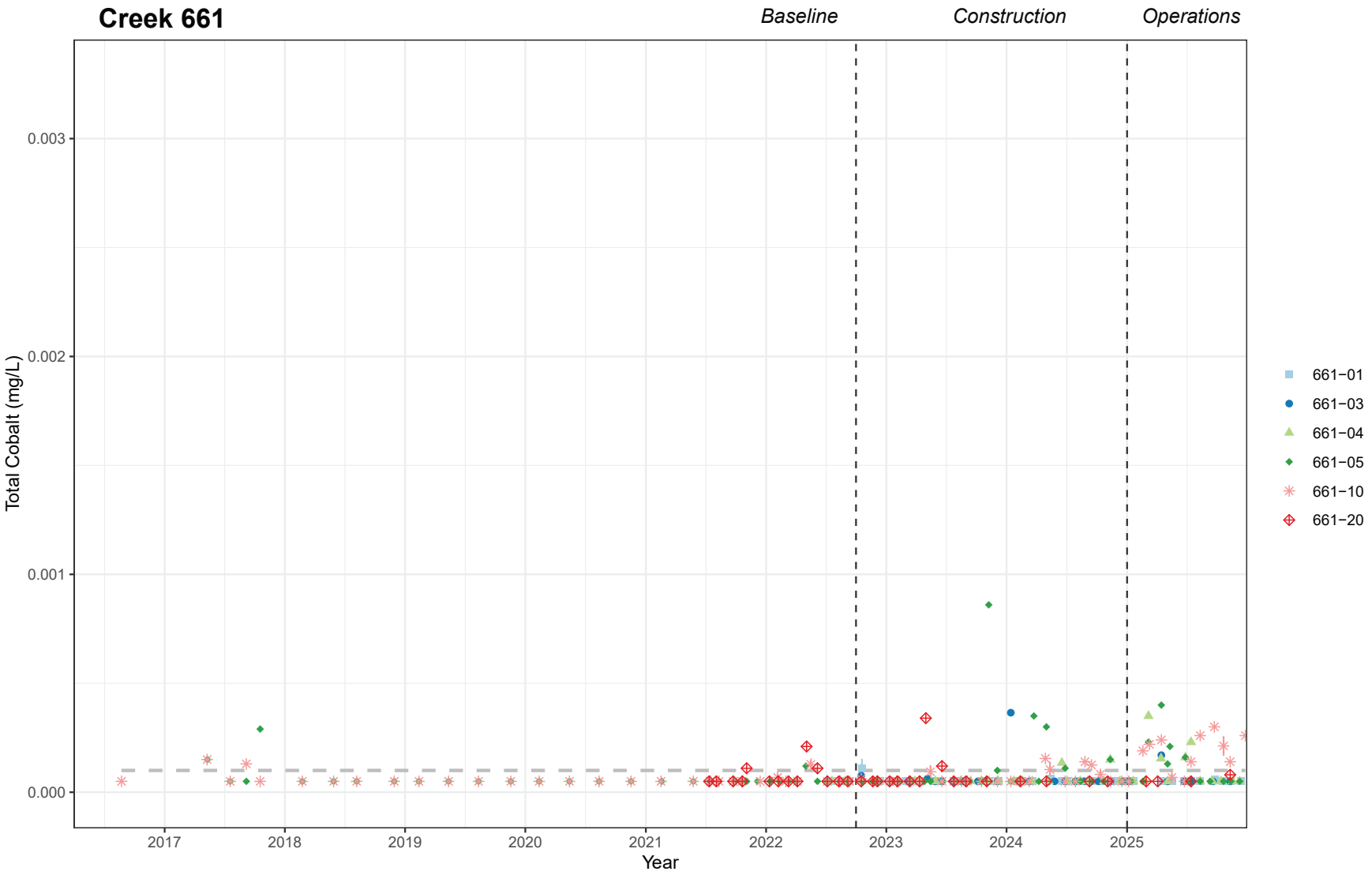
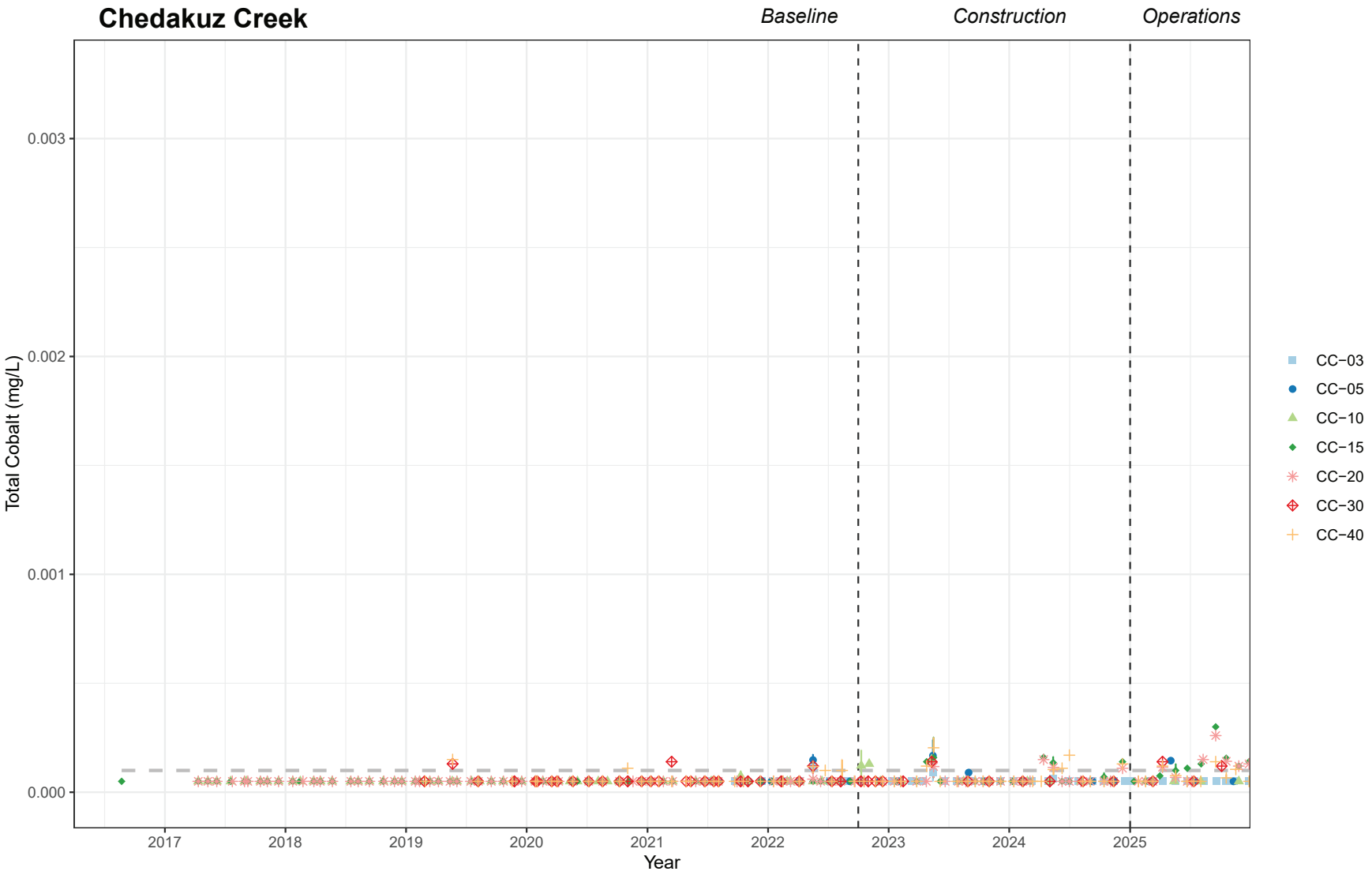


Figure C-30b: Monthly Mean Total Cobalt Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-30c: Monthly Mean Total Cobalt Concentrations, Chedakuz Creek Sites, 2016 to 2025

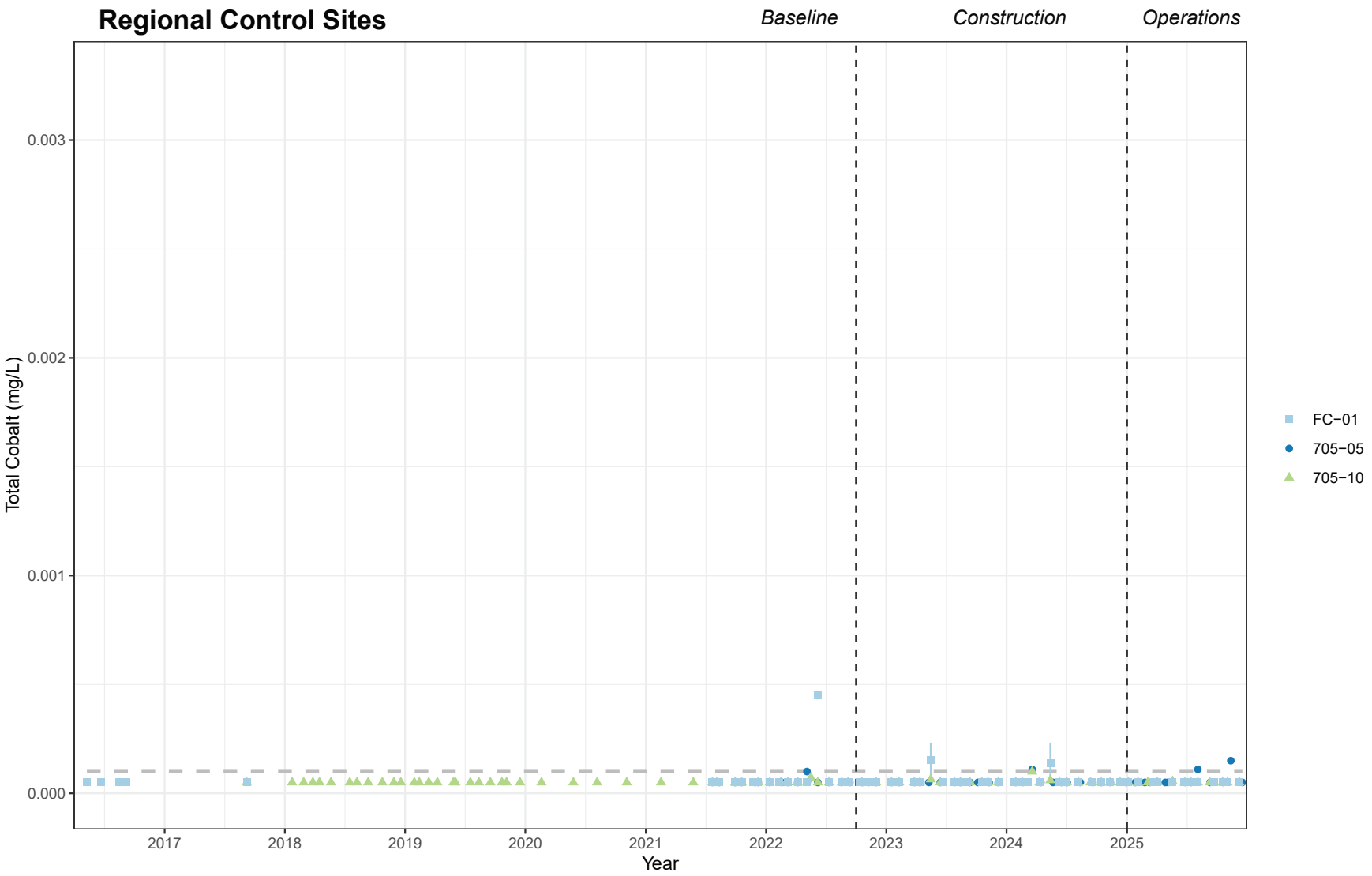
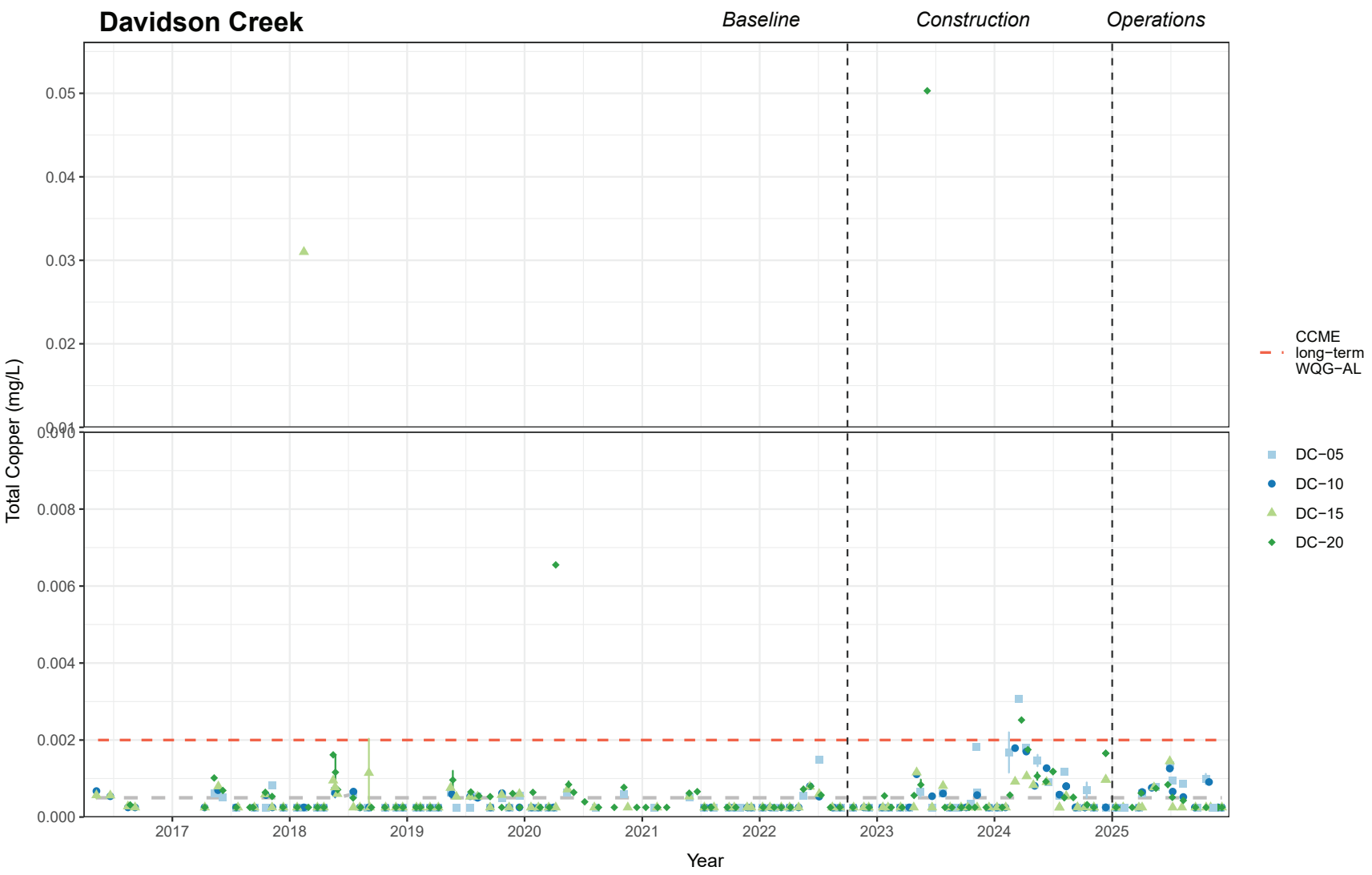
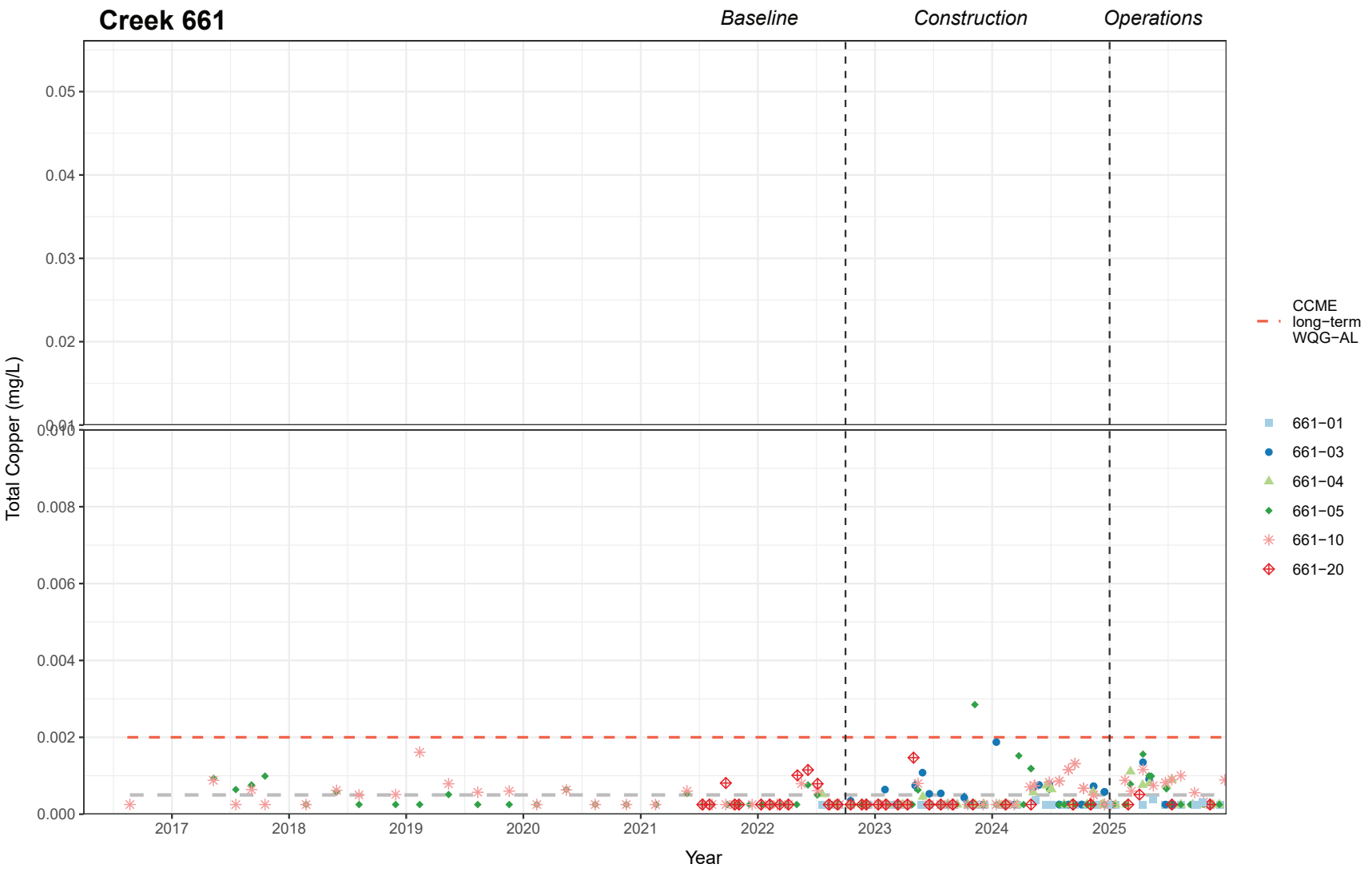


Figure C-30d: Monthly Mean Total Cobalt Concentrations, Regional Control Sites Sites, 2016 to 2025



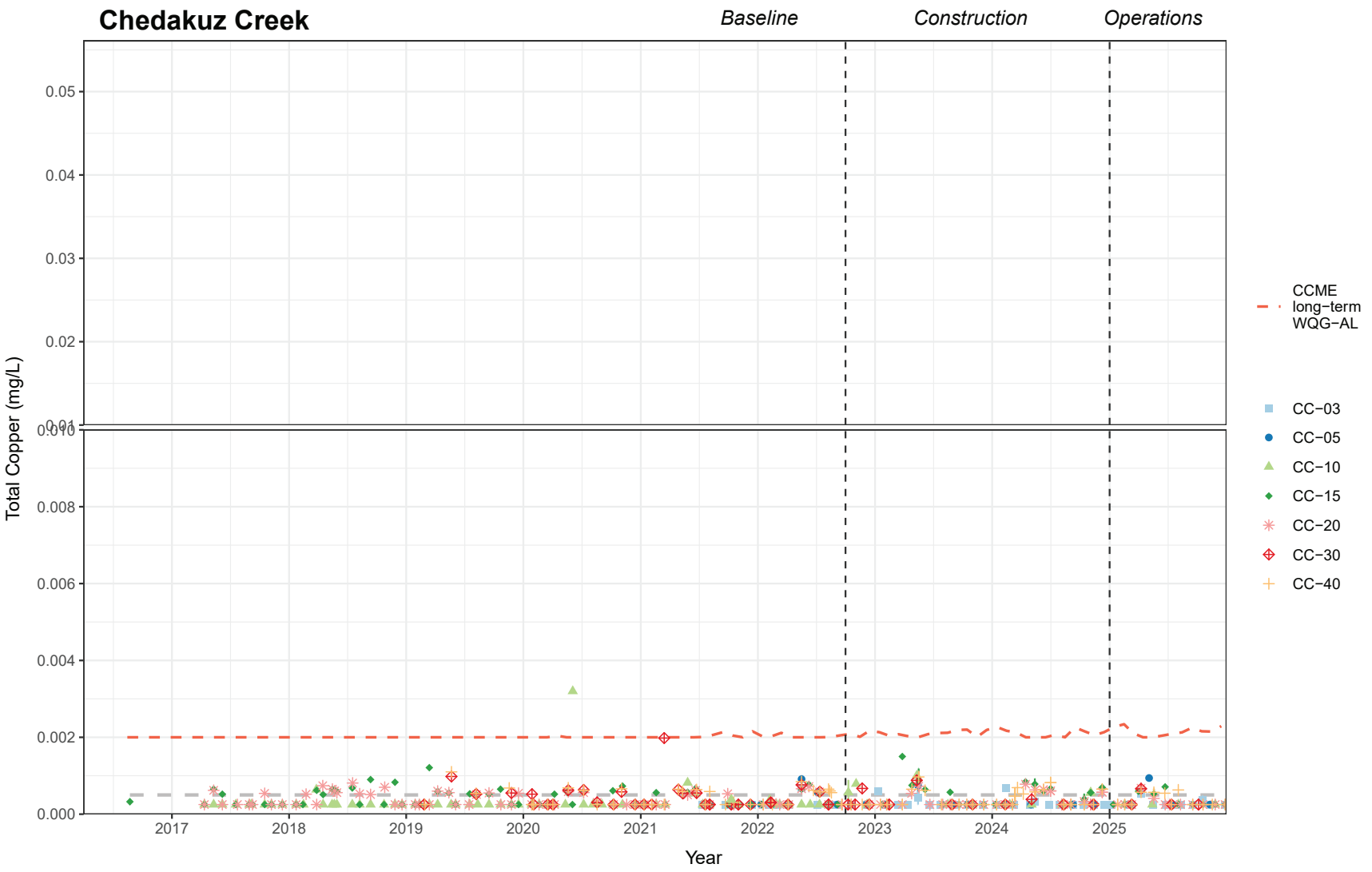
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
CCME WQG−AL long−term guideline for total copper is hardness dependent.

Figure C-31a: Monthly Mean Total Copper Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
CCME WQG−AL long−term guideline for total copper is hardness dependent.

Figure C-31b: Monthly Mean Total Copper Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
CCME WQG−AL long−term guideline for total copper is hardness dependent.

Figure C-31c: Monthly Mean Total Copper Concentrations, Chedakuz Creek Sites, 2016 to 2025

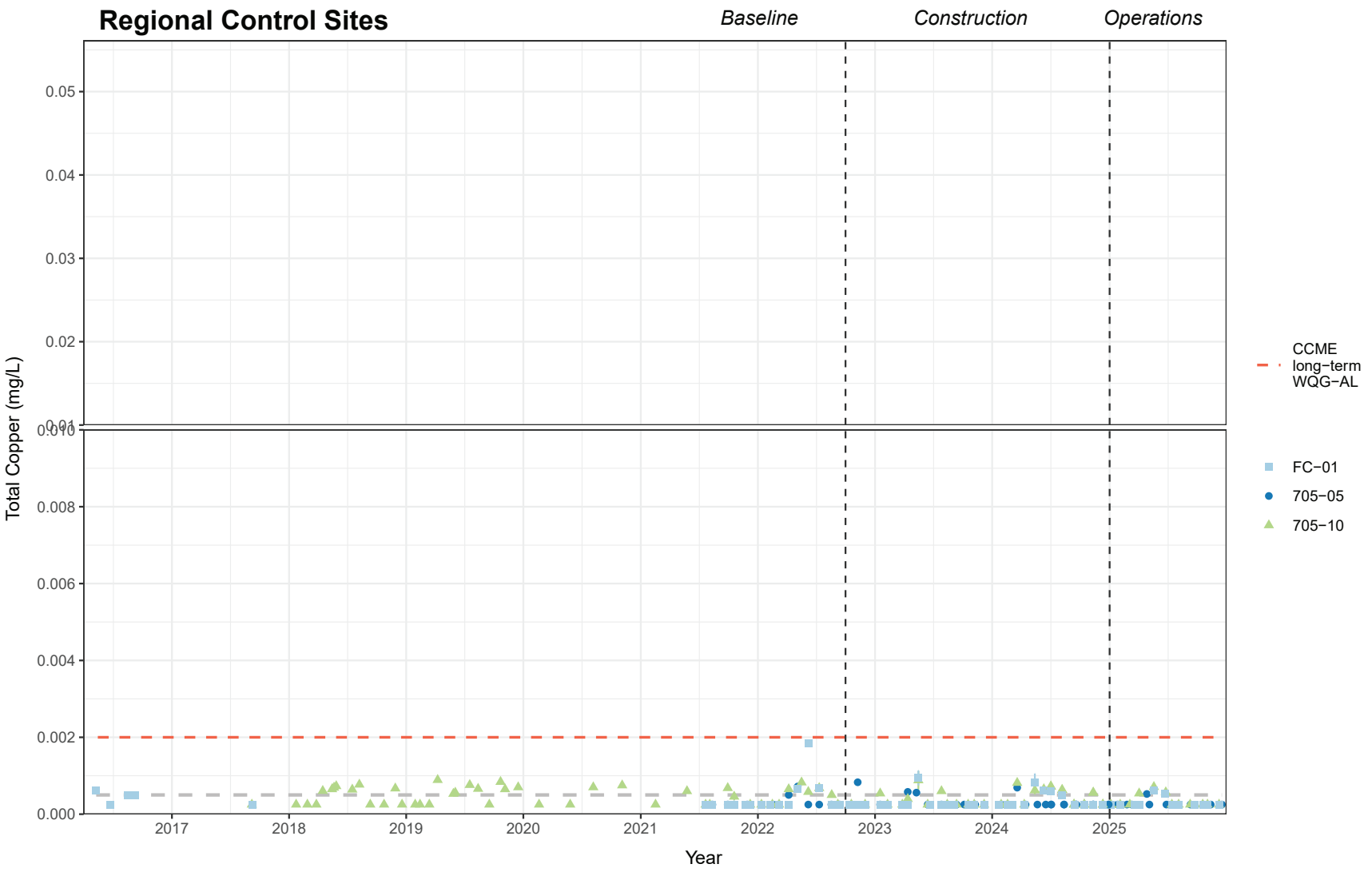


Figure C-31d: Monthly Mean Total Copper Concentrations, Regional Control Sites Sites, 2016 to 2025

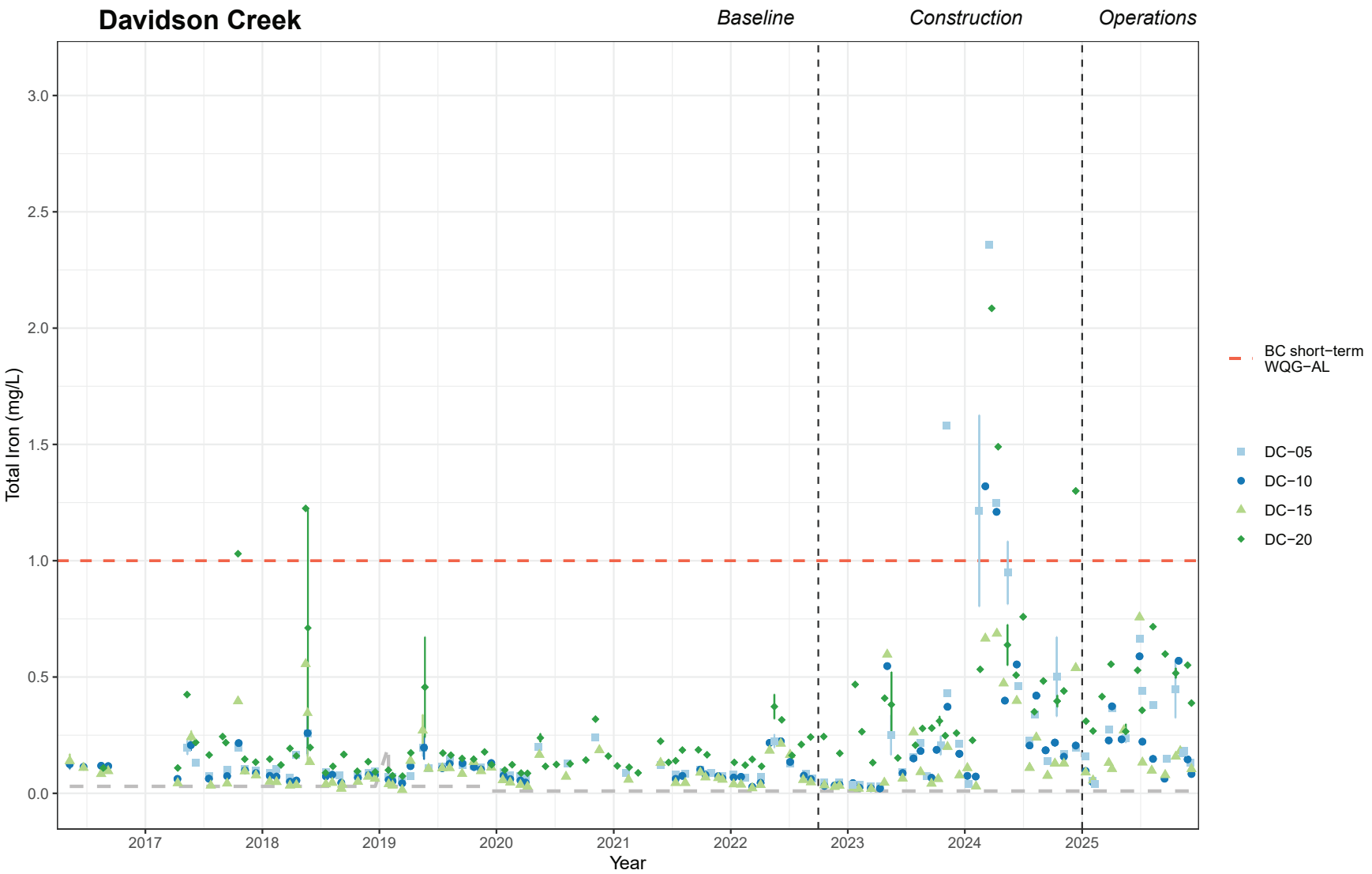
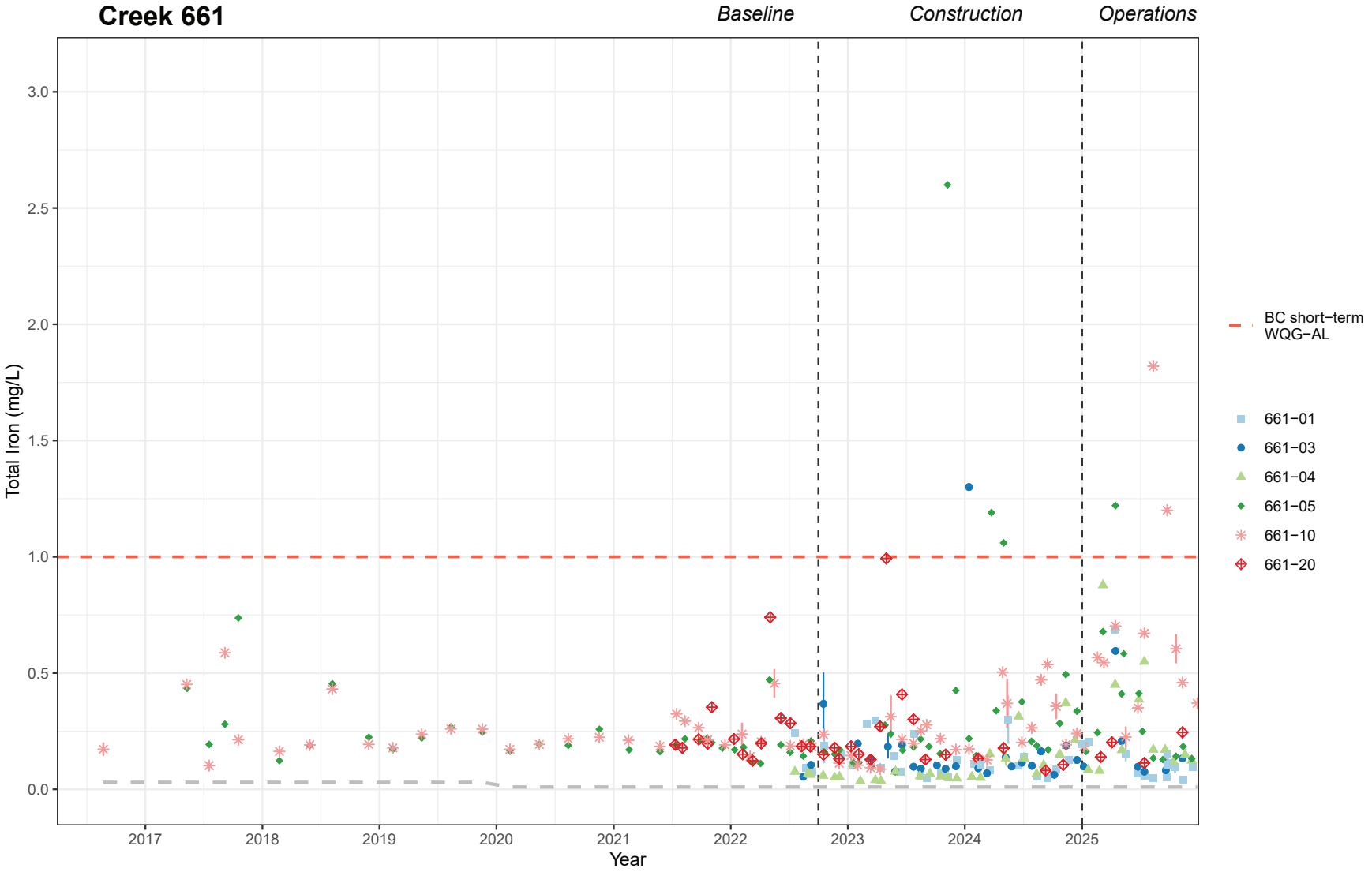


Figure C-32a: Monthly Mean Total Iron Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

BC WQG−AL short−term maximum guideline for total iron = 1.0 mg/L.

Figure C-32b: Monthly Mean Total Iron Concentrations, Creek 661 Sites, 2016 to 2025

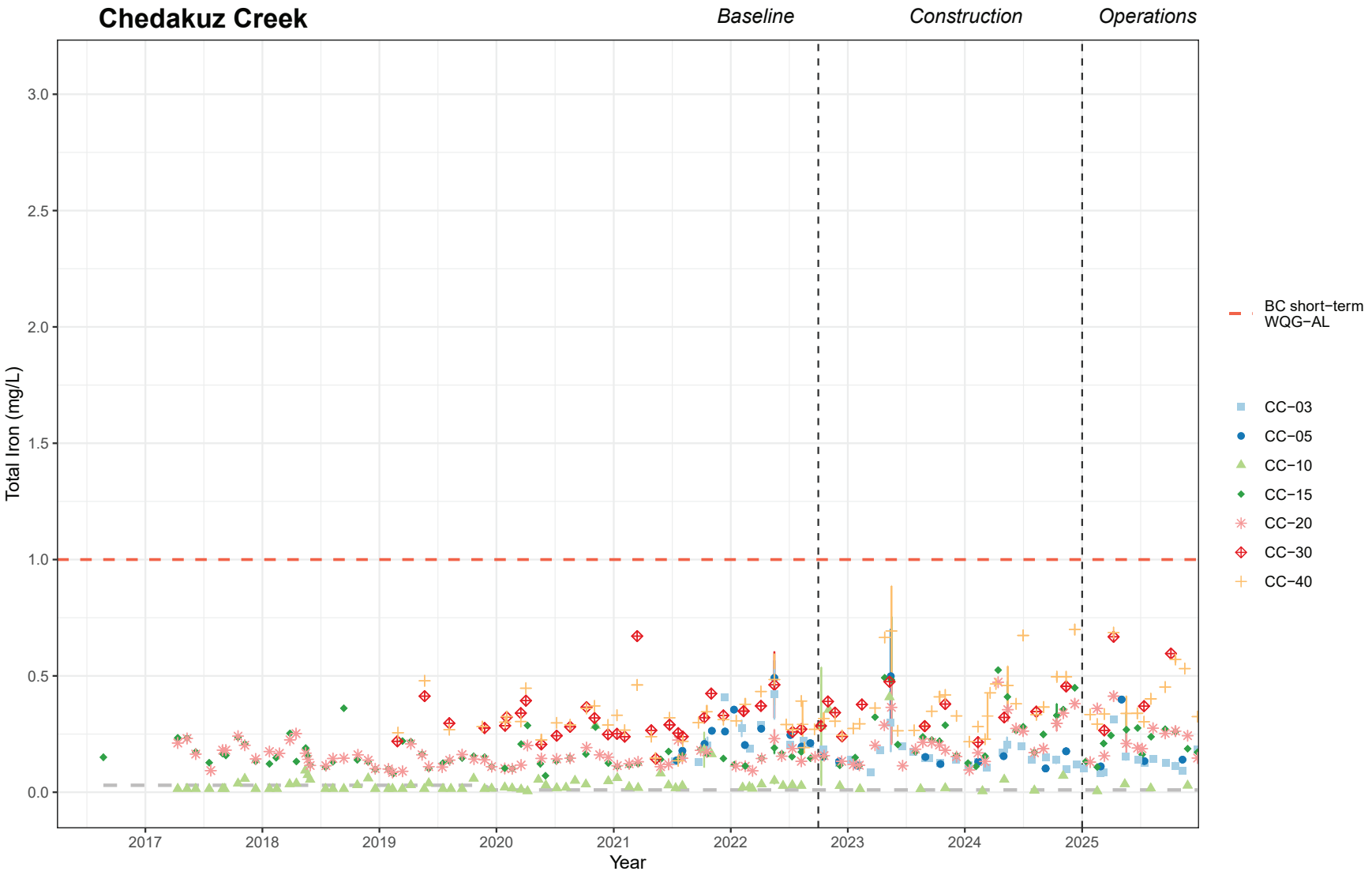


Figure C-32c: Monthly Mean Total Iron Concentrations, Chedakuz Creek Sites, 2016 to 2025

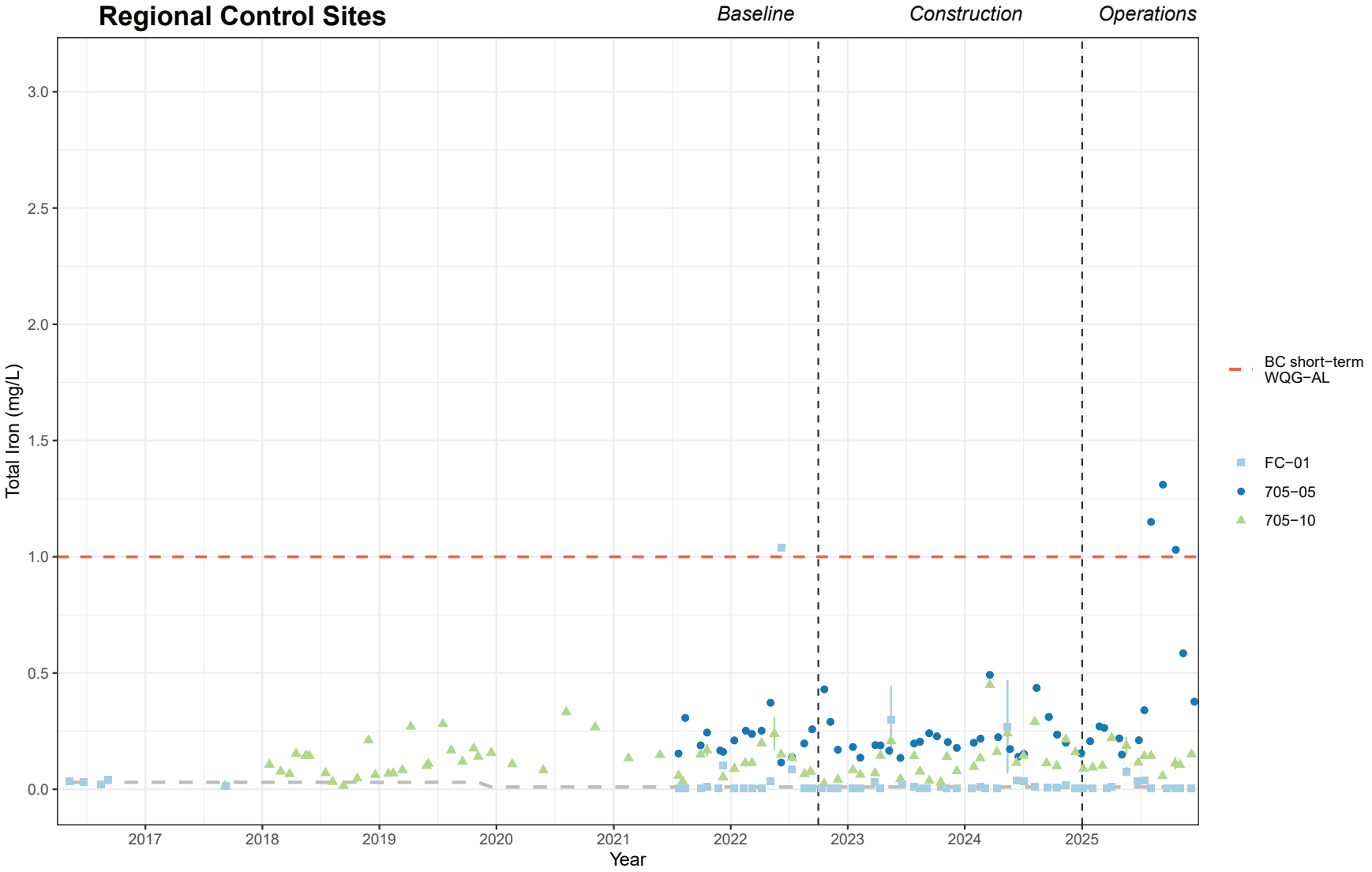


Figure C-32d: Monthly Mean Total Iron Concentrations, Regional Control Sites Sites, 2016 to 2025

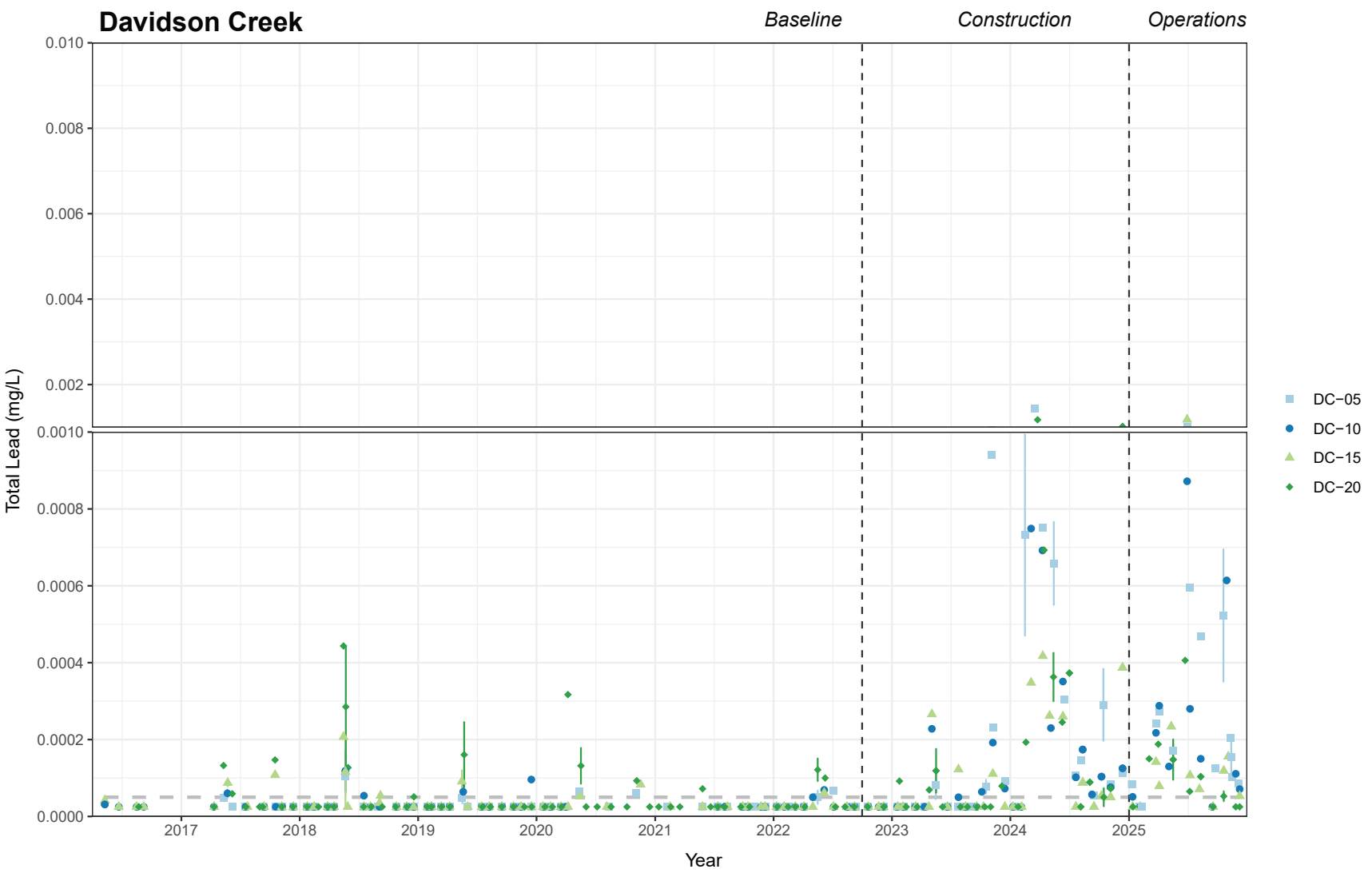
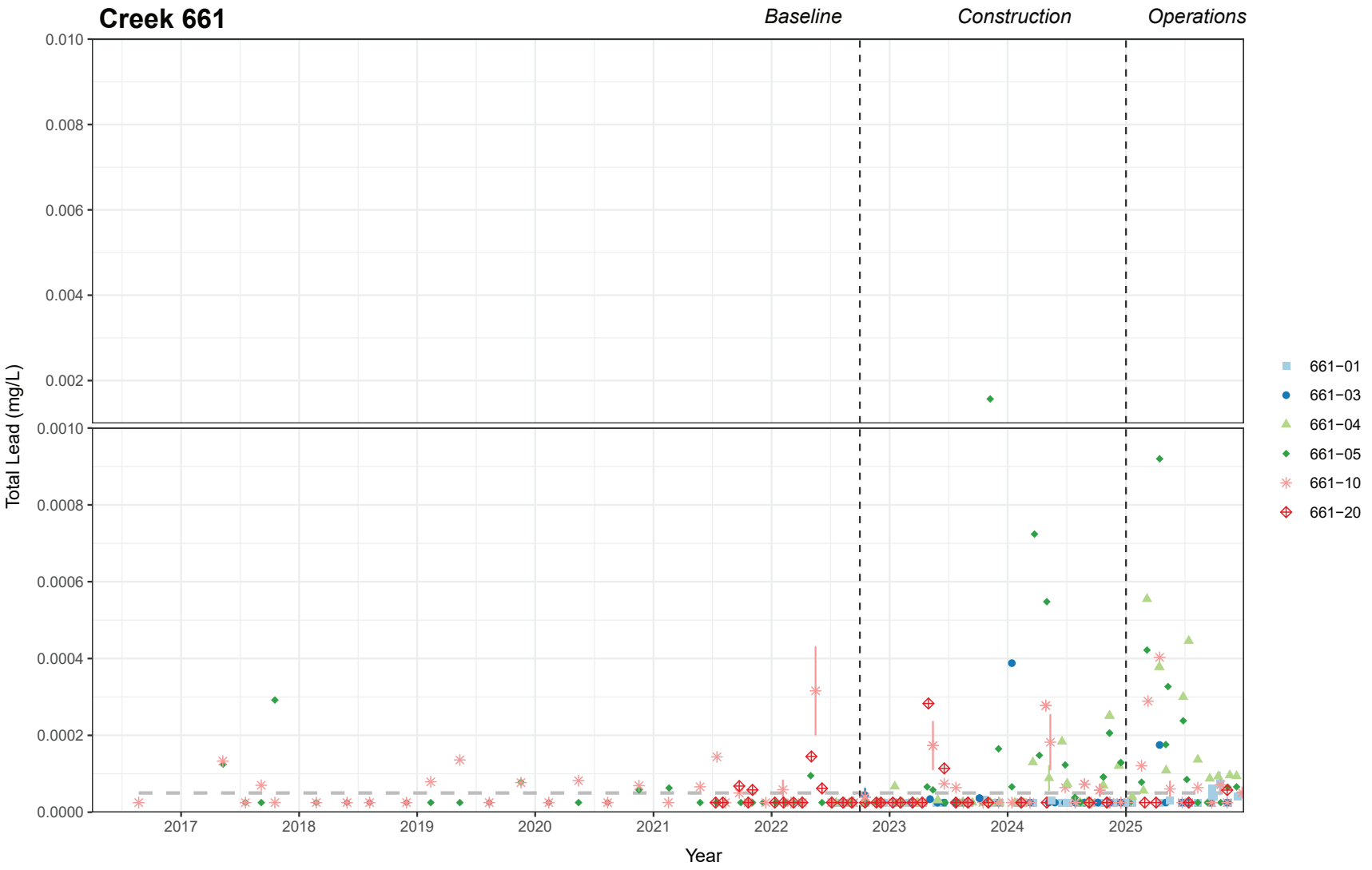


Figure C-33a: Monthly Mean Total Lead Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-33b: Monthly Mean Total Lead Concentrations, Creek 661 Sites, 2016 to 2025

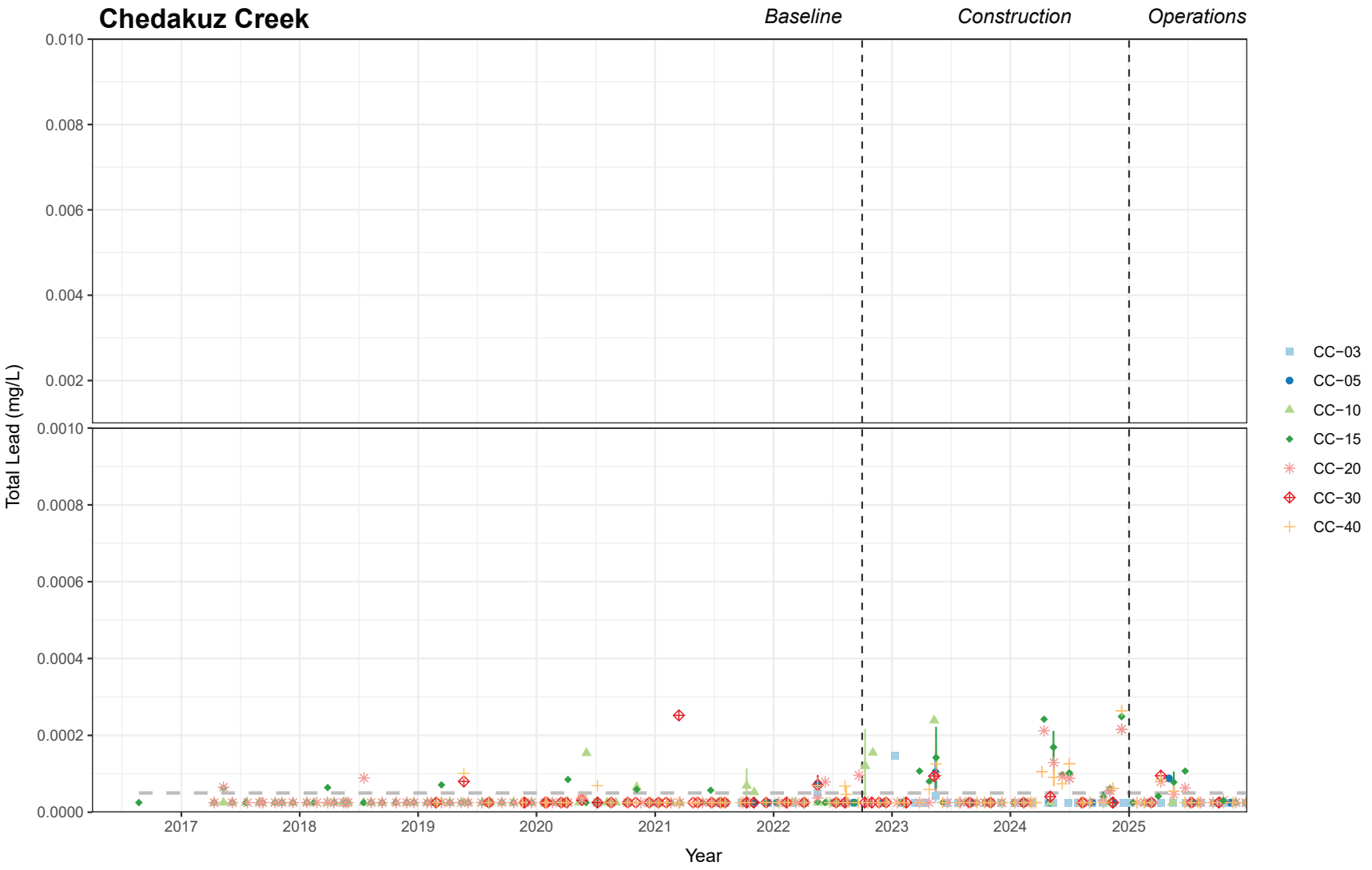


Figure C-33c: Monthly Mean Total Lead Concentrations, Chedakuz Creek Sites, 2016 to 2025

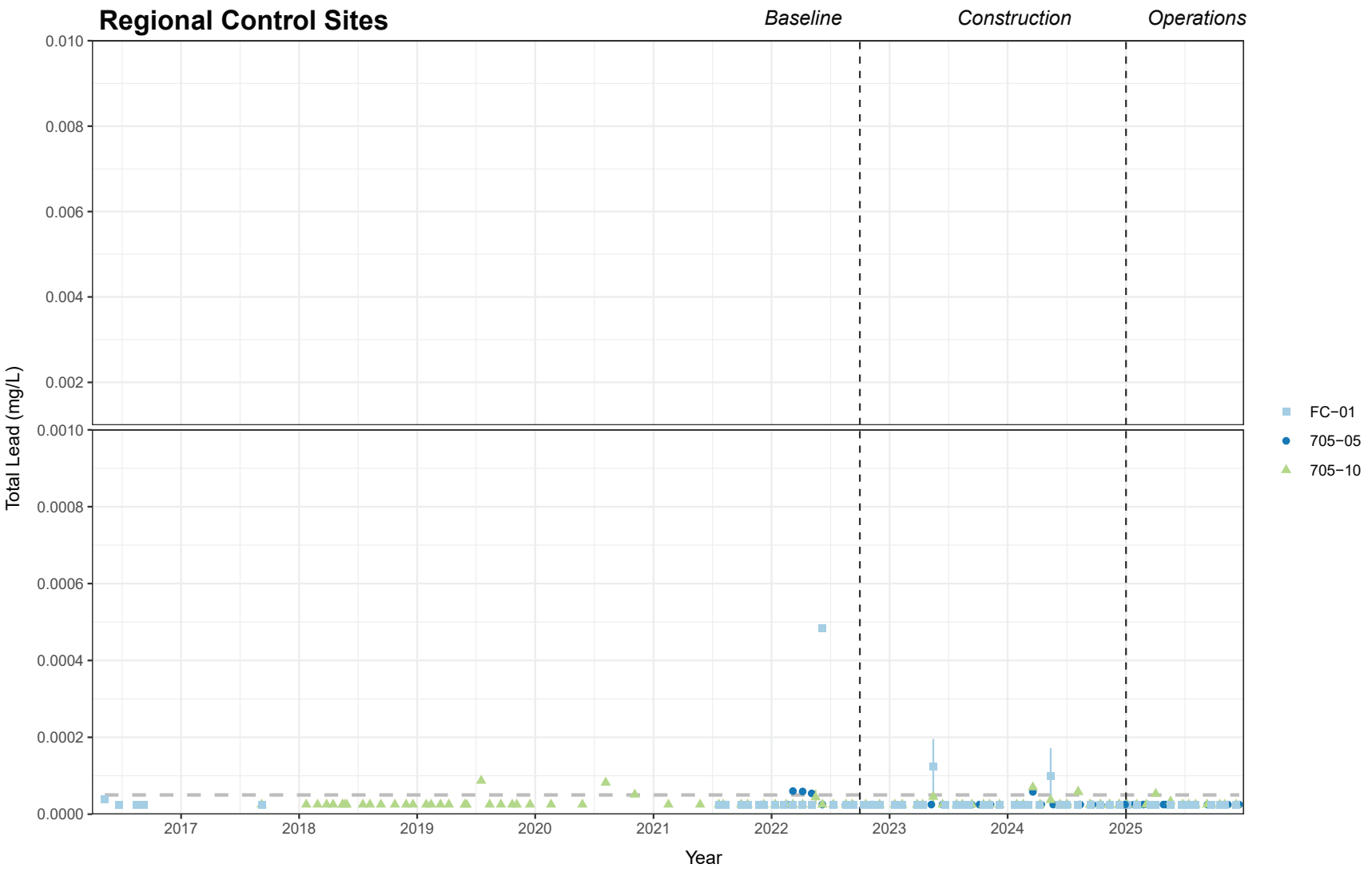


Figure C-33d: Monthly Mean Total Lead Concentrations, Regional Control Sites Sites, 2016 to 2025

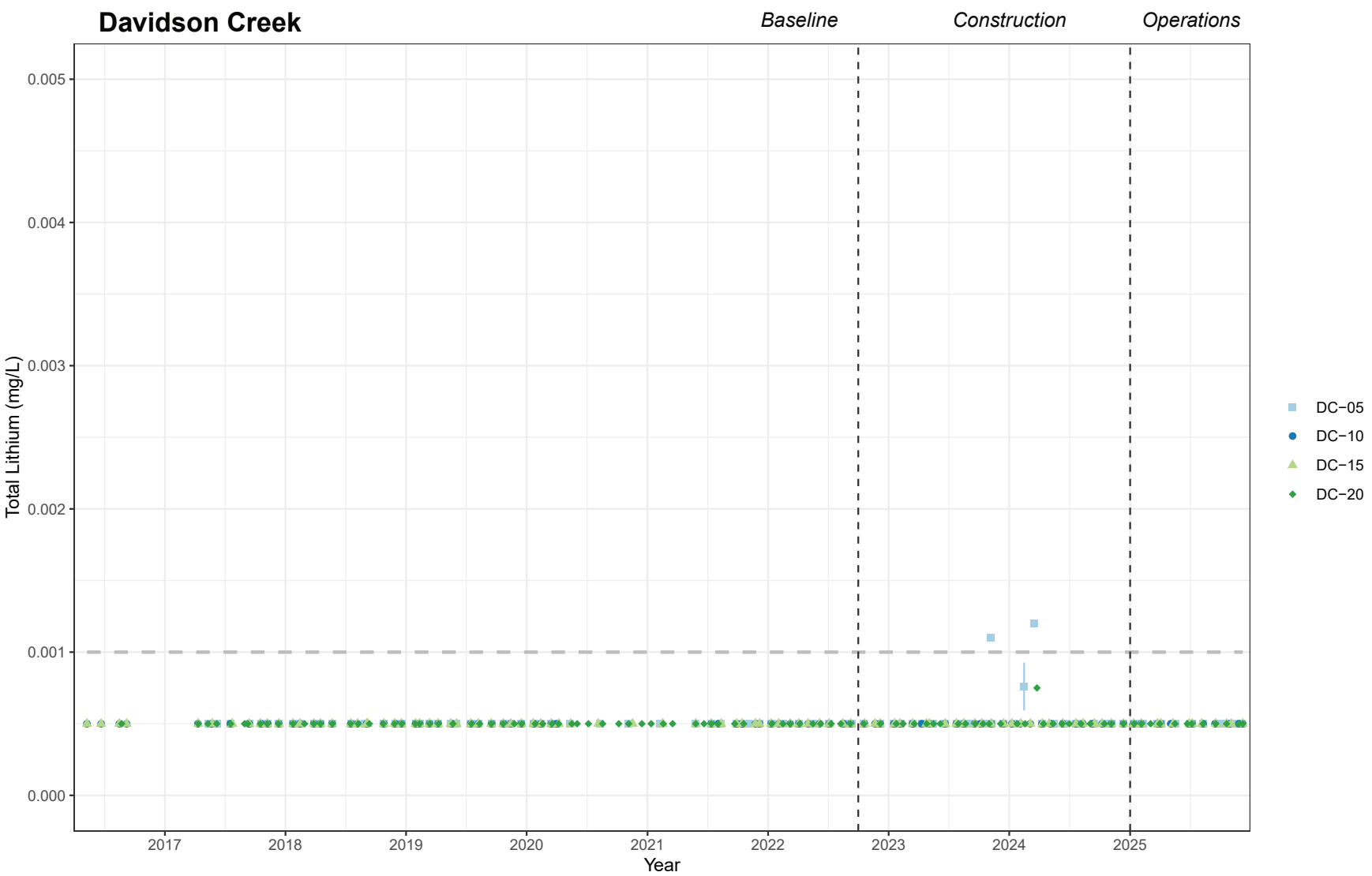


Figure C-34a: Monthly Mean Total Lithium Concentrations, Davidson Creek Sites, 2016 to 2025

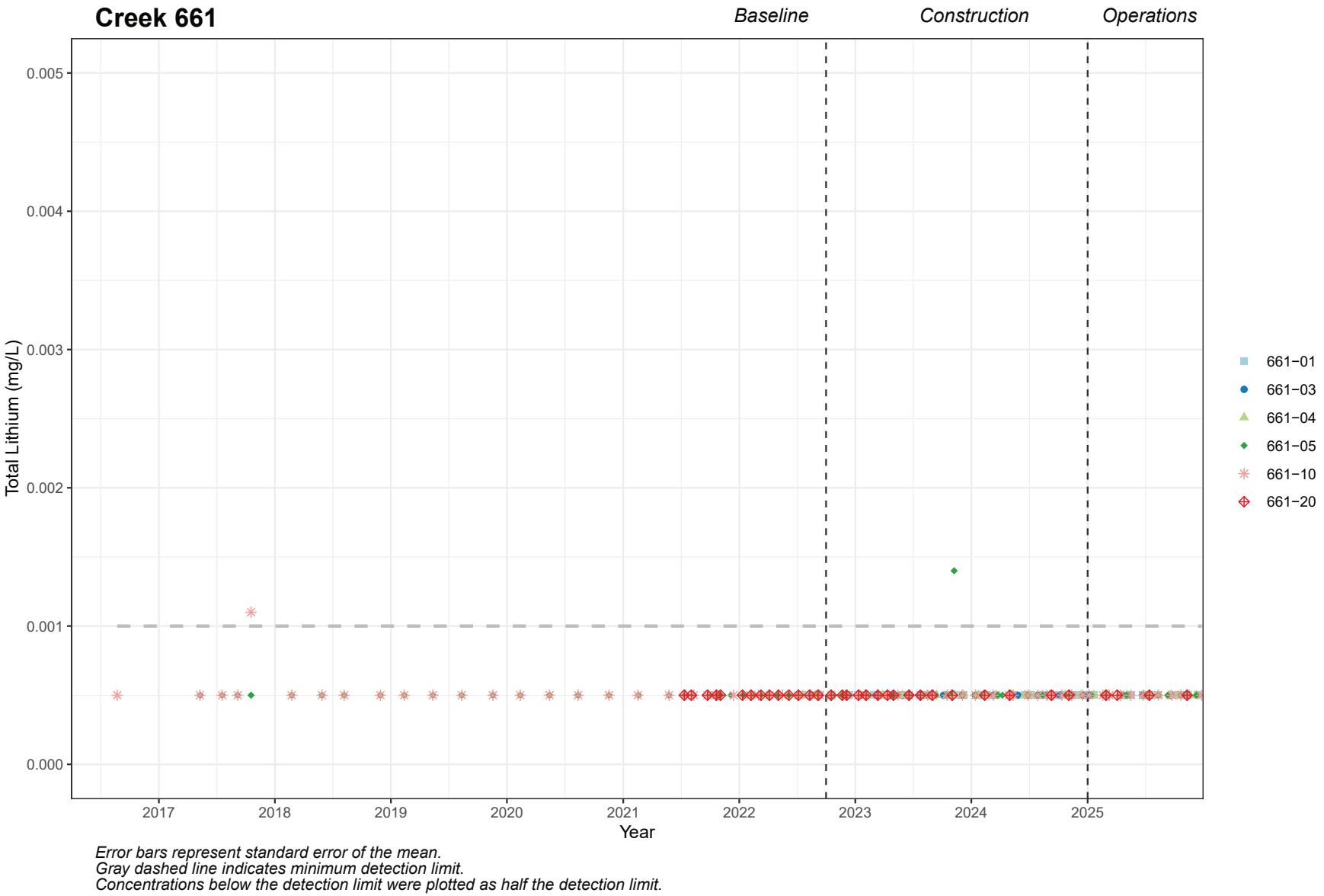


Figure C-34b: Monthly Mean Total Lithium Concentrations, Creek 661 Sites, 2016 to 2025

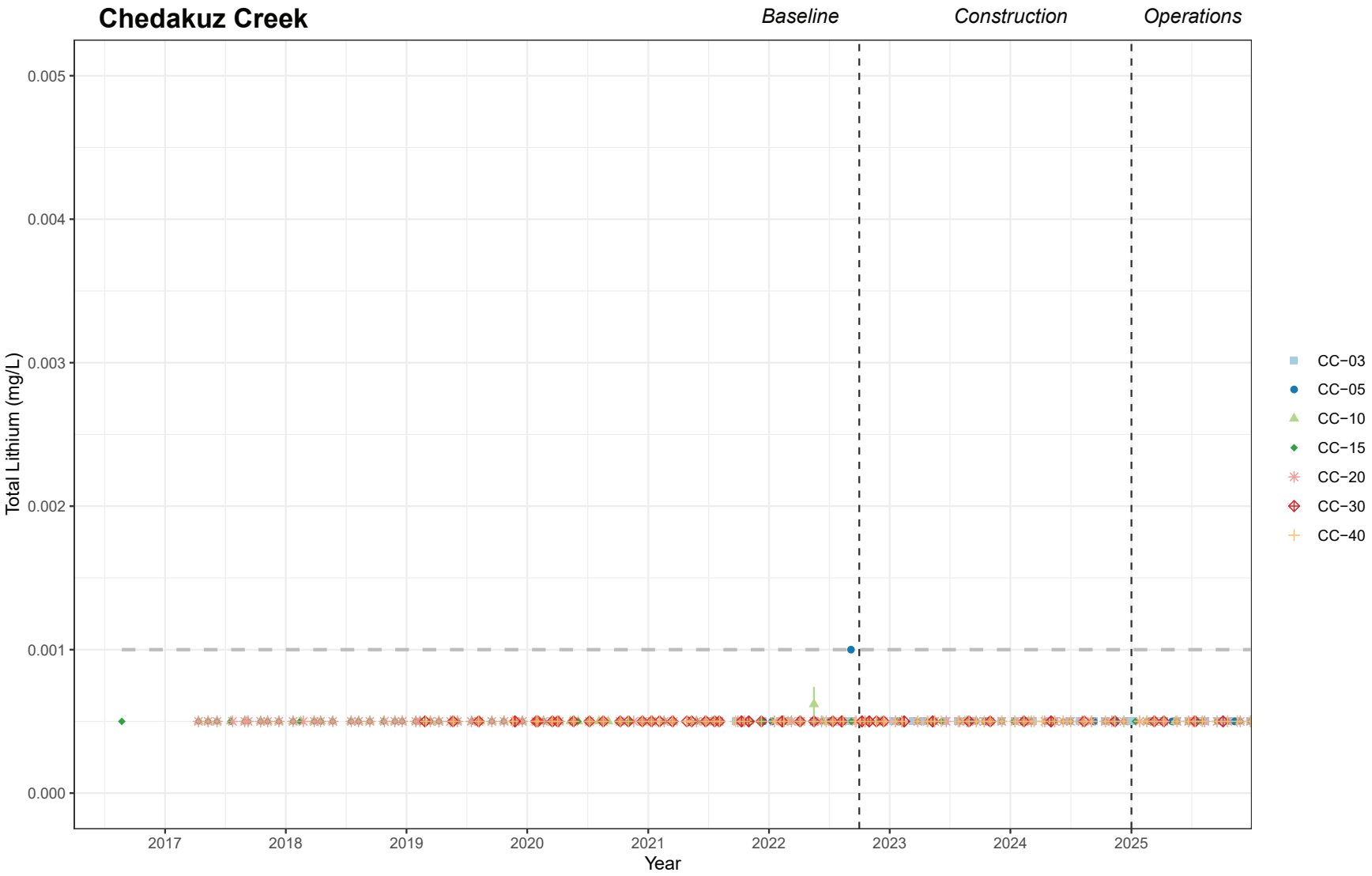


Figure C-34c: Monthly Mean Total Lithium Concentrations, Chedakuz Creek Sites, 2016 to 2025

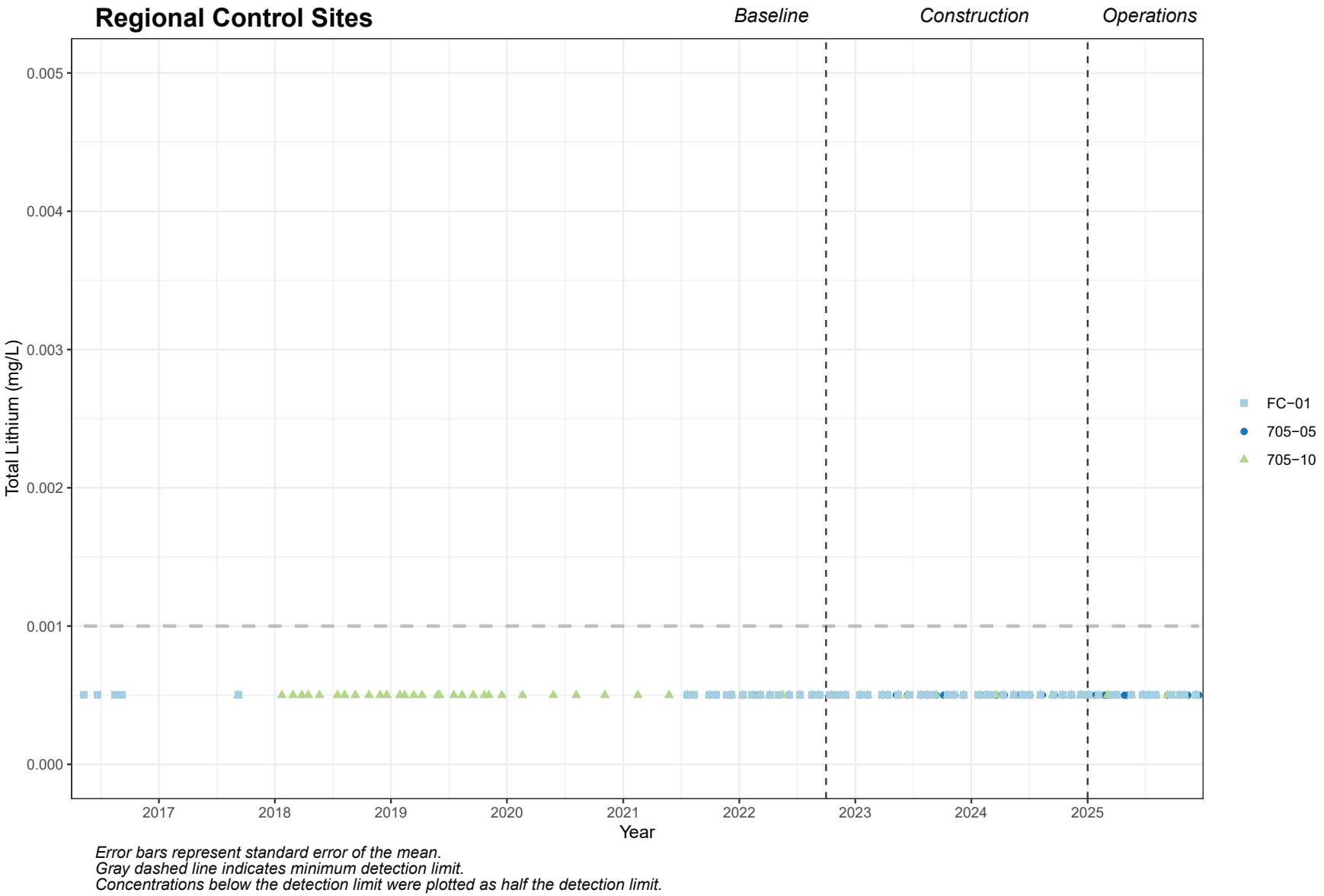


Figure C-34d: Monthly Mean Total Lithium Concentrations, Regional Control Sites Sites, 2016 to 2025

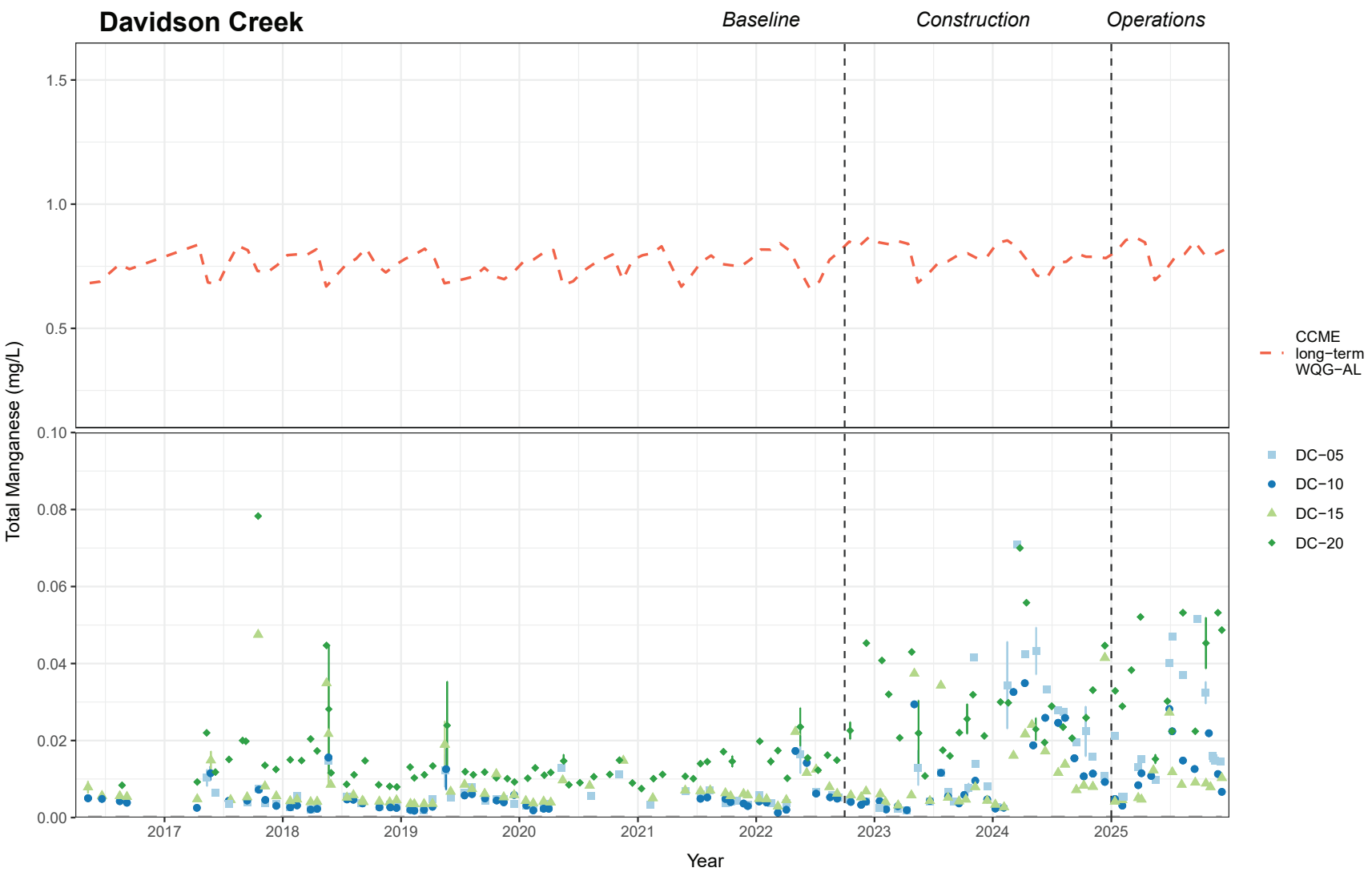


Figure C-35a: Monthly Mean Total Manganese Concentrations, Davidson Creek Sites, 2016 to 2025

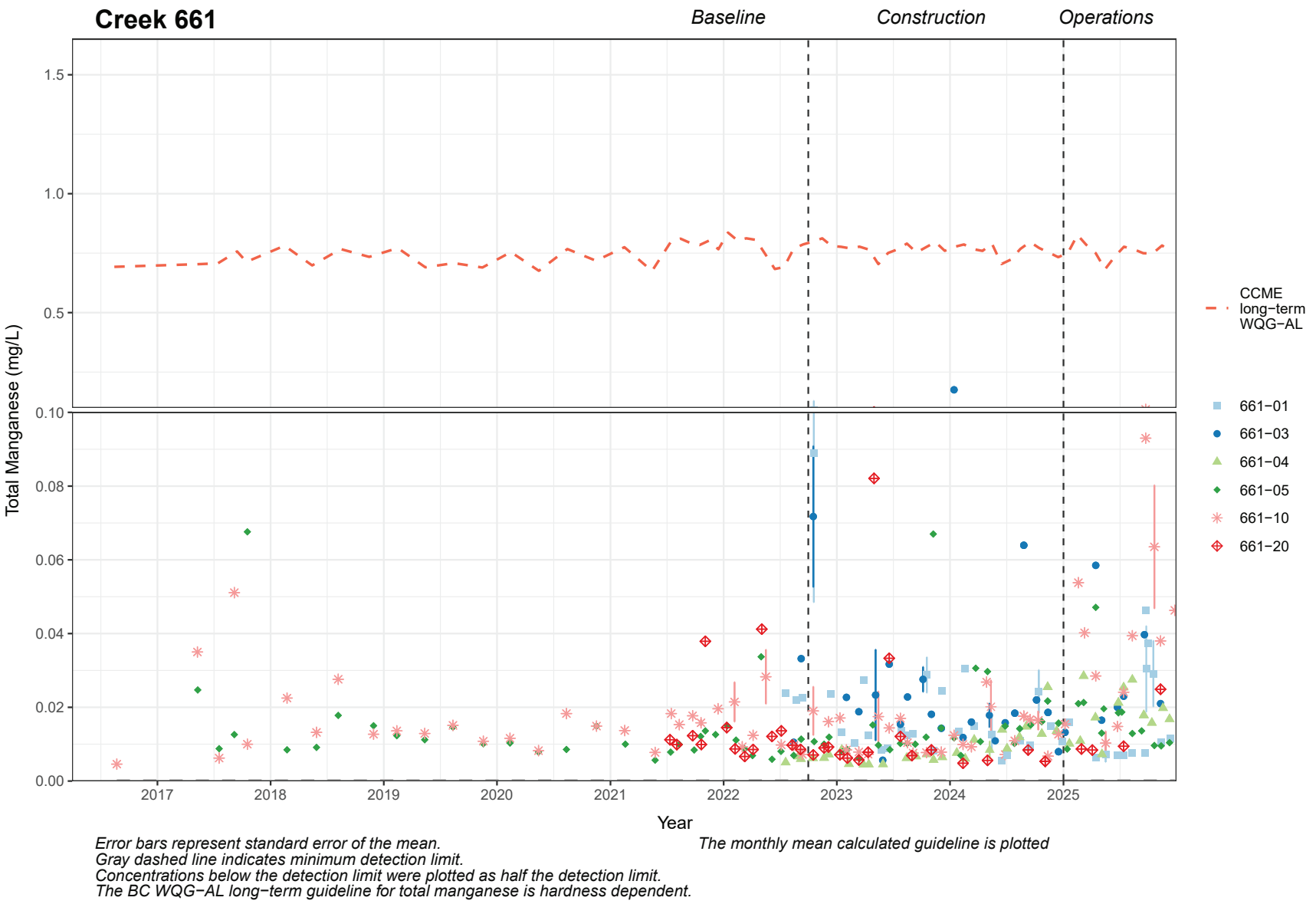


Figure C-35b: Monthly Mean Total Manganese Concentrations, Creek 661 Sites, 2016 to 2025

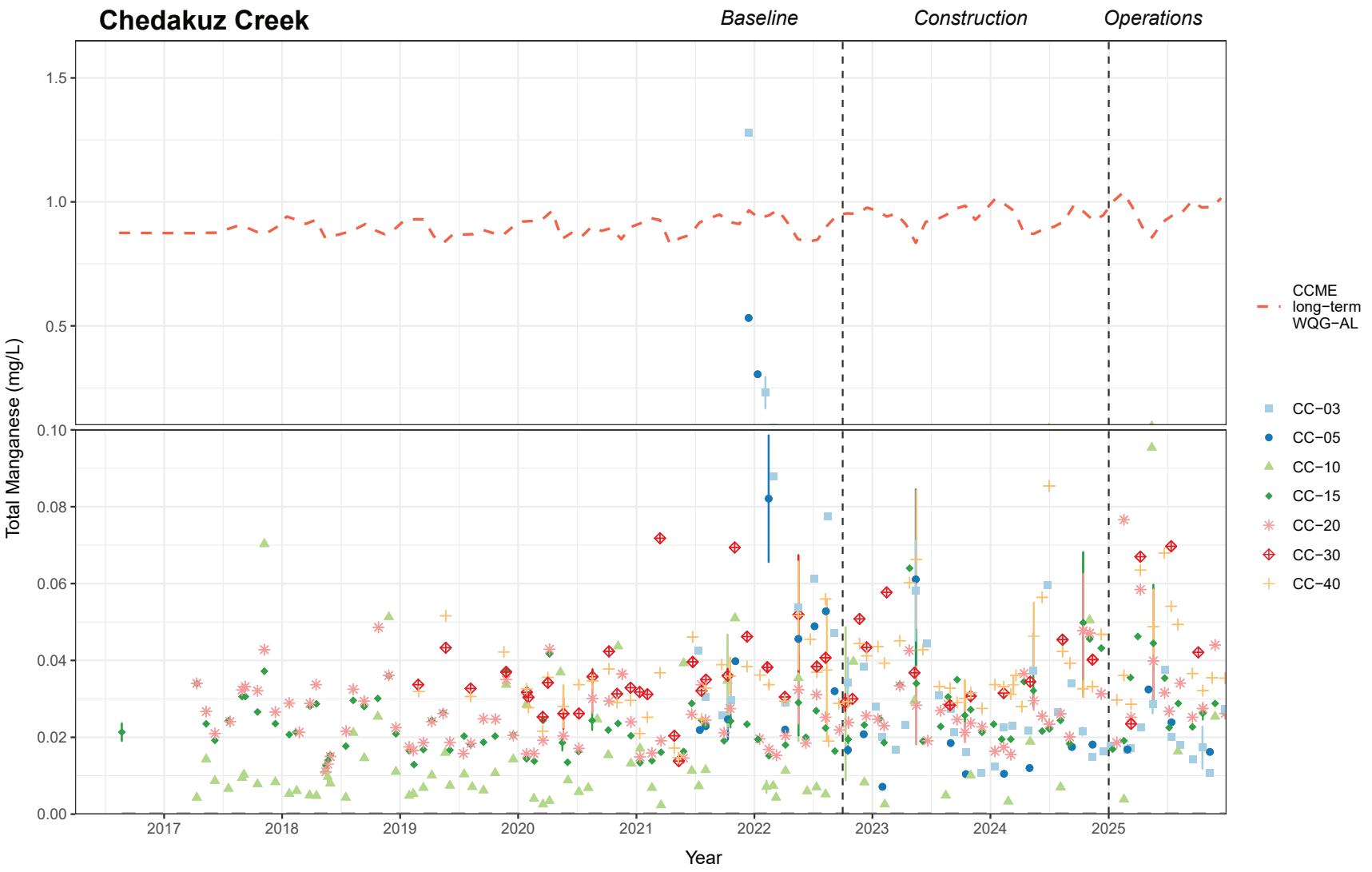
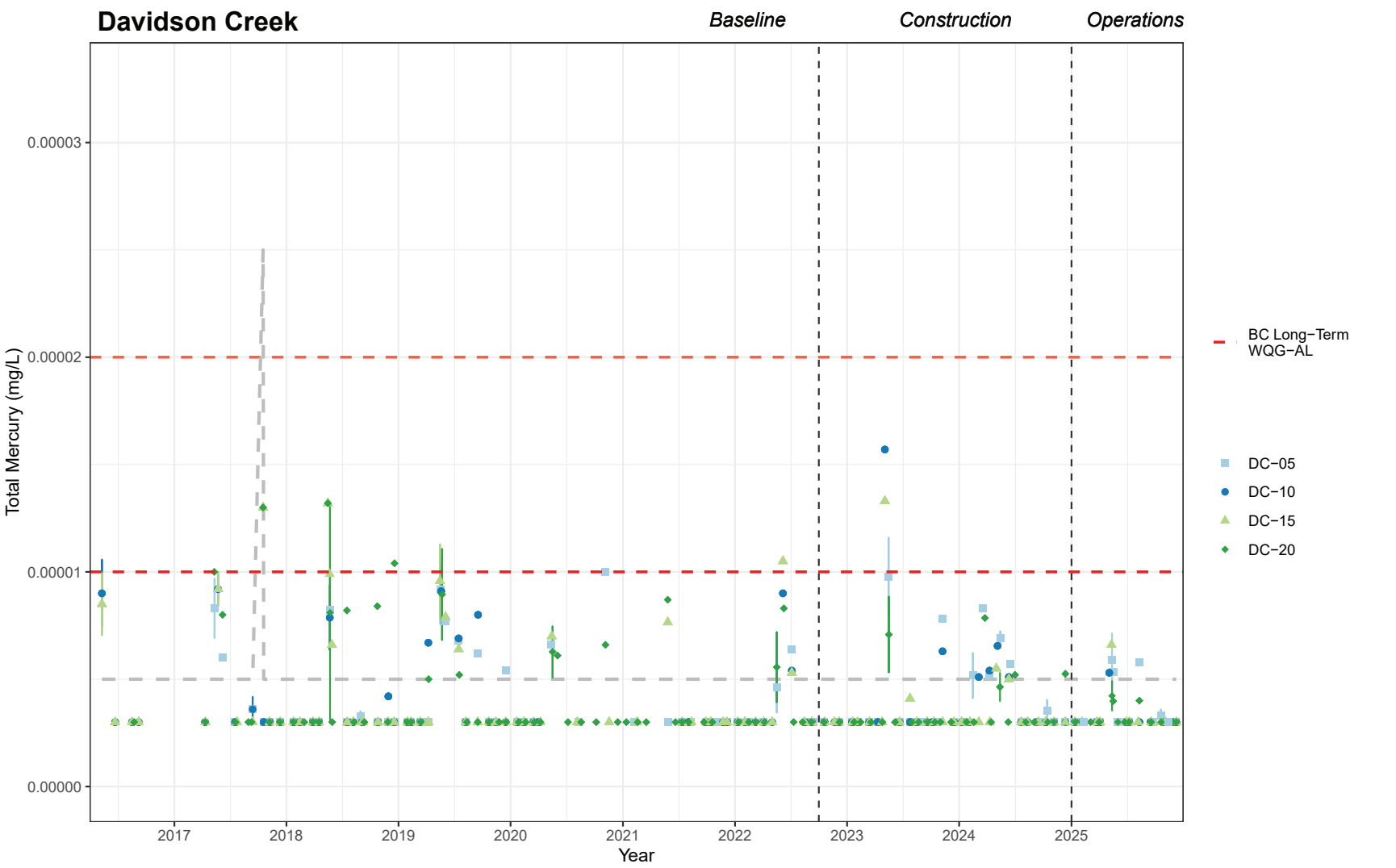


Figure C-35c: Monthly Mean Total Manganese Concentrations, Chedakuz Creek Sites, 2016 to 2025

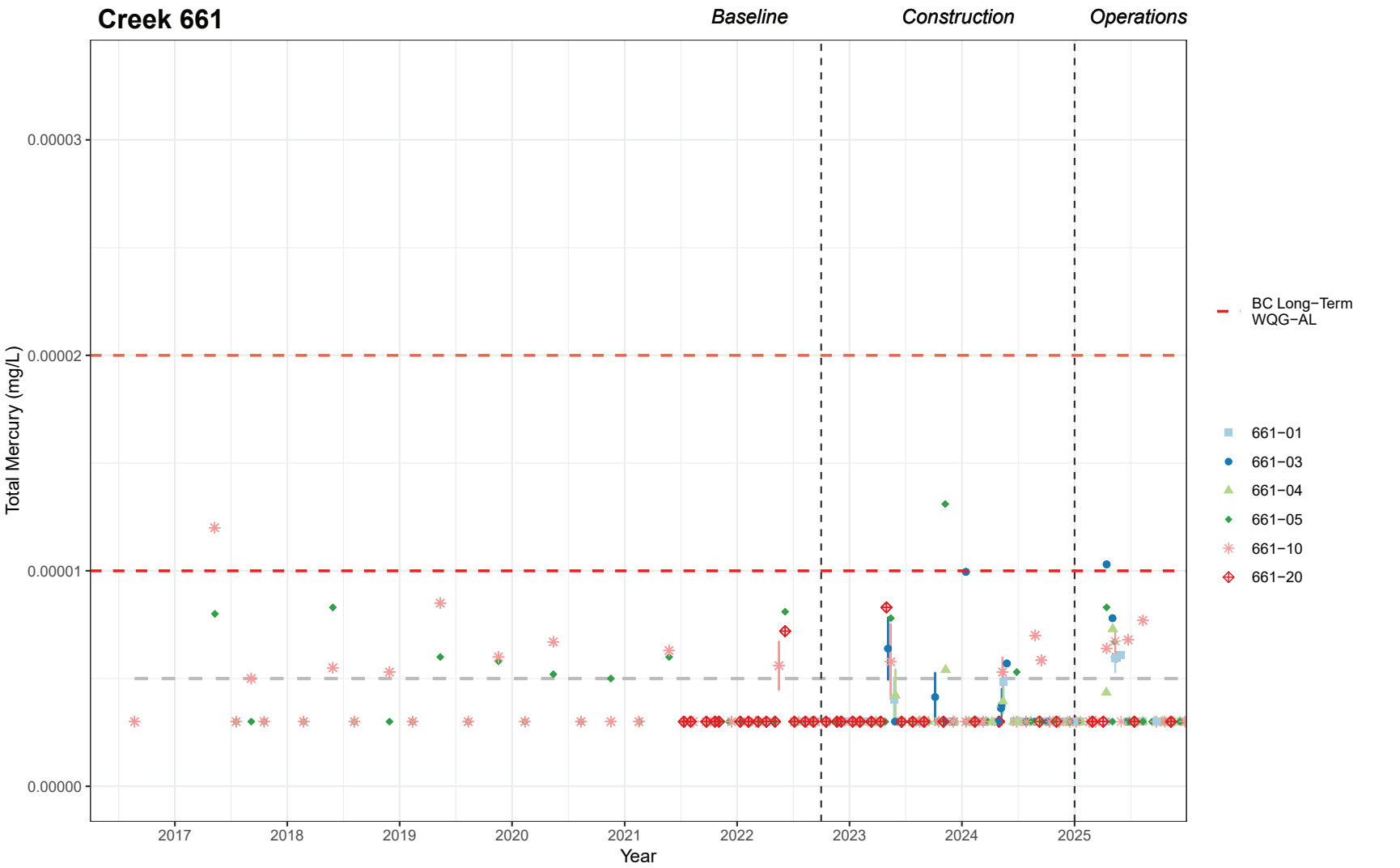
Figure C-35d: Monthly Mean Total Manganese Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total mercury = 0.00002 mg/L, when MeHg = 0.5% THg.

BC WQG−AL long−term guideline for total mercury = 0.00001 mg/L, when MeHg = 1% THg.

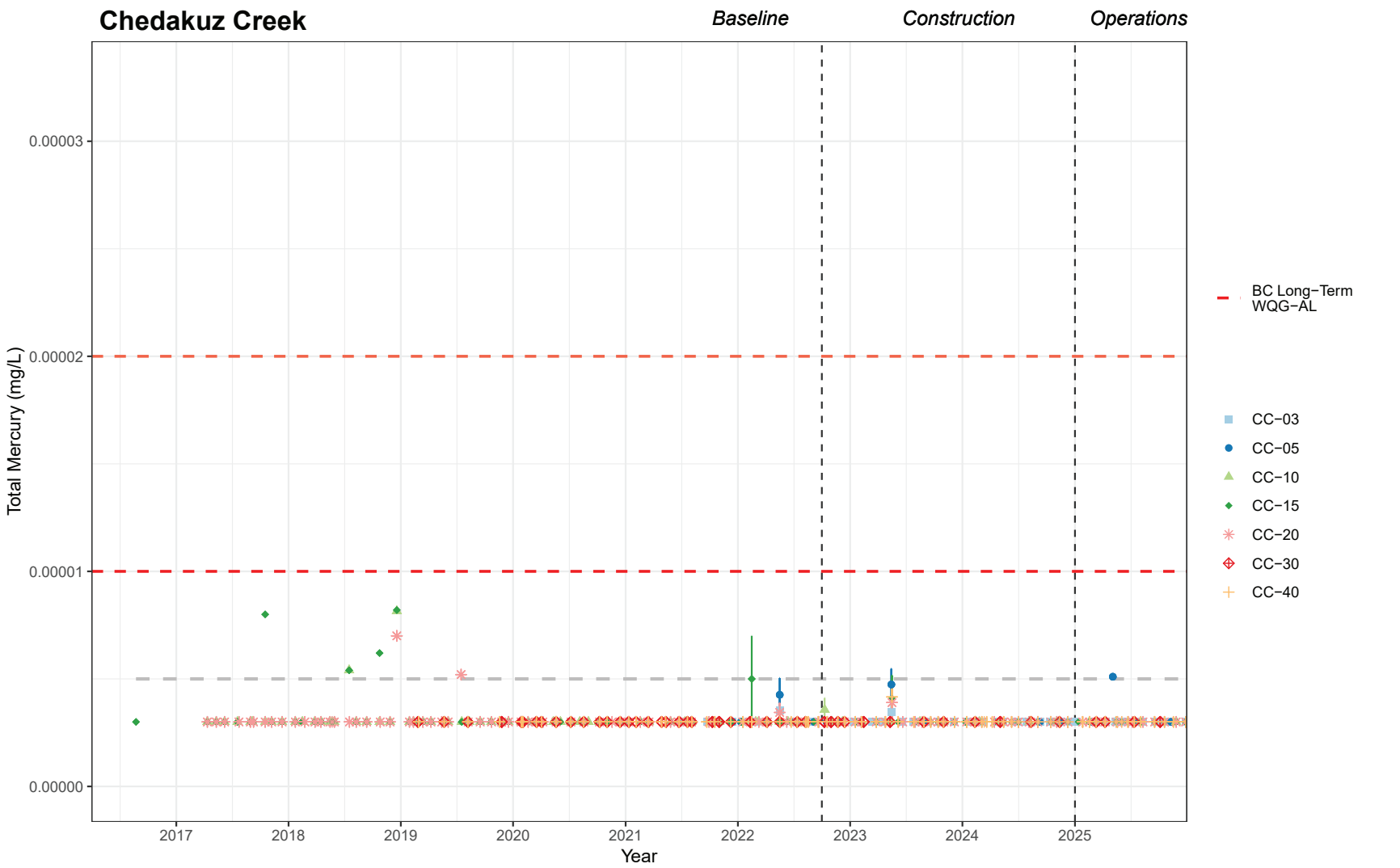
Figure C-36a: Monthly Mean Total Mercury Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total mercury = 0.00002 mg/L, when MeHg = 0.5% THg.

BC WQG−AL long−term guideline for total mercury = 0.00001 mg/L, when MeHg = 1% THg.

Figure C-36b: Monthly Mean Total Mercury Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total mercury = 0.00002 mg/L, when MeHg = 0.5% THg.

BC WQG−AL long−term guideline for total mercury = 0.00001 mg/L, when MeHg = 1% THg.

Figure C-36c: Monthly Mean Total Mercury Concentrations, Chedakuz Creek Sites, 2016 to 2025

Figure C-36d: Monthly Mean Total Mercury Concentrations, Regional Control Sites Sites, 2016 to 2025

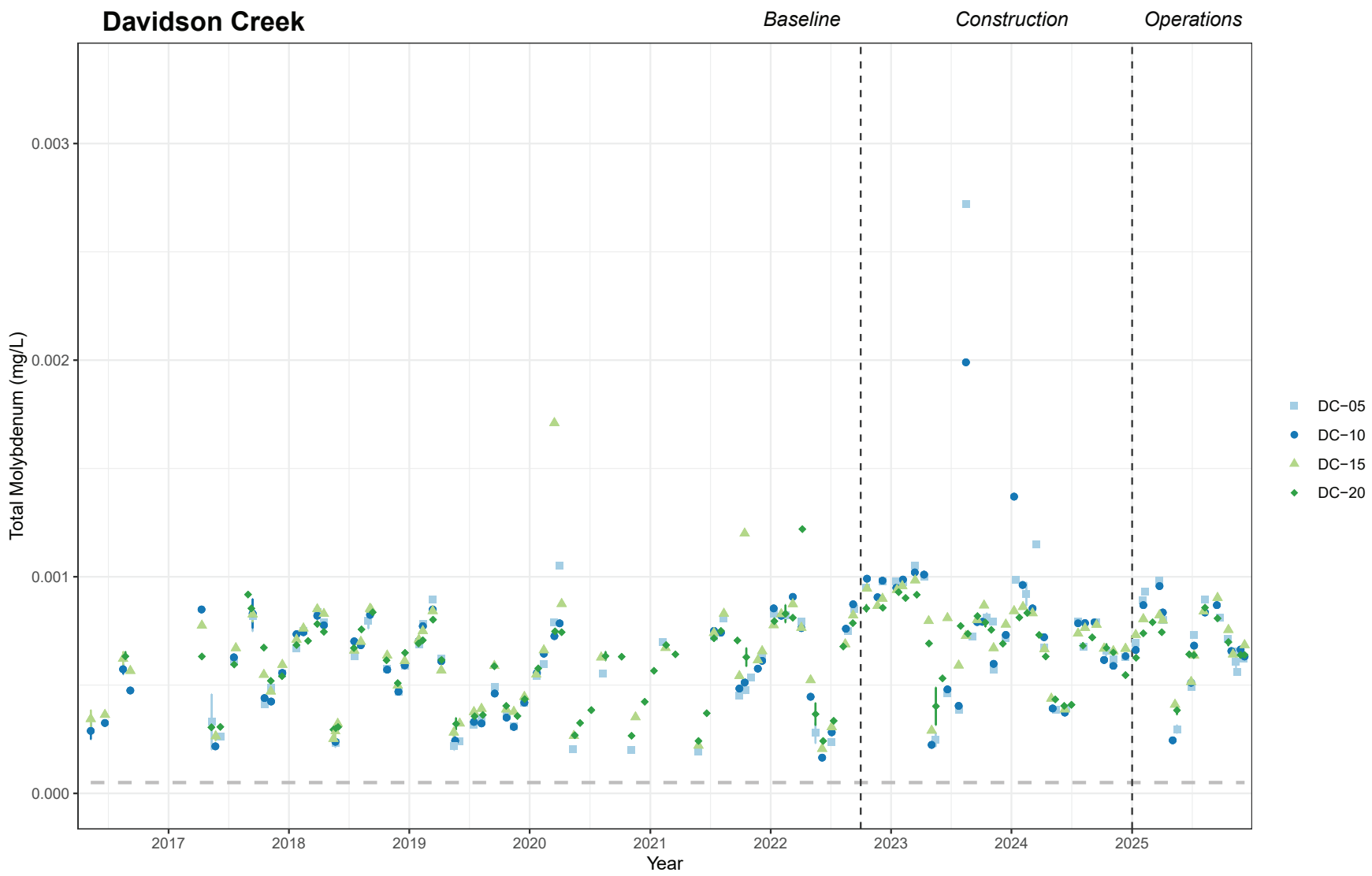
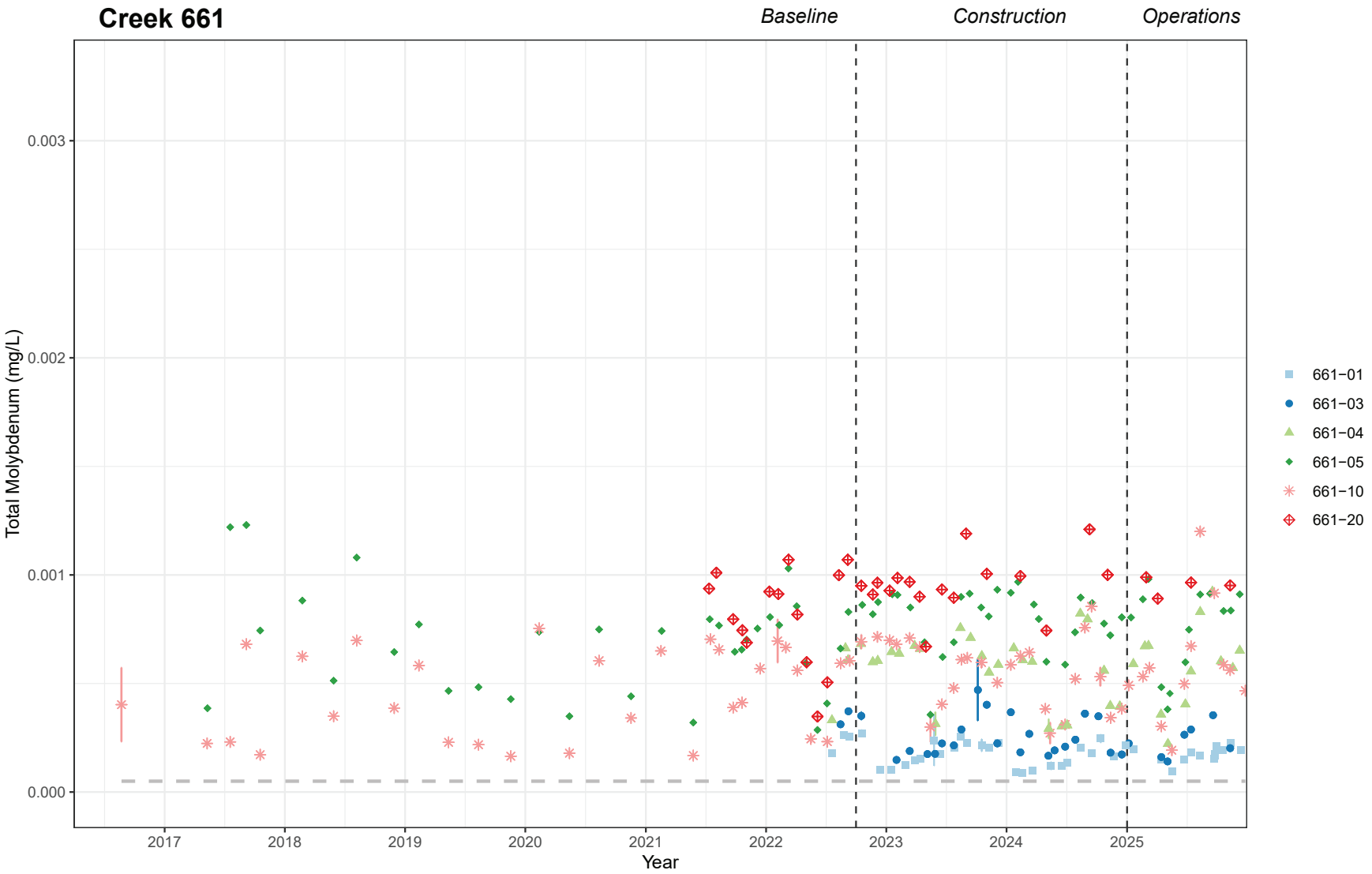
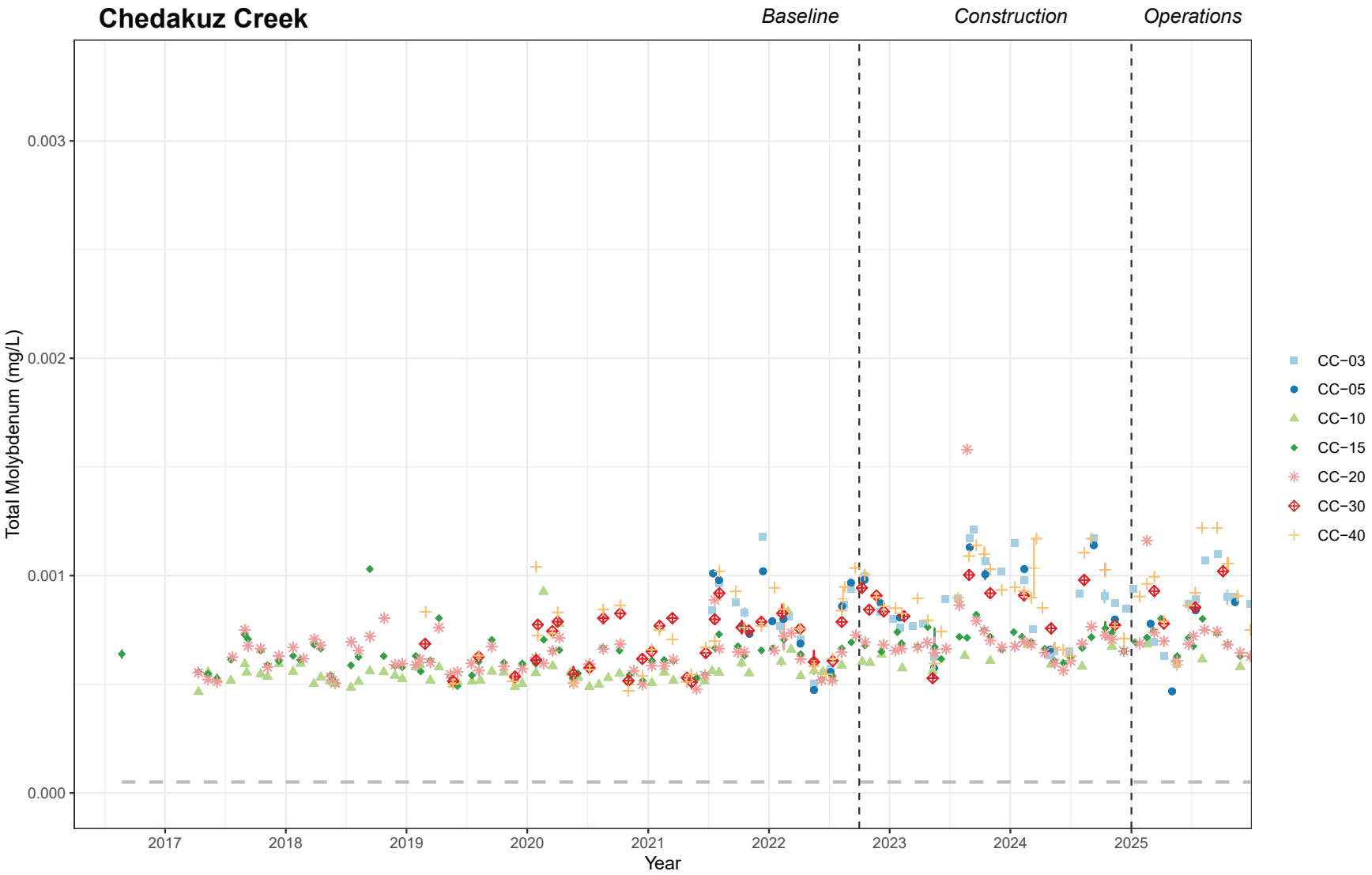


Figure C-37a: Monthly Mean Total Molybdenum Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL 30−day long−term guideline for total molybedenum = 7.61 mg/L.

Figure C-37b: Monthly Mean Total Molybdenum Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL 30−day long−term guideline for total molybedenum = 7.61 mg/L.

Figure C-37c: Monthly Mean Total Molybdenum Concentrations, Chedakuz Creek Sites, 2016 to 2025

Figure C-37d: Monthly Mean Total Molybdenum Concentrations, Regional Control Sites Sites, 2016 to 2025

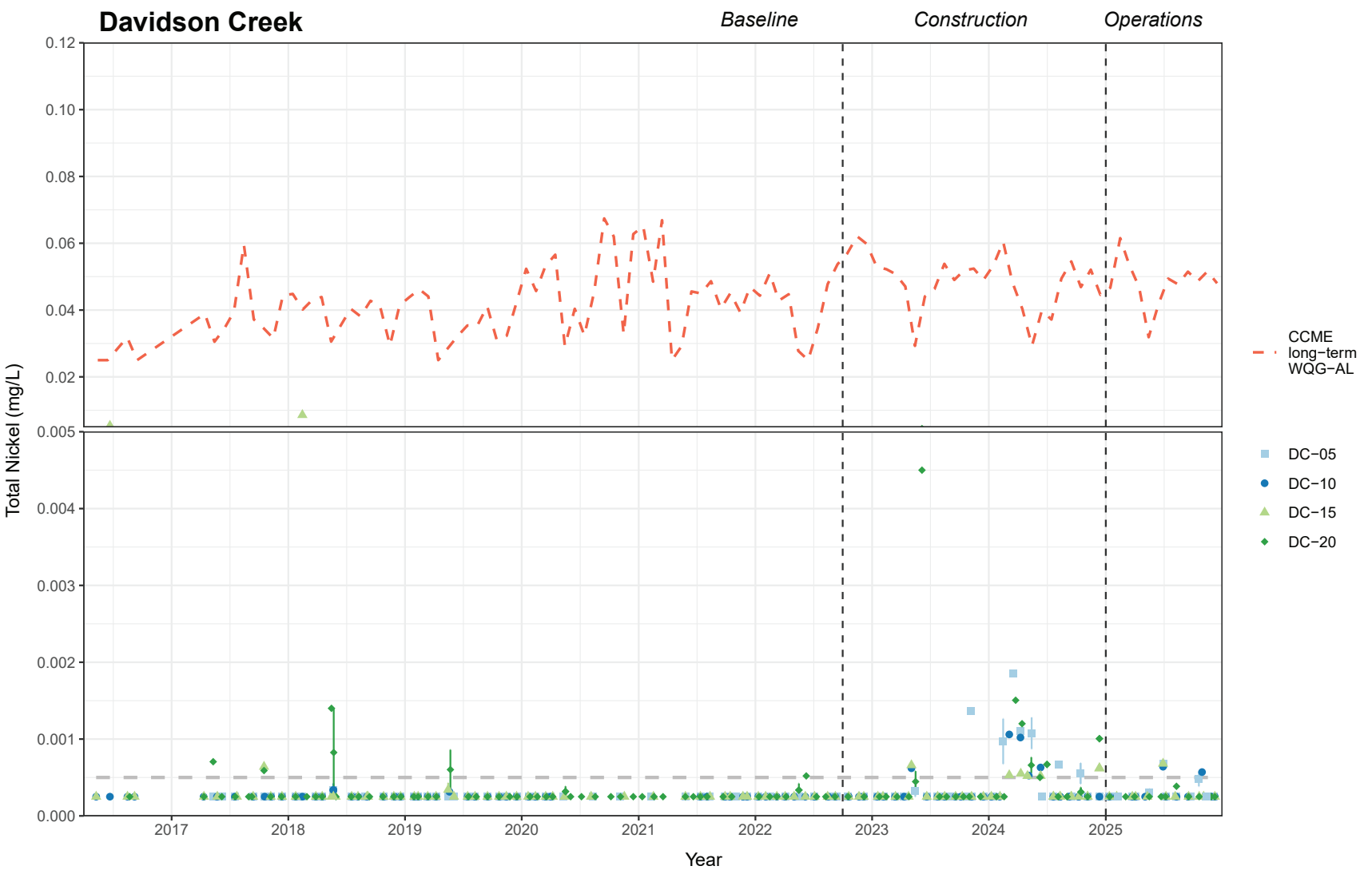


Figure C-38a: Monthly Mean Total Nickel Concentrations, Davidson Creek Sites, 2016 to 2025

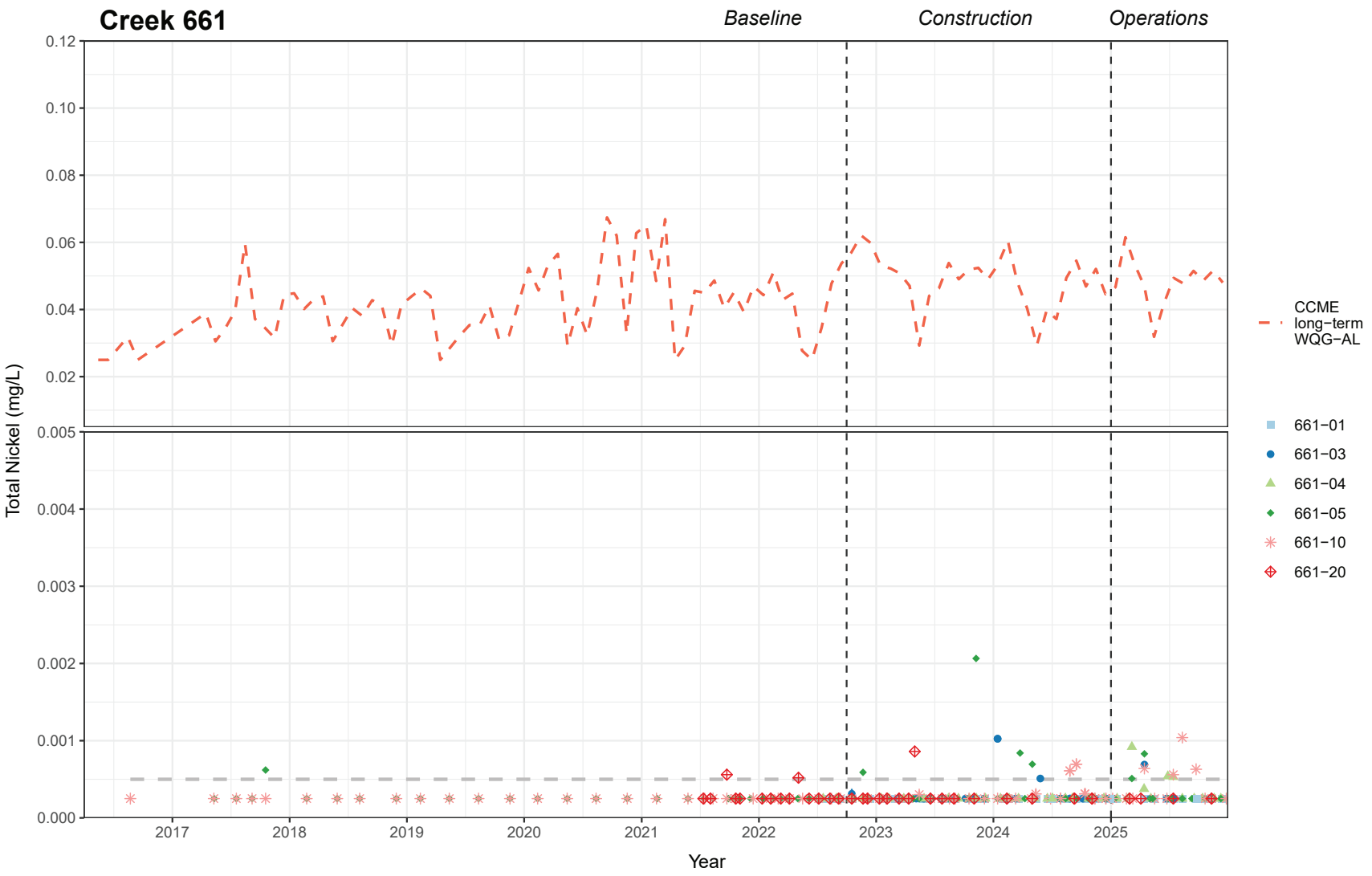


Figure C-38b: Monthly Mean Total Nickel Concentrations, Creek 661 Sites, 2016 to 2025

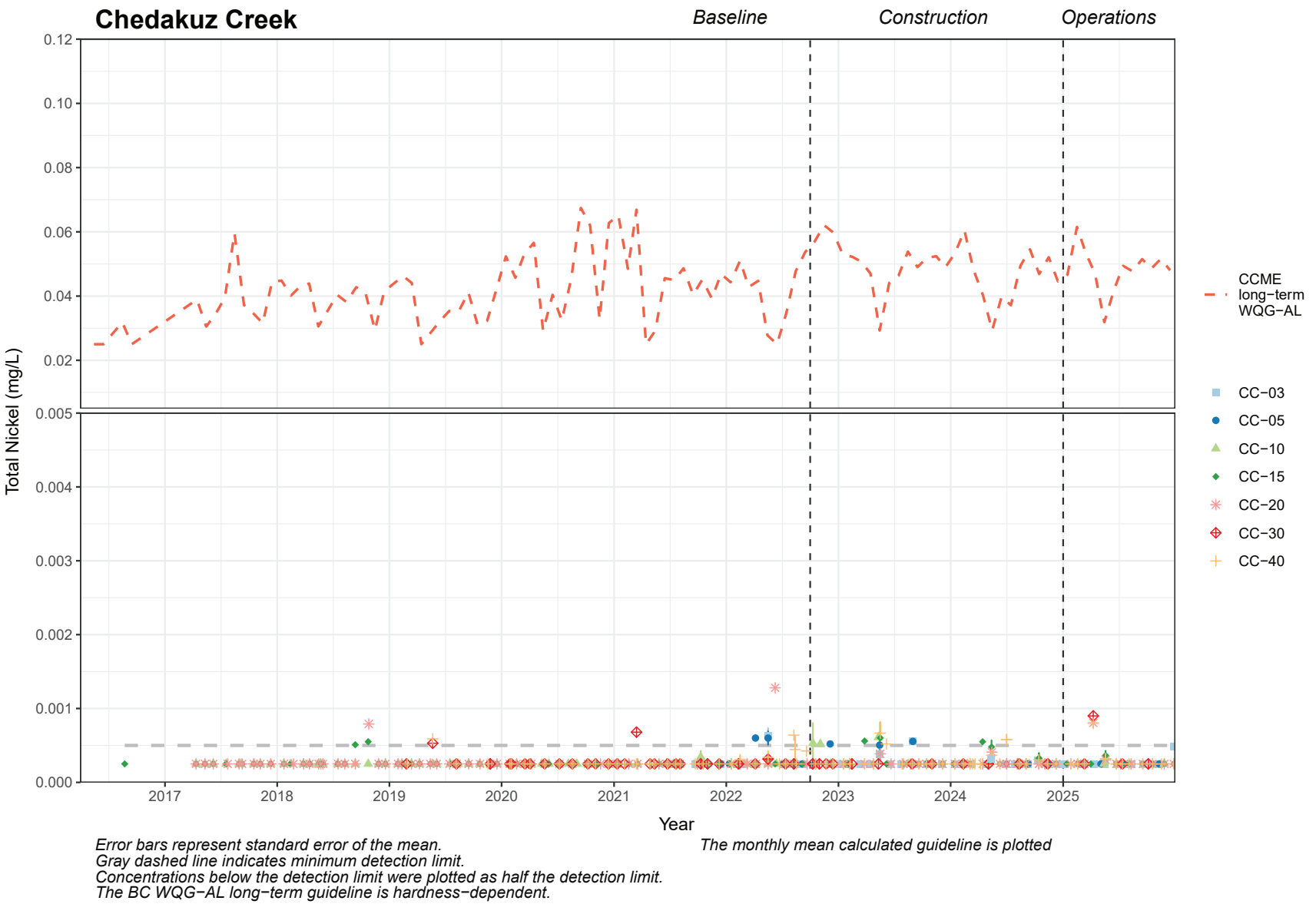


Figure C-38c: Monthly Mean Total Nickel Concentrations, Chedakuz Creek Sites, 2016 to 2025

Figure C-38d: Monthly Mean Total Nickel Concentrations, Regional Control Sites Sites, 2016 to 2025

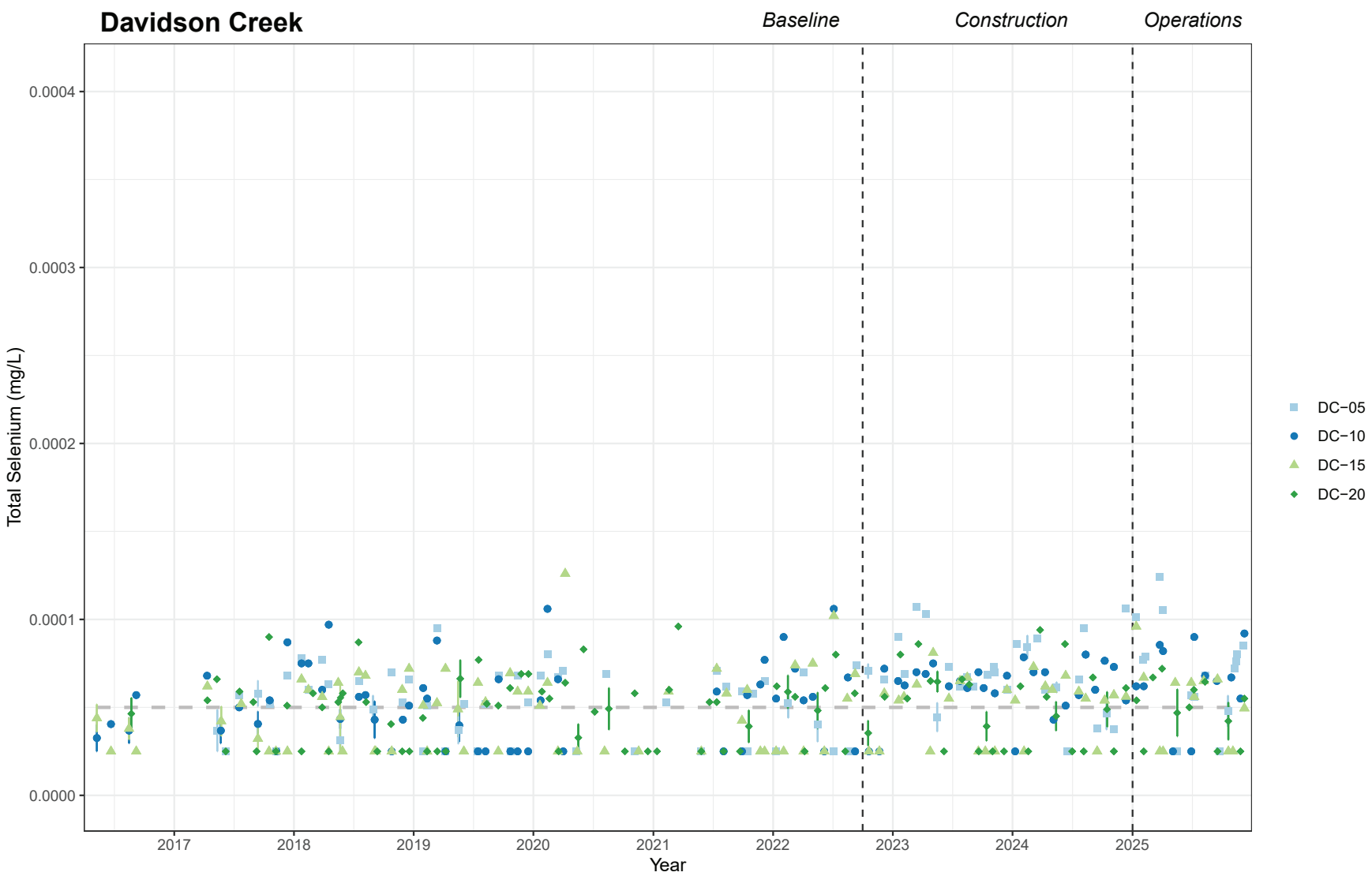
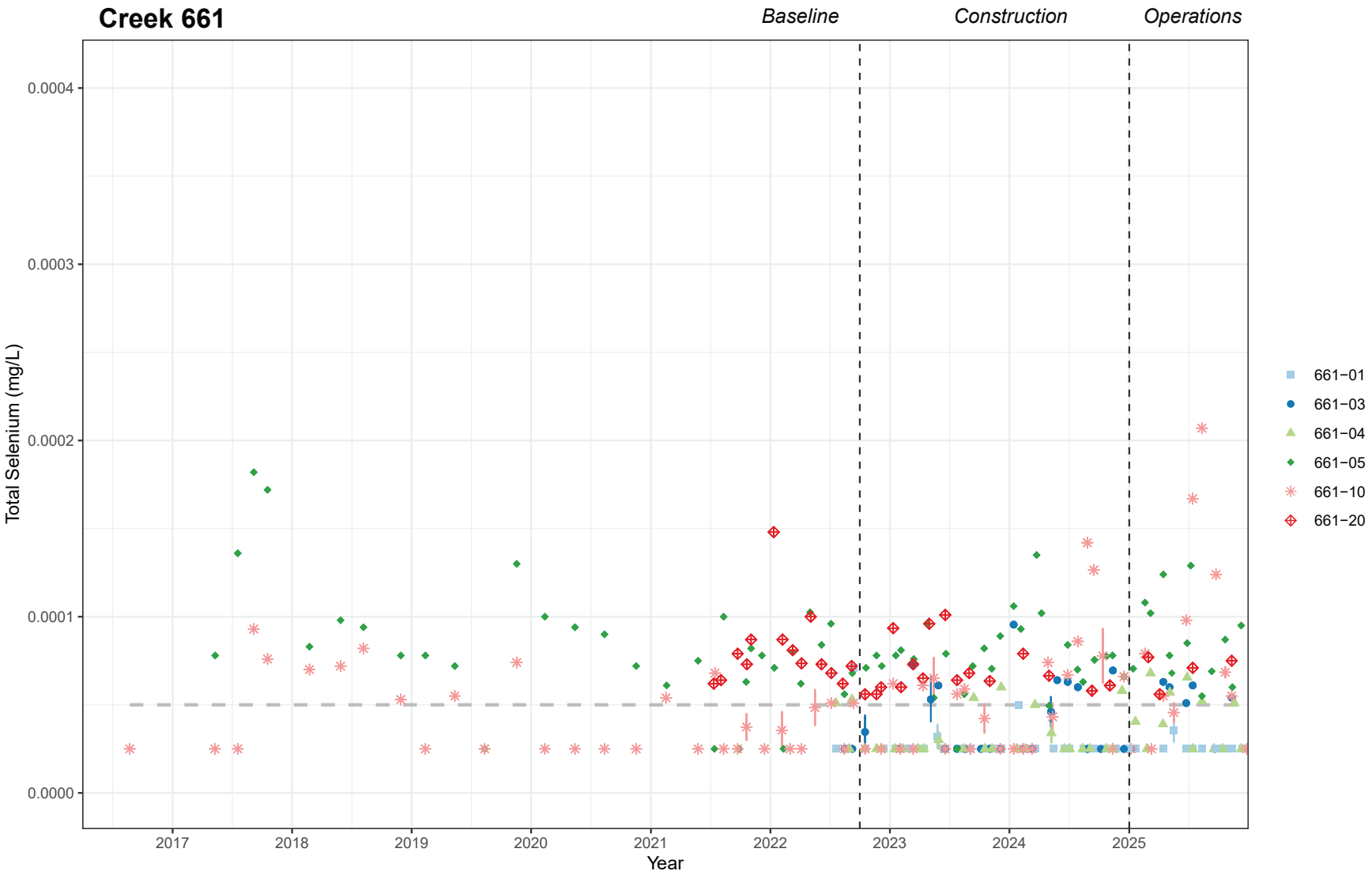


Figure C-39a: Monthly Mean Total Selenium Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for total selenium = 0.002 mg/L.

Figure C-39b: Monthly Mean Total Selenium Concentrations, Creek 661 Sites, 2016 to 2025

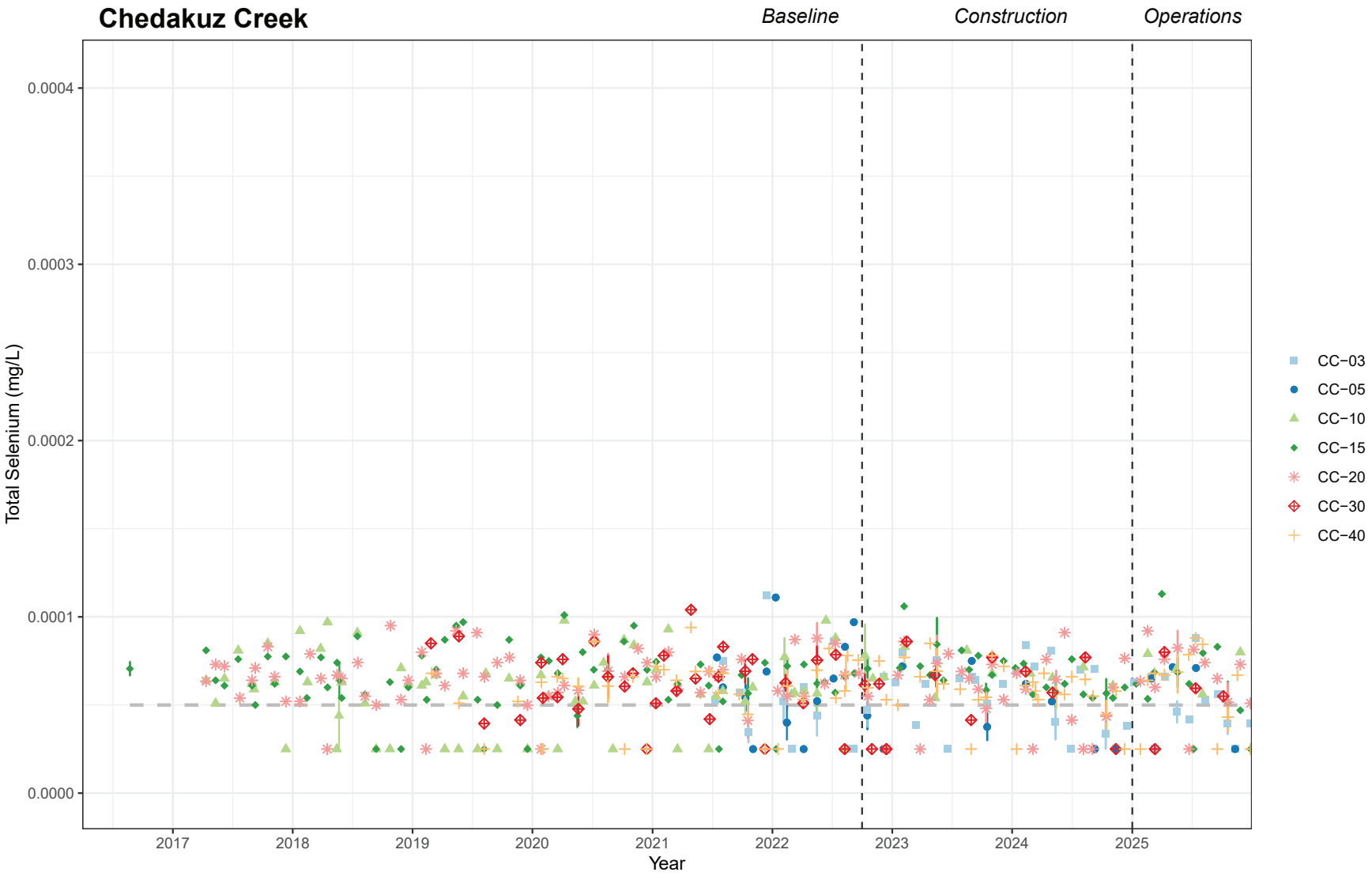


Figure C-39c: Monthly Mean Total Selenium Concentrations, Chedakuz Creek Sites, 2016 to 2025

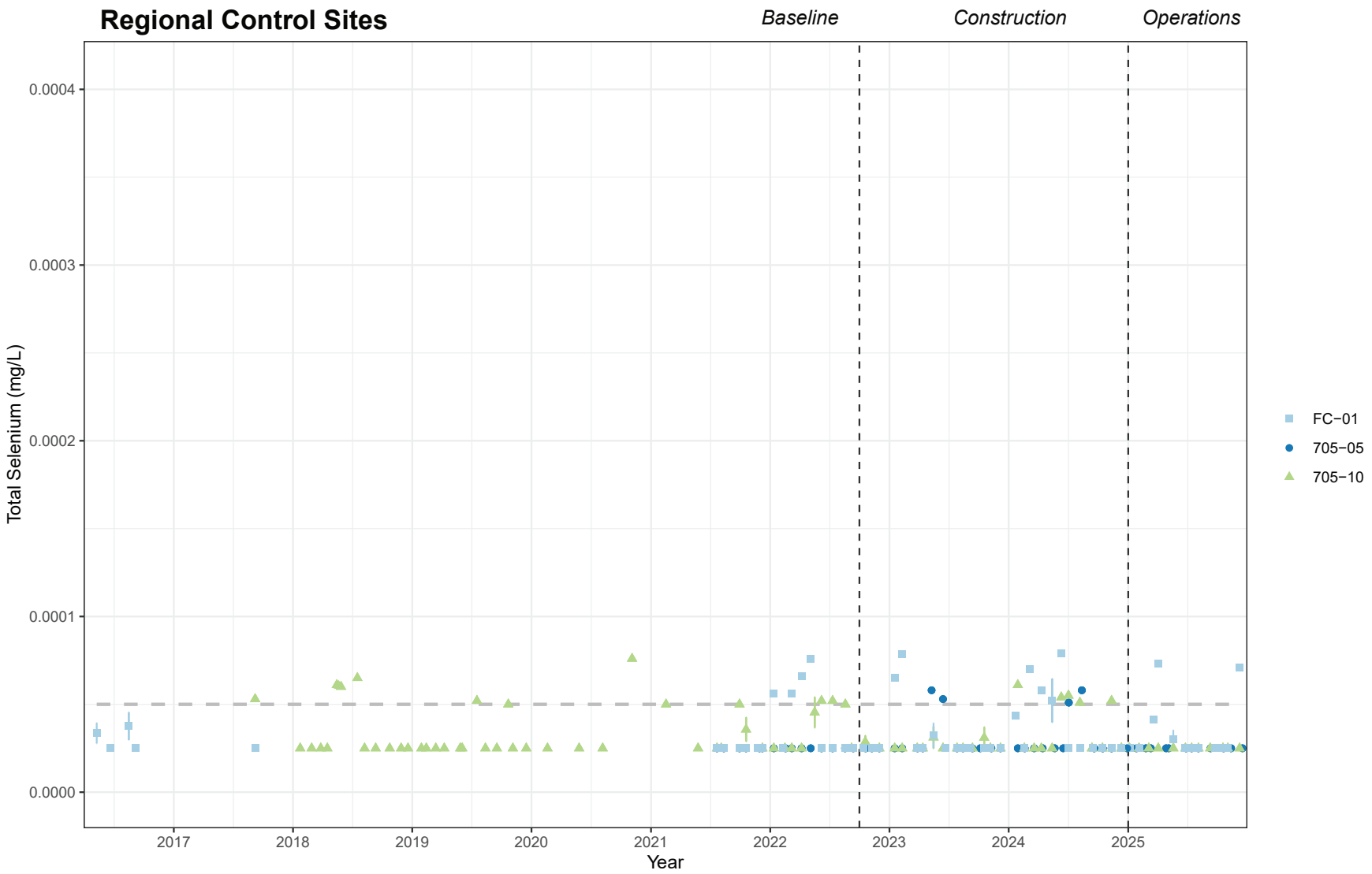


Figure C-39d: Monthly Mean Total Selenium Concentrations, Regional Control Sites Sites, 2016 to 2025

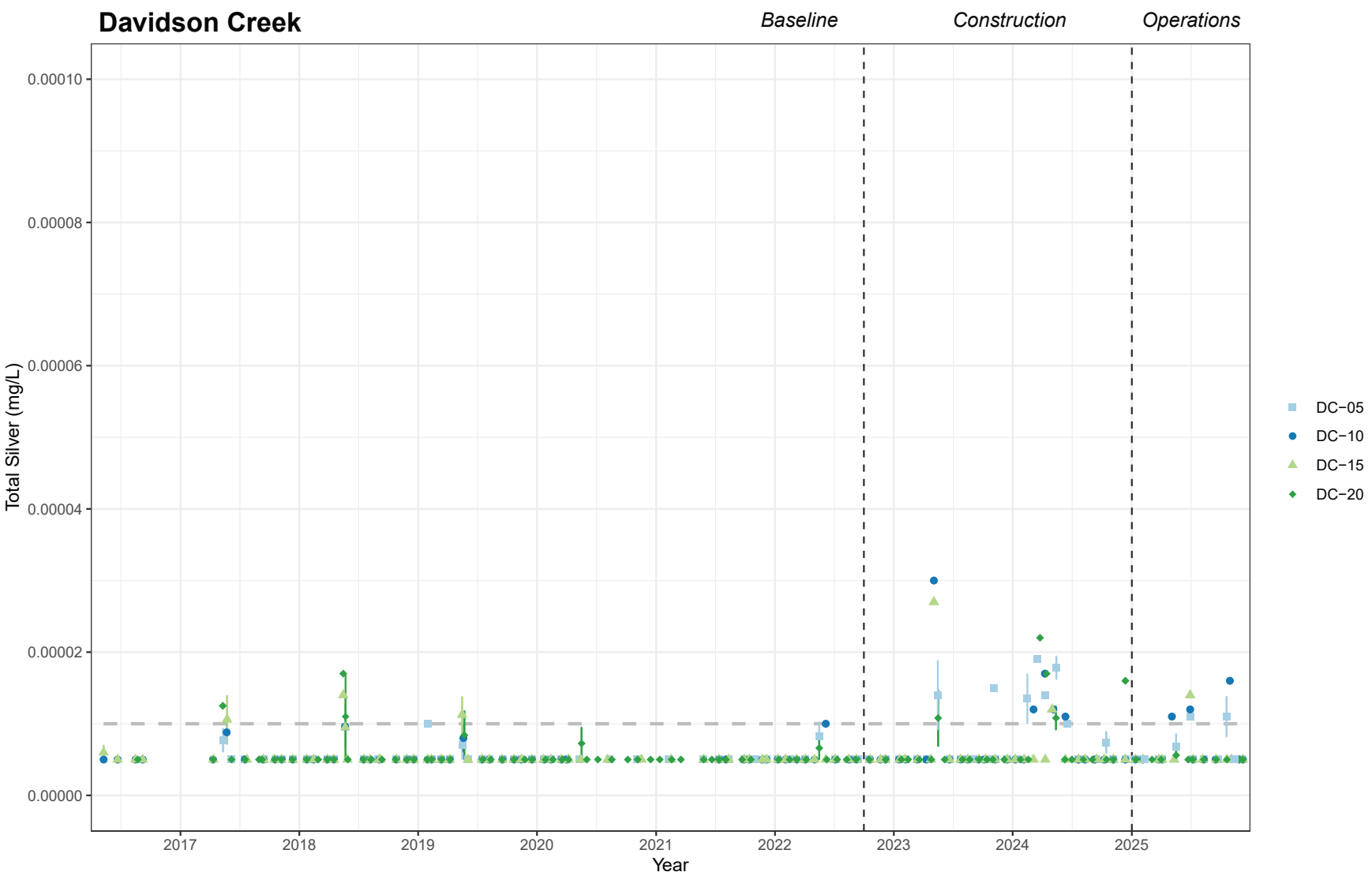


Figure C-40a: Monthly Mean Total Silver Concentrations, Davidson Creek Sites, 2016 to 2025

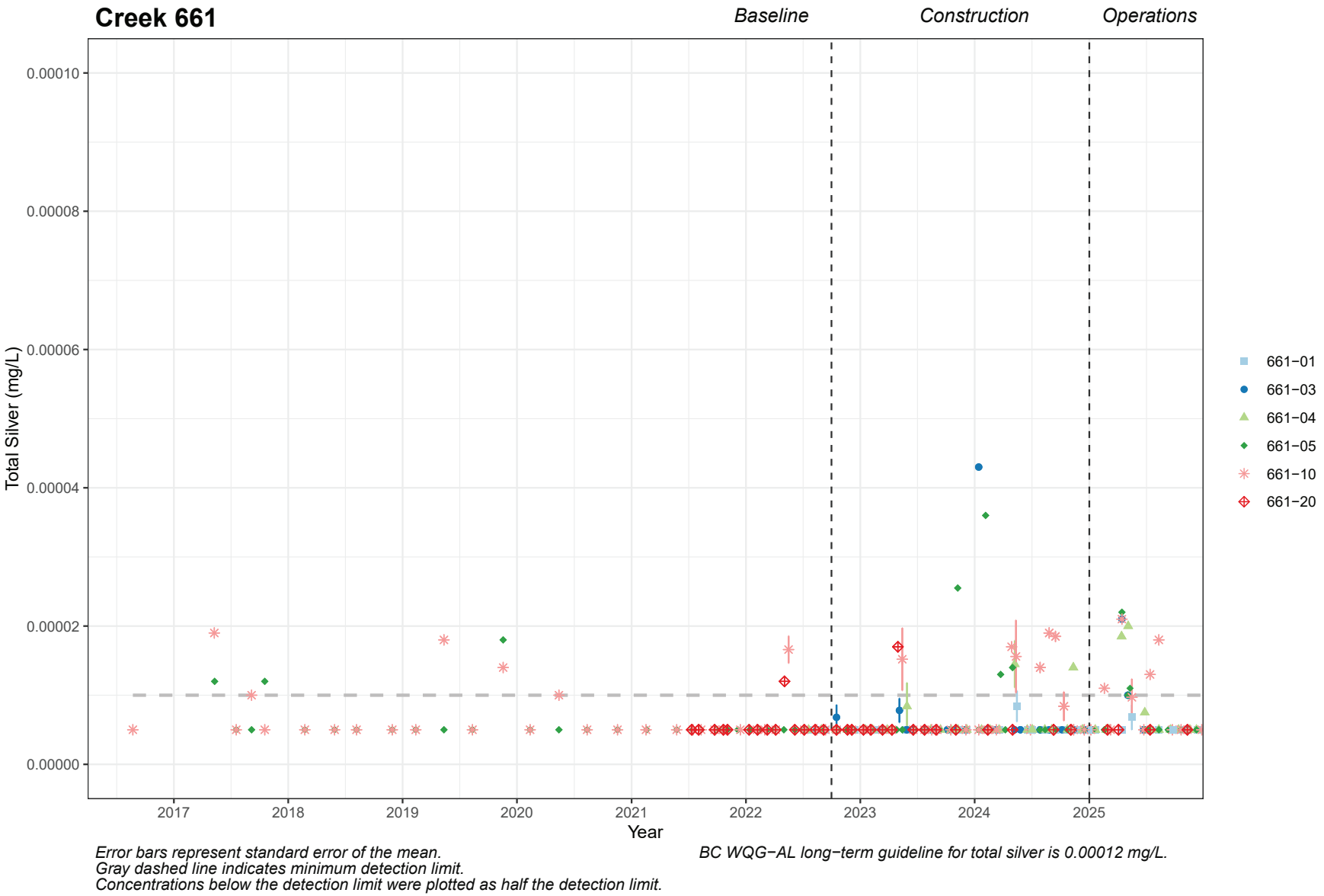


Figure C-40b: Monthly Mean Total Silver Concentrations, Creek 661 Sites, 2016 to 2025

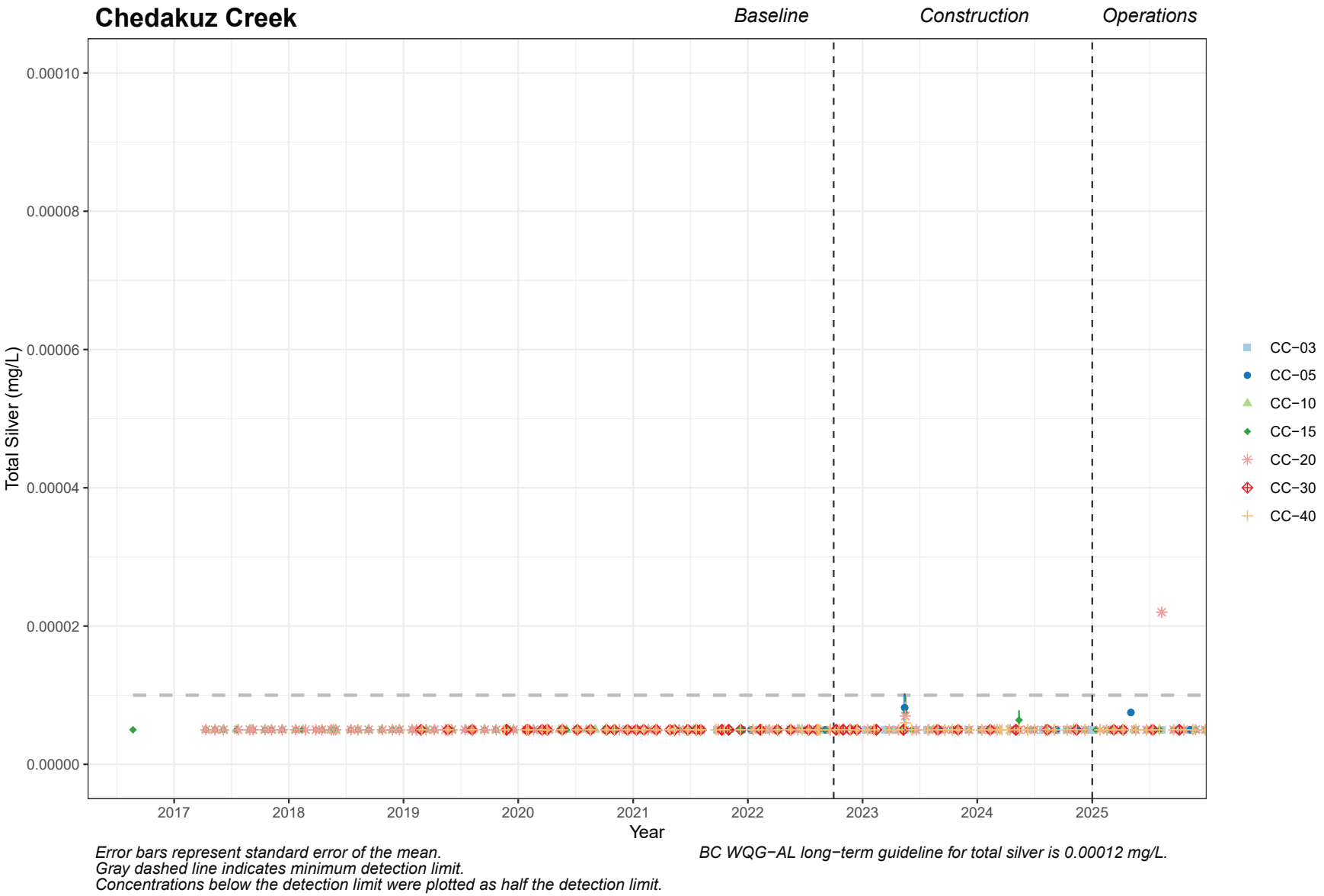


Figure C-40c: Monthly Mean Total Silver Concentrations, Chedakuz Creek Sites, 2016 to 2025

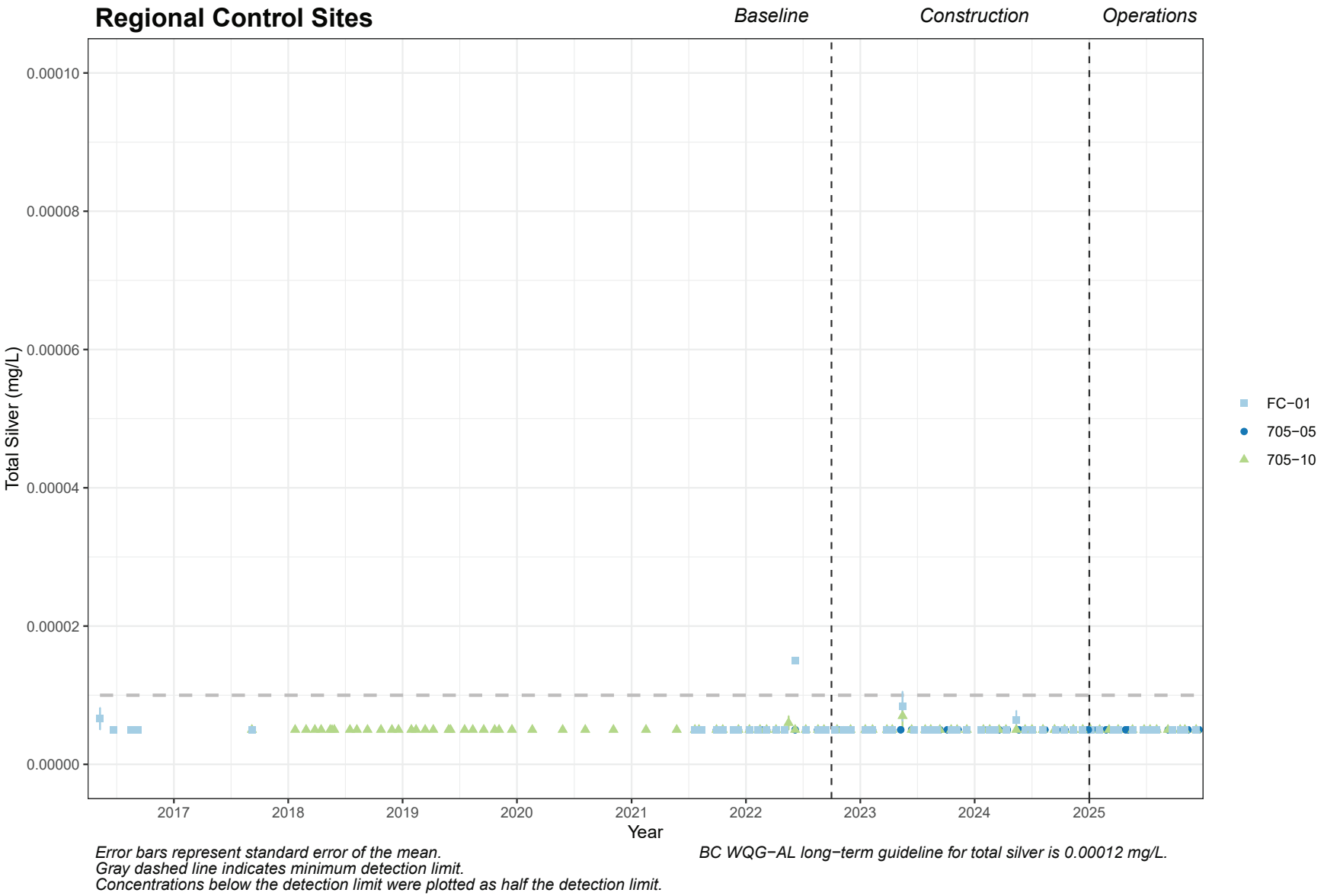


Figure C-40d: Monthly Mean Total Silver Concentrations, Regional Control Sites Sites, 2016 to 2025

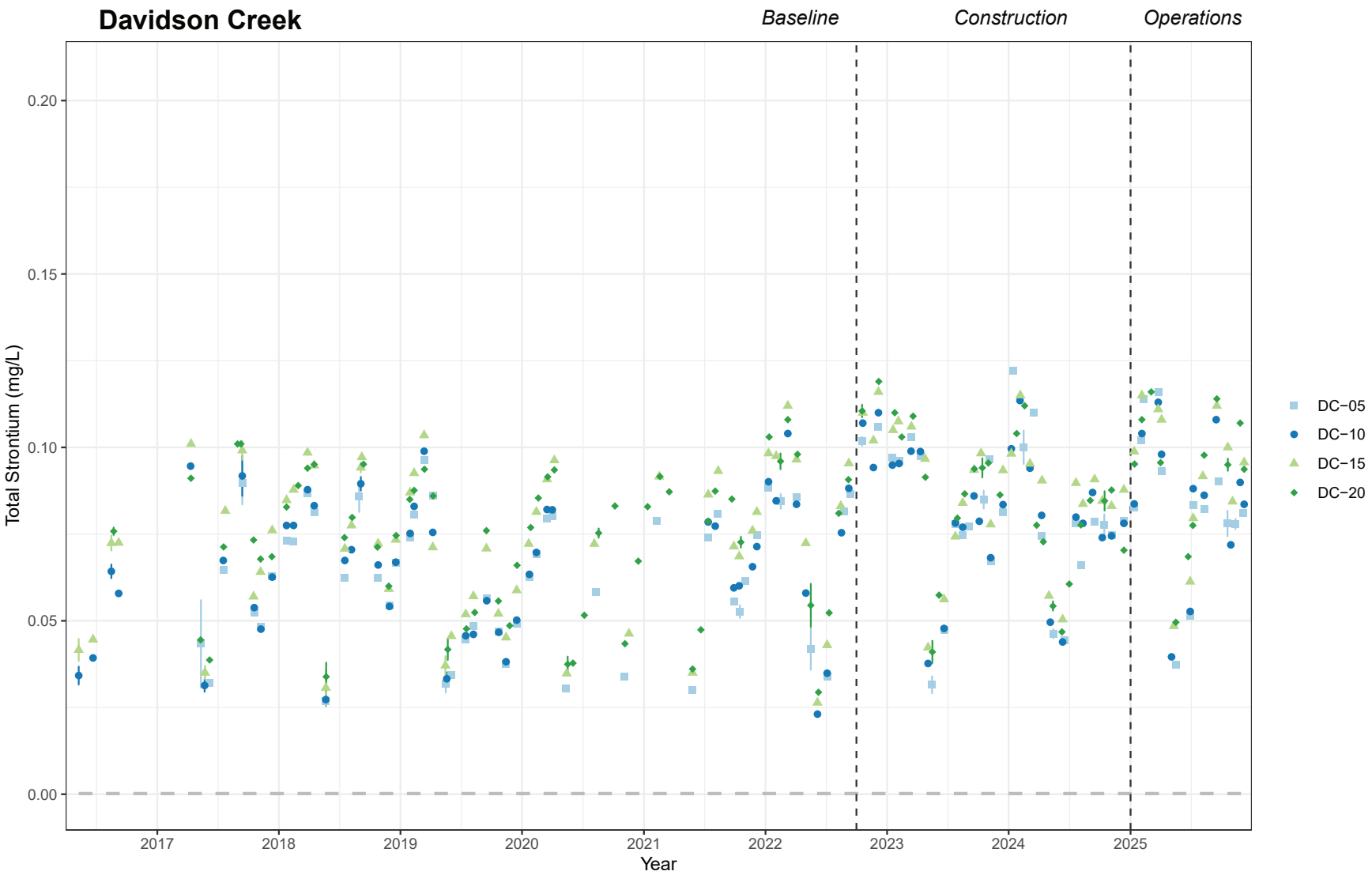
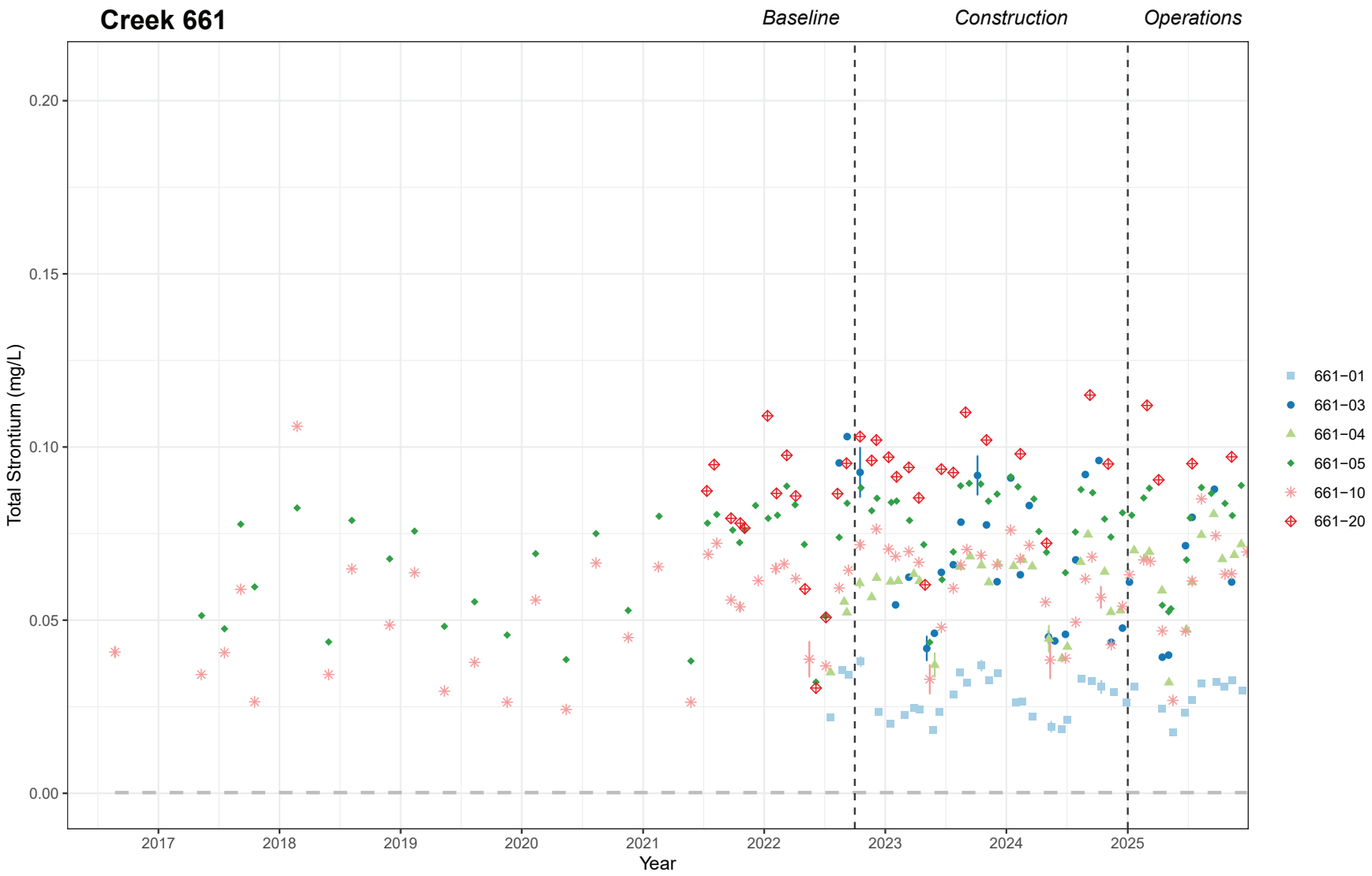
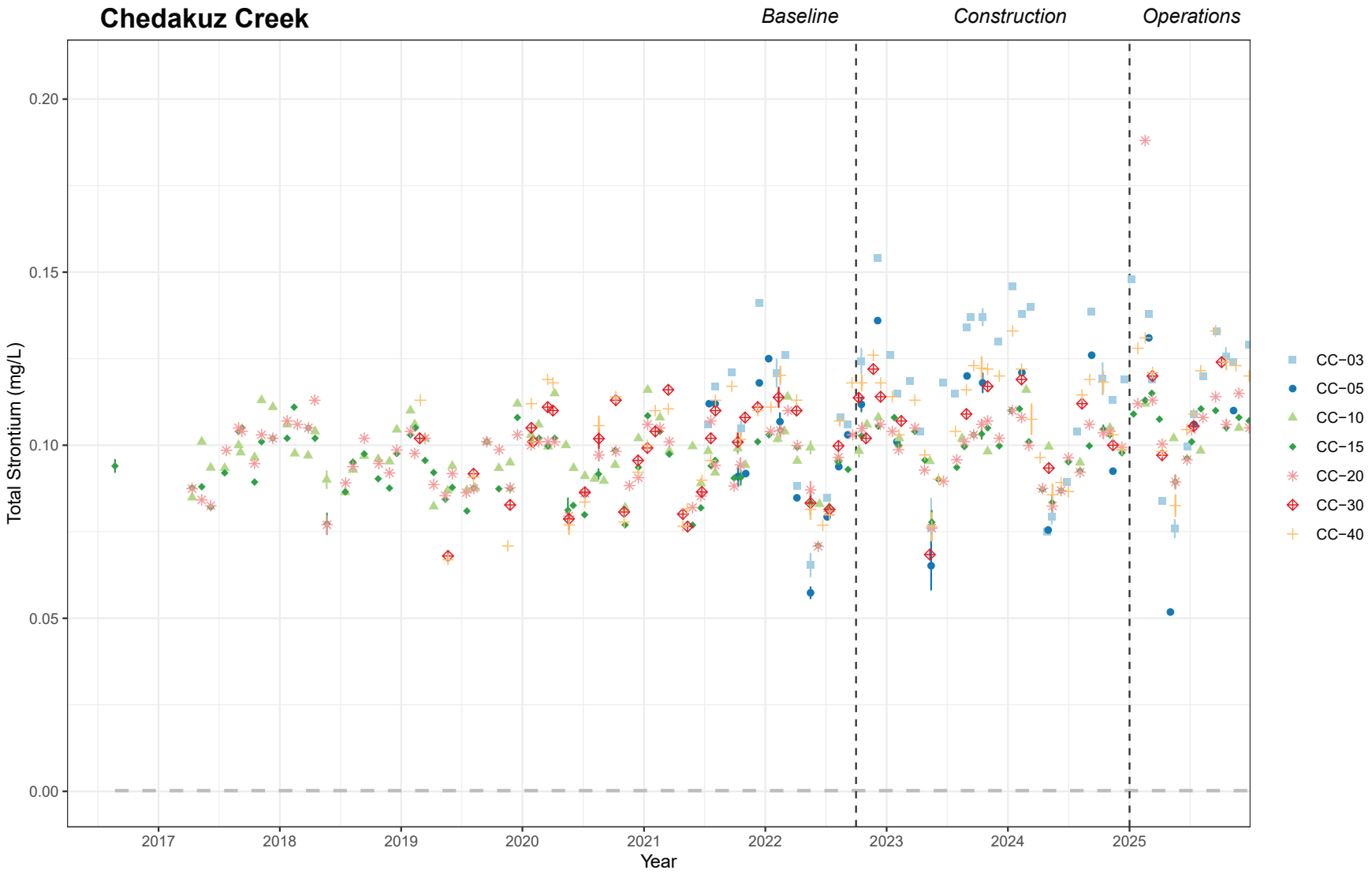


Figure C-41a: Monthly Mean Total Strontium Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-41b: Monthly Mean Total Strontium Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-41c: Monthly Mean Total Strontium Concentrations, Chedakuz Creek Sites, 2016 to 2025

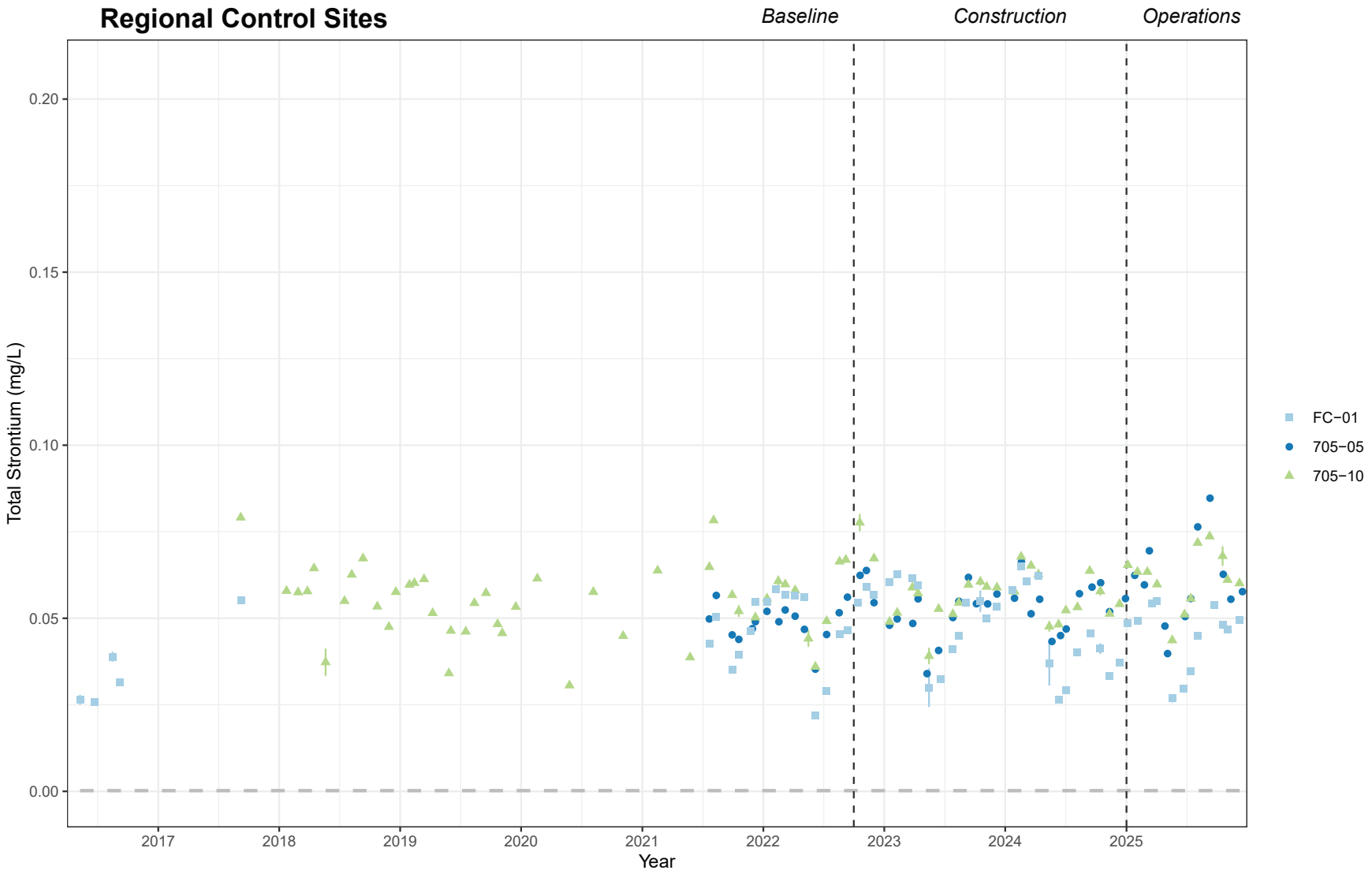
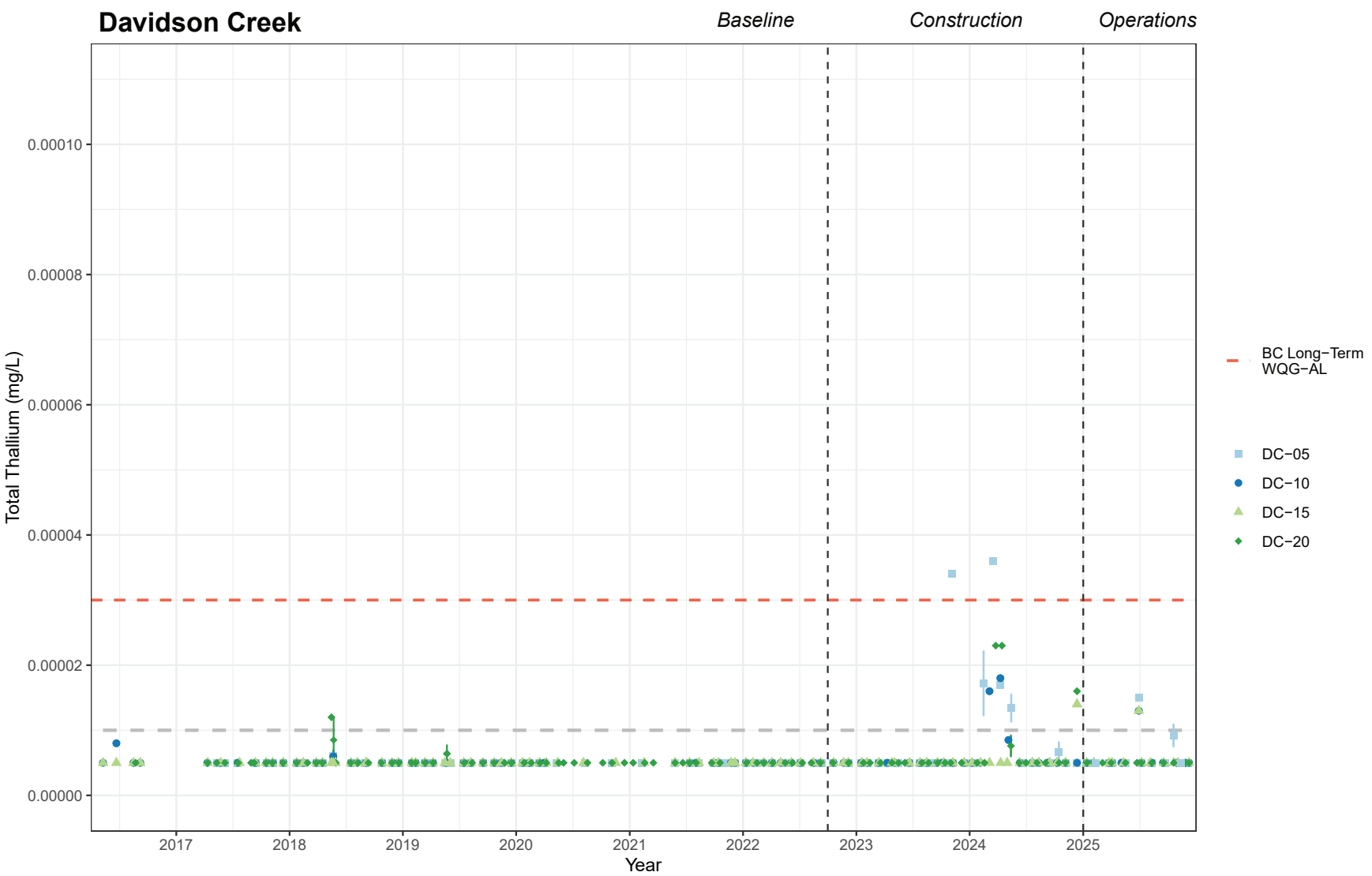
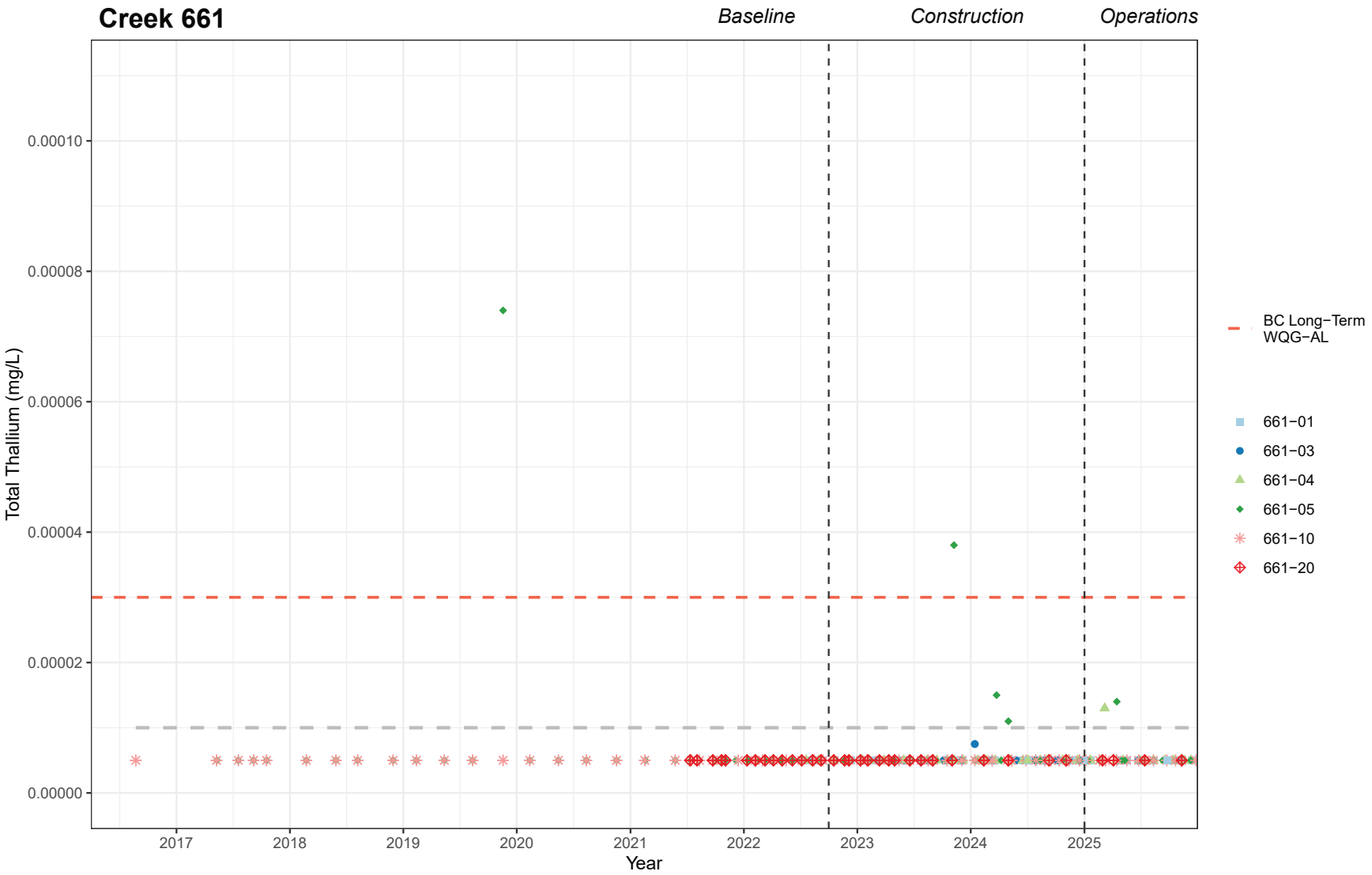


Figure C-41d: Monthly Mean Total Strontium Concentrations, Regional Control Sites Sites, 2016 to 2025



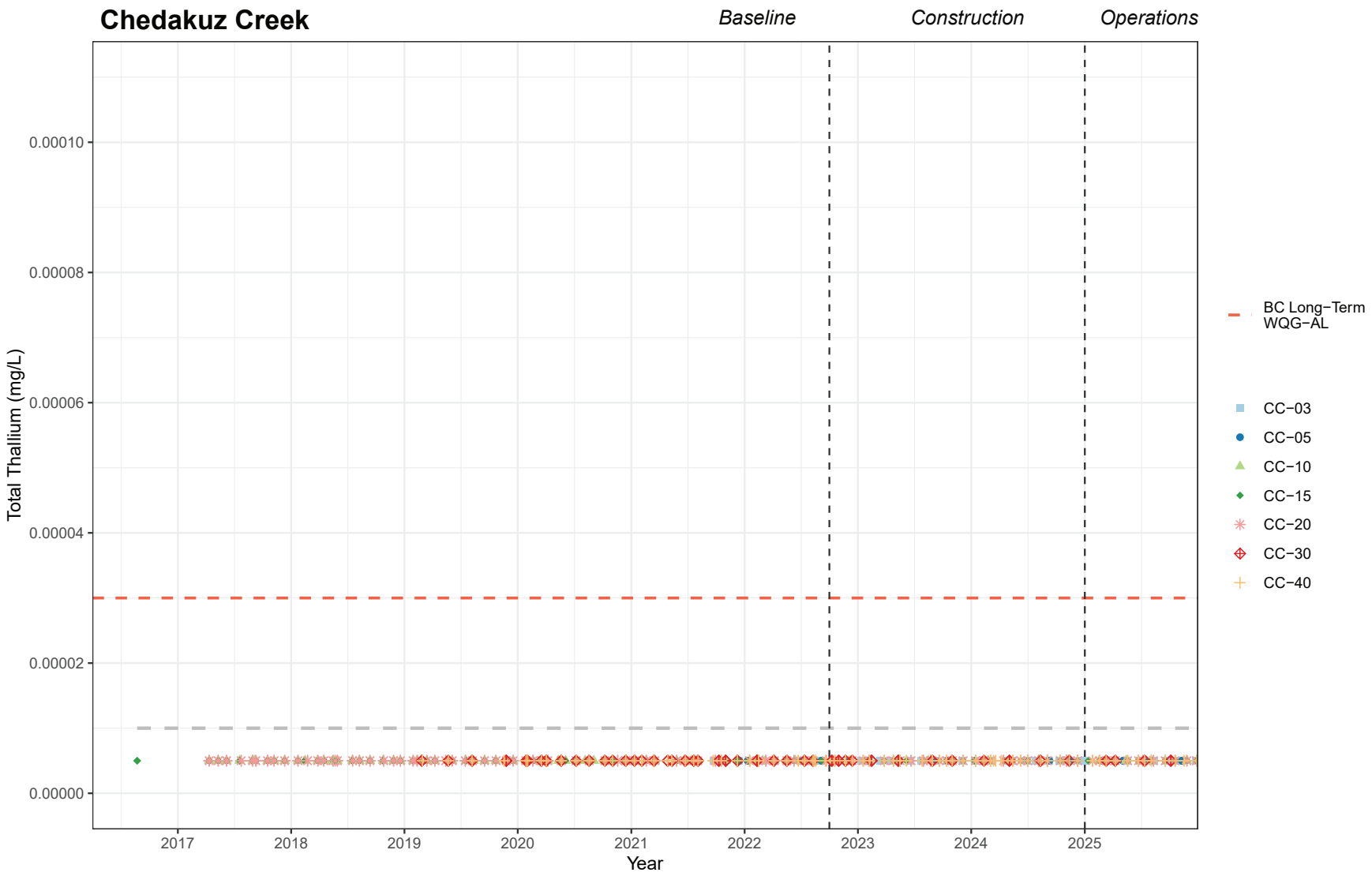
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term working guideline for total thallium = 0.00003 mg/L.

Figure C-42a: Monthly Mean Total Thallium Concentrations, Davidson Creek Sites, 2016 to 2025



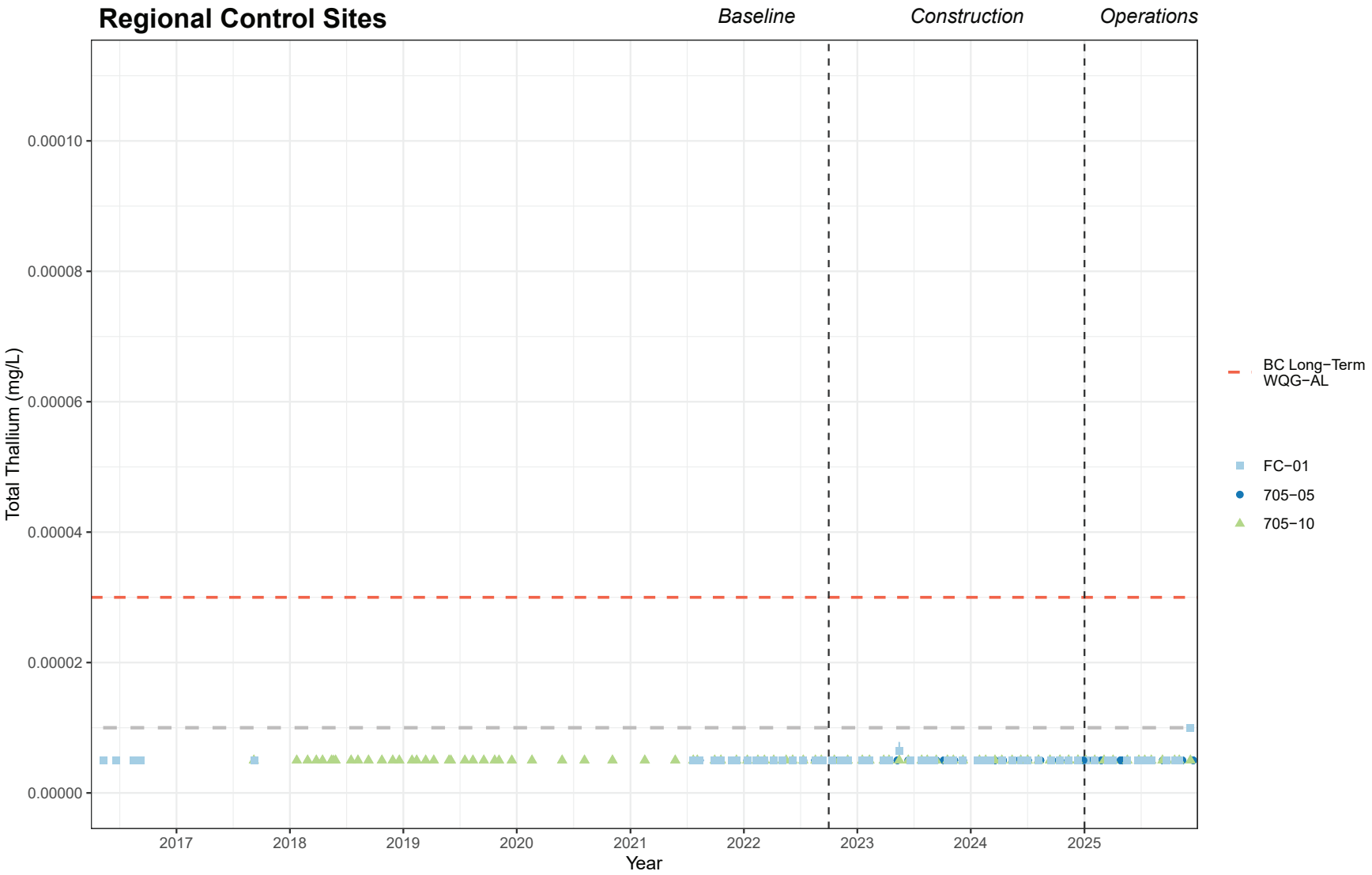
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term working guideline for total thallium = 0.00003 mg/L.

Figure C-42b: Monthly Mean Total Thallium Concentrations, Creek 661 Sites, 2016 to 2025



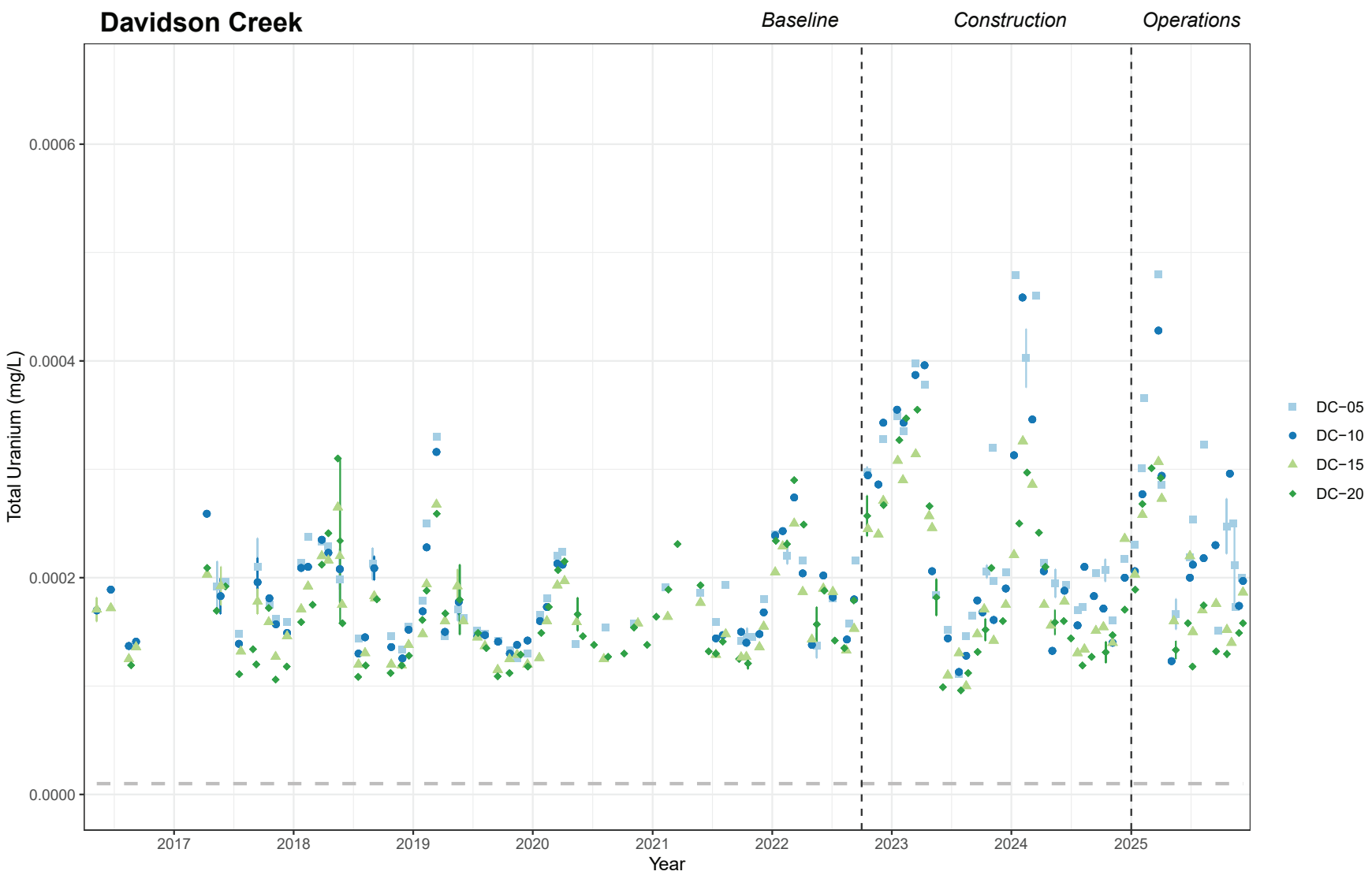
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term working guideline for total thallium = 0.00003 mg/L.

Figure C-42c: Monthly Mean Total Thallium Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term working guideline for total thallium = 0.00003 mg/L.

Figure C-42d: Monthly Mean Total Thallium Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL working long−term guideline for total uranium = 0.0085 mg/L.

Figure C-43a: Monthly Mean Total Uranium Concentrations, Davidson Creek Sites, 2016 to 2025

Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL working long−term guideline for total uranium = 0.0085 mg/L.

Figure C-43b: Monthly Mean Total Uranium Concentrations, Creek 661 Sites, 2016 to 2025

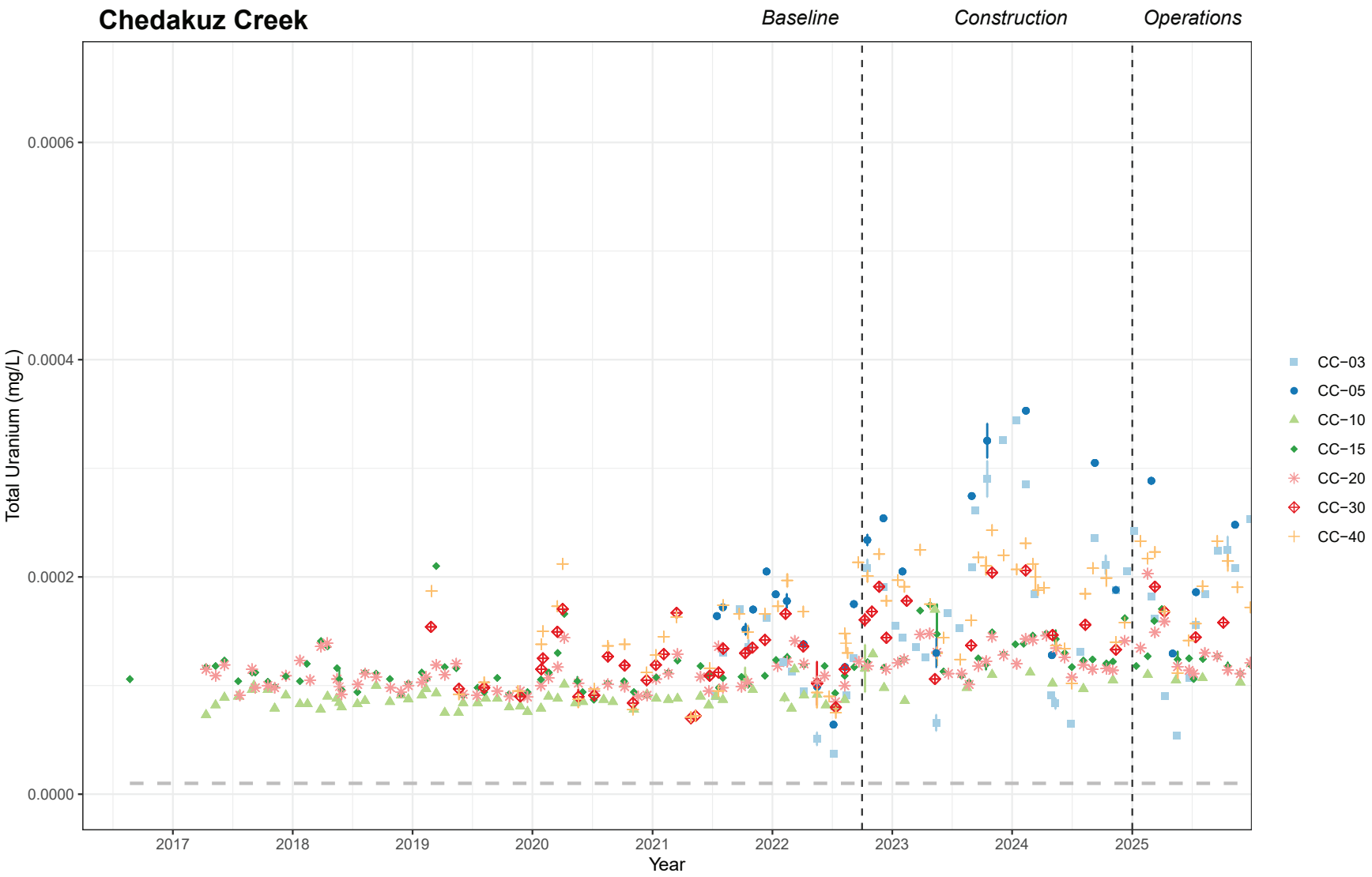
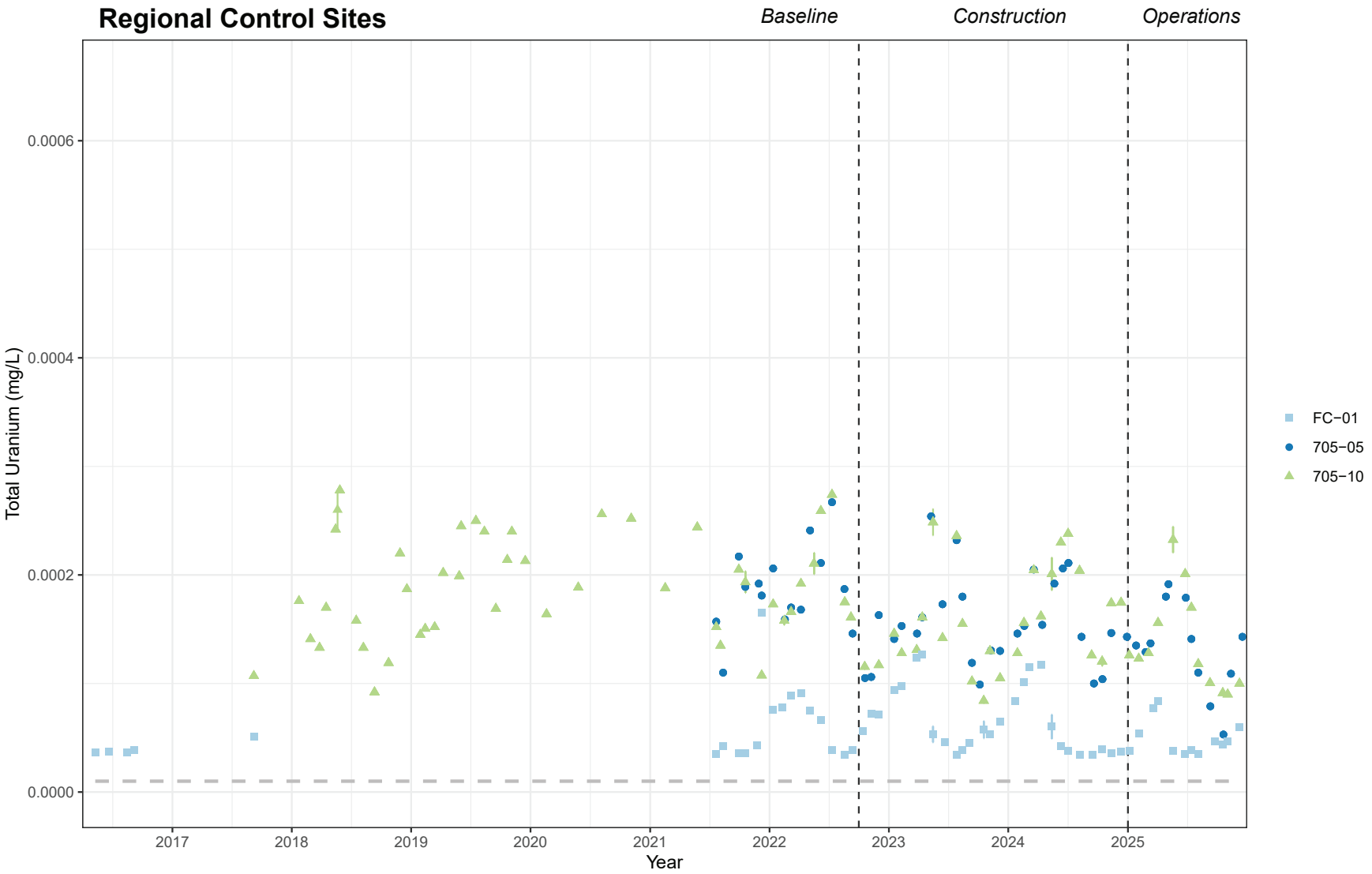
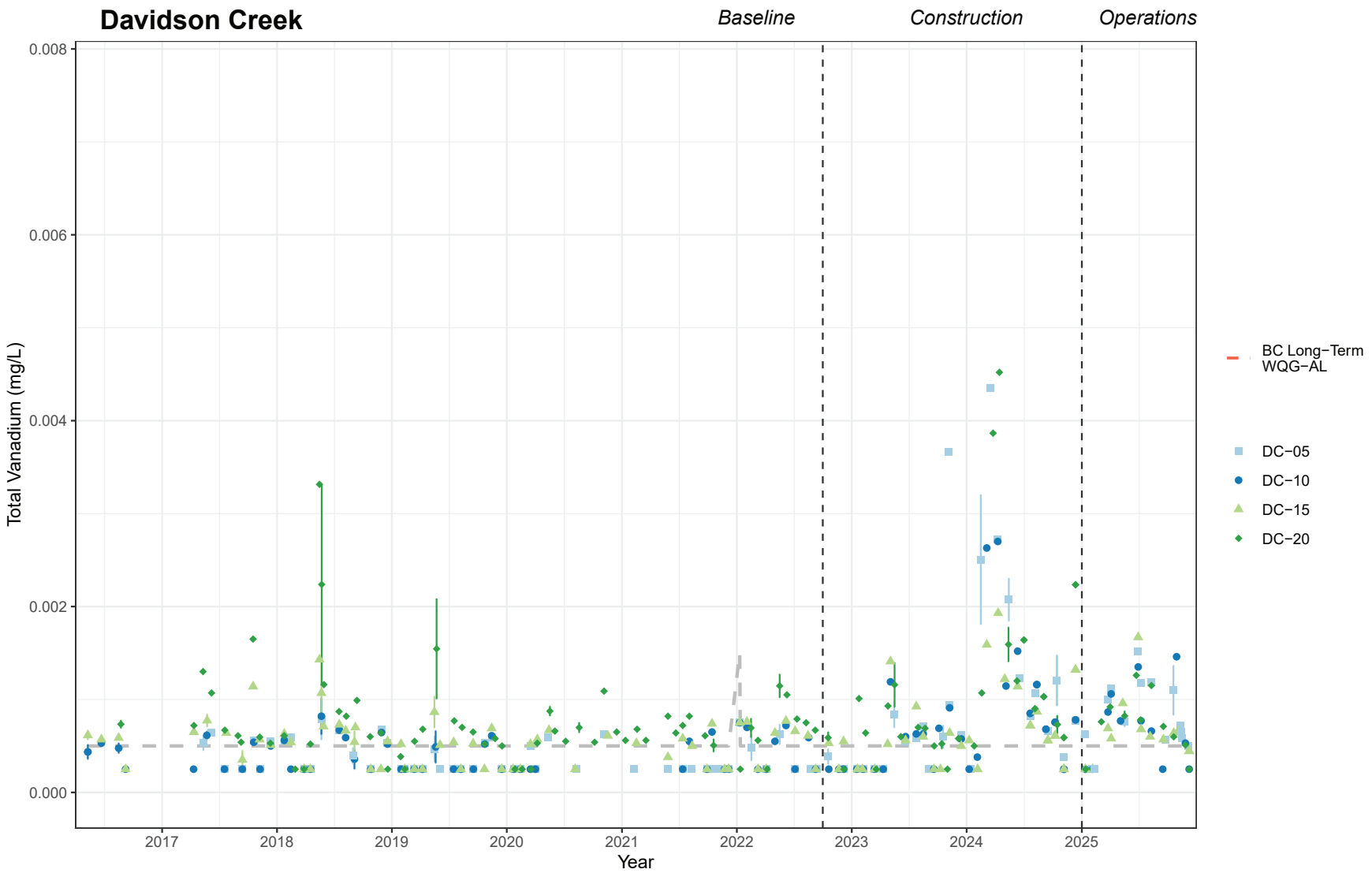


Figure C-43c: Monthly Mean Total Uranium Concentrations, Chedakuz Creek Sites, 2016 to 2025



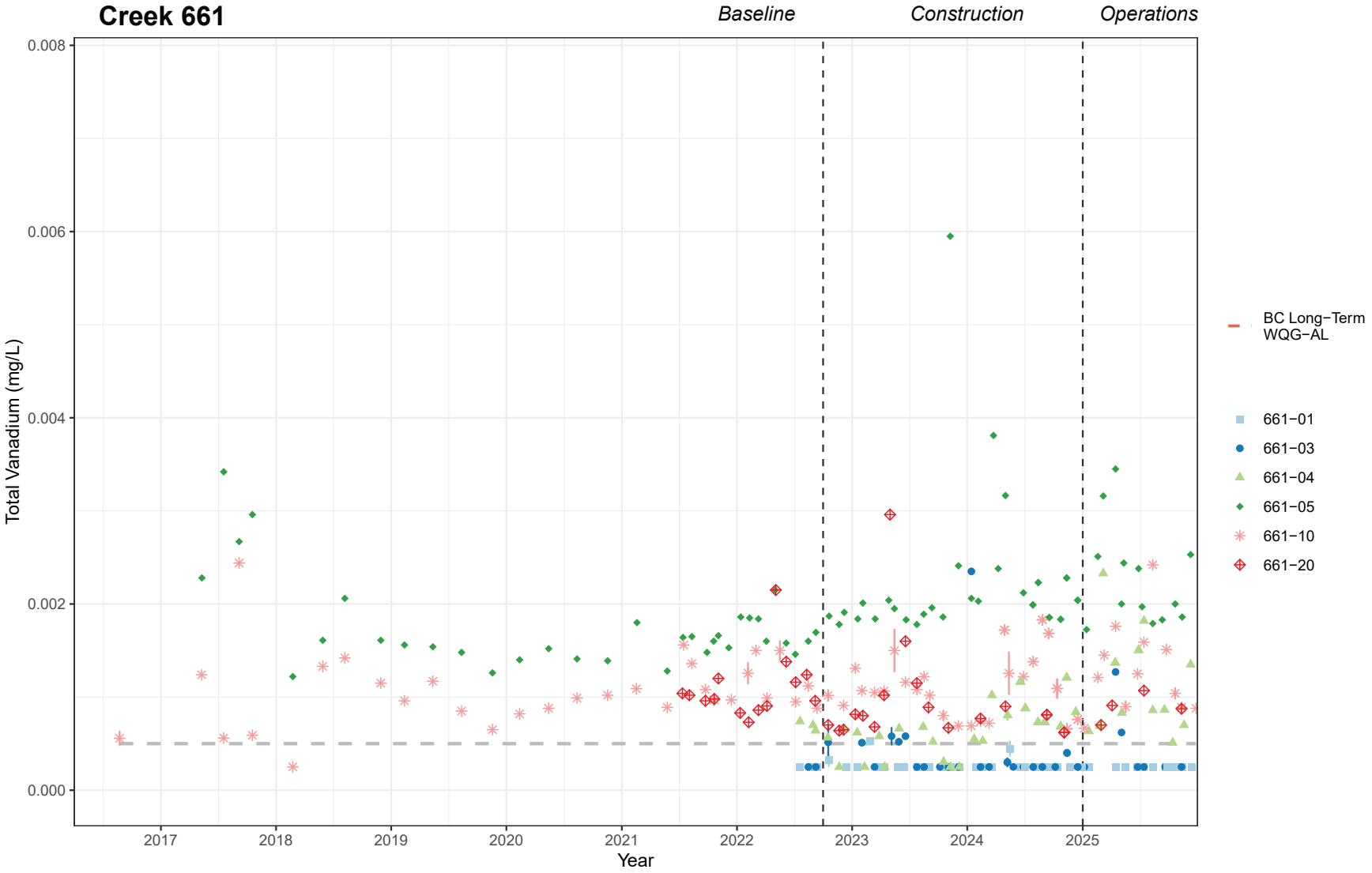
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL working long−term guideline for total uranium = 0.0085 mg/L.

Figure C-43d: Monthly Mean Total Uranium Concentrations, Regional Control Sites Sites, 2016 to 2025



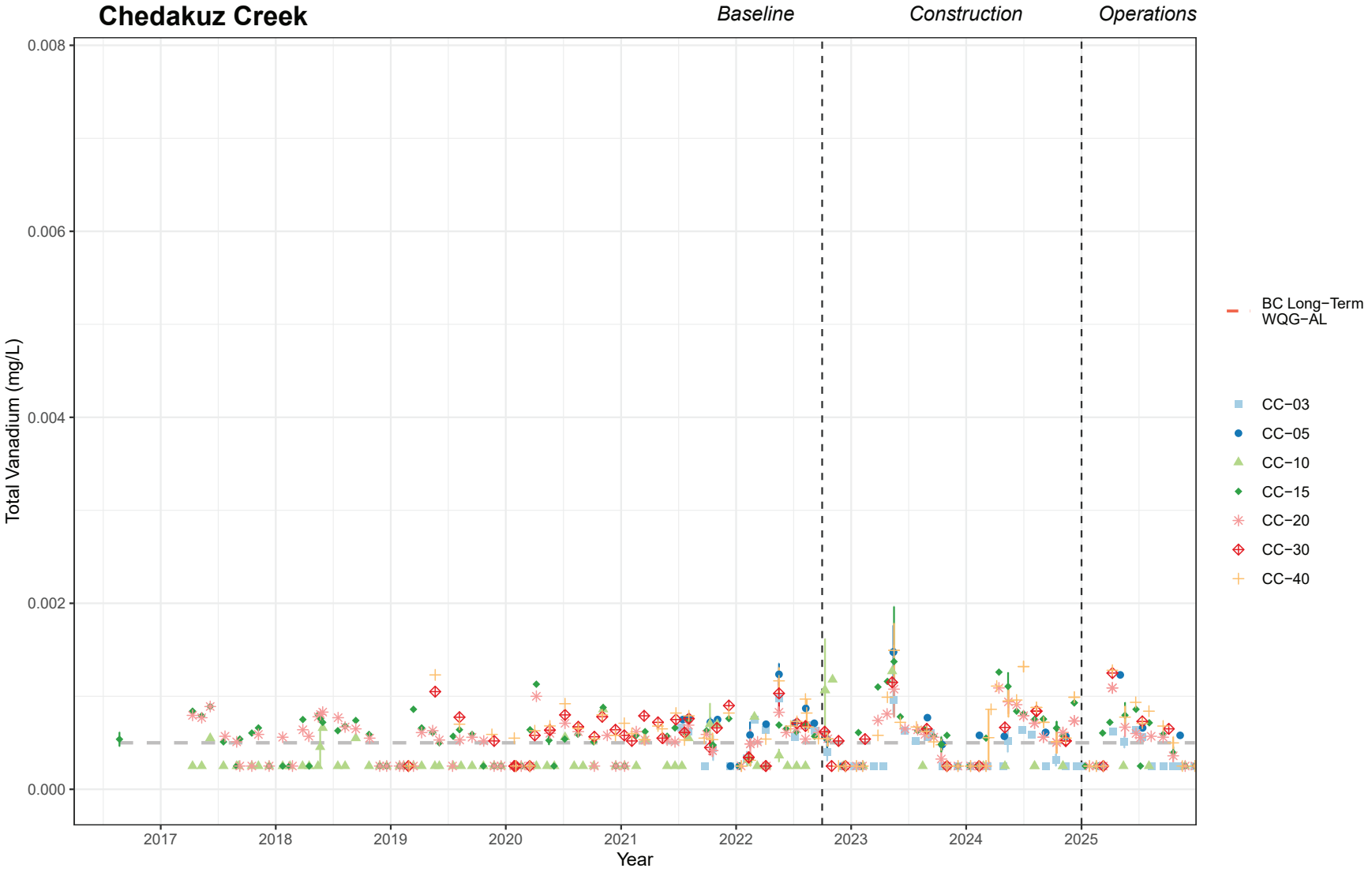
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-44a: Monthly Mean Total Vanadium Concentrations, Davidson Creek Sites, 2016 to 2025



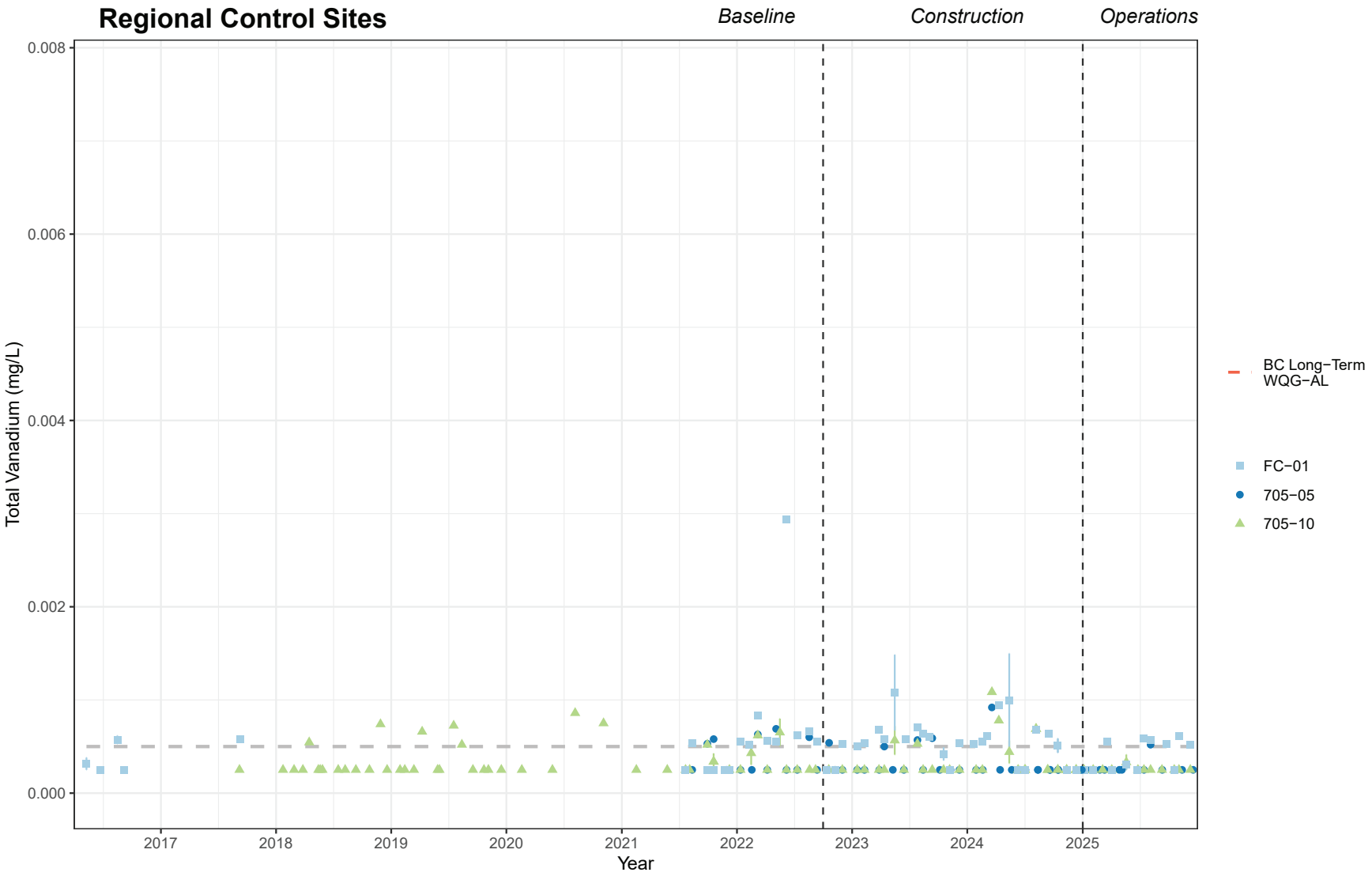
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-44b: Monthly Mean Total Vanadium Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-44c: Monthly Mean Total Vanadium Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-44d: Monthly Mean Total Vanadium Concentrations, Regional Control Sites Sites, 2016 to 2025

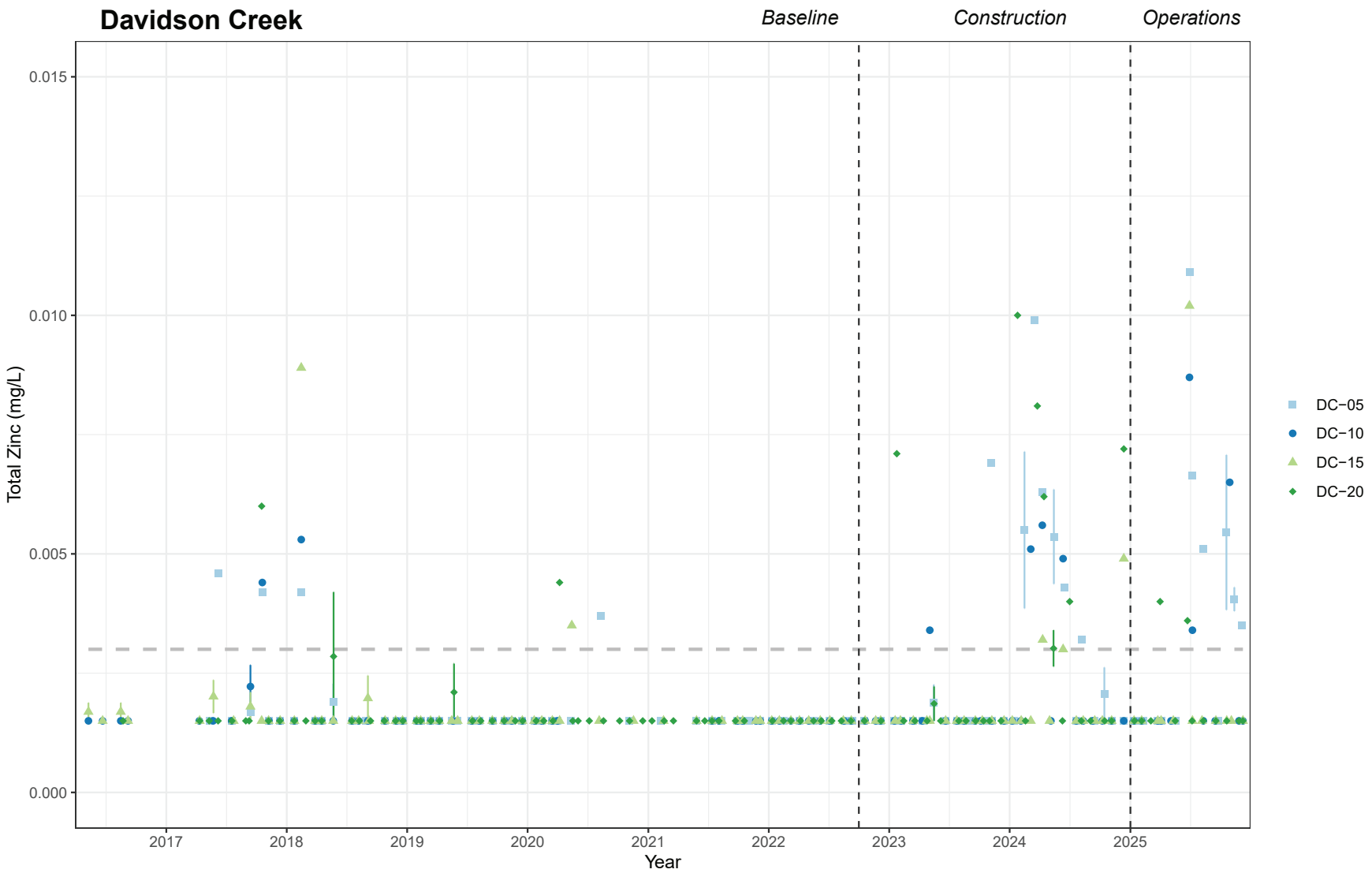


Figure C-45a: Monthly Mean Total Zinc Concentrations, Davidson Creek Sites, 2016 to 2025

Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-45b: Monthly Mean Total Zinc Concentrations, Creek 661 Sites, 2016 to 2025

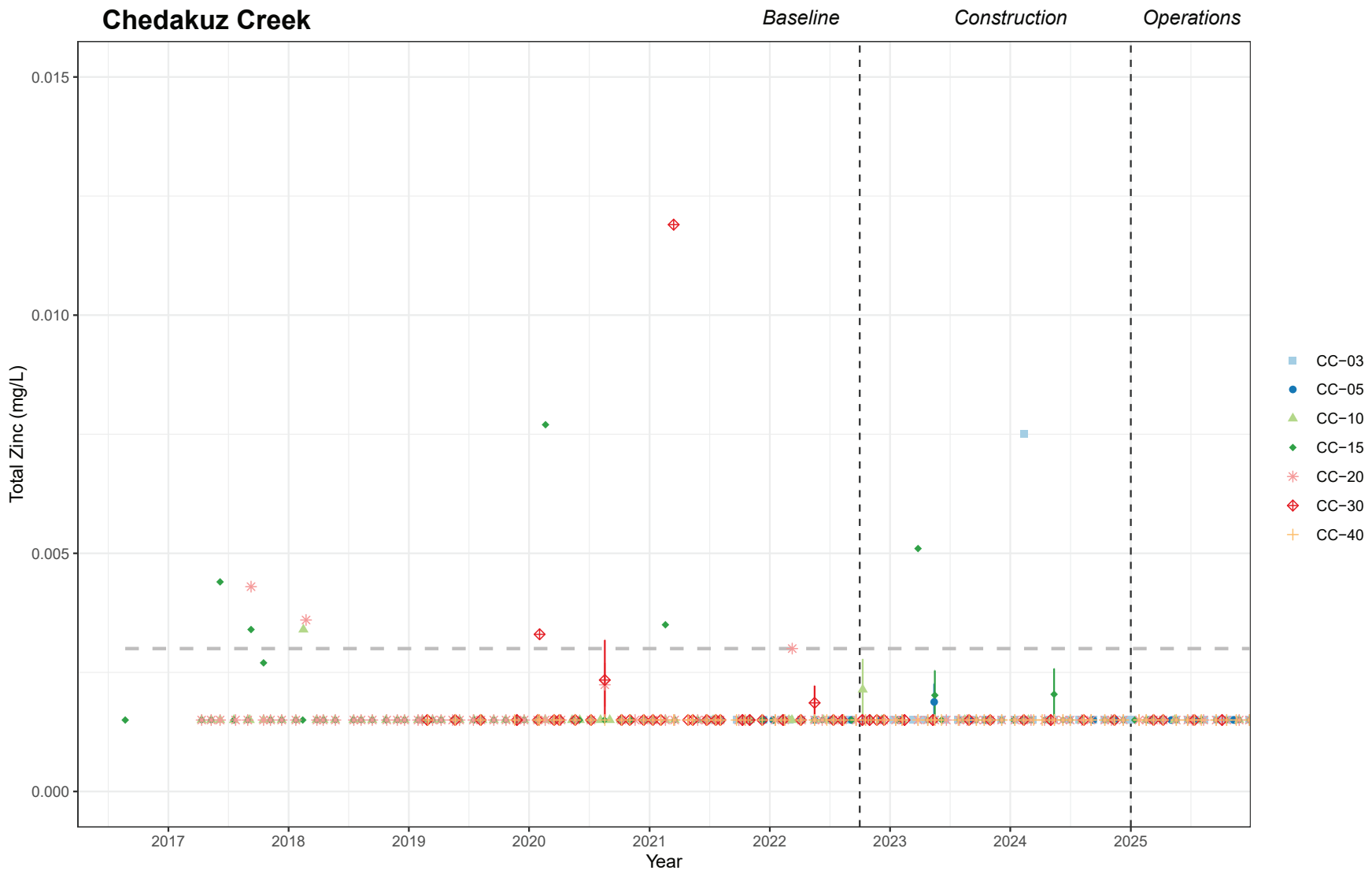


Figure C-45c: Monthly Mean Total Zinc Concentrations, Chedakuz Creek Sites, 2016 to 2025

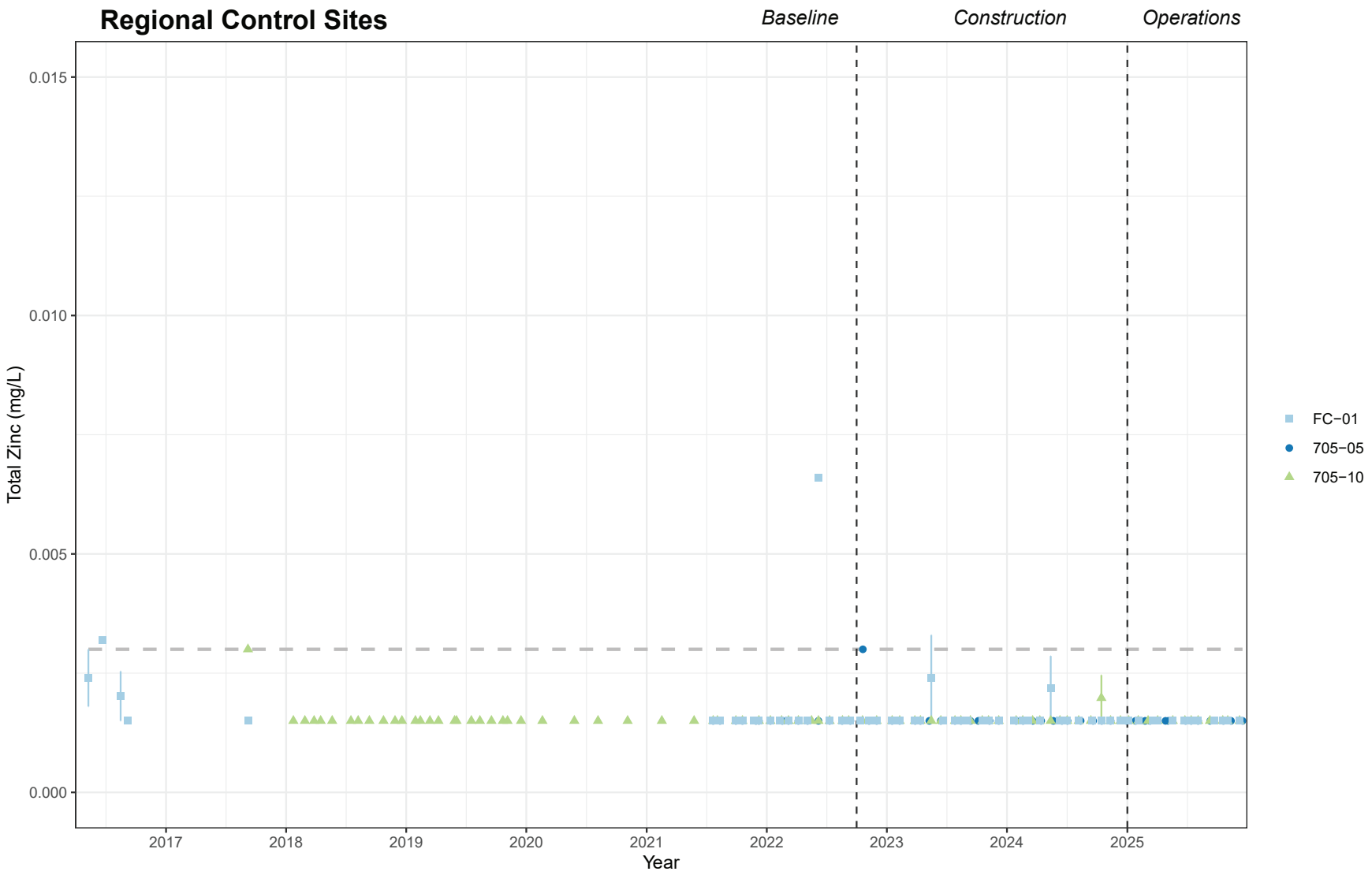


Figure C-45d: Monthly Mean Total Zinc Concentrations, Regional Control Sites Sites, 2016 to 2025

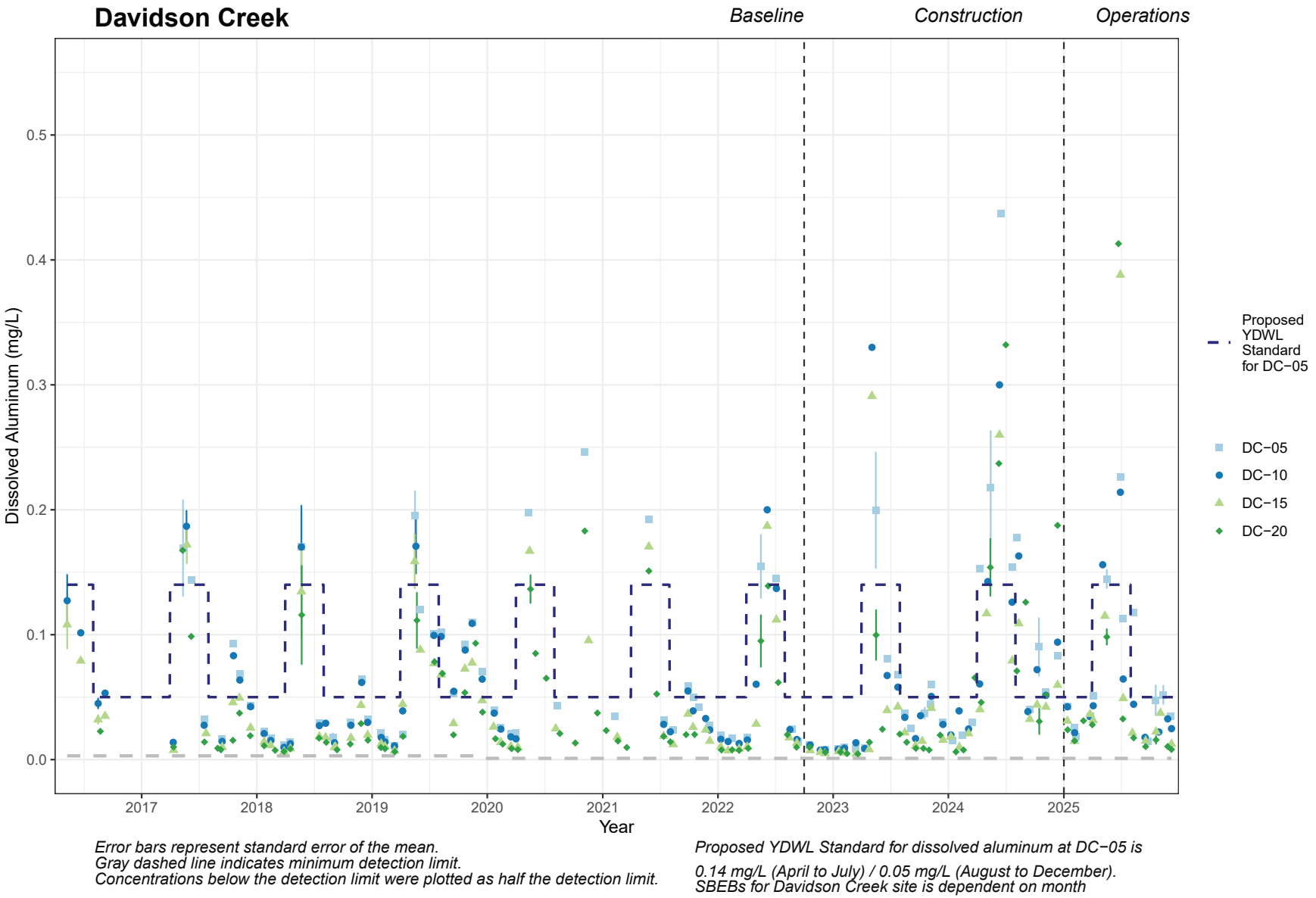


Figure C-46a: Monthly Mean Dissolved Aluminum Concentrations, Davidson Creek Sites, 2016 to 2025

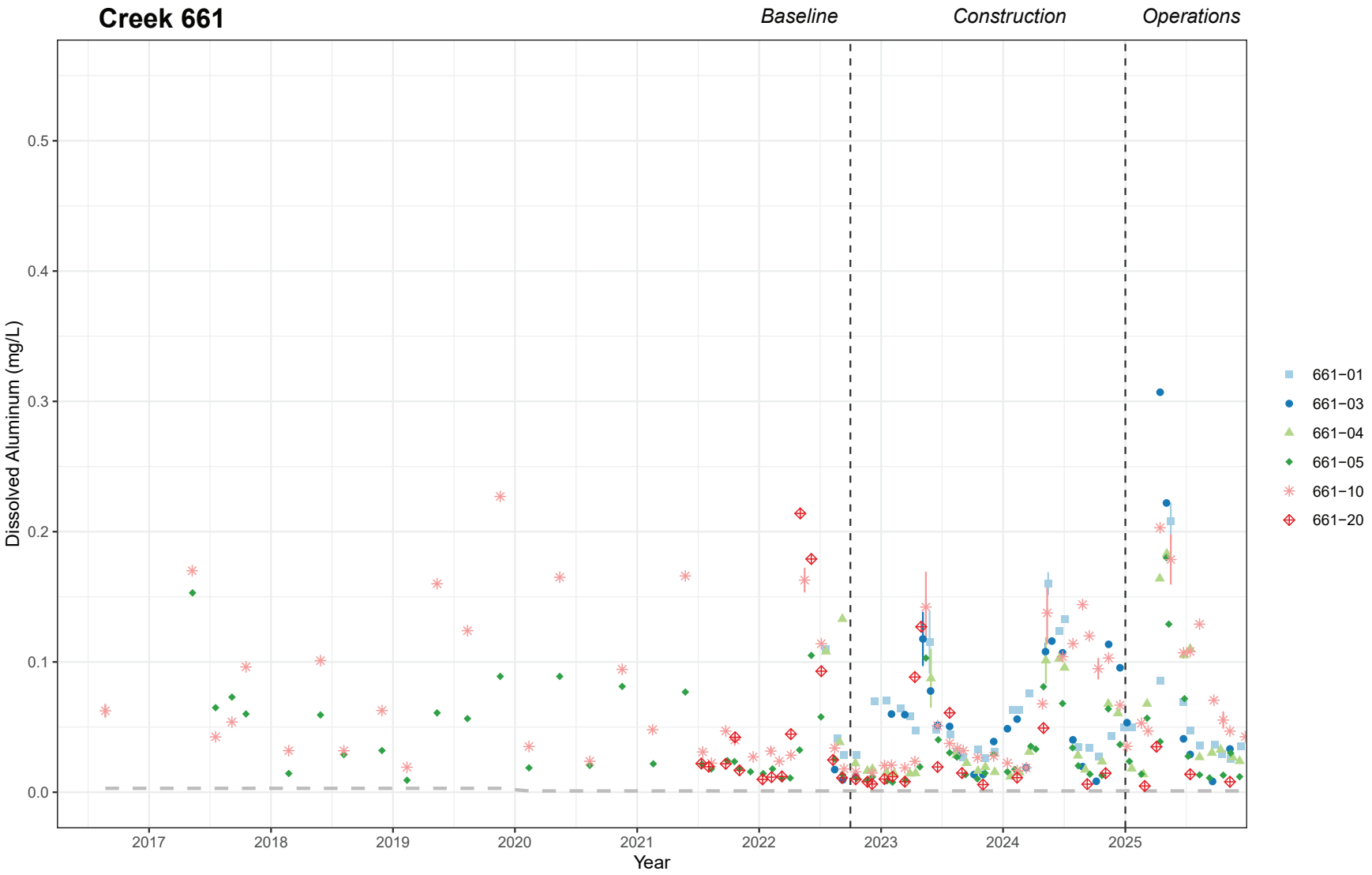


Figure C-46b: Monthly Mean Dissolved Aluminum Concentrations, Creek 661 Sites, 2016 to 2025

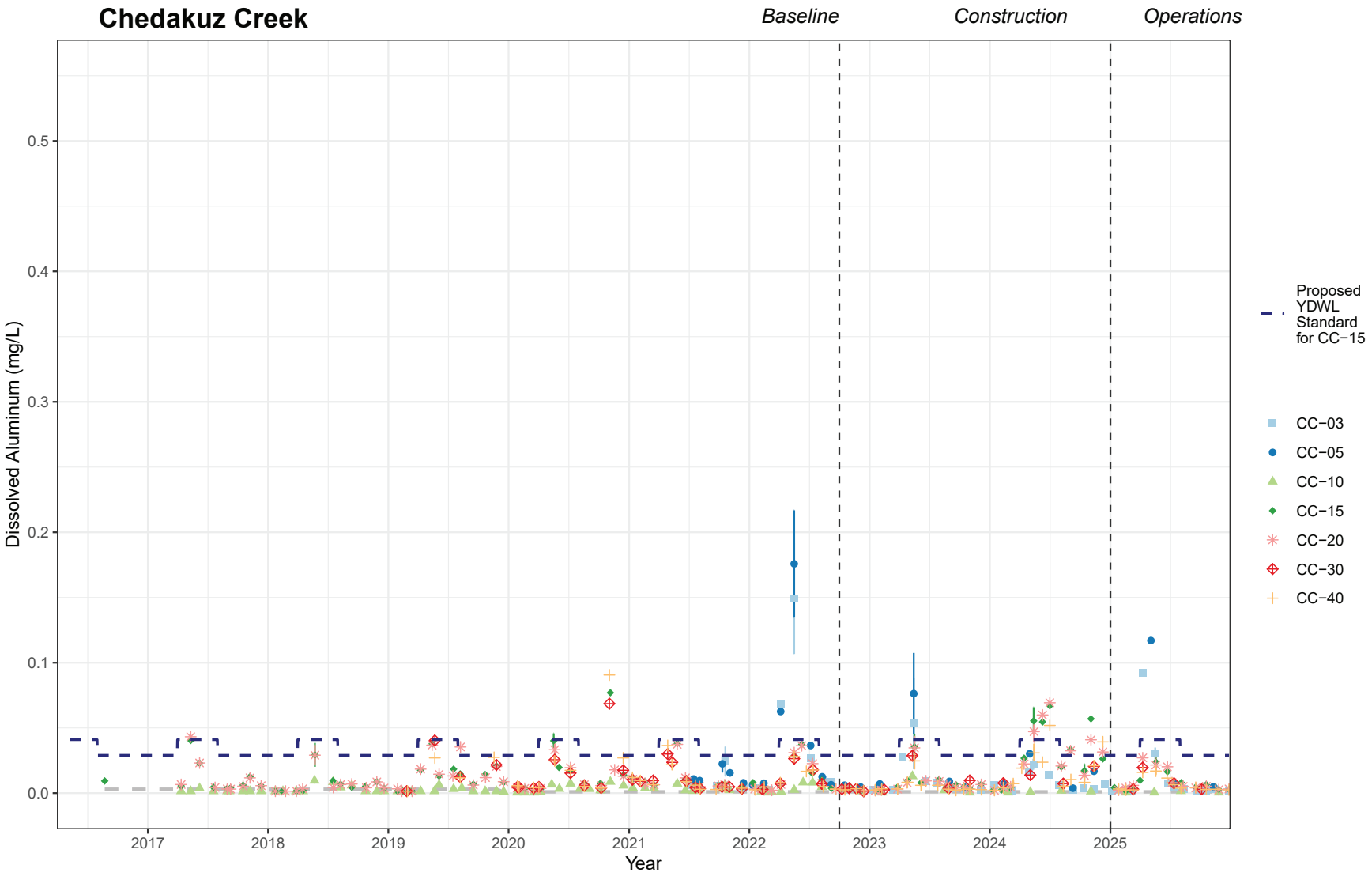


Figure C-46c: Monthly Mean Dissolved Aluminum Concentrations, Chedakuz Creek Sites, 2016 to 2025

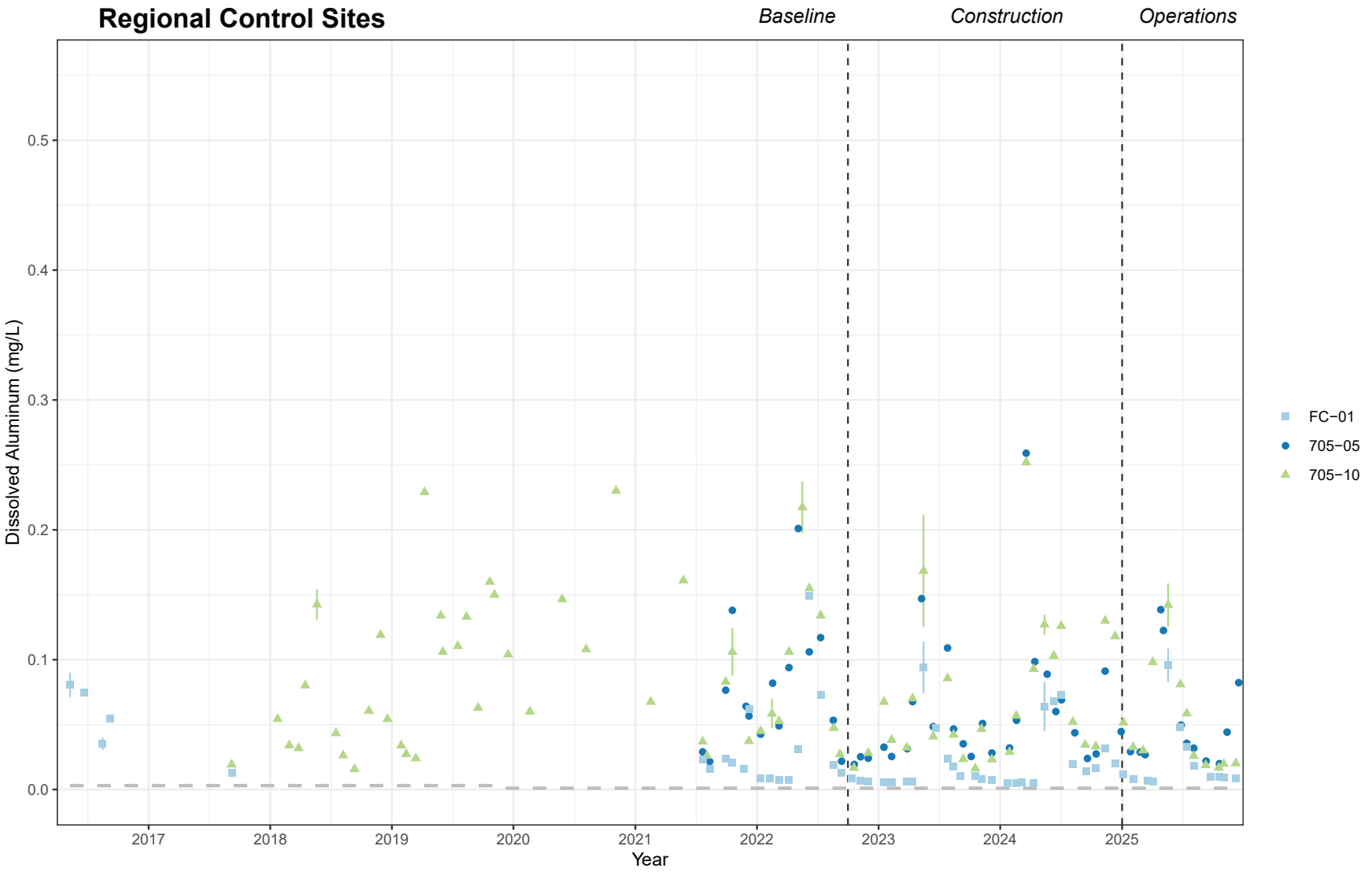


Figure C-46d: Monthly Mean Dissolved Aluminum Concentrations, Regional Control Sites Sites, 2016 to 2025

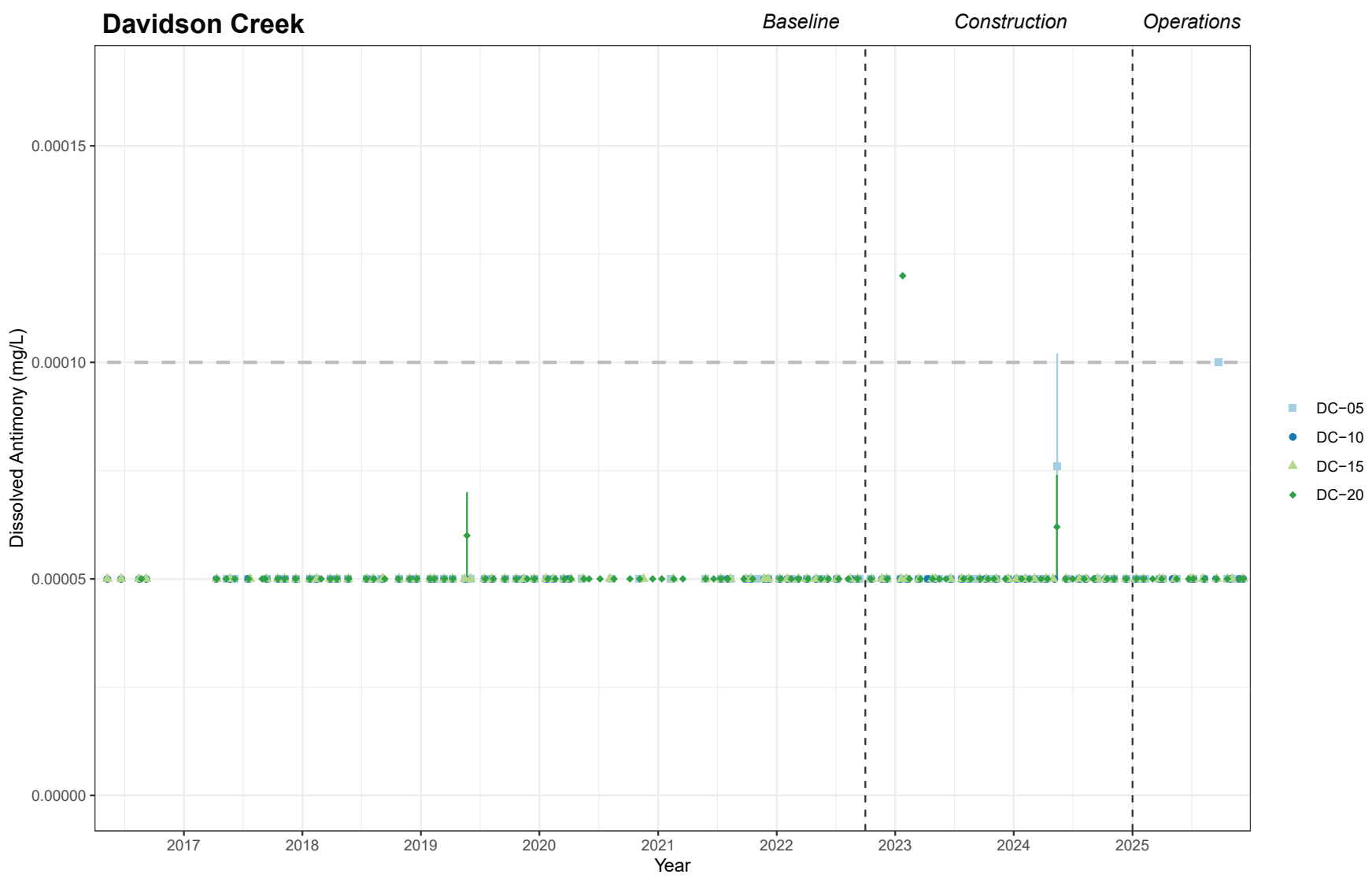


Figure C-47a: Monthly Mean Dissolved Antimony Concentrations, Davidson Creek Sites, 2016 to 2025

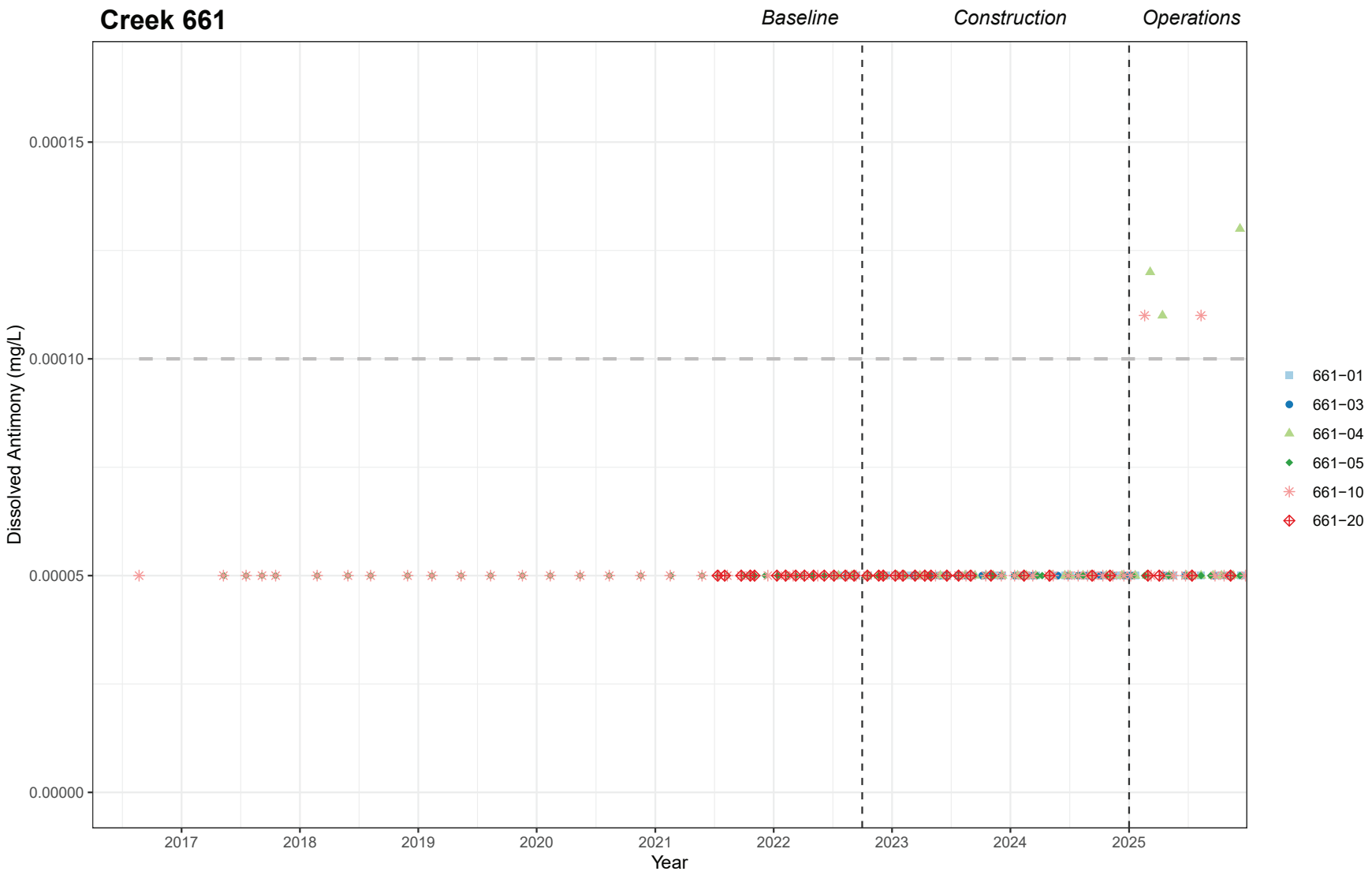


Figure C-47b: Monthly Mean Dissolved Antimony Concentrations, Creek 661 Sites, 2016 to 2025

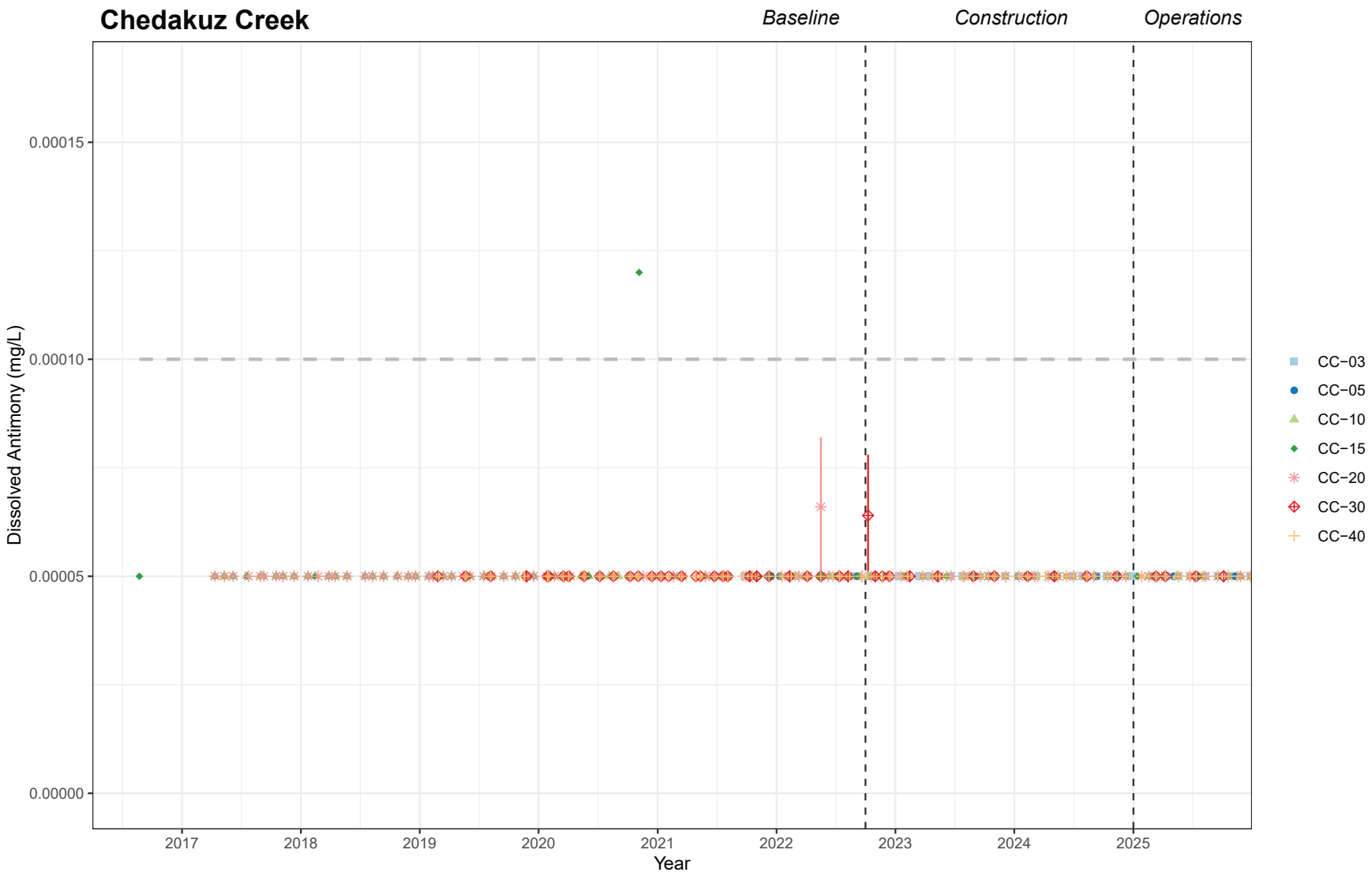


Figure C-47c: Monthly Mean Dissolved Antimony Concentrations, Chedakuz Creek Sites, 2016 to 2025

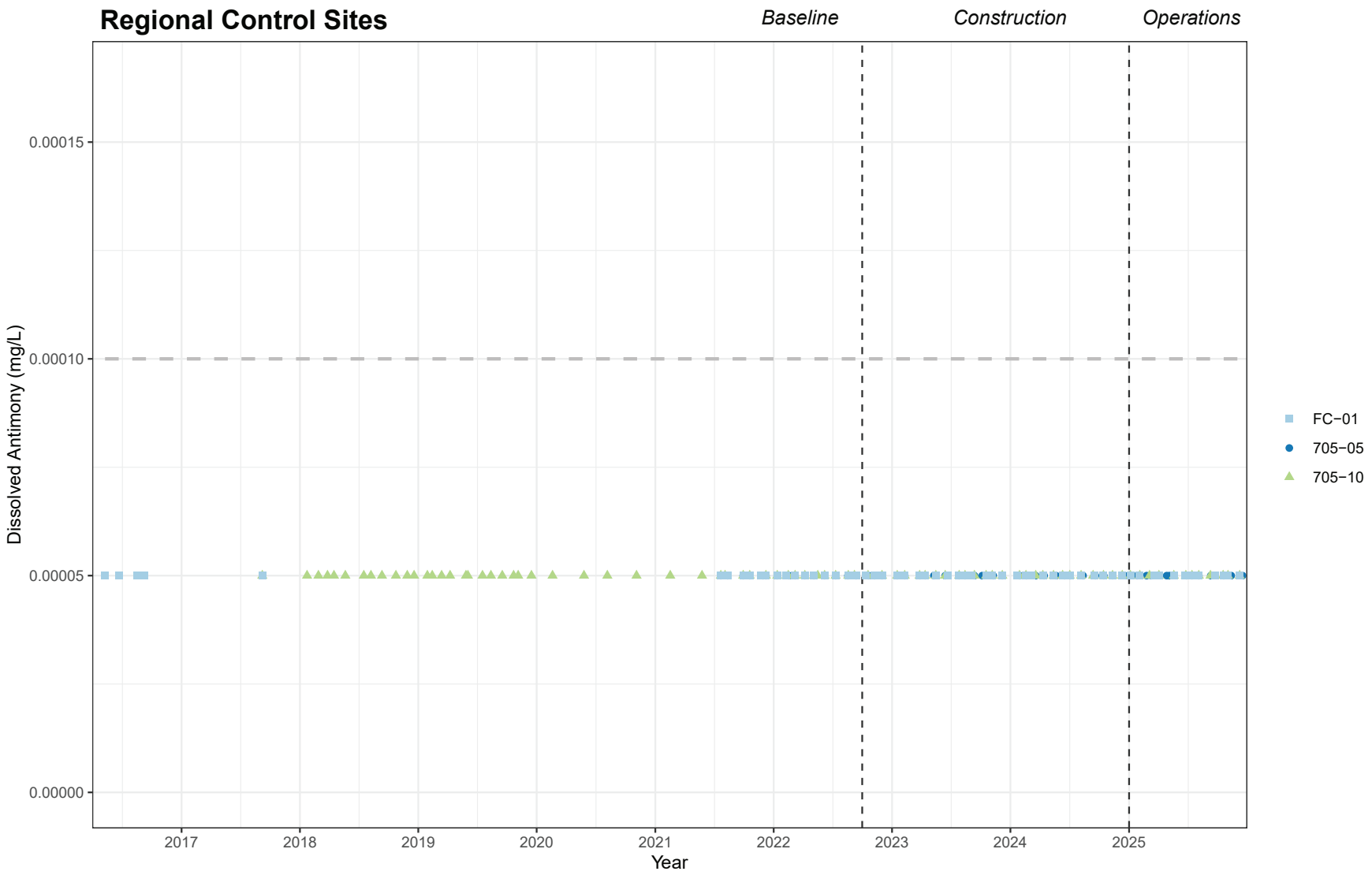


Figure C-47d: Monthly Mean Dissolved Antimony Concentrations, Regional Control Sites Sites, 2016 to 2025

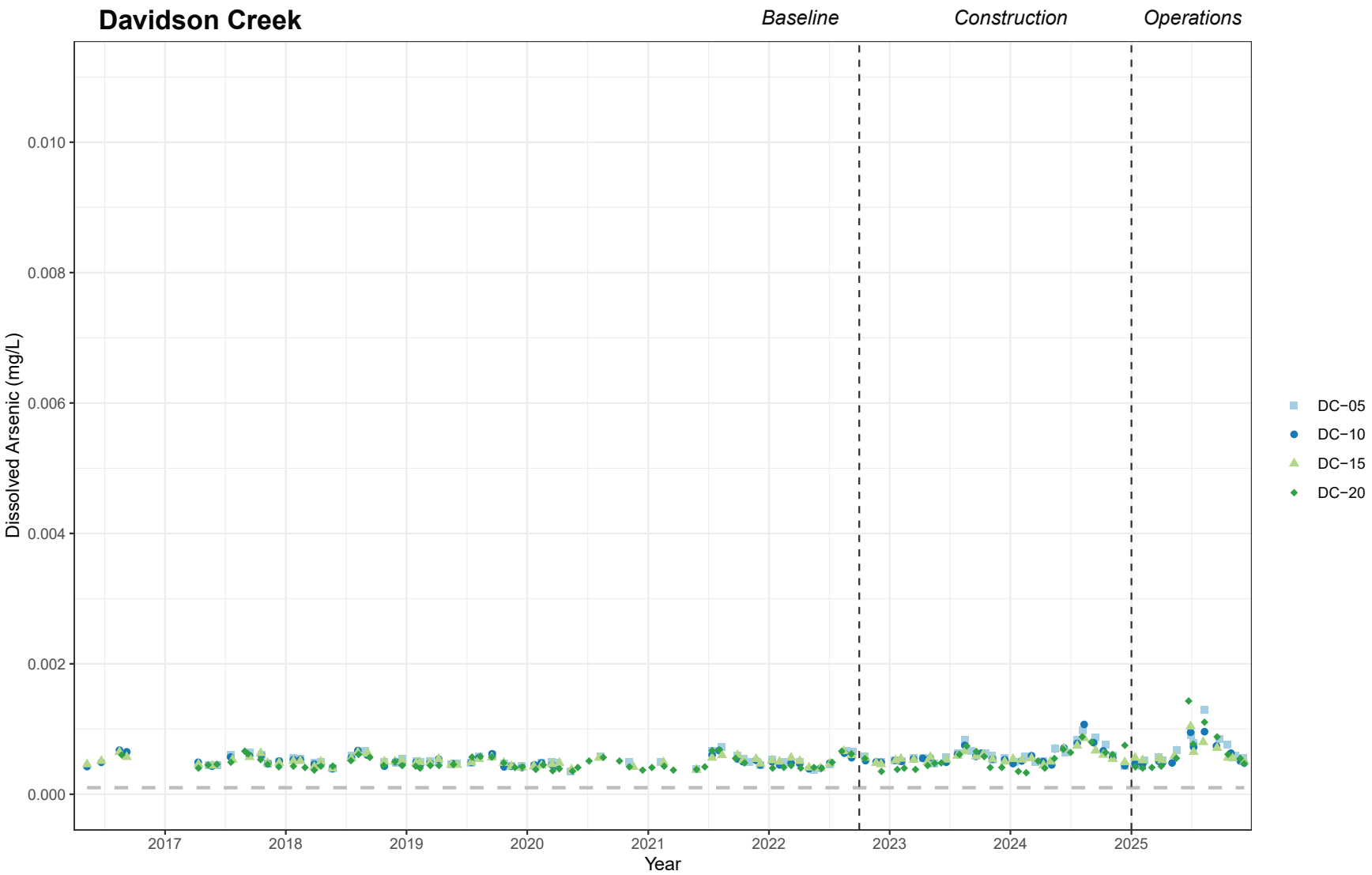
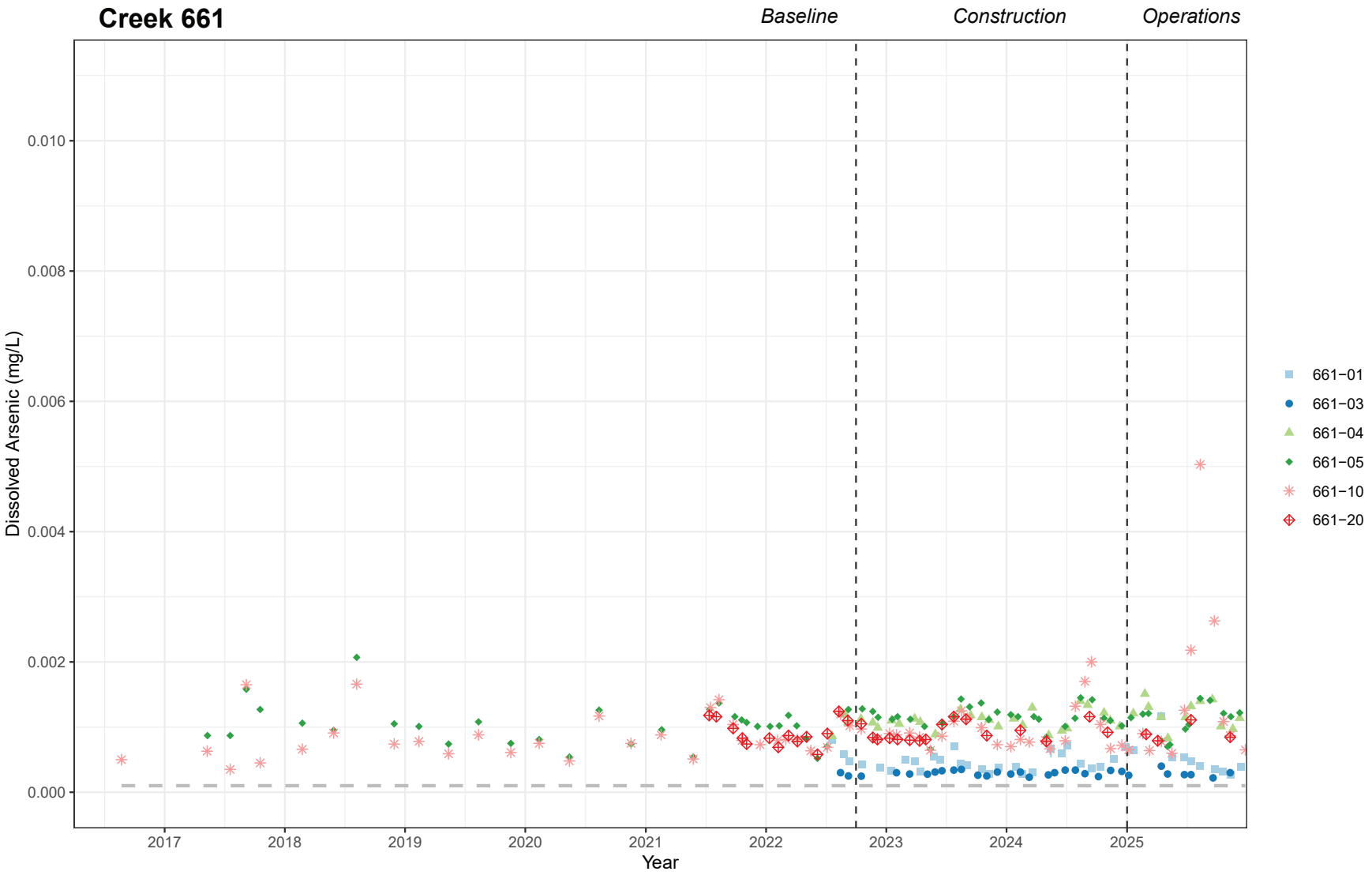


Figure C-48a: Monthly Mean Dissolved Arsenic Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-48b: Monthly Mean Dissolved Arsenic Concentrations, Creek 661 Sites, 2016 to 2025

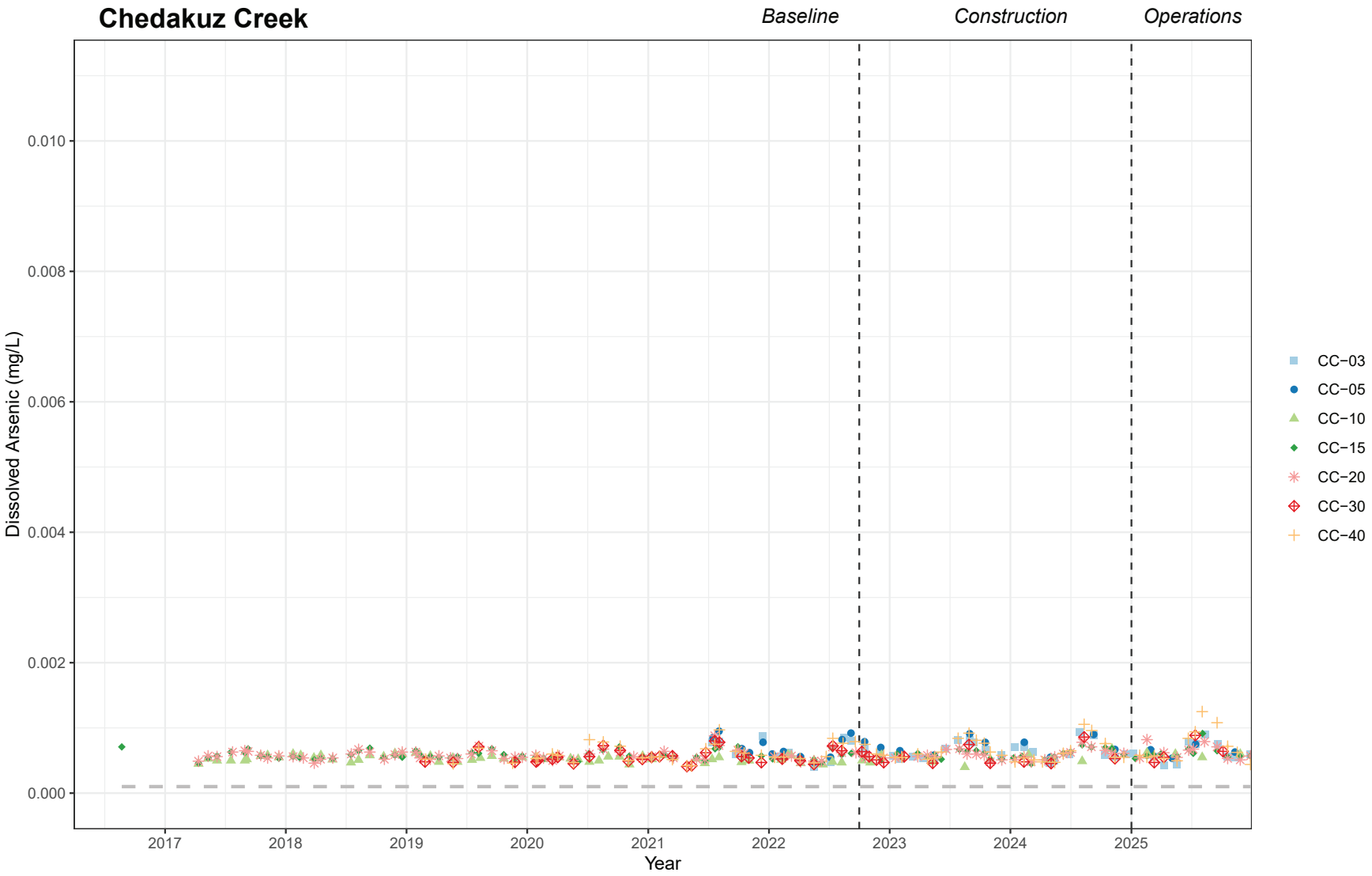


Figure C-48c: Monthly Mean Dissolved Arsenic Concentrations, Chedakuz Creek Sites, 2016 to 2025

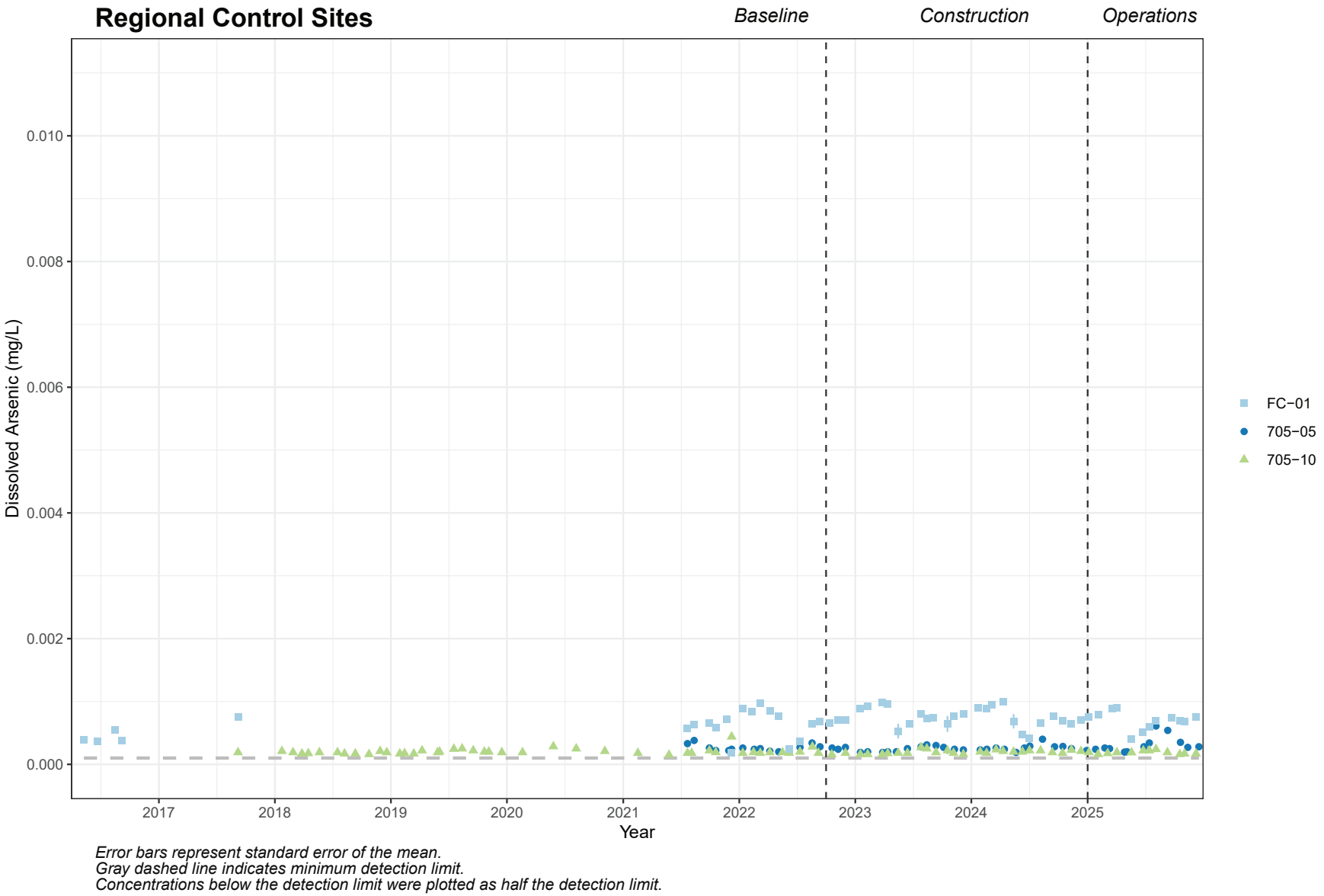


Figure C-48d: Monthly Mean Dissolved Arsenic Concentrations, Regional Control Sites Sites, 2016 to 2025

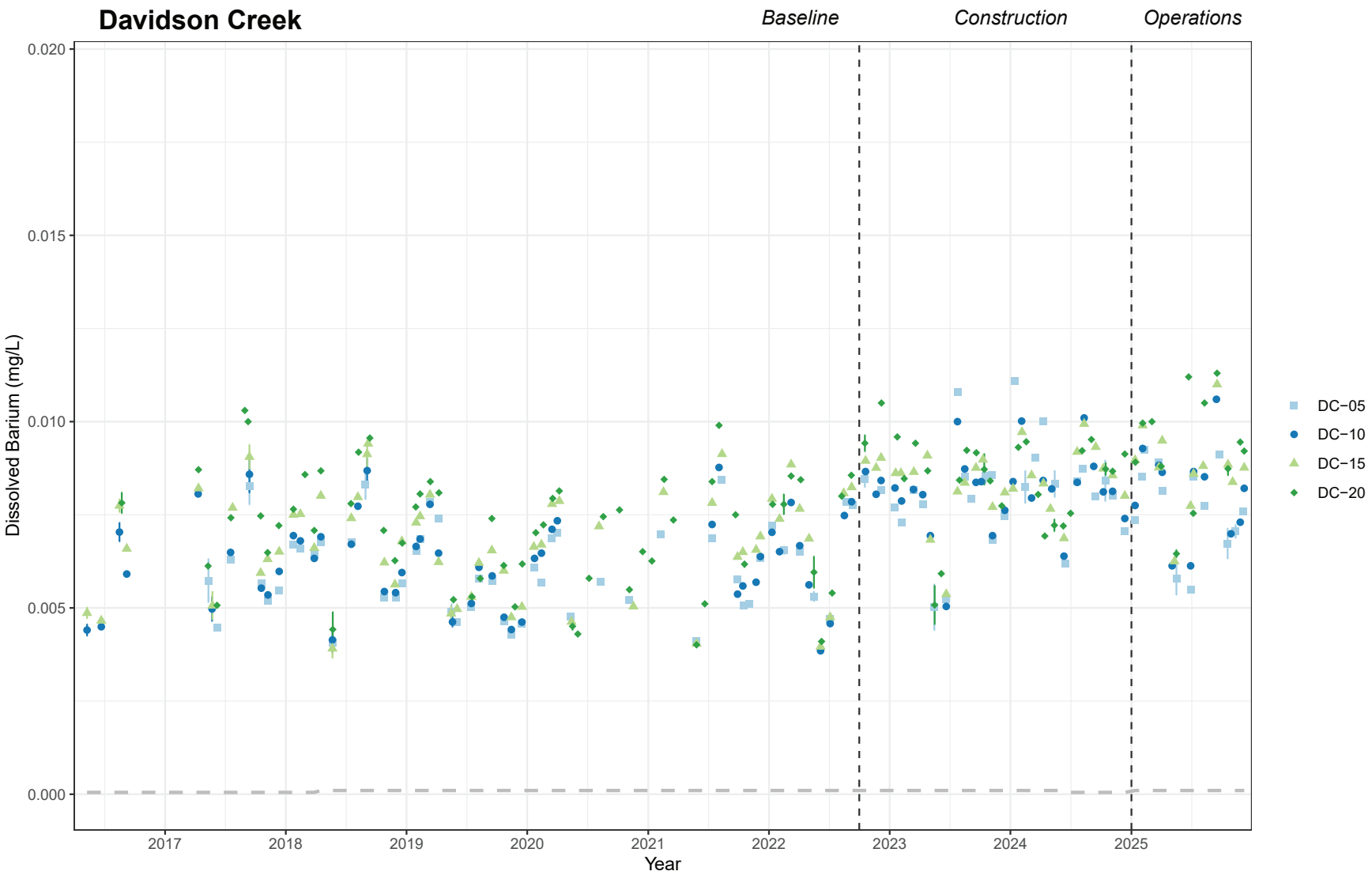


Figure C-49a: Monthly Mean Dissolved Barium Concentrations, Davidson Creek Sites, 2016 to 2025

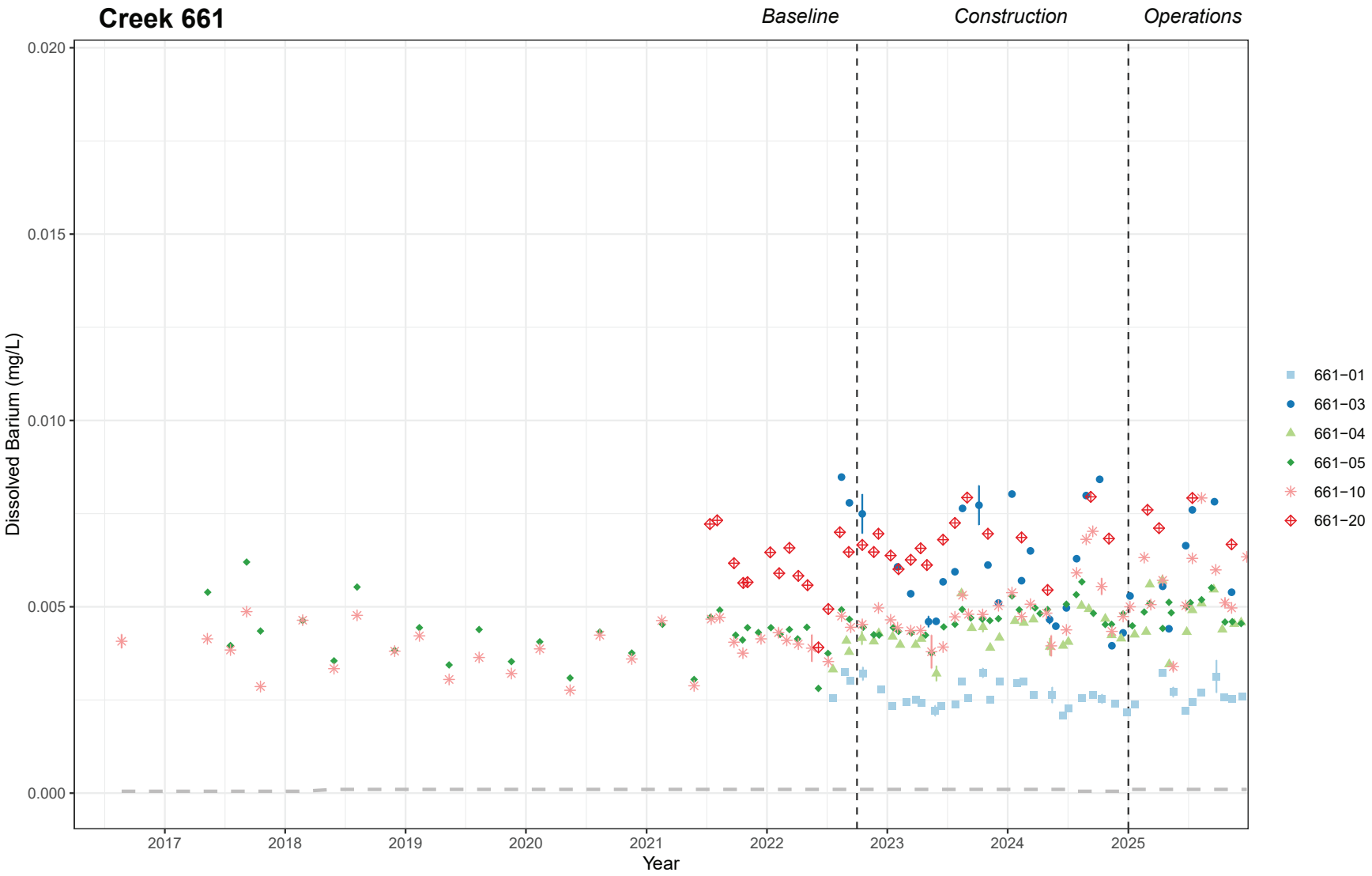


Figure C-49b: Monthly Mean Dissolved Barium Concentrations, Creek 661 Sites, 2016 to 2025

Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-49c: Monthly Mean Dissolved Barium Concentrations, Chedakuz Creek Sites, 2016 to 2025

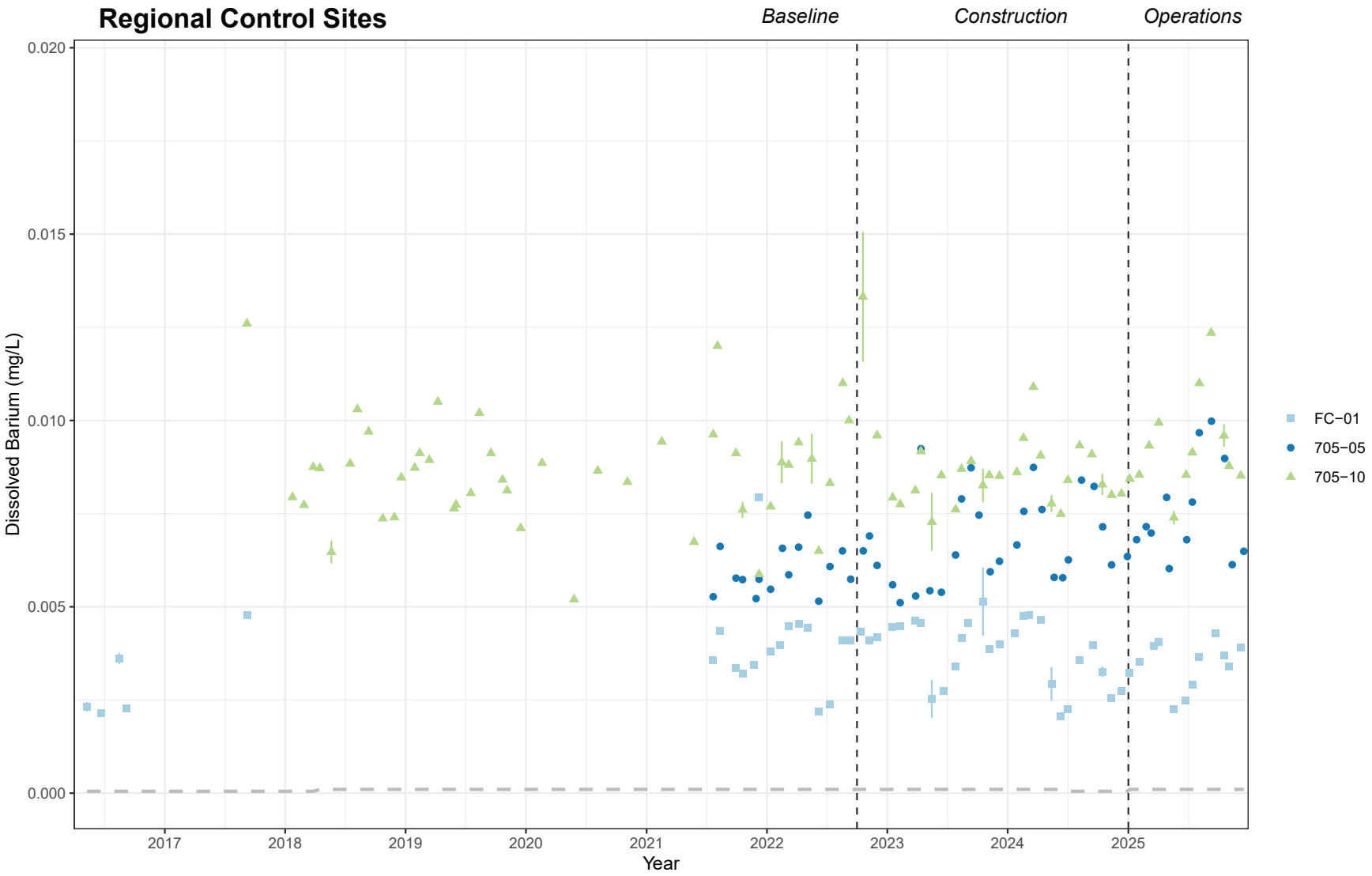


Figure C-49d: Monthly Mean Dissolved Barium Concentrations, Regional Control Sites Sites, 2016 to 2025

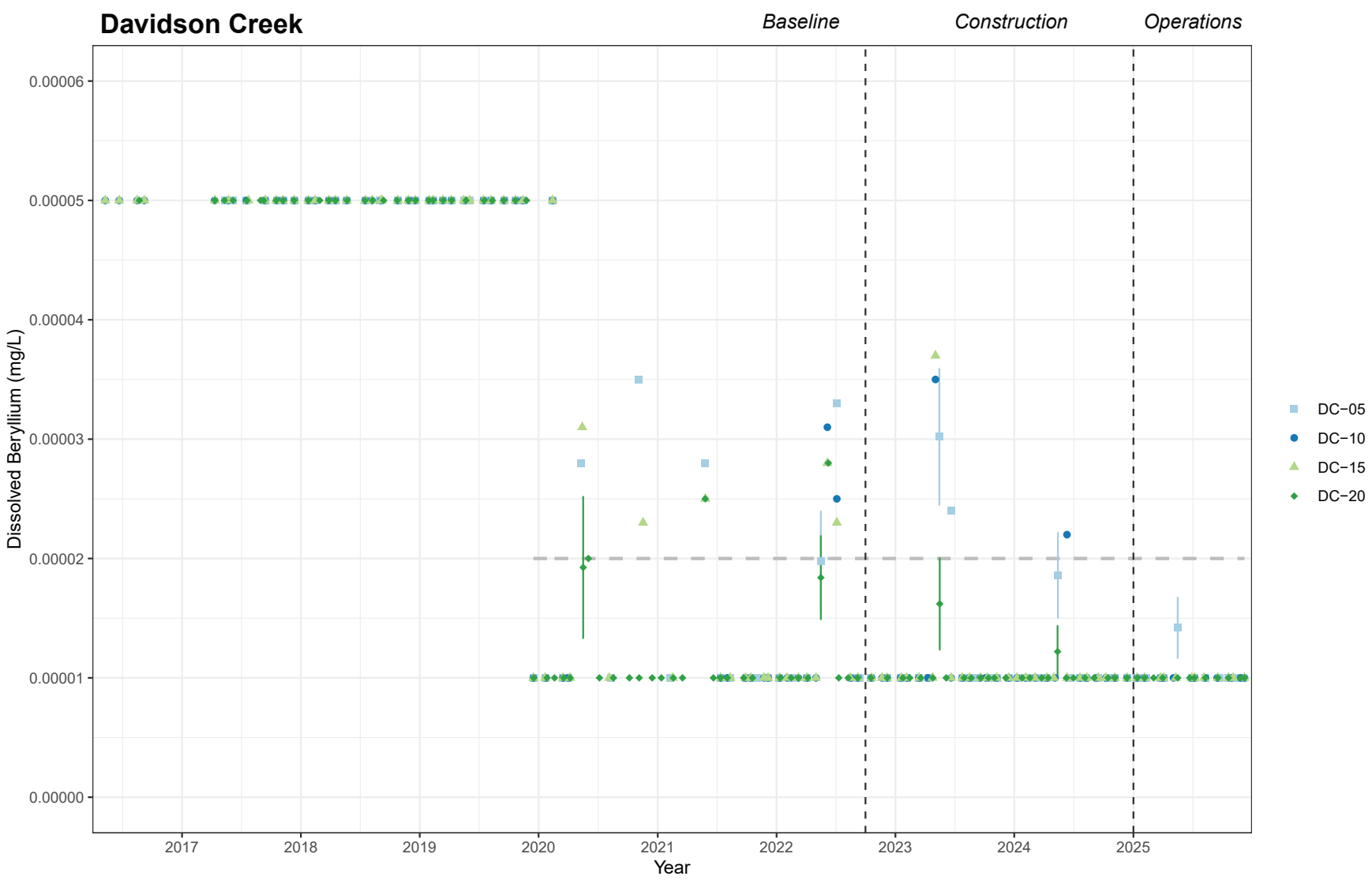


Figure C-50a: Monthly Mean Dissolved Beryllium Concentrations, Davidson Creek Sites, 2016 to 2025

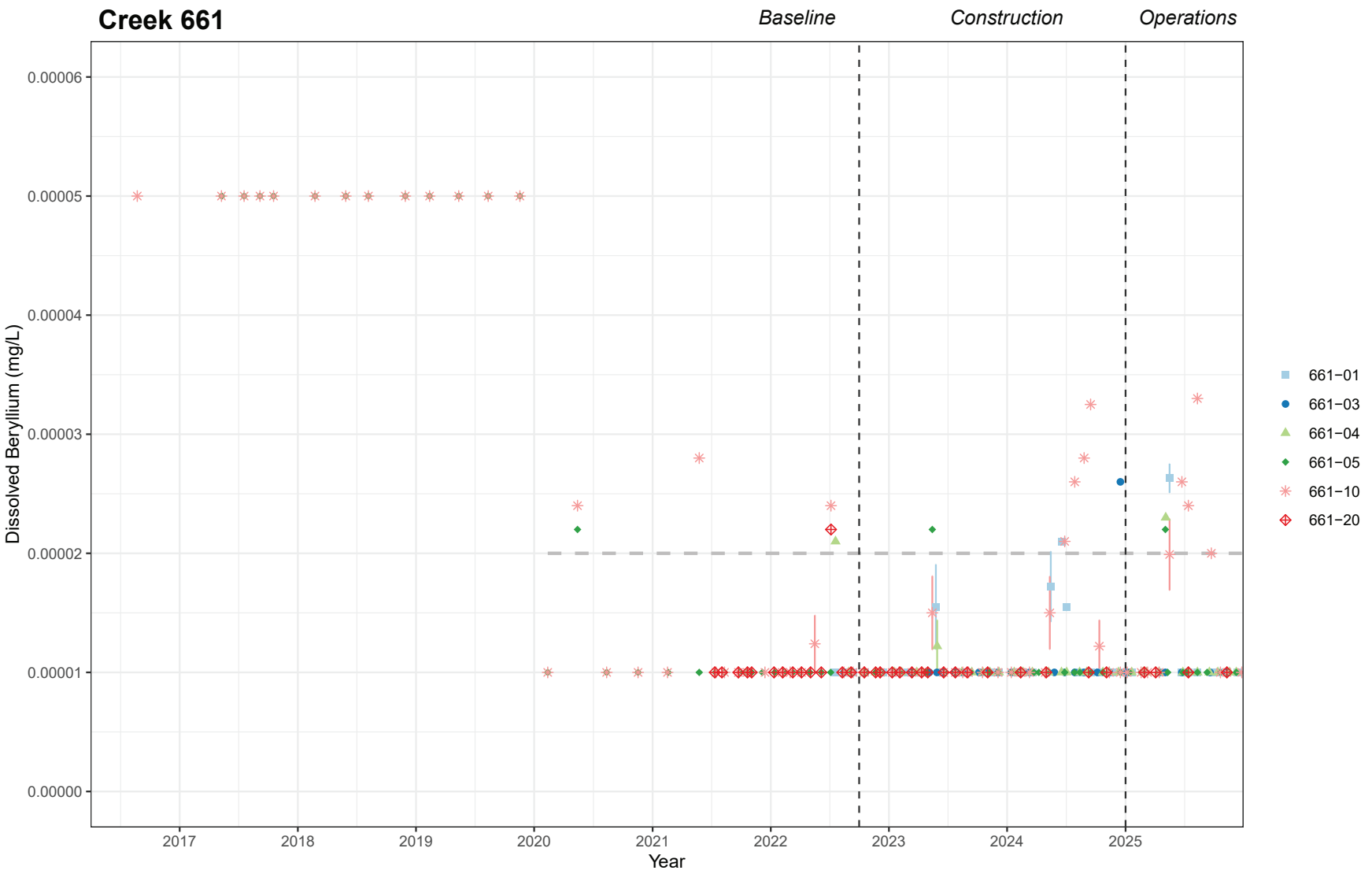
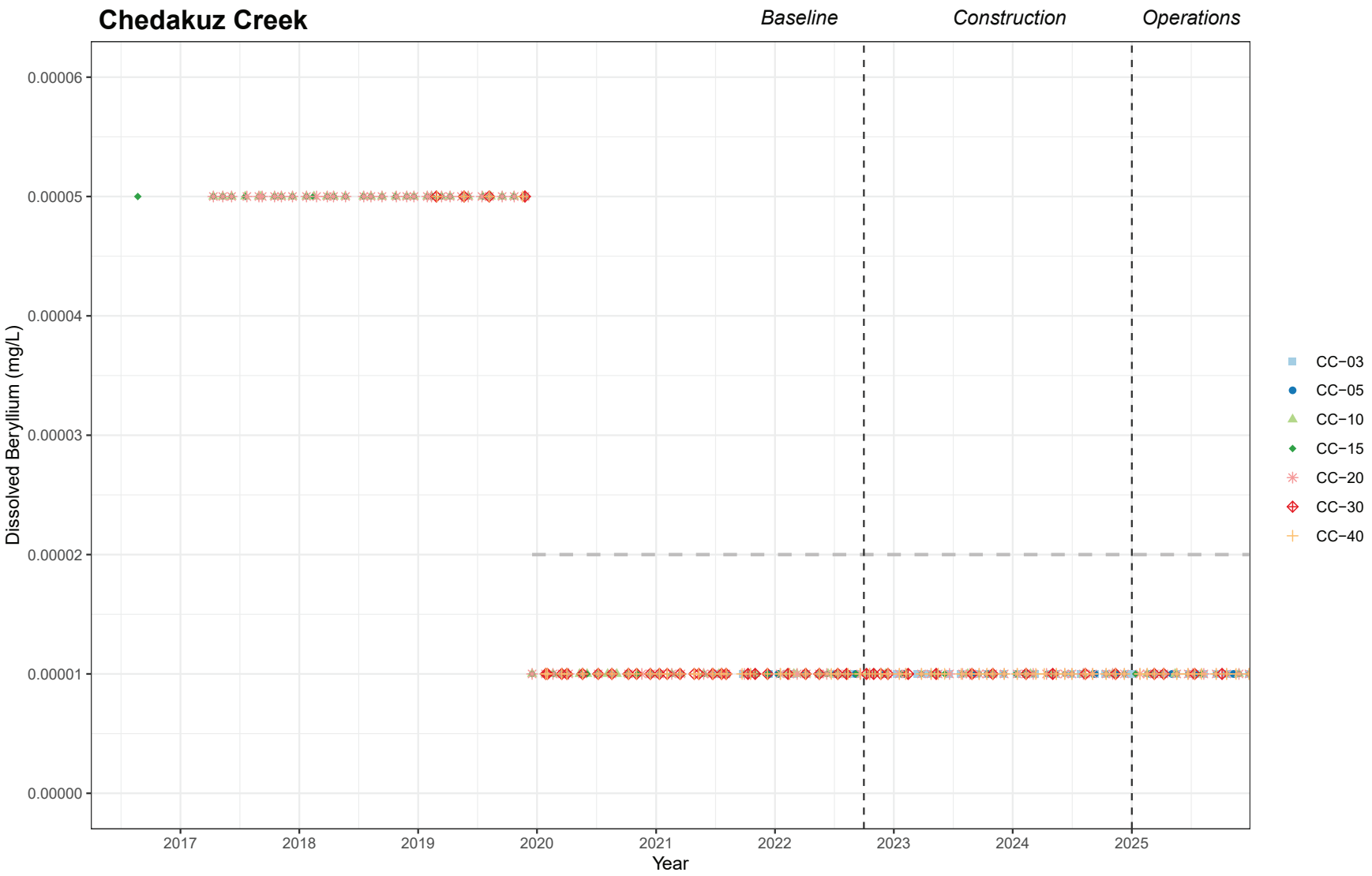


Figure C-50b: Monthly Mean Dissolved Beryllium Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-50c: Monthly Mean Dissolved Beryllium Concentrations, Chedakuz Creek Sites, 2016 to 2025

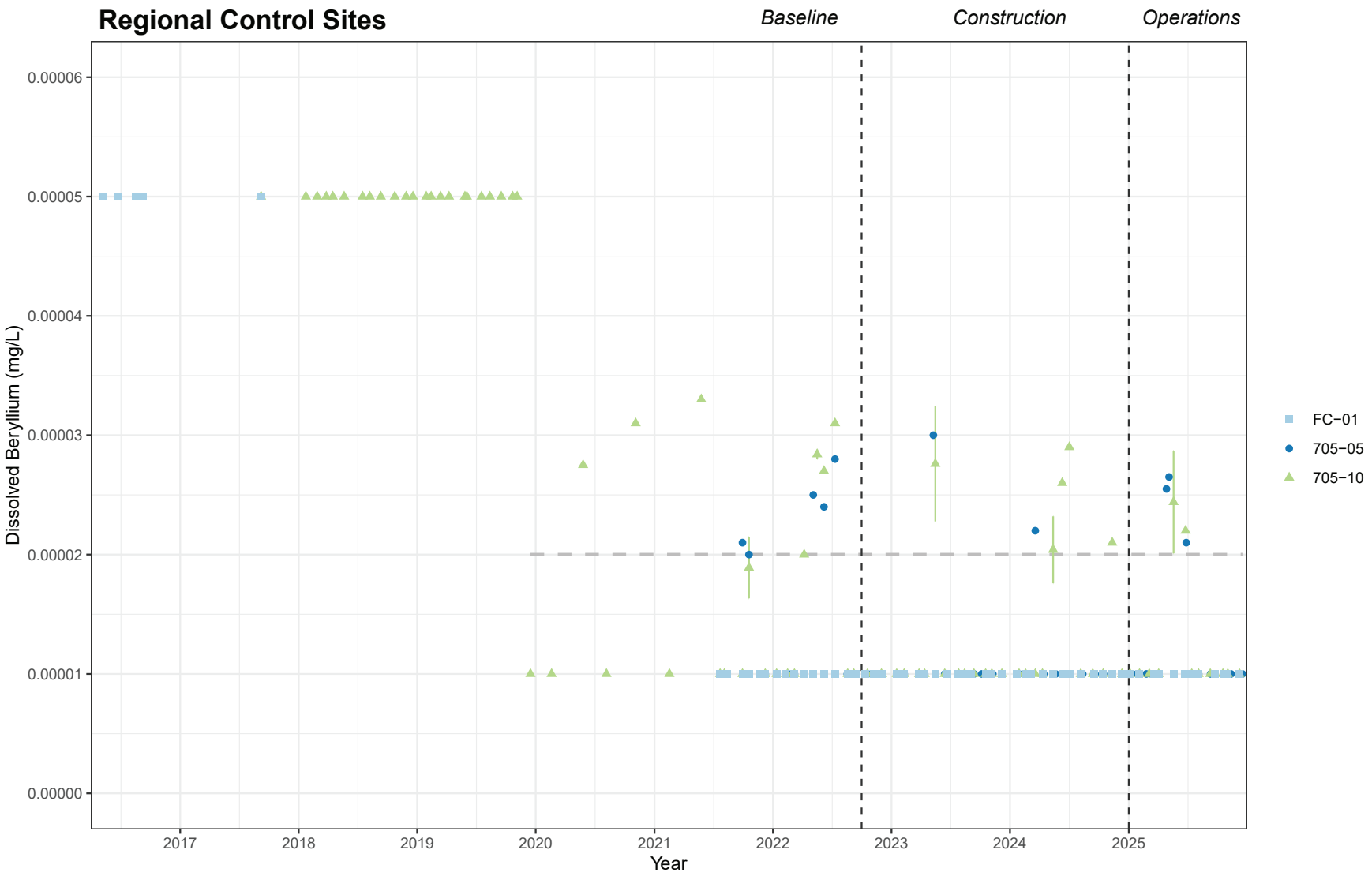


Figure C-50d: Monthly Mean Dissolved Beryllium Concentrations, Regional Control Sites Sites, 2016 to 2025

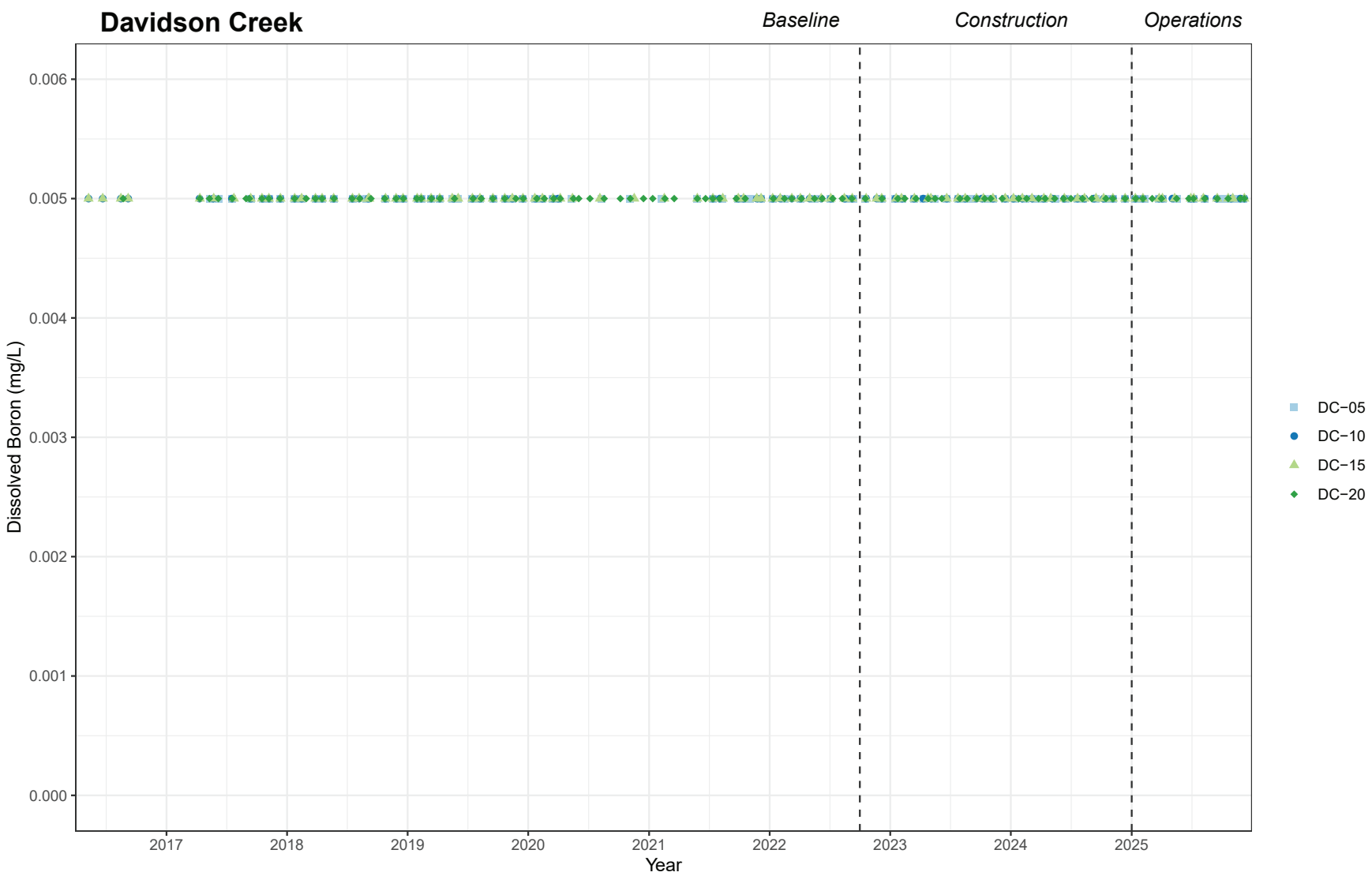
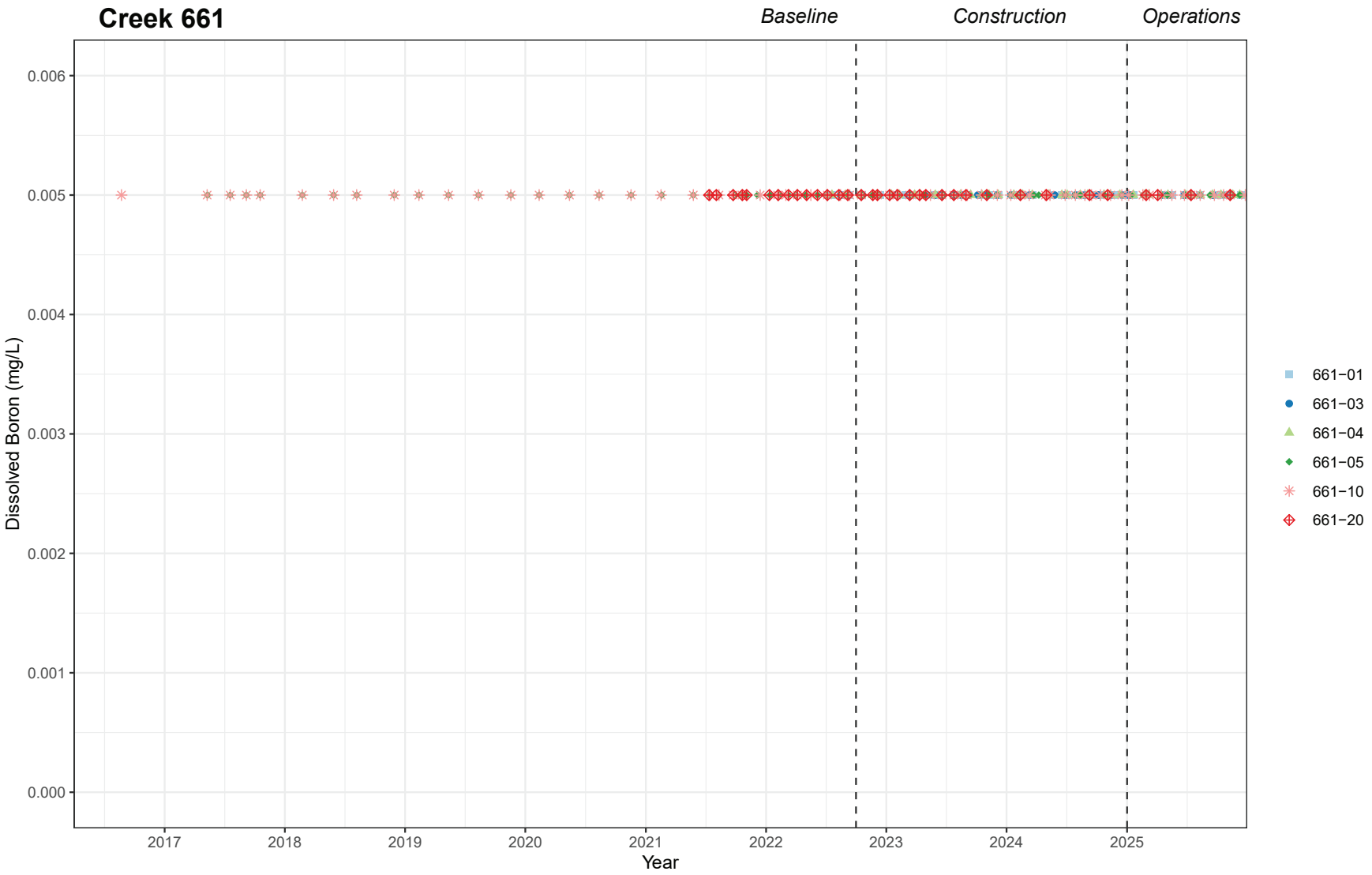
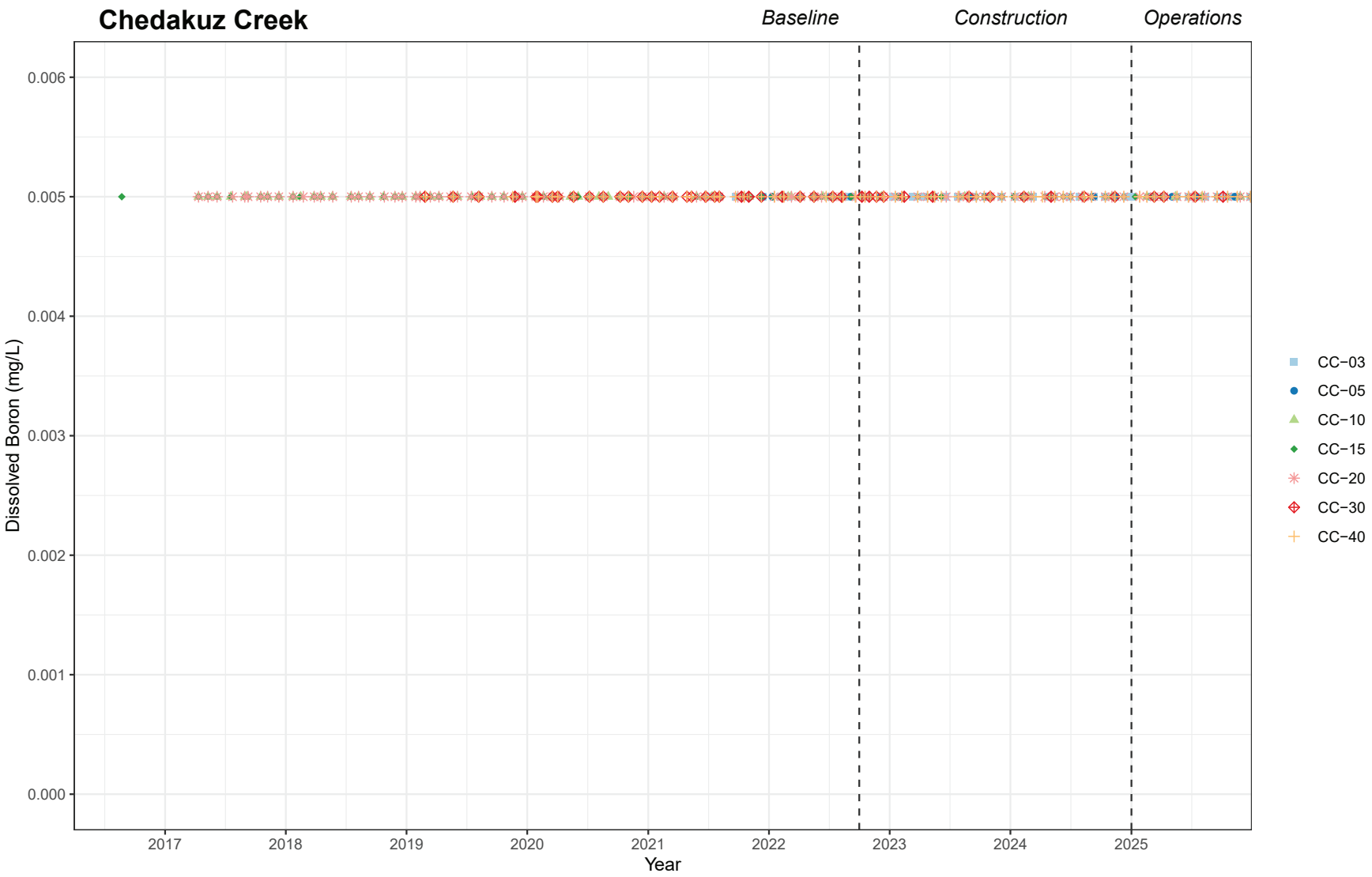


Figure C-51a: Monthly Mean Dissolved Boron Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-51b: Monthly Mean Dissolved Boron Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-51c: Monthly Mean Dissolved Boron Concentrations, Chedakuz Creek Sites, 2016 to 2025

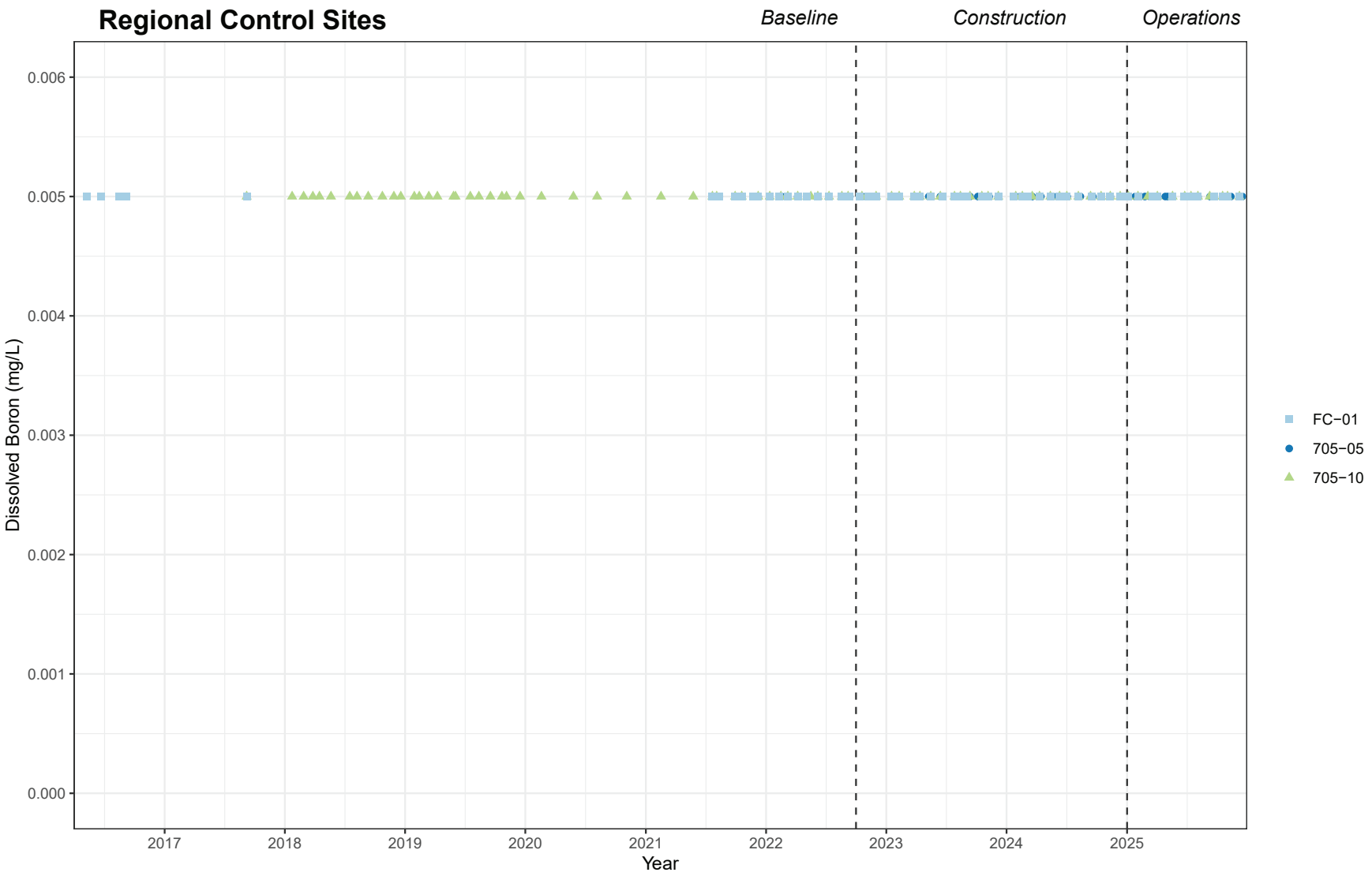
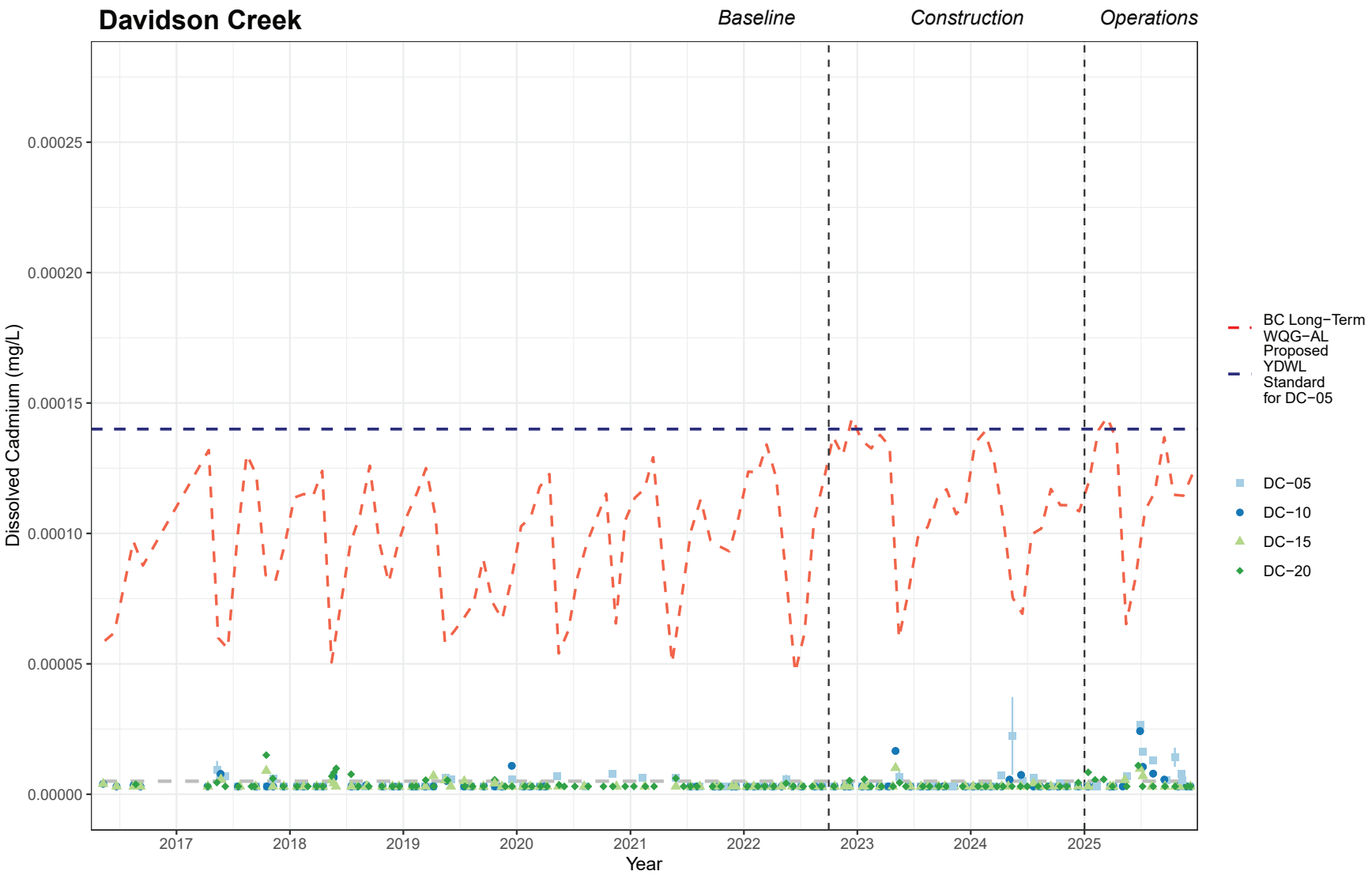


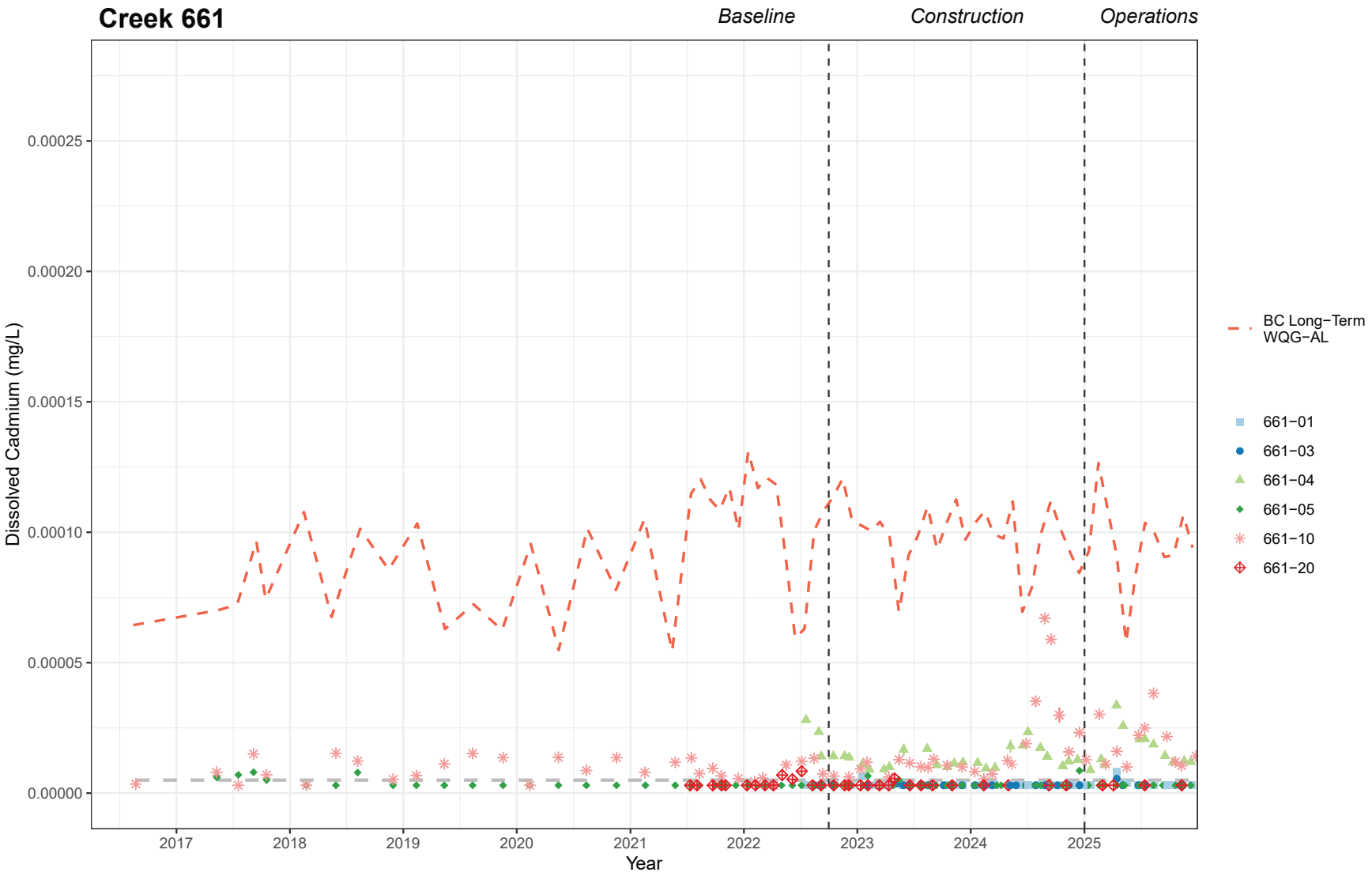
Figure C-51d: Monthly Mean Dissolved Boron Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for dissolved cadmium is hardness dependent.

Proposed YDWL Standard for dissolved cadmium at DC−05 is 0.00014 mg/L.
The monthly mean calculated guideline is plotted.

Figure C-52a: Monthly Mean Dissolved Cadmium Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for dissolved cadmium is hardness dependent.

The monthly mean calculated guideline is plotted.

Figure C-52b: Monthly Mean Dissolved Cadmium Concentrations, Creek 661 Sites, 2016 to 2025

Figure C-52c: Monthly Mean Dissolved Cadmium Concentrations, Chedakuz Creek Sites, 2016 to 2025

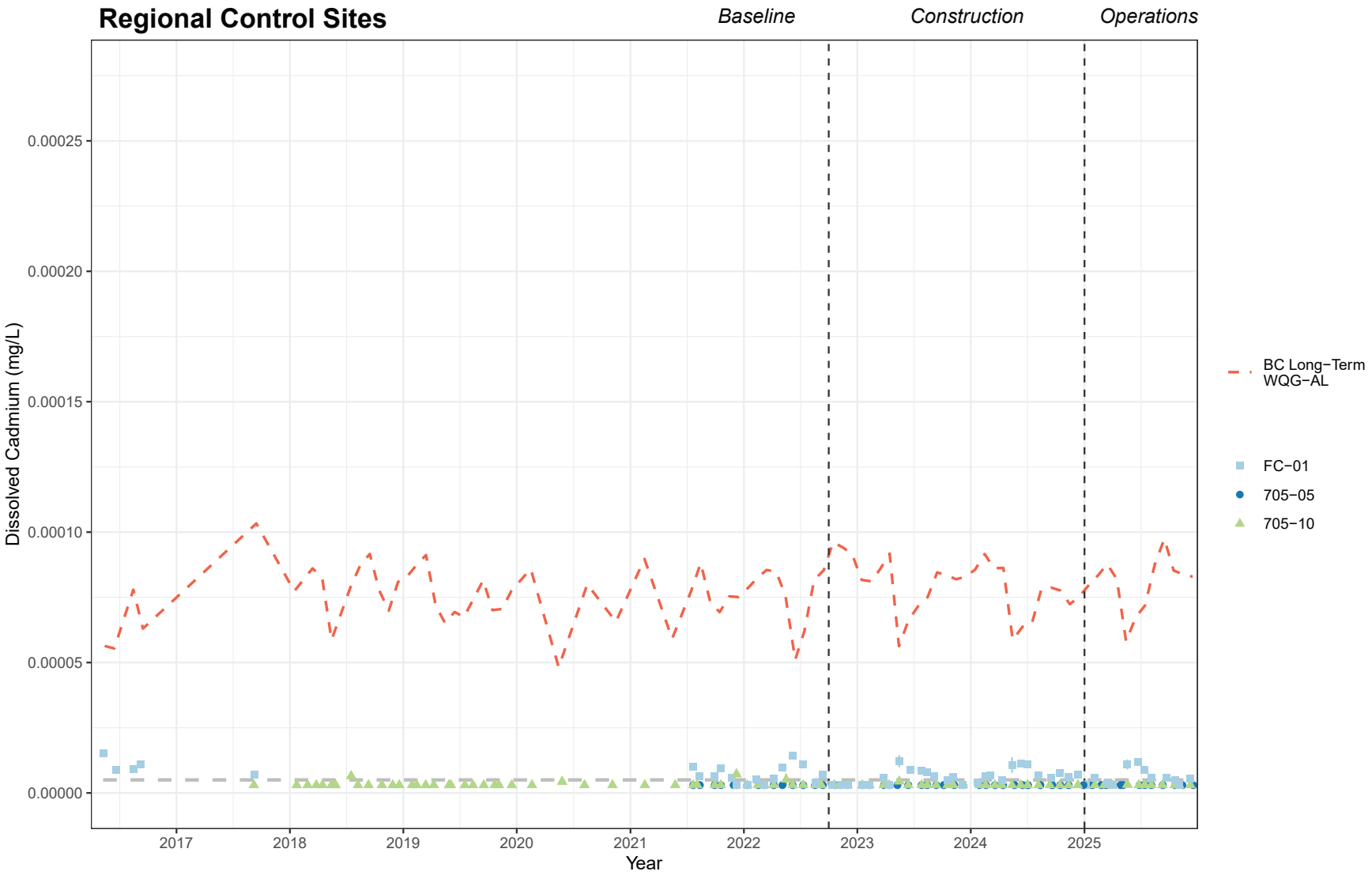


Figure C-52d: Monthly Mean Dissolved Cadmium Concentrations, Regional Control Sites Sites, 2016 to 2025

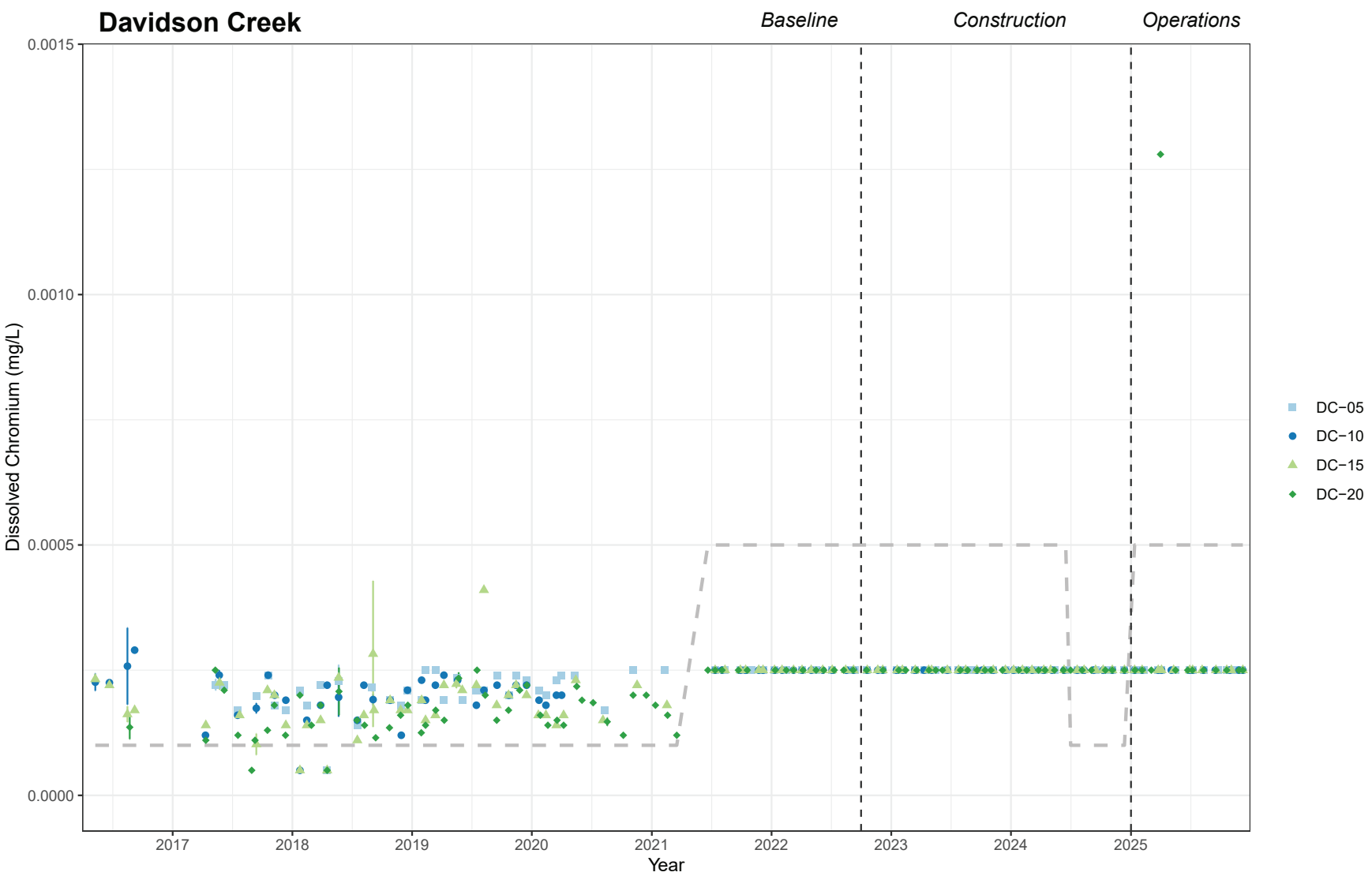
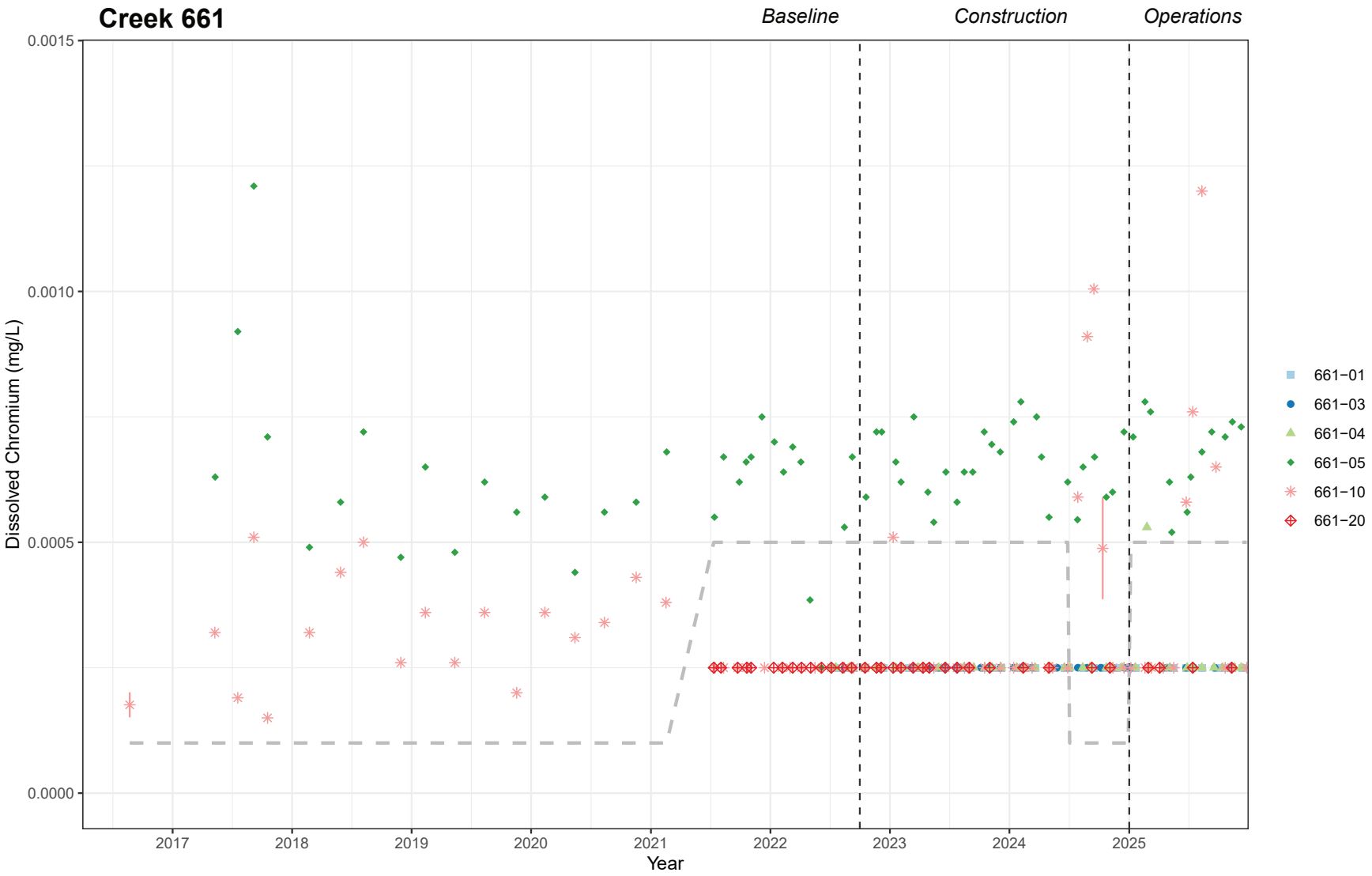


Figure C-53a: Monthly Mean Dissolved Chromium Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-53b: Monthly Mean Dissolved Chromium Concentrations, Creek 661 Sites, 2016 to 2025

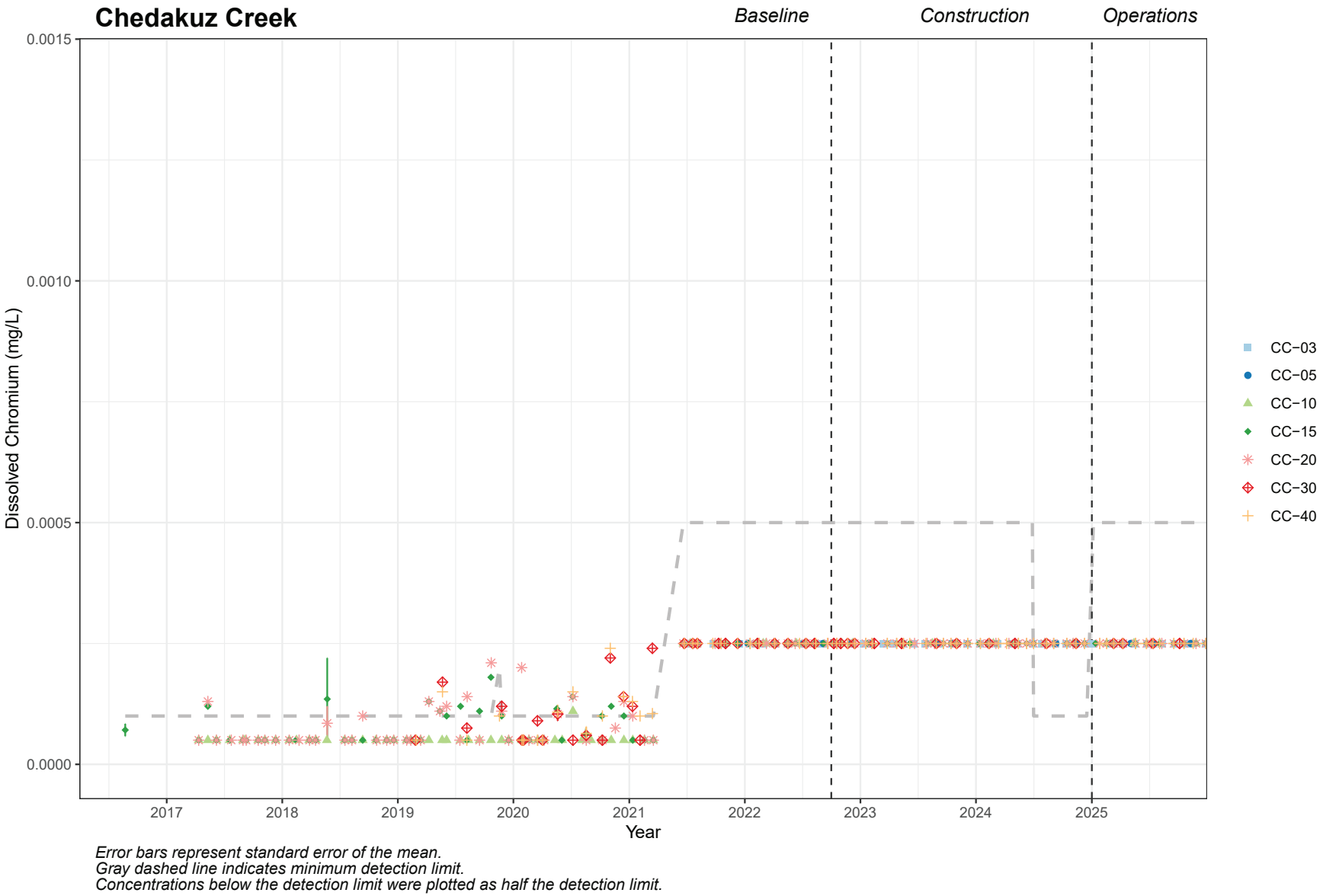


Figure C-53c: Monthly Mean Dissolved Chromium Concentrations, Chedakuz Creek Sites, 2016 to 2025

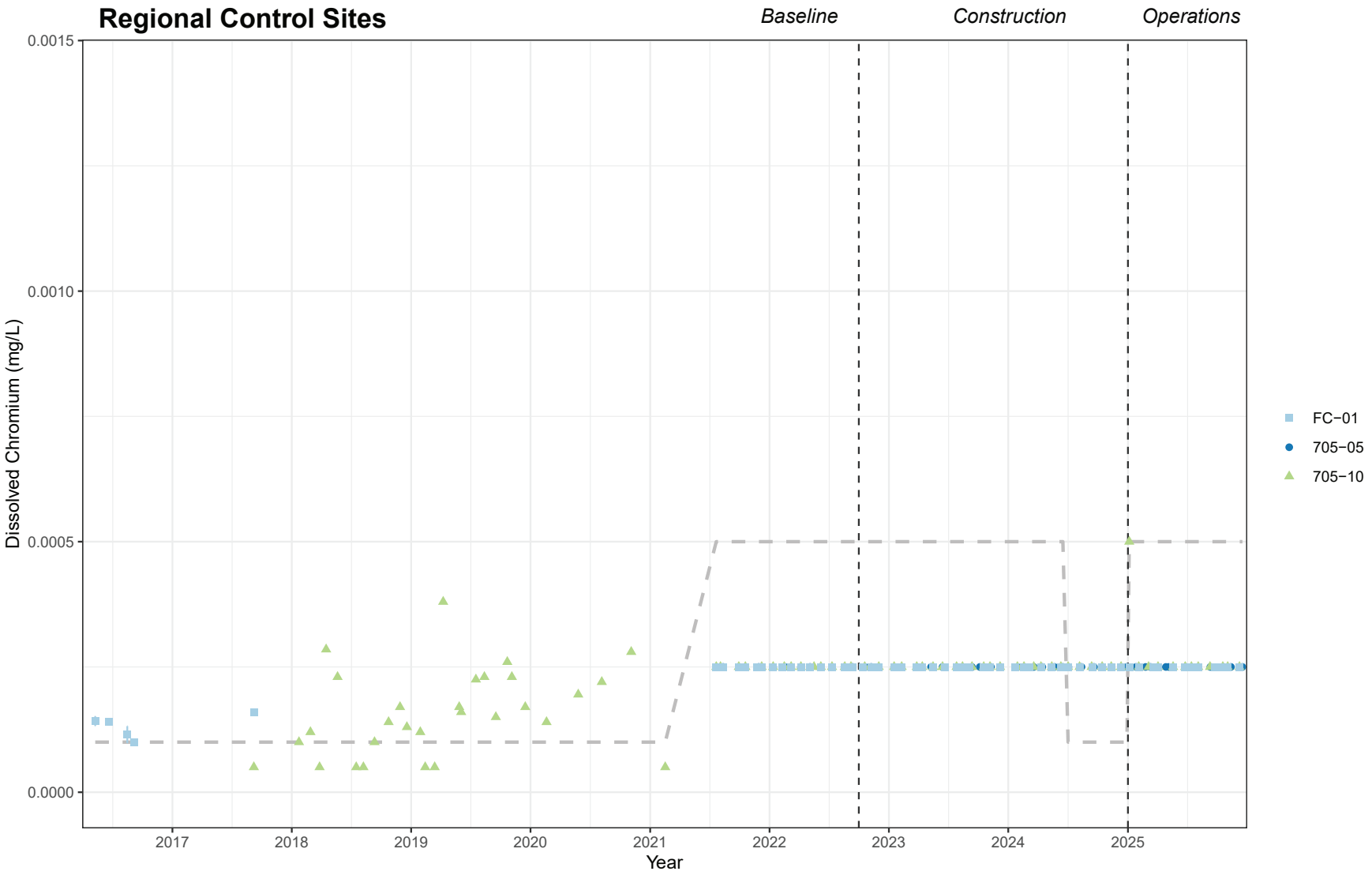


Figure C-53d: Monthly Mean Dissolved Chromium Concentrations, Regional Control Sites Sites, 2016 to 2025

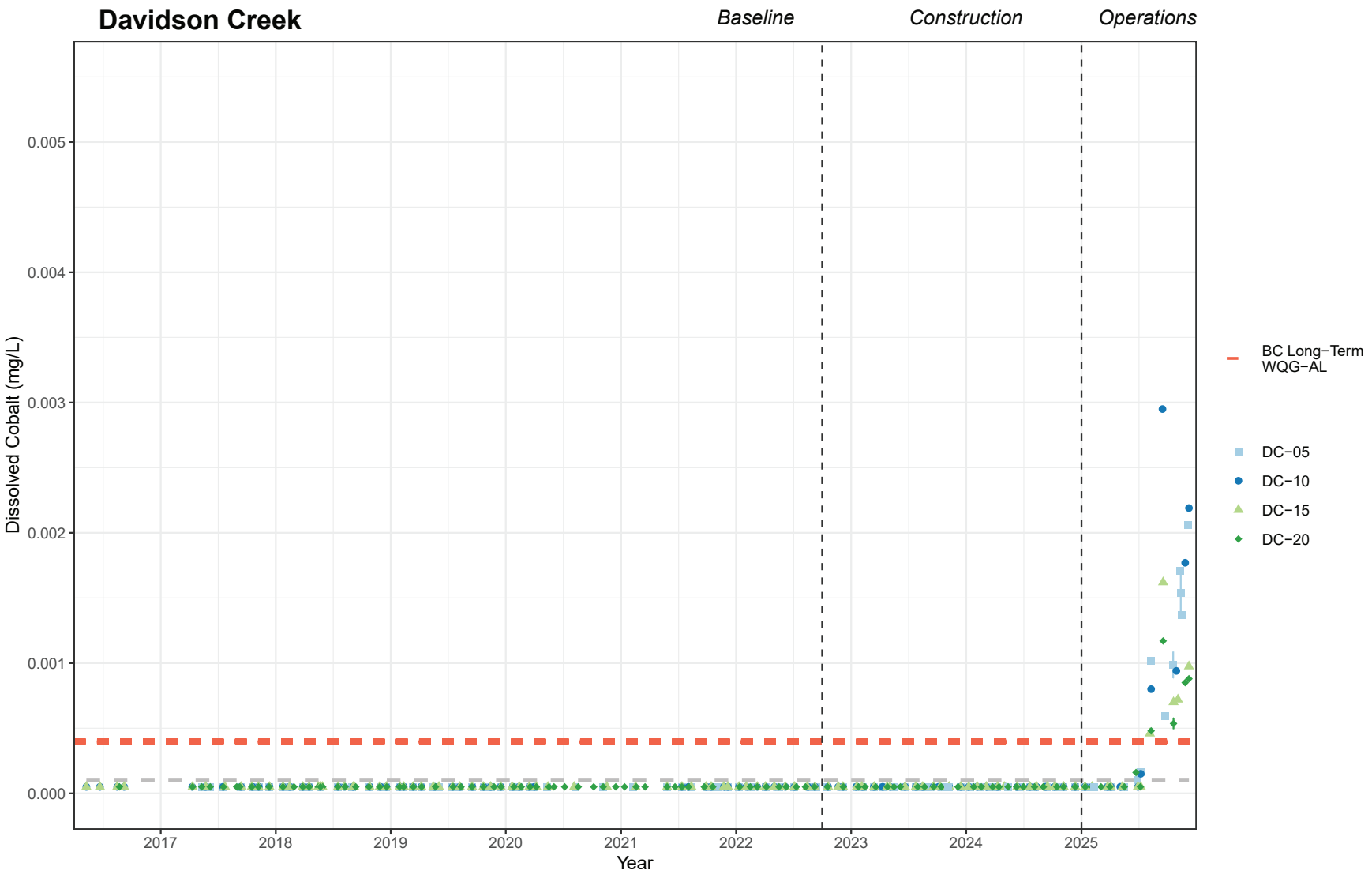


Figure C-54a: Monthly Mean Dissolved Cobalt Concentrations, Davidson Creek Sites, 2016 to 2025

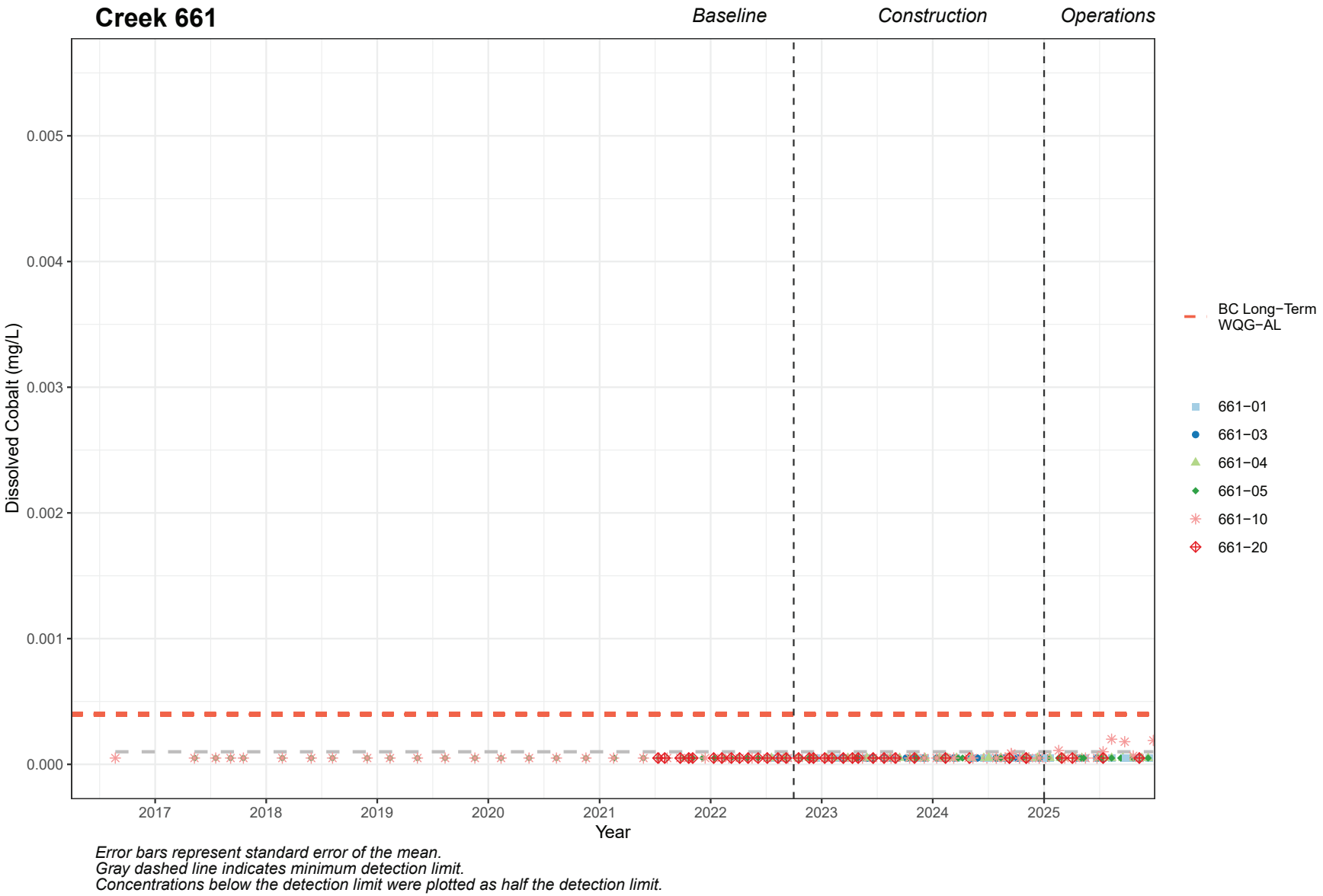


Figure C-54b: Monthly Mean Dissolved Cobalt Concentrations, Creek 661 Sites, 2016 to 2025

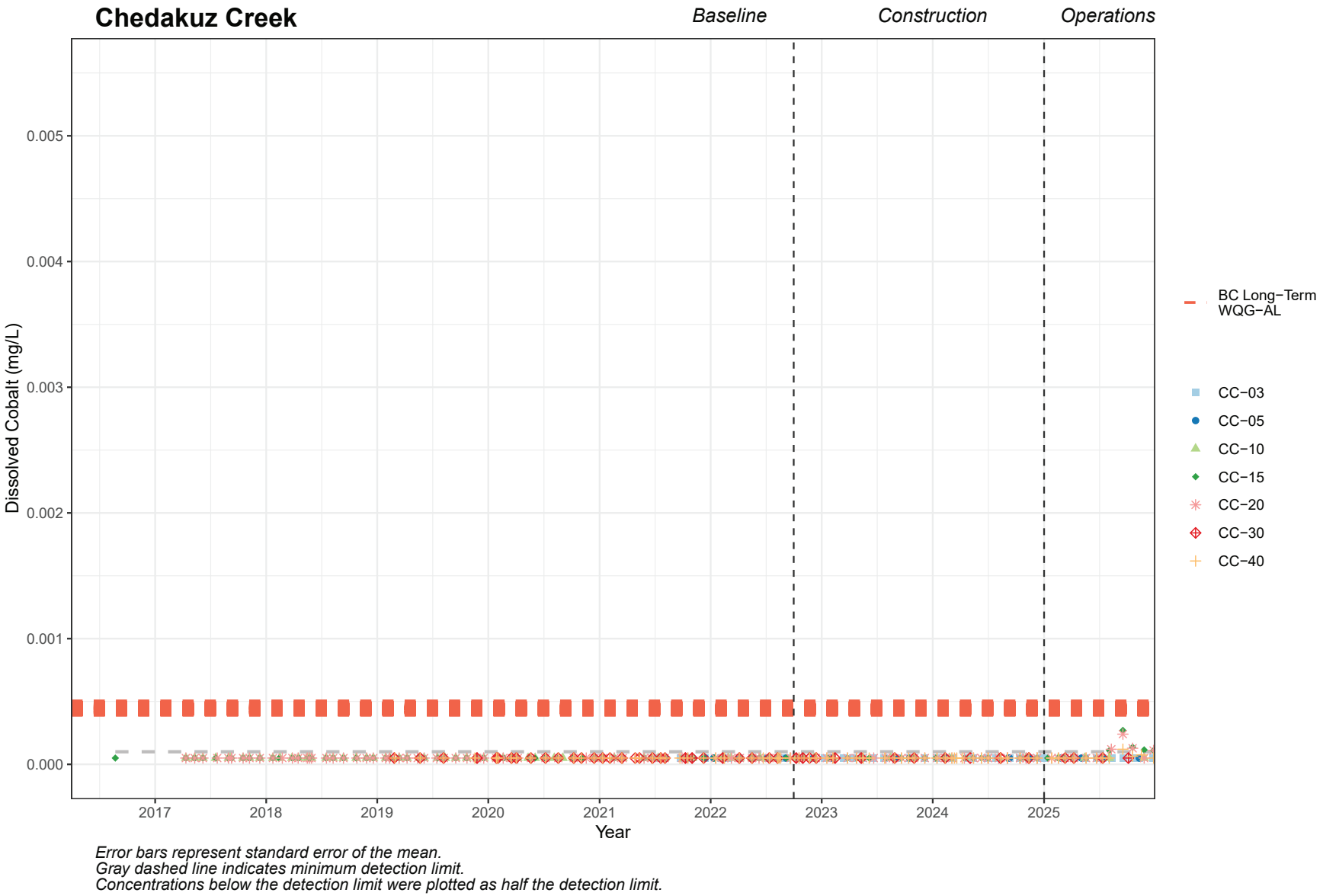


Figure C-54c: Monthly Mean Dissolved Cobalt Concentrations, Chedakuz Creek Sites, 2016 to 2025

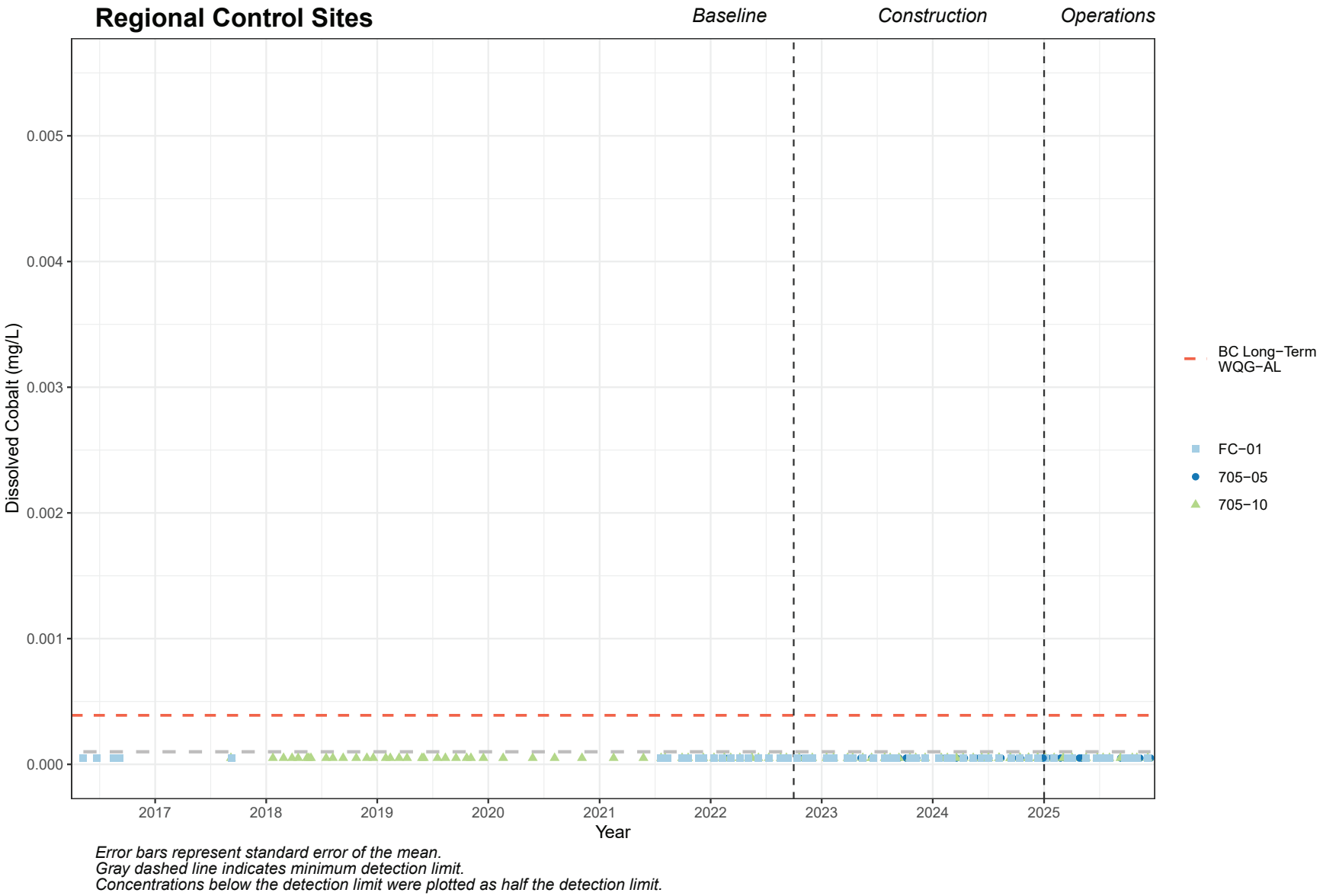
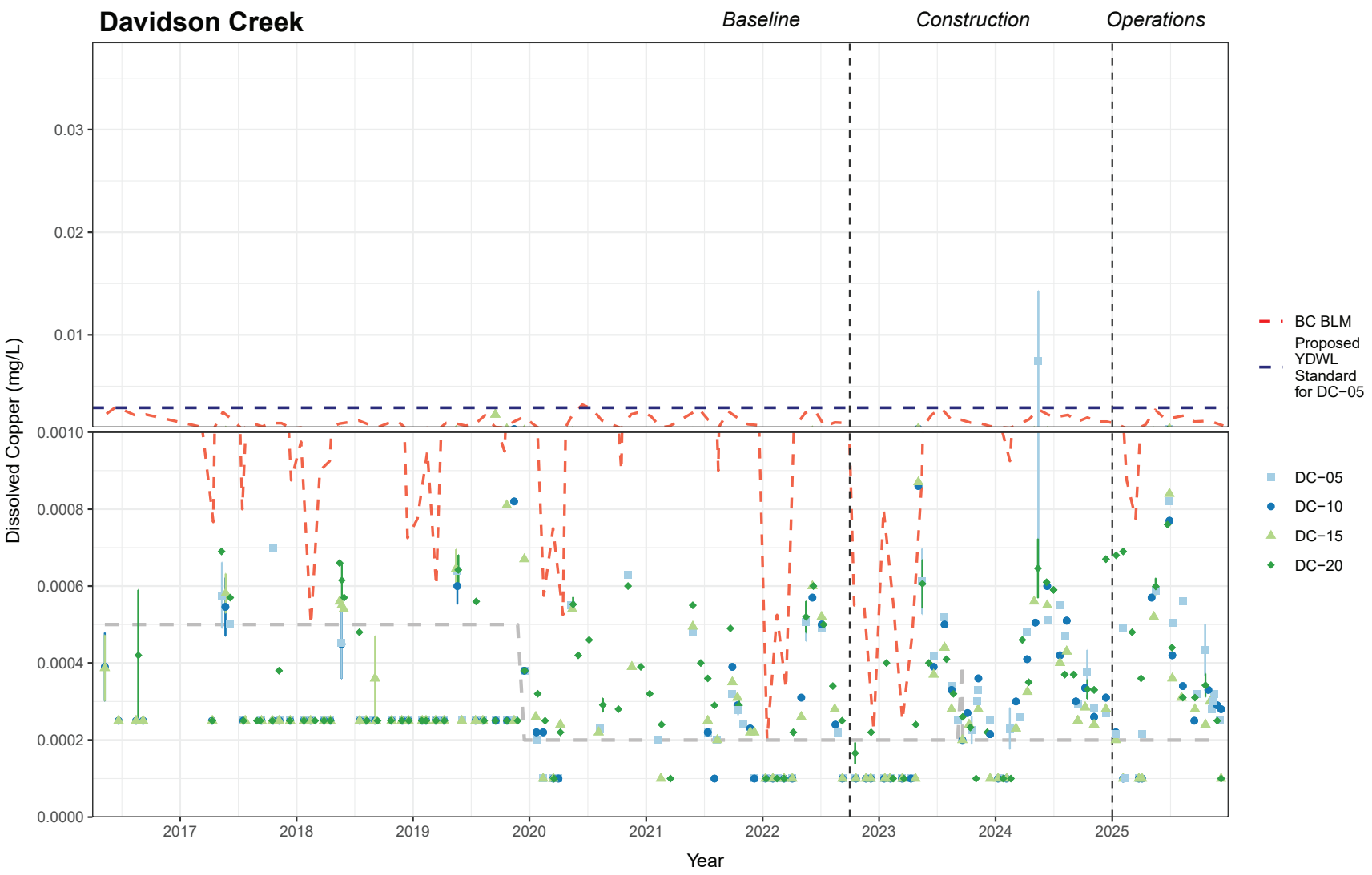


Figure C-54d: Monthly Mean Dissolved Cobalt Concentrations, Regional Control Sites Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

The dissolved copper long−term guideline is calculated using the BC BLM.
Proposed YDWL Standard for dissolved copper at DC−05 is 0.0029 mg/L.
The monthly mean calculated guideline is plotted.

Figure C-55a: Monthly Mean Dissolved Copper Concentrations, Davidson Creek Sites, 2016 to 2025

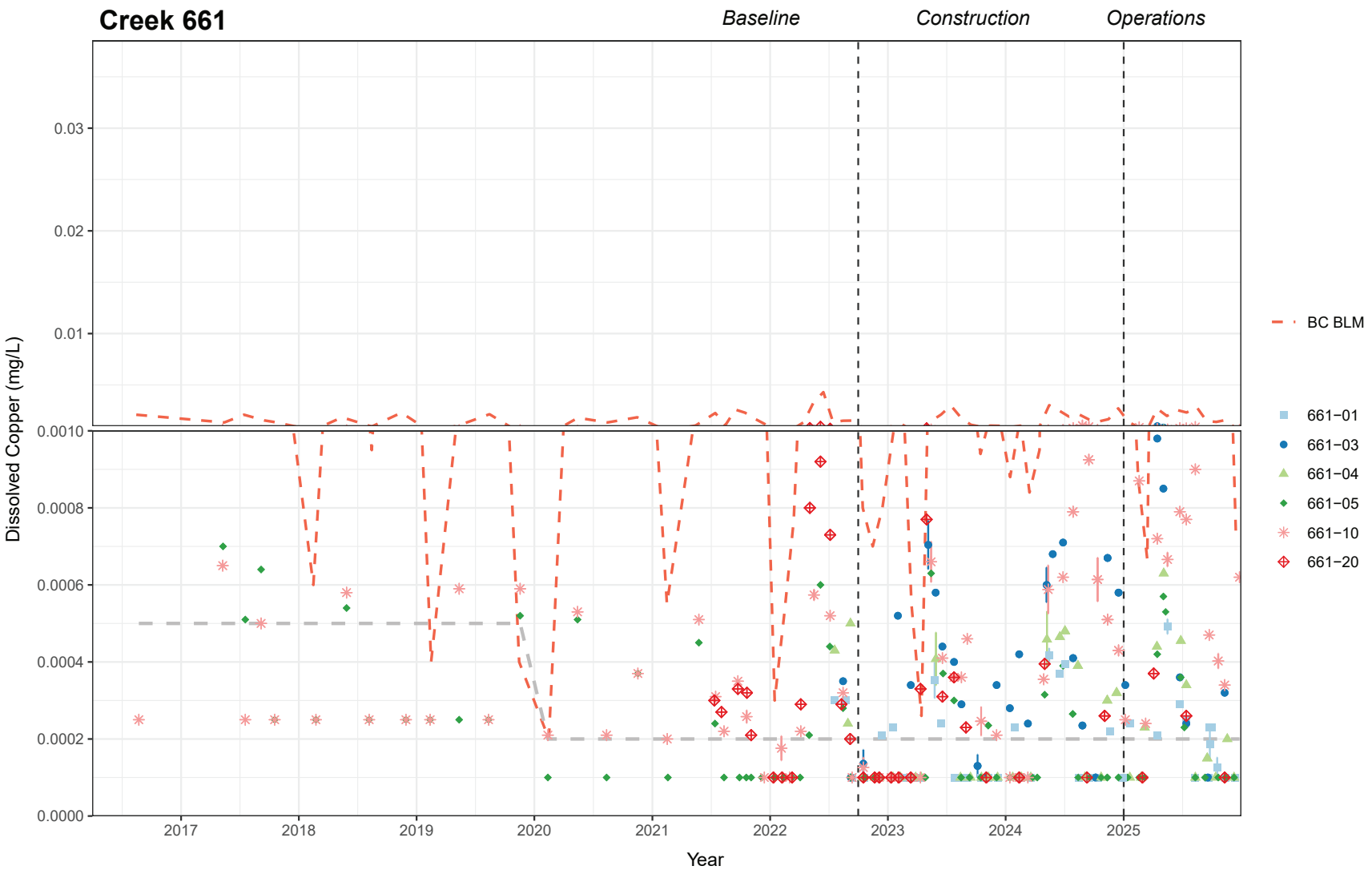


Figure C-55b: Monthly Mean Dissolved Copper Concentrations, Creek 661 Sites, 2016 to 2025

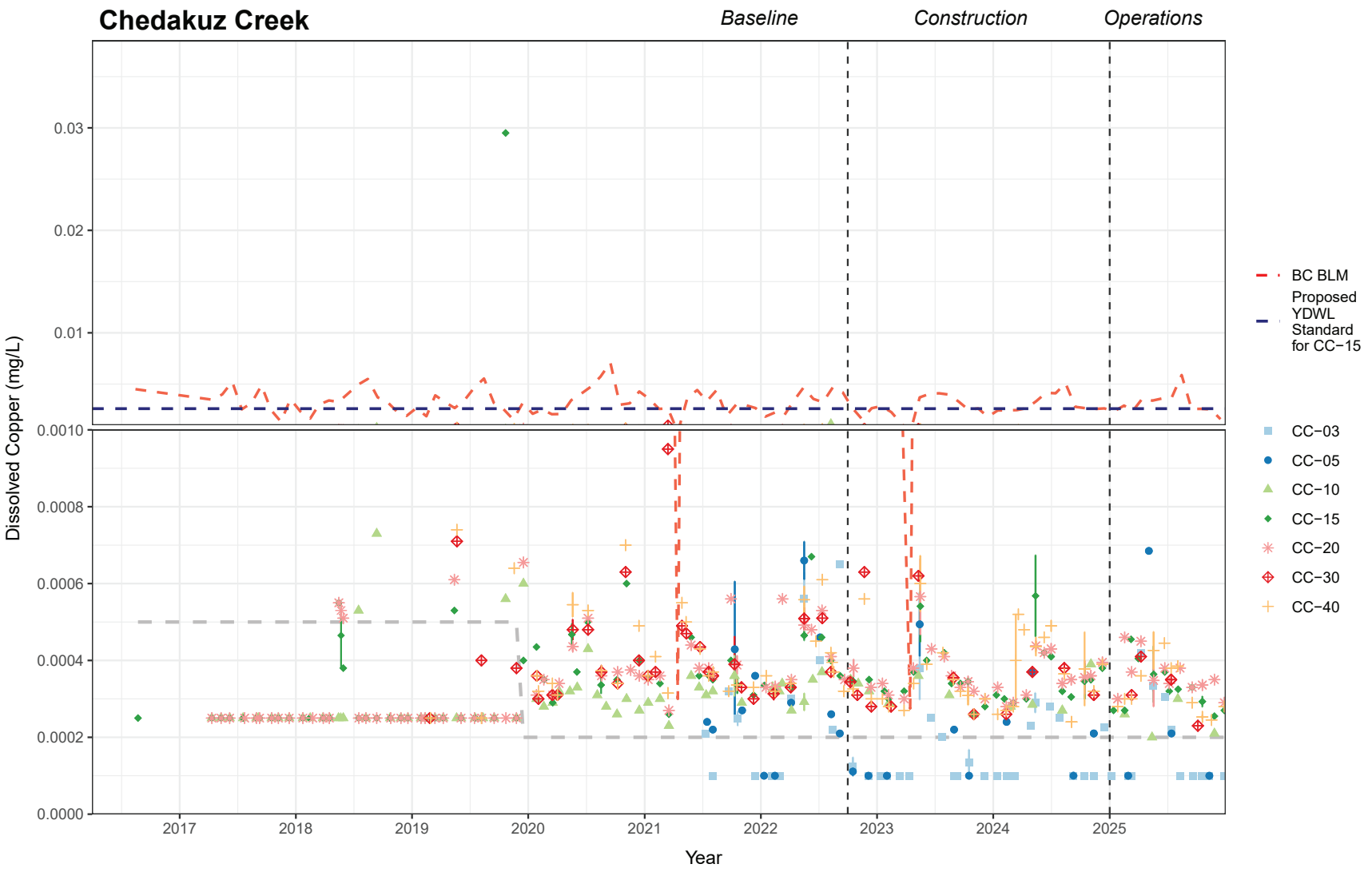


Figure C-55c: Monthly Mean Dissolved Copper Concentrations, Chedakuz Creek Sites, 2016 to 2025

Figure C-55d: Monthly Mean Dissolved Copper Concentrations, Regional Control Sites Sites, 2016 to 2025

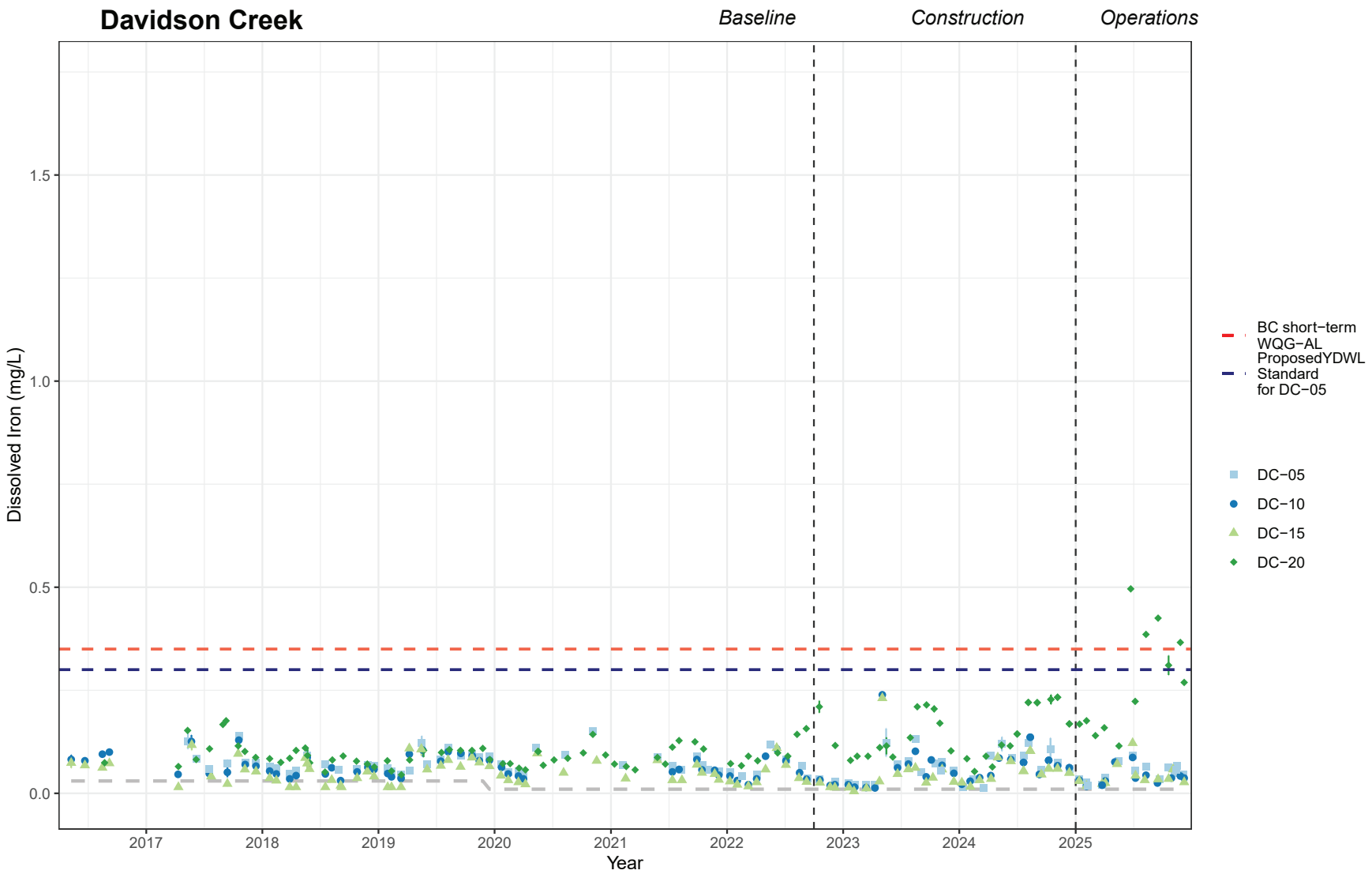


Figure C-56a: Monthly Mean Dissolved Iron Concentrations, Davidson Creek Sites, 2016 to 2025

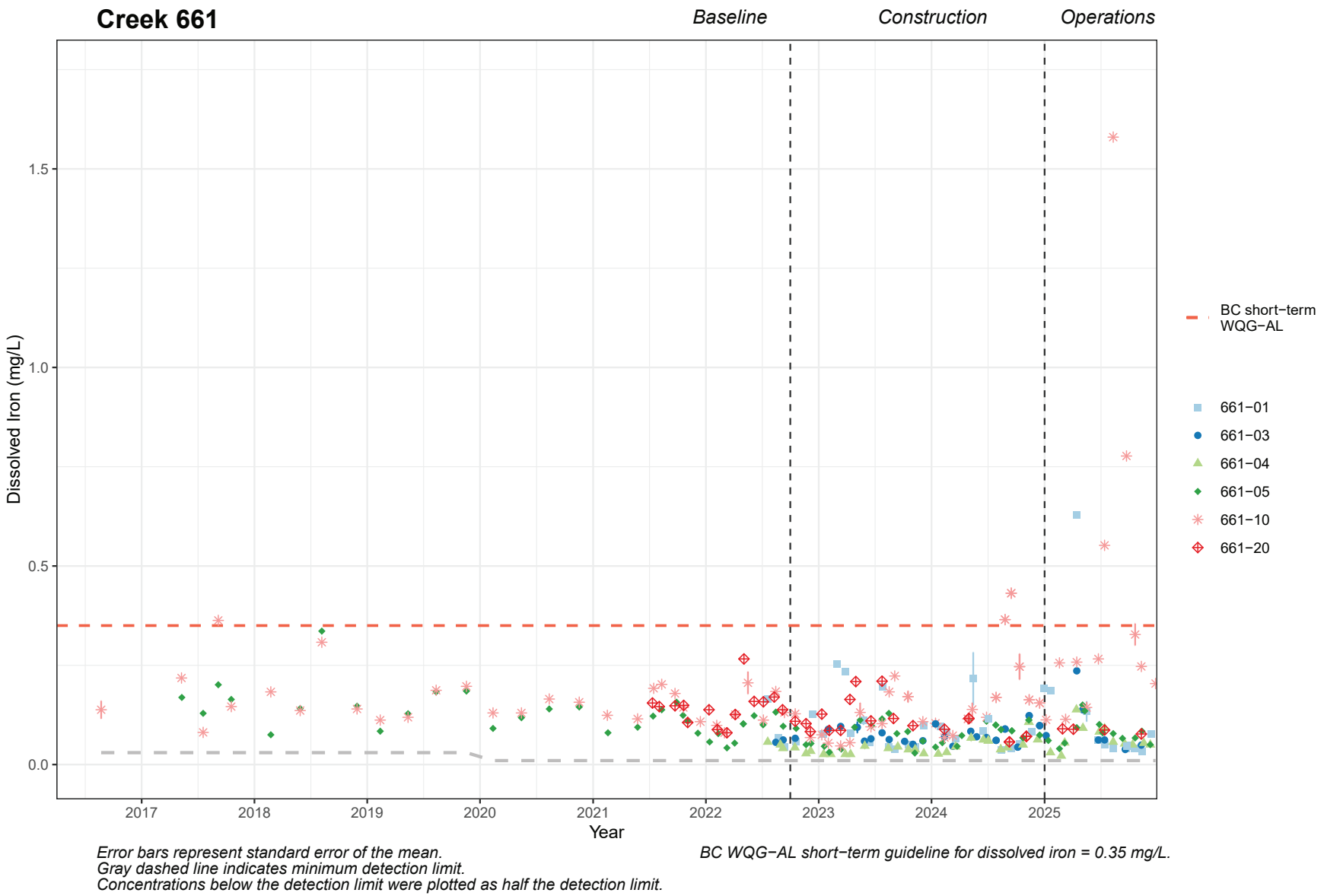


Figure C-56b: Monthly Mean Dissolved Iron Concentrations, Creek 661 Sites, 2016 to 2025

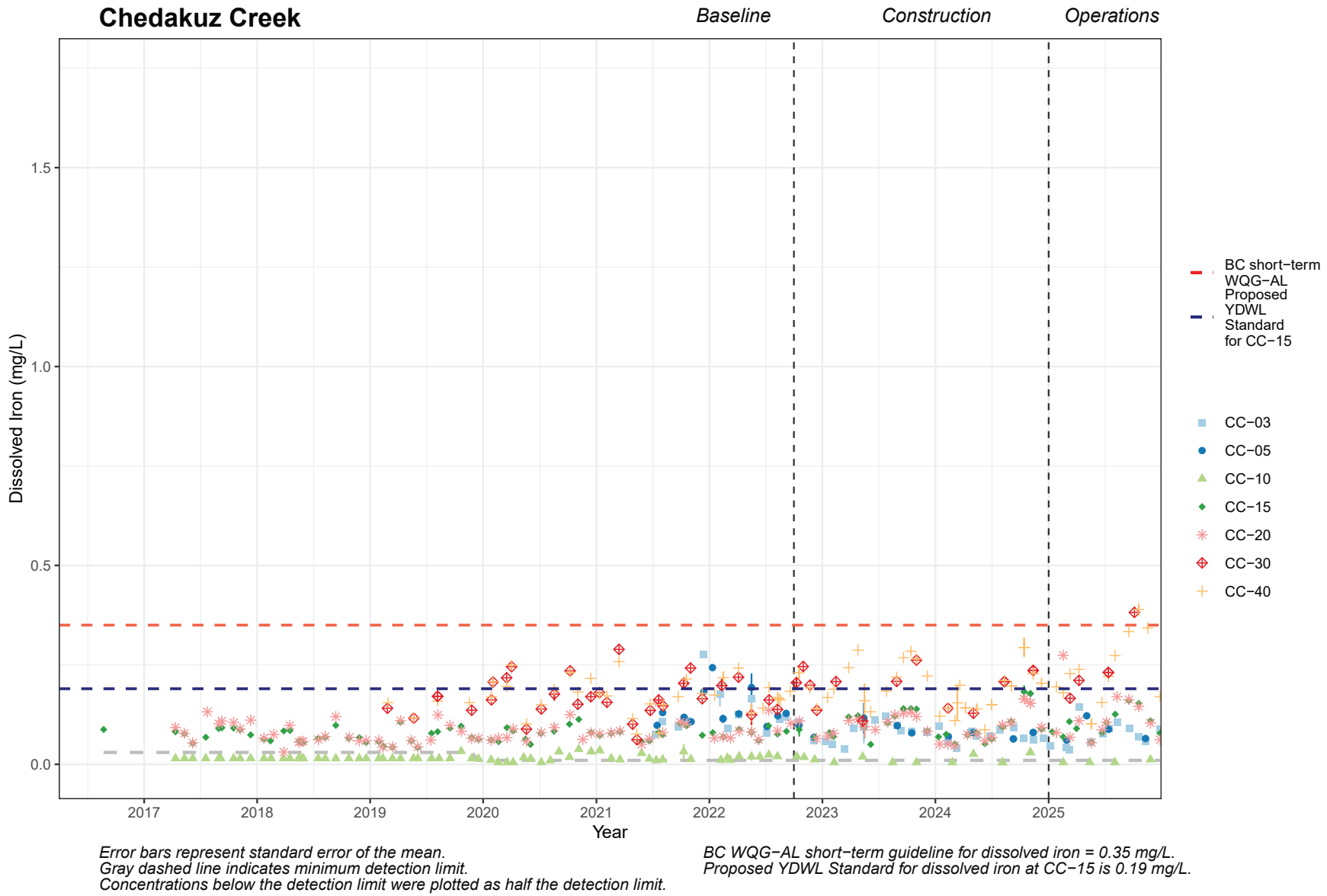


Figure C-56c: Monthly Mean Dissolved Iron Concentrations, Chedakuz Creek Sites, 2016 to 2025

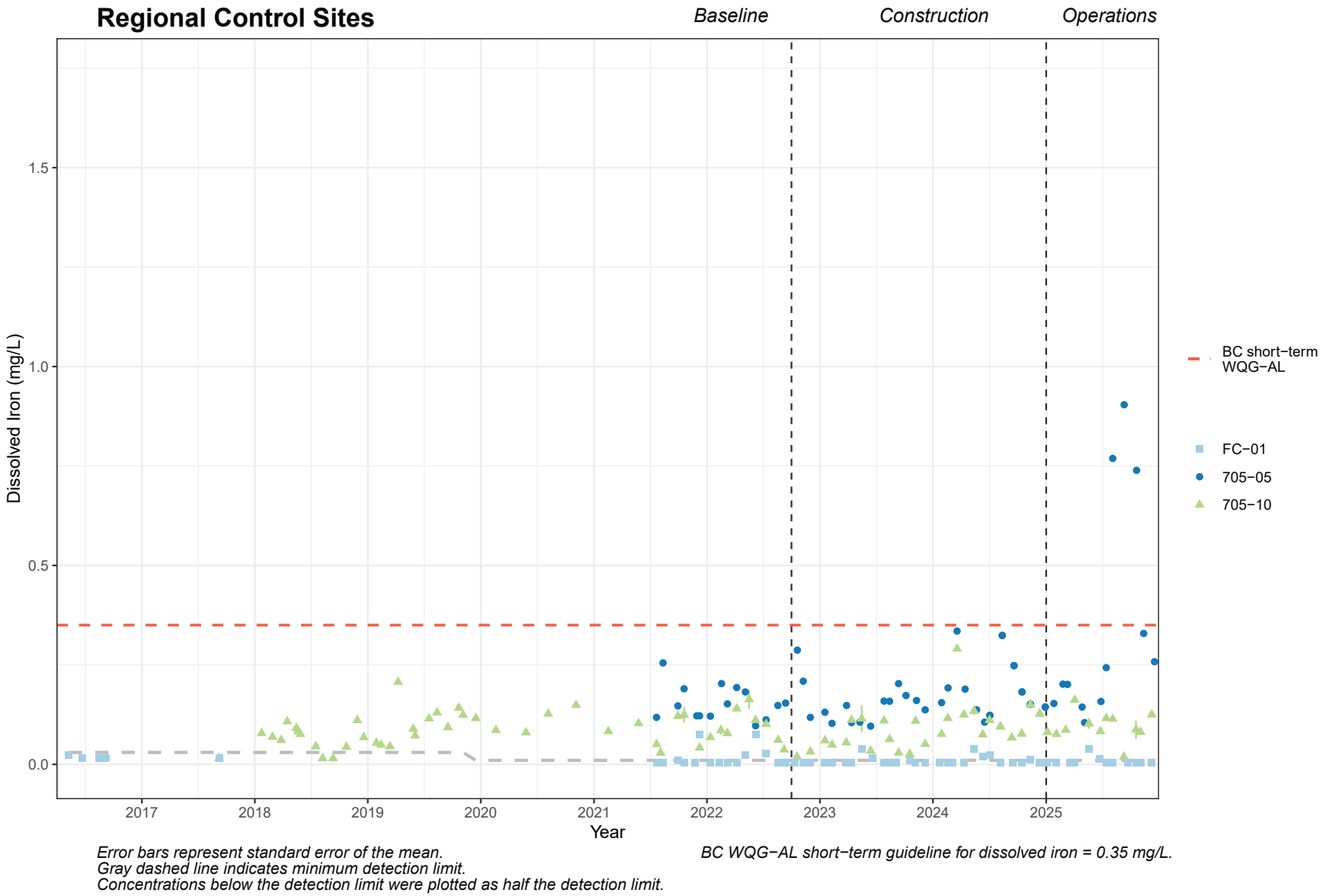


Figure C-56d: Monthly Mean Dissolved Iron Concentrations, Regional Control Sites Sites, 2016 to 2025

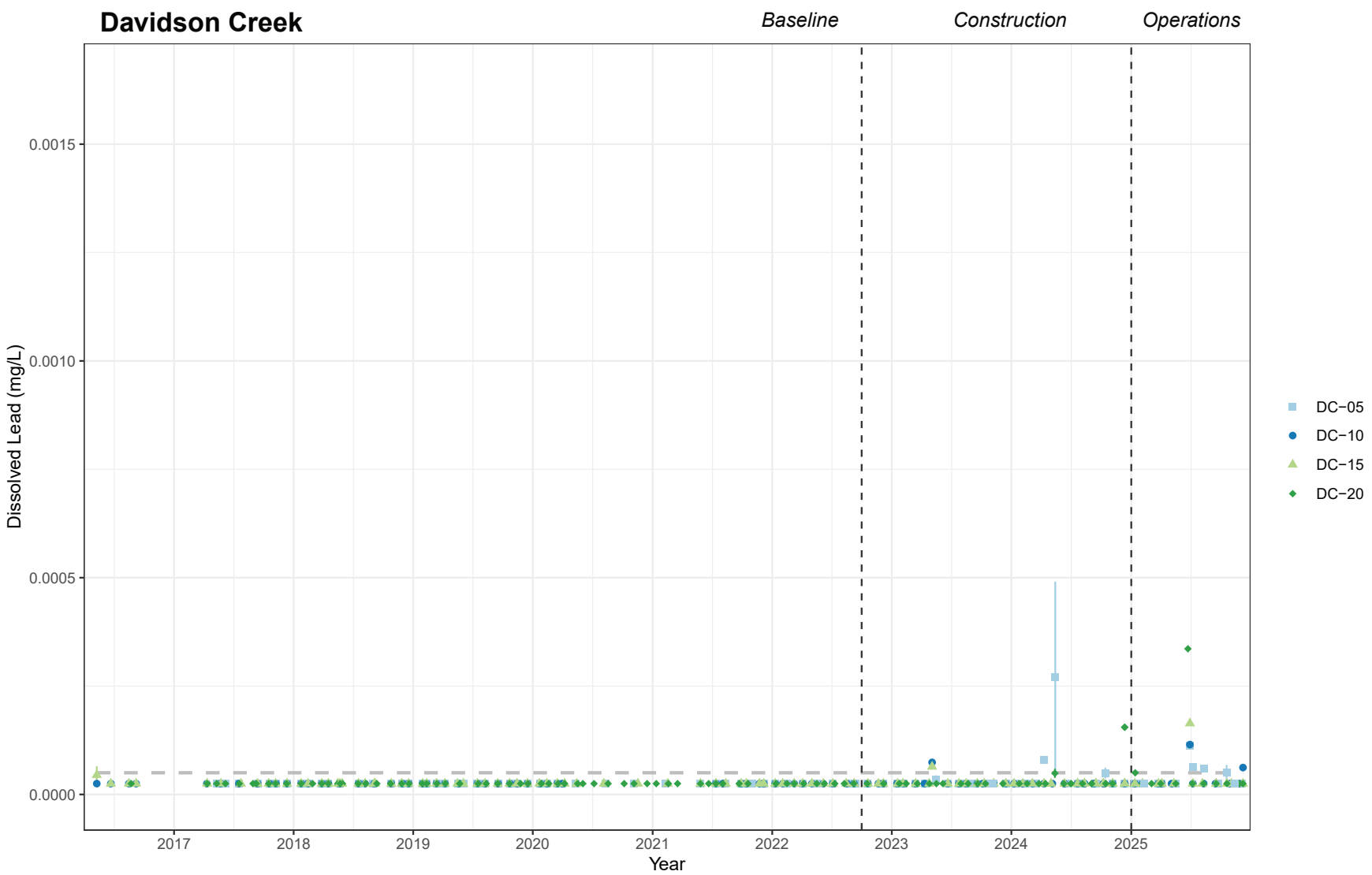
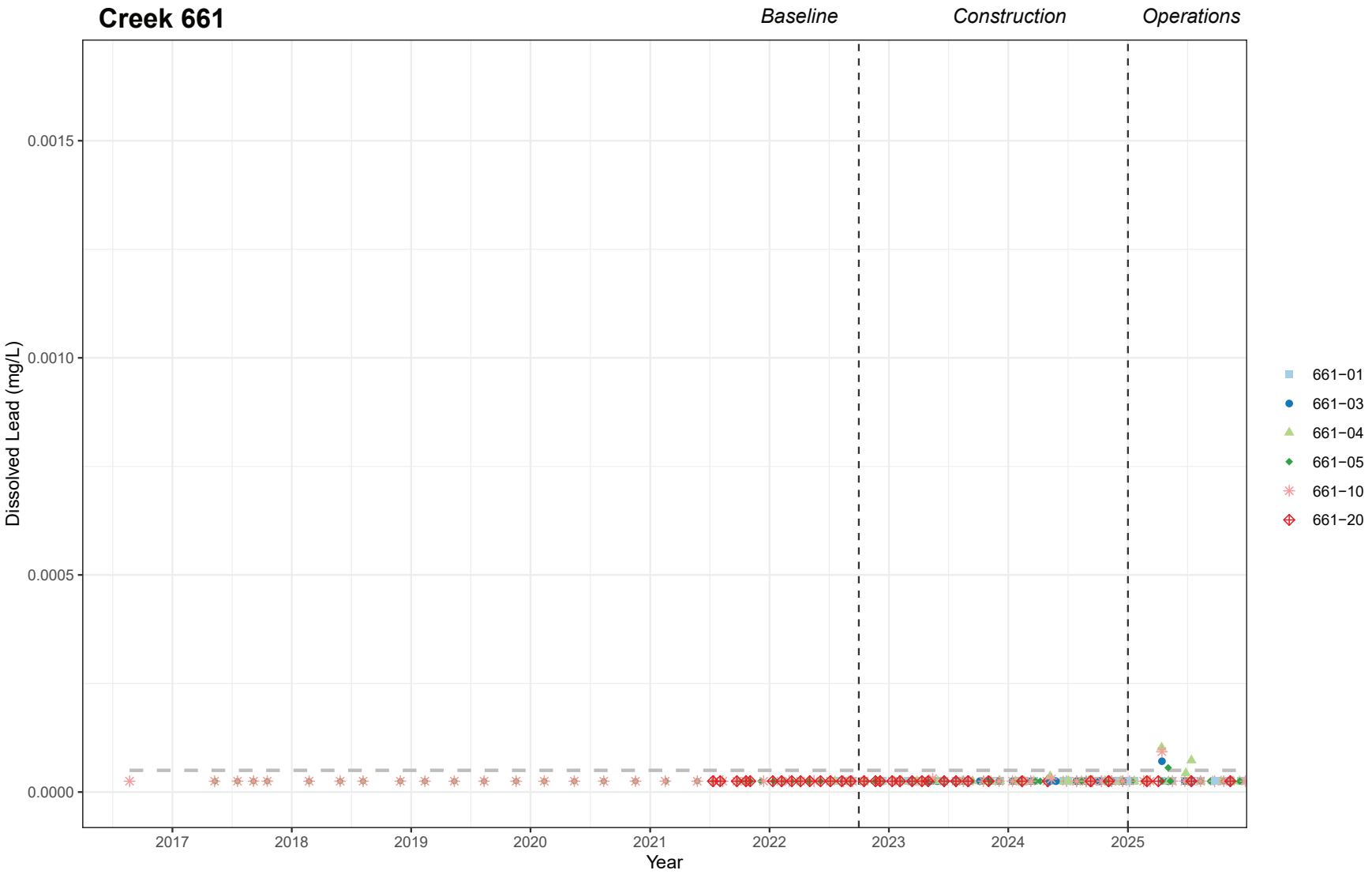


Figure C-57a: Monthly Mean Dissolved Lead Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for dissolved lead is hardness and DOC dependent.

Figure C-57b: Monthly Mean Dissolved Lead Concentrations, Creek 661 Sites, 2016 to 2025

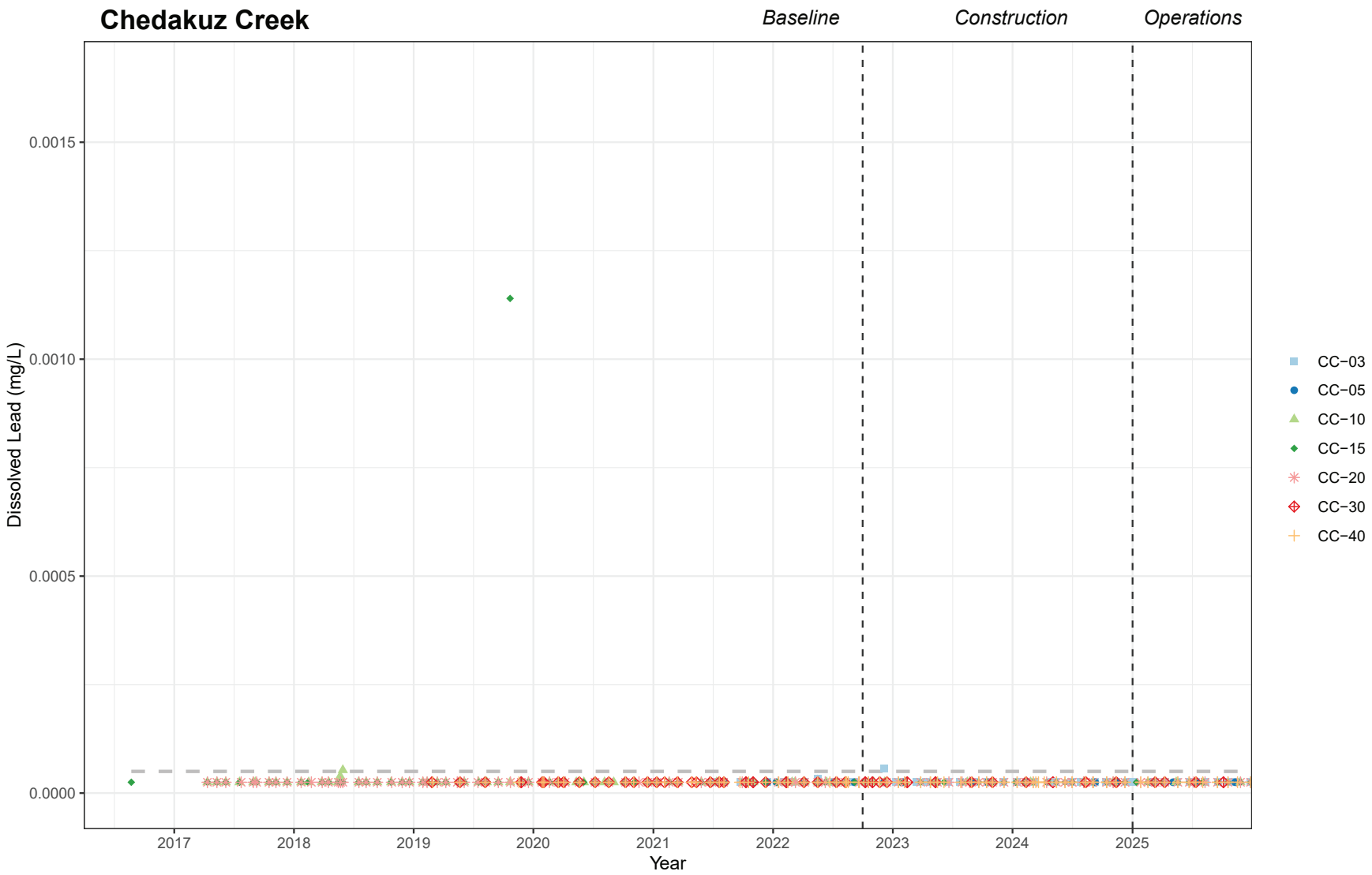
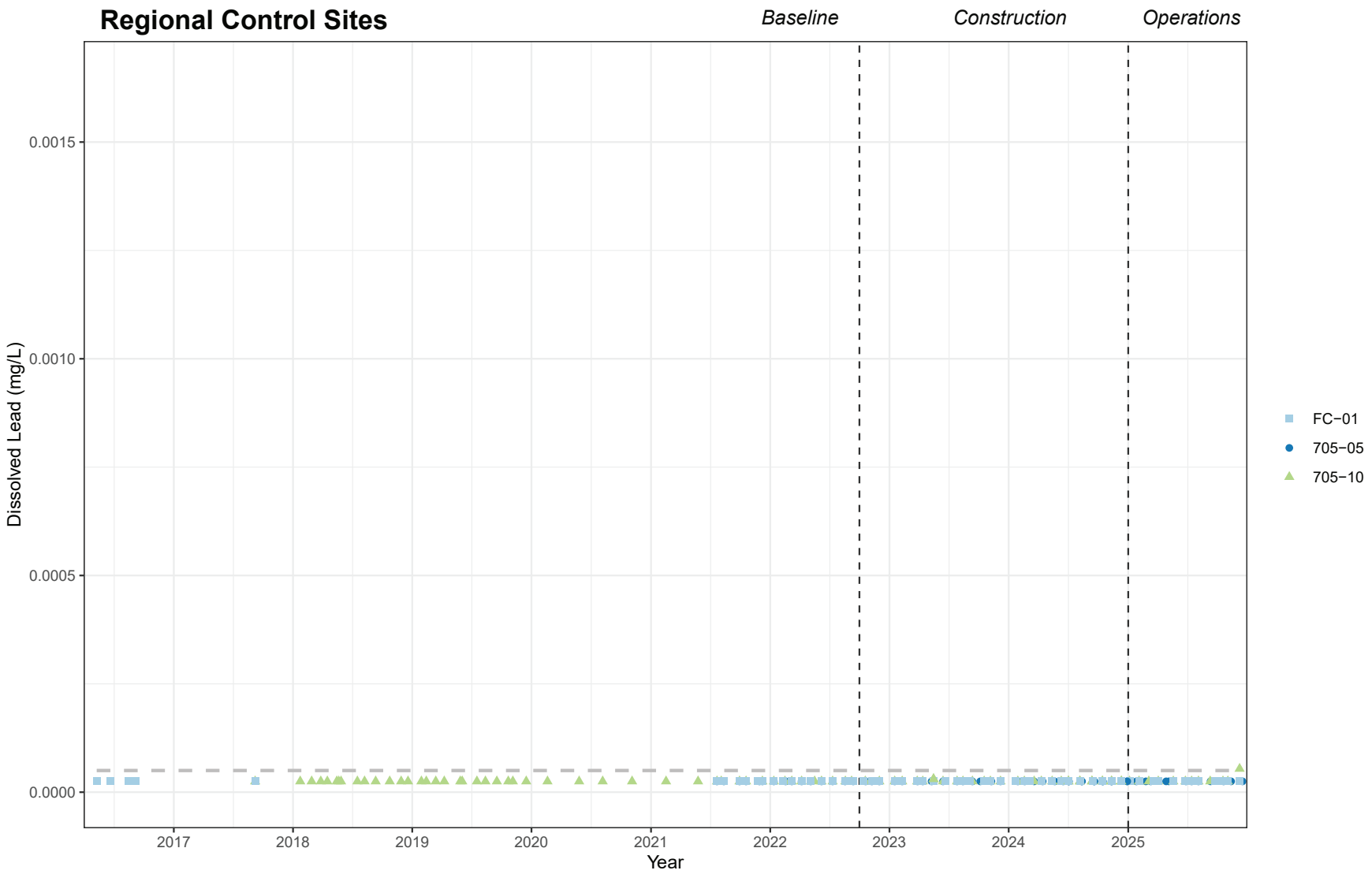


Figure C-57c: Monthly Mean Dissolved Lead Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
BC WQG−AL long−term guideline for dissolved lead is hardness and DOC dependent.

Figure C-57d: Monthly Mean Dissolved Lead Concentrations, Regional Control Sites Sites, 2016 to 2025

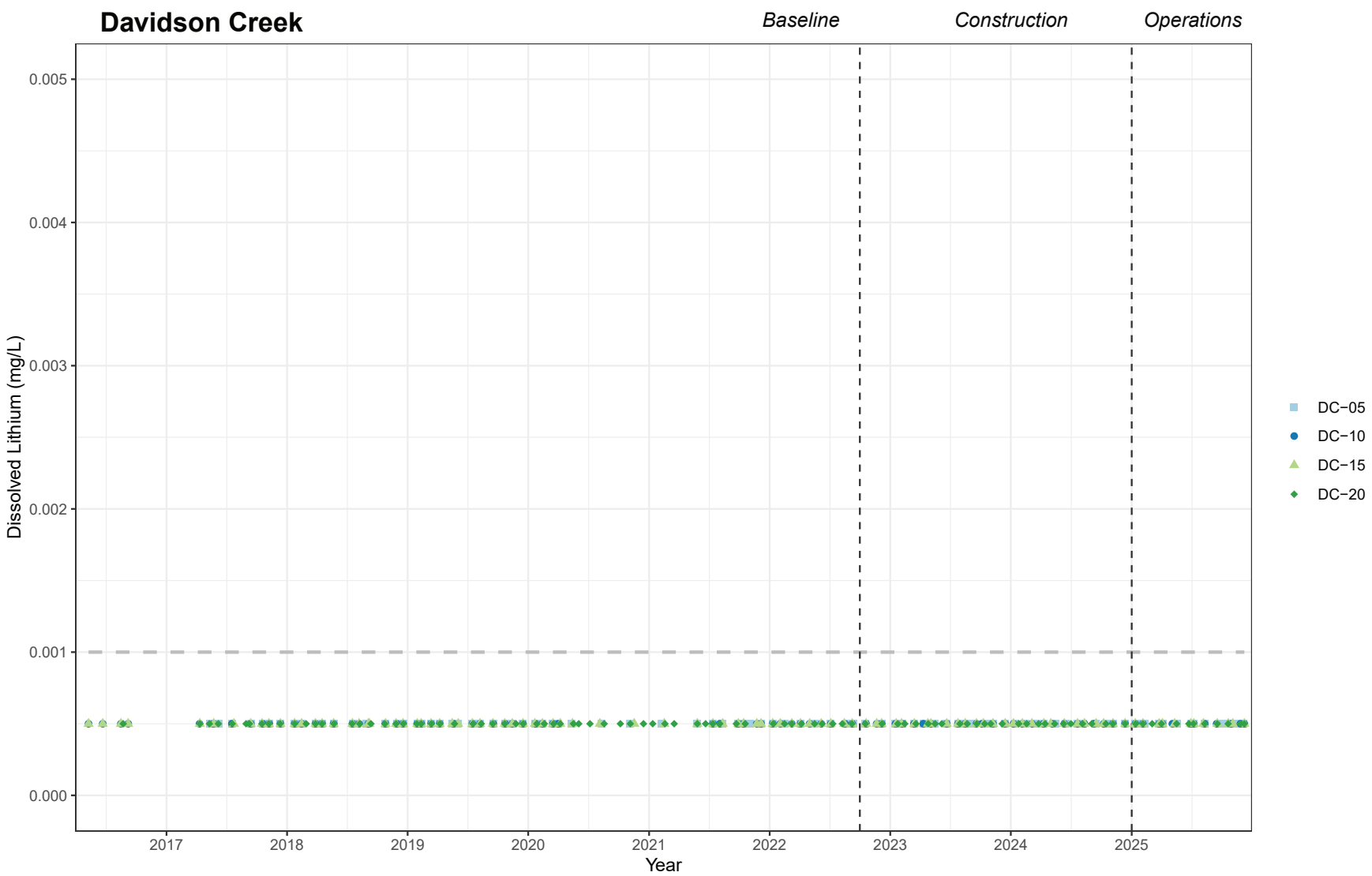


Figure C-58a: Monthly Mean Dissolved Lithium Concentrations, Davidson Creek Sites, 2016 to 2025

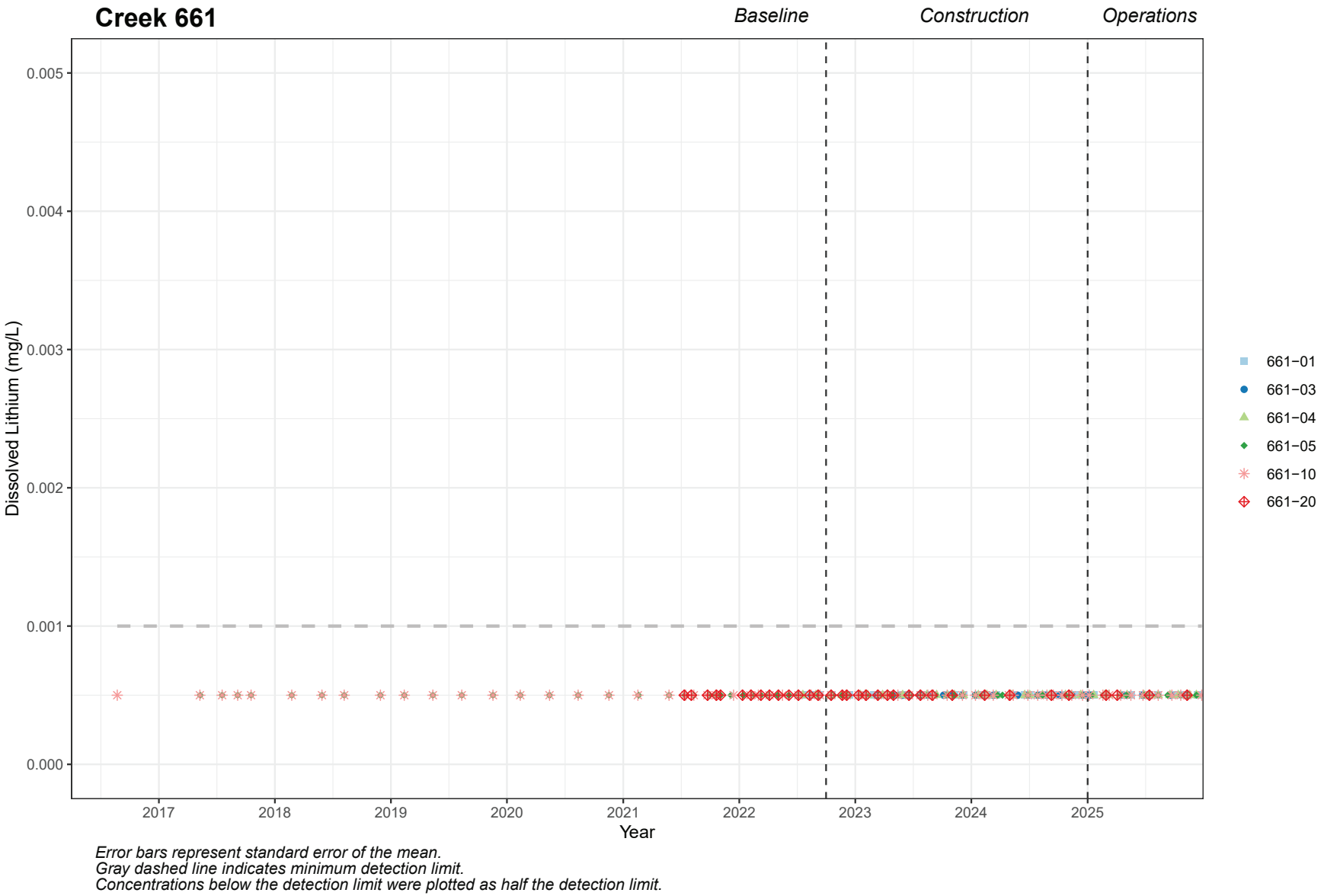


Figure C-58b: Monthly Mean Dissolved Lithium Concentrations, Creek 661 Sites, 2016 to 2025

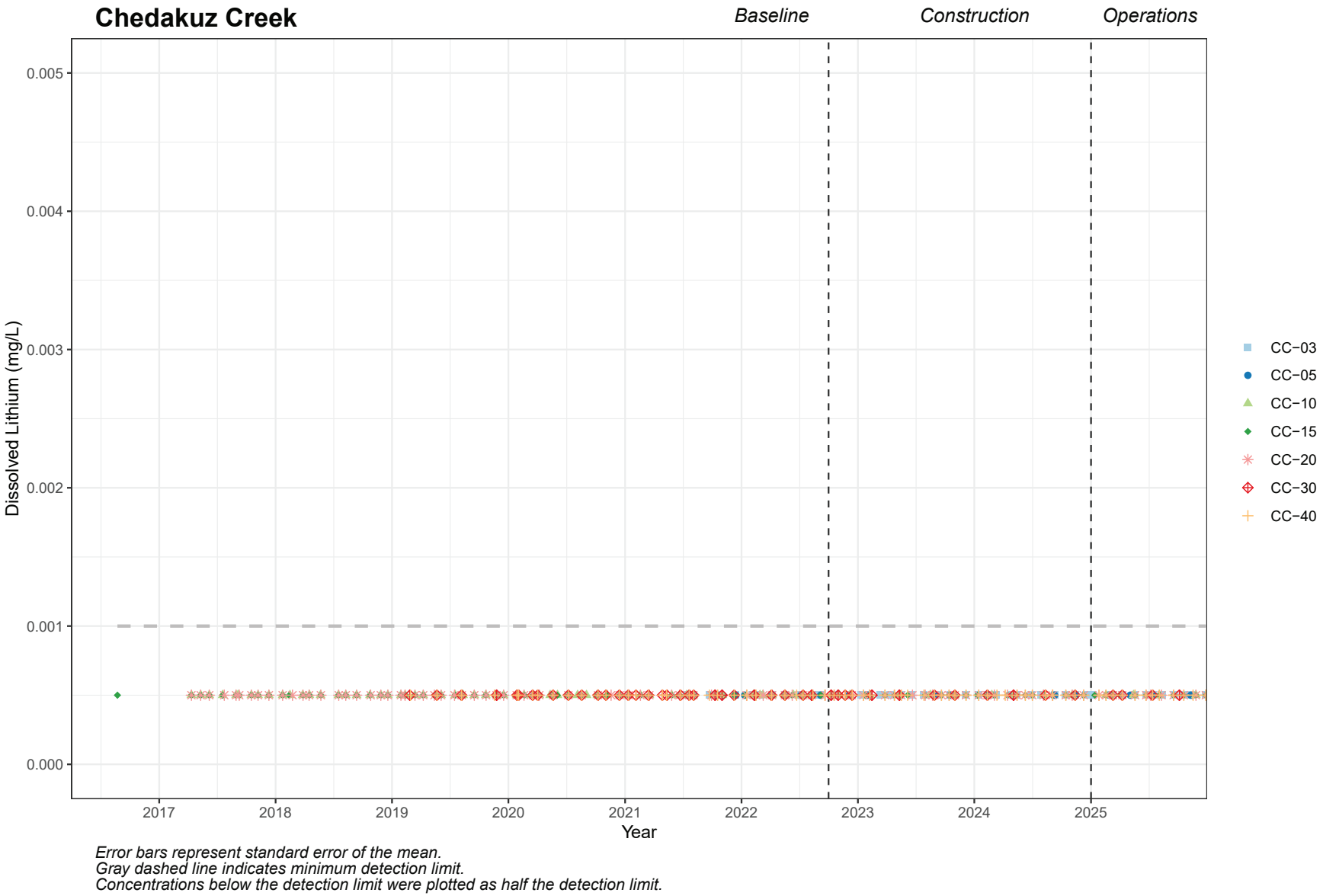


Figure C-58c: Monthly Mean Dissolved Lithium Concentrations, Chedakuz Creek Sites, 2016 to 2025

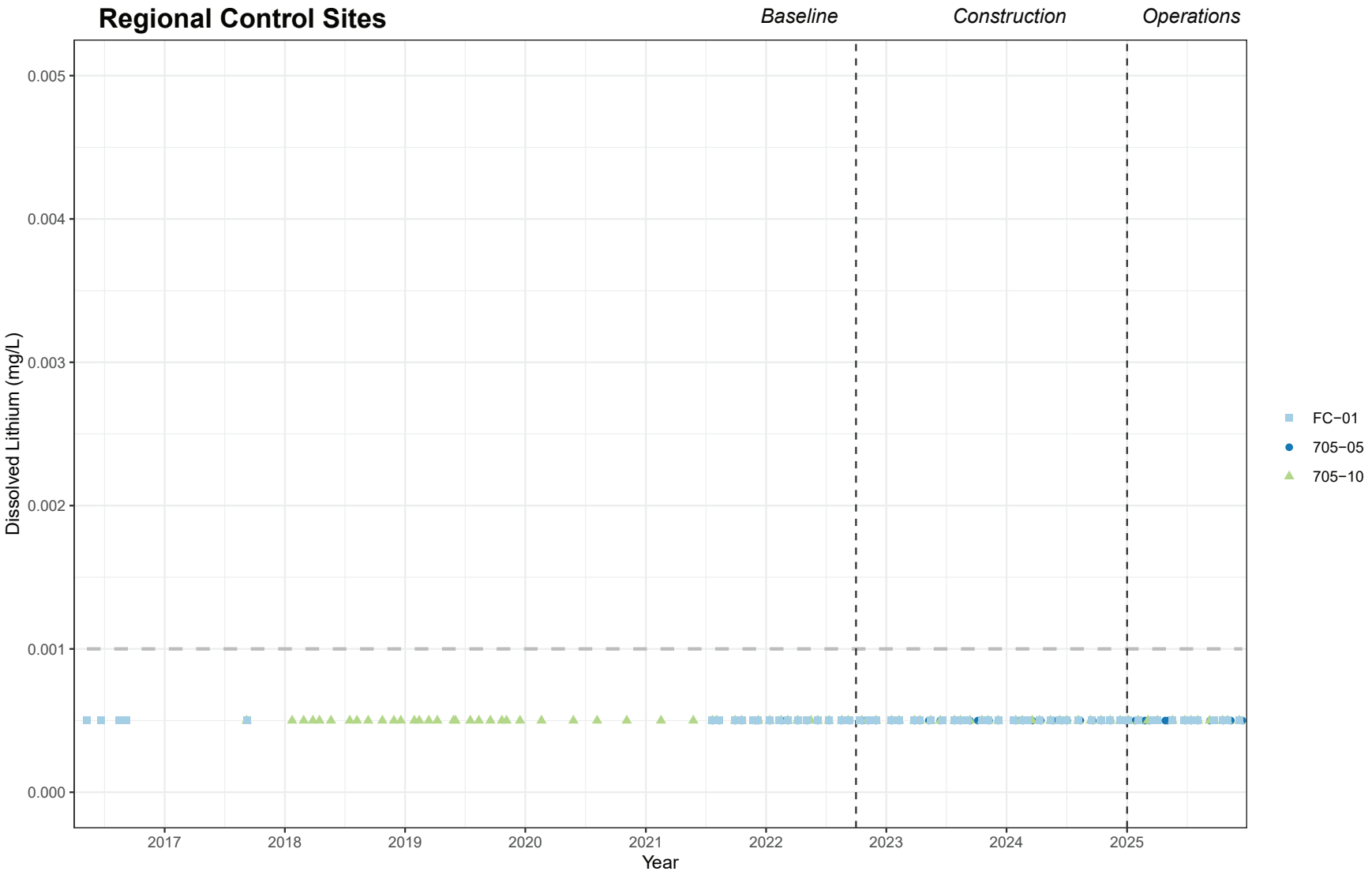


Figure C-58d: Monthly Mean Dissolved Lithium Concentrations, Regional Control Sites Sites, 2016 to 2025

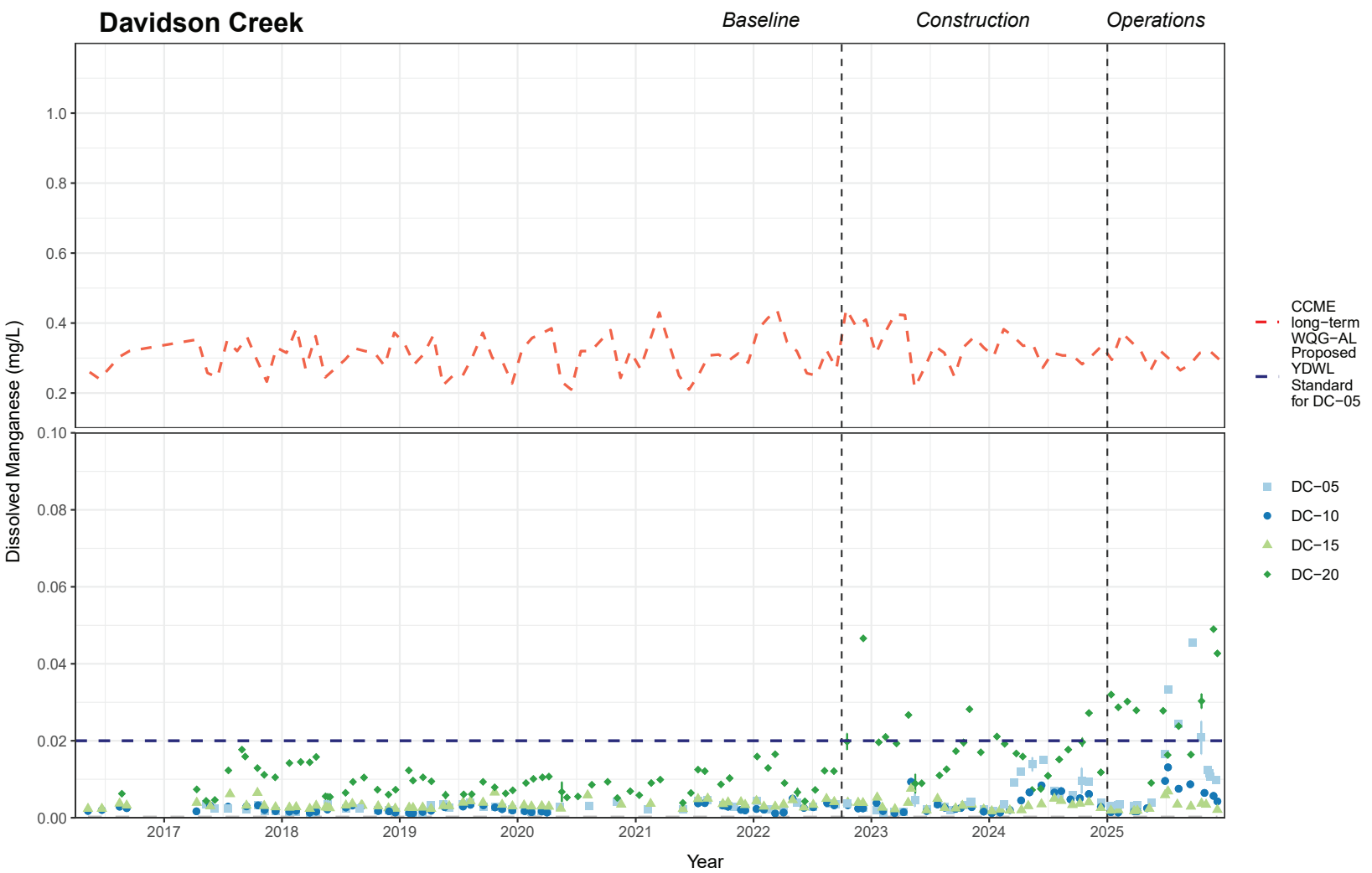
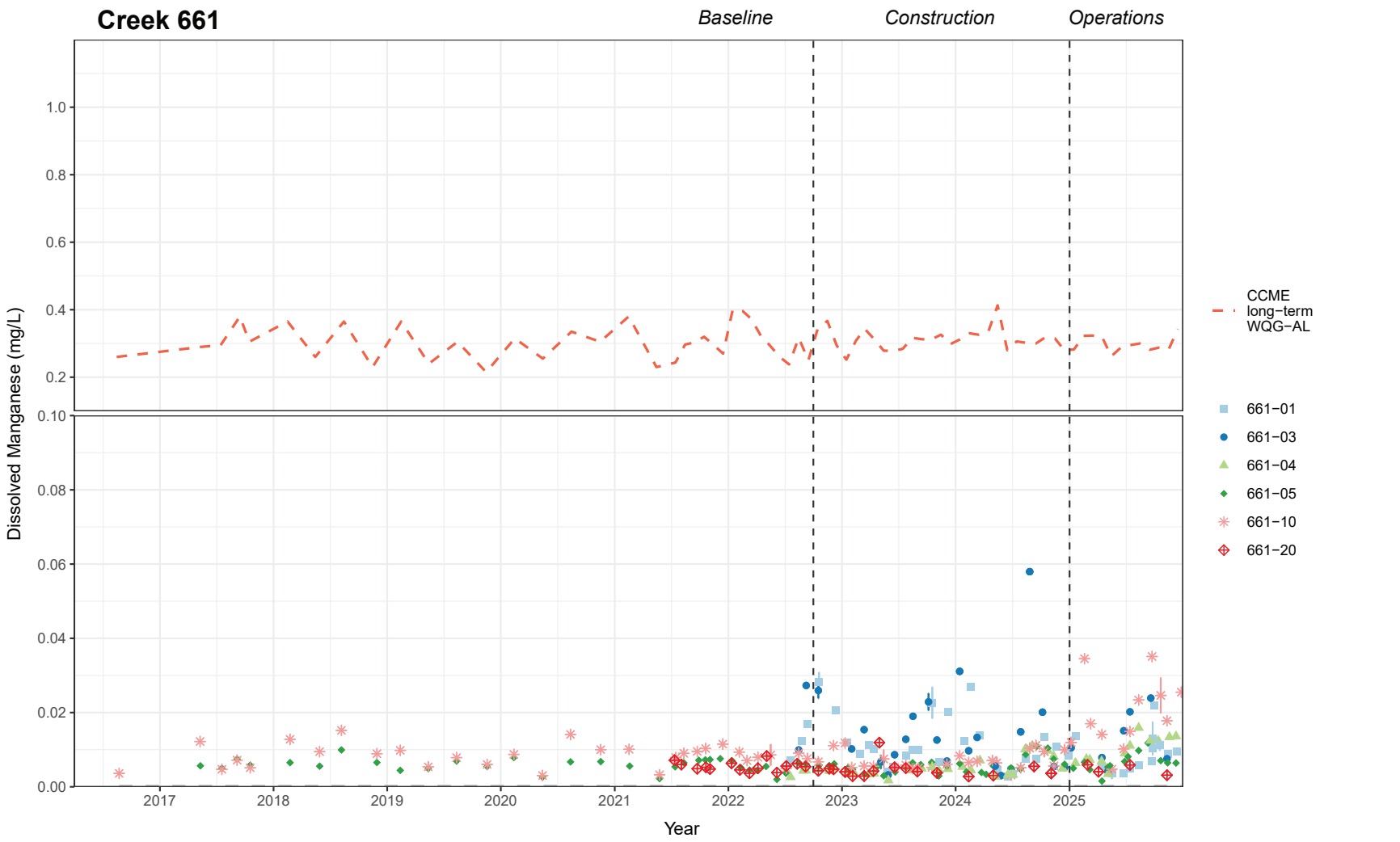


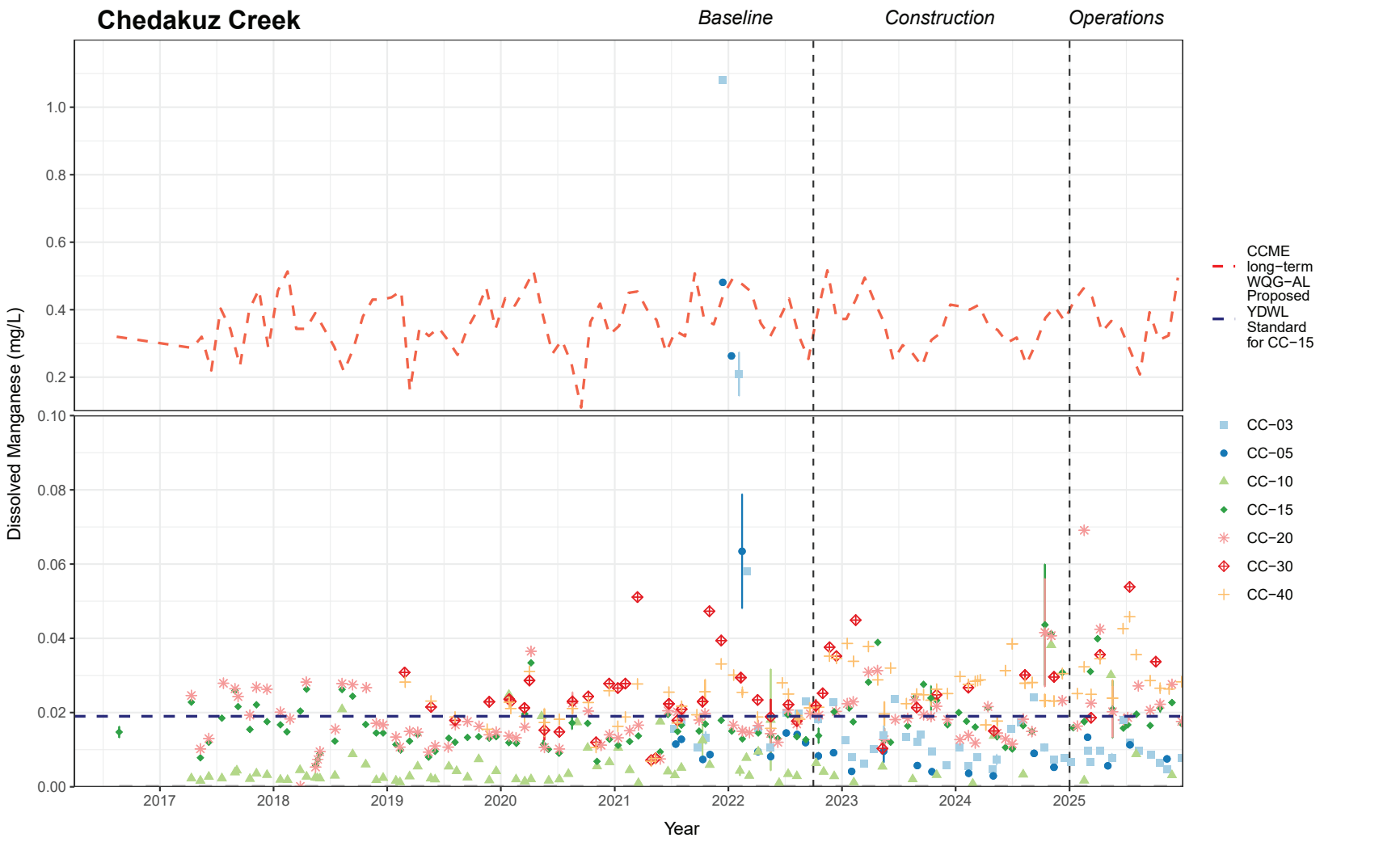
Figure C-59a: Monthly Mean Dissolved Manganese Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

CCME WQG−AL long−term guideline for dissolved manganese is pH and hardness−dependent.

Figure C-59b: Monthly Mean Dissolved Manganese Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

CCME WQG−AL long−term guideline for dissolved manganese is pH and hardness−dependent.
Proposed YDWL Standard for dissolved manganese at CC−15 is 0.019 mg/L.

Figure C-59c: Monthly Mean Dissolved Manganese Concentrations, Chedakuz Creek Sites, 2016 to 2025

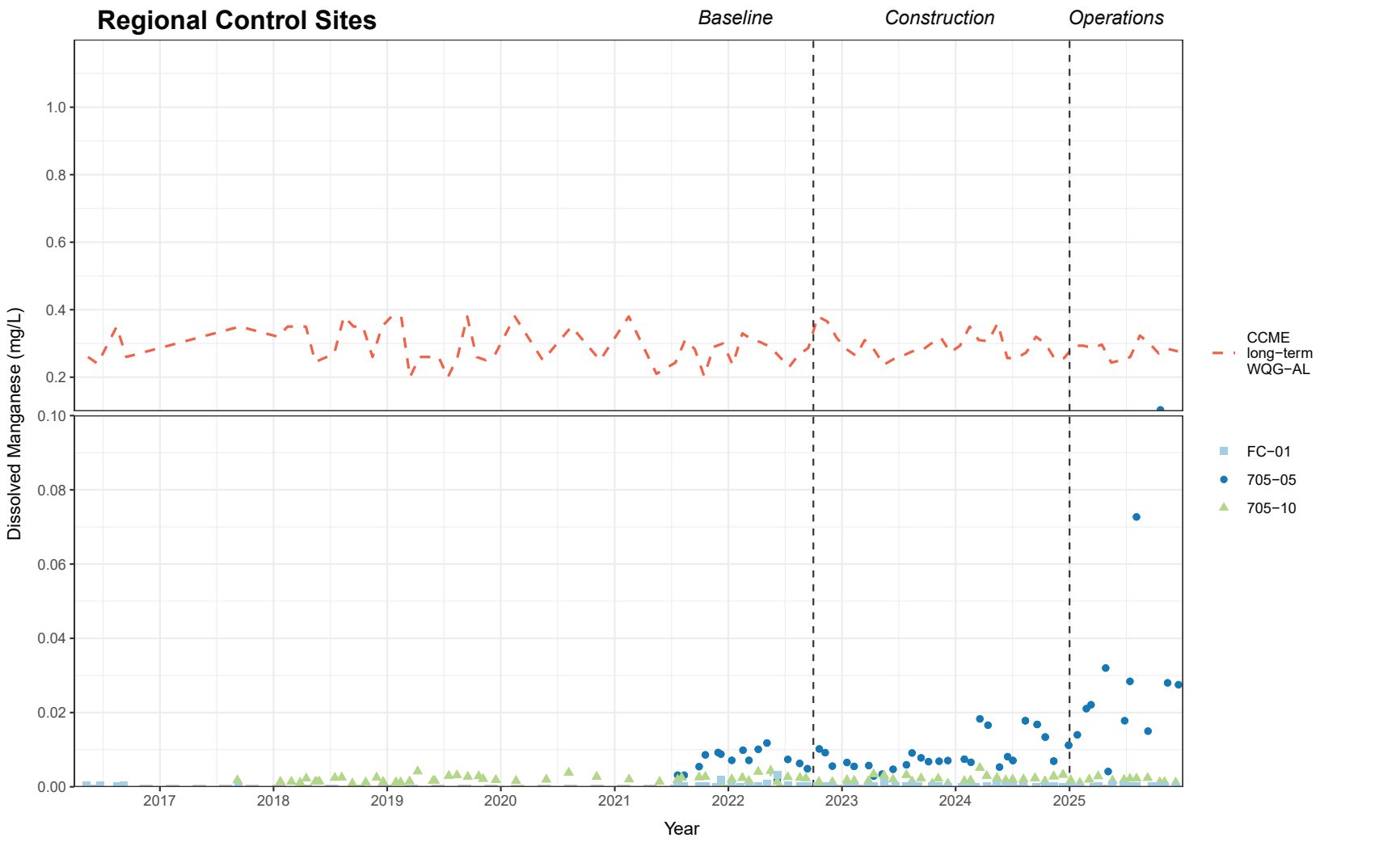


Figure C-59d: Monthly Mean Dissolved Manganese Concentrations, Regional Control Sites Sites, 2016 to 2025

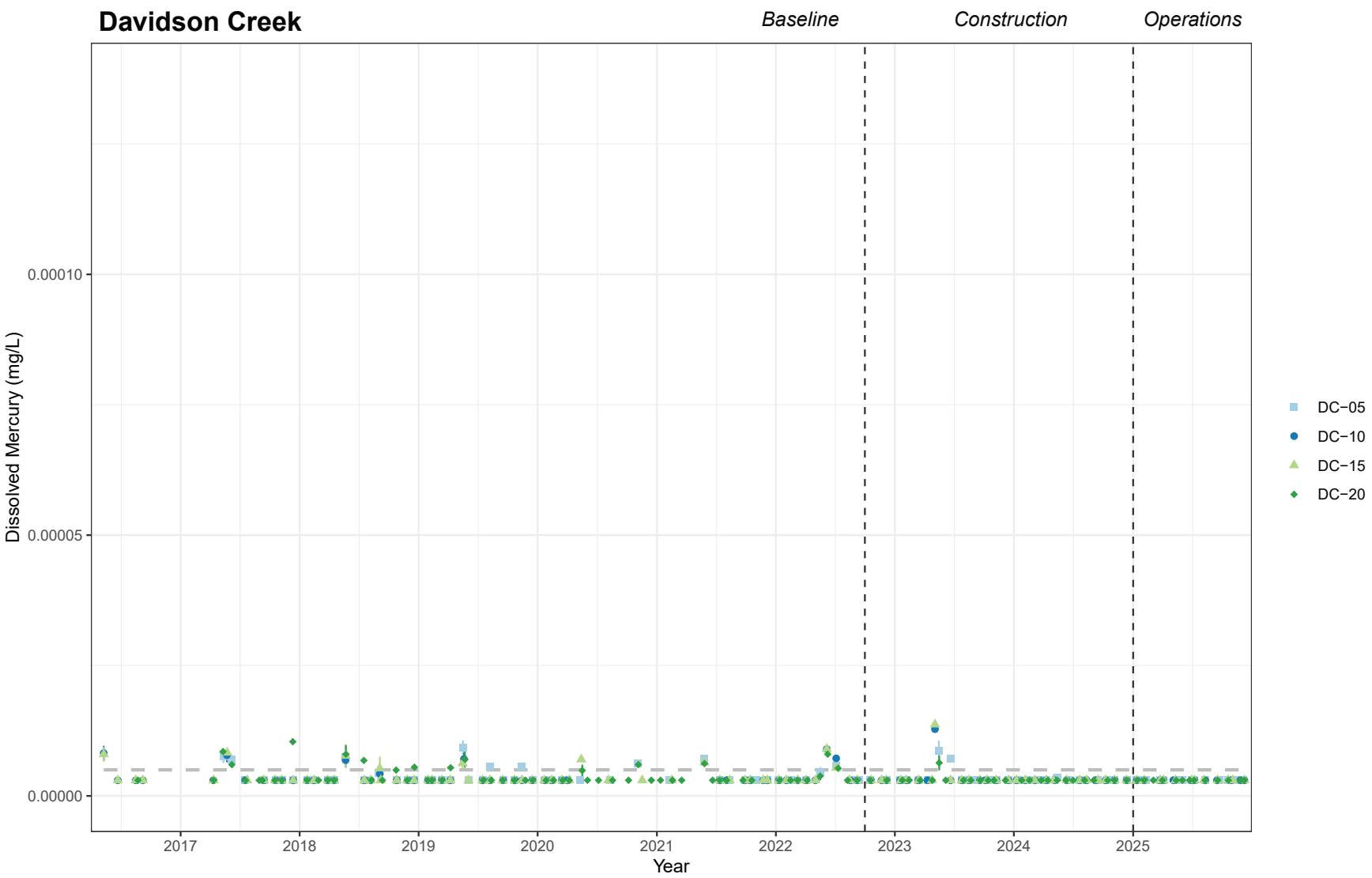


Figure C-60a: Monthly Mean Dissolved Mercury Concentrations, Davidson Creek Sites, 2016 to 2025

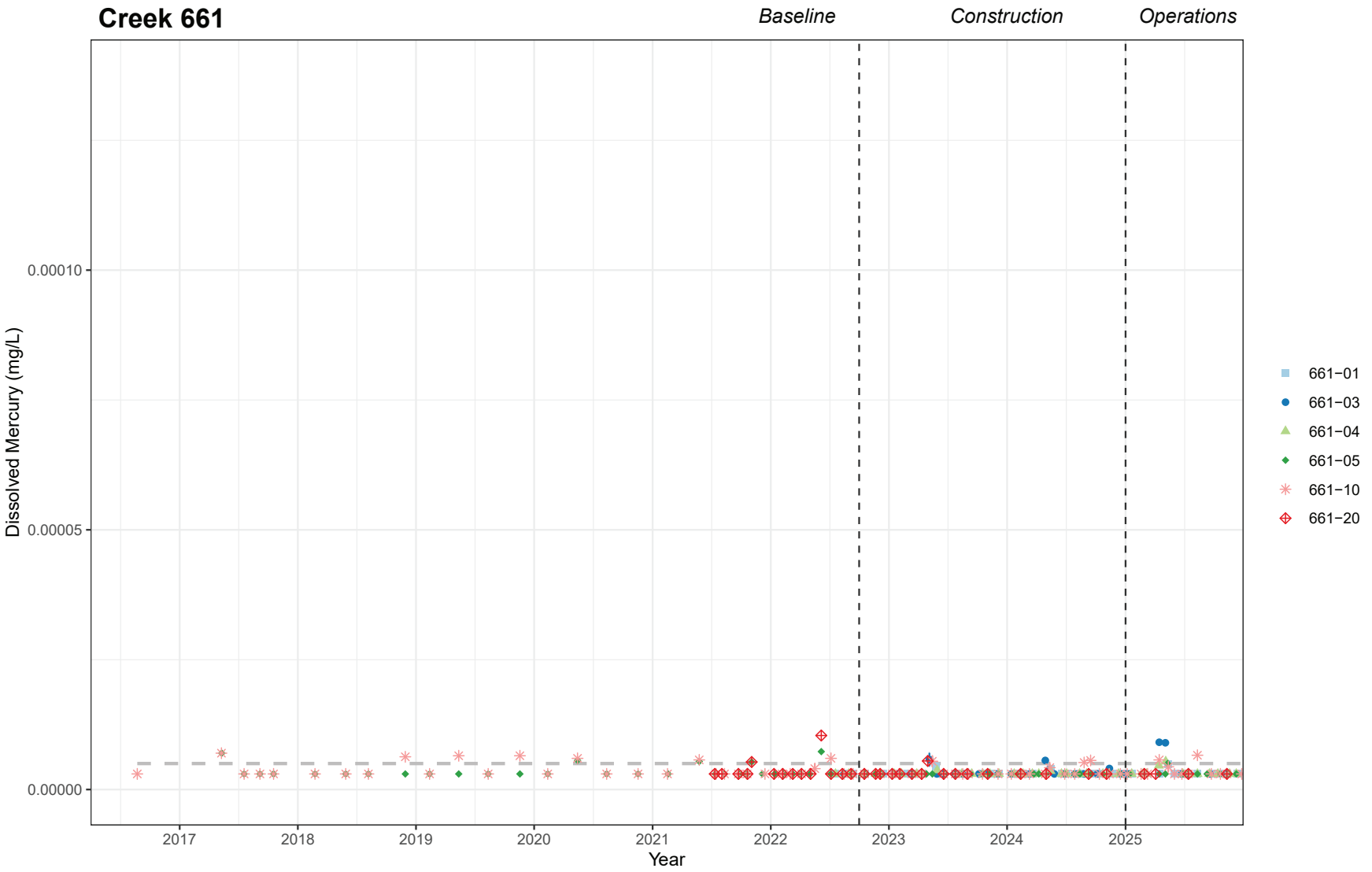


Figure C-60b: Monthly Mean Dissolved Mercury Concentrations, Creek 661 Sites, 2016 to 2025

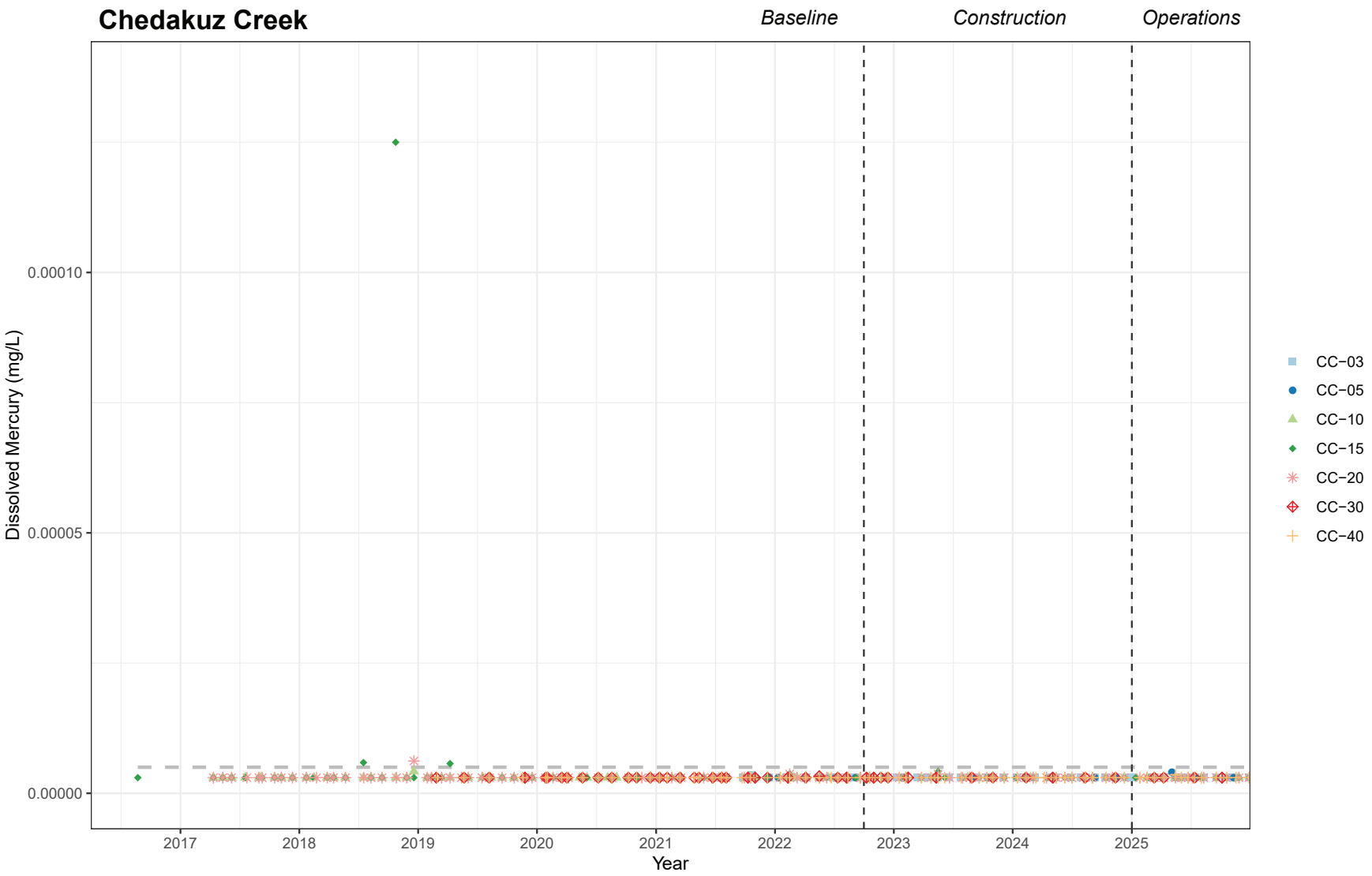


Figure C-60c: Monthly Mean Dissolved Mercury Concentrations, Chedakuz Creek Sites, 2016 to 2025

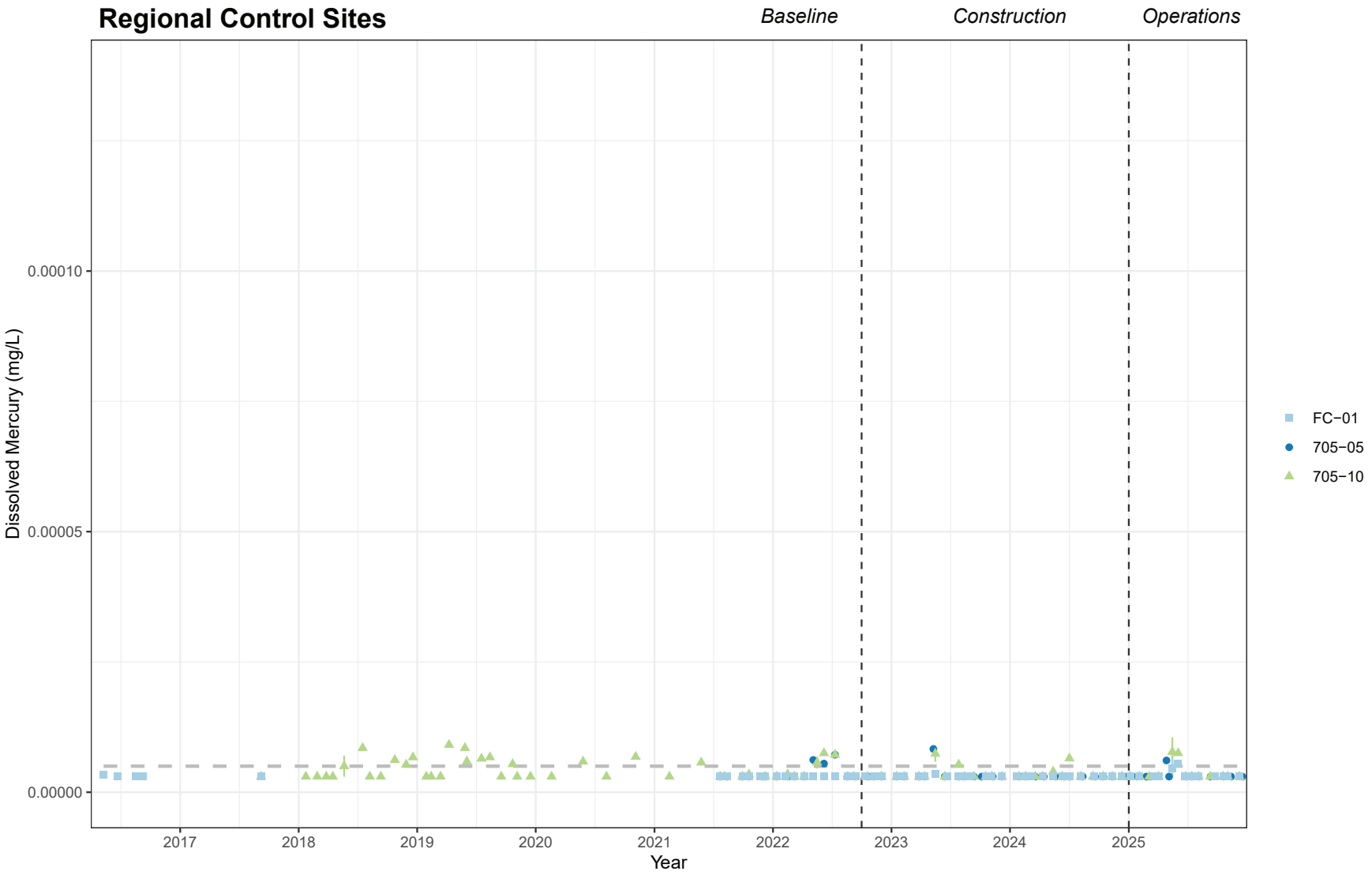


Figure C-60d: Monthly Mean Dissolved Mercury Concentrations, Regional Control Sites Sites, 2016 to 2025

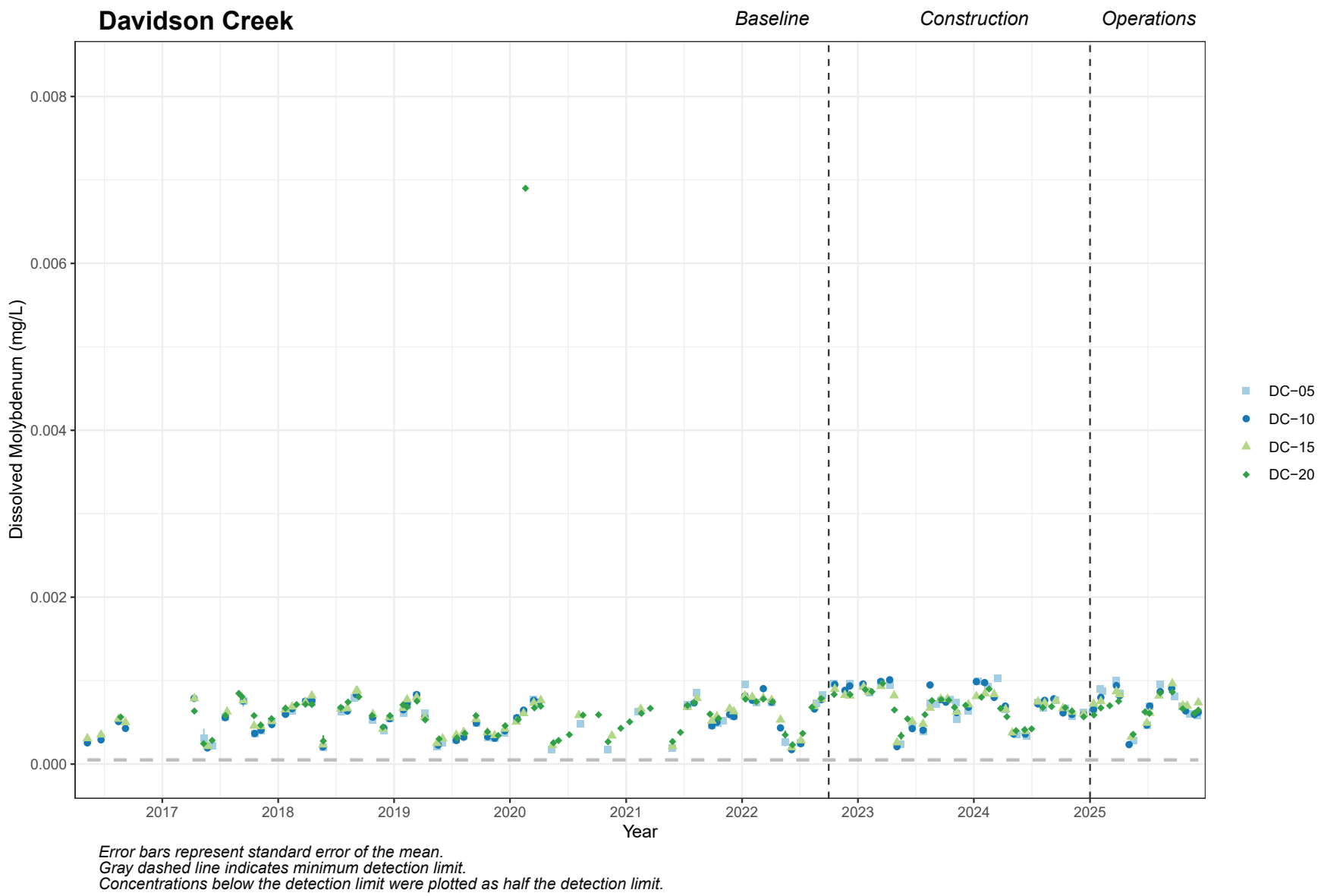
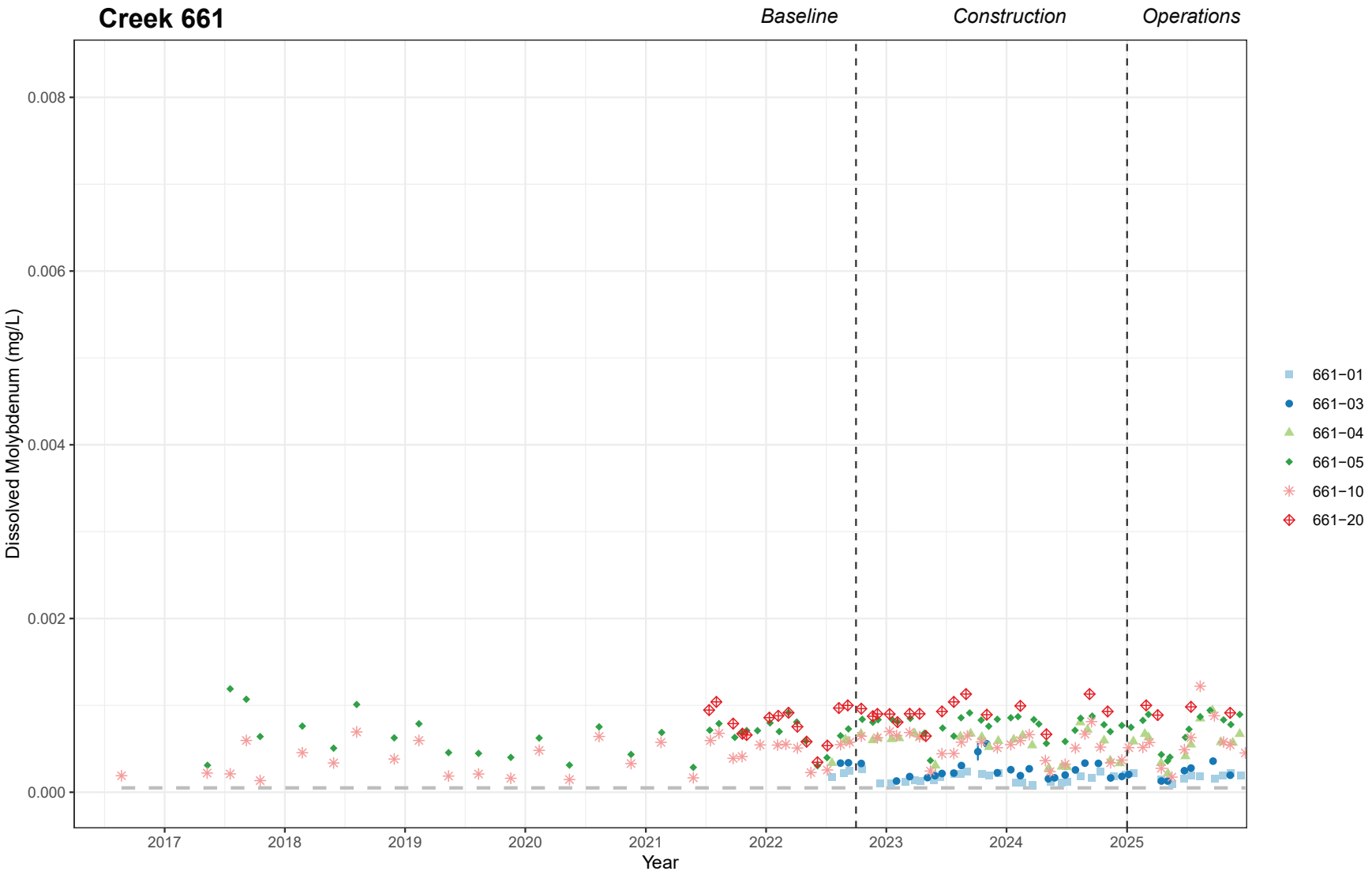


Figure C-61a: Monthly Mean Dissolved Molybdenum Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-61b: Monthly Mean Dissolved Molybdenum Concentrations, Creek 661 Sites, 2016 to 2025

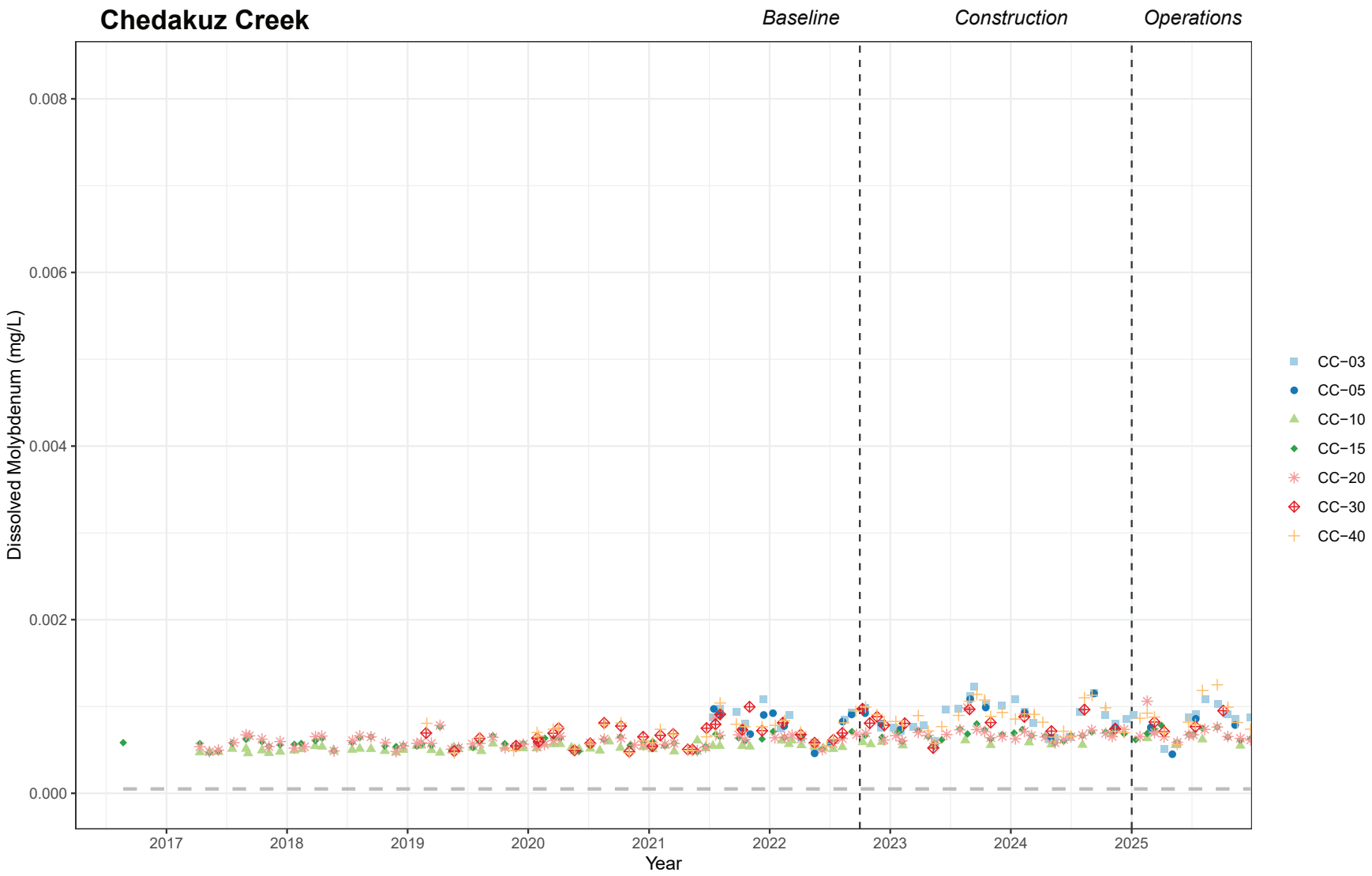


Figure C-61c: Monthly Mean Dissolved Molybdenum Concentrations, Chedakuz Creek Sites, 2016 to 2025

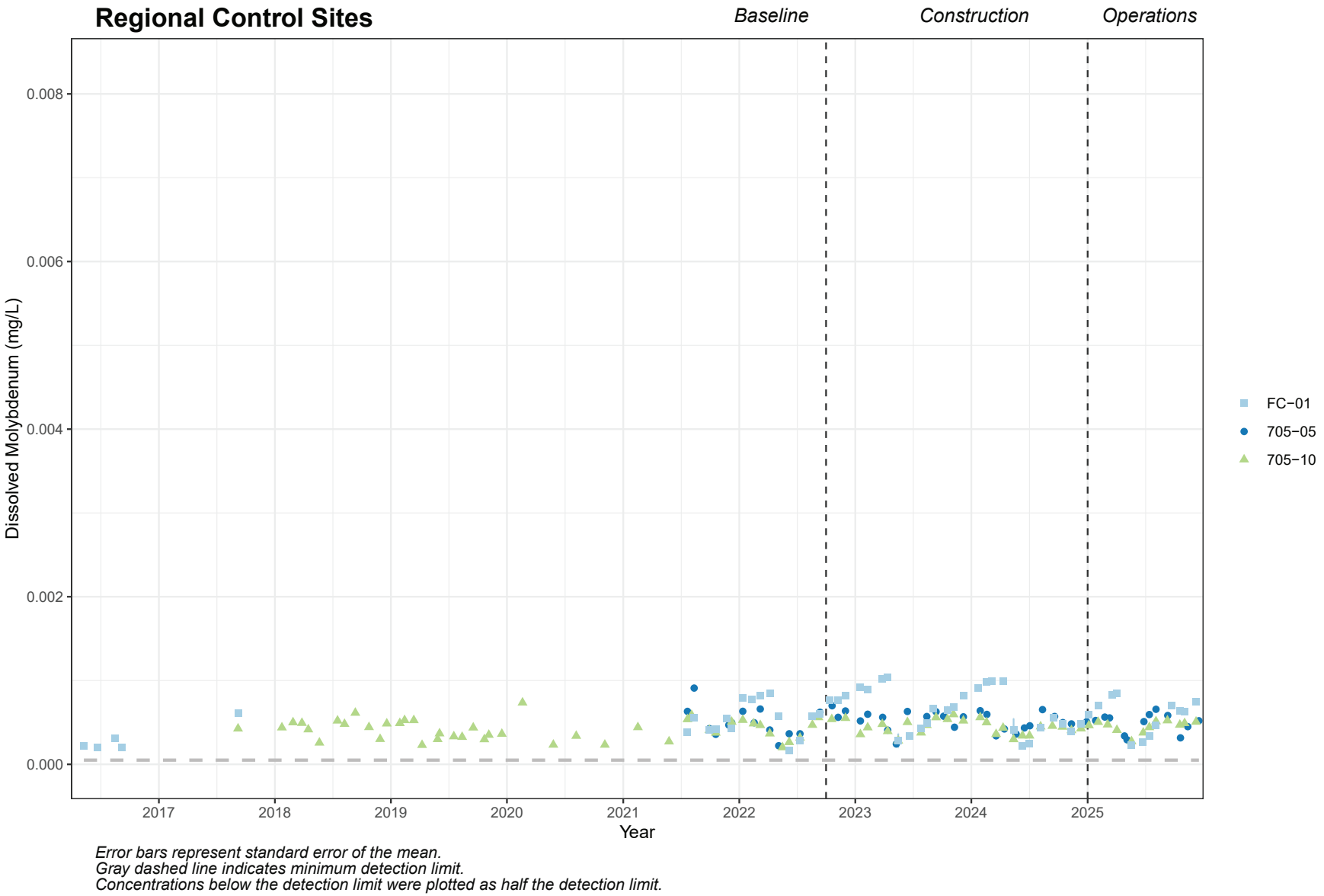
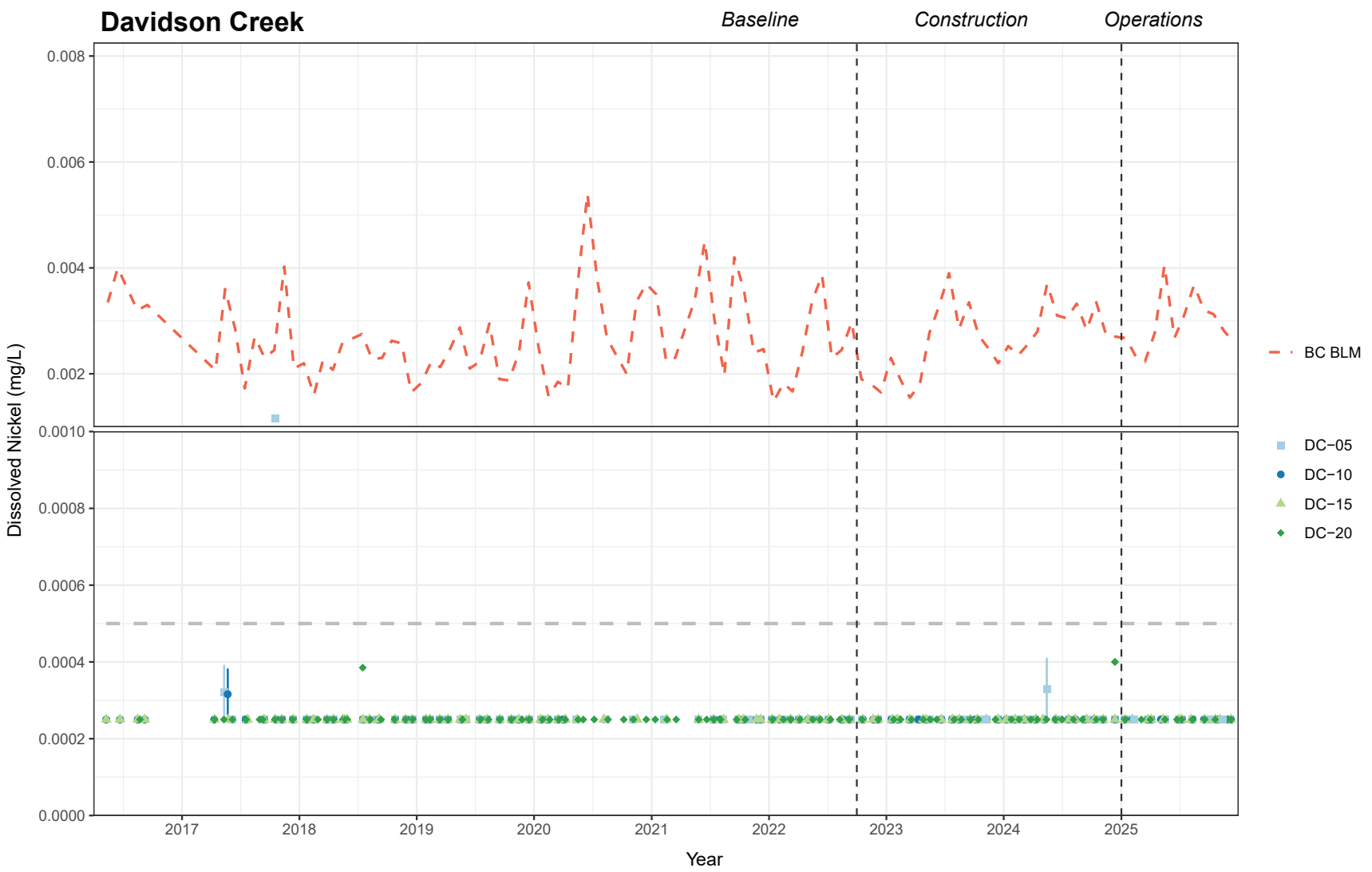
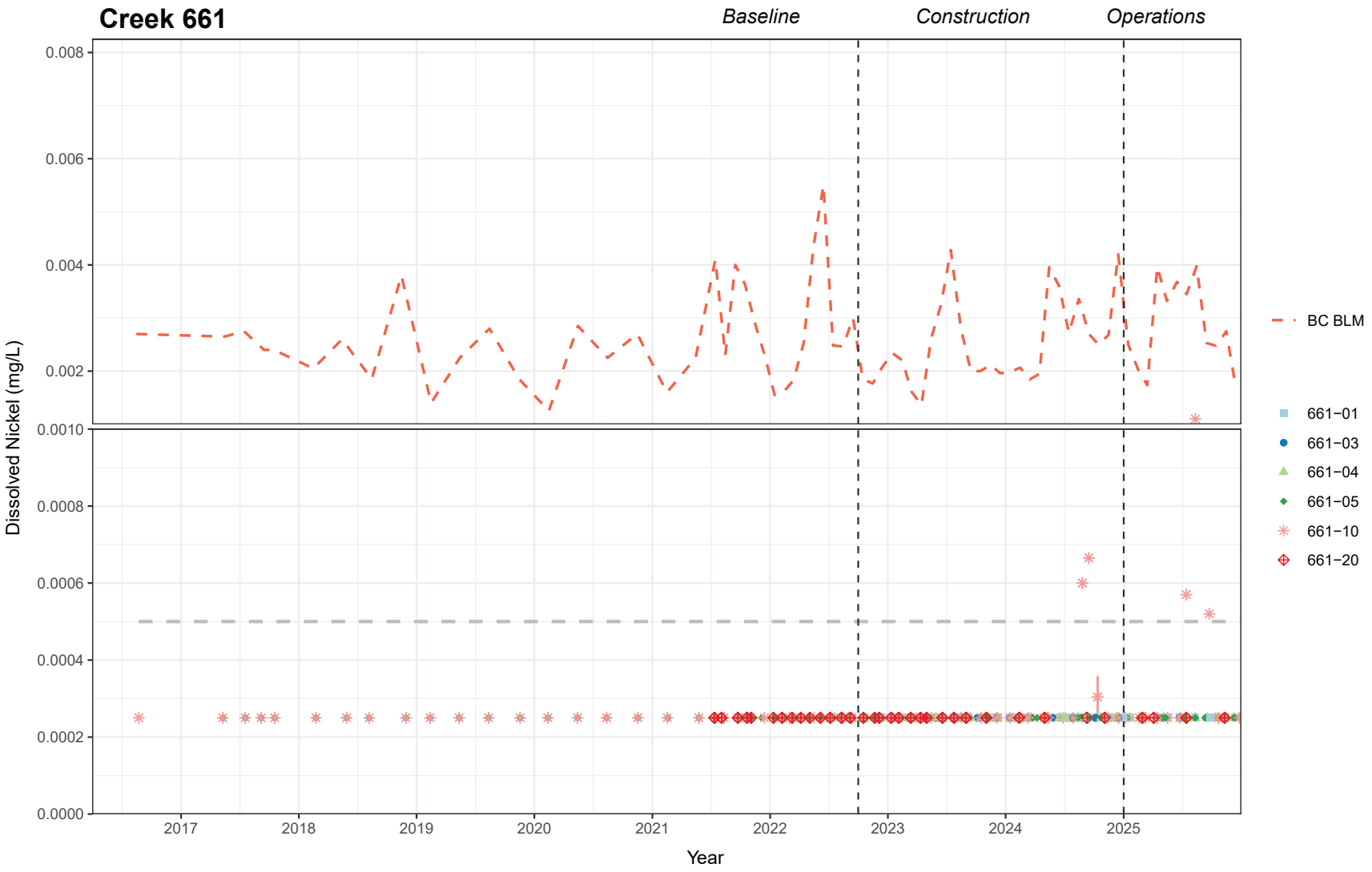


Figure C-61d: Monthly Mean Dissolved Molybdenum Concentrations, Regional Control Sites Sites, 2016 to 2025



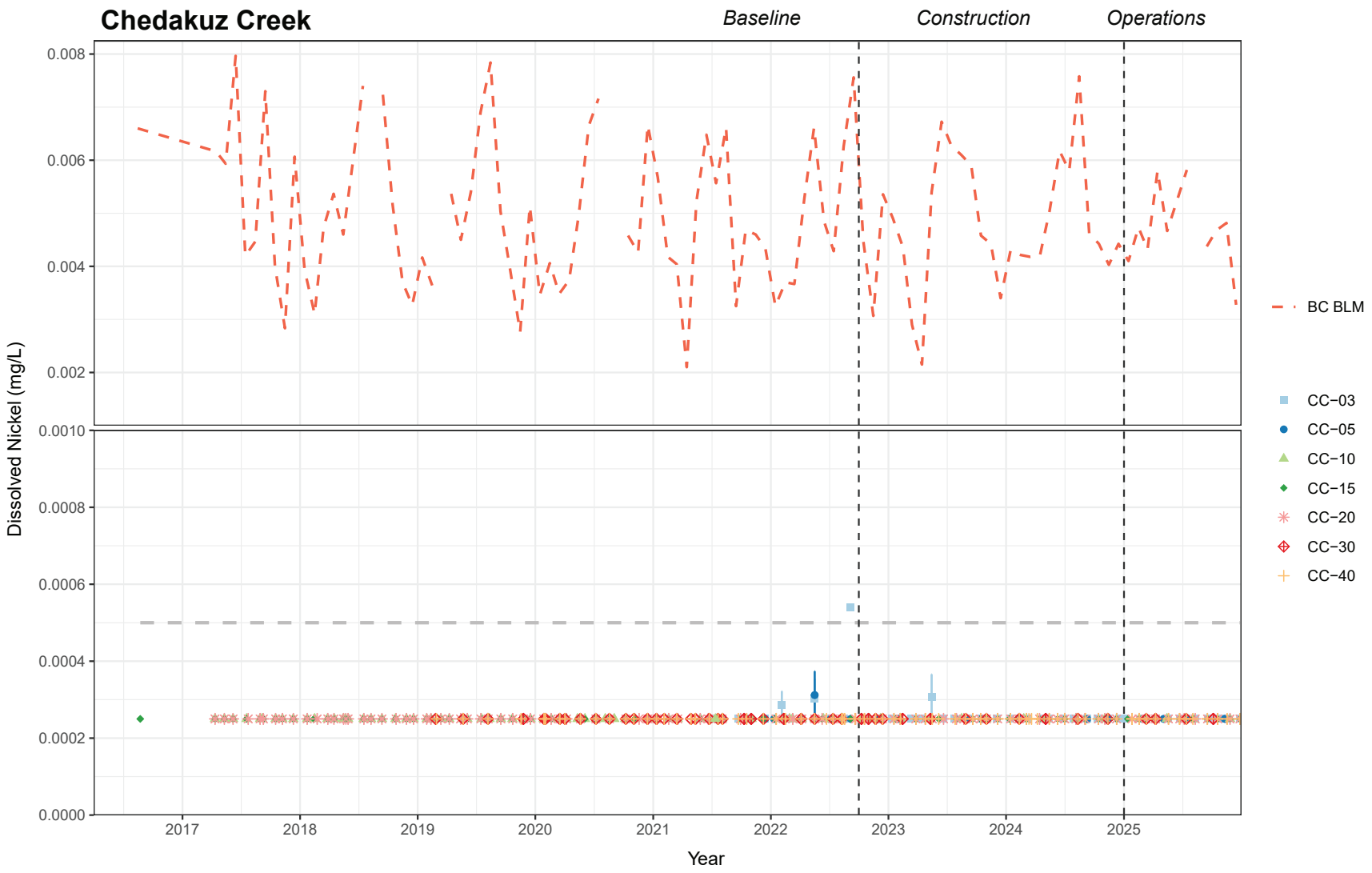
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The dissolved nickel long−term guideline is calculated using the BC BLM.

Figure C-62a: Monthly Mean Dissolved Nickel Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The dissolved nickel long−term guideline is calculated using the BC BLM.

Figure C-62b: Monthly Mean Dissolved Nickel Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.
The dissolved nickel long−term guideline is calculated using the BC BLM.

Figure C-62c: Monthly Mean Dissolved Nickel Concentrations, Chedakuz Creek Sites, 2016 to 2025

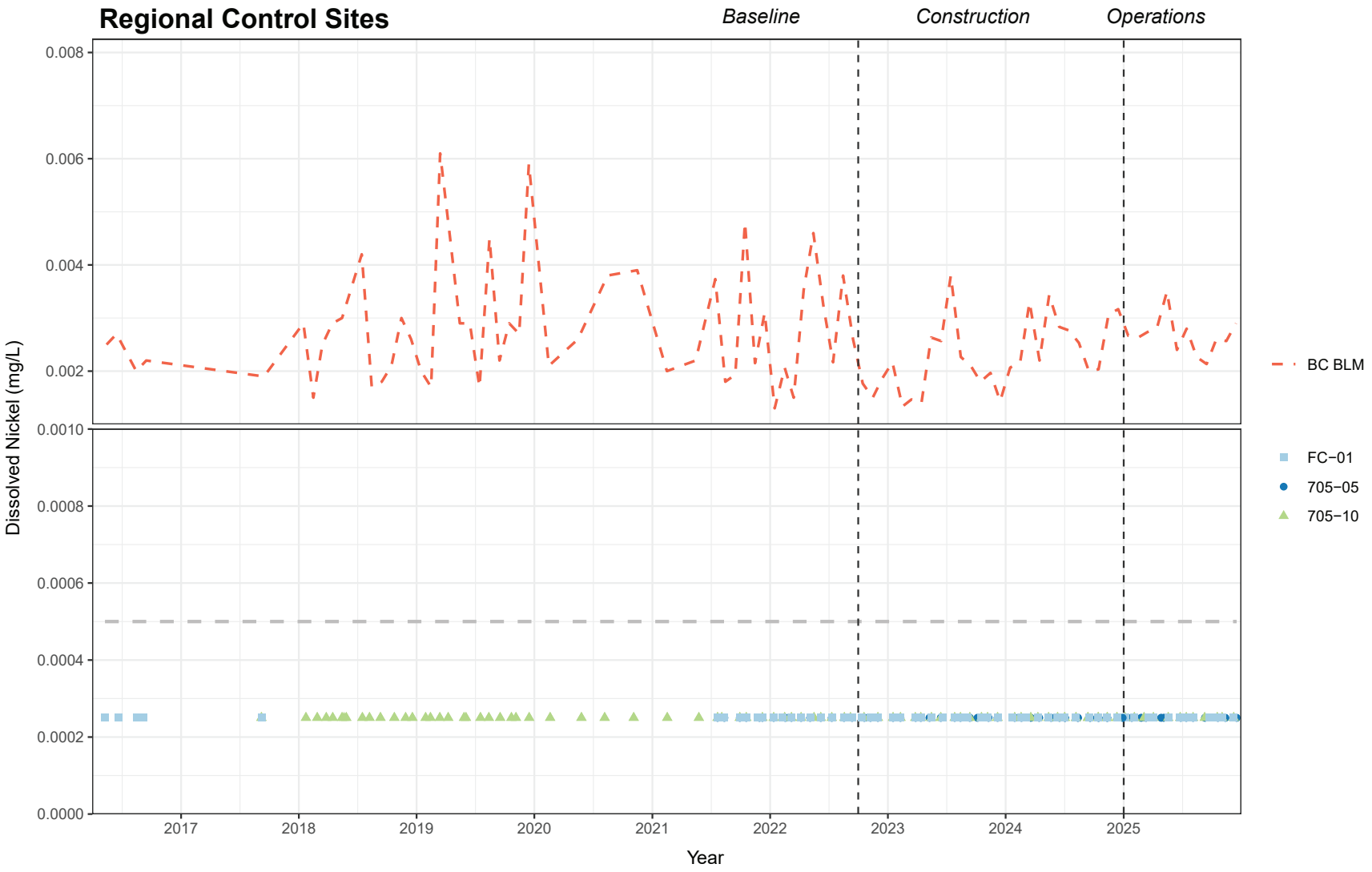


Figure C-62d: Monthly Mean Dissolved Nickel Concentrations, Regional Control Sites Sites, 2016 to 2025

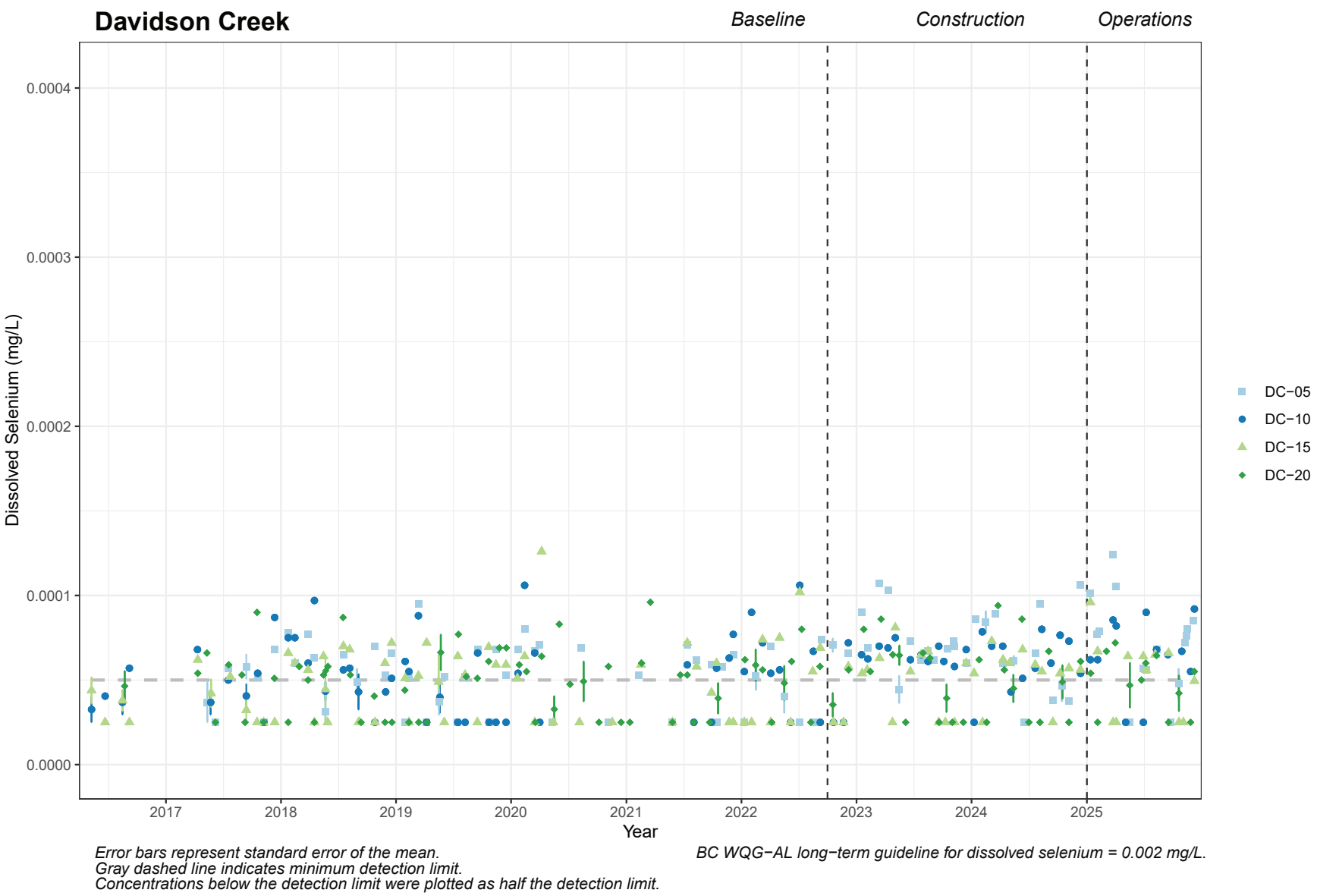


Figure C-63a: Monthly Mean Dissolved Selenium Concentrations, Davidson Creek Sites, 2016 to 2025

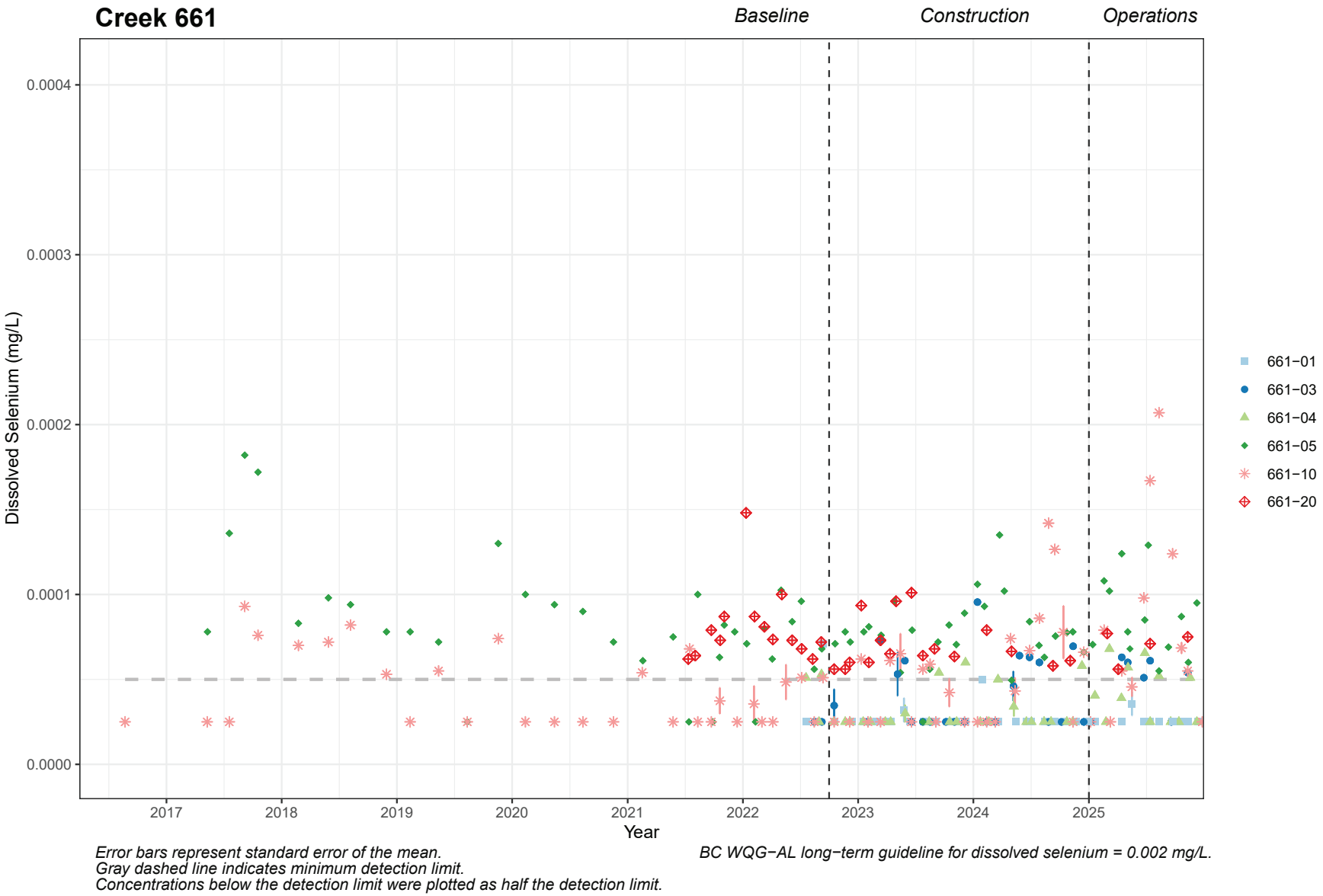


Figure C-63b: Monthly Mean Dissolved Selenium Concentrations, Creek 661 Sites, 2016 to 2025

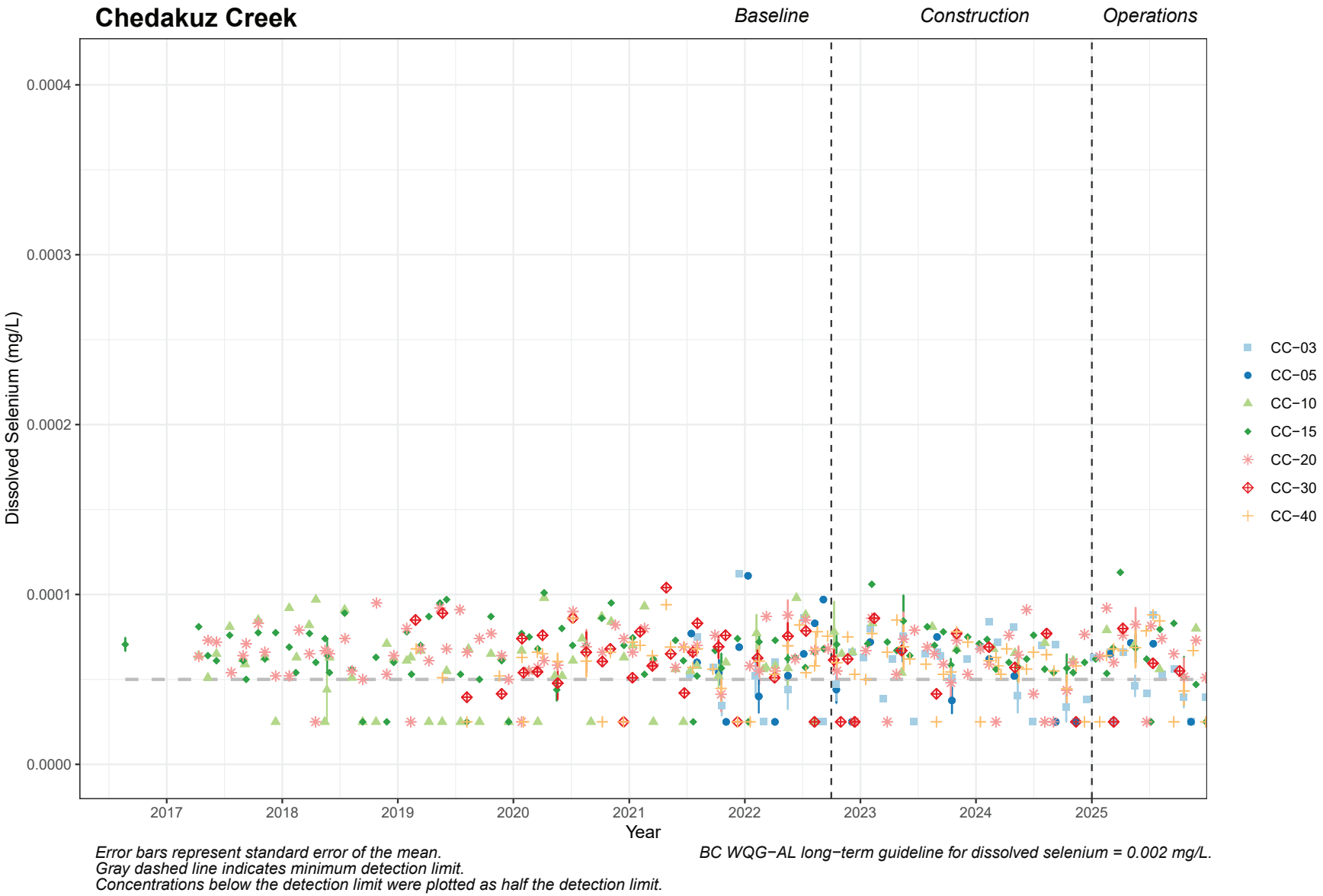


Figure C-63c: Monthly Mean Dissolved Selenium Concentrations, Chedakuz Creek Sites, 2016 to 2025

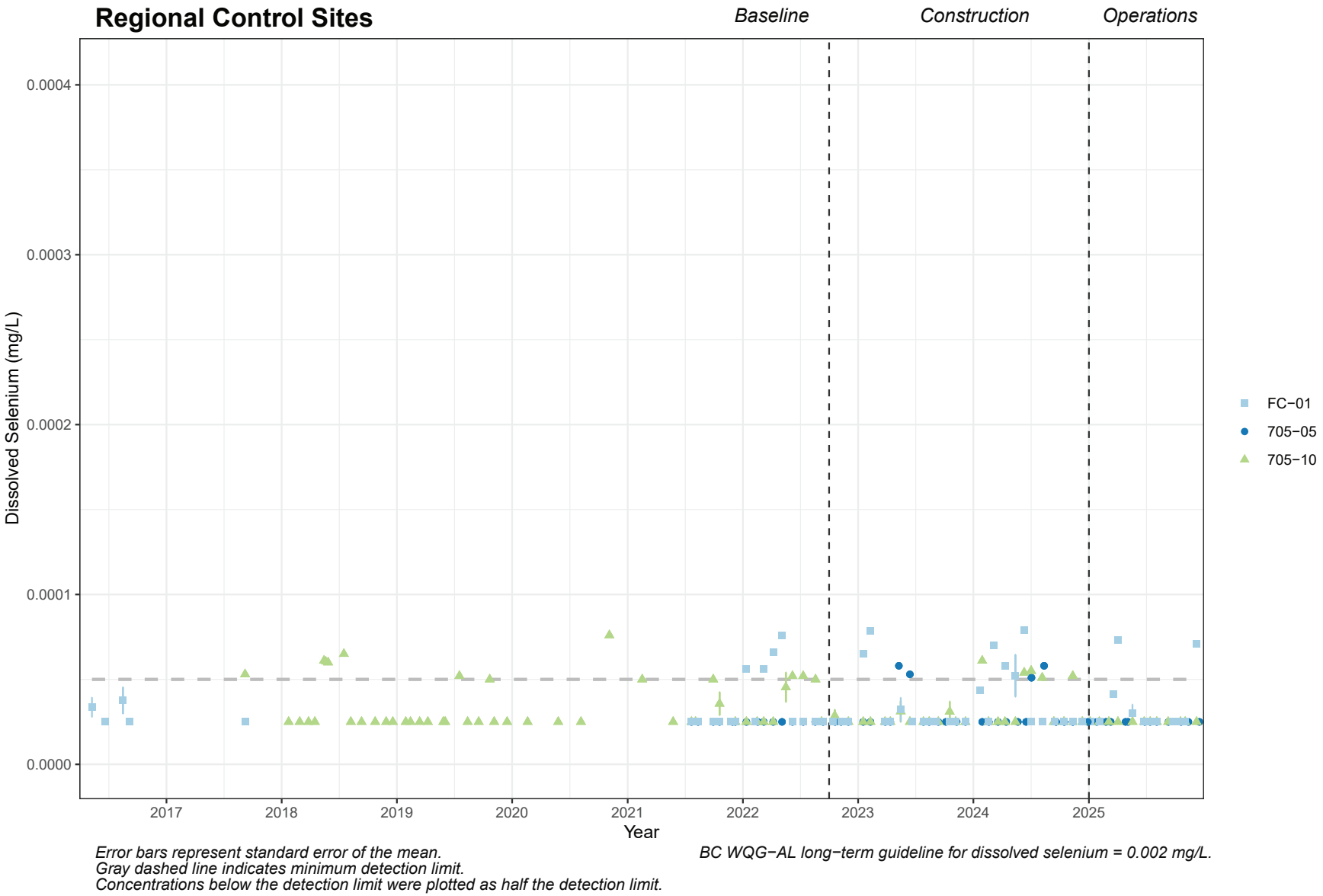


Figure C-63d: Monthly Mean Dissolved Selenium Concentrations, Regional Control Sites Sites, 2016 to 2025

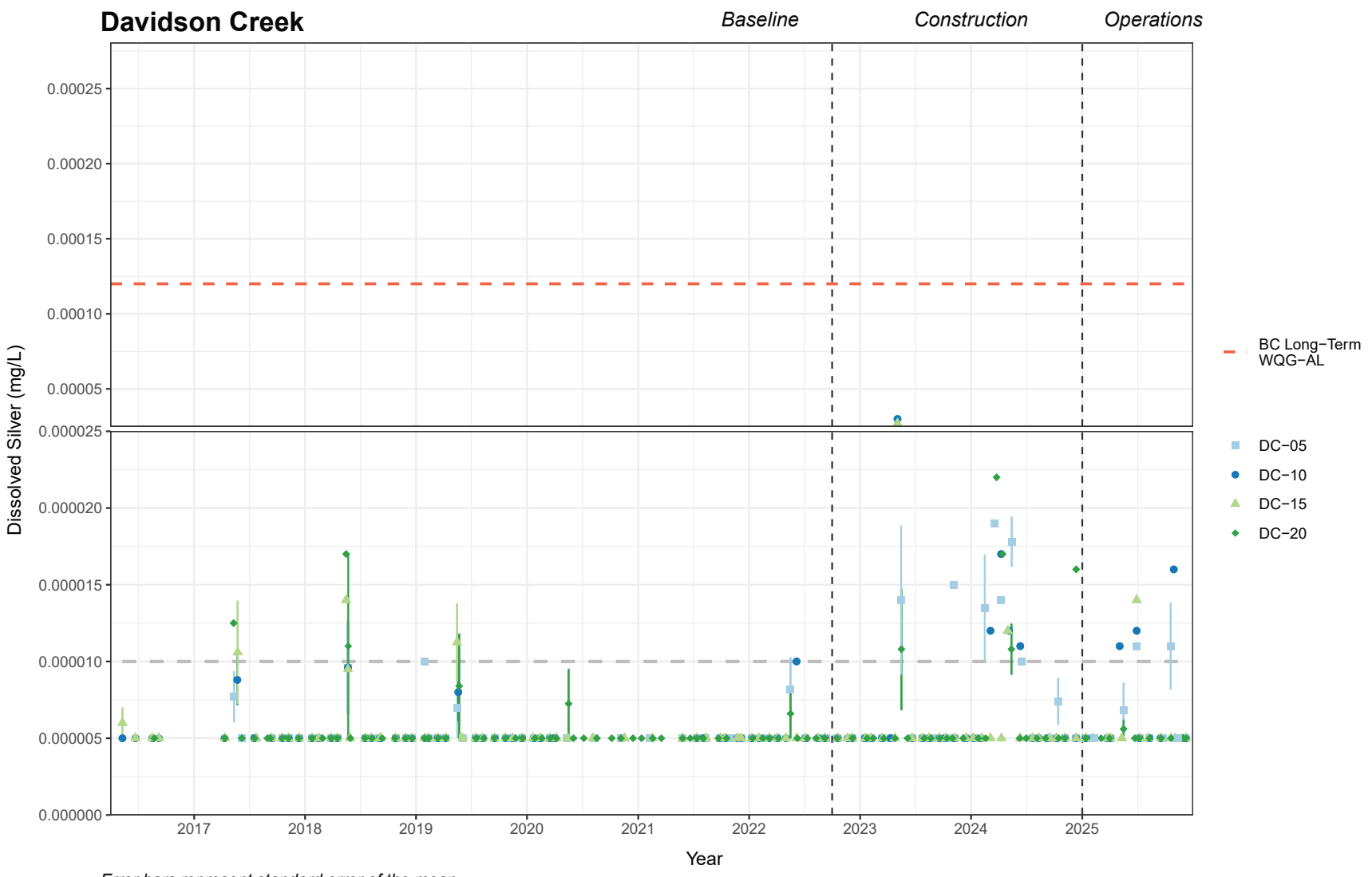
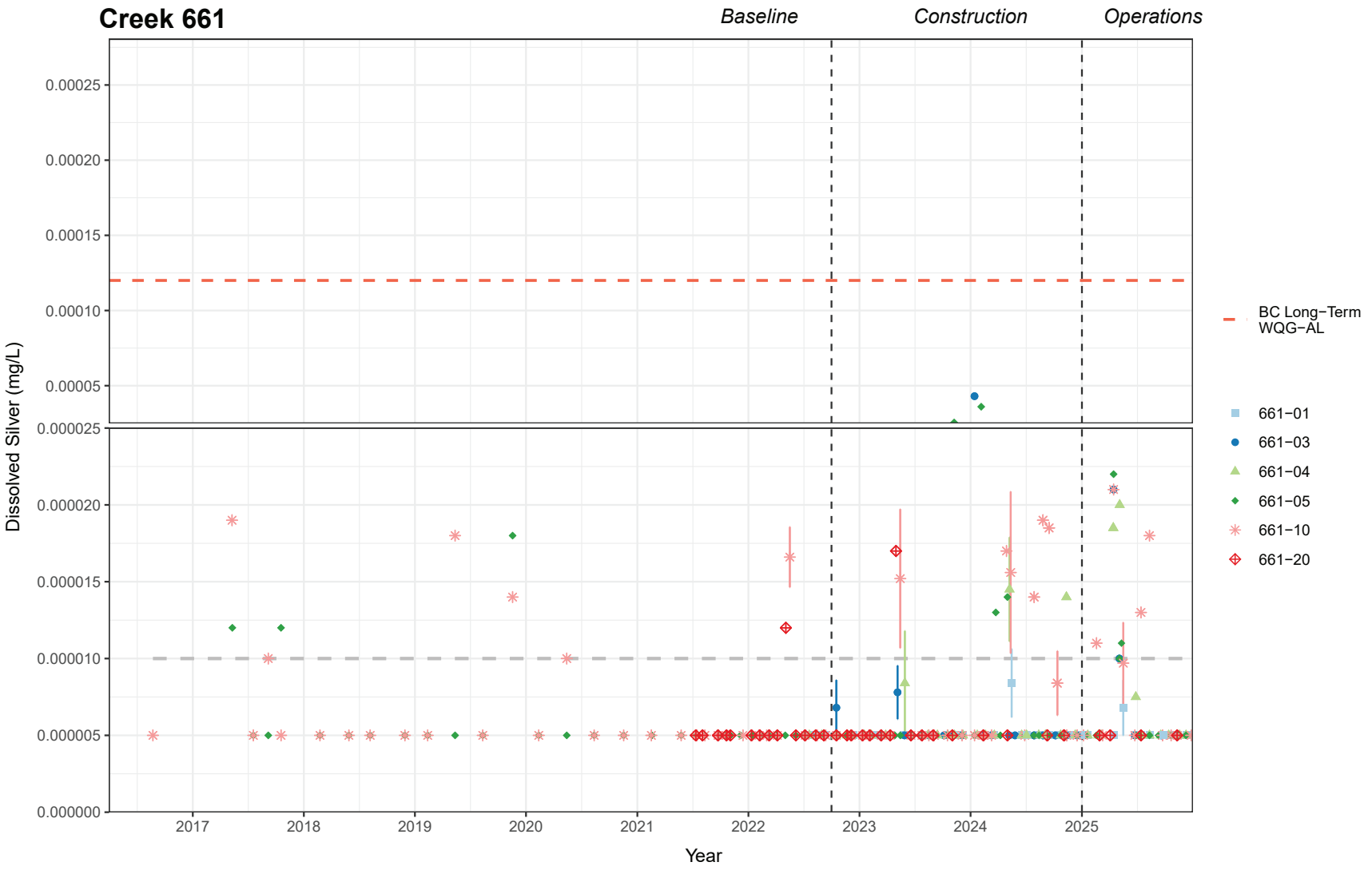
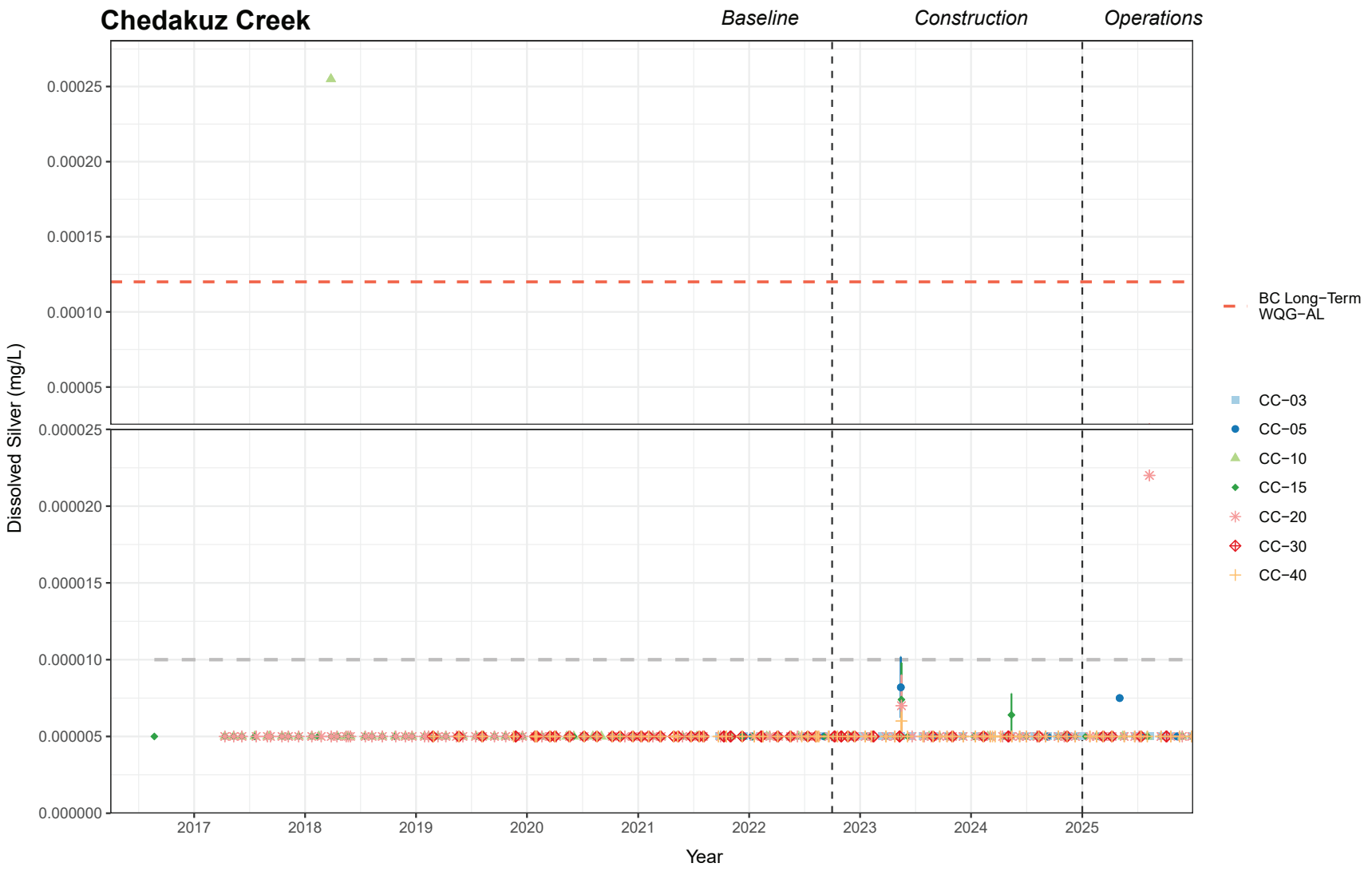


Figure C-64a: Monthly Mean Dissolved Silver Concentrations, Davidson Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-64b: Monthly Mean Dissolved Silver Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-64c: Monthly Mean Dissolved Silver Concentrations, Chedakuz Creek Sites, 2016 to 2025

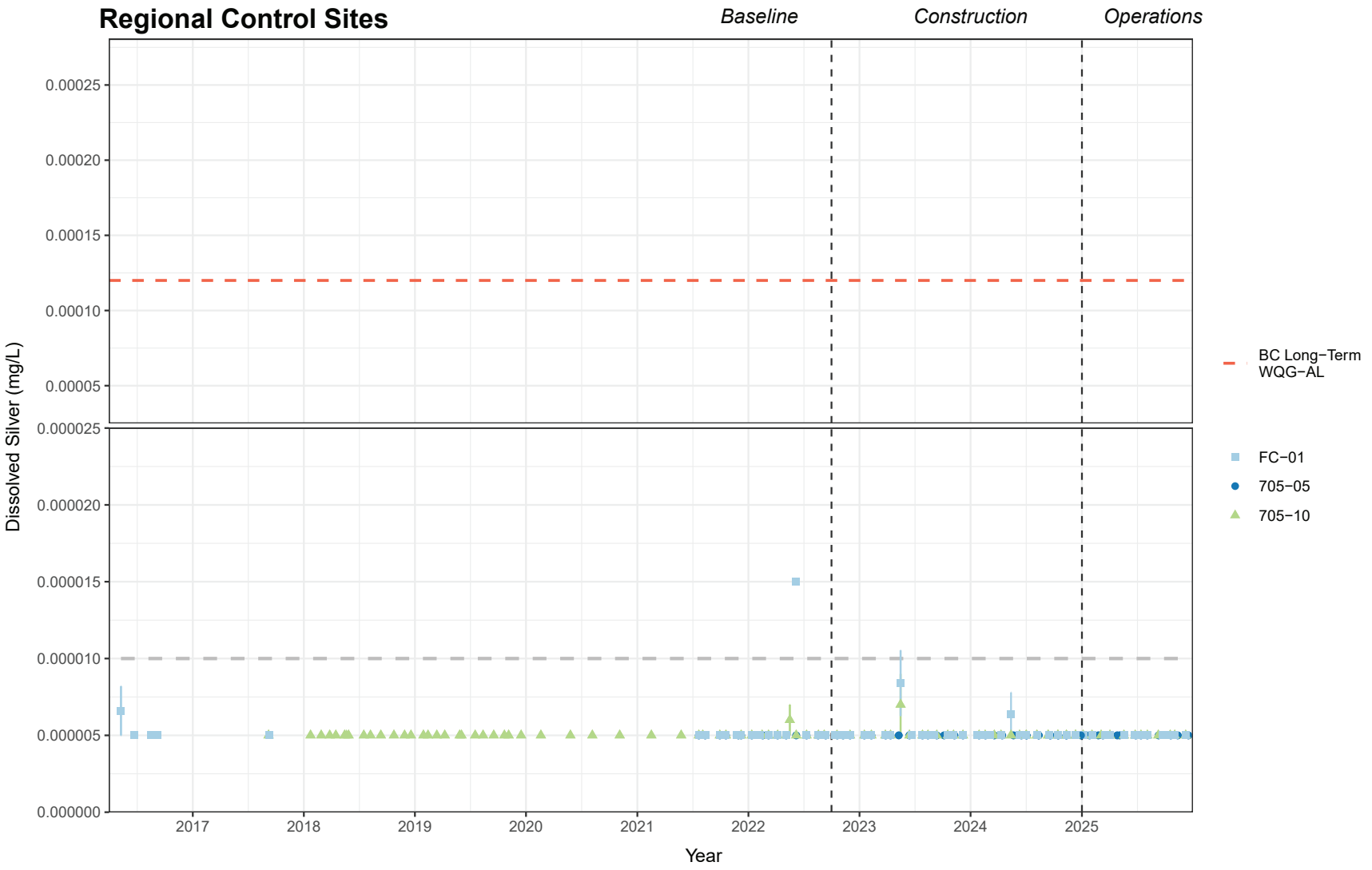


Figure C-64d: Monthly Mean Dissolved Silver Concentrations, Regional Control Sites Sites, 2016 to 2025

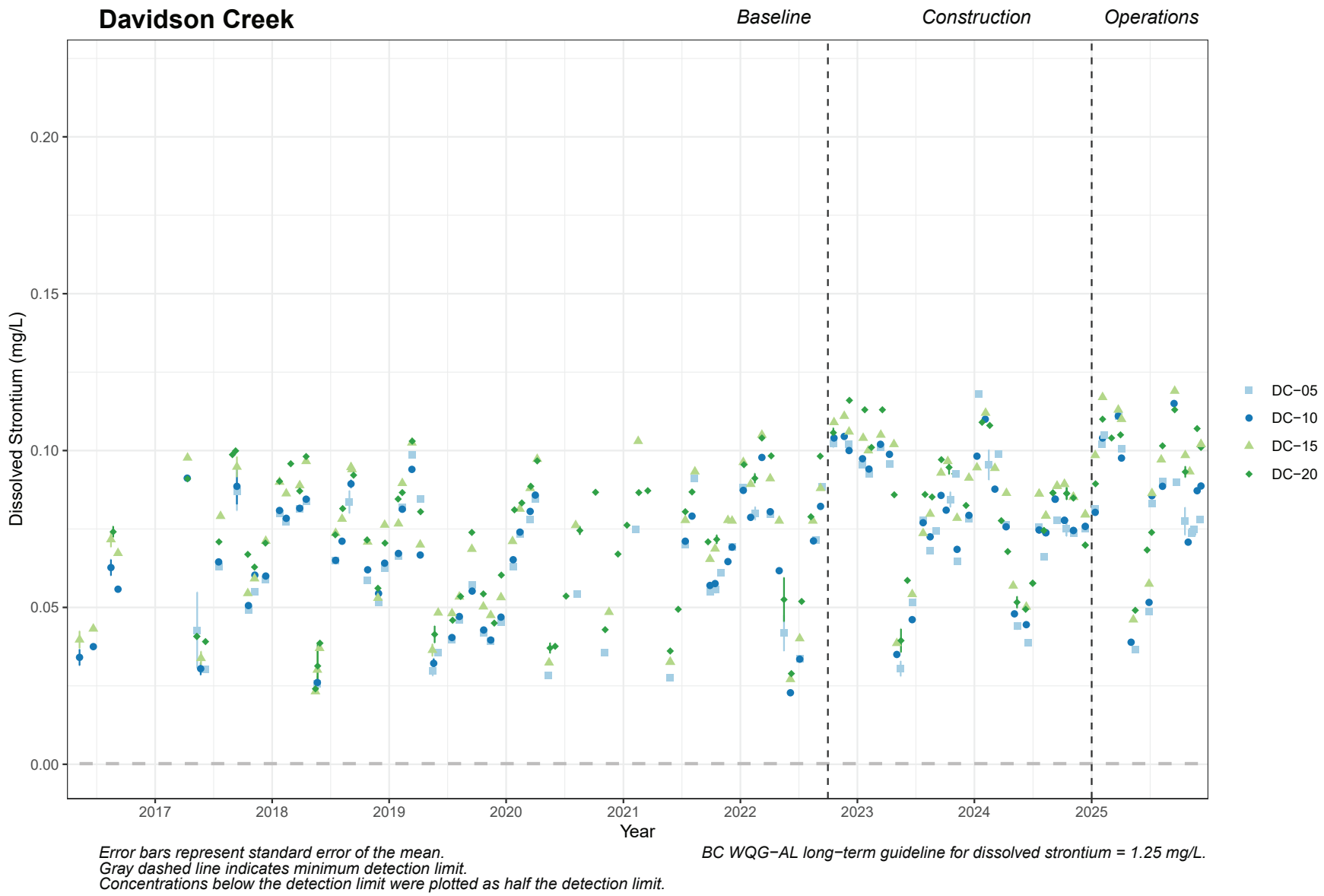


Figure C-65a: Monthly Mean Dissolved Strontium Concentrations, Davidson Creek Sites, 2016 to 2025

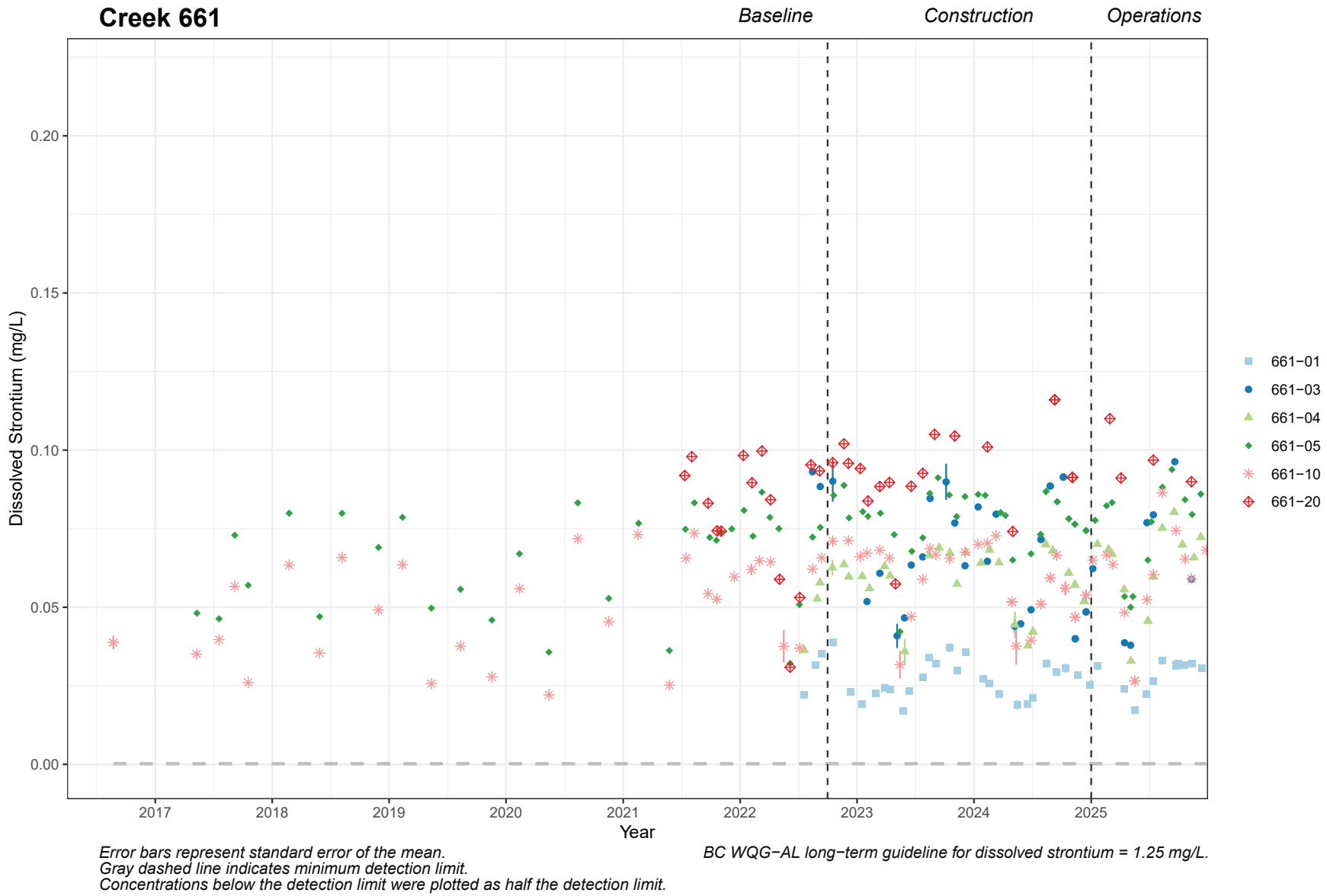


Figure C-65b: Monthly Mean Dissolved Strontium Concentrations, Creek 661 Sites, 2016 to 2025

Figure C-65c: Monthly Mean Dissolved Strontium Concentrations, Chedakuz Creek Sites, 2016 to 2025

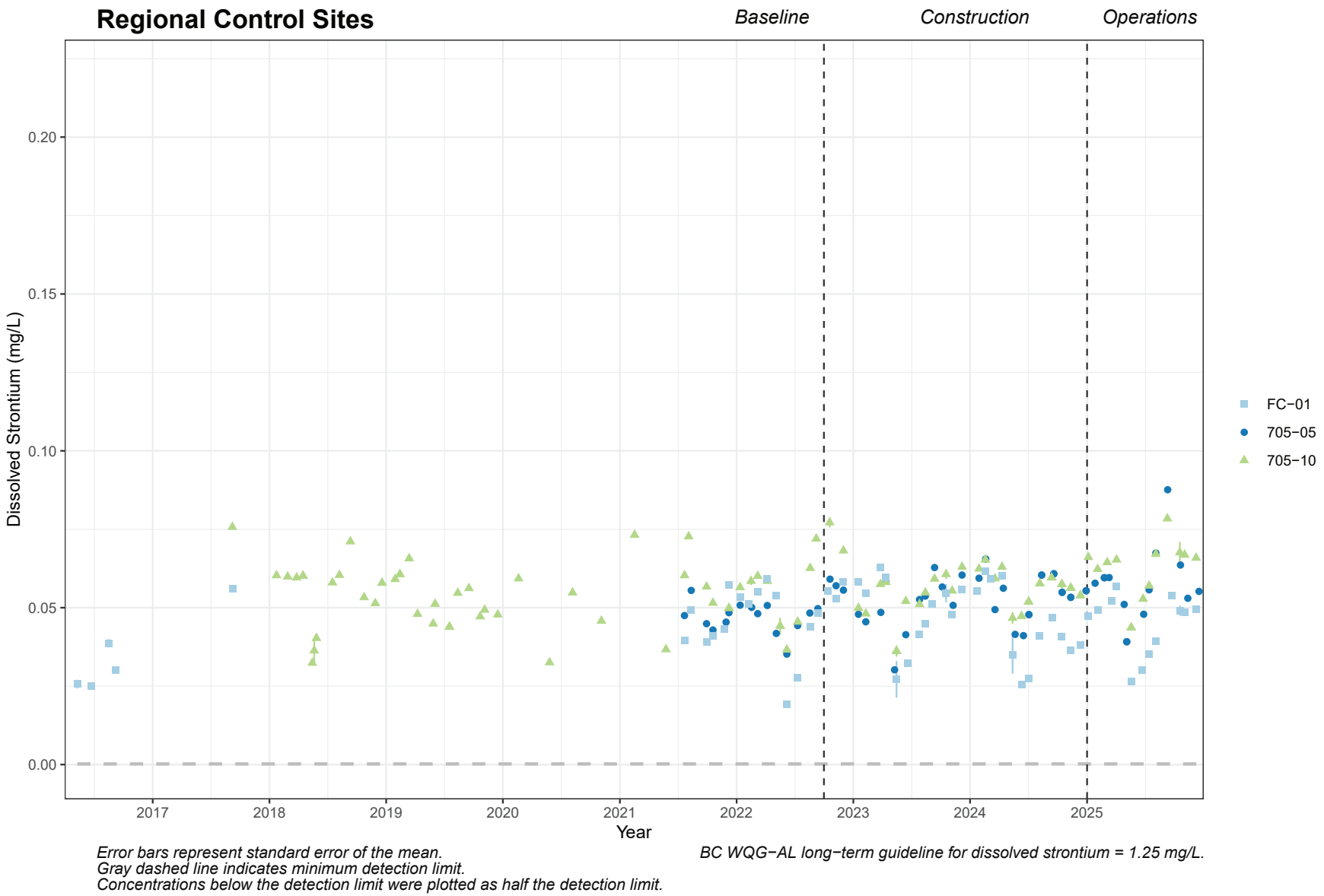


Figure C-65d: Monthly Mean Dissolved Strontium Concentrations, Regional Control Sites Sites, 2016 to 2025

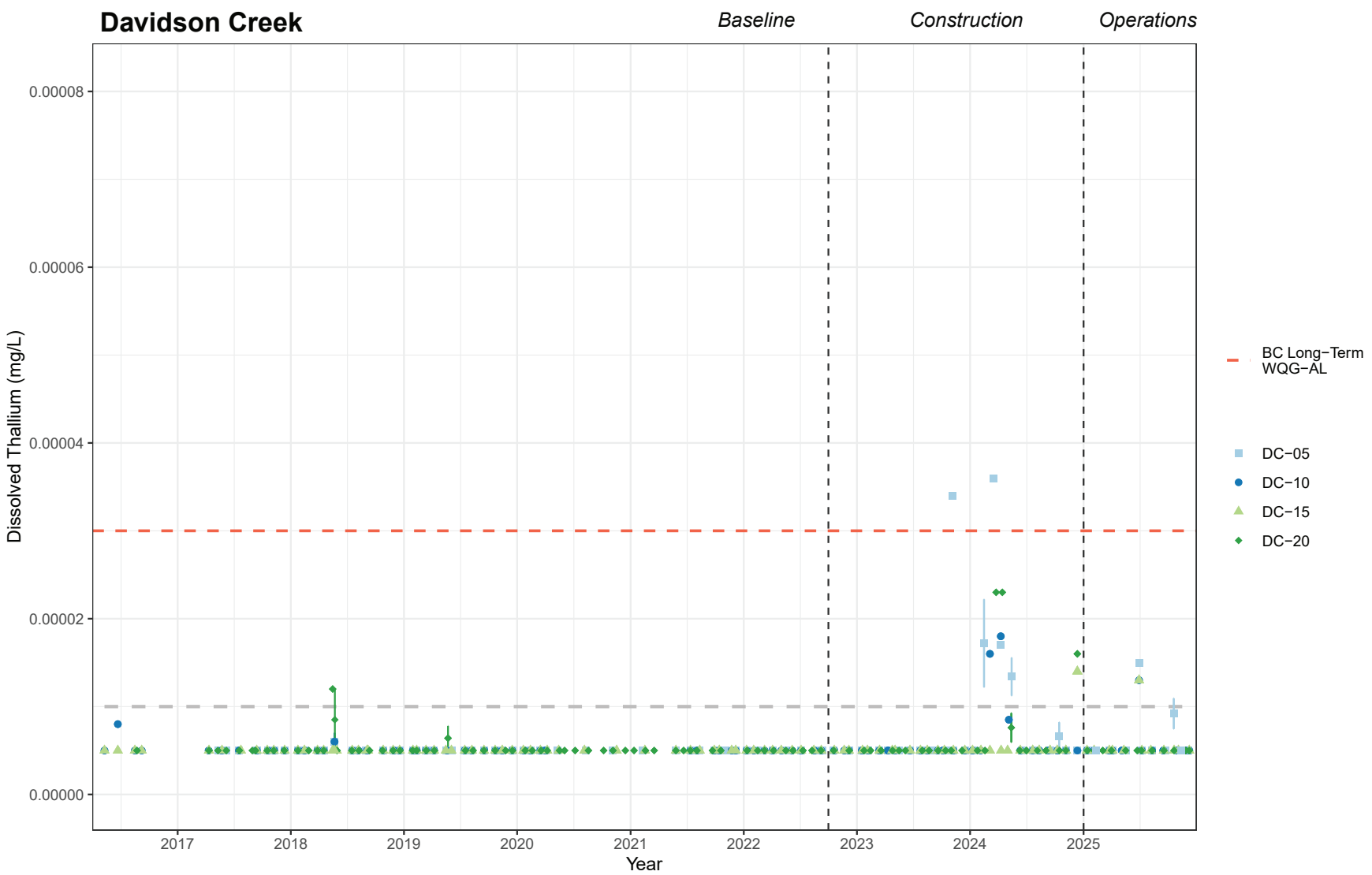
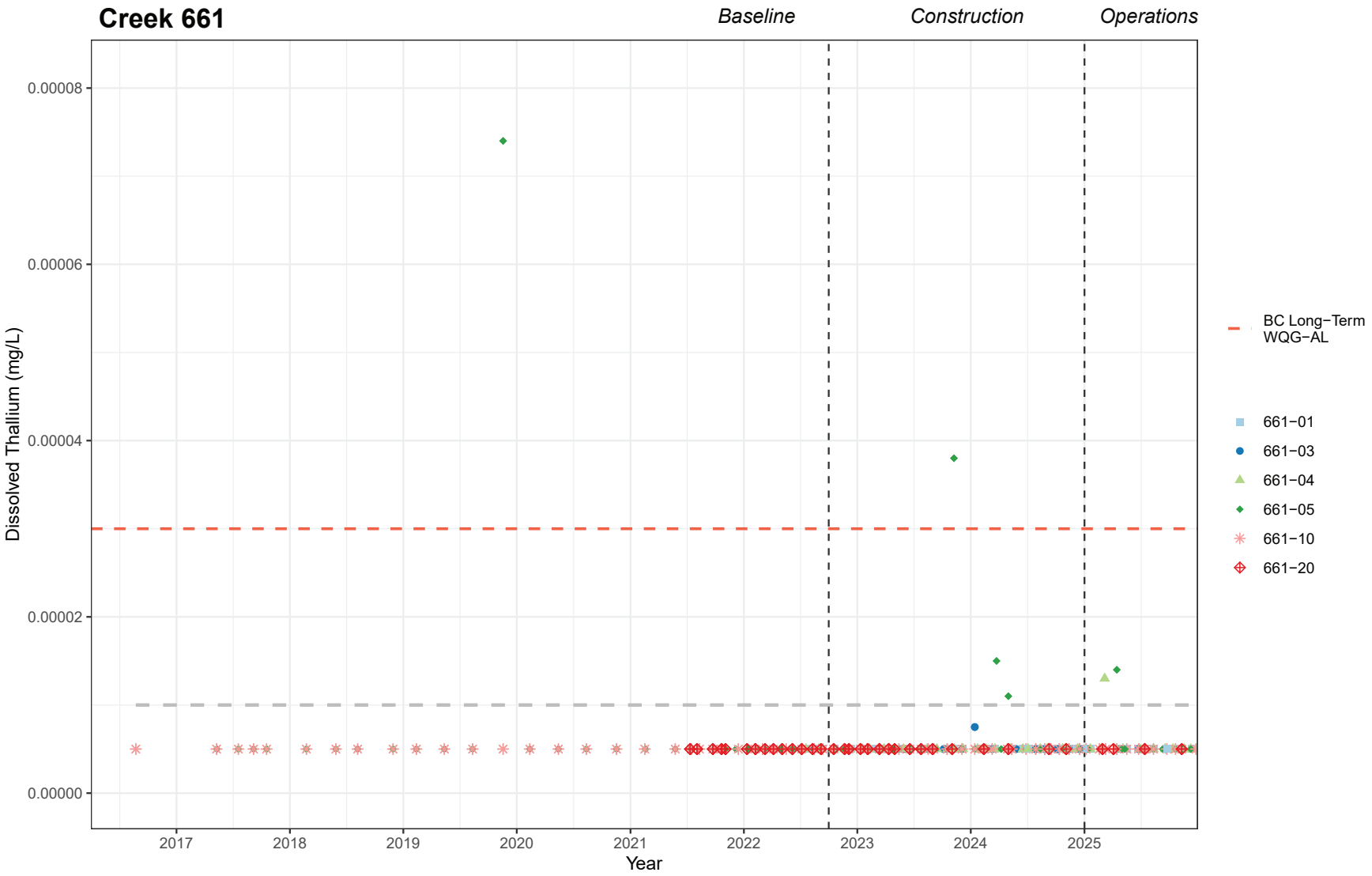
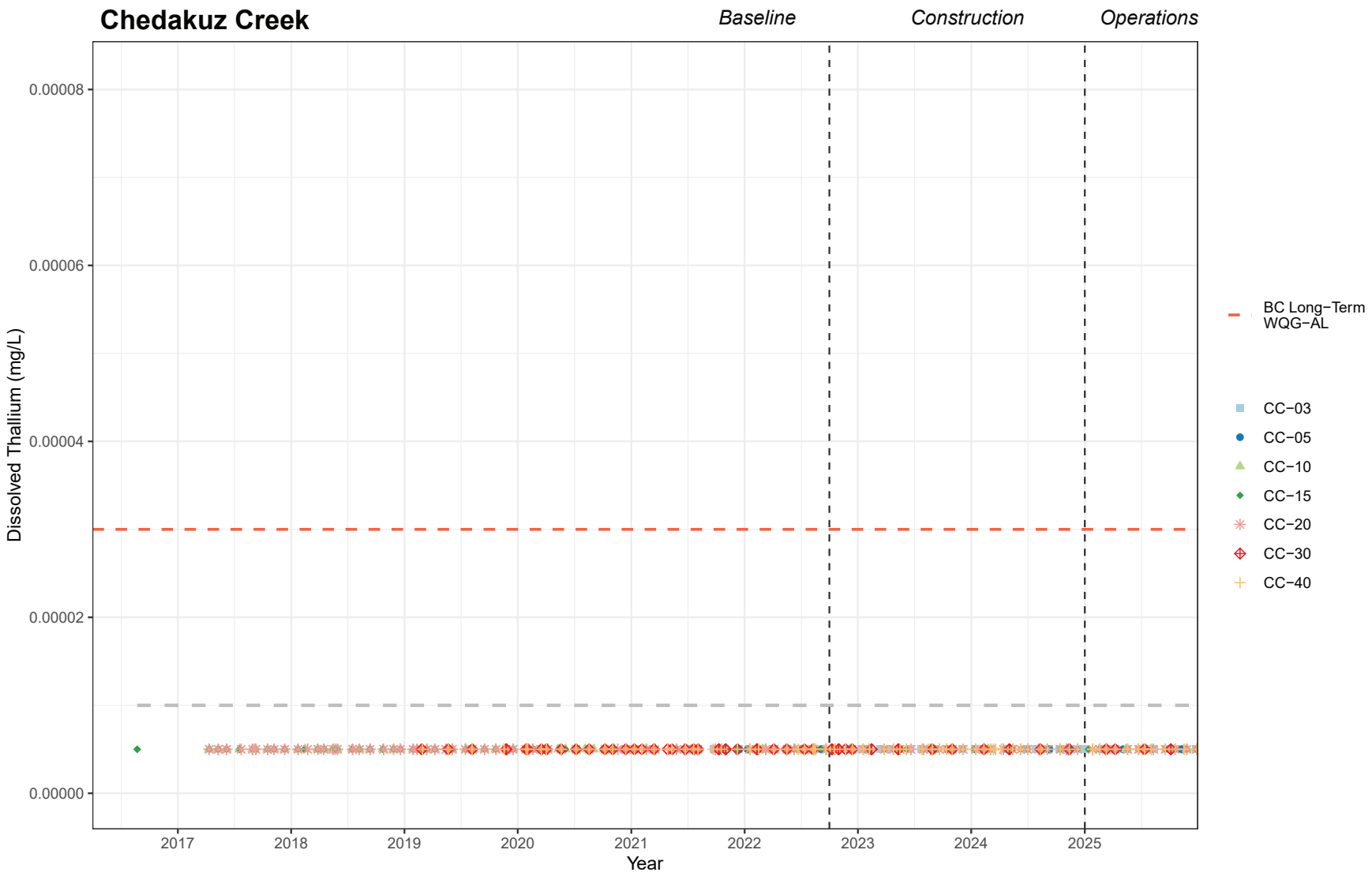


Figure C-66a: Monthly Mean Dissolved Thallium Concentrations, Davidson Creek Sites, 2016 to 2025



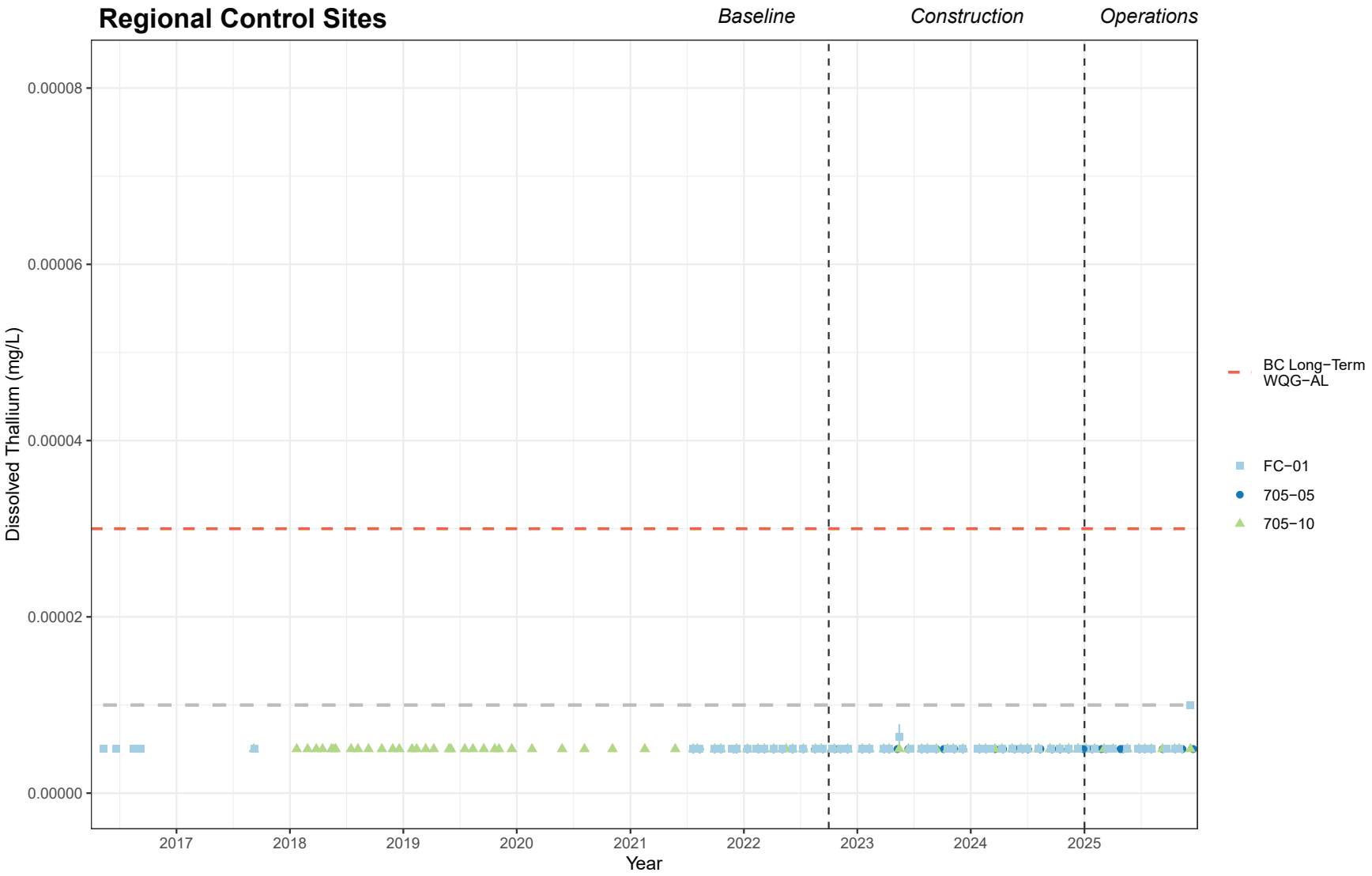
Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-66b: Monthly Mean Dissolved Thallium Concentrations, Creek 661 Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-66c: Monthly Mean Dissolved Thallium Concentrations, Chedakuz Creek Sites, 2016 to 2025



Error bars represent standard error of the mean.
Gray dashed line indicates minimum detection limit.
Concentrations below the detection limit were plotted as half the detection limit.

Figure C-66d: Monthly Mean Dissolved Thallium Concentrations, Regional Control Sites Sites, 2016 to 2025

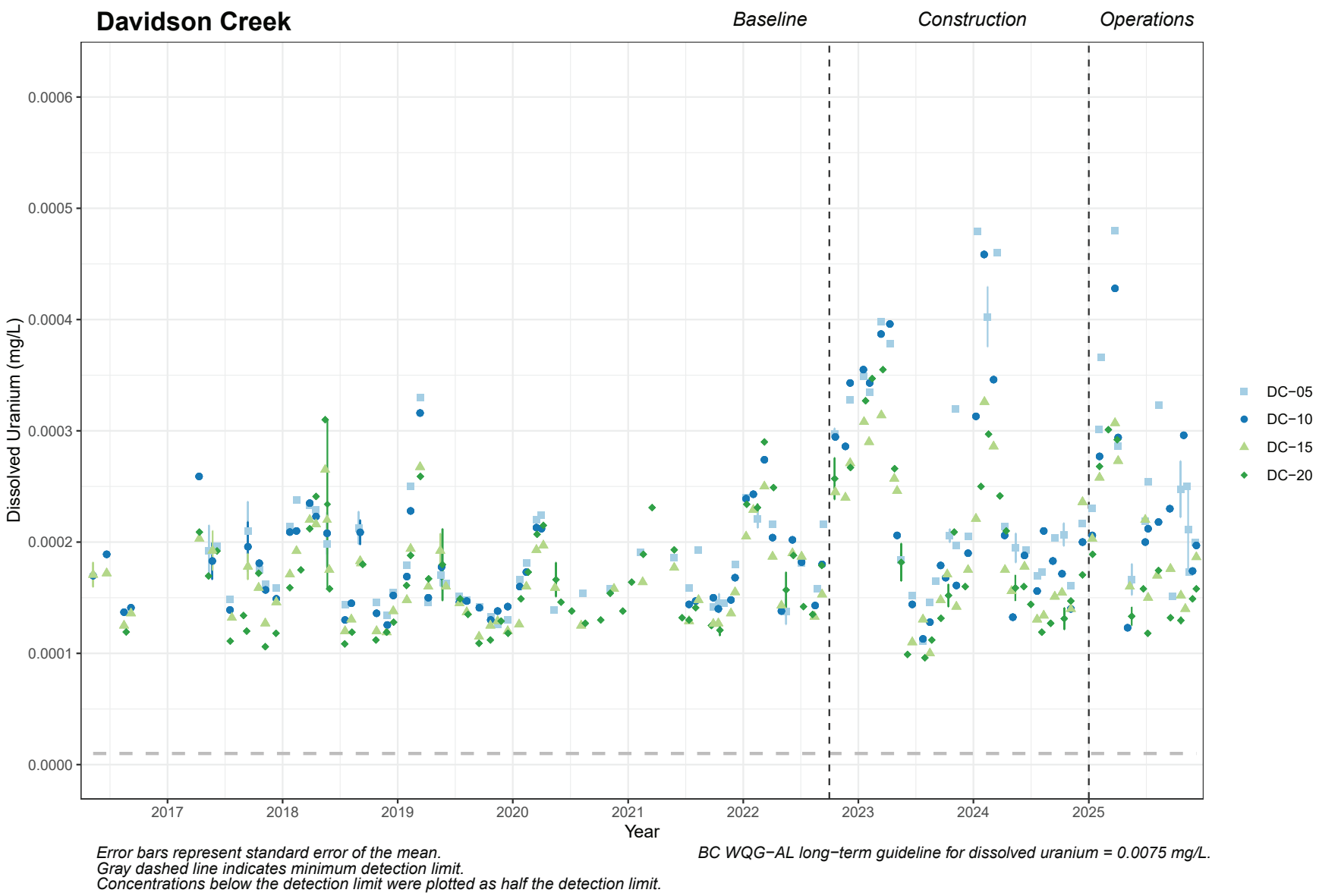


Figure C-67a: Monthly Mean Dissolved Uranium Concentrations, Davidson Creek Sites, 2016 to 2025

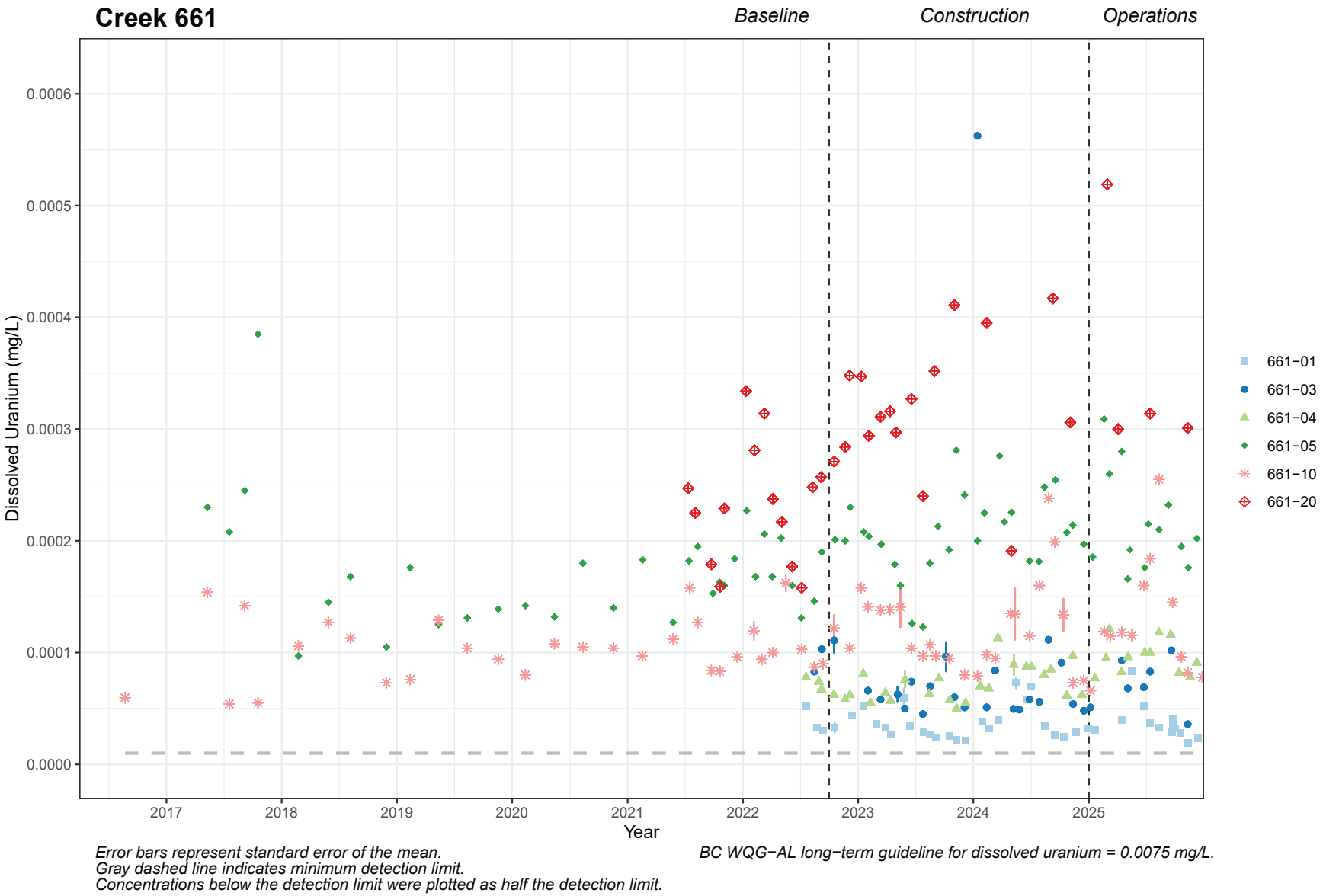


Figure C-67b: Monthly Mean Dissolved Uranium Concentrations, Creek 661 Sites, 2016 to 2025

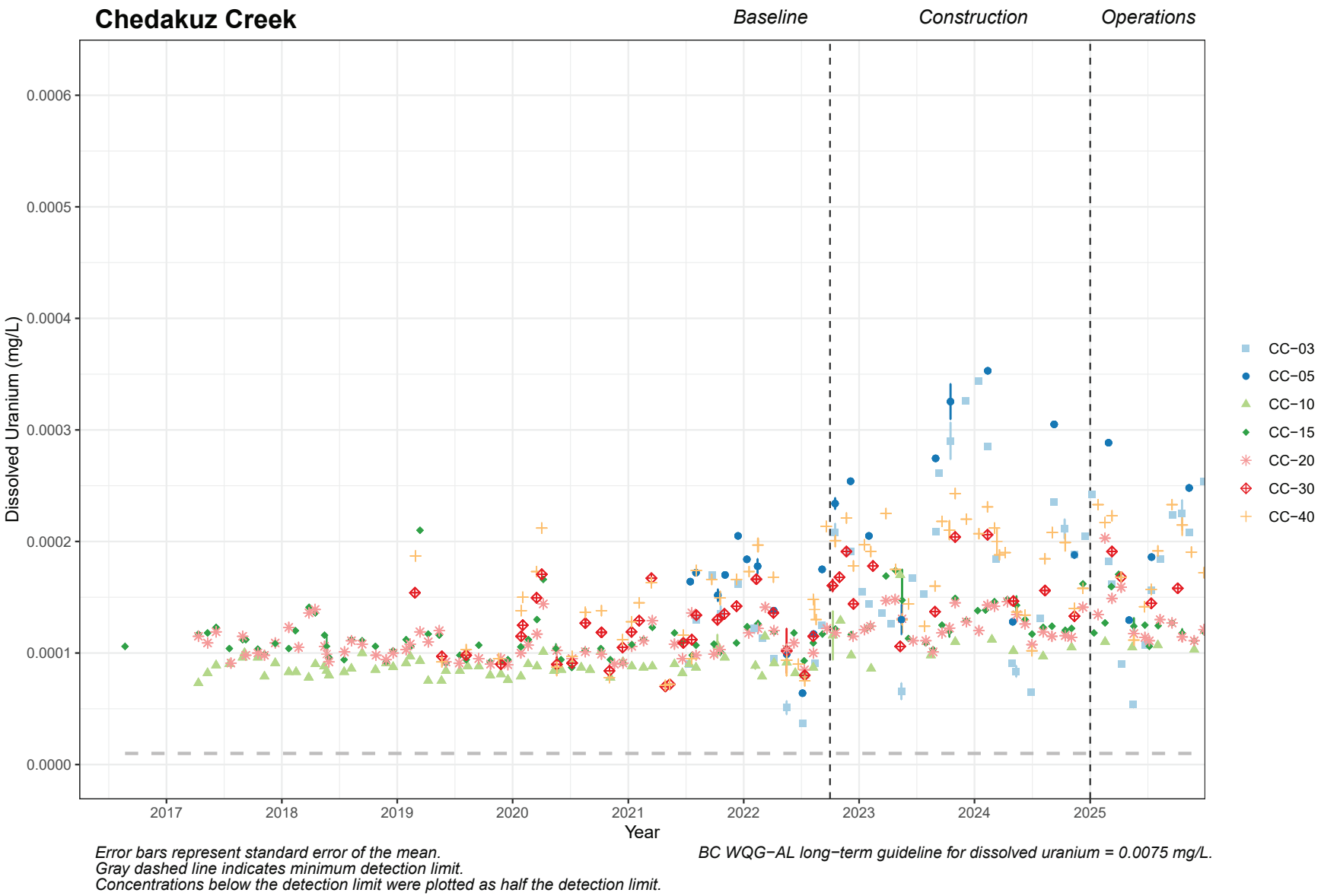


Figure C-67c: Monthly Mean Dissolved Uranium Concentrations, Chedakuz Creek Sites, 2016 to 2025

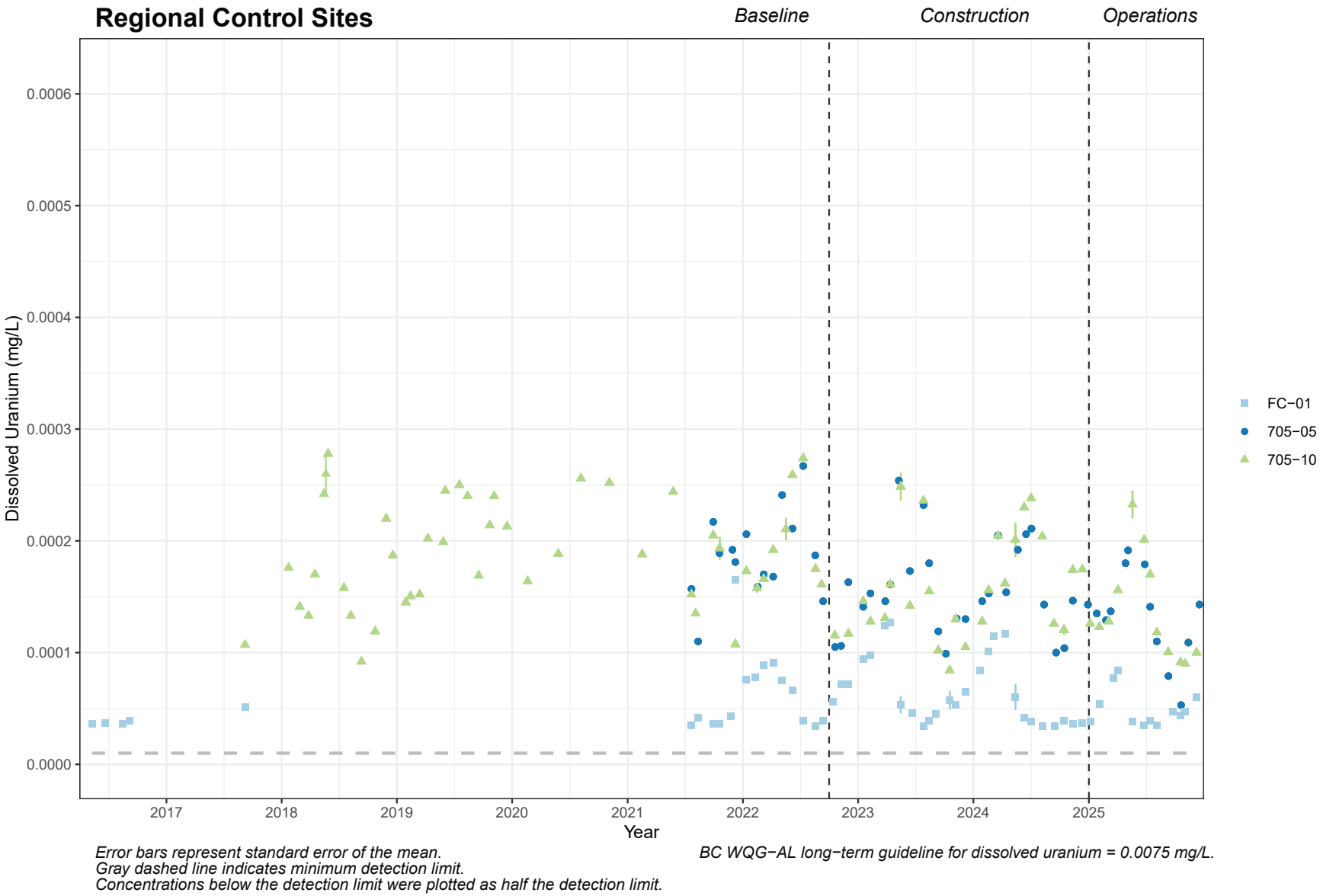


Figure C-67d: Monthly Mean Dissolved Uranium Concentrations, Regional Control Sites Sites, 2016 to 2025

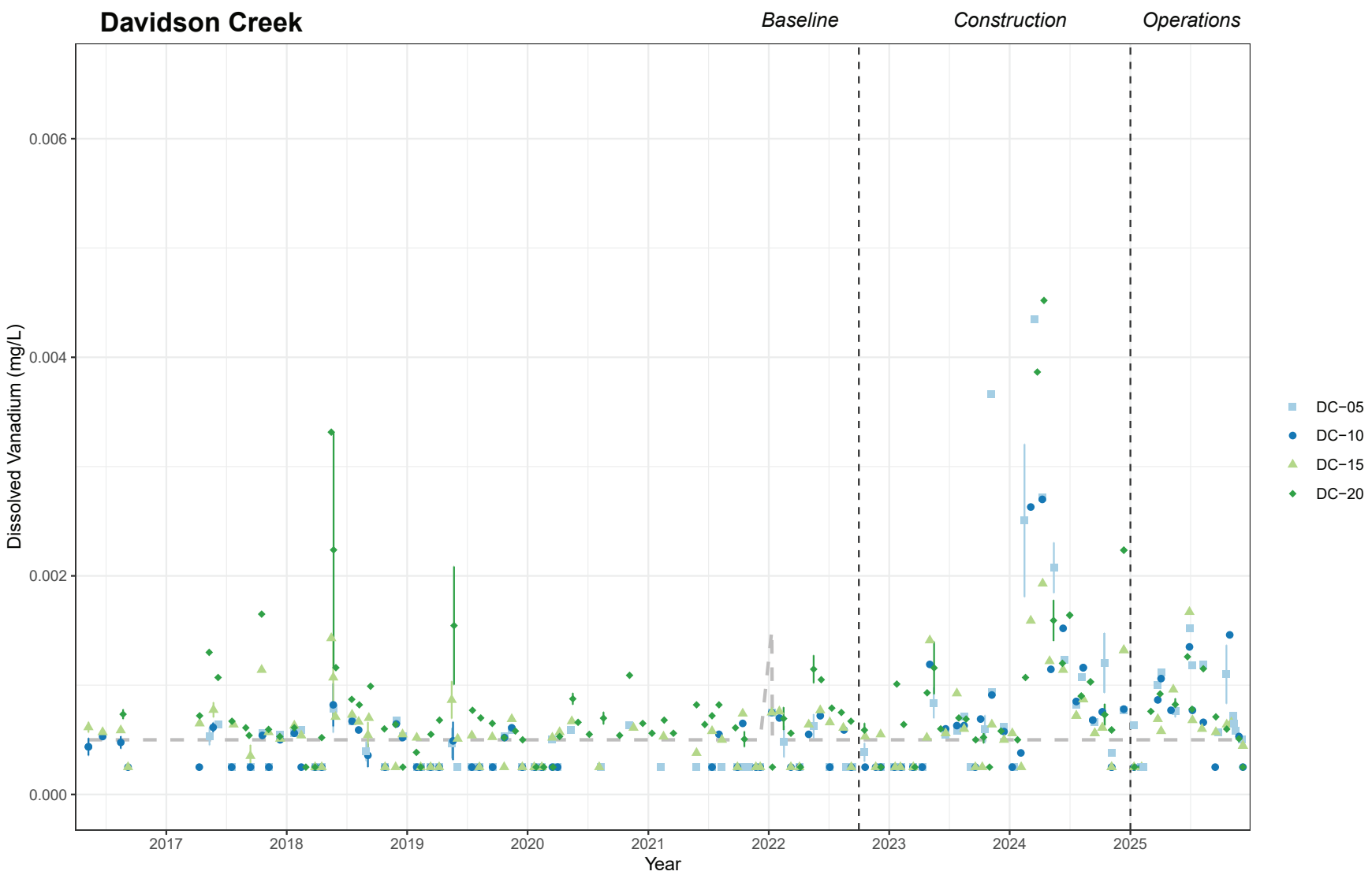


Figure C-68a: Monthly Mean Dissolved Vanadium Concentrations, Davidson Creek Sites, 2016 to 2025

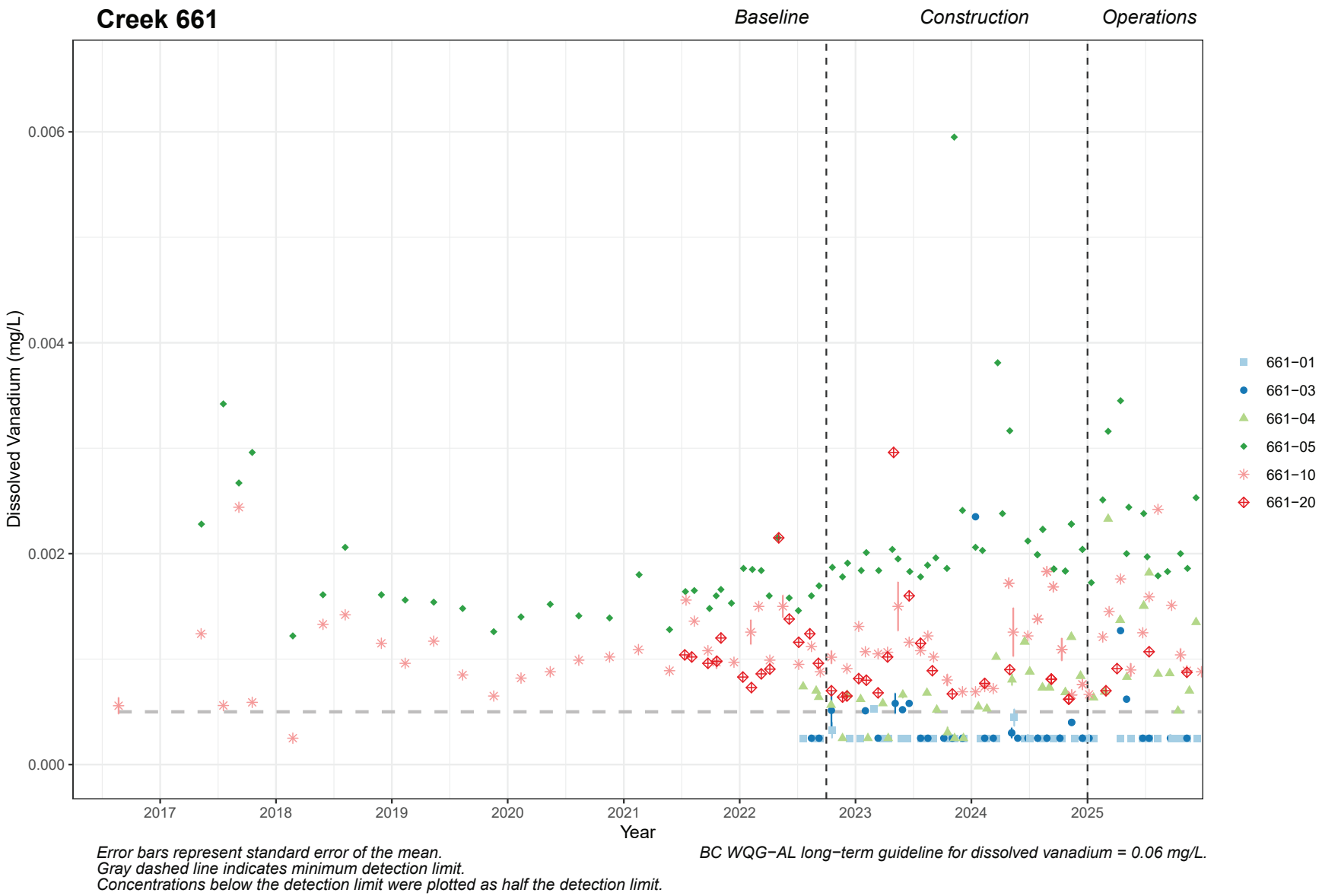


Figure C-68b: Monthly Mean Dissolved Vanadium Concentrations, Creek 661 Sites, 2016 to 2025

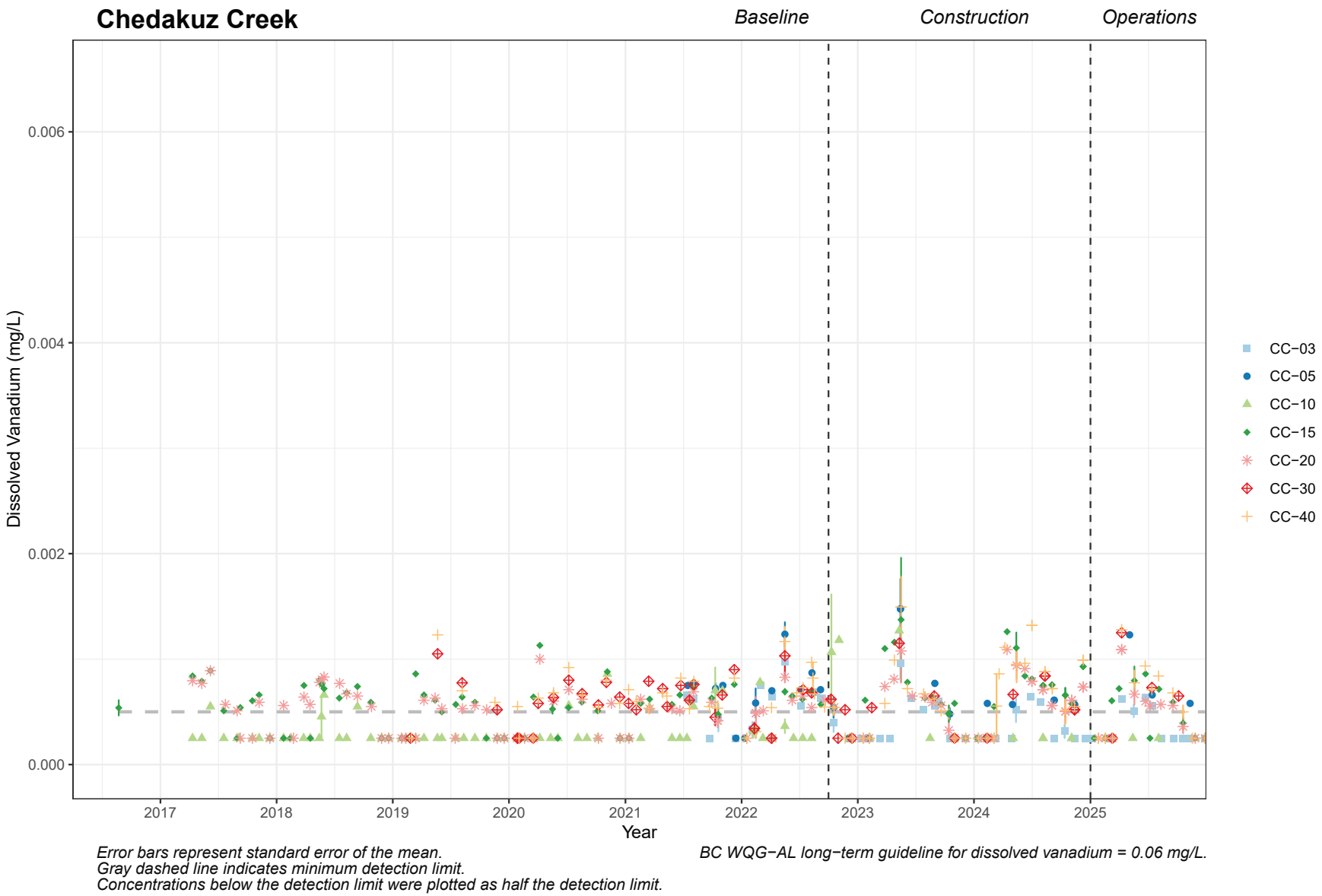


Figure C-68c: Monthly Mean Dissolved Vanadium Concentrations, Chedakuz Creek Sites, 2016 to 2025

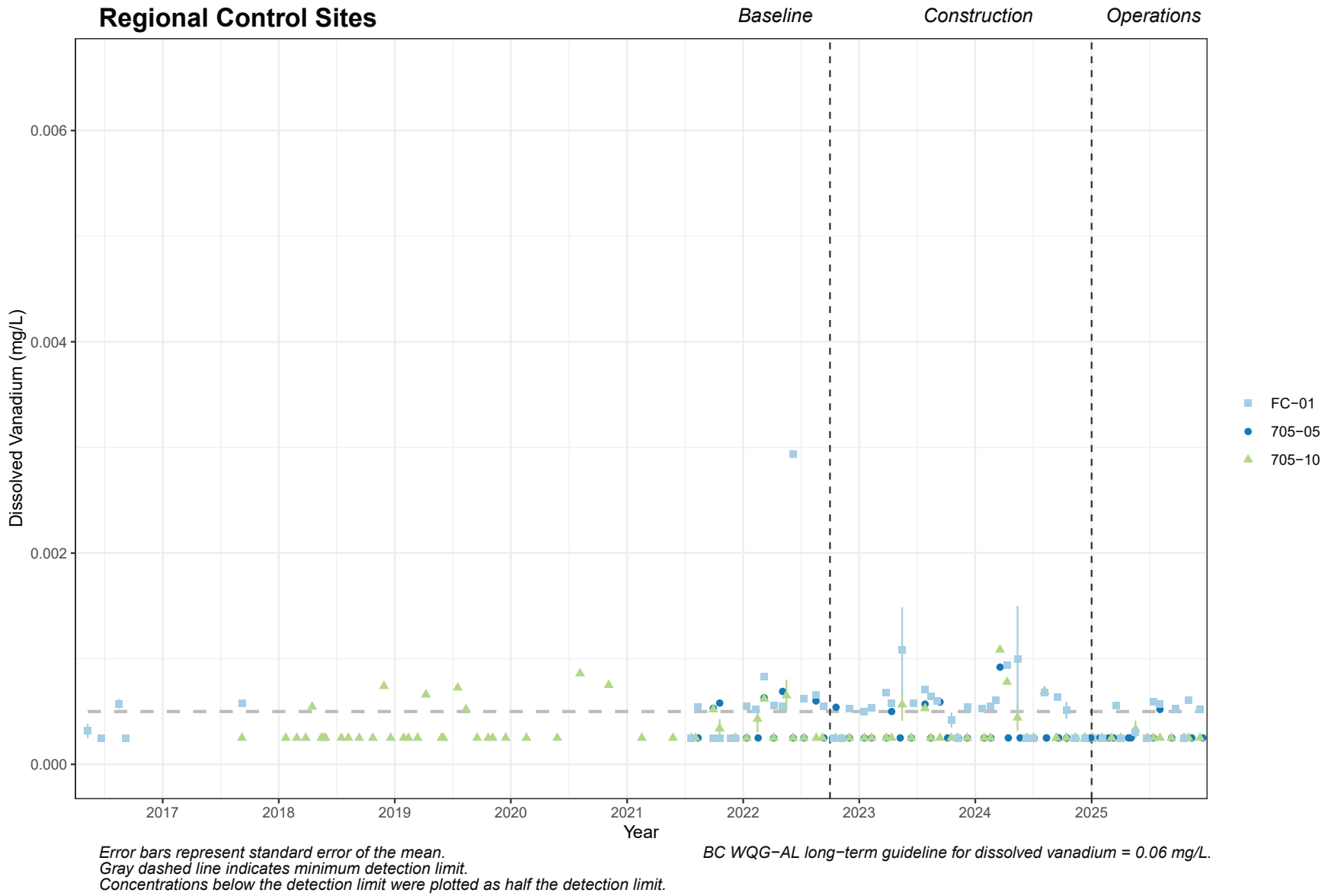


Figure C-68d: Monthly Mean Dissolved Vanadium Concentrations, Regional Control Sites Sites, 2016 to 2025

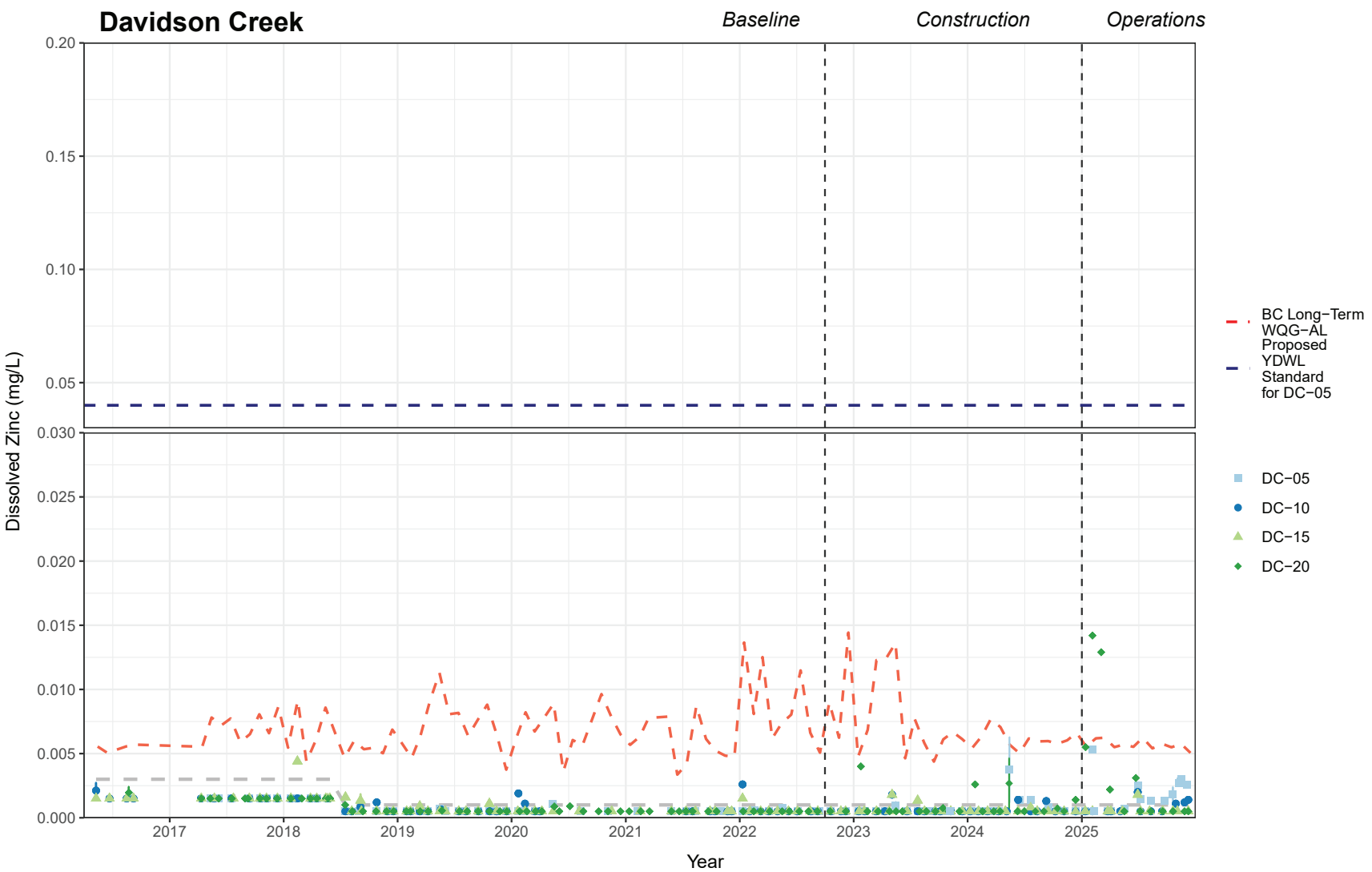


Figure C-69a: Monthly Mean Dissolved Zinc Concentrations, Davidson Creek Sites, 2016 to 2025

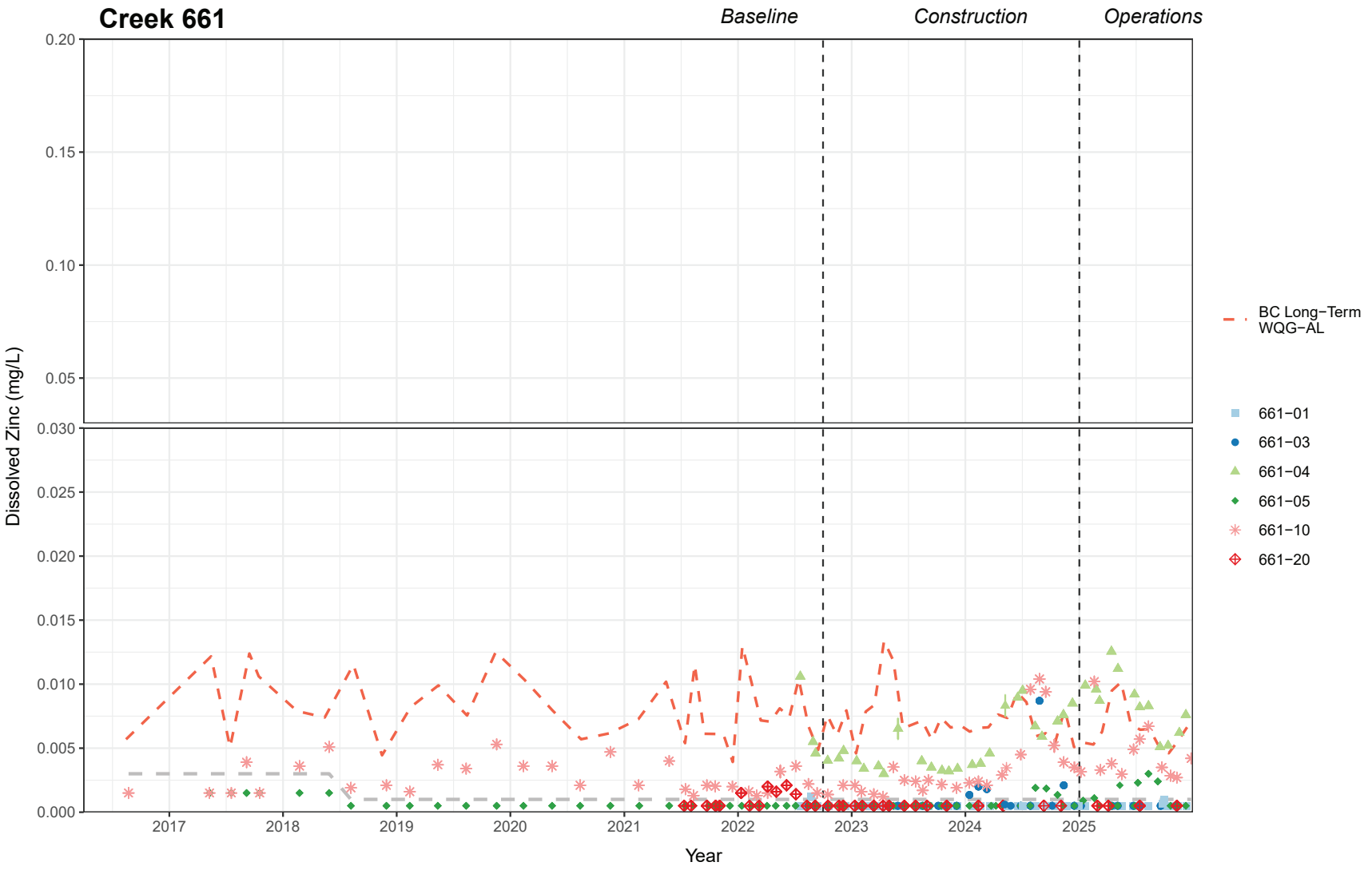


Figure C-69b: Monthly Mean Dissolved Zinc Concentrations, Creek 661 Sites, 2016 to 2025

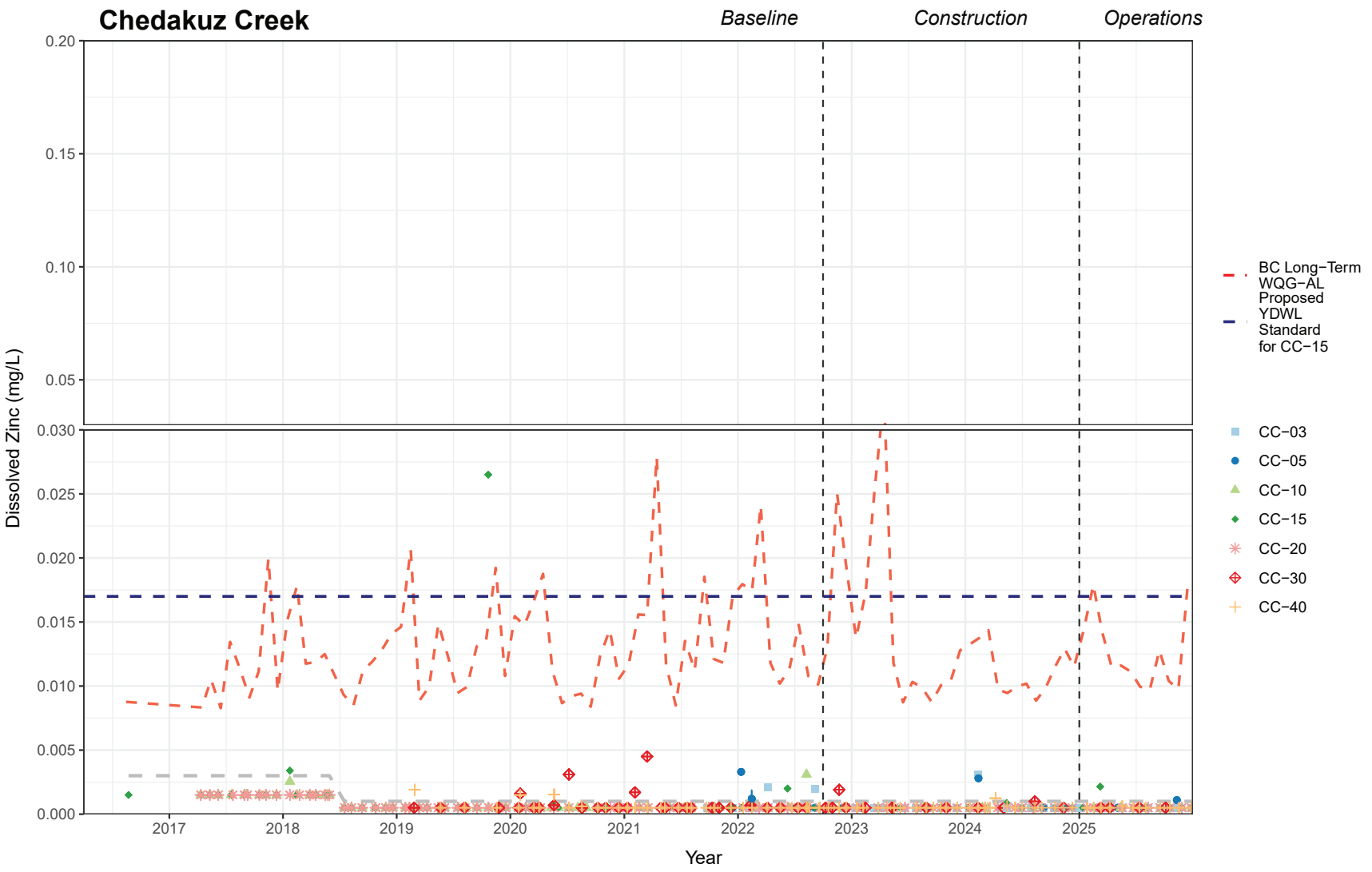


Figure C-69c: Monthly Mean Dissolved Zinc Concentrations, Chedakuz Creek Sites, 2016 to 2025

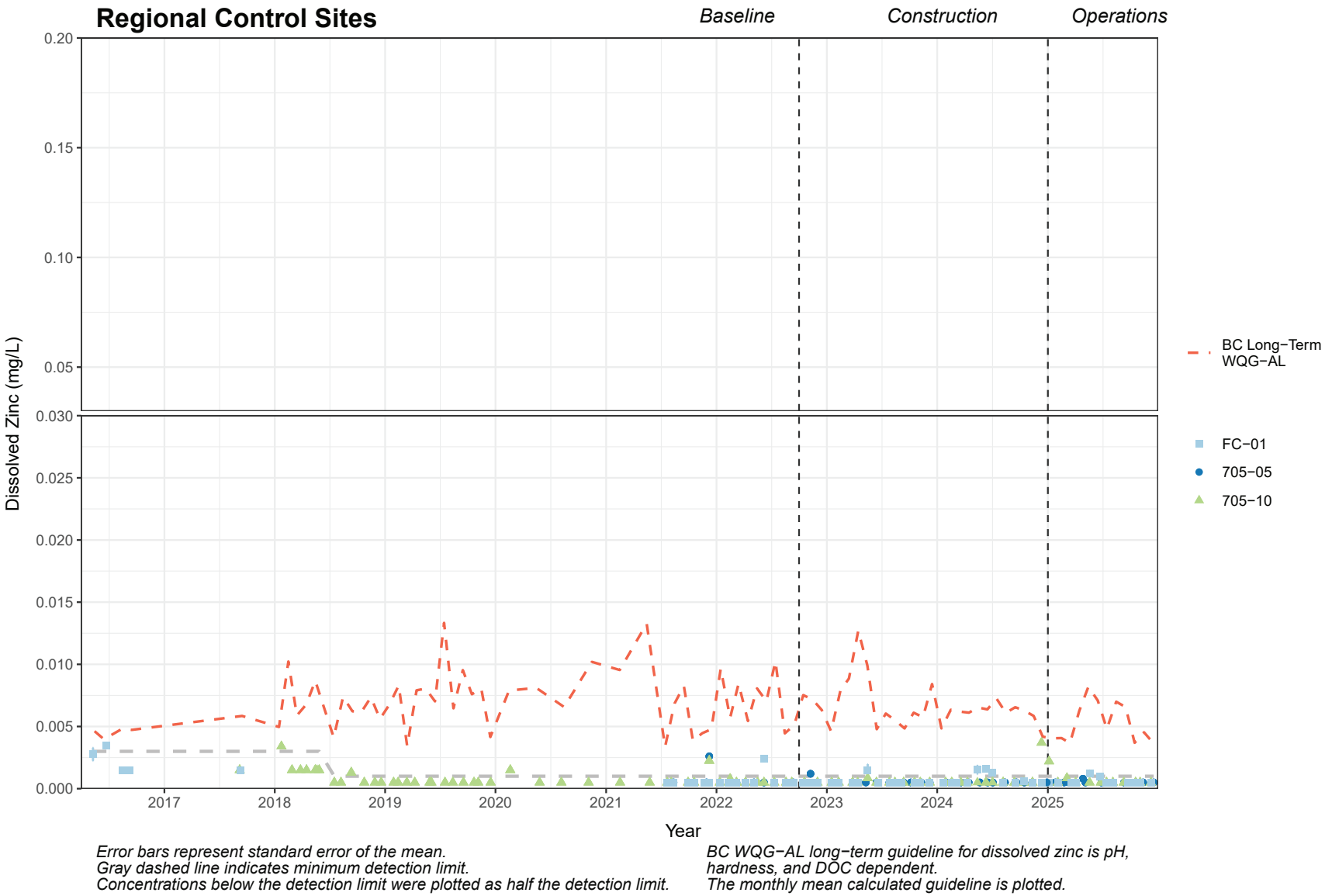


Figure C-69d: Monthly Mean Dissolved Zinc Concentrations, Regional Control Sites Sites, 2016 to 2025

Appendix D Monthly Mean Surface Water Field Parameters, Blackwater Mine Project Streams, 2017 to 2025

Appendix D-1: Monthly Field Parameters at Davidson Creek Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

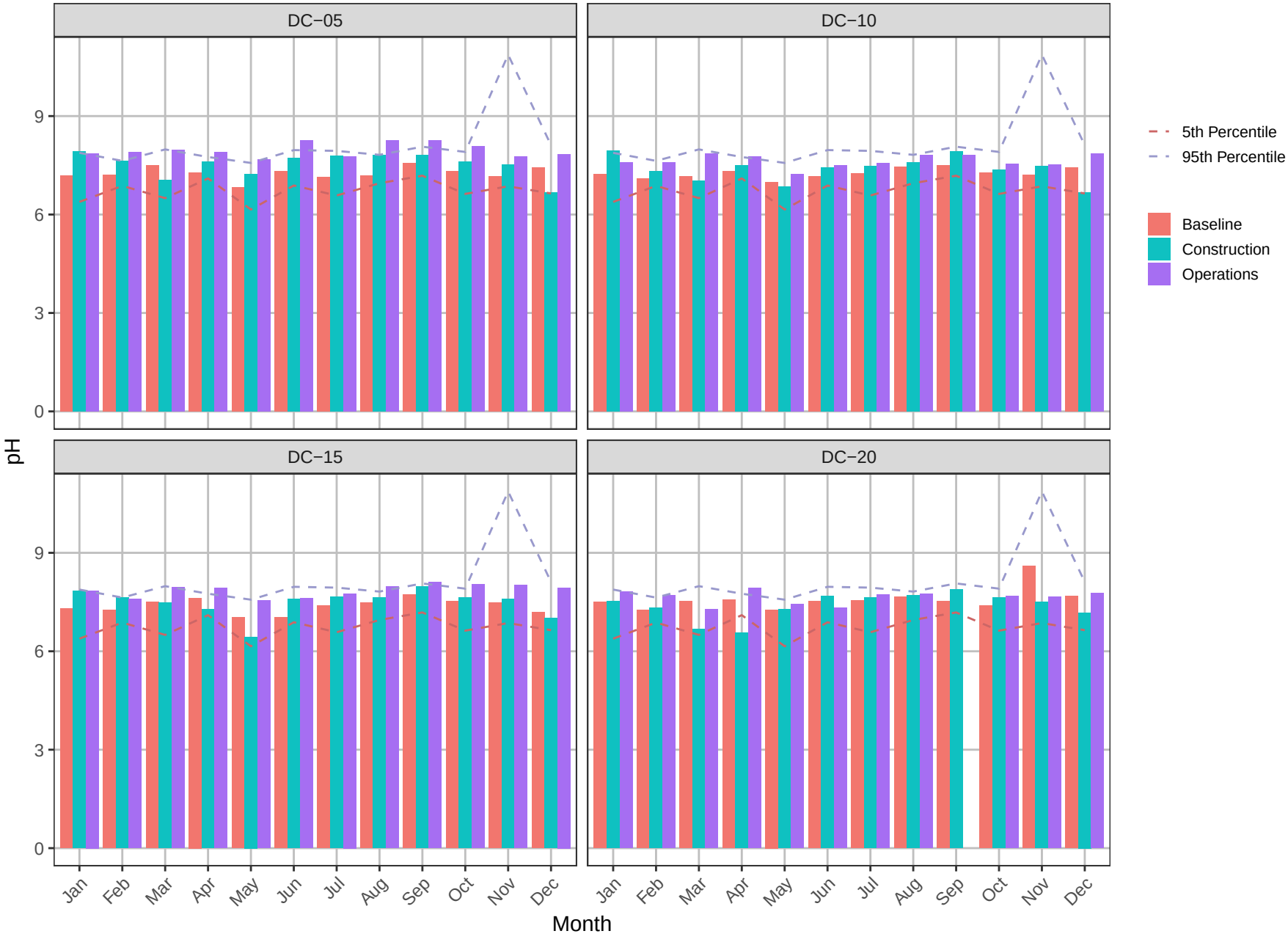
Appendix D-2: Monthly Field Parameters at Creek 661 Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix D-3: Monthly Field Parameters at Lower Chedakuz Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix D-4: Monthly Field Parameters at Upper Chedakuz Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

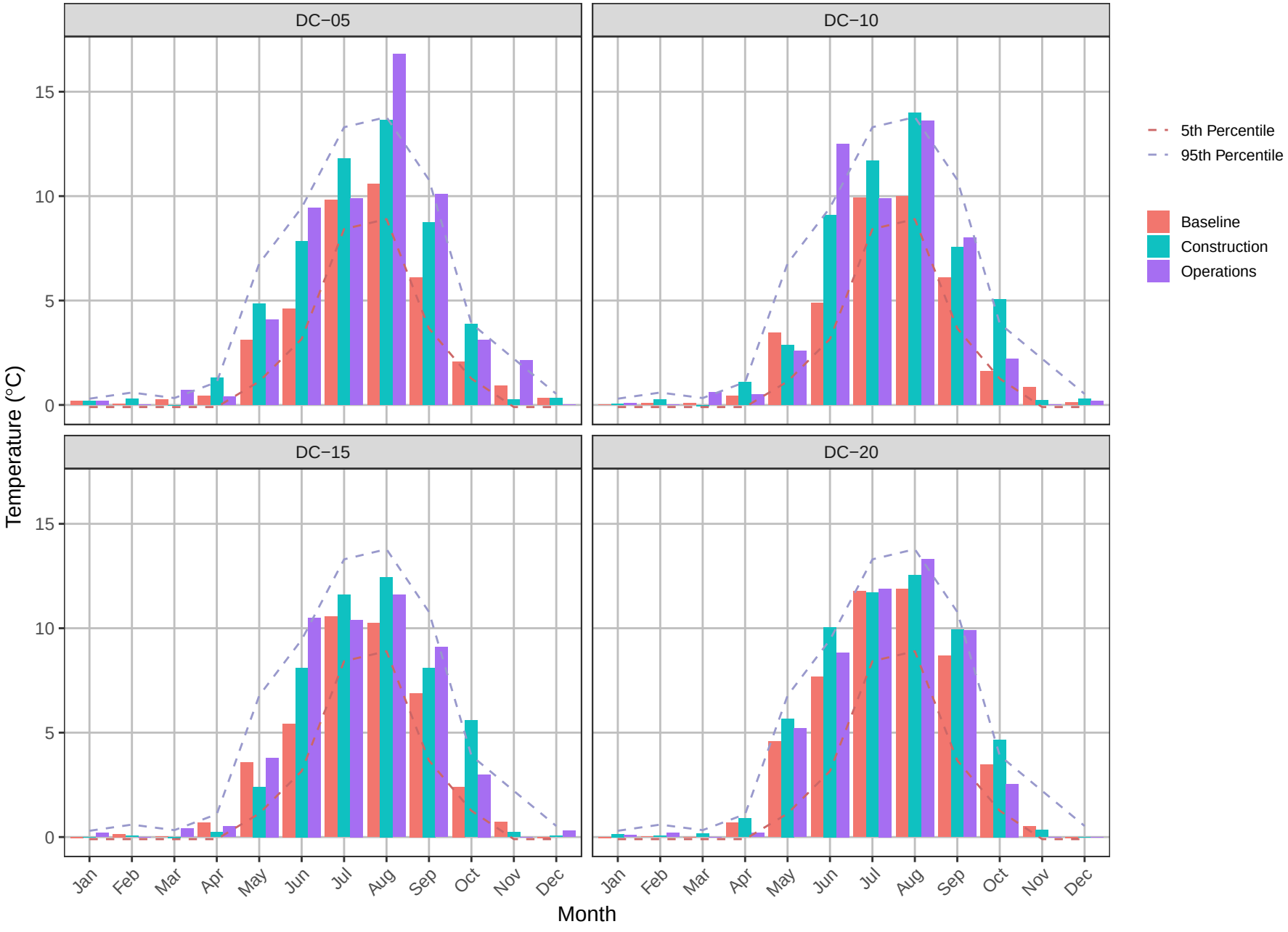
Appendix D-5: Monthly Field Parameters at Regional Control Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix D-1 Monthly Field Parameters at Davidson Creek Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



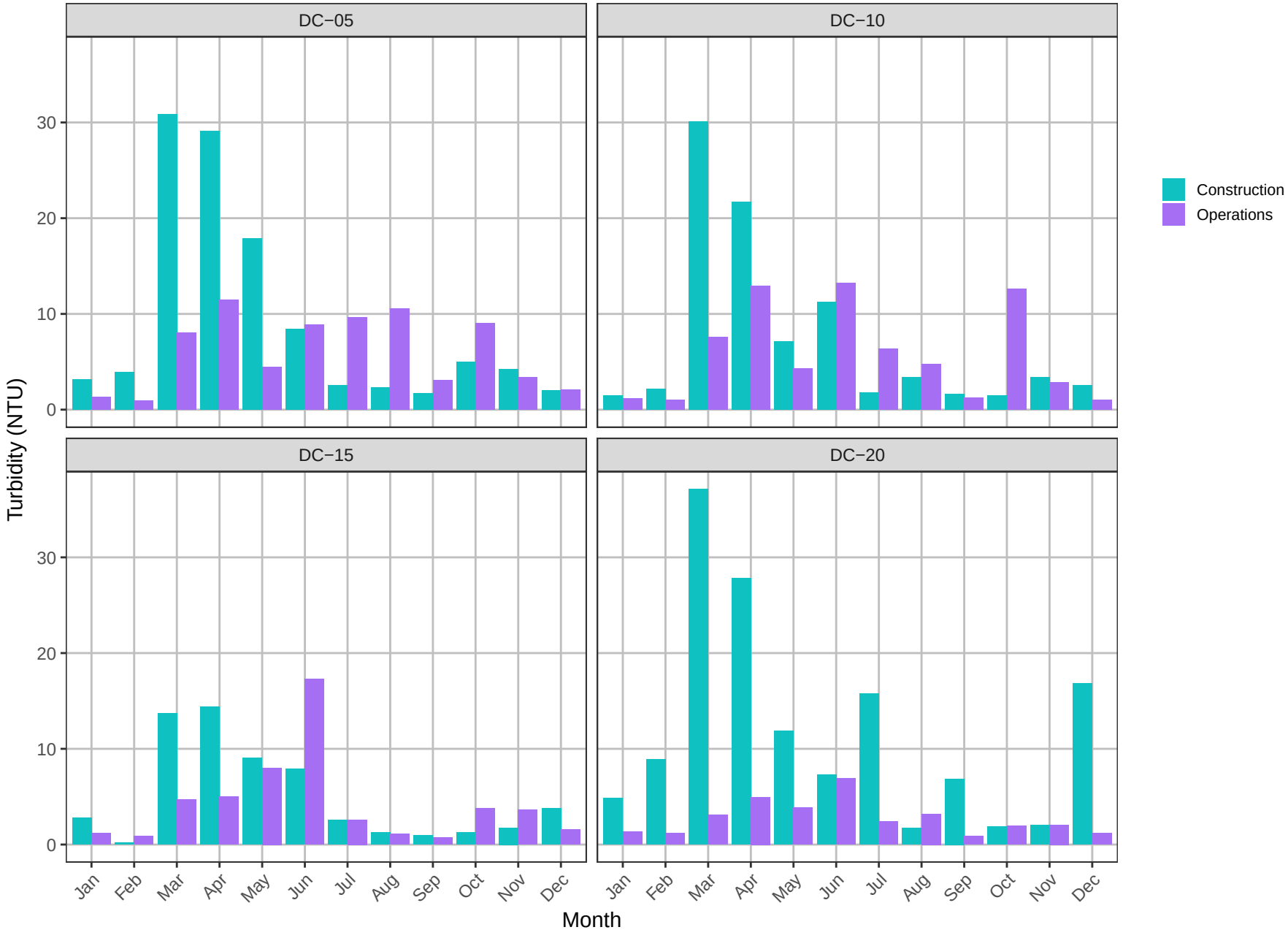
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-1a: Monthly Field pH at Davidson Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-1b: Monthly Field Temperature at Davidson Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

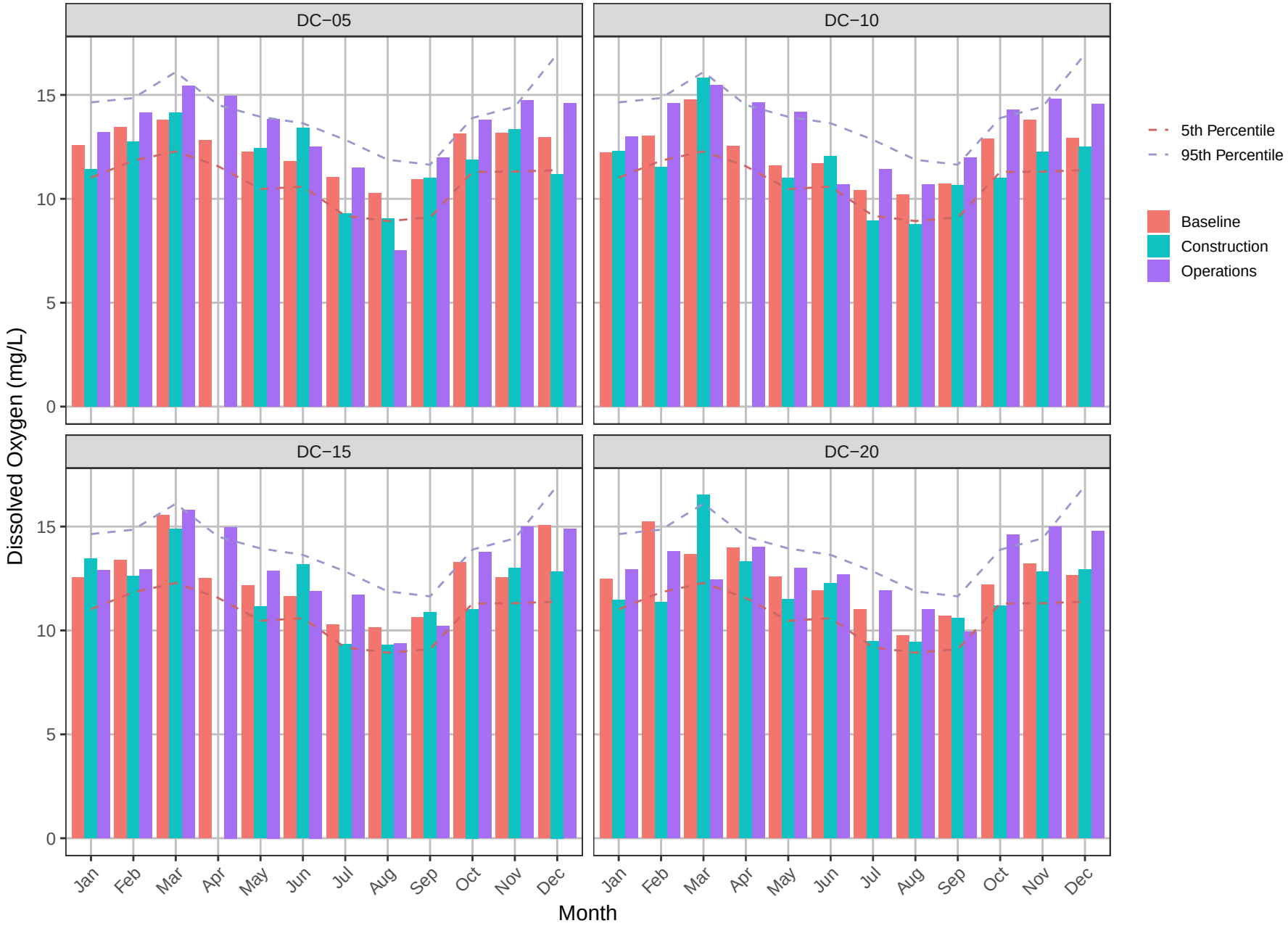


Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-1c: Monthly Field Turbidity at Davidson Creek Sites, Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

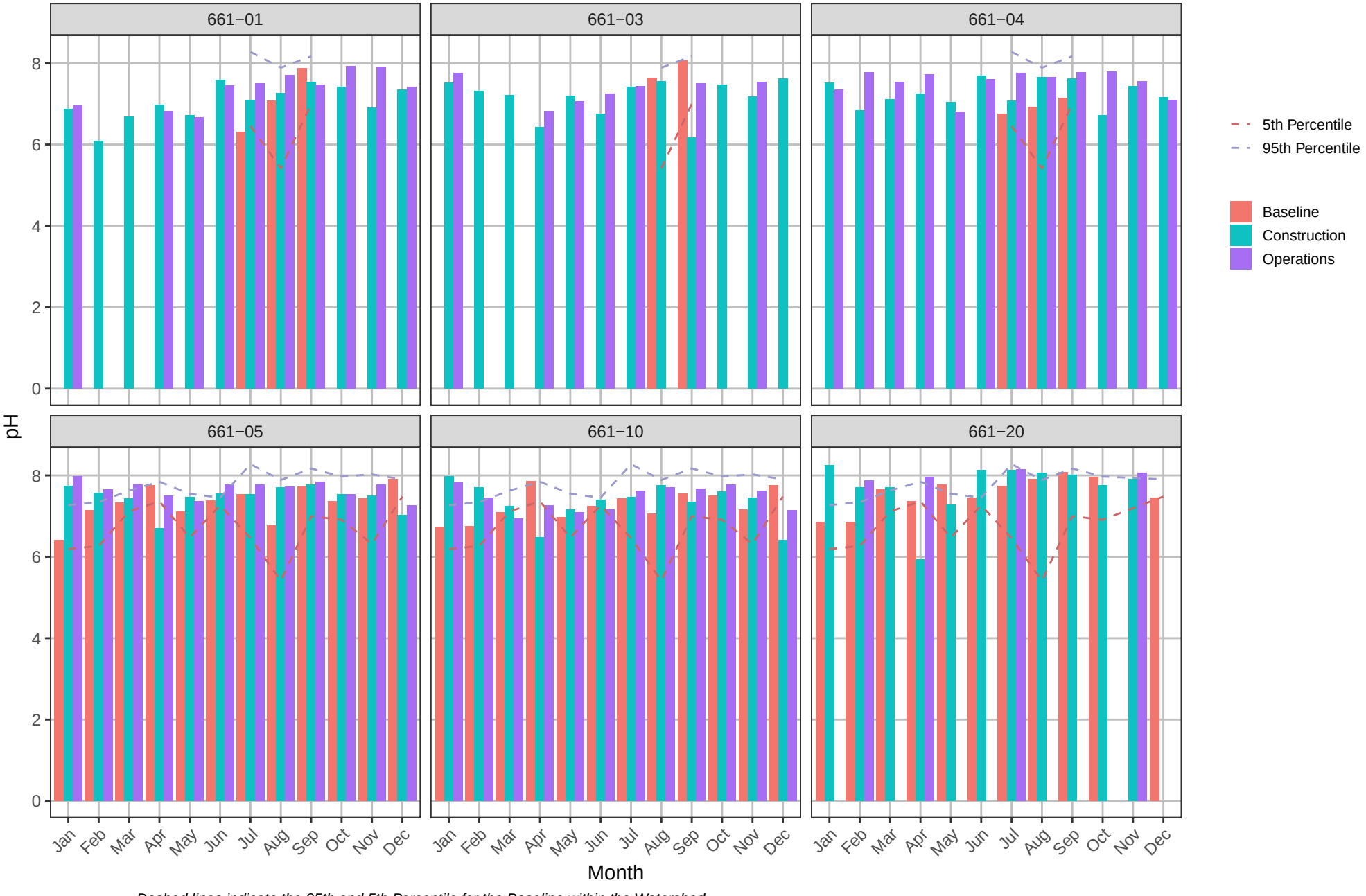
Figure D-1d: Monthly Field Conductivity at Davidson Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

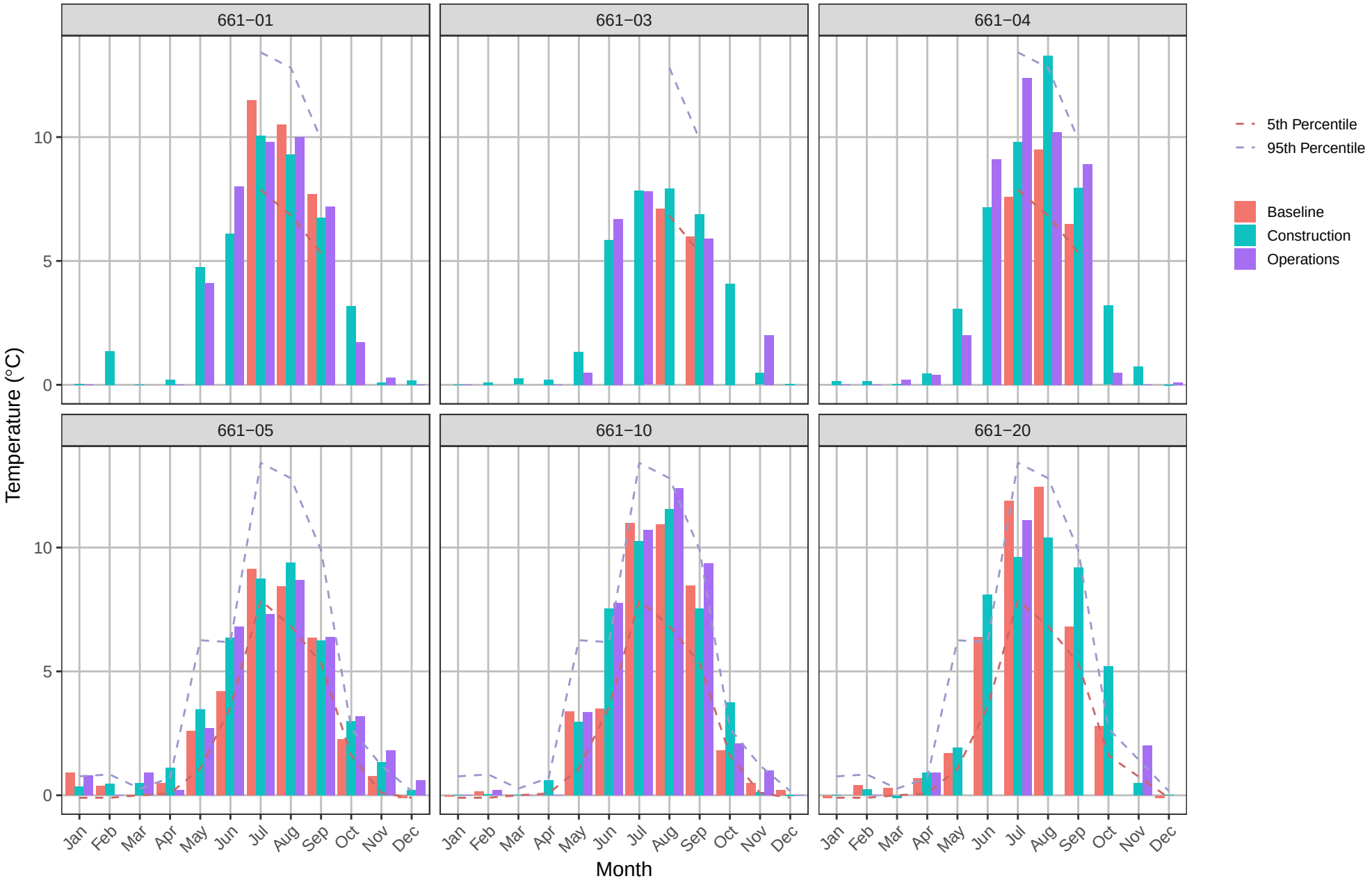
Figure D-1e: Monthly Field Dissolved Oxygen at Davidson Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix D-2 Monthly Field Parameters at Creek 661 Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



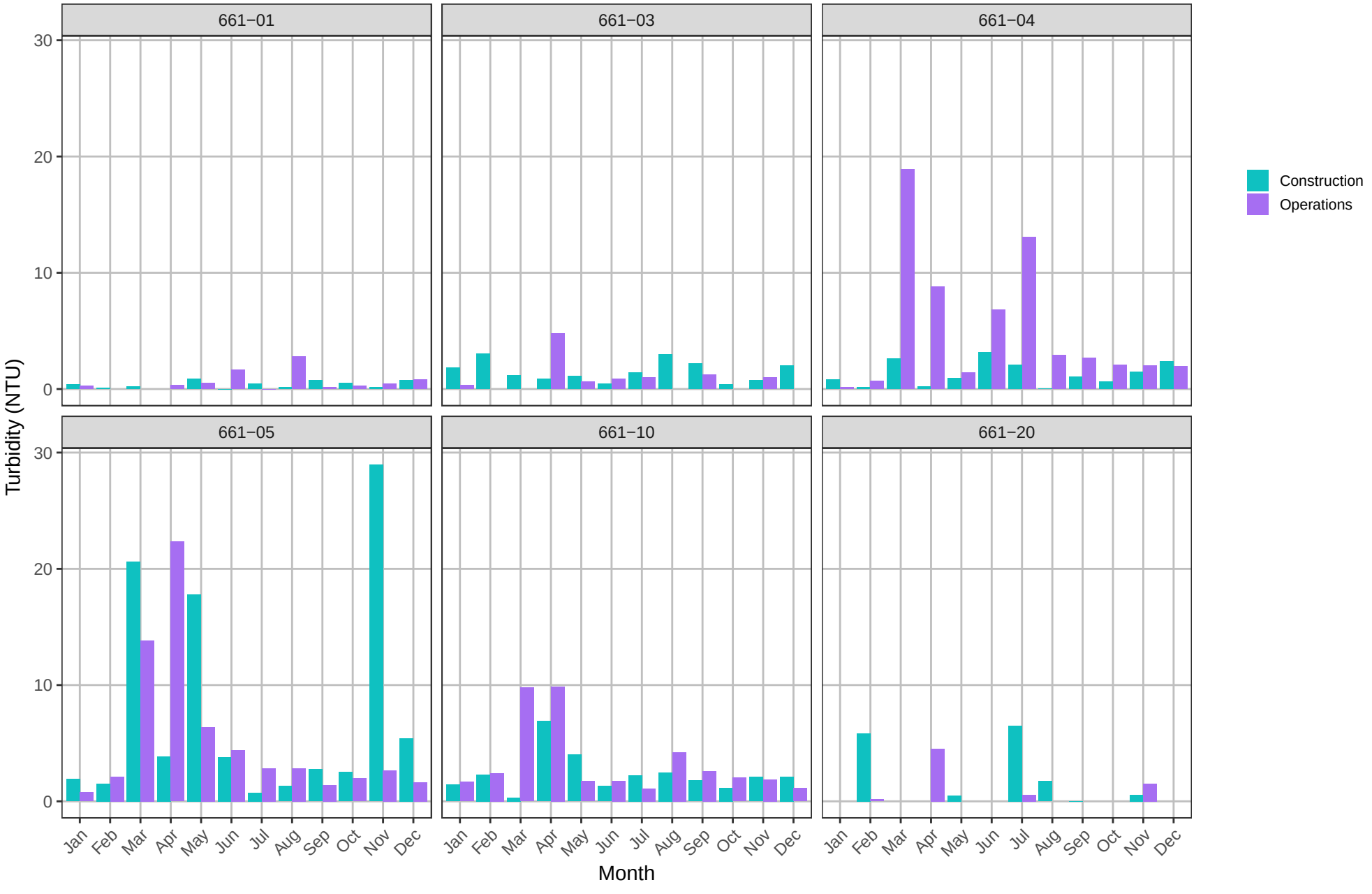
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-2a: Monthly Field pH at Creek 661 Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



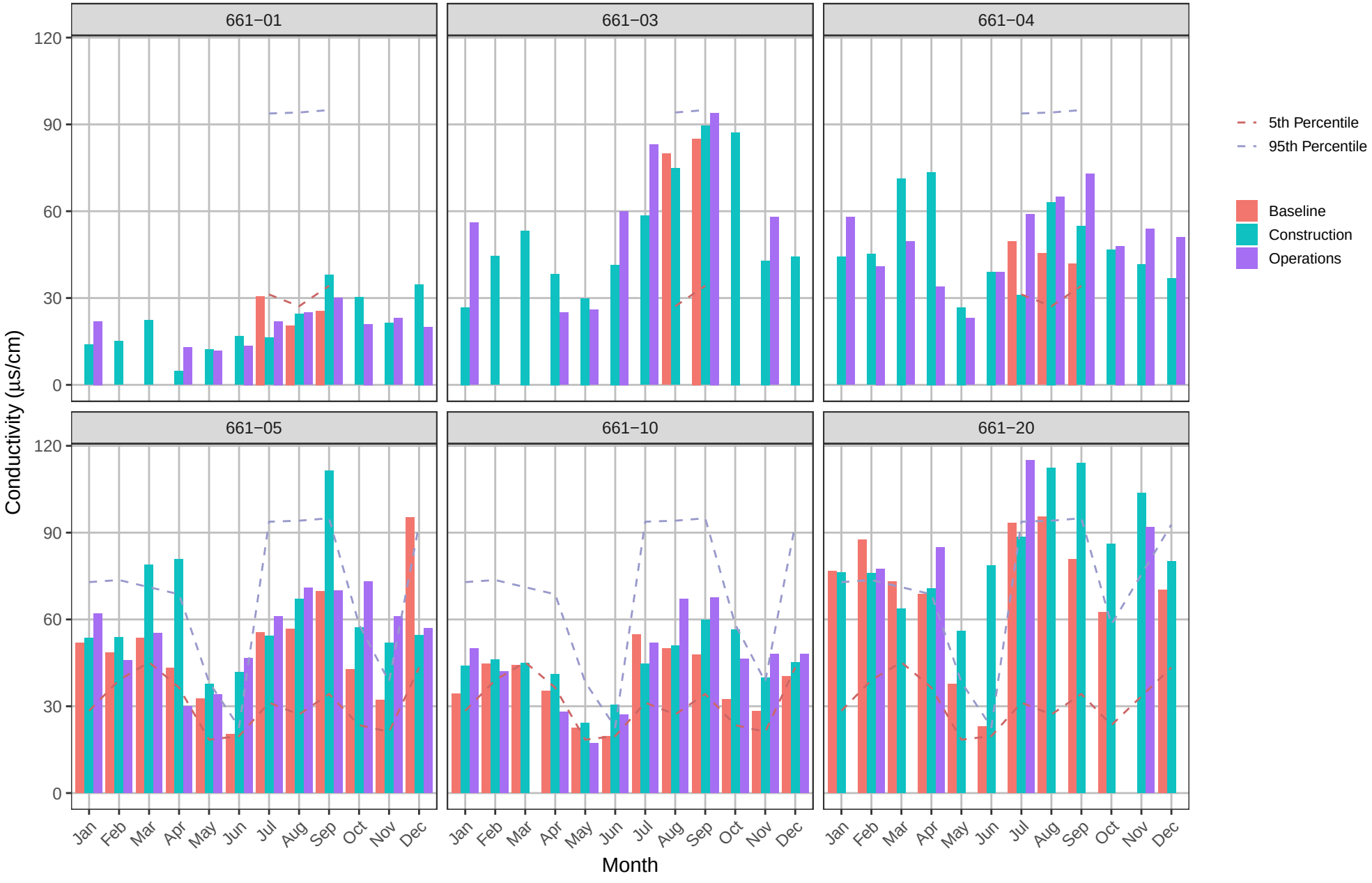
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-2b: Monthly Field Temperature at Creek 661 Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



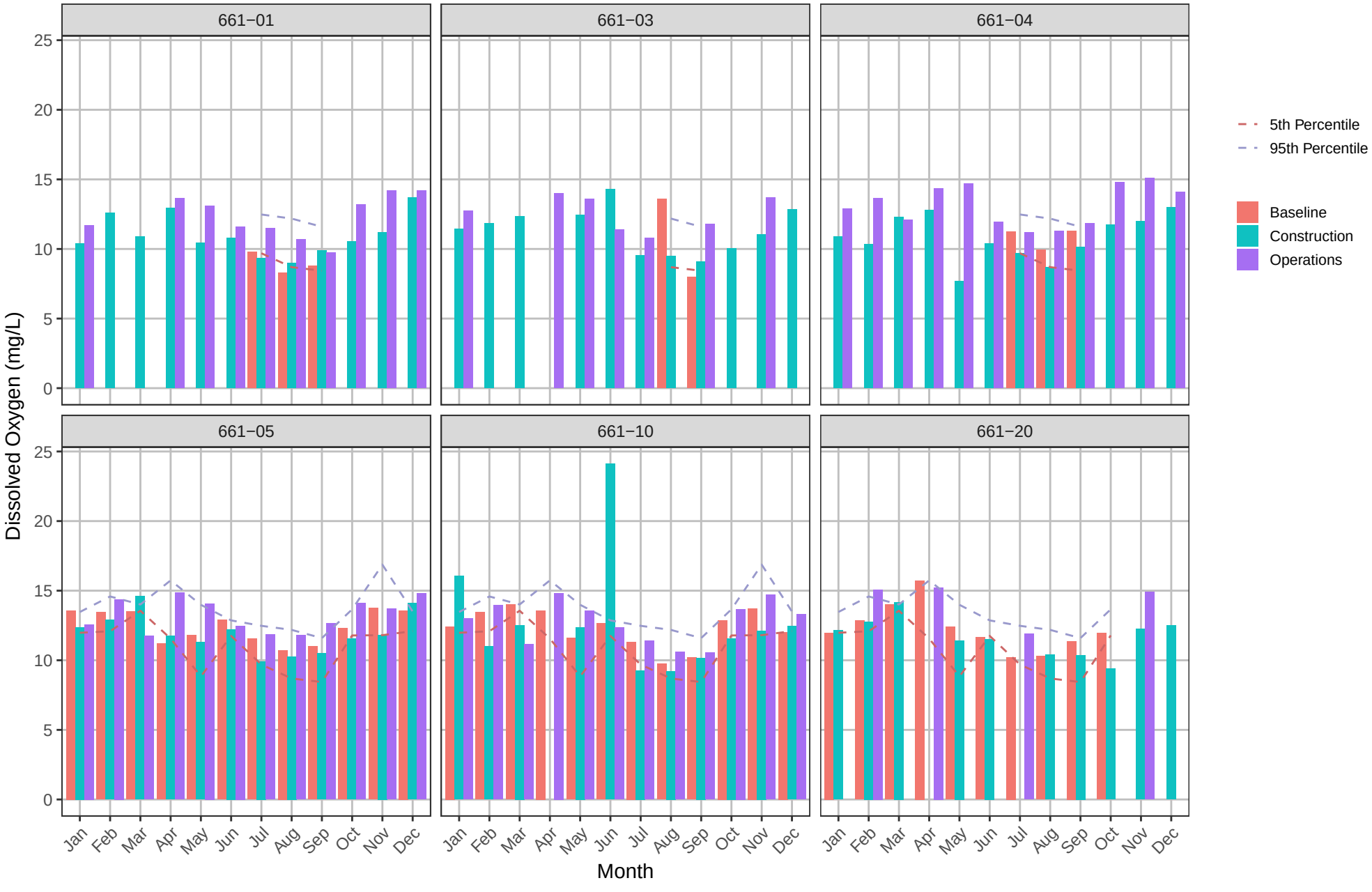
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-2c: Monthly Field Turbidity at Creek 661 Sites, Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

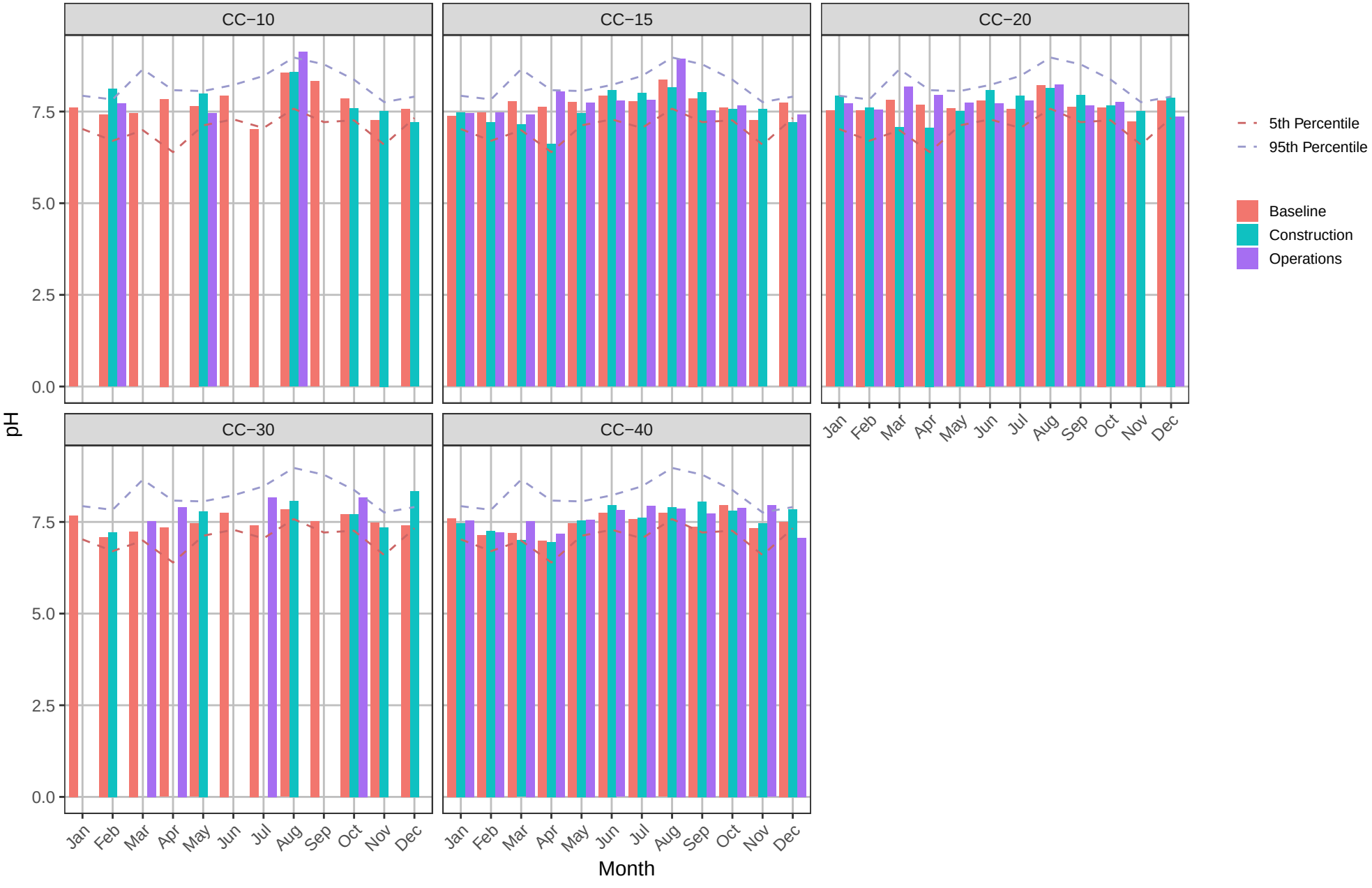
Figure D-2d: Monthly Field Conductivity at Creek 661 Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

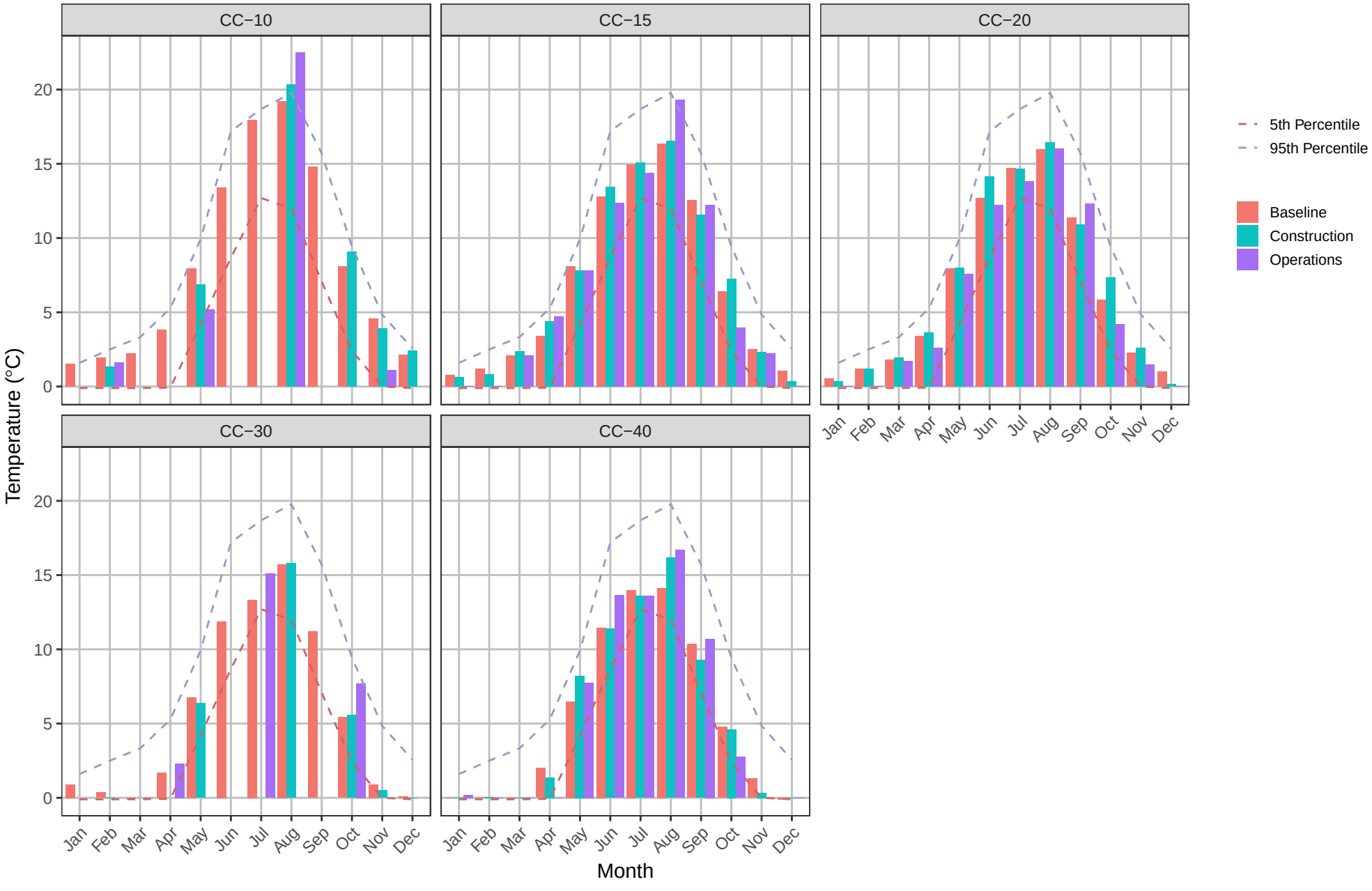
Figure D-2e: Monthly Field Dissolved Oxygen at Creek 661 Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix D-3 Monthly Field Parameters at Lower Chedakuz Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



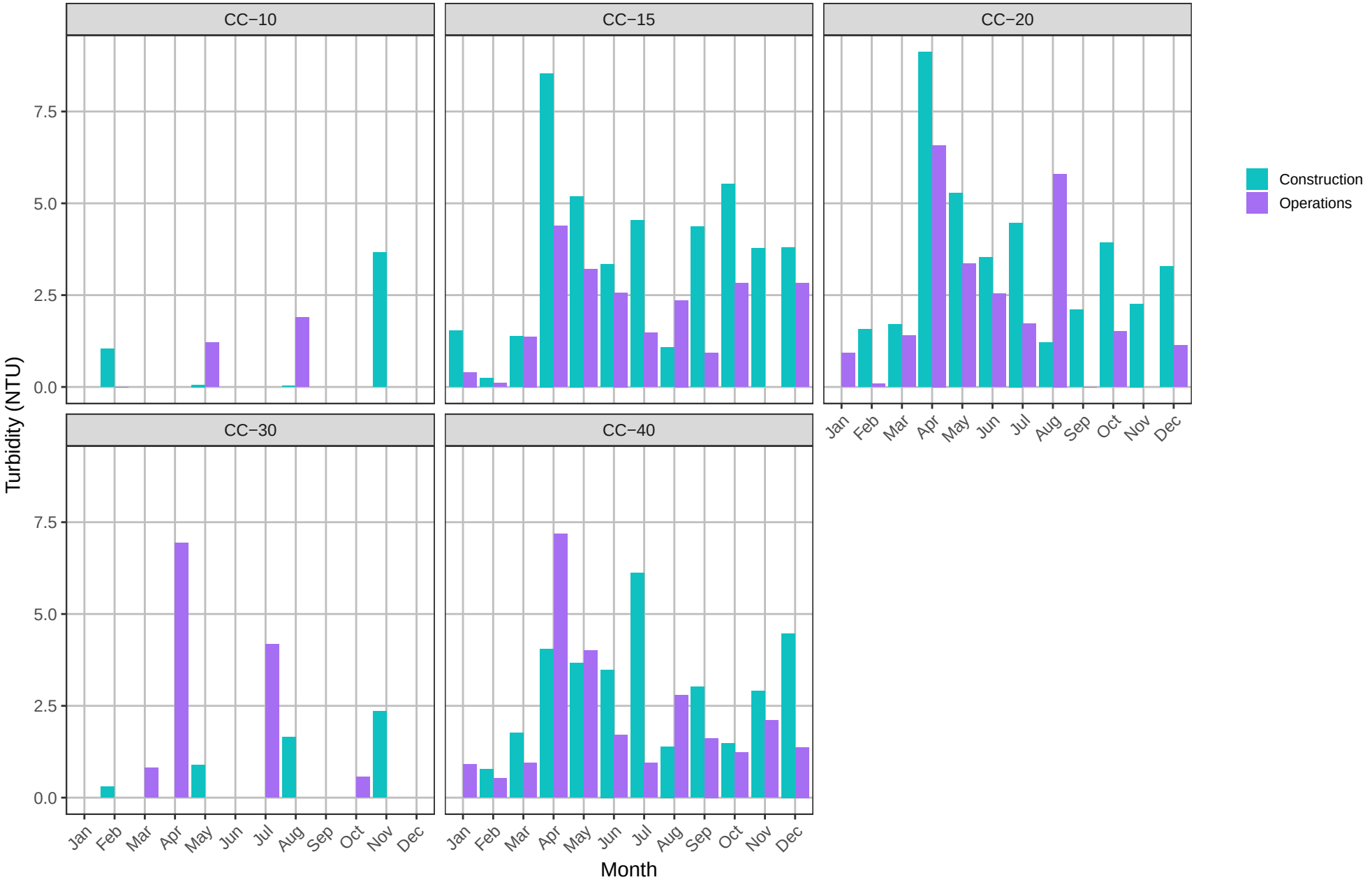
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-3a: Monthly Field pH at Lower Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



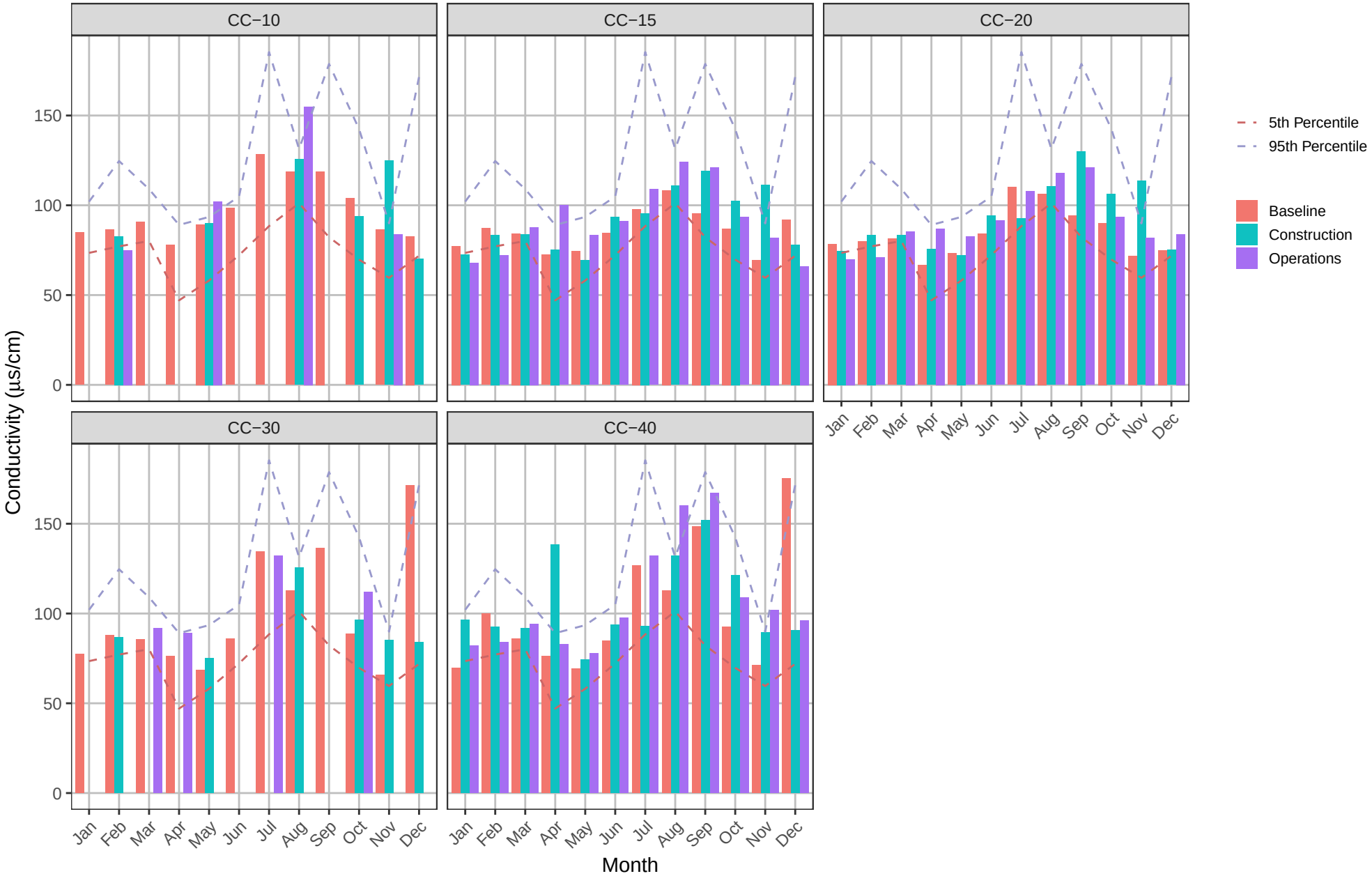
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-3b: Monthly Field Temperature at Lower Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



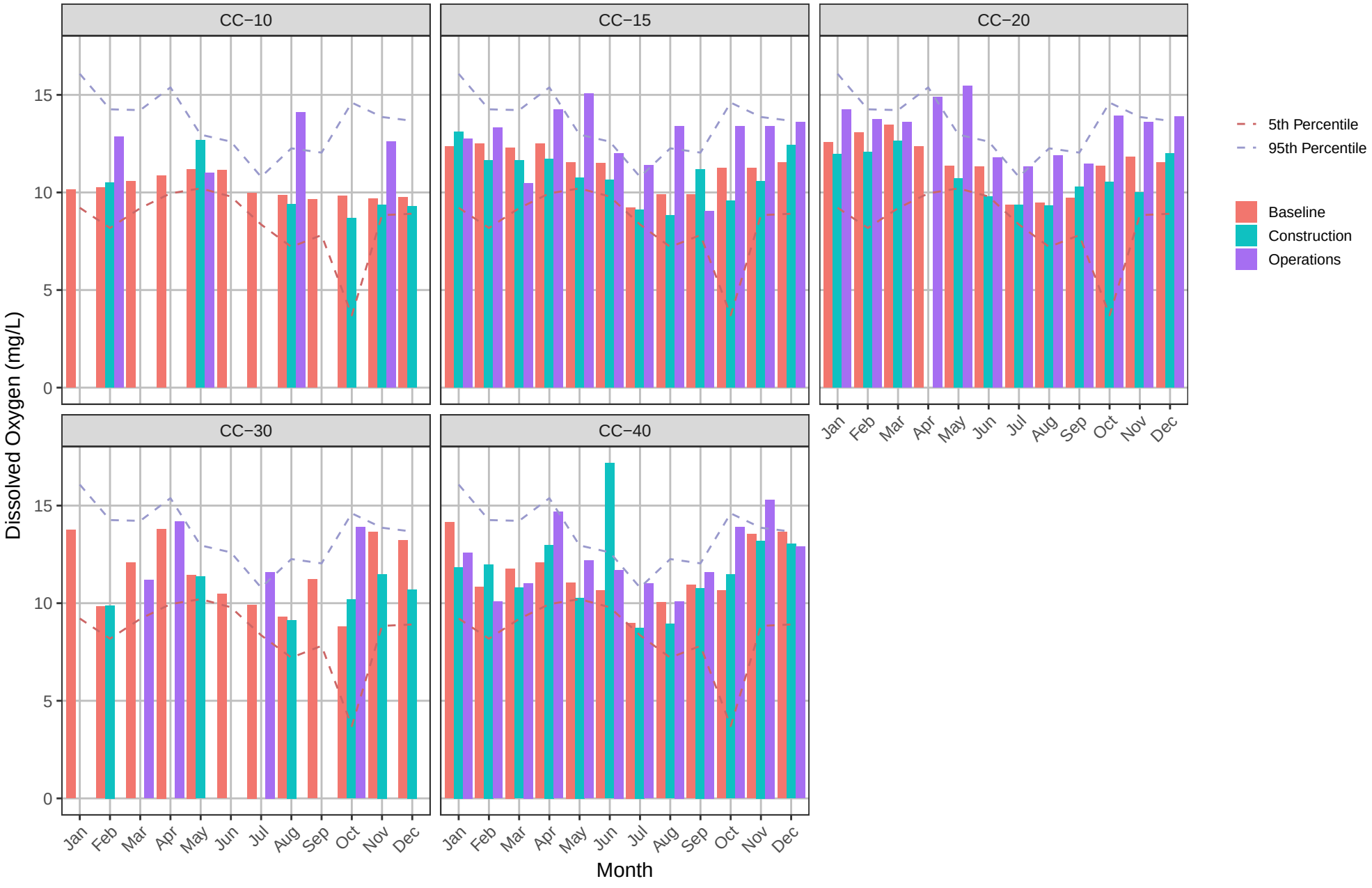
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-3c: Monthly Field Turbidity at Lower Chedakuz Creek Sites, Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

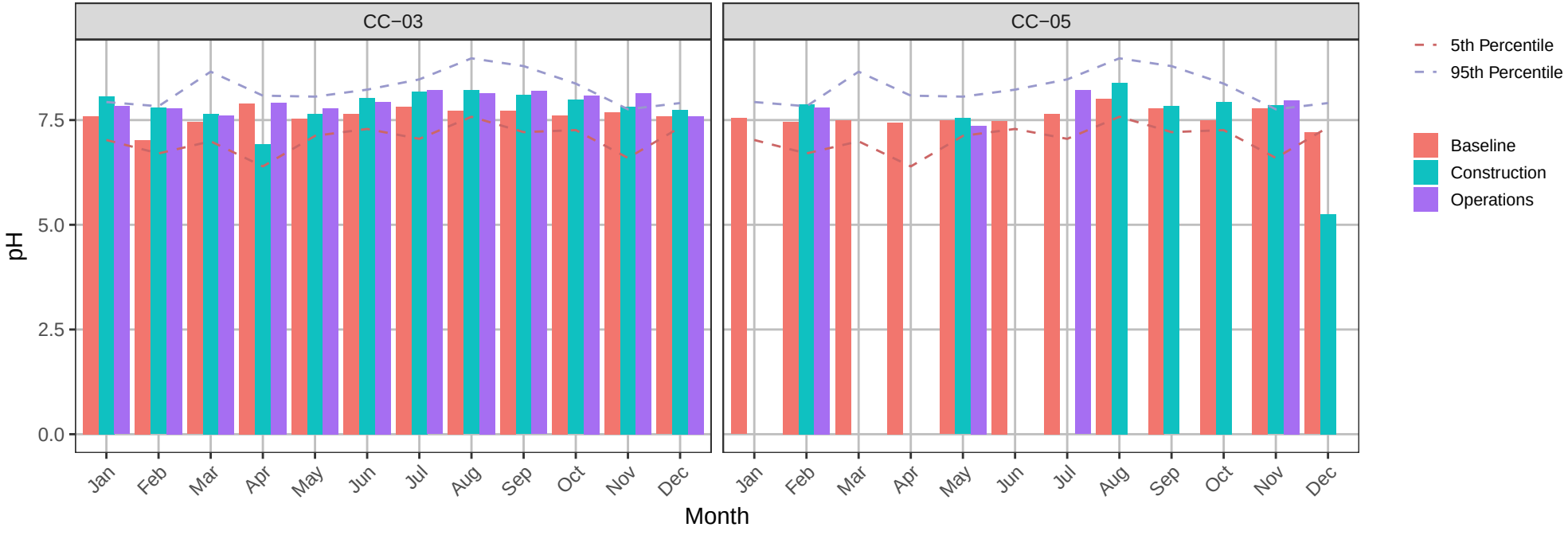
Figure D-3d: Monthly Field Conductivity at Lower Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

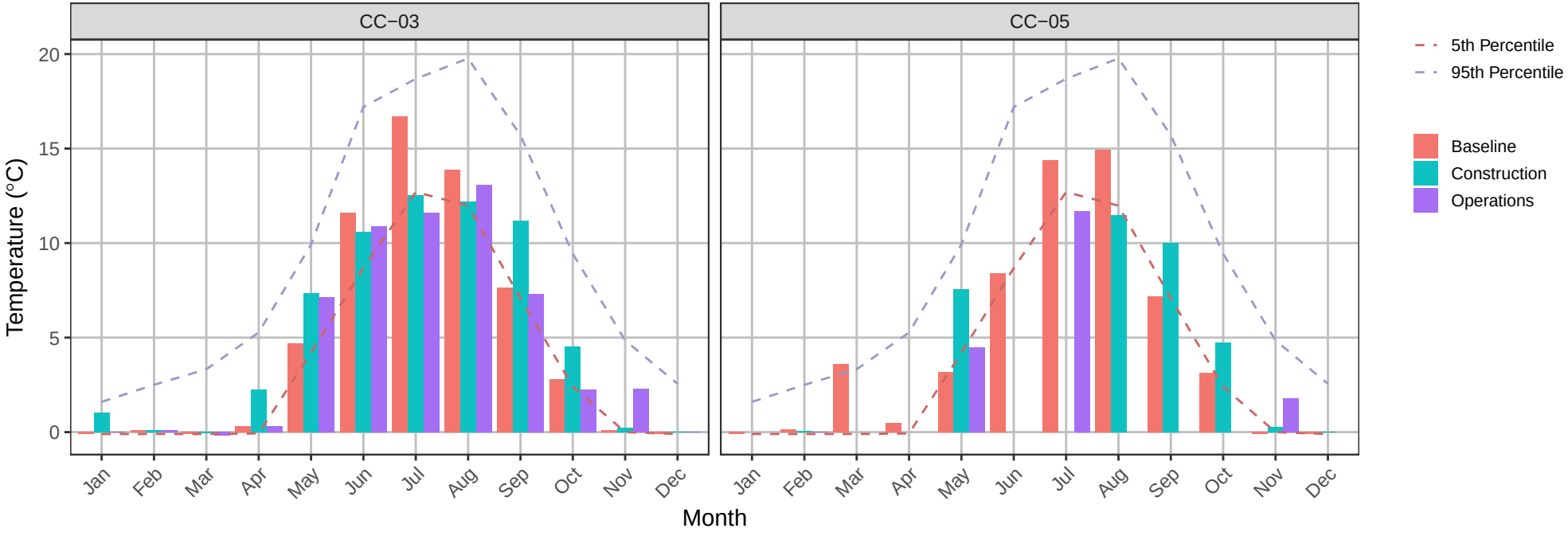
Figure D-3e: Monthly Field Dissolved Oxygen at Lower Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix D-4 Monthly Field Parameters at Upper Chedakuz Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



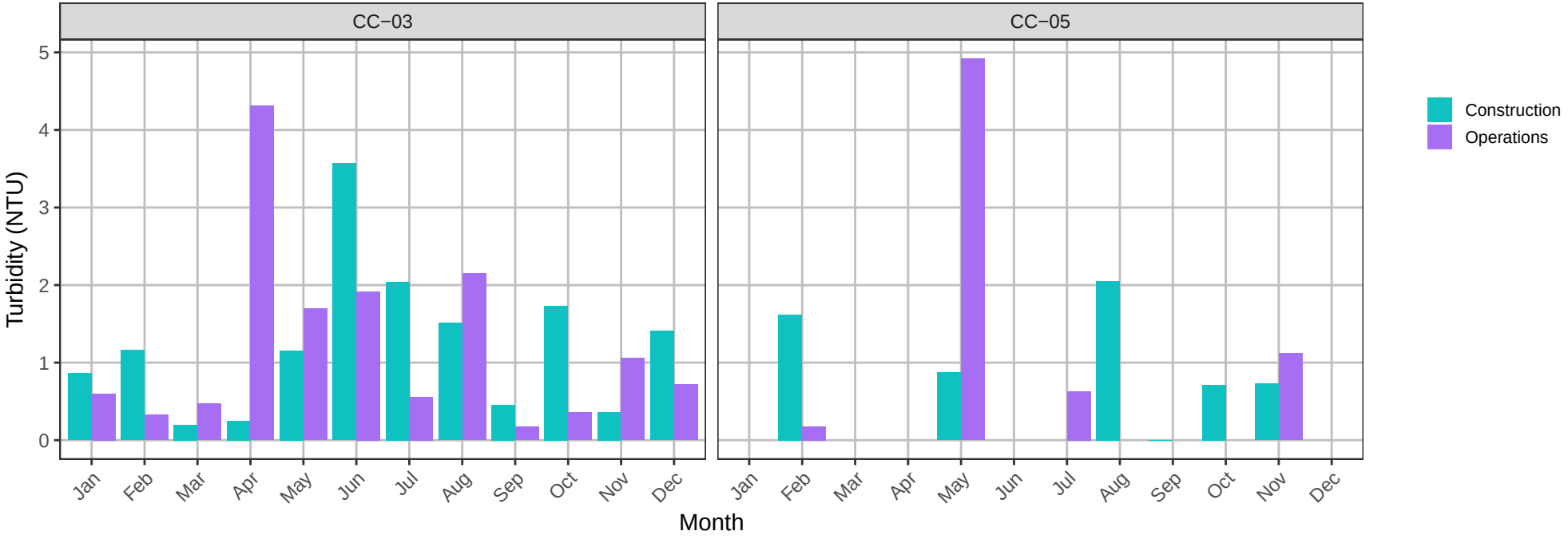
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-4a: Monthly Field pH at Upper Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



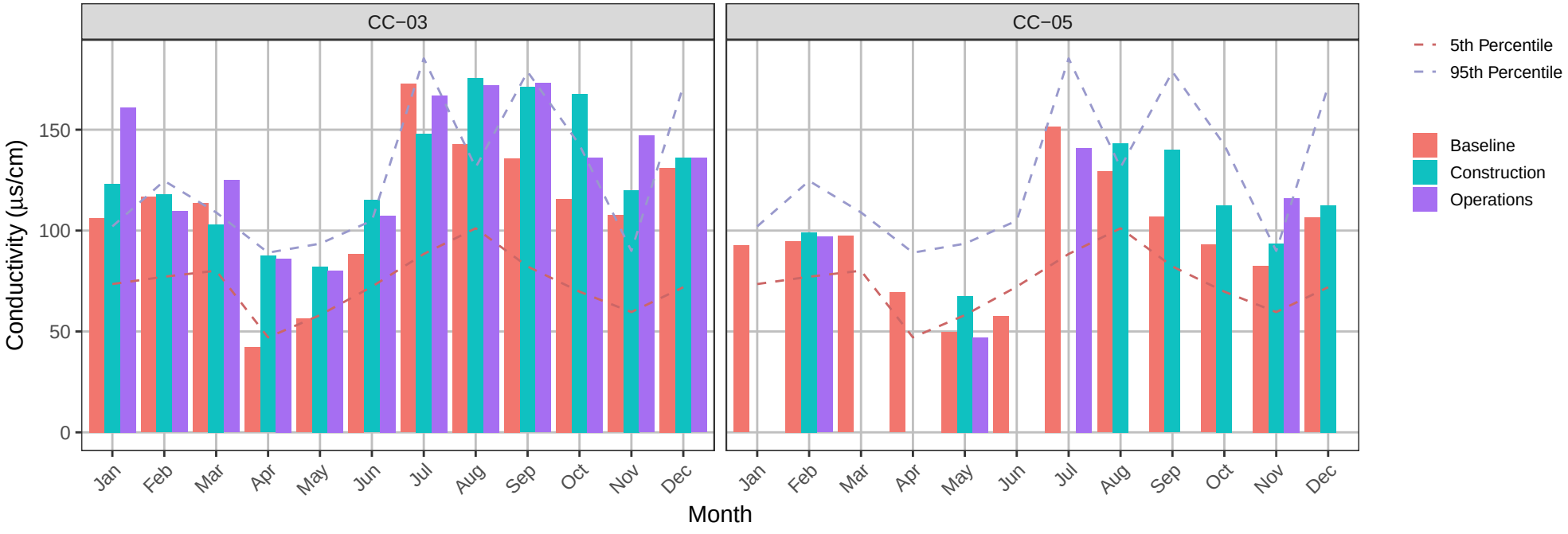
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-4b: Monthly Field Temperature at Upper Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



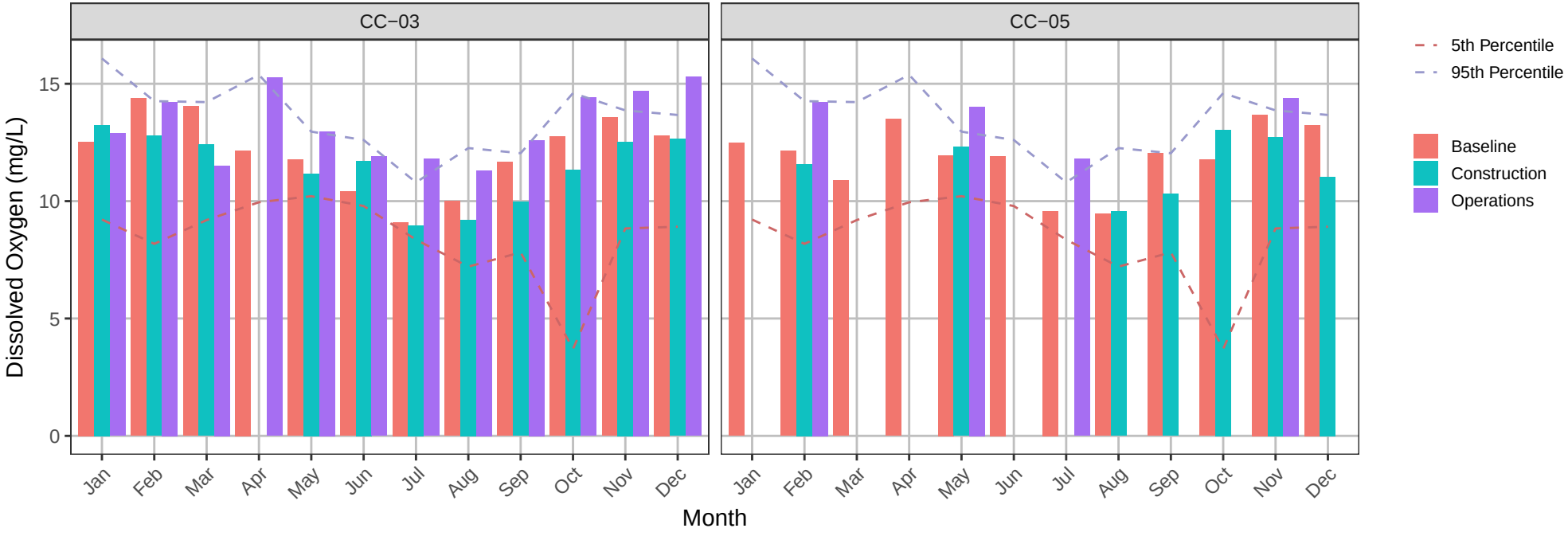
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-4c: Monthly Field Turbidity at Upper Chedakuz Creek Sites, Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed
The following outlier was removed: CC−05 February 2022 − 1,125.5 µS/cm

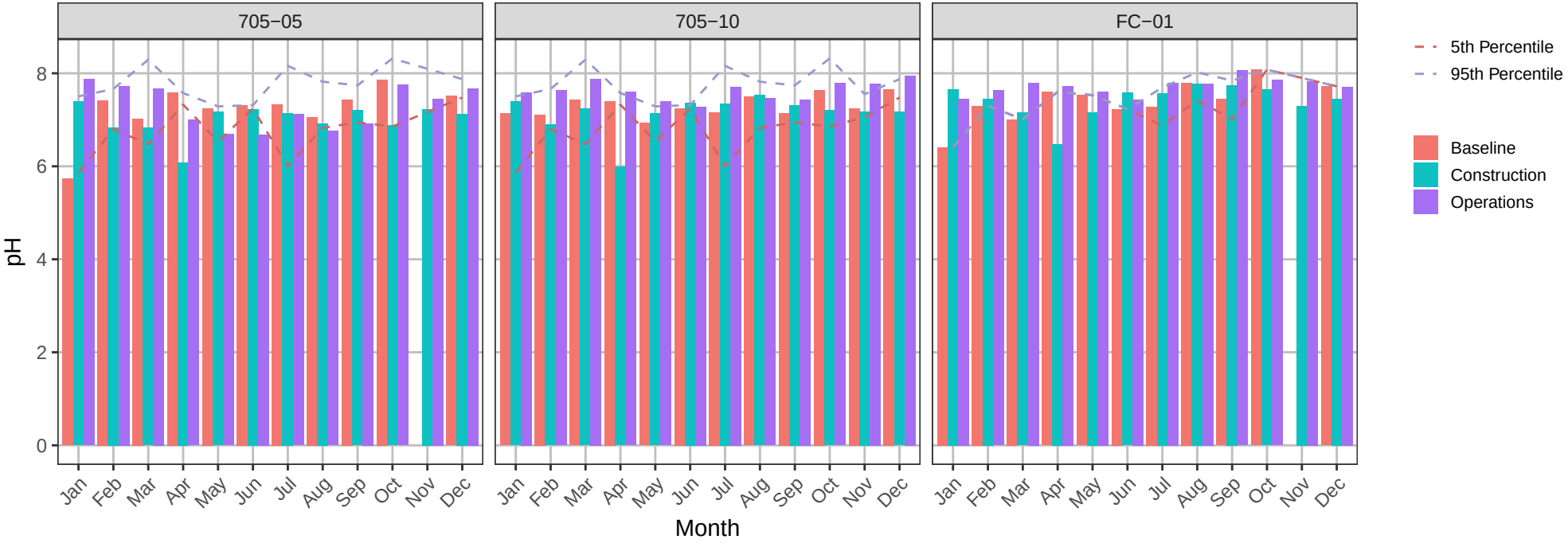
Figure D-4d: Monthly Field Conductivity at Upper Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

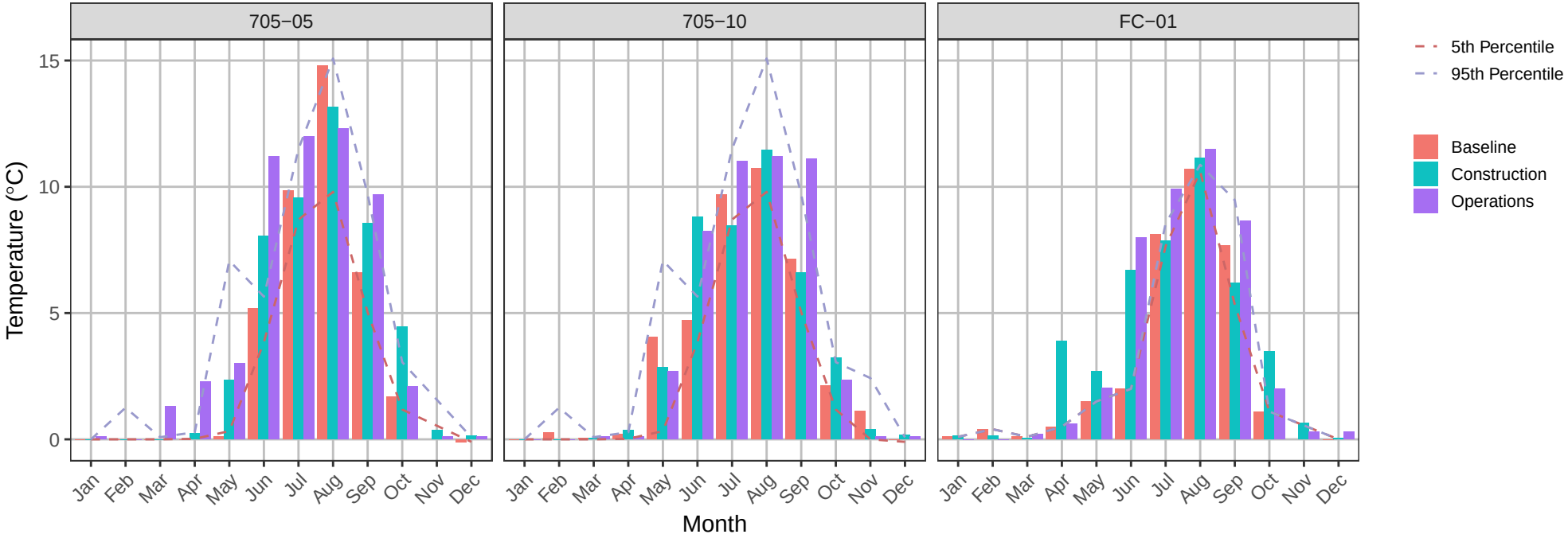
Figure D-4e: Monthly Field Dissolved Oxygen at Upper Chedakuz Creek Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix D-5 Monthly Field Parameters at Regional Control Sites, Baseline (2016 to September 2022), Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



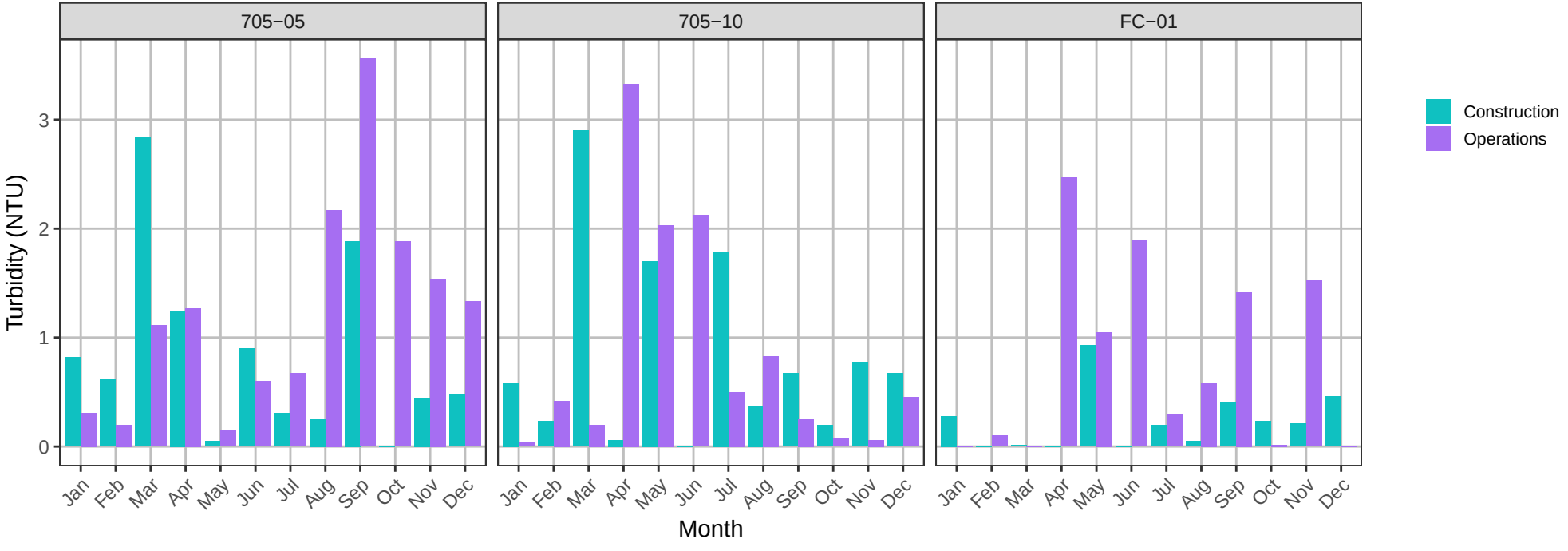
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-5a: Monthly Field pH at Regional Control Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



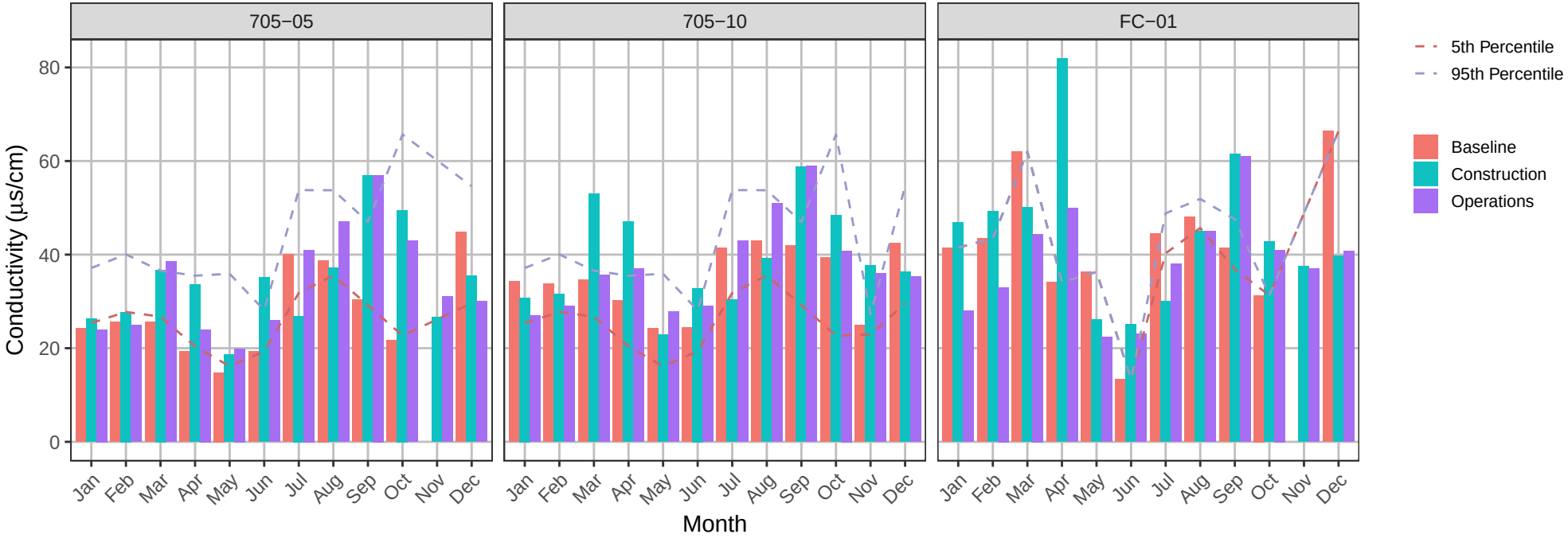
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-5b: Monthly Field Temperature at Regional Control Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



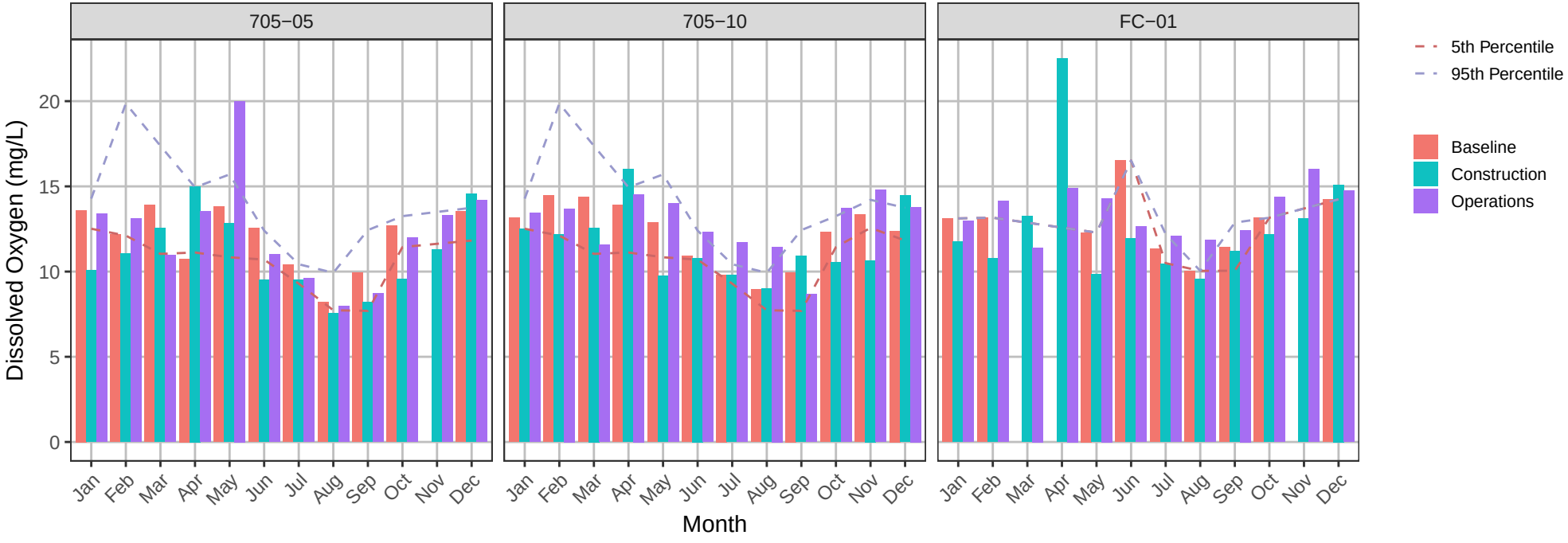
Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-5c: Monthly Field Turbidity at Regional Control Sites, Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-5d: Monthly Field Conductivity at Regional Control Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods



Dashed lines indicate the 95th and 5th Percentile for the Baseline within the Watershed

Figure D-5e: Monthly Field Dissolved Oxygen at Regional Control Sites, Baseline (2016 to September 2022) Construction (October 2022 to 2024), and Operations (2025) Monitoring Periods

Appendix E Surface Water Quality Analysis

Appendix E-1: Surface Water Quality 95th Percentile Baseline (2016 to September 2022) + 20% and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality

Appendix E-2: Results of Before-After-Control-Impact Analysis

Appendix E-3: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality

Appendix E-4: 2022 Model Predictions and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality

Appendix E-5: Surface Water Quality Nutrient Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Appendix E-6: Surface Water Quality Nutrient Predicted Concentrations and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Appendix E-1 Surface Water Quality 95th Percentile Baseline (2016 to September 2022) + 20% and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality

Appendix E-1A: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-05 in Davidson Creek

Appendix E-1B: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-10 in Davidson Creek

Appendix E-1C: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Appendix E-1D: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Appendix E-1E: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–03 in Creek 661

Appendix E-1F: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–04 in Creek 661

Appendix E-1G: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–05 in Creek 661

Appendix E-1H: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–10 in Creek 661

Appendix E-1I: : Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661-20 in Creek 661

Appendix E-1J: : Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-15 in Chedakuz Creek

Appendix E-1K: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-20 in Chedakuz Creek

Appendix E-1L: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-30 in Chedakuz Creek

Appendix E-1M: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-40 in Chedakuz Creek

Appendix E-1A: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-05 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.32	7.49	7.62	7.40	6.90	6.72	7.19	7.46	7.56	7.48	7.08	7.23
pH (pH Units) Upper[c]	8.03	7.96	8.10	8.06	7.71	7.57	7.92	8.07	8.09	7.86	7.78	7.88
Total Suspended Solids	1.8	4.1	3.4	2.8	27.6	9.8	4.1	2.3	9.3	2.9	4.1	1.8
Turbidity (NTU)	0.62	0.52	0.37	2.86	3.80	1.93	0.68	0.88	0.59	1.16	2.68	1.09
Total Dissolved Solids	87	88	94	89	79	62	76	98	114	86	69	79
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.64	0.30	0.30
Fluoride	0.055	0.053	0.055	0.053	0.046	0.035	0.048	0.049	0.051	0.059	0.042	0.044
Sulphate	3.42	3.63	3.73	3.61	1.61	1.01	2.25	3.45	3.32	2.95	2.32	2.75
Nutrients												
Ammonia-N	0.0060	0.0030	0.0030	0.0030	0.0124	0.0030	0.0115	0.0068	0.0261	0.0030	0.0047	0.0074
Nitrate-N	0.0437	0.0398	0.0505	0.0235	0.0030	0.0030	0.0041	0.1442	0.0030	0.0030	0.0073	0.0183
Nitrite-N	0.0006	0.0006	0.0011	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Total Phosphorous	0.011	0.025	0.013	0.016	0.034	0.018	0.011	0.011	0.011	0.011	0.015	0.010
Ortho-Phosphorus	0.008	0.008	0.008	0.008	0.005	0.003	0.005	0.007	0.007	0.006	0.005	0.007
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0673	0.0618	0.0424	0.2441	0.5430	0.3403	0.2076	0.1524	0.0779	0.1626	0.3887	0.1264
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00012	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	0.00077	0.00074	0.00072	0.00072	0.00077	0.00064	0.00088	0.00100	0.00092	0.00087	0.00068	0.00070
Barium	0.00887	0.00929	0.00937	0.01949	0.00882	0.00638	0.00865	0.01196	0.01138	0.00780	0.00755	0.00752
Beryllium	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000036	0.0000057	0.0000036	0.0000080	0.0000216	0.0000109	0.0000103	0.0000077	0.0000042	0.0000070	0.0000100	0.0000053
Chromium	0.00035	0.00038	0.00038	0.00048	0.00077	0.00035	0.00034	0.00036	0.00038	0.00037	0.00050	0.00040
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00013	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Copper	0.00030	0.00030	0.00030	0.00070	0.00097	0.00085	0.00124	0.00064	0.00030	0.00061	0.00086	0.00066
Iron	0.130	0.123	0.094	0.251	0.399	0.237	0.161	0.176	0.158	0.243	0.284	0.149
Lead	0.000049	0.000137	0.000030	0.000054	0.000161	0.000075	0.000055	0.000030	0.000030	0.000151	0.000071	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.00984	0.00649	0.00335	0.00851	0.03802	0.01608	0.00913	0.00995	0.00658	0.00946	0.01423	0.00708
Mercury	0.0000036	0.0000036	0.0000036	0.0000044	0.0000133	0.0000107	0.0000088	0.0000043	0.0000073	0.0000036	0.0000118	0.0000059
Molybdenum	0.000984	0.001034	0.001059	0.001230	0.000475	0.000382	0.000902	0.001266	0.001049	0.000693	0.000676	0.000766
Nickel	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030
Selenium	0.000127	0.000102	0.000125	0.000100	0.000082	0.000070	0.000089	0.000087	0.000090	0.000079	0.000082	0.000084
Silver	0.000010	0.000006	0.000006	0.000006	0.000023	0.000010	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1054	0.1077	0.1174	0.1081	0.0683	0.0412	0.0917	0.1283	0.1185	0.0773	0.0781	0.0882
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000010	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000305	0.000293	0.000386	0.000301	0.000259	0.000235	0.000220	0.000346	0.000276	0.000217	0.000210	0.000229
Vanadium	0.00090	0.00094	0.00090	0.00050	0.00106	0.00089	0.00079	0.00079	0.00041	0.00072	0.00083	0.00065
Zinc	0.0036	0.0031	0.0018	0.0018	0.0041	0.0040	0.0018	0.0038	0.0021	0.0052	0.0018	0.0018

Appendix E-1A: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-05 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.81	7.95	7.86	7.83	7.31	7.50	7.69	7.81	7.74	7.77	7.76	7.75
pH (pH Units) Upper[c]	7.81	7.95	7.86	7.83	7.31	7.50	7.69	7.81	7.74	7.77	7.76	7.75
Total Suspended Solids	1.5	1.8	2.2	3.0	4.6	3.9	3.3	3.0	3.8	2.3	1.6	1.6
Turbidity (NTU)	2.26	11.11	17.09	13.54	9.61	7.35	5.28	4.60	1.71	5.71	3.27	2.24
Total Dissolved Solids	81	82	91	69	52	49	80	67	74	71	72	70
Chloride	0.47	0.44	0.64	0.98	0.94	0.91	1.27	1.22	1.19	0.79	0.76	0.72
Fluoride	0.041	0.045	0.045	0.040	0.025	0.028	0.037	0.037	0.036	0.038	0.038	0.038
Sulphate	3.44	3.57	3.56	3.78	2.41	1.93	6.11	3.83	3.14	3.27	3.71	4.14
Nutrients												
Ammonia-N	0.0025	0.0025	0.0025	0.0035	0.0042	0.0037	0.0072	0.0087	0.0055	0.0044	0.0064	0.0067
Nitrate-N	0.0810	0.0734	0.0516	0.0741	0.0638	0.0285	0.0310	0.0059	0.0133	0.0243	0.0504	0.0909
Nitrite-N	0.0005	0.0005	0.0007	0.0007	0.0005	0.0008	0.0006	0.0005	0.0007	0.0008	0.0007	0.0005
Total Phosphorous	0.013	0.020	0.025	0.022	0.034	0.021	0.019	0.018	0.009	0.013	0.013	0.011
Ortho-Phosphorus	0.006	0.005	0.007	0.004	0.004	0.002	0.002	0.003	0.001	0.002	0.003	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0033	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.1427	0.4892	0.9760	0.6885	0.6481	0.6057	0.3803	0.3783	0.1135	0.3206	0.2008	0.1626
Antimony	0.00005	0.00007	0.000082	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00005	0.00005
Arsenic	0.00062	0.00089	0.00116	0.00096	0.00100	0.00115	0.00117	0.00141	0.00093	0.00099	0.00071	0.00064
Barium	0.00937	0.01347	0.01705	0.01365	0.01051	0.00807	0.01170	0.01039	0.00935	0.01044	0.00906	0.00878
Beryllium	0.000010	0.000027	0.000037	0.000031	0.000041	0.000033	0.000022	0.000022	0.000010	0.000018	0.000014	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000034	0.0000067	0.0000115	0.0000096	0.0000128	0.0000155	0.0000181	0.0000164	0.0000071	0.0000110	0.0000065	0.0000056
Chromium	0.00030	0.00054	0.00082	0.00061	0.00050	0.00032	0.00036	0.00025	0.00025	0.00041	0.00031	0.00037
Cobalt	0.00005	0.00020	0.00031	0.00022	0.00017	0.00014	0.00016	0.00041	0.00026	0.00036	0.00047	0.00061
Copper	0.00029	0.00079	0.00106	0.00089	0.00097	0.00074	0.00070	0.00076	0.00025	0.00057	0.00035	0.00025
Iron	0.126	0.473	0.787	0.549	0.480	0.329	0.274	0.312	0.122	0.300	0.203	0.146
Lead	0.000066	0.000299	0.000490	0.000350	0.000302	0.000311	0.000242	0.000213	0.000068	0.000229	0.000124	0.000079
Lithium	0.0005	0.000644444	0.000616667	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01013	0.01570	0.02429	0.01990	0.02203	0.02078	0.02877	0.02372	0.02509	0.01674	0.01239	0.00945
Mercury	0.0000030	0.0000040	0.0000041	0.0000037	0.0000075	0.0000039	0.0000030	0.0000039	0.0000030	0.0000032	0.0000042	0.0000030
Molybdenum	0.000868	0.000948	0.001002	0.000825	0.000307	0.000424	0.000637	0.001431	0.000774	0.000784	0.000686	0.000736
Nickel	0.00025	0.00053	0.00070	0.00053	0.00057	0.00032	0.00025	0.00039	0.00025	0.00038	0.00025	0.00025
Selenium	0.000089	0.000079	0.000106	0.000090	0.000044	0.000046	0.000061	0.000077	0.000042	0.000058	0.000066	0.000079
Silver	0.000005	0.000008	0.000010	0.000008	0.000013	0.000008	0.000005	0.000005	0.000005	0.000007	0.000005	0.000005
Strontium	0.0960	0.1014	0.1059	0.0883	0.0386	0.0452	0.0799	0.0743	0.0821	0.0858	0.0796	0.0868
Thallium	0.000005	0.000009	0.000014	0.000009	0.000008	0.000007	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005
Uranium	0.000331	0.000358	0.000429	0.000293	0.000178	0.000188	0.000178	0.000214	0.000173	0.000239	0.000219	0.000238
Vanadium	0.00050	0.00105	0.00174	0.00136	0.00123	0.00097	0.00086	0.00099	0.00049	0.00083	0.00056	0.00054
Zinc	0.0015	0.0030	0.0039	0.0031	0.0029	0.0040	0.0032	0.0033	0.0015	0.0026	0.0021	0.0020

Appendix E-1A: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-05 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0571	0.0408	0.0258	0.1618	0.2882	0.2486	0.1758	0.1175	0.0724	0.1121	0.2925	0.0885
Cadmium	0.0000036	0.0000052	0.0000036	0.0000036	0.0000129	0.0000126	0.0000070	0.0000036	0.0000036	0.0000050	0.0000084	0.0000072
Copper	0.00031	0.00030	0.00030	0.00048	0.00089	0.00068	0.00059	0.00031	0.00045	0.00058	0.00078	0.00059
Iron	0.096	0.084	0.087	0.169	0.201	0.129	0.105	0.132	0.115	0.170	0.181	0.111
Manganese	0.00462	0.00343	0.00235	0.00456	0.00681	0.00417	0.00551	0.00572	0.00424	0.00459	0.00492	0.00394
Zinc	0.0018	0.0018	0.0018	0.0018	0.0019	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018

Appendix E-1A: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-05 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0231	0.0169	0.0243	0.0711	0.1889	0.2312	0.1116	0.1111	0.0264	0.0466	0.0447	0.0390
Cadmium	0.0000030	0.0000030	0.0000030	0.0000044	0.0000118	0.0000085	0.0000086	0.0000064	0.0000038	0.0000061	0.0000036	0.0000030
Copper	0.00014	0.00028	0.00016	0.00027	0.00290	0.00054	0.00053	0.00046	0.00029	0.00028	0.00025	0.00022
Iron	0.029	0.024	0.024	0.050	0.108	0.077	0.075	0.106	0.048	0.069	0.062	0.047
Manganese	0.00274	0.00253	0.00375	0.00555	0.00736	0.00935	0.01469	0.01107	0.01777	0.00924	0.00762	0.00471
Zinc	0.0005	0.0021	0.0005	0.0005	0.0018	0.0011	0.0011	0.0008	0.0009	0.0009	0.0011	0.0010

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies at DC-05 and WQ-10 between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1B: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-10 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.62	7.62	7.61	7.20	7.00	6.88	7.26	7.49	7.53	7.54	7.46	7.30
pH (pH Units) Upper[c]	7.95	7.97	8.14	8.03	7.74	7.69	7.91	8.02	8.07	7.79	7.81	7.92
Total Suspended Solids	1.8	1.8	1.8	3.3	14.8	4.7	1.8	3.2	3.8	1.8	2.6	1.8
Turbidity (NTU)	0.40	0.30	0.30	1.00	4.40	2.40	0.60	0.80	0.60	1.20	1.10	0.60
Total Dissolved Solids	80	145	86	89	72	69	79	94	110	87	69	81
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.58	0.30	0.30
Fluoride	0.053	0.054	0.054	0.052	0.043	0.035	0.046	0.048	0.052	0.064	0.039	0.045
Sulphate	3.50	3.60	3.80	3.60	1.60	1.00	2.70	3.40	3.40	2.90	2.40	2.80
Nutrients												
Ammonia-N	0.0075	0.0030	0.0030	0.0094	0.0036	0.0064	0.0124	0.0058	0.0053	0.0088	0.0142	0.0030
Nitrate-N	0.0434	0.0396	0.0583	0.0237	0.0030	0.0030	0.0030	0.0109	0.0064	0.0030	0.0103	0.0194
Nitrite-N	0.0006	0.0069	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0017	0.0006	0.0006	0.0006
Total Phosphorous	0.011	0.014	0.011	0.016	0.054	0.018	0.009	0.010	0.010	0.009	0.009	0.010
Ortho-Phosphorus	0.007	0.008	0.007	0.007	0.005	0.003	0.005	0.006	0.006	0.004	0.005	0.006
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0500	0.0350	0.0320	0.2410	0.6290	0.3490	0.1960	0.1160	0.0780	0.1490	0.1400	0.1090
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	0.00070	0.00070	0.00070	0.00070	0.00090	0.00070	0.00080	0.00090	0.00080	0.00080	0.00070	0.00060
Barium	0.00910	0.00890	0.00950	0.00920	0.01020	0.00600	0.00920	0.01180	0.01180	0.00750	0.00720	0.00760
Beryllium	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000040	0.0000040	0.0000040	0.0000080	0.0000250	0.0000120	0.0000120	0.0000070	0.0000040	0.0000070	0.0000036	0.0000278
Chromium	0.00033	0.00030	0.00030	0.00038	0.00079	0.00033	0.00033	0.00031	0.00031	0.00048	0.00033	0.00033
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00018	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Copper	0.00030	0.00030	0.00030	0.00078	0.00114	0.00090	0.00076	0.00045	0.00030	0.00074	0.00030	0.00030
Iron	0.091	0.086	0.065	0.214	0.504	0.244	0.156	0.152	0.152	0.241	0.123	0.148
Lead	0.000030	0.000030	0.000030	0.000059	0.000217	0.000076	0.000058	0.000030	0.000030	0.000030	0.000030	0.000102
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.00480	0.00460	0.00270	0.00810	0.03750	0.01520	0.00730	0.00680	0.00620	0.00820	0.00540	0.00650
Mercury	0.0000036	0.0000036	0.0000036	0.0000128	0.0000142	0.0000106	0.0000079	0.0000036	0.0000084	0.0000036	0.0000048	0.0000036
Molybdenum	0.001000	0.000980	0.001080	0.001000	0.000490	0.000380	0.000890	0.001110	0.001080	0.000670	0.000670	0.000730
Nickel	0.00030	0.00030	0.00030	0.00030	0.00071	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030
Selenium	0.000087	0.000124	0.000103	0.000108	0.000070	0.000080	0.000116	0.000074	0.000078	0.000068	0.000072	0.000103
Silver	0.000006	0.000006	0.000006	0.000006	0.000018	0.000011	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1060	0.1010	0.1240	0.1100	0.0550	0.0460	0.0920	0.1200	0.1170	0.0780	0.0770	0.0850
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000012	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000280	0.000290	0.000370	0.000300	0.000280	0.000240	0.000210	0.000290	0.000270	0.000210	0.000190	0.000200
Vanadium	0.00090	0.00080	0.00030	0.00050	0.00150	0.00080	0.00070	0.00070	0.00060	0.00080	0.00080	0.00060
Zinc	0.0018	0.0057	0.0018	0.0018	0.0018	0.0018	0.0018	0.0027	0.0031	0.0048	0.0018	0.0018

Appendix E-1B: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-10 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.80	7.86	7.80	7.81	7.29	7.50	7.69	7.79	7.83	7.81	7.72	7.80
pH (pH Units) Upper[c]	7.80	7.86	7.80	7.81	7.29	7.50	7.69	7.79	7.83	7.81	7.72	7.80
Total Suspended Solids	1.5	1.5	1.5	2.4	3.0	6.5	5.5	1.5	1.5	2.0	1.5	2.1
Turbidity (NTU)	1.56	0.78	11.71	12.67	5.65	9.55	3.91	3.34	1.42	4.78	3.11	2.01
Total Dissolved Solids	73	80	80	72	59	49	75	69	78	70	74	74
Chloride	0.47	0.37	0.49	0.98	1.09	0.93	1.23	1.14	1.17	0.75	0.73	0.72
Fluoride	0.040	0.042	0.043	0.040	0.024	0.030	0.035	0.036	0.037	0.038	0.036	0.038
Sulphate	3.44	3.64	3.61	3.86	2.61	2.09	6.00	3.76	5.38	3.33	4.08	4.30
Nutrients												
Ammonia-N	0.0025	0.0034	0.0025	0.0025	0.0040	0.0145	0.0078	0.0078	0.0210	0.0081	0.0049	0.0056
Nitrate-N	0.0813	0.0813	0.0551	0.0681	0.0903	0.0453	0.0297	0.0106	0.0189	0.0265	0.0763	0.0914
Nitrite-N	0.0005	0.0005	0.0007	0.0005	0.0005	0.0011	0.0005	0.0005	0.0008	0.0009	0.0005	0.0005
Total Phosphorous	0.009	0.010	0.018	0.020	0.032	0.020	0.018	0.014	0.008	0.011	0.010	0.010
Ortho-Phosphorus	0.005	0.006	0.006	0.003	0.006	0.002	0.002	0.002	0.002	0.002	0.003	0.004
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0926	0.0575	0.6066	0.7099	0.5547	0.6892	0.2707	0.2642	0.1091	0.3057	0.2038	0.1461
Antimony	0.00005	0.00005	0.000067	0.00007	0.00005	0.00008	0.00005	0.00005	0.00005	0.00007	0.00005	0.00005
Arsenic	0.00053	0.00054	0.00098	0.00094	0.00079	0.00134	0.00098	0.00116	0.00082	0.00085	0.00066	0.00061
Barium	0.00871	0.00945	0.01424	0.01395	0.01037	0.00979	0.01130	0.01073	0.00973	0.01035	0.00899	0.00893
Beryllium	0.000010	0.000010	0.000030	0.000025	0.000036	0.000034	0.000010	0.000016	0.000010	0.000021	0.000013	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000065	0.0000079	0.0000121	0.0000208	0.0000132	0.0000102	0.0000057	0.0000066	0.0000060	0.0000038
Chromium	0.00025	0.00025	0.00058	0.00065	0.00038	0.00052	0.00043	0.00025	0.00025	0.00039	0.00025	0.00035
Cobalt	0.00005	0.00005	0.00018	0.00021	0.00013	0.00017	0.00013	0.00036	0.00103	0.00033	0.00054	0.00062
Copper	0.00025	0.00025	0.00076	0.00087	0.00089	0.00102	0.00062	0.00052	0.00025	0.00042	0.00033	0.00025
Iron	0.072	0.048	0.523	0.535	0.393	0.410	0.193	0.250	0.105	0.252	0.178	0.124
Lead	0.000034	0.000025	0.000331	0.000335	0.000196	0.000416	0.000144	0.000116	0.000036	0.000202	0.000101	0.000073
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00381	0.00258	0.01465	0.01611	0.01965	0.01947	0.01953	0.01539	0.01056	0.01063	0.00889	0.00619
Mercury	0.0000030	0.0000030	0.0000037	0.0000038	0.0000092	0.0000037	0.0000030	0.0000030	0.0000030	0.0000030	0.0000038	0.0000030
Molybdenum	0.000994	0.000939	0.000944	0.000855	0.000287	0.000455	0.000624	0.001204	0.000817	0.000764	0.000689	0.000745
Nickel	0.00025	0.00025	0.00052	0.00051	0.00047	0.00051	0.00025	0.00025	0.00025	0.00033	0.00025	0.00025
Selenium	0.000051	0.000068	0.000075	0.000074	0.000048	0.000046	0.000071	0.000070	0.000065	0.000057	0.000053	0.000072
Silver	0.000005	0.000005	0.000007	0.000009	0.000018	0.000009	0.000005	0.000005	0.000005	0.000008	0.000005	0.000005
Strontium	0.0927	0.1043	0.1020	0.0924	0.0423	0.0481	0.0821	0.0804	0.0937	0.0829	0.0817	0.0888
Thallium	0.000005	0.000005	0.000009	0.000009	0.000006	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000291	0.000360	0.000387	0.000299	0.000154	0.000177	0.000160	0.000185	0.000197	0.000233	0.000190	0.000233
Vanadium	0.00025	0.00029	0.00125	0.00134	0.00104	0.00116	0.00075	0.00082	0.00039	0.00079	0.00049	0.00046
Zinc	0.0015	0.0015	0.0027	0.0029	0.0021	0.0050	0.0021	0.0015	0.0015	0.0028	0.0015	0.0015

Appendix E-1B: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-10 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0420	0.0280	0.0210	0.1850	0.3060	0.2250	0.1550	0.0950	0.0660	0.1040	0.1230	0.0730
Cadmium	0.0000040	0.0000040	0.0000040	0.0000080	0.0000120	0.0000060	0.0000040	0.0000060	0.0000040	0.0000040	0.0000040	0.0000117
Copper	0.00030	0.00030	0.00030	0.00068	0.00087	0.00067	0.00054	0.00030	0.00038	0.00034	0.00088	0.00043
Iron	0.074	0.056	0.049	0.135	0.191	0.123	0.095	0.123	0.118	0.148	0.093	0.093
Manganese	0.00260	0.00250	0.00190	0.00260	0.00560	0.00300	0.00430	0.00460	0.00390	0.00380	0.00260	0.00229
Zinc	0.0030	0.0017	0.0016	0.0018	0.0025	0.0018	0.0016	0.0020	0.0018	0.0018	0.0016	0.0016

Appendix E-1B: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-10 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0234	0.0232	0.0242	0.0375	0.2095	0.1938	0.0828	0.0804	0.0243	0.0353	0.0356	0.0387
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000084	0.0000115	0.0000055	0.0000046	0.0000039	0.0000030	0.0000030	0.0000030
Copper	0.00014	0.00010	0.00017	0.00020	0.00065	0.00059	0.00045	0.00039	0.00025	0.00026	0.00025	0.00023
Iron	0.025	0.021	0.024	0.029	0.134	0.077	0.061	0.094	0.037	0.058	0.049	0.042
Manganese	0.00216	0.00148	0.00163	0.00253	0.00614	0.00657	0.00771	0.00568	0.00525	0.00432	0.00424	0.00278
Zinc	0.0005	0.0005	0.0005	0.0005	0.0009	0.0013	0.0005	0.0005	0.0008	0.0007	0.0007	0.0007

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1C: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.65	7.65	7.69	7.28	7.04	7.02	7.41	7.61	7.64	7.56	7.41	7.39
pH (pH Units) Upper[c]	8.14	8.03	8.19	8.11	7.88	7.69	8.01	8.11	8.13	8.02	7.89	8.01
Total Suspended Solids	1.8	1.8	1.8	5.0	22.6	9.2	1.8	2.9	5.0	10.8	3.2	1.8
Turbidity (NTU)	0.50	0.40	0.30	1.30	5.50	2.40	0.60	0.90	0.50	2.20	1.20	0.90
Total Dissolved Solids	91	98	100	98	74	74	89	108	262	97	78	86
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Fluoride	0.058	0.054	0.060	0.057	0.048	0.038	0.052	0.053	0.057	0.047	0.048	0.050
Sulphate	3.30	3.50	3.60	3.50	1.70	1.10	2.30	3.00	3.10	2.60	2.70	2.80
Nutrients												
Ammonia-N	0.0030	0.0030	0.0053	0.0068	0.0085	0.0091	0.0030	0.0063	0.0075	0.0089	0.0058	0.0059
Nitrate-N	0.0431	0.0426	0.0716	0.0248	0.0040	0.0030	0.0030	0.0030	0.0030	0.0030	0.0091	0.0305
Nitrite-N	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Total Phosphorous	0.009	0.026	0.009	0.019	0.031	0.019	0.009	0.010	0.010	0.027	0.011	0.009
Ortho-Phosphorus	0.006	0.007	0.006	0.005	0.004	0.004	0.004	0.005	0.006	0.004	0.005	0.005
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0350	0.0390	0.0200	0.3040	0.6710	0.3380	0.2260	0.0970	0.0550	0.2720	0.2290	0.0840
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00013	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	0.00070	0.00070	0.00070	0.00070	0.00090	0.00070	0.00080	0.00080	0.00080	0.00100	0.00070	0.00060
Barium	0.00970	0.01000	0.01010	0.01000	0.01100	0.00640	0.00980	0.01160	0.01180	0.01000	0.00800	0.00870
Beryllium	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000040	0.0000040	0.0000040	0.0000100	0.0000200	0.0000090	0.0000110	0.0000050	0.0000040	0.0000200	0.0000081	0.0000064
Chromium	0.00030	0.00030	0.00035	0.00052	0.00085	0.00039	0.00033	0.00036	0.00030	0.00054	0.00043	0.00031
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00022	0.00006	0.00006	0.00006	0.00006	0.00014	0.00006	0.00006
Copper	0.00030	0.02982	0.00030	0.00086	0.00118	0.00091	0.00070	0.00054	0.00245	0.00071	0.00030	0.00066
Iron	0.067	0.068	0.044	0.267	0.587	0.247	0.185	0.121	0.111	0.428	0.202	0.127
Lead	0.000030	0.000030	0.000030	0.000092	0.000223	0.000094	0.000030	0.000030	0.000062	0.000115	0.000086	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.00570	0.00600	0.00500	0.01400	0.04240	0.01350	0.01410	0.00970	0.00790	0.05050	0.01620	0.00700
Mercury	0.0000036	0.0000036	0.0000036	0.0000108	0.0000160	0.0000121	0.0000074	0.0000036	0.0000036	0.0000138	0.0000036	0.0000036
Molybdenum	0.000920	0.000980	0.001900	0.001040	0.000570	0.000430	0.000870	0.001080	0.001030	0.001340	0.000710	0.000780
Nickel	0.00030	0.00830	0.00030	0.00030	0.00039	0.00551	0.00030	0.00030	0.00030	0.00070	0.00030	0.00030
Selenium	0.000077	0.000076	0.000086	0.000135	0.000094	0.000065	0.000115	0.000077	0.000067	0.000082	0.000072	0.000084
Silver	0.000006	0.000006	0.000006	0.000011	0.000022	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1160	0.1160	0.1330	0.1200	0.0670	0.0550	0.1030	0.1230	0.1200	0.0860	0.0880	0.0970
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000240	0.000270	0.000320	0.000260	0.000300	0.000230	0.000210	0.000240	0.000230	0.000190	0.000180	0.000180
Vanadium	0.00090	0.00090	0.00060	0.00090	0.00170	0.00100	0.00090	0.00080	0.00090	0.00130	0.00080	0.00070
Zinc	0.0018	0.0089	0.0018	0.0018	0.0040	0.0026	0.0018	0.0032	0.0029	0.0018	0.0018	0.0018

Appendix E-1C: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.76	7.93	8.02	7.91	7.43	7.62	7.79	7.84	7.92	7.92	7.84	7.88
pH (pH Units) Upper[c]	7.76	7.93	8.02	7.91	7.43	7.62	7.79	7.84	7.92	7.92	7.84	7.88
Total Suspended Solids	1.5	1.5	1.4	1.5	7.8	2.2	5.2	1.4	1.5	1.5	1.5	3.1
Turbidity (NTU)	1.05	0.34	5.68	6.06	7.51	9.75	2.06	1.91	0.69	1.67	2.40	2.60
Total Dissolved Solids	81	85	81	85	59	54	70	69	87	80	81	83
Chloride	0.42	0.34	0.37	0.84	0.99	0.88	1.05	1.03	0.85	0.64	0.69	0.64
Fluoride	0.047	0.046	0.047	0.042	0.028	0.033	0.039	0.040	0.041	0.045	0.041	0.041
Sulphate	3.17	3.23	3.34	3.29	2.60	2.10	4.65	3.23	4.07	3.13	3.31	3.49
Nutrients												
Ammonia-N	0.0025	0.0036	0.0025	0.0025	0.0035	0.0037	0.0081	0.0036	0.0072	0.0039	0.0032	0.0057
Nitrate-N	0.0610	0.0608	0.0549	0.0466	0.0679	0.0383	0.0154	0.0025	0.0025	0.0033	0.0370	0.0669
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Phosphorous	0.009	0.008	0.013	0.014	0.032	0.021	0.015	0.011	0.007	0.007	0.009	0.012
Ortho-Phosphorus	0.005	0.005	0.005	0.003	0.003	0.002	0.001	0.002	0.001	0.001	0.004	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0875	0.0300	0.3293	0.3308	0.5457	0.6857	0.1817	0.1338	0.0441	0.0763	0.1322	0.1879
Antimony	0.00005	0.00005	0.000050	0.00005	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00058	0.00056	0.00081	0.00073	0.00086	0.00139	0.00087	0.00095	0.00072	0.00065	0.00064	0.00071
Barium	0.00902	0.00971	0.01178	0.01179	0.01078	0.01019	0.01023	0.01001	0.01005	0.00954	0.00898	0.01032
Beryllium	0.000010	0.000010	0.000018	0.000017	0.000036	0.000033	0.000012	0.000010	0.000010	0.000010	0.000010	0.000015
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000043	0.0000044	0.0000131	0.0000153	0.0000093	0.0000054	0.0000030	0.0000036	0.0000030	0.0000058
Chromium	0.00025	0.00025	0.00038	0.00038	0.00050	0.00042	0.00025	0.00025	0.00025	0.00025	0.00025	0.00046
Cobalt	0.00005	0.00005	0.00010	0.00011	0.00015	0.00016	0.00008	0.00021	0.00061	0.00023	0.00023	0.00034
Copper	0.00025	0.00025	0.00047	0.00052	0.00092	0.00087	0.00044	0.00035	0.00025	0.00025	0.00025	0.00043
Iron	0.074	0.036	0.272	0.279	0.447	0.406	0.169	0.143	0.066	0.096	0.135	0.189
Lead	0.000025	0.000025	0.000172	0.000174	0.000254	0.000488	0.000085	0.000061	0.000025	0.000056	0.000086	0.000123
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00454	0.00376	0.00813	0.01071	0.02460	0.01627	0.01923	0.00916	0.00683	0.00692	0.00728	0.01575
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000085	0.0000037	0.0000034	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000838	0.000875	0.000880	0.000754	0.000379	0.000571	0.000655	0.000777	0.000828	0.000809	0.000709	0.000758
Nickel	0.00025	0.00025	0.00034	0.00035	0.00048	0.00048	0.00025	0.00025	0.00025	0.00025	0.00025	0.00034
Selenium	0.000068	0.000049	0.000054	0.000037	0.000068	0.000062	0.000060	0.000062	0.000039	0.000032	0.000033	0.000056
Silver	0.000005	0.000005	0.000005	0.000005	0.000015	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.1007	0.1125	0.1041	0.0984	0.0493	0.0560	0.0812	0.0865	0.0988	0.0982	0.0868	0.0982
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000007
Uranium	0.000244	0.000291	0.000302	0.000235	0.000187	0.000169	0.000137	0.000135	0.000158	0.000181	0.000166	0.000217
Vanadium	0.00035	0.00025	0.00084	0.00101	0.00120	0.00112	0.00078	0.00069	0.00046	0.00051	0.00045	0.00070
Zinc	0.0015	0.0015	0.0015	0.0021	0.0015	0.0049	0.0015	0.0015	0.0015	0.0015	0.0015	0.0024

Appendix E-1C: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0290	0.0210	0.0120	0.1540	0.2470	0.2120	0.1260	0.0660	0.0430	0.0820	0.1100	0.0530
Cadmium	0.0000040	0.0000040	0.0000040	0.0000080	0.0000090	0.0000040	0.0000060	0.0000040	0.0000040	0.0000100	0.0000040	0.0000036
Copper	0.00031	0.00030	0.00030	0.00065	0.00083	0.00068	0.00056	0.00032	0.00163	0.00088	0.00043	0.00073
Iron	0.051	0.042	0.031	0.130	0.165	0.126	0.082	0.089	0.086	0.114	0.094	0.077
Manganese	0.00510	0.00420	0.00360	0.00460	0.00470	0.00360	0.00710	0.00650	0.00480	0.00790	0.00470	0.00395
Zinc	0.0018	0.0043	0.0017	0.0018	0.0018	0.0018	0.0019	0.0023	0.0020	0.0017	0.0016	0.0016

Appendix E-1C: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0186	0.0100	0.0207	0.0266	0.1743	0.2292	0.0569	0.0507	0.0195	0.0221	0.0317	0.0232
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000062	0.0000053	0.0000047	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00013	0.00010	0.00014	0.00018	0.00065	0.00059	0.00040	0.00034	0.00024	0.00022	0.00023	0.00015
Iron	0.023	0.013	0.022	0.030	0.130	0.082	0.052	0.066	0.035	0.040	0.048	0.030
Manganese	0.00296	0.00228	0.00197	0.00259	0.00433	0.00381	0.00561	0.00348	0.00291	0.00364	0.00371	0.00265
Zinc	0.0005	0.0005	0.0005	0.0005	0.0009	0.0009	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1D: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.44	7.61	7.75	7.53	7.09	6.90	7.43	7.54	7.09	7.58	7.38	7.49
pH (pH Units) Upper[c]	8.08	8.02	8.07	8.00	7.81	7.83	7.99	8.06	8.14	8.06	7.86	7.90
Total Suspended Solids	1.8	1.8	4.8	18.9	69.1	12.1	6.7	7.2	4.7	10.5	10.0	1.8
Turbidity (NTU)	1.13	0.61	0.70	4.34	14.30	3.07	1.16	1.33	1.47	4.10	2.07	1.89
Total Dissolved Solids	90	98	98	105	83	71	352	103	101	95	90	84
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Fluoride	0.052	0.064	0.060	0.067	0.054	0.044	0.056	0.052	0.057	0.056	0.055	0.055
Sulphate	3.22	3.50	3.64	3.22	1.52	1.20	2.17	2.49	2.80	2.80	2.87	2.85
Nutrients												
Ammonia-N	0.0030	0.0030	0.0073	0.0063	0.0077	0.0030	0.0104	0.0130	0.0139	0.0030	0.0298	0.0030
Nitrate-N	0.0366	0.0350	0.0412	0.0142	0.0041	0.0030	0.0030	0.0043	0.0030	0.0030	0.0030	0.0180
Nitrite-N	0.0006	0.0018	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Total Phosphorous	0.011	0.010	0.010	0.034	0.060	0.024	0.014	0.014	0.014	0.027	0.020	0.012
Ortho-Phosphorus	0.005	0.006	0.008	0.005	0.004	0.003	0.005	0.006	0.007	0.009	0.005	0.004
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0096	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0591	0.0399	0.0295	0.3612	1.4496	0.3454	0.1602	0.0972	0.0641	0.3021	0.3216	0.1132
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	0.00063	0.00063	0.00059	0.00069	0.00120	0.00068	0.00078	0.00084	0.00089	0.00116	0.00067	0.00063
Barium	0.01088	0.01229	0.01060	0.01123	0.01903	0.00749	0.01034	0.01182	0.01226	0.01314	0.00874	0.00918
Beryllium	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000036	0.0000122	0.0000055	0.0000111	0.0000276	0.0000143	0.0000086	0.0000060	0.0000067	0.0000248	0.0000099	0.0000036
Chromium	0.00030	0.00030	0.00029	0.00055	0.00203	0.00050	0.00040	0.00030	0.00030	0.00061	0.00049	0.00036
Cobalt	0.00006	0.00006	0.00006	0.00015	0.00063	0.00014	0.00006	0.00006	0.00006	0.00026	0.00013	0.00006
Copper	0.00067	0.00030	0.00030	0.00614	0.00202	0.00093	0.00076	0.00044	0.00067	0.00060	0.00089	0.00030
Iron	0.173	0.158	0.220	0.441	1.490	0.356	0.205	0.268	0.282	0.882	0.351	0.186
Lead	0.000030	0.000030	0.000030	0.000322	0.000546	0.000110	0.000030	0.000030	0.000030	0.000125	0.000095	0.000055
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0017
Manganese	0.02261	0.01968	0.02376	0.02787	0.05952	0.01771	0.01779	0.02126	0.02279	0.06779	0.02239	0.01903
Mercury	0.0000036	0.0000036	0.0000036	0.0000062	0.0000162	0.0000099	0.0000089	0.0000036	0.0000036	0.0000137	0.0000071	0.0000107
Molybdenum	0.000929	0.001120	0.000971	0.001322	0.000530	0.000454	0.000846	0.000986	0.001018	0.000896	0.000681	0.000866
Nickel	0.00030	0.00030	0.00030	0.00059	0.00173	0.00056	0.00030	0.00030	0.00030	0.00057	0.00030	0.00030
Selenium	0.000074	0.000089	0.000106	0.000083	0.000095	0.000094	0.000102	0.000089	0.000067	0.000100	0.000080	0.000078
Silver	0.000006	0.000006	0.000006	0.000006	0.000022	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1193	0.1209	0.1262	0.1167	0.0765	0.0592	0.0930	0.1114	0.1191	0.0970	0.0894	0.1067
Thallium	0.000006	0.000006	0.000006	0.000006	0.000014	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000264	0.000285	0.000341	0.000296	0.000366	0.000229	0.000177	0.000165	0.000216	0.000189	0.000180	0.000202
Vanadium	0.00072	0.00115	0.00067	0.00121	0.00406	0.00128	0.00102	0.00103	0.00107	0.00154	0.00121	0.00075
Zinc	0.0018	0.0018	0.0018	0.0044	0.0051	0.0018	0.0018	0.0018	0.0018	0.0053	0.0018	0.0018

Appendix E-1D: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.93	7.85	7.85	7.94	7.54	7.67	7.70	7.87	7.97	7.89	7.90	7.74
pH (pH Units) Upper[c]	7.93	7.85	7.85	7.94	7.54	7.67	7.70	7.87	7.97	7.89	7.90	7.74
Total Suspended Solids	1.5	1.5	2.6	11.6	6.9	1.5	2.6	5.3	1.5	2.0	1.5	1.5
Turbidity (NTU)	1.44	3.60	15.19	12.41	6.51	5.42	5.58	2.48	2.48	1.61	1.79	7.47
Total Dissolved Solids	88	93	92	86	60	66	76	78	82	80	81	87
Chloride	0.45	0.39	0.80	0.91	0.91	0.69	1.15	1.01	1.30	0.67	0.56	0.78
Fluoride	0.046	0.046	0.047	0.046	0.033	0.034	0.040	0.041	0.040	0.044	0.044	0.043
Sulphate	3.11	3.13	3.35	2.96	2.37	2.00	3.66	2.68	3.11	2.68	3.04	3.50
Nutrients												
Ammonia-N	0.0040	0.0076	0.0050	0.0044	0.0042	0.0033	0.0052	0.0060	0.0089	0.0048	0.0046	0.0069
Nitrate-N	0.0553	0.0421	0.0552	0.0343	0.0285	0.0034	0.0056	0.0025	0.0025	0.0025	0.0071	0.0411
Nitrite-N	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005	0.0005	0.0005	0.0005	0.0005
Total Phosphorous	0.014	0.012	0.027	0.030	0.020	0.016	0.018	0.016	0.016	0.011	0.011	0.017
Ortho-Phosphorus	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.005	0.005	0.004	0.004	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0853	0.1833	0.7654	1.2297	0.4654	0.4050	0.4214	0.1226	0.1428	0.0590	0.0525	0.3501
Antimony	0.00010	0.00005	0.000077	0.00007	0.00006	0.00006	0.00005	0.00005	0.00005	0.00005	0.00005	0.00007
Arsenic	0.00059	0.00059	0.00110	0.00099	0.00078	0.00098	0.00094	0.00107	0.00094	0.00071	0.00061	0.00088
Barium	0.01044	0.01104	0.01580	0.01780	0.00918	0.00900	0.01060	0.01027	0.01058	0.00936	0.00958	0.01159
Beryllium	0.000010	0.000010	0.000035	0.000030	0.000030	0.000024	0.000019	0.000010	0.000010	0.000010	0.000010	0.000022
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000061	0.0000054	0.0000102	0.0000108	0.0000069	0.0000069	0.0000075	0.0000048	0.0000041	0.0000043	0.0000046	0.0000065
Chromium	0.00025	0.00025	0.00068	0.00136	0.00046	0.00033	0.00040	0.00025	0.00025	0.00025	0.00025	0.00044
Cobalt	0.00007	0.00009	0.00025	0.00025	0.00013	0.00012	0.00013	0.00023	0.00046	0.00019	0.00026	0.00036
Copper	0.00035	0.00036	0.00101	0.00098	0.00087	0.01737	0.00065	0.00040	0.00034	0.00027	0.00025	0.00060
Iron	0.335	0.355	0.878	0.818	0.418	0.373	0.441	0.449	0.454	0.367	0.371	0.530
Lead	0.000047	0.000081	0.000450	0.000317	0.000192	0.000218	0.000154	0.000051	0.000046	0.000038	0.000037	0.000286
Lithium	0.0005	0.0005	0.000583333	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.03457	0.03023	0.04300	0.05030	0.01975	0.01820	0.02293	0.03090	0.02168	0.02939	0.03705	0.03996
Mercury	0.0000030	0.0000030	0.0000046	0.0000030	0.0000053	0.0000030	0.0000037	0.0000033	0.0000030	0.0000030	0.0000030	0.0000036
Molybdenum	0.000789	0.000825	0.000813	0.000689	0.000401	0.000494	0.000607	0.000759	0.000782	0.000752	0.000729	0.000683
Nickel	0.00025	0.00025	0.00067	0.00057	0.00045	0.00175	0.00039	0.00030	0.00025	0.00027	0.00025	0.00044
Selenium	0.000065	0.000035	0.000082	0.000064	0.000053	0.000052	0.000050	0.000051	0.000039	0.000042	0.000025	0.000049
Silver	0.000005	0.000005	0.000011	0.000009	0.000009	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008
Strontium	0.1031	0.1077	0.1009	0.0866	0.0482	0.0546	0.0726	0.0873	0.0975	0.0956	0.1018	0.0923
Thallium	0.000005	0.000005	0.000011	0.000011	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008
Uranium	0.000255	0.000304	0.000299	0.000256	0.000155	0.000140	0.000119	0.000135	0.000130	0.000164	0.000204	0.000189
Vanadium	0.00059	0.00065	0.00163	0.00212	0.00118	0.00097	0.00104	0.00091	0.00075	0.00061	0.00047	0.00083
Zinc	0.0062	0.0015	0.0037	0.0039	0.0021	0.0019	0.0023	0.0015	0.0015	0.0015	0.0015	0.0029

Appendix E-1D: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0264	0.0167	0.0114	0.0965	0.2076	0.1571	0.0900	0.0533	0.0268	0.0518	0.1980	0.0454
Cadmium	0.0000036	0.0000036	0.0000059	0.0000036	0.0000108	0.0000036	0.0000078	0.0000055	0.0000036	0.0000140	0.0000065	0.0000036
Copper	0.00038	0.00030	0.00030	0.00058	0.00085	0.00071	0.00065	0.00078	0.00051	0.00038	0.00067	0.00047
Iron	0.100	0.093	0.107	0.153	0.180	0.114	0.133	0.183	0.204	0.140	0.163	0.110
Manganese	0.01867	0.01730	0.01930	0.01743	0.01278	0.00751	0.01494	0.01728	0.01771	0.01435	0.01468	0.01567
Zinc	0.0016	0.0013	0.0016	0.0018	0.0019	0.0016	0.0017	0.0029	0.0018	0.0014	0.0016	0.0016

Appendix E-1D: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0120	0.0092	0.0338	0.0292	0.1176	0.1717	0.1283	0.0341	0.0485	0.0166	0.0191	0.0553
Cadmium	0.0000057	0.0000038	0.0000039	0.0000030	0.0000035	0.0000043	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000039
Copper	0.00039	0.00030	0.00035	0.00032	0.00061	0.00057	0.00048	0.00033	0.00031	0.00027	0.00020	0.00030
Iron	0.111	0.106	0.107	0.111	0.116	0.169	0.167	0.272	0.287	0.241	0.236	0.164
Manganese	0.02423	0.02297	0.02207	0.02350	0.00821	0.01197	0.01273	0.01718	0.01713	0.02191	0.03268	0.02953
Zinc	0.0040	0.0051	0.0046	0.0011	0.0012	0.0009	0.0005	0.0005	0.0005	0.0006	0.0005	0.0007

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1E: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–03 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	-	7.34	7.68	7.62	7.00	7.67	7.62	7.59	7.58	7.66	7.67	7.63
pH (pH Units) Upper[c]	-	7.52	7.86	7.80	7.73	7.85	7.80	7.81	7.96	8.16	7.85	7.81
Total Suspended Solids	-	1.8	1.8	1.8	15.7	1.8	1.8	1.8	18.8	63.5	22.3	1.8
Turbidity (NTU)	-	0.96	0.84	0.54	3.12	0.52	0.52	0.35	1.18	9.74	4.40	0.66
Total Dissolved Solids	-	83	94	91	96	89	110	110	104	116	98	88
Chloride	-	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Fluoride	-	0.041	0.056	0.052	0.062	0.050	0.064	0.066	0.071	0.080	0.063	0.053
Sulphate	-	3.79	2.23	1.58	1.05	0.62	0.60	1.06	1.39	1.69	1.64	1.20
Nutrients												
Ammonia-N	-	0.0101	0.0030	0.0030	0.0117	0.0030	0.0030	0.0030	0.0119	0.0077	0.0108	0.0095
Nitrate-N	-	0.1184	0.0532	0.0376	0.0404	0.0197	0.0030	0.0121	0.0131	0.0099	0.0178	0.0570
Nitrite-N	-	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Total Phosphorous	-	0.012	0.009	0.007	0.038	0.015	0.009	0.009	0.006	0.014	0.018	0.008
Ortho-Phosphorus	-	0.002	0.005	0.001	0.001	0.001	0.001	0.002	0.002	0.004	0.002	0.002
Cyanides												
Total Cyanide	-	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	-	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	-	0.1788	0.1015	0.1079	0.3608	0.1680	0.0742	0.0471	0.0467	0.0687	0.5194	0.0682
Antimony	-	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	-	0.00044	0.00038	0.00042	0.00053	0.00046	0.00048	0.00041	0.00035	0.00041	0.00076	0.00040
Barium	-	0.00743	0.00664	0.00629	0.00758	0.00815	0.00725	0.00930	0.01084	0.01169	0.01225	0.00635
Beryllium	-	0.000012	0.000012	0.000012	0.000023	0.000012	0.000012	0.000012	0.000012	0.000012	0.000025	0.000012
Boron	-	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	-	0.0000036	0.0000036	0.0000036	0.0000129	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000193	0.0000036
Chromium	-	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00111	0.00030	0.00044	0.00078	0.00030
Cobalt	-	0.00006	0.00006	0.00006	0.00012	0.00006	0.00006	0.00006	0.00006	0.00006	0.00021	0.00006
Copper	-	0.00077	0.00030	0.00030	0.00132	0.00064	0.00065	0.00030	0.00030	0.00090	0.00085	0.00030
Iron	-	0.235	0.158	0.149	0.396	0.229	0.116	0.105	0.145	0.367	1.024	0.119
Lead	-	0.000030	0.000030	0.000030	0.000073	0.000030	0.000030	0.000030	0.000030	0.000068	0.000138	0.000030
Lithium	-	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	-	0.02724	0.02256	0.01752	0.07271	0.03804	0.01848	0.02662	0.03976	0.07601	0.16753	0.01716
Mercury	-	0.0000036	0.0000036	0.0000036	0.0000116	0.0000036	0.0000036	0.0000036	0.0000036	0.0000080	0.0000036	0.0000036
Molybdenum	-	0.000178	0.000227	0.000193	0.000230	0.000269	0.000258	0.000373	0.001197	0.000445	0.000475	0.000269
Nickel	-	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00065	0.00030
Selenium	-	0.000030	0.000088	0.000030	0.000105	0.000030	0.000030	0.000030	0.000030	0.000030	0.000085	0.000030
Silver	-	0.000006	0.000006	0.000006	0.000015	0.000006	0.000006	0.000006	0.000006	0.000006	0.000016	0.000006
Strontium	-	0.0653	0.0749	0.0660	0.0547	0.0766	0.0792	0.1135	0.1232	0.1255	0.0922	0.0733
Thallium	-	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	-	0.000079	0.000070	0.000060	0.000099	0.000089	0.000054	0.000099	0.000130	0.000142	0.000180	0.000061
Vanadium	-	0.00061	0.00030	0.00030	0.00094	0.00070	0.00030	0.00030	0.00030	0.00063	0.00133	0.00030
Zinc	-	0.0018	0.0018	0.0018	0.0037	0.0018	0.0018	0.0018	0.0018	0.0044	0.0018	0.0018

Appendix E-1E: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–03 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.58	7.84	7.90	7.53	7.50	7.45	7.92	8.13	7.96	7.87	7.46	7.63
pH (pH Units) Upper[c]	7.58	7.84	7.90	7.53	7.50	7.45	7.92	8.13	7.96	7.87	7.46	7.63
Total Suspended Solids	5.3	1.5	1.5	3.2	3.1	9.6	1.5	1.5	6.2	1.5	2.6	1.5
Turbidity (NTU)	1.06	0.46	0.38	3.29	1.42	1.33	0.45	1.00	3.37	0.22	0.54	0.47
Total Dissolved Solids	89	75	84	83	68	79	75	88	109	108	78	73
Chloride	0.25	0.25	0.25	0.60	0.40	0.25	0.25	0.25	0.25	0.25	0.58	0.77
Fluoride	0.045	0.040	0.055	0.042	0.042	0.049	0.048	0.063	0.050	0.062	0.050	0.041
Sulphate	2.96	2.55	1.33	0.91	0.47	0.49	0.80	1.21	1.12	1.36	4.50	1.49
Nutrients												
Ammonia-N	0.0076	0.0059	0.0025	0.0083	0.0079	0.0075	0.0072	0.0061	0.0064	0.0591	0.0056	0.0141
Nitrate-N	0.0726	0.2520	0.0479	0.0146	0.0132	0.0050	0.0094	0.0223	0.0025	0.0025	0.0534	0.0732
Nitrite-N	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Phosphorous	0.021	0.007	0.004	0.023	0.018	0.010	0.006	0.006	0.004	0.001	0.010	0.012
Ortho-Phosphorus	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.7885	0.0651	0.0315	0.4115	0.2202	0.1013	0.0458	0.0600	0.0225	0.0145	0.1080	0.1150
Antimony	0.00005	0.00005	0.000050	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00063	0.00032	0.00026	0.00043	0.00033	0.00034	0.00033	0.00036	0.00024	0.00027	0.00037	0.00034
Barium	0.01291	0.00568	0.00623	0.00701	0.00519	0.00623	0.00677	0.00899	0.00814	0.00814	0.00501	0.00435
Beryllium	0.000039	0.000010	0.000010	0.000020	0.000011	0.000010	0.000010	0.000010	0.000010	0.000010	0.000020	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000171	0.0000030	0.0000030	0.0000092	0.0000065	0.0000030	0.0000030	0.0000055	0.0000030	0.0000030	0.0000030	0.0000030
Chromium	0.00096	0.00025	0.00025	0.00047	0.00025	0.00040	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Cobalt	0.00021	0.00005	0.00005	0.00011	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Copper	0.00106	0.00025	0.00025	0.00098	0.00081	0.00052	0.00025	0.00025	0.00025	0.00025	0.00049	0.00058
Iron	0.699	0.090	0.069	0.370	0.168	0.106	0.089	0.163	0.082	0.063	0.161	0.126
Lead	0.000207	0.000025	0.000025	0.000100	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.09435	0.01180	0.01600	0.03985	0.01614	0.01790	0.02070	0.06395	0.03970	0.02200	0.01980	0.00796
Mercury	0.0000065	0.0000030	0.0000030	0.0000067	0.0000060	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000296	0.000183	0.000268	0.000156	0.000158	0.000237	0.000265	0.000361	0.000354	0.000349	0.000192	0.000173
Nickel	0.00064	0.00025	0.00025	0.00047	0.00028	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000060	0.000025	0.000025	0.000059	0.000054	0.000057	0.000061	0.000025	0.000025	0.000025	0.000062	0.000025
Silver	0.000024	0.000005	0.000005	0.000013	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.0760	0.0631	0.0831	0.0424	0.0424	0.0587	0.0736	0.0921	0.0878	0.0961	0.0523	0.0477
Thallium	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000307	0.000051	0.000084	0.000070	0.000059	0.000064	0.000070	0.000112	0.000102	0.000091	0.000045	0.000048
Vanadium	0.00130	0.00025	0.00025	0.00076	0.00046	0.00025	0.00025	0.00025	0.00025	0.00025	0.00033	0.00025
Zinc	0.0043	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015

Appendix E-1E: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–03 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	-	0.0720	0.0714	0.0835	0.2129	0.0617	0.0606	0.0330	0.0164	0.0226	0.0357	0.0467
Cadmium	-	0.0000036	0.0000036	0.0000036	0.0000066	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036
Copper	-	0.00062	0.00041	0.00061	0.00102	0.00053	0.00048	0.00042	0.00012	0.00024	0.00033	0.00041
Iron	-	0.107	0.115	0.108	0.159	0.078	0.096	0.075	0.074	0.079	0.092	0.072
Manganese	-	0.01224	0.01848	0.01464	0.01090	0.01037	0.01536	0.02226	0.03268	0.03662	0.02242	0.00833
Zinc	-	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006

Appendix E-1E: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–03 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0511	0.0561	0.0189	0.2030	0.1667	0.0740	0.0346	0.0197	0.0083	0.0084	0.0734	0.0955
Cadmium	0.0000030	0.0000030	0.0000030	0.0000043	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00031	0.00042	0.00024	0.00077	0.00074	0.00054	0.00033	0.00024	0.00010	0.00010	0.00050	0.00058
Iron	0.088	0.070	0.046	0.158	0.110	0.065	0.062	0.090	0.038	0.044	0.086	0.098
Manganese	0.02080	0.00971	0.01330	0.00728	0.00451	0.00995	0.01750	0.05795	0.02390	0.02010	0.00651	0.00525
Zinc	0.0009	0.0020	0.0018	0.0005	0.0006	0.0005	0.0005	0.0087	0.0005	0.0005	0.0013	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1F: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–04 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.62	7.61	7.69	7.64	7.04	7.04	-	7.53	7.72	7.57	7.54	7.52
pH (pH Units) Upper[c]	7.80	7.79	7.87	7.82	7.65	7.47	-	7.80	7.92	7.95	7.81	7.90
Total Suspended Solids	1.8	1.8	1.8	1.8	3.7	1.8	-	1.8	1.8	1.8	1.8	1.8
Turbidity (NTU)	0.41	0.30	0.43	0.31	0.75	0.33	-	0.35	0.45	0.40	0.38	0.38
Total Dissolved Solids	86	68	68	67	62	71	-	79	86	78	84	84
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	-	0.96	0.63	1.11	1.23	0.88
Fluoride	0.050	0.054	0.064	0.062	0.050	0.048	-	0.056	0.057	0.063	0.060	0.058
Sulphate	3.07	3.91	4.06	4.91	3.31	2.35	-	3.60	1.85	3.70	4.90	4.37
Nutrients												
Ammonia-N	0.0030	0.0030	0.0030	0.0030	0.0068	0.0030	-	0.0087	0.0030	0.0148	0.0030	0.0030
Nitrate-N	0.0112	0.0136	0.0126	0.0122	0.0030	0.0030	-	0.0030	0.0030	0.0030	0.0030	0.0061
Nitrite-N	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	-	0.0006	0.0006	0.0006	0.0006	0.0006
Total Phosphorous	0.018	0.017	0.017	0.017	0.027	0.019	-	0.020	0.017	0.023	0.019	0.020
Ortho-Phosphorus	0.015	0.014	0.015	0.012	0.011	0.012	-	0.013	0.012	0.014	0.013	0.013
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	-	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	-	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0720	0.0254	0.0262	0.0254	0.2561	0.0778	-	0.0604	0.0516	0.0381	0.0366	0.0399
Antimony	0.00006	0.00006	0.00013	0.00006	0.00006	0.00006	-	0.00006	0.00006	0.00006	0.00006	0.00014
Arsenic	0.00146	0.00133	0.00139	0.00133	0.00116	0.00135	-	0.00160	0.00151	0.00158	0.00138	0.00132
Barium	0.00559	0.00468	0.00478	0.00511	0.00417	0.00458	-	0.00604	0.00558	0.00563	0.00495	0.00545
Beryllium	0.000012	0.000012	0.000012	0.000012	0.000033	0.000012	-	0.000012	0.000012	0.000012	0.000012	0.000012
Boron	0.006	0.006	0.006	0.006	0.006	0.006	-	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000265	0.0000144	0.0000102	0.0000122	0.0000411	0.0000221	-	0.0000277	0.0000225	0.0000178	0.0000189	0.0000194
Chromium	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	-	0.00030	0.00030	0.00064	0.00030	0.00030
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	-	0.00006	0.00006	0.00006	0.00006	0.00006
Copper	0.00030	0.00030	0.00030	0.00030	0.00074	0.00030	-	0.00030	0.00030	0.00030	0.00030	0.00030
Iron	0.131	0.043	0.048	0.044	0.145	0.063	-	0.081	0.080	0.073	0.062	0.064
Lead	0.000080	0.000030	0.000030	0.000030	0.000065	0.000030	-	0.000030	0.000030	0.000030	0.000030	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	-	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.01018	0.00554	0.00535	0.00541	0.00611	0.00528	-	0.00800	0.00799	0.00988	0.00749	0.00863
Mercury	0.0000036	0.0000036	0.0000036	0.0000036	0.0000102	0.0000036	-	0.0000036	0.0000036	0.0000036	0.0000063	0.0000036
Molybdenum	0.000775	0.000766	0.000809	0.000792	0.000399	0.000553	-	0.000902	0.000847	0.000869	0.000716	0.000725
Nickel	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	-	0.00030	0.00030	0.00030	0.00030	0.00030
Selenium	0.000030	0.000030	0.000030	0.000030	0.000057	0.000030	-	0.000030	0.000065	0.000030	0.000030	0.000070
Silver	0.000006	0.000006	0.000006	0.000006	0.000024	0.000006	-	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.0733	0.0736	0.0760	0.0736	0.0448	0.0567	-	0.0779	0.0811	0.0804	0.0728	0.0792
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	-	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000097	0.000066	0.000077	0.000068	0.000114	0.000072	-	0.000088	0.000092	0.000078	0.000069	0.000074
Vanadium	0.00074	0.00030	0.00070	0.00030	0.00091	0.00076	-	0.00084	0.00076	0.00076	0.00030	0.00077
Zinc	0.0067	0.0042	0.0043	0.0046	0.0113	0.0069	-	0.0070	0.0063	0.0053	0.0057	0.0069

Appendix E-1F: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–04 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.78	7.87	7.81	7.61	7.26	7.51	7.64	7.89	7.83	7.72	7.67	7.55
pH (pH Units) Upper[c]	7.78	7.87	7.81	7.61	7.26	7.51	7.64	7.89	7.83	7.72	7.67	7.55
Total Suspended Solids	1.5	1.5	1.5	1.5	3.4	1.5	2.5	1.5	1.5	2.5	1.5	1.5
Turbidity (NTU)	0.85	1.10	11.62	4.50	1.77	6.39	7.21	1.13	2.29	1.95	1.99	2.40
Total Dissolved Solids	66	68	73	71	54	65	62	71	71	71	66	68
Chloride	0.68	0.80	1.35	1.46	0.65	0.42	0.59	0.61	1.04	1.43	1.55	1.21
Fluoride	0.047	0.046	0.050	0.042	0.031	0.037	0.039	0.049	0.052	0.044	0.045	0.048
Sulphate	3.90	3.30	4.41	5.73	4.44	2.04	1.78	0.91	2.25	4.78	5.67	4.71
Nutrients												
Ammonia-N	0.0032	0.0025	0.0038	0.0025	0.0045	0.0064	0.0025	0.0025	0.0040	0.0038	0.0049	0.0078
Nitrate-N	0.0962	0.1621	0.1293	0.0623	0.0028	0.0025	0.0025	0.0025	0.0025	0.0366	0.0961	0.2120
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0009	0.0005	0.0005
Total Phosphorous	0.019	0.022	0.035	0.027	0.024	0.022	0.022	0.020	0.015	0.014	0.023	0.020
Ortho-Phosphorus	0.013	0.016	0.015	0.011	0.007	0.006	0.007	0.009	0.009	0.007	0.007	0.011
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0537	0.0500	0.6165	0.2766	0.2283	0.4320	0.4100	0.1085	0.1044	0.1146	0.2375	0.1608
Antimony	0.00011	0.00011	0.000125	0.00010	0.00009	0.00012	0.00009	0.00005	0.00005	0.00005	0.00008	0.00011
Arsenic	0.00128	0.00137	0.00172	0.00135	0.00095	0.00133	0.00143	0.00154	0.00153	0.00115	0.00131	0.00129
Barium	0.00485	0.00481	0.00988	0.00667	0.00443	0.00663	0.00700	0.00576	0.00596	0.00511	0.00584	0.00510
Beryllium	0.000010	0.000010	0.000023	0.000016	0.000015	0.000024	0.000019	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000144	0.0000126	0.0000192	0.0000210	0.0000287	0.0000286	0.0000294	0.0000237	0.0000165	0.0000138	0.0000230	0.0000199
Chromium	0.00025	0.00040	0.00073	0.00046	0.00028	0.00062	0.00049	0.00025	0.00025	0.00025	0.00044	0.00025
Cobalt	0.00005	0.00005	0.00020	0.00010	0.00005	0.00015	0.00014	0.00005	0.00005	0.00005	0.00010	0.00005
Copper	0.00025	0.00025	0.00068	0.00051	0.00072	0.00074	0.00078	0.00025	0.00025	0.00025	0.00042	0.00025
Iron	0.069	0.065	0.515	0.248	0.159	0.350	0.342	0.119	0.137	0.134	0.260	0.168
Lead	0.000033	0.000041	0.000343	0.000202	0.000105	0.000242	0.000260	0.000081	0.000056	0.000081	0.000174	0.000108
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00891	0.00850	0.01985	0.01097	0.00824	0.01760	0.01709	0.01970	0.01633	0.01430	0.02265	0.01520
Mercury	0.0000030	0.0000030	0.0000030	0.0000037	0.0000056	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000627	0.000640	0.000637	0.000437	0.000234	0.000354	0.000432	0.000826	0.000860	0.000581	0.000485	0.000524
Nickel	0.00025	0.00025	0.00059	0.00031	0.00025	0.00040	0.00039	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000033	0.000025	0.000059	0.000032	0.000046	0.000045	0.000025	0.000039	0.000025	0.000025	0.000038	0.000042
Silver	0.000005	0.000005	0.000005	0.000012	0.000018	0.000006	0.000005	0.000005	0.000005	0.000005	0.000010	0.000005
Strontium	0.0679	0.0677	0.0676	0.0594	0.0368	0.0431	0.0517	0.0707	0.0777	0.0658	0.0606	0.0624
Thallium	0.000005	0.000005	0.000009	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000074	0.000082	0.000117	0.000071	0.000096	0.000094	0.000094	0.000099	0.000101	0.000072	0.000088	0.000077
Vanadium	0.00059	0.00061	0.00168	0.00108	0.00082	0.00134	0.00135	0.00080	0.00080	0.00060	0.00096	0.00110
Zinc	0.0077	0.0074	0.0102	0.0099	0.0127	0.0122	0.0124	0.0092	0.0074	0.0073	0.0103	0.0101

Appendix E-1F: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–04 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0184	0.0172	0.0172	0.0175	0.1892	0.0563	-	0.0455	0.1530	0.0282	0.0231	0.0212
Cadmium	0.0000132	0.0000108	0.0000109	0.0000120	0.0000286	0.0000196	-	0.0000278	0.0000167	0.0000191	0.0000169	0.0000163
Copper	0.00012	0.00012	0.00012	0.00012	0.00076	0.00035	-	0.00028	0.00058	0.00012	0.00012	0.00012
Iron	0.031	0.031	0.031	0.031	0.084	0.042	-	0.059	0.054	0.054	0.045	0.040
Manganese	0.00443	0.00443	0.00402	0.00431	0.00218	0.00281	-	0.00529	0.00591	0.00733	0.00527	0.00599
Zinc	0.0048	0.0041	0.0043	0.0036	0.0103	0.0060	-	0.0065	0.0055	0.0051	0.0050	0.0057

Appendix E-1F: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–04 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0151	0.0145	0.0495	0.0920	0.1502	0.1038	0.1028	0.0275	0.0238	0.0281	0.0472	0.0423
Cadmium	0.0000102	0.0000113	0.0000104	0.0000203	0.0000230	0.0000195	0.0000221	0.0000181	0.0000142	0.0000111	0.0000123	0.0000124
Copper	0.00010	0.00010	0.00017	0.00027	0.00058	0.00046	0.00041	0.00025	0.00013	0.00010	0.00025	0.00021
Iron	0.029	0.027	0.050	0.086	0.083	0.073	0.076	0.048	0.048	0.050	0.081	0.057
Manganese	0.00591	0.00601	0.00721	0.00527	0.00304	0.00612	0.00720	0.01300	0.01170	0.01109	0.01081	0.00929
Zinc	0.0068	0.0067	0.0067	0.0085	0.0101	0.0091	0.0089	0.0075	0.0055	0.0062	0.0069	0.0081

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1G: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–05 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.85	7.50	7.93	7.72	7.14	7.15	7.41	7.55	7.68	7.58	7.43	7.78
pH (pH Units) Upper[c]	8.03	7.98	8.11	7.90	7.86	7.33	7.93	8.02	7.95	7.91	7.87	7.96
Total Suspended Solids	1.8	6.1	1.8	1.8	12.9	10.4	108.2	3.8	5.5	9.3	1.8	1.8
Turbidity (NTU)	0.80	1.50	0.60	0.60	4.20	1.60	1.10	1.60	1.30	1.60	1.70	0.90
Total Dissolved Solids	83	90	91	72	81	68	109	101	118	87	81	89
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.84	0.30	0.30
Fluoride	0.066	0.082	0.065	0.071	0.060	0.038	0.060	0.068	0.067	0.072	0.069	0.067
Sulphate	1.50	2.70	1.50	1.60	1.10	0.70	1.00	1.20	1.30	1.50	1.30	1.40
Nutrients												
Ammonia-N	0.0030	0.0104	0.0030	0.0030	0.0094	0.0095	0.0191	0.0118	0.0080	0.0030	0.0164	0.0173
Nitrate-N	0.0670	0.0768	0.0587	0.0230	0.0267	0.0030	0.0067	0.0332	0.0221	0.0275	0.0343	0.0559
Nitrite-N	0.0006	0.0016	0.0006	0.0006	0.0006	0.0006	0.0006	0.0013	0.0006	0.0006	0.0006	0.0006
Total Phosphorous	0.053	0.056	0.054	0.046	0.059	0.041	0.055	0.080	0.059	0.053	0.057	0.056
Ortho-Phosphorus	0.043	0.042	0.045	0.037	0.031	0.019	0.040	0.059	0.047	0.040	0.042	0.040
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0720	0.0650	0.0500	0.0320	0.4550	0.1990	0.1260	0.0890	0.1260	0.6710	0.1720	0.0670
Antimony	0.00006	0.00014	0.00013	0.00006	0.00006	0.00006	0.00014	0.00006	0.00006	0.00006	0.00018	0.00006
Arsenic	0.00150	0.00140	0.00160	0.00140	0.00140	0.00080	0.00180	0.00260	0.00210	0.00220	0.00150	0.00130
Barium	0.00690	0.00580	0.00600	0.00520	0.00920	0.00430	0.00620	0.00690	0.00790	0.01230	0.00560	0.00540
Beryllium	0.000012	0.000060	0.000012	0.000012	0.000060	0.000032	0.000055	0.000060	0.000055	0.000058	0.000060	0.000012
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000040	0.0000040	0.0000040	0.0000040	0.0000150	0.0000090	0.0000100	0.0000110	0.0000100	0.0000210	0.0000113	0.0000036
Chromium	0.00102	0.00093	0.00108	0.00288	0.00149	0.00073	0.00134	0.00104	0.00164	0.00243	0.00087	0.00092
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00017	0.00006	0.00006	0.00006	0.00006	0.00033	0.00006	0.00006
Copper	0.00030	0.00030	0.00030	0.00030	0.00103	0.00091	0.00075	0.00030	0.00085	0.00114	0.00030	0.00030
Iron	0.204	0.215	0.138	0.133	0.554	0.229	0.231	0.500	0.327	0.853	0.307	0.212
Lead	0.000030	0.000066	0.000030	0.000030	0.000141	0.000030	0.000030	0.000030	0.000030	0.000334	0.000090	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.01800	0.01450	0.01040	0.00830	0.03770	0.00710	0.01040	0.02060	0.01500	0.07780	0.01800	0.01510
Mercury	0.0000036	0.0000036	0.0000036	0.0000036	0.0000099	0.0000097	0.0000036	0.0000036	0.0000036	0.0000036	0.0000068	0.0000036
Molybdenum	0.000970	0.001030	0.001240	0.001030	0.000690	0.000340	0.001410	0.001220	0.001430	0.000890	0.000830	0.000900
Nickel	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00072	0.00030	0.00030
Selenium	0.000085	0.000116	0.000096	0.000074	0.000122	0.000101	0.000158	0.000119	0.000205	0.000200	0.000147	0.000094
Silver	0.000006	0.000006	0.000006	0.000006	0.000012	0.000006	0.000006	0.000006	0.000006	0.000014	0.000019	0.000006
Strontium	0.0950	0.0980	0.1060	0.1000	0.0800	0.0390	0.0900	0.0960	0.1000	0.0860	0.0900	0.1000
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000076	0.000006
Uranium	0.000270	0.000220	0.000250	0.000200	0.000270	0.000190	0.000250	0.000230	0.000290	0.000450	0.000190	0.000220
Vanadium	0.00220	0.00220	0.00220	0.00190	0.00270	0.00190	0.00390	0.00240	0.00310	0.00350	0.00200	0.00180
Zinc	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0073	0.0018	0.0018

Appendix E-1G: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–05 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.73	7.91	7.91	7.87	7.64	7.53	7.84	7.97	7.97	7.90	7.80	7.84
pH (pH Units) Upper[c]	7.73	7.91	7.91	7.87	7.64	7.53	7.84	7.97	7.97	7.90	7.80	7.84
Total Suspended Solids	2.0	2.1	2.5	11.9	5.6	3.0	2.6	3.5	2.4	1.5	4.2	2.3
Turbidity (NTU)	1.56	1.38	12.60	10.68	8.83	3.93	1.75	1.46	1.15	1.76	14.26	3.17
Total Dissolved Solids	74	68	79	77	68	58	67	75	75	72	80	73
Chloride	0.25	0.25	0.25	0.44	0.49	0.25	0.25	0.25	0.25	0.84	0.33	0.25
Fluoride	0.058	0.061	0.059	0.048	0.038	0.048	0.056	0.054	0.058	0.059	0.053	0.058
Sulphate	1.35	1.31	1.33	1.62	1.25	0.85	0.93	0.87	1.08	1.56	1.22	1.30
Nutrients												
Ammonia-N	0.0025	0.0036	0.0025	0.0035	0.0049	0.0076	0.0031	0.0025	0.0025	0.0041	0.0036	0.0106
Nitrate-N	0.0579	0.0598	0.0553	0.0406	0.0191	0.0025	0.0025	0.0093	0.0083	0.0088	0.0392	0.0552
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005	0.0015	0.0005	0.0005
Total Phosphorous	0.051	0.053	0.061	0.066	0.045	0.041	0.046	0.050	0.051	0.051	0.062	0.056
Ortho-Phosphorus	0.039	0.040	0.040	0.033	0.019	0.024	0.030	0.036	0.038	0.038	0.036	0.039
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0964	0.0882	0.7138	0.5690	0.6067	0.2963	0.1134	0.0657	0.0390	0.0769	0.8980	0.2007
Antimony	0.00005	0.00005	0.000093	0.00008	0.00009	0.00007	0.00005	0.00005	0.00005	0.00005	0.00008	0.00005
Arsenic	0.00129	0.00134	0.00164	0.00143	0.00111	0.00119	0.00128	0.00153	0.00149	0.00138	0.00173	0.00134
Barium	0.00544	0.00549	0.01031	0.00889	0.00866	0.00676	0.00587	0.00594	0.00536	0.00513	0.01164	0.00609
Beryllium	0.000010	0.000010	0.000029	0.000028	0.000035	0.000018	0.000010	0.000010	0.000010	0.000010	0.000037	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000080	0.0000116	0.0000099	0.0000063	0.0000051	0.0000030	0.0000030	0.0000030	0.0000086	0.0000064
Chromium	0.00092	0.00101	0.00134	0.00126	0.00106	0.00091	0.00084	0.00081	0.00078	0.00080	0.00140	0.00105
Cobalt	0.00005	0.00005	0.00021	0.00017	0.00016	0.00011	0.00005	0.00005	0.00005	0.00005	0.00028	0.00006
Copper	0.00025	0.00025	0.00085	0.00069	0.00094	0.00052	0.00025	0.00025	0.00025	0.00025	0.00090	0.00025
Iron	0.165	0.167	0.655	0.611	0.569	0.319	0.212	0.179	0.161	0.185	0.857	0.266
Lead	0.000039	0.000043	0.000390	0.000378	0.000261	0.000129	0.000049	0.000025	0.000025	0.000042	0.000467	0.000096
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.000725	0.0005
Manganese	0.00943	0.01216	0.01933	0.02433	0.01747	0.01397	0.01304	0.01243	0.01293	0.01209	0.02706	0.01310
Mercury	0.0000030	0.0000030	0.0000030	0.0000048	0.0000046	0.0000038	0.0000030	0.0000030	0.0000030	0.0000030	0.0000055	0.0000030
Molybdenum	0.000878	0.000921	0.000898	0.000657	0.000446	0.000602	0.000725	0.000902	0.000900	0.000831	0.000797	0.000881
Nickel	0.00025	0.00025	0.00053	0.00044	0.00040	0.00025	0.00025	0.00025	0.00025	0.00025	0.00079	0.00025
Selenium	0.000085	0.000094	0.000104	0.000107	0.000061	0.000083	0.000075	0.000058	0.000072	0.000079	0.000072	0.000081
Silver	0.000005	0.000015	0.000008	0.000011	0.000010	0.000005	0.000005	0.000005	0.000005	0.000005	0.000010	0.000005
Strontium	0.0852	0.0861	0.0840	0.0672	0.0552	0.0643	0.0749	0.0883	0.0876	0.0851	0.0800	0.0854
Thallium	0.000005	0.000005	0.000008	0.000008	0.000007	0.000005	0.000005	0.000005	0.000005	0.000005	0.000013	0.000005
Uranium	0.000198	0.000246	0.000244	0.000225	0.000184	0.000161	0.000173	0.000213	0.000233	0.000199	0.000218	0.000218
Vanadium	0.00188	0.00218	0.00294	0.00262	0.00237	0.00211	0.00191	0.00197	0.00188	0.00189	0.00297	0.00222
Zinc	0.0015	0.0015	0.0028	0.0031	0.0025	0.0015	0.0021	0.0015	0.0015	0.0015	0.0036	0.0015

Appendix E-1G: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–05 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0170	0.0250	0.0130	0.0130	0.1640	0.1260	0.0770	0.0610	0.0820	0.0700	0.1050	0.0190
Cadmium	0.0000040	0.0000040	0.0000040	0.0000040	0.0000060	0.0000040	0.0000080	0.0000080	0.0000090	0.0000060	0.0000040	0.0000036
Copper	0.00012	0.00030	0.00012	0.00012	0.00079	0.00072	0.00060	0.00033	0.00070	0.00029	0.00060	0.00012
Iron	0.068	0.108	0.050	0.065	0.194	0.148	0.154	0.366	0.236	0.194	0.215	0.095
Manganese	0.00840	0.00910	0.00540	0.00530	0.00680	0.00240	0.00640	0.01120	0.00890	0.00860	0.00870	0.00908
Zinc	0.0006	0.0016	0.0006	0.0006	0.0018	0.0006	0.0017	0.0006	0.0017	0.0017	0.0006	0.0006

Appendix E-1G: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–05 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0161	0.0130	0.0337	0.0305	0.1213	0.0601	0.0307	0.0202	0.0128	0.0118	0.0294	0.0223
Cadmium	0.0000030	0.0000042	0.0000030	0.0000030	0.0000037	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000044
Copper	0.00010	0.00010	0.00010	0.00021	0.00051	0.00037	0.00027	0.00010	0.00010	0.00010	0.00013	0.00010
Iron	0.050	0.042	0.046	0.087	0.125	0.103	0.098	0.098	0.076	0.077	0.069	0.059
Manganese	0.00542	0.00510	0.00399	0.00352	0.00464	0.00530	0.00603	0.00830	0.00956	0.00747	0.00565	0.00604
Zinc	0.0006	0.0007	0.0005	0.0005	0.0005	0.0005	0.0011	0.0018	0.0016	0.0007	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1H: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–10 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.69	7.57	7.60	7.70	6.92	6.84	7.27	7.29	7.24	7.34	7.13	7.67
pH (pH Units) Upper[c]	7.91	7.91	7.78	7.88	7.58	7.02	7.88	7.93	7.80	7.81	7.62	7.85
Total Suspended Solids	1.8	3.1	1.8	1.8	27.3	10.0	10.0	4.9	4.5	3.2	1.8	3.8
Turbidity (NTU)	1.30	1.80	0.70	0.70	7.50	3.60	1.10	1.60	1.20	1.60	1.60	1.20
Total Dissolved Solids	81	79	71	71	83	67	88	93	96	77	73	90
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Fluoride	0.061	0.067	0.065	0.056	0.049	0.036	0.052	0.062	0.054	0.058	0.055	0.053
Sulphate	2.40	2.70	2.30	2.60	1.80	1.20	0.80	1.50	3.00	2.80	2.40	2.50
Nutrients												
Ammonia-N	0.0137	0.0160	0.0071	0.0030	0.0071	0.0065	0.0063	0.0084	0.0030	0.0030	0.0171	0.0127
Nitrate-N	0.0446	0.0712	0.0395	0.0301	0.0627	0.0030	0.0068	0.0216	0.0120	0.0077	0.0135	0.0414
Nitrite-N	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0015	0.0006	0.0006	0.0011	0.0006
Total Phosphorous	0.029	0.045	0.025	0.023	0.045	0.035	0.037	0.045	0.037	0.029	0.028	0.026
Ortho-Phosphorus	0.019	0.021	0.018	0.017	0.012	0.008	0.021	0.027	0.021	0.013	0.014	0.015
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.1070	0.2410	0.0560	0.0670	0.6260	0.4120	0.2030	0.1530	0.1420	0.1780	0.2960	0.0730
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00011	0.00006	0.00006
Arsenic	0.00120	0.00130	0.00110	0.00110	0.00120	0.00080	0.00200	0.00220	0.00230	0.00110	0.00110	0.00120
Barium	0.00700	0.00820	0.00540	0.00530	0.00840	0.00510	0.00710	0.00620	0.00700	0.00520	0.00510	0.00590
Beryllium	0.000012	0.000060	0.000012	0.000012	0.000060	0.000034	0.000055	0.000060	0.000060	0.000050	0.000060	0.000012
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000180	0.0000200	0.0000080	0.0000070	0.0000430	0.0000310	0.0000270	0.0000380	0.0000340	0.0000140	0.0000221	0.0000130
Chromium	0.00030	0.00076	0.00030	0.00030	0.00091	0.00066	0.00068	0.00062	0.00082	0.00030	0.00058	0.00030
Cobalt	0.00006	0.00014	0.00006	0.00006	0.00021	0.00006	0.00006	0.00006	0.00014	0.00006	0.00006	0.00006
Copper	0.00030	0.00144	0.00030	0.00030	0.00111	0.00094	0.00069	0.00065	0.00070	0.00030	0.00070	0.00030
Iron	0.245	0.438	0.169	0.245	0.698	0.337	0.372	0.451	0.646	0.287	0.305	0.229
Lead	0.000030	0.000161	0.000030	0.000030	0.000692	0.000197	0.000159	0.000030	0.000080	0.000030	0.000091	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0012	0.0006	0.0006
Manganese	0.02410	0.04300	0.01110	0.01490	0.05610	0.01320	0.02090	0.02870	0.05530	0.02140	0.02000	0.02350
Mercury	0.0000036	0.0000036	0.0000036	0.0000036	0.0000129	0.0000080	0.0000036	0.0000036	0.0000056	0.0000036	0.0000071	0.0000036
Molybdenum	0.001230	0.000930	0.000800	0.000670	0.000390	0.000230	0.000790	0.001110	0.000800	0.000520	0.000500	0.000680
Nickel	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030
Selenium	0.000030	0.000091	0.000030	0.000030	0.000089	0.000030	0.000080	0.000071	0.000104	0.000087	0.000085	0.000030
Silver	0.000006	0.000006	0.000006	0.000006	0.000026	0.000023	0.000006	0.000006	0.000011	0.000006	0.000015	0.000006
Strontium	0.0790	0.1140	0.0790	0.0740	0.0590	0.0300	0.0790	0.0840	0.0760	0.0690	0.0650	0.0740
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000130	0.000170	0.000110	0.000120	0.000210	0.000200	0.000180	0.000150	0.000160	0.000110	0.000120	0.000120
Vanadium	0.00160	0.00180	0.00180	0.00120	0.00210	0.00140	0.00180	0.00170	0.00270	0.00140	0.00140	0.00120
Zinc	0.0038	0.0066	0.0018	0.0018	0.0091	0.0082	0.0053	0.0102	0.0082	0.0042	0.0073	0.0018

Appendix E-1H: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–10 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.60	7.72	7.80	7.66	7.23	7.29	7.65	7.71	7.70	7.68	7.69	7.61
pH (pH Units) Upper[c]	7.60	7.72	7.80	7.66	7.23	7.29	7.65	7.71	7.70	7.68	7.69	7.61
Total Suspended Solids	1.5	1.5	2.2	5.0	12.1	2.0	2.4	1.5	1.5	2.3	1.5	1.5
Turbidity (NTU)	1.08	1.36	3.40	5.65	2.99	1.47	1.17	1.94	1.50	1.57	1.91	1.17
Total Dissolved Solids	59	68	65	73	54	56	69	82	82	69	73	69
Chloride	0.41	0.67	0.42	0.80	0.38	0.25	0.37	0.43	0.52	0.78	0.75	0.61
Fluoride	0.043	0.051	0.054	0.043	0.034	0.038	0.043	0.047	0.047	0.046	0.046	0.042
Sulphate	2.38	2.79	2.37	3.97	2.06	1.28	1.72	1.05	1.26	1.93	2.38	2.71
Nutrients												
Ammonia-N	0.0078	0.0143	0.0059	0.0053	0.0065	0.0052	0.0099	0.0141	0.0112	0.0066	0.0063	0.0111
Nitrate-N	0.0570	0.0919	0.0741	0.0468	0.0136	0.0025	0.0061	0.0261	0.0134	0.0039	0.0132	0.0594
Nitrite-N	0.0006	0.0010	0.0005	0.0005	0.0005	0.0005	0.0008	0.0009	0.0012	0.0006	0.0005	0.0009
Total Phosphorous	0.021	0.027	0.025	0.035	0.027	0.026	0.034	0.059	0.044	0.025	0.022	0.020
Ortho-Phosphorus	0.012	0.013	0.014	0.011	0.004	0.008	0.015	0.037	0.021	0.010	0.011	0.009
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0621	0.0843	0.1712	0.4341	0.3443	0.1577	0.1347	0.1464	0.0986	0.0923	0.0661	0.0769
Antimony	0.00005	0.00008	0.000070	0.00008	0.00006	0.00009	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00084	0.00100	0.00101	0.00114	0.00082	0.00100	0.00168	0.00292	0.00222	0.00124	0.00095	0.00082
Barium	0.00539	0.00590	0.00610	0.00765	0.00514	0.00481	0.00609	0.00712	0.00658	0.00556	0.00482	0.00542
Beryllium	0.000010	0.000010	0.000010	0.000024	0.000026	0.000019	0.000020	0.000029	0.000021	0.000013	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000134	0.0000215	0.0000169	0.0000219	0.0000204	0.0000211	0.0000328	0.0000477	0.0000367	0.0000197	0.0000128	0.0000152
Chromium	0.00037	0.00048	0.00037	0.00059	0.00044	0.00032	0.00061	0.00086	0.00072	0.00039	0.00025	0.00025
Cobalt	0.00005	0.00010	0.00011	0.00015	0.00009	0.00005	0.00008	0.00015	0.00016	0.00010	0.00007	0.00010
Copper	0.00025	0.00046	0.00037	0.00071	0.00076	0.00062	0.00067	0.00080	0.00071	0.00037	0.00031	0.00041
Iron	0.167	0.267	0.255	0.431	0.307	0.227	0.378	0.847	0.671	0.356	0.265	0.223
Lead	0.000025	0.000057	0.000113	0.000235	0.000142	0.000054	0.000038	0.000054	0.000025	0.000049	0.000025	0.000032
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01498	0.02406	0.01912	0.02088	0.01615	0.01104	0.01733	0.02247	0.03908	0.02642	0.01889	0.02074
Mercury	0.0000030	0.0000030	0.0000030	0.0000041	0.0000059	0.0000036	0.0000030	0.0000059	0.0000040	0.0000030	0.0000030	0.0000030
Molybdenum	0.000592	0.000613	0.000641	0.000451	0.000250	0.000362	0.000557	0.000856	0.000796	0.000610	0.000517	0.000518
Nickel	0.00025	0.00025	0.00025	0.00038	0.00029	0.00025	0.00035	0.00063	0.00053	0.00027	0.00025	0.00025
Selenium	0.000037	0.000043	0.000025	0.000063	0.000051	0.000056	0.000103	0.000136	0.000092	0.000054	0.000033	0.000035
Silver	0.000005	0.000007	0.000005	0.000014	0.000014	0.000005	0.000011	0.000014	0.000010	0.000006	0.000005	0.000005
Strontium	0.0699	0.0678	0.0695	0.0563	0.0325	0.0418	0.0566	0.0709	0.0710	0.0650	0.0619	0.0665
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000101	0.000119	0.000116	0.000131	0.000131	0.000118	0.000147	0.000200	0.000147	0.000111	0.000096	0.000084
Vanadium	0.00089	0.00101	0.00107	0.00152	0.00121	0.00116	0.00135	0.00182	0.00141	0.00100	0.00080	0.00081
Zinc	0.0027	0.0051	0.0031	0.0051	0.0048	0.0051	0.0062	0.0067	0.0055	0.0035	0.0025	0.0029

Appendix E-1H: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–10 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0380	0.0540	0.0290	0.0340	0.2070	0.2220	0.1280	0.1240	0.0850	0.1050	0.2490	0.0330
Cadmium	0.0000070	0.0000090	0.0000070	0.0000040	0.0000180	0.0000170	0.0000160	0.0000170	0.0000170	0.0000100	0.0000160	0.0000067
Copper	0.00012	0.00030	0.00012	0.00026	0.00076	0.00073	0.00060	0.00035	0.00057	0.00035	0.00067	0.00012
Iron	0.116	0.201	0.096	0.151	0.322	0.149	0.221	0.324	0.402	0.189	0.229	0.130
Manganese	0.01350	0.01440	0.00850	0.00950	0.01990	0.00360	0.00910	0.01770	0.01110	0.01330	0.01240	0.01380
Zinc	0.0024	0.0043	0.0016	0.0018	0.0056	0.0060	0.0041	0.0035	0.0044	0.0027	0.0063	0.0024

Appendix E-1H: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–10 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0261	0.0301	0.0282	0.0982	0.1564	0.0920	0.0865	0.1022	0.0742	0.0485	0.0465	0.0380
Cadmium	0.0000101	0.0000158	0.0000071	0.0000116	0.0000111	0.0000160	0.0000234	0.0000383	0.0000312	0.0000148	0.0000106	0.0000134
Copper	0.00015	0.00036	0.00015	0.00039	0.00064	0.00058	0.00064	0.00077	0.00062	0.00036	0.00026	0.00034
Iron	0.097	0.126	0.078	0.143	0.139	0.138	0.275	0.709	0.477	0.221	0.165	0.134
Manganese	0.01069	0.01542	0.00981	0.00889	0.00622	0.00529	0.00862	0.01290	0.01712	0.01114	0.01034	0.01317
Zinc	0.0025	0.0047	0.0023	0.0026	0.0033	0.0038	0.0059	0.0063	0.0051	0.0029	0.0025	0.0029

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1l: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–20 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.74	7.83	8.06	7.96	7.55	7.09	7.52	7.87	7.84	7.76	7.67	-
pH (pH Units) Upper[c]	7.92	8.01	8.24	8.13	7.73	7.27	8.10	8.16	8.11	7.94	7.85	-
Total Suspended Solids	1.8	1.8	1.8	1.8	1.8	5.6	5.9	5.3	1.8	1.8	16.0	-
Turbidity (NTU)	1.18	0.58	0.72	1.55	6.88	3.20	2.24	0.83	0.82	0.95	4.69	-
Total Dissolved Solids	114	113	94	104	85	71	113	135	131	101	89	-
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Fluoride	0.071	0.077	0.066	0.067	0.055	0.042	0.075	0.066	0.067	0.076	0.065	-
Sulphate	3.01	2.84	2.88	2.50	1.80	0.79	1.91	1.62	2.22	2.68	2.42	-
Nutrients												
Ammonia-N	0.0030	0.0030	0.0030	0.0030	0.0065	0.0090	0.0030	0.0089	0.0030	0.0030	0.0030	-
Nitrate-N	0.0581	0.0461	0.0386	0.0116	0.1123	0.0030	0.0030	0.0119	0.0061	0.0030	0.0079	-
Nitrite-N	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	-
Total Phosphorous	0.034	0.027	0.029	0.029	0.054	0.031	0.030	0.032	0.030	0.025	0.048	-
Ortho-Phosphorus	0.026	0.022	0.022	0.016	0.010	0.007	0.019	0.023	0.021	0.015	0.018	-
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	-
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	-
Total Metals												
Aluminum	0.0535	0.0386	0.0284	0.0913	0.6648	0.3576	0.1756	0.0384	0.0562	0.0894	0.1872	-
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	-
Arsenic	0.00104	0.00106	0.00106	0.00101	0.00142	0.00084	0.00145	0.00147	0.00148	0.00106	0.00115	-
Barium	0.00898	0.00760	0.00786	0.00788	0.01094	0.00582	0.00856	0.00899	0.00776	0.00691	0.00900	-
Beryllium	0.000012	0.000012	0.000012	0.000012	0.000037	0.000032	0.000025	0.000012	0.000012	0.000012	0.000012	-
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	-
Cadmium	0.0000064	0.0000036	0.0000036	0.0000053	0.0000221	0.0000174	0.0000099	0.0000062	0.0000077	0.0000036	0.0000080	-
Chromium	0.00030	0.00030	0.00030	0.00030	0.00110	0.00065	0.00064	0.00030	0.00030	0.00030	0.00030	-
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00025	0.00013	0.00006	0.00006	0.00006	0.00006	0.00013	-
Copper	0.00030	0.00030	0.00030	0.00030	0.00121	0.00138	0.00092	0.00030	0.00094	0.00030	0.00030	-
Iron	0.259	0.181	0.148	0.237	0.888	0.367	0.335	0.222	0.256	0.235	0.424	-
Lead	0.000030	0.000030	0.000030	0.000030	0.000174	0.000074	0.000030	0.000030	0.000079	0.000030	0.000070	-
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	-
Manganese	0.01740	0.01046	0.00800	0.01027	0.04944	0.01452	0.01618	0.01185	0.01454	0.01190	0.04548	-
Mercury	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000086	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	-
Molybdenum	0.001108	0.001094	0.001284	0.000981	0.000718	0.000418	0.001098	0.001211	0.001268	0.000894	0.000826	-
Nickel	0.00030	0.00030	0.00030	0.00030	0.00062	0.00030	0.00030	0.00030	0.00065	0.00030	0.00030	-
Selenium	0.000178	0.000104	0.000097	0.000088	0.000120	0.000088	0.000081	0.000077	0.000094	0.000088	0.000104	-
Silver	0.000006	0.000006	0.000006	0.000006	0.000014	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	-
Strontium	0.1308	0.1039	0.1171	0.1030	0.0708	0.0365	0.1026	0.1134	0.1134	0.0936	0.0919	-
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	-
Uranium	0.000401	0.000337	0.000377	0.000285	0.000260	0.000212	0.000291	0.000296	0.000304	0.000191	0.000275	-
Vanadium	0.00100	0.00088	0.00103	0.00109	0.00258	0.00166	0.00138	0.00147	0.00115	0.00118	0.00144	-
Zinc	0.0018	0.0018	0.0018	0.0018	0.0018	0.0065	0.0018	0.0018	0.0018	0.0018	0.0018	-

Appendix E-1l: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–20 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	8.01	8.12	8.10	7.99	7.77	8.05	8.07	8.07	8.25	8.10	8.06	7.77
pH (pH Units) Upper[c]	8.01	8.12	8.10	7.99	7.77	8.05	8.07	8.07	8.25	8.10	8.06	7.77
Total Suspended Solids	1.5	1.5	1.5	1.5	20.9	1.5	2.9	1.5	1.5	1.5	1.5	3.6
Turbidity (NTU)	0.63	0.65	0.44	1.80	7.30	1.31	1.18	0.48	0.52	0.47	0.55	3.45
Total Dissolved Solids	95	96	89	96	84	90	115	95	113	96	97	99
Chloride	0.25	0.25	0.25	0.39	0.50	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Fluoride	0.056	0.060	0.068	0.059	0.047	0.051	0.058	0.063	0.067	0.058	0.059	0.060
Sulphate	2.48	2.84	2.62	3.50	2.76	1.37	1.49	1.78	2.23	1.61	2.51	2.31
Nutrients												
Ammonia-N	0.0074	0.0037	0.0025	0.0118	0.0056	0.0025	0.0058	0.0123	0.0168	0.0025	0.0025	0.0093
Nitrate-N	0.0783	0.0660	0.0517	0.0310	0.1574	0.0025	0.0025	0.0064	0.0025	0.0025	0.0135	0.0454
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0010	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Phosphorous	0.029	0.028	0.024	0.052	0.049	0.027	0.028	0.029	0.027	0.024	0.026	0.027
Ortho-Phosphorus	0.023	0.023	0.023	0.032	0.008	0.016	0.016	0.020	0.025	0.017	0.018	0.017
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0228	0.0234	0.0228	0.1590	0.3698	0.2170	0.0684	0.0305	0.0157	0.0163	0.0356	0.0234
Antimony	0.00005	0.00005	0.000050	0.00009	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00093	0.00092	0.00087	0.00089	0.00118	0.00120	0.00118	0.00114	0.00118	0.00104	0.00094	0.00084
Barium	0.00701	0.00699	0.00670	0.00737	0.00887	0.00899	0.00778	0.00772	0.00829	0.00674	0.00711	0.00728
Beryllium	0.000010	0.000010	0.000010	0.000010	0.000023	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000030	0.0000063	0.0000165	0.0000104	0.0000040	0.0000030	0.0000030	0.0000030	0.0000045	0.0000030
Chromium	0.00025	0.00025	0.00025	0.00025	0.00074	0.00064	0.00025	0.00025	0.00025	0.00025	0.00028	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00005	0.00020	0.00012	0.00005	0.00005	0.00005	0.00005	0.00006	0.00005
Copper	0.00025	0.00025	0.00025	0.00038	0.00086	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Iron	0.185	0.141	0.128	0.236	0.585	0.408	0.207	0.128	0.081	0.149	0.169	0.131
Lead	0.000025	0.000025	0.000025	0.000025	0.000154	0.000114	0.000025	0.000025	0.000025	0.000025	0.000033	0.000025
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00713	0.00659	0.00570	0.00811	0.04385	0.03330	0.01077	0.00691	0.00843	0.00708	0.01191	0.00924
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000057	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000928	0.000990	0.000968	0.000896	0.000707	0.000933	0.000930	0.001190	0.001210	0.000950	0.000967	0.000964
Nickel	0.00025	0.00025	0.00025	0.00025	0.00056	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000094	0.000072	0.000073	0.000061	0.000081	0.000101	0.000068	0.000068	0.000058	0.000056	0.000064	0.000060
Silver	0.000005	0.000005	0.000005	0.000005	0.000011	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.0971	0.1005	0.0941	0.0879	0.0662	0.0936	0.0939	0.1100	0.1150	0.1030	0.0976	0.1020
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000347	0.000403	0.000311	0.000308	0.000244	0.000327	0.000277	0.000352	0.000417	0.000271	0.000326	0.000348
Vanadium	0.00082	0.00076	0.00068	0.00097	0.00193	0.00160	0.00111	0.00089	0.00081	0.00070	0.00070	0.00065
Zinc	0.0015	0.0015	0.0015	0.0015	0.0030	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015

Appendix E-1l: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–20 in Creek 661

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0119	0.0139	0.0145	0.0535	0.2568	0.2148	0.1072	0.0294	0.0255	0.0506	0.0202	-
Cadmium	0.0000036	0.0000036	0.0000036	0.0000036	0.0000083	0.0000064	0.0000098	0.0000036	0.0000036	0.0000036	0.0000036	-
Copper	0.00012	0.00012	0.00012	0.00035	0.00096	0.00110	0.00085	0.00035	0.00039	0.00038	0.00025	-
Iron	0.166	0.106	0.096	0.151	0.319	0.191	0.189	0.203	0.177	0.179	0.127	-
Manganese	0.00761	0.00547	0.00438	0.00602	0.00994	0.00457	0.00850	0.00743	0.00647	0.00631	0.00572	-
Zinc	0.0018	0.0006	0.0006	0.0024	0.0019	0.0025	0.0016	0.0006	0.0006	0.0006	0.0006	-

Appendix E-1l: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661–20 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0101	0.0093	0.0081	0.0617	0.0881	0.0194	0.0374	0.0147	0.0062	0.0099	0.0091	0.0063
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000043	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00010	0.00010	0.00010	0.00035	0.00058	0.00031	0.00031	0.00023	0.00010	0.00010	0.00014	0.00010
Iron	0.127	0.088	0.086	0.127	0.163	0.110	0.149	0.116	0.057	0.109	0.087	0.083
Manganese	0.00402	0.00385	0.00289	0.00416	0.00748	0.00525	0.00547	0.00412	0.00551	0.00431	0.00385	0.00472
Zinc	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1J: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-15 in Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.64	7.73	7.83	7.58	7.62	7.34	7.77	7.83	7.75	7.79	7.71	7.76
pH (pH Units) Upper[c]	8.27	8.14	8.20	8.06	8.10	8.22	8.16	8.43	8.29	8.14	8.07	8.07
Total Suspended Solids	3.3	1.8	12.4	13.6	12.8	11.4	4.5	7.2	1.8	7.0	9.0	3.3
Turbidity (NTU)	0.93	1.08	3.00	4.80	3.63	2.65	1.55	6.90	1.53	5.62	2.54	1.39
Total Dissolved Solids	126	126	132	129	118	118	123	132	129	117	128	118
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Fluoride	0.070	0.078	0.076	0.071	0.064	0.069	0.066	0.073	0.070	0.070	0.074	0.076
Sulphate	4.87	5.34	5.16	5.54	4.37	4.21	4.16	4.27	4.42	4.52	4.86	4.71
Nutrients												
Ammonia-N	0.0131	0.0124	0.0747	0.1205	0.0102	0.0136	0.0138	0.0386	0.0381	0.0172	0.0298	0.0096
Nitrate-N	0.1615	0.1450	0.1322	0.0731	0.0382	0.0030	0.0059	0.0104	0.0102	0.0250	0.0779	0.1326
Nitrite-N	0.0020	0.0038	0.0006	0.0006	0.0012	0.0006	0.0006	0.0017	0.0019	0.0030	0.0018	0.0033
Total Phosphorous	0.039	0.033	0.053	0.083	0.045	0.025	0.020	0.045	0.024	0.041	0.034	0.033
Ortho-Phosphorus	0.023	0.023	0.025	0.043	0.012	0.004	0.003	0.004	0.004	0.005	0.020	0.021
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0333	0.0498	0.1963	0.1855	0.1991	0.1354	0.0556	0.0715	0.0429	0.0599	0.1916	0.0466
Antimony	0.00006	0.00006	0.00006	0.00006	0.00009	0.00006	0.00006	0.00006	0.00006	0.00006	0.00011	0.00006
Arsenic	0.00075	0.00075	0.00100	0.00089	0.00084	0.00078	0.00088	0.00096	0.00098	0.00094	0.00086	0.00081
Barium	0.00909	0.00918	0.00992	0.01138	0.01079	0.00821	0.00881	0.00949	0.00968	0.00961	0.00973	0.00892
Beryllium	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000036	0.0000036	0.0000055	0.0000036	0.0000046	0.0000036	0.0000146	0.0000036	0.0000036	0.0000087	0.0000036	0.0000036
Chromium	0.00028	0.00048	0.00044	0.00039	0.00038	0.00030	0.00030	0.00030	0.00190	0.00030	0.00038	0.00028
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Copper	0.00030	0.00054	0.00131	0.00069	0.00092	0.00090	0.00078	0.00066	0.00094	0.00076	0.00097	0.00030
Iron	0.146	0.171	0.296	0.332	0.295	0.210	0.180	0.219	0.372	0.259	0.319	0.171
Lead	0.000030	0.000030	0.000084	0.000088	0.000072	0.000061	0.000030	0.000030	0.000030	0.000030	0.000063	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.02454	0.02342	0.03283	0.04819	0.04705	0.03245	0.03153	0.03708	0.03578	0.03465	0.04474	0.02822
Mercury	0.0000036	0.0000114	0.0000036	0.0000036	0.0000036	0.0000036	0.0000058	0.0000036	0.0000036	0.0000088	0.0000036	0.0000086
Molybdenum	0.000789	0.000958	0.000833	0.000931	0.000796	0.000659	0.000784	0.000874	0.001120	0.000793	0.000752	0.000775
Nickel	0.00030	0.00030	0.00030	0.00030	0.00043	0.00030	0.00030	0.00030	0.00052	0.00053	0.00030	0.00030
Selenium	0.000093	0.000098	0.000093	0.000118	0.000098	0.000112	0.000103	0.000099	0.000084	0.000104	0.000106	0.000092
Silver	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1289	0.1315	0.1270	0.1224	0.1074	0.1041	0.1122	0.1212	0.1246	0.1184	0.1189	0.1282
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000145	0.000159	0.000235	0.000192	0.000142	0.000146	0.000123	0.000134	0.000139	0.000130	0.000123	0.000131
Vanadium	0.00030	0.00072	0.00101	0.00129	0.00095	0.00101	0.00075	0.00085	0.00085	0.00072	0.00100	0.00079
Zinc	0.0018	0.0075	0.0018	0.0018	0.0018	0.0046	0.0018	0.0018	0.0034	0.0027	0.0018	0.0018

Appendix E-1J: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-15 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.97	7.99	8.00	8.02	7.93	8.00	8.01	8.20	8.05	7.97	7.88	7.81
pH (pH Units) Upper[c]	7.97	7.99	8.00	8.02	7.93	8.00	8.01	8.20	8.05	7.97	7.88	7.81
Total Suspended Solids	1.5	1.5	4.6	9.8	12.3	7.3	3.7	4.0	4.3	3.6	2.1	1.5
Turbidity (NTU)	1.11	0.66	2.84	6.64	4.51	3.07	2.15	1.89	2.43	2.72	2.06	2.64
Total Dissolved Solids	94	106	98	97	89	100	96	92	95	93	99	100
Chloride	0.25	0.25	0.35	0.58	0.52	0.35	0.45	0.36	0.47	0.43	0.34	0.48
Fluoride	0.059	0.060	0.059	0.056	0.049	0.049	0.052	0.054	0.053	0.055	0.053	0.054
Sulphate	3.95	4.08	4.11	3.86	4.06	3.57	3.95	3.12	3.25	3.59	3.79	4.17
Nutrients												
Ammonia-N	0.0136	0.0108	0.0148	0.0227	0.0085	0.0069	0.0072	0.0091	0.0080	0.0393	0.0505	0.0169
Nitrate-N	0.0814	0.0851	0.0657	0.0278	0.0132	0.0030	0.0025	0.0034	0.0063	0.0063	0.0306	0.0676
Nitrite-N	0.0016	0.0014	0.0005	0.0005	0.0007	0.0005	0.0005	0.0005	0.0005	0.0007	0.0009	0.0013
Total Phosphorous	0.022	0.022	0.025	0.042	0.029	0.029	0.016	0.017	0.020	0.028	0.028	0.024
Ortho-Phosphorus	0.011	0.011	0.010	0.017	0.002	0.001	0.001	0.002	0.002	0.002	0.006	0.010
Cyanides												
Total Cyanide	0.0036	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0287	0.0119	0.1037	0.2847	0.3046	0.1688	0.1205	0.0554	0.0563	0.0501	0.0671	0.1209
Antimony	0.00005	0.00005	0.000090	0.00005	0.00006	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00062	0.00062	0.00069	0.00080	0.00080	0.00077	0.00077	0.00093	0.00073	0.00072	0.00069	0.00066
Barium	0.00788	0.00764	0.00868	0.01070	0.01017	0.00860	0.00857	0.00825	0.00892	0.00853	0.00859	0.00839
Beryllium	0.000010	0.000010	0.000010	0.000014	0.000014	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000042	0.0000048	0.0000053	0.0000047	0.0000030	0.0000043	0.0000039	0.0000034	0.0000030	0.0000041
Chromium	0.00025	0.00025	0.00025	0.00025	0.00040	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00013	0.00014	0.00006	0.00005	0.00008	0.00013	0.00008	0.00007	0.00010
Copper	0.00025	0.00025	0.00067	0.00073	0.00073	0.00062	0.00039	0.00036	0.00025	0.00029	0.00033	0.00036
Iron	0.136	0.111	0.229	0.420	0.399	0.225	0.206	0.216	0.249	0.244	0.248	0.224
Lead	0.000025	0.000025	0.000052	0.000121	0.000134	0.000063	0.000051	0.000025	0.000025	0.000031	0.000034	0.000081
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.02170	0.01907	0.02958	0.04825	0.03848	0.02365	0.02250	0.02790	0.02529	0.03201	0.03140	0.02850
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000034	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000725	0.000707	0.000705	0.000743	0.000633	0.000634	0.000671	0.000727	0.000760	0.000716	0.000700	0.000647
Nickel	0.00025	0.00025	0.00035	0.00035	0.00049	0.00025	0.00025	0.00025	0.00025	0.00027	0.00025	0.00025
Selenium	0.000068	0.000078	0.000066	0.000080	0.000071	0.000062	0.000061	0.000069	0.000074	0.000059	0.000058	0.000046
Silver	0.000005	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.1090	0.1078	0.1067	0.0968	0.0834	0.0902	0.0966	0.1009	0.1050	0.1037	0.1058	0.1025
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000126	0.000130	0.000158	0.000164	0.000139	0.000121	0.000111	0.000117	0.000125	0.000119	0.000128	0.000132
Vanadium	0.00037	0.00025	0.00075	0.00105	0.00111	0.00077	0.00056	0.00070	0.00060	0.00054	0.00042	0.00042
Zinc	0.0015	0.0015	0.0027	0.0015	0.0019	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015

Appendix E-1J: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-15 in Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0122	0.0095	0.0066	0.0183	0.0559	0.0414	0.0217	0.0143	0.0167	0.0154	0.0789	0.0153
Cadmium	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000139	0.0000036	0.0000036	0.0000082	0.0000036	0.0000036
Copper	0.00050	0.00043	0.00036	0.00039	0.00066	0.00073	0.00059	0.00049	0.00047	0.02317	0.00064	0.00048
Iron	0.094	0.094	0.108	0.123	0.123	0.072	0.112	0.119	0.123	0.127	0.130	0.095
Manganese	0.01963	0.01747	0.02429	0.03838	0.02498	0.02184	0.02301	0.03122	0.02827	0.02114	0.02575	0.02140
Zinc	0.0034	0.0018	0.0016	0.0018	0.0018	0.0023	0.0015	0.0018	0.0018	0.0213	0.0016	0.0016

Appendix E-1J: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-15 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0029	0.0022	0.0042	0.0154	0.0388	0.0265	0.0284	0.0113	0.0102	0.0087	0.0165	0.0096
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00030	0.00029	0.00036	0.00036	0.00051	0.00035	0.00038	0.00033	0.00032	0.00034	0.00030	0.00032
Iron	0.077	0.072	0.093	0.095	0.077	0.055	0.091	0.114	0.145	0.141	0.131	0.080
Manganese	0.01903	0.01757	0.02512	0.03337	0.01642	0.01210	0.01443	0.02002	0.01962	0.02712	0.02653	0.02118
Zinc	0.0005	0.0005	0.0011	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1K: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-20 in Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.64	7.72	7.90	7.58	7.55	7.73	7.79	7.90	7.81	7.84	7.79	7.77
pH (pH Units) Upper[c]	8.26	8.14	8.24	8.05	8.07	8.21	8.24	8.37	8.21	8.30	8.03	8.07
Total Suspended Solids	3.5	3.2	10.0	7.3	13.8	13.7	4.2	5.6	4.4	29.9	5.9	3.4
Turbidity (NTU)	1.45	1.26	2.03	3.58	4.78	2.28	2.28	1.96	1.31	50.02	2.50	1.70
Total Dissolved Solids	125	129	128	128	119	119	136	132	128	130	111	120
Chloride	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Fluoride	0.070	0.076	0.075	0.070	0.064	0.066	0.075	0.069	0.072	0.067	0.073	0.073
Sulphate	4.78	4.94	5.07	5.52	4.32	4.09	3.97	4.13	4.29	4.28	4.83	4.72
Nutrients												
Ammonia-N	0.0101	0.0092	0.0496	0.0805	0.0121	0.0130	0.0134	0.0408	0.0346	0.0132	0.0399	0.0091
Nitrate-N	0.1540	0.1387	0.1078	0.0632	0.0439	0.0030	0.0030	0.0101	0.0092	0.0270	0.1252	0.1330
Nitrite-N	0.0014	0.0035	0.0006	0.0022	0.0006	0.0006	0.0006	0.0010	0.0011	0.0016	0.0033	0.0023
Total Phosphorous	0.032	0.032	0.041	0.072	0.052	0.025	0.020	0.030	0.021	0.169	0.032	0.031
Ortho-Phosphorus	0.020	0.020	0.021	0.035	0.013	0.004	0.011	0.004	0.005	0.008	0.019	0.020
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0580	0.0332	0.0815	0.1235	0.1954	0.1244	0.0633	0.0557	0.0406	0.0566	0.0968	0.0621
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00012	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	0.00078	0.00075	0.00078	0.00078	0.00090	0.00077	0.00104	0.00092	0.00090	0.00089	0.00080	0.00078
Barium	0.00918	0.00884	0.00922	0.01106	0.01112	0.00802	0.00935	0.01003	0.01025	0.01016	0.00951	0.00910
Beryllium	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060	0.000060
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000036	0.0000057	0.0000036	0.0000036	0.0000048	0.0000216	0.0000094	0.0000036	0.0000036	0.0000067	0.0000036	0.0000078
Chromium	0.00028	0.00030	0.00063	0.00030	0.00036	0.00030	0.00030	0.00030	0.00030	0.00030	0.00037	0.00019
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00008	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Copper	0.00030	0.00062	0.00030	0.00085	0.00095	0.00084	0.00090	0.00064	0.00065	0.00077	0.00030	0.00060
Iron	0.195	0.184	0.247	0.293	0.372	0.195	0.258	0.210	0.219	0.269	0.233	0.180
Lead	0.000030	0.000030	0.000030	0.000030	0.000091	0.000082	0.000088	0.000030	0.000094	0.000030	0.000030	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.03245	0.02422	0.03226	0.04936	0.05775	0.03000	0.03966	0.04531	0.03954	0.05139	0.04984	0.03145
Mercury	0.0000036	0.0000036	0.0000036	0.0000036	0.0000045	0.0000036	0.0000056	0.0000036	0.0000036	0.0000036	0.0000036	0.0000077
Molybdenum	0.000800	0.001036	0.000876	0.000902	0.000787	0.000668	0.001008	0.000871	0.000869	0.000915	0.000752	0.000750
Nickel	0.00030	0.00030	0.00030	0.00030	0.00030	0.00129	0.00030	0.00030	0.00030	0.00072	0.00030	0.00030
Selenium	0.000093	0.000096	0.000100	0.000076	0.000121	0.000086	0.000109	0.000113	0.000091	0.000109	0.000095	0.000087
Silver	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1282	0.1303	0.1308	0.1327	0.1091	0.1086	0.1259	0.1235	0.1245	0.1202	0.1218	0.1234
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000146	0.000159	0.000168	0.000172	0.000140	0.000140	0.000153	0.000136	0.000142	0.000134	0.000119	0.000129
Vanadium	0.00060	0.00106	0.00074	0.00115	0.00112	0.00100	0.00091	0.00086	0.00077	0.00066	0.00071	0.00030
Zinc	0.0018	0.0033	0.0032	0.0018	0.0018	0.0018	0.0018	0.0041	0.0043	0.0018	0.0018	0.0018

Appendix E-1K: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-20 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	8.03	8.05	8.12	7.99	7.92	8.03	8.01	8.07	8.07	7.98	7.90	7.85
pH (pH Units) Upper[c]	8.03	8.05	8.12	7.99	7.92	8.03	8.01	8.07	8.07	7.98	7.90	7.85
Total Suspended Solids	1.5	1.5	1.5	6.3	11.0	5.9	3.6	2.1	1.5	2.4	1.5	2.0
Turbidity (NTU)	0.61	1.02	2.11	5.28	4.21	2.78	2.16	1.60	1.47	1.88	1.83	2.52
Total Dissolved Solids	99	129	98	94	85	99	98	96	96	96	98	98
Chloride	0.25	0.36	0.25	0.58	0.46	0.35	0.41	0.35	0.46	0.41	0.34	0.46
Fluoride	0.059	0.069	0.056	0.053	0.049	0.052	0.052	0.055	0.053	0.054	0.054	0.053
Sulphate	4.09	4.92	4.18	4.44	4.01	3.80	3.86	3.09	3.15	3.47	3.70	4.17
Nutrients												
Ammonia-N	0.0106	0.0103	0.0083	0.0089	0.0080	0.0085	0.0082	0.0076	0.0072	0.0378	0.0479	0.0158
Nitrate-N	0.0816	0.0889	0.0461	0.0367	0.0111	0.0025	0.0025	0.0025	0.0025	0.0055	0.0298	0.0655
Nitrite-N	0.0006	0.0009	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0006	0.0011	0.0008
Total Phosphorous	0.021	0.020	0.026	0.027	0.029	0.018	0.017	0.017	0.017	0.023	0.024	0.021
Ortho-Phosphorus	0.009	0.010	0.008	0.009	0.002	0.001	0.001	0.002	0.002	0.002	0.005	0.009
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0042	0.0025	0.0025	0.0037	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0150	0.0420	0.0602	0.2592	0.2353	0.1293	0.1174	0.0414	0.0345	0.0399	0.0555	0.0978
Antimony	0.00005	0.00005	0.000050	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00006
Arsenic	0.00058	0.00073	0.00065	0.00084	0.00073	0.00075	0.00077	0.00080	0.00073	0.00068	0.00066	0.00068
Barium	0.00773	0.00989	0.00776	0.01029	0.00927	0.00817	0.00864	0.00770	0.00861	0.00835	0.00863	0.00825
Beryllium	0.000017	0.000010	0.000010	0.000013	0.000012	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000030	0.0000039	0.0000048	0.0000033	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000033
Chromium	0.00025	0.00025	0.00025	0.00025	0.00029	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00011	0.00010	0.00005	0.00005	0.00008	0.00012	0.00007	0.00007	0.00009
Copper	0.00025	0.00025	0.00025	0.00067	0.00058	0.00043	0.00037	0.00025	0.00025	0.00027	0.00025	0.00033
Iron	0.115	0.215	0.163	0.391	0.314	0.187	0.212	0.220	0.227	0.232	0.236	0.203
Lead	0.000025	0.000025	0.000025	0.000105	0.000092	0.000054	0.000046	0.000025	0.000025	0.000028	0.000033	0.000073
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01988	0.03900	0.02470	0.04588	0.03337	0.02520	0.02570	0.02960	0.02330	0.03146	0.03603	0.02646
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000033	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000673	0.000840	0.000697	0.000678	0.000614	0.000628	0.000731	0.001005	0.000761	0.000712	0.000684	0.000658
Nickel	0.00025	0.00025	0.00025	0.00044	0.00037	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000066	0.000079	0.000037	0.000068	0.000071	0.000080	0.000064	0.000055	0.000055	0.000049	0.000065	0.000051
Silver	0.000005	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005	0.000011	0.000005	0.000005	0.000005	0.000005
Strontium	0.1087	0.1316	0.1060	0.0935	0.0822	0.0905	0.0989	0.1004	0.1077	0.1046	0.1090	0.1031
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000125	0.000157	0.000146	0.000151	0.000127	0.000118	0.000110	0.000117	0.000120	0.000117	0.000126	0.000126
Vanadium	0.00025	0.00025	0.00041	0.00100	0.00090	0.00072	0.00066	0.00062	0.00051	0.00045	0.00041	0.00037
Zinc	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015

Appendix E-1K: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-20 in Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0112	0.0071	0.0068	0.0192	0.0523	0.0405	0.0262	0.0291	0.0083	0.0124	0.0239	0.0148
Cadmium	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036
Copper	0.00042	0.00044	0.00061	0.00042	0.00069	0.00055	0.00063	0.00049	0.00061	0.00054	0.00044	0.00073
Iron	0.089	0.098	0.097	0.129	0.130	0.076	0.181	0.141	0.143	0.147	0.109	0.127
Manganese	0.02328	0.02114	0.01980	0.04181	0.02376	0.02280	0.03132	0.03422	0.03222	0.02965	0.03079	0.02983
Zinc	0.0016	0.0013	0.0016	0.0018	0.0018	0.0016	0.0015	0.0013	0.0015	0.0014	0.0016	0.0016

Appendix E-1K: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-20 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0022	0.0035	0.0046	0.0192	0.0351	0.0287	0.0288	0.0107	0.0093	0.0072	0.0125	0.0108
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000040	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00032	0.00035	0.00032	0.00038	0.00047	0.00036	0.00039	0.00036	0.00034	0.00036	0.00035	0.00033
Iron	0.067	0.134	0.075	0.099	0.076	0.071	0.093	0.131	0.141	0.138	0.121	0.076
Manganese	0.01715	0.03527	0.02173	0.03178	0.01647	0.01537	0.01620	0.02293	0.01842	0.02690	0.02823	0.01980
Zinc	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1L: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 To December 2025) Monthly Surface Water Quality for CC-30 in Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.68	7.60	7.68	7.69	7.53	7.64	7.67	7.82	7.36	7.90	7.64	7.79
pH (pH Units) Upper[c]	7.95	8.18	8.02	8.14	8.04	8.06	8.08	8.25	8.17	8.14	8.11	8.16
Total Suspended Solids	3.9	4.4	5.8	8.1	27.0	8.5	4.3	9.2	1.8	4.8	7.5	1.8
Turbidity (NTU)	1.51	1.85	3.88	2.12	10.88	2.01	2.26	6.78	1.57	2.27	3.72	1.92
Total Dissolved Solids	130	133	137	134	122	112	120	145	129	129	119	133
Chloride	0.30	0.30	0.75	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.57	0.30
Fluoride	0.078	0.083	0.079	0.070	0.071	0.075	0.074	0.083	0.077	0.074	0.066	0.080
Sulphate	4.43	5.15	4.65	4.23	3.99	3.28	3.24	3.90	3.76	3.89	4.09	4.43
Nutrients												
Ammonia-N	0.0218	0.0252	0.0347	0.0118	0.0129	0.0102	0.0098	0.0093	0.0198	0.0092	0.0376	0.0228
Nitrate-N	0.1328	0.1290	0.0515	0.0464	0.0475	0.0030	0.0030	0.0124	0.0030	0.0030	0.0358	0.1304
Nitrite-N	0.0021	0.0021	0.0006	0.0006	0.0011	0.0006	0.0006	0.0011	0.0006	0.0006	0.0011	0.0022
Total Phosphorous	0.027	0.026	0.039	0.032	0.042	0.026	0.028	0.057	0.019	0.022	0.027	0.028
Ortho-Phosphorus	0.014	0.015	0.011	0.010	0.013	0.006	0.009	0.005	0.006	0.006	0.011	0.016
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.0524	0.0414	0.1385	0.1452	0.3873	0.1085	0.0633	0.0589	0.0374	0.0501	0.1902	0.0542
Antimony	0.00006	0.00006	0.00019	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	0.00071	0.00078	0.00086	0.00070	0.00099	0.00084	0.00095	0.00104	0.00095	0.00086	0.00076	0.00079
Barium	0.01053	0.01120	0.01247	0.01060	0.01422	0.00926	0.01019	0.01077	0.01135	0.01044	0.01091	0.01091
Beryllium	0.000012	0.000046	0.000012	0.000012	0.000038	0.000012	0.000012	0.000046	0.000012	0.000012	0.000055	0.000012
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000036	0.0000036	0.0000146	0.0000036	0.0000090	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036
Chromium	0.00028	0.00030	0.00148	0.00029	0.00062	0.00030	0.00030	0.00030	0.00030	0.00030	0.00041	0.00030
Cobalt	0.00006	0.00006	0.00016	0.00006	0.00023	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Copper	0.00059	0.00055	0.00217	0.00072	0.00115	0.00080	0.00075	0.00063	0.00030	0.00030	0.00069	0.00030
Iron	0.373	0.486	0.771	0.470	0.912	0.344	0.311	0.370	0.372	0.433	0.496	0.391
Lead	0.000030	0.000030	0.000275	0.000030	0.000153	0.000030	0.000030	0.000030	0.000030	0.000030	0.000030	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.04723	0.04891	0.08200	0.04060	0.10317	0.04721	0.04532	0.04943	0.04514	0.05047	0.07939	0.05464
Mercury	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036
Molybdenum	0.000898	0.001161	0.000962	0.000942	0.000845	0.000814	0.000936	0.001069	0.001105	0.000983	0.000871	0.000934
Nickel	0.00030	0.00030	0.00076	0.00030	0.00067	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030	0.00030
Selenium	0.000092	0.000099	0.000069	0.000121	0.000115	0.000094	0.000102	0.000109	0.000111	0.000084	0.000090	0.000030
Silver	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1271	0.1487	0.1386	0.1320	0.1078	0.1033	0.1205	0.1313	0.1335	0.1334	0.1266	0.1323
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000183	0.000211	0.000200	0.000200	0.000173	0.000131	0.000132	0.000161	0.000188	0.000169	0.000157	0.000168
Vanadium	0.00066	0.00064	0.00088	0.00085	0.00170	0.00090	0.00095	0.00092	0.00069	0.00074	0.00092	0.00106
Zinc	0.0018	0.0033	0.0130	0.0018	0.0030	0.0018	0.0018	0.0053	0.0018	0.0018	0.0018	0.0018

Appendix E-1L: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 To December 2025) Monthly Surface Water Quality for CC-30 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	-	8.02	8.12	7.99	7.93	-	8.13	8.15	-	8.13	7.92	8.00
pH (pH Units) Upper[c]	-	8.02	8.12	7.99	7.93	-	8.13	8.15	-	8.13	7.92	8.00
Total Suspended Solids	-	1.5	1.5	11.1	10.1	-	2.7	1.5	-	3.3	1.5	1.5
Turbidity (NTU)	-	1.46	1.32	5.56	3.99	-	2.25	1.18	-	1.96	2.19	1.11
Total Dissolved Solids	-	110	115	97	93	-	106	95	-	119	100	110
Chloride	-	0.56	0.25	0.64	0.48	-	0.25	0.39	-	0.42	0.40	0.25
Fluoride	-	0.066	0.062	0.061	0.052	-	0.054	0.059	-	0.066	0.057	0.066
Sulphate	-	4.01	4.31	5.72	3.83	-	3.15	3.21	-	3.32	3.38	3.58
Nutrients												
Ammonia-N	-	0.0204	0.0485	0.0069	0.0062	-	0.0091	0.0075	-	0.0045	0.0517	0.0425
Nitrate-N	-	0.0710	0.0346	0.0304	0.0025	-	0.0044	0.0025	-	0.0057	0.0467	0.0750
Nitrite-N	-	0.0005	0.0005	0.0005	0.0005	-	0.0005	0.0005	-	0.0005	0.0009	0.0010
Total Phosphorous	-	0.019	0.025	0.036	0.023	-	0.021	0.019	-	0.017	0.019	0.019
Ortho-Phosphorus	-	0.007	0.005	0.006	0.003	-	0.006	0.004	-	0.005	0.004	0.008
Cyanides												
Total Cyanide	-	0.0025	0.0025	0.0025	0.0025	-	0.0025	0.0025	-	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	-	0.0025	0.0025	0.0025	0.0025	-	0.0025	0.0025	-	0.0025	0.0025	0.0025
Total Metals												
Aluminum	-	0.0306	0.0200	0.2240	0.1770	-	0.0326	0.0298	-	0.0190	0.0499	0.0205
Antimony	-	0.00005	0.00005	0.00005	0.00005	-	0.00005	0.00005	-	0.00005	0.00005	0.00005
Arsenic	-	0.00061	0.00052	0.00096	0.00062	-	0.00099	0.00092	-	0.00074	0.00060	0.00054
Barium	-	0.00898	0.00855	0.01110	0.00903	-	0.00845	0.00891	-	0.00883	0.00939	0.00859
Beryllium	-	0.000010	0.000010	0.000010	0.000010	-	0.000010	0.000010	-	0.000010	0.000010	0.000010
Boron	-	0.005	0.005	0.005	0.005	-	0.005	0.005	-	0.005	0.005	0.005
Cadmium	-	0.0000030	0.0000030	0.0000030	0.0000030	-	0.0000030	0.0000030	-	0.0000030	0.0000037	0.0000030
Chromium	-	0.00025	0.00025	0.00025	0.00025	-	0.00025	0.00025	-	0.00025	0.00025	0.00025
Cobalt	-	0.00005	0.00005	0.00014	0.00010	-	0.00005	0.00005	-	0.00009	0.00005	0.00005
Copper	-	0.00025	0.00025	0.00066	0.00063	-	0.00025	0.00025	-	0.00025	0.00039	0.00025
Iron	-	0.296	0.266	0.668	0.398	-	0.370	0.315	-	0.454	0.392	0.240
Lead	-	0.000025	0.000025	0.000095	0.000067	-	0.000025	0.000025	-	0.000025	0.000025	0.000025
Lithium	-	0.0005	0.0005	0.0005	0.0005	-	0.0005	0.0005	-	0.0005	0.0005	0.0005
Manganese	-	0.04460	0.02350	0.06700	0.03563	-	0.06970	0.03688	-	0.03641	0.04057	0.04340
Mercury	-	0.0000030	0.0000030	0.0000030	0.0000030	-	0.0000030	0.0000030	-	0.0000030	0.0000030	0.0000030
Molybdenum	-	0.000861	0.000929	0.000779	0.000643	-	0.000854	0.000992	-	0.000973	0.000866	0.000835
Nickel	-	0.00025	0.00025	0.00090	0.00025	-	0.00025	0.00025	-	0.00025	0.00025	0.00025
Selenium	-	0.000078	0.000025	0.000080	0.000062	-	0.000060	0.000059	-	0.000055	0.000055	0.000025
Silver	-	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	-	0.000005	0.000005	0.000005
Strontium	-	0.1130	0.1200	0.0971	0.0809	-	0.1055	0.1105	-	0.1179	0.1130	0.1140
Thallium	-	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	-	0.000005	0.000005	0.000005
Uranium	-	0.000192	0.000191	0.000168	0.000126	-	0.000145	0.000147	-	0.000160	0.000176	0.000144
Vanadium	-	0.00040	0.00025	0.00125	0.00091	-	0.00073	0.00075	-	0.00061	0.00043	0.00025
Zinc	-	0.0015	0.0015	0.0015	0.0015	-	0.0015	0.0015	-	0.0015	0.0015	0.0015

Appendix E-1L: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 To December 2025) Monthly Surface Water Quality for CC-30 in Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0117	0.0092	0.0109	0.0333	0.0439	0.0264	0.0211	0.0130	0.0057	0.0066	0.0767	0.0201
Cadmium	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036
Copper	0.00043	0.00045	0.00106	0.00057	0.00079	0.00062	0.00061	0.00049	0.00041	0.00073	0.00073	0.00047
Iron	0.216	0.295	0.340	0.291	0.222	0.158	0.194	0.252	0.240	0.283	0.279	0.204
Manganese	0.03980	0.03788	0.05838	0.03375	0.03621	0.02679	0.02607	0.03191	0.02628	0.03108	0.05383	0.04658
Zinc	0.0006	0.0020	0.0051	0.0006	0.0013	0.0006	0.0034	0.0006	0.0006	0.0006	0.0006	0.0006

Appendix E-1L: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 To December 2025) Monthly Surface Water Quality for CC-30 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	-	0.0052	0.0030	0.0196	0.0213	-	0.0076	0.0054	-	0.0031	0.0112	0.0014
Cadmium	-	0.0000030	0.0000030	0.0000030	0.0000030	-	0.0000030	0.0000030	-	0.0000030	0.0000030	0.0000030
Copper	-	0.00027	0.00031	0.00041	0.00050	-	0.00035	0.00037	-	0.00028	0.00040	0.00028
Iron	-	0.175	0.166	0.211	0.119	-	0.231	0.208	-	0.302	0.232	0.136
Manganese	-	0.03580	0.01860	0.03560	0.01268	-	0.05385	0.02573	-	0.02856	0.03067	0.03520
Zinc	-	0.0005	0.0005	0.0005	0.0005	-	0.0005	0.0008	-	0.0005	0.0010	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-1M: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-40 In Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	7.71	7.63	7.81	7.66	7.54	7.71	7.70	7.87	7.34	7.89	7.60	7.81
pH (pH Units) Upper[c]	7.95	8.22	8.15	8.12	8.03	8.06	8.08	8.21	8.16	8.15	8.10	8.15
Total Suspended Solids	6.9	3.4	3.6	9.0	24.6	13.0	8.9	7.1	3.8	3.9	7.3	1.8
Turbidity (NTU)	1.66	1.89	2.31	2.20	9.04	2.61	3.10	3.27	1.58	2.43	4.08	1.85
Total Dissolved Solids	129	135	134	139	118	115	118	137	136	126	116	135
Chloride	0.72	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Fluoride	0.075	0.086	0.081	0.073	0.067	0.075	0.068	0.081	0.076	0.079	0.073	0.083
Sulphate	5.05	5.68	4.99	4.89	4.21	3.40	3.49	4.01	4.36	4.18	4.55	4.93
Nutrients												
Ammonia-N	0.0218	0.0228	0.0128	0.0141	0.0102	0.0442	0.0183	0.0091	0.0094	0.0030	0.0122	0.0205
Nitrate-N	0.1332	0.1370	0.0717	0.0398	0.0305	0.0063	0.0030	0.0083	0.0030	0.0030	0.0337	0.1136
Nitrite-N	0.0022	0.0025	0.0009	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0012	0.0013
Total Phosphorous	0.032	0.026	0.024	0.027	0.043	0.038	0.121	0.028	0.023	0.024	0.028	0.022
Ortho-Phosphorus	0.013	0.013	0.012	0.009	0.010	0.008	0.010	0.007	0.007	0.007	0.009	0.014
Cyanides												
Total Cyanide	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Cyanide, Weak Acid Dissociable	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total Metals												
Aluminum	0.1067	0.0562	0.0551	0.1246	0.3578	0.1371	0.0806	0.1251	0.0356	0.0675	0.2140	0.0749
Antimony	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Arsenic	0.00078	0.00086	0.00079	0.00076	0.00095	0.00089	0.00104	0.00117	0.00105	0.00097	0.00083	0.00077
Barium	0.01079	0.01167	0.01051	0.01084	0.01405	0.00991	0.01031	0.01123	0.01092	0.01058	0.01091	0.01076
Beryllium	0.000012	0.000046	0.000012	0.000012	0.000038	0.000012	0.000012	0.000043	0.000012	0.000012	0.000055	0.000012
Boron	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Cadmium	0.0000036	0.0000036	0.0000036	0.0000036	0.0000086	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000093	0.0000036
Chromium	0.00029	0.00613	0.00029	0.00031	0.00060	0.00036	0.00030	0.00030	0.00030	0.00030	0.00041	0.00030
Cobalt	0.00006	0.00006	0.00006	0.00006	0.00023	0.00011	0.00006	0.00014	0.00006	0.00006	0.00012	0.00006
Copper	0.00030	0.00030	0.00030	0.00073	0.00130	0.00089	0.00074	0.00075	0.00030	0.00058	0.00081	0.00030
Iron	0.394	0.537	0.540	0.535	0.867	0.382	0.354	0.438	0.362	0.444	0.485	0.373
Lead	0.000030	0.000030	0.000030	0.000030	0.000143	0.000070	0.000078	0.000064	0.000030	0.000030	0.000030	0.000030
Lithium	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Manganese	0.04301	0.04199	0.04354	0.04198	0.09810	0.05528	0.04390	0.05998	0.04547	0.04699	0.06041	0.04555
Mercury	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036
Molybdenum	0.001236	0.001101	0.000987	0.000988	0.000769	0.000790	0.000828	0.001194	0.001229	0.001029	0.000917	0.000908
Nickel	0.00030	0.00054	0.00030	0.00030	0.00078	0.00030	0.00030	0.00060	0.00049	0.00030	0.00030	0.00030
Selenium	0.000085	0.000090	0.000079	0.000109	0.000095	0.000097	0.000100	0.000093	0.000088	0.000073	0.000078	0.000030
Silver	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Strontium	0.1343	0.1525	0.1423	0.1410	0.1045	0.1064	0.1133	0.1356	0.1415	0.1344	0.1276	0.1309
Thallium	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006
Uranium	0.000203	0.000252	0.000217	0.000249	0.000150	0.000138	0.000116	0.000198	0.000251	0.000188	0.000191	0.000196
Vanadium	0.00083	0.00071	0.00061	0.00081	0.00181	0.00111	0.00108	0.00109	0.00066	0.00072	0.00095	0.00097
Zinc	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018

Appendix E-1M: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-40 In Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Physical Parameters and Dissolved Anions												
pH (pH Units) Lower[c]	8.05	7.91	8.08	8.10	7.91	8.00	7.86	8.13	8.18	8.11	7.98	7.92
pH (pH Units) Upper[c]	8.05	7.91	8.08	8.10	7.91	8.00	7.86	8.13	8.18	8.11	7.98	7.92
Total Suspended Solids	1.5	1.5	1.8	6.1	13.1	7.2	10.6	1.8	1.5	1.6	2.3	1.5
Turbidity (NTU)	0.95	1.25	1.81	4.92	4.77	2.64	3.42	1.36	1.40	1.71	1.98	3.19
Total Dissolved Solids	110	117	114	99	87	103	99	101	108	112	110	109
Chloride	0.25	0.25	0.34	0.49	0.44	0.25	0.39	0.34	0.44	0.39	0.35	0.56
Fluoride	0.071	0.069	0.065	0.062	0.051	0.054	0.056	0.065	0.069	0.069	0.062	0.063
Sulphate	4.50	4.56	4.29	4.16	3.77	3.46	3.79	3.45	3.47	3.84	3.94	4.26
Nutrients												
Ammonia-N	0.0234	0.0259	0.0229	0.0063	0.0078	0.0066	0.0070	0.0099	0.0068	0.0247	0.0289	0.0267
Nitrate-N	0.0849	0.0872	0.0532	0.0070	0.0041	0.0025	0.0046	0.0035	0.0025	0.0072	0.0417	0.0586
Nitrite-N	0.0012	0.0014	0.0008	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0007	0.0009	0.0010
Total Phosphorous	0.016	0.015	0.031	0.028	0.027	0.021	0.022	0.019	0.017	0.018	0.018	0.019
Ortho-Phosphorus	0.005	0.006	0.010	0.005	0.003	0.003	0.004	0.006	0.007	0.005	0.006	0.005
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0184	0.0284	0.0430	0.2122	0.2371	0.1119	0.1302	0.0249	0.0185	0.0280	0.0546	0.1231
Antimony	0.00005	0.00005	0.000050	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00007	0.00005
Arsenic	0.00062	0.00063	0.00068	0.00084	0.00072	0.00080	0.00093	0.00121	0.00101	0.00085	0.00071	0.00073
Barium	0.00989	0.00946	0.00898	0.01011	0.01004	0.00938	0.00984	0.00890	0.00890	0.00897	0.00954	0.00992
Beryllium	0.000010	0.000010	0.000010	0.000010	0.000012	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000013
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000035	0.0000040	0.0000050	0.0000030	0.0000039	0.0000030	0.0000030	0.0000030	0.0000030	0.0000037
Chromium	0.00025	0.00025	0.00025	0.00025	0.00033	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00010	0.00013	0.00007	0.00009	0.00005	0.00008	0.00005	0.00006	0.00007
Copper	0.00025	0.00025	0.00032	0.00058	0.00071	0.00060	0.00044	0.00038	0.00025	0.00025	0.00025	0.00035
Iron	0.275	0.290	0.342	0.606	0.505	0.311	0.414	0.340	0.412	0.448	0.438	0.399
Lead	0.000025	0.000025	0.000025	0.000083	0.000093	0.000041	0.000059	0.000025	0.000025	0.000025	0.000034	0.000085
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.03567	0.03620	0.03578	0.05057	0.05347	0.05318	0.05757	0.04148	0.03325	0.03128	0.03618	0.03773
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000034	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000900	0.000905	0.000975	0.000812	0.000613	0.000719	0.000816	0.001138	0.001162	0.001043	0.000900	0.000813
Nickel	0.00025	0.00025	0.00025	0.00043	0.00046	0.00034	0.00036	0.00025	0.00025	0.00027	0.00025	0.00025
Selenium	0.000033	0.000067	0.000064	0.000073	0.000064	0.000065	0.000071	0.000058	0.000044	0.000050	0.000070	0.000044
Silver	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.1250	0.1187	0.1138	0.0973	0.0807	0.0928	0.0999	0.1173	0.1260	0.1202	0.1185	0.1142
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000212	0.000213	0.000216	0.000178	0.000125	0.000138	0.000128	0.000179	0.000223	0.000204	0.000199	0.000182
Vanadium	0.00025	0.00025	0.00046	0.00113	0.00108	0.00083	0.00090	0.00078	0.00061	0.00051	0.00033	0.00044
Zinc	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015

Appendix E-1M: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-40 In Chedakuz Creek

Parameter	95th Percentile Plus 20% Baseline Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0136	0.0103	0.0076	0.0404	0.0436	0.0249	0.0212	0.0116	0.0052	0.0072	0.1011	0.0310
Cadmium	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036	0.0000036
Copper	0.00043	0.00048	0.00041	0.00063	0.00082	0.00070	0.00072	0.00050	0.00042	0.00044	0.00083	0.00058
Iron	0.213	0.308	0.305	0.298	0.222	0.180	0.226	0.250	0.245	0.280	0.273	0.257
Manganese	0.03524	0.03370	0.03274	0.03584	0.03191	0.03356	0.02918	0.02822	0.02539	0.02755	0.04376	0.03929
Zinc	0.0006	0.0021	0.0006	0.0006	0.0030	0.0006	0.0006	0.0011	0.0006	0.0006	0.0006	0.0006

Appendix E-1M: Surface Water Quality Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for CC-40 In Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Metals												
Aluminum	0.0026	0.0033	0.0044	0.0145	0.0245	0.0140	0.0215	0.0041	0.0044	0.0045	0.0076	0.0116
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00028	0.00028	0.00032	0.00039	0.00050	0.00040	0.00043	0.00037	0.00029	0.00032	0.00035	0.00032
Iron	0.161	0.170	0.209	0.223	0.135	0.113	0.185	0.234	0.287	0.298	0.257	0.184
Manganese	0.03113	0.03123	0.03043	0.02665	0.01996	0.03307	0.03557	0.02950	0.02635	0.02365	0.02774	0.02963
Zinc	0.0005	0.0005	0.0005	0.0008	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the 95th percentile + 20% concentration for that month.

[a] 95th percentile concentration measured in baseline studies between 2016 and September 30, 2022.

[b] Mean monthly concentration from October 2022 to December 2025, Construction and Operations.

[c] The lower and upper 95th percentile pH value was calculated based on the hydrogen ion concentration + 20%.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-2 Results of Before-After-Control-Impact Analysis

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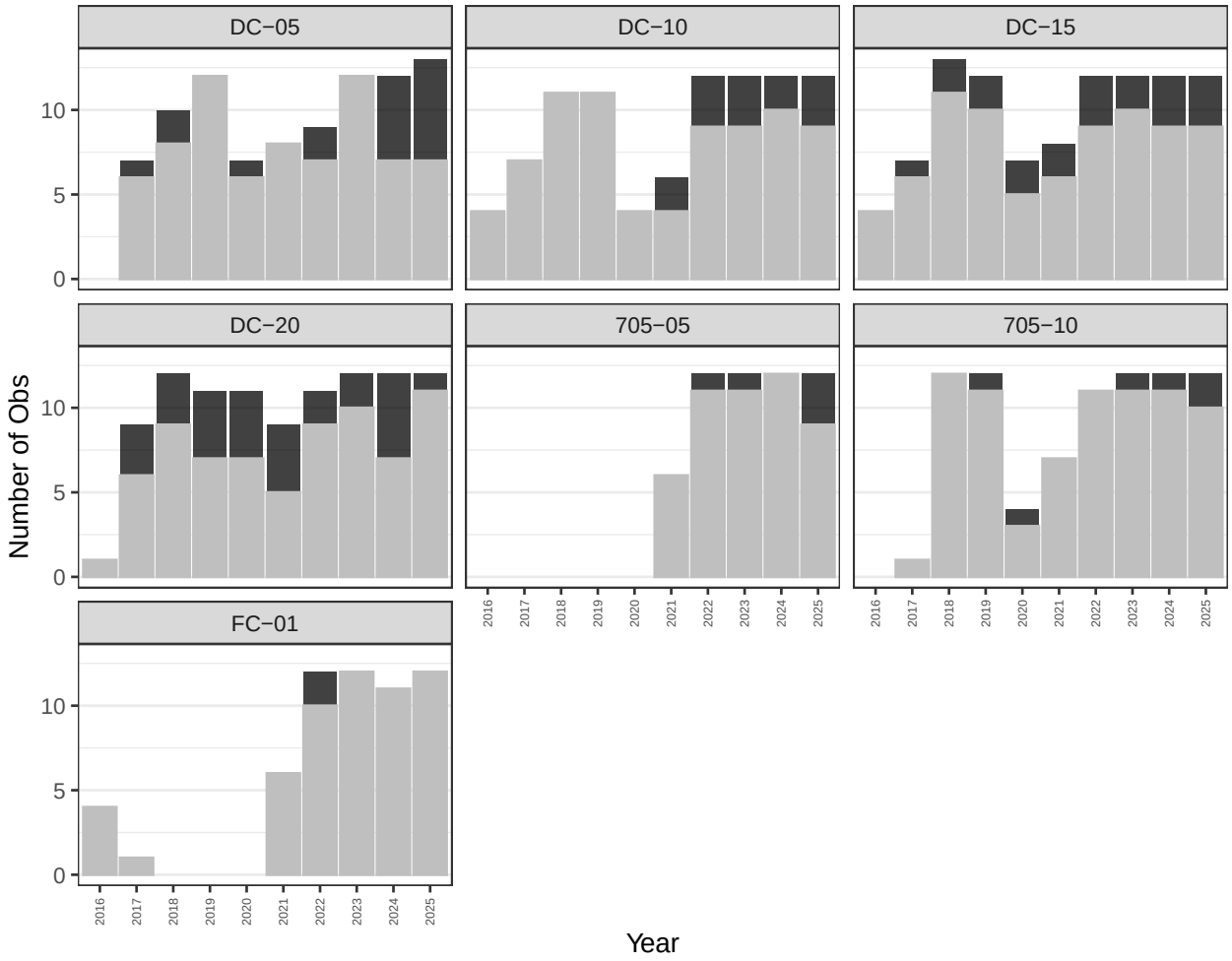
Appendix E-2 2025 Surface Water Quality Results of the Before-After-Control-Impact Analysis

E-2.1 Davidson Creek

E-2.1.1 Total Suspended Solids

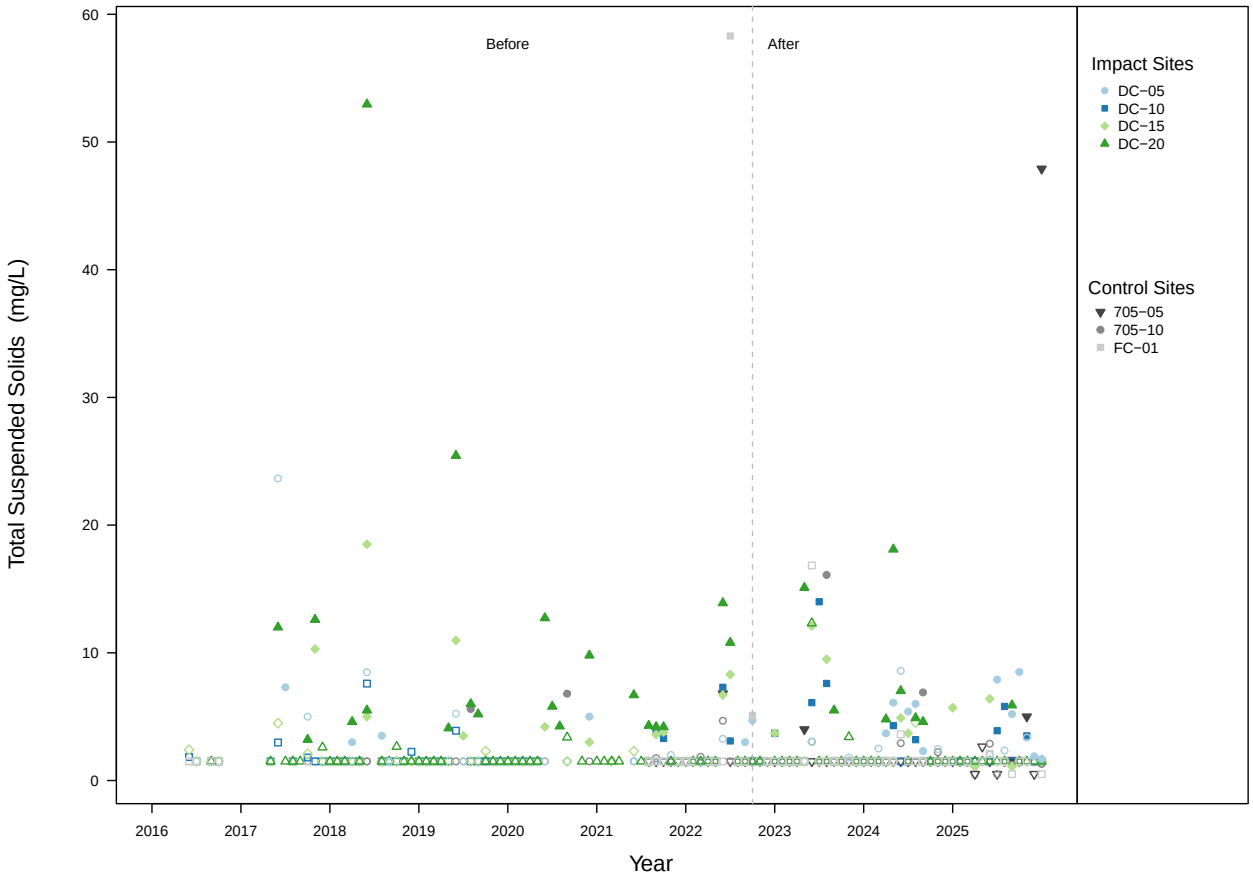
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

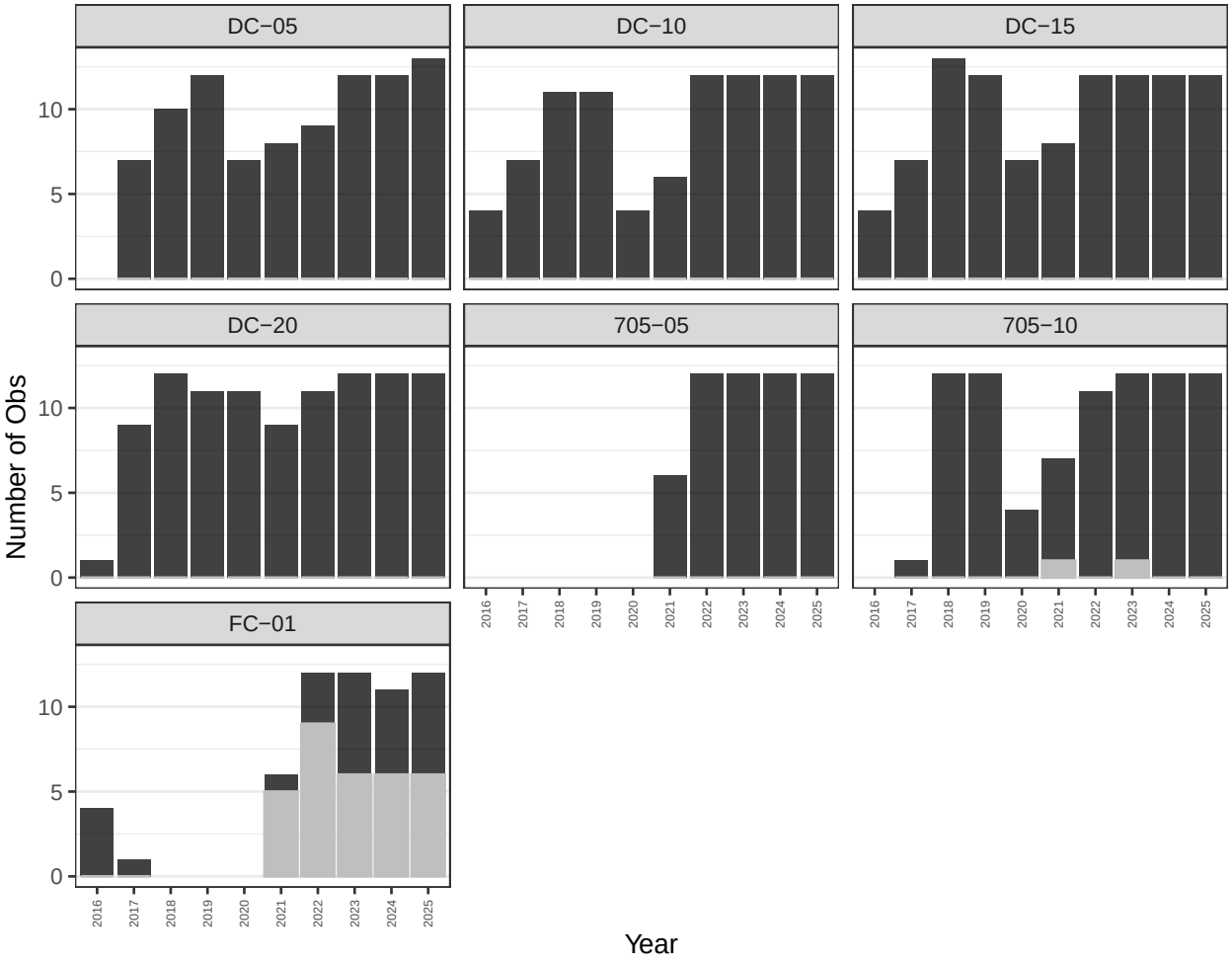
Variable	Total Suspended Solids
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.2 Turbidity

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11

1.2 Sample Sizes for Modelling

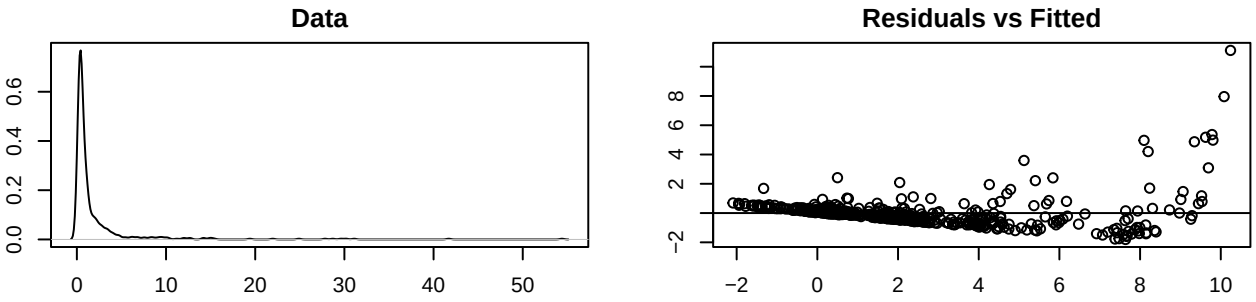
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.3925	0.000
Davidson Creek	DC-05	after	39	3.1900	0.000
Davidson Creek	DC-10	before	52	0.3400	0.000
Davidson Creek	DC-10	after	39	2.7400	0.000
Davidson Creek	DC-15	before	60	0.3740	0.000
Davidson Creek	DC-15	after	39	1.6200	0.000
Davidson Creek	DC-20	before	62	0.5950	0.000
Davidson Creek	DC-20	after	38	2.2635	0.000
Creek 705 (Control)	705-05	before	15	0.7400	0.000
Creek 705 (Control)	705-05	after	39	0.8050	0.000
Creek 705 (Control)	705-10	before	45	0.6000	2.222
Creek 705 (Control)	705-10	after	38	0.5450	2.632
Fawnie Creek (Control)	FC-01	before	5	0.2200	0.000
Fawnie Creek (Control)	FC-01	after	24	0.1150	50.000

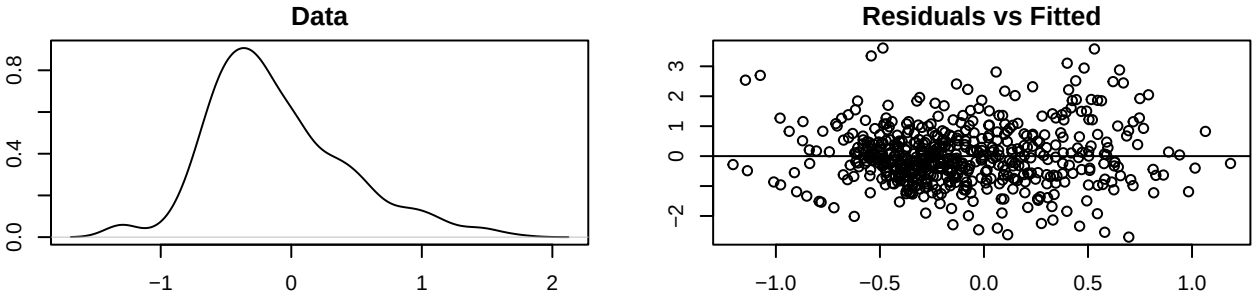
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2024	3	impact	after	54.40	10.242	11.113	Y
Davidson Creek	DC-20	2024	3	impact	after	41.70	10.083	7.957	Y
Davidson Creek	DC-05	2024	4	impact	after	31.10	9.783	5.364	Y
Davidson Creek	DC-20	2024	4	impact	after	30.20	9.624	5.178	Y
Davidson Creek	DC-10	2024	3	impact	after	29.60	9.805	4.981	Y
Davidson Creek	DC-05	2024	2	impact	after	27.83	8.097	4.967	Y
Davidson Creek	DC-10	2024	4	impact	after	28.70	9.347	4.870	Y
Davidson Creek	DC-20	2024	12	impact	after	24.90	8.200	4.203	Y
Davidson Creek	DC-15	2025	6	impact	after	19.40	5.123	3.593	Y
Davidson Creek	DC-05	2024	5	impact	after	21.97	9.694	3.089	Y

Outliers on log scale:

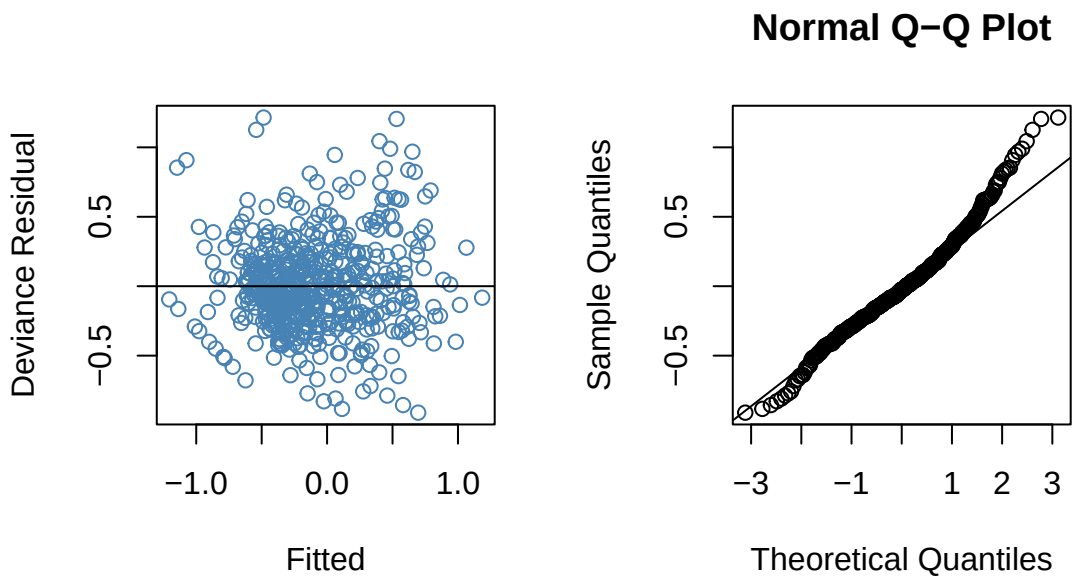
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-10	2023	7	control	after	0.7292	-0.4855	3.609	Y
Davidson Creek	DC-05	2024	3	impact	after	1.7356	0.5309	3.579	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	0.5846	-0.5418	3.347	Y
Davidson Creek	DC-05	2024	2	impact	after	1.4446	0.4001	3.103	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.3454	0.3454	1	5.06	3.050	0.14	
period	1.0835	1.0835	1	274.36	9.565	0.00219	
class:period	10.0142	10.0142	1	520.94	88.408	<0.001	7.23e-18

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
546	0.1845	96%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

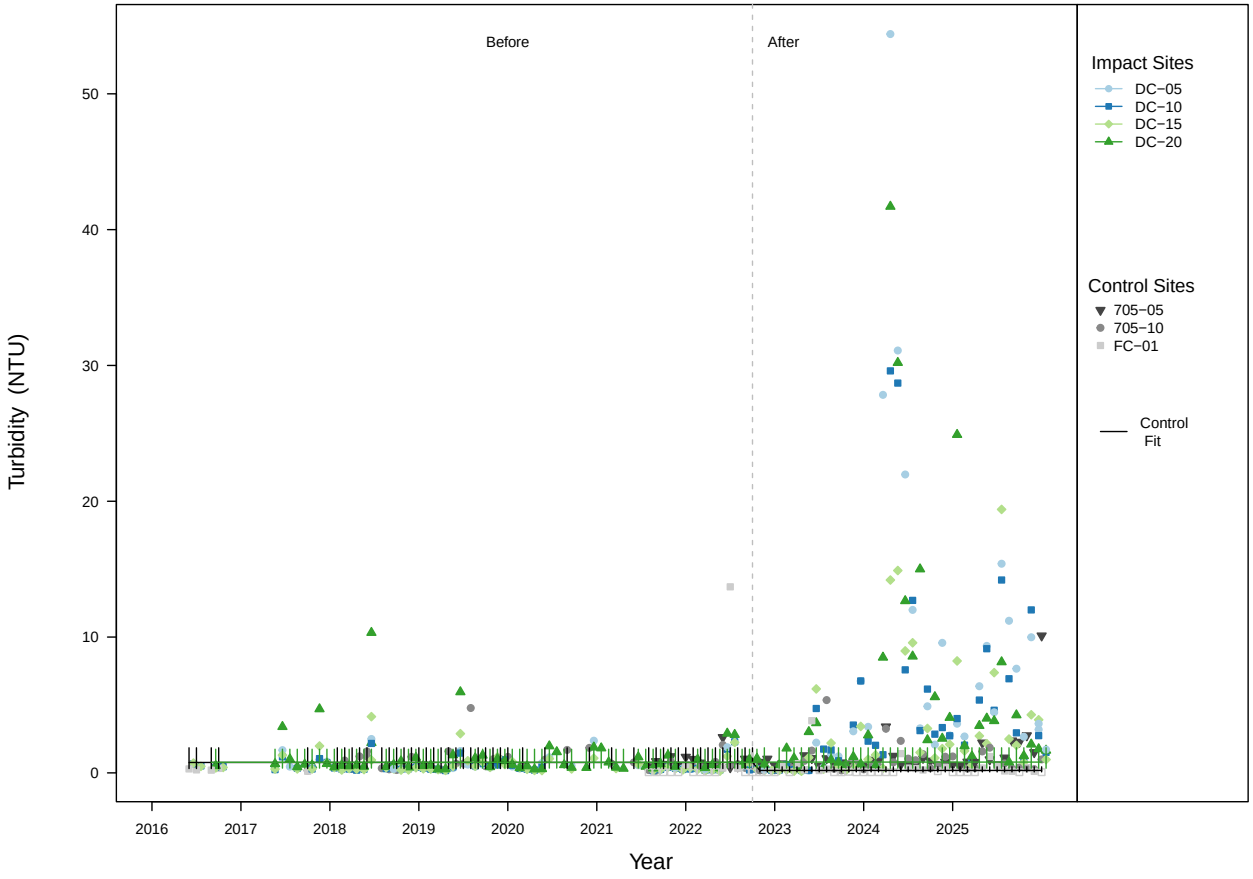
Impact vs.	Estimate	Significance
control sites	0.6367	significant

Conclusion:

The change in Turbidity concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 7.23×10^{-18}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

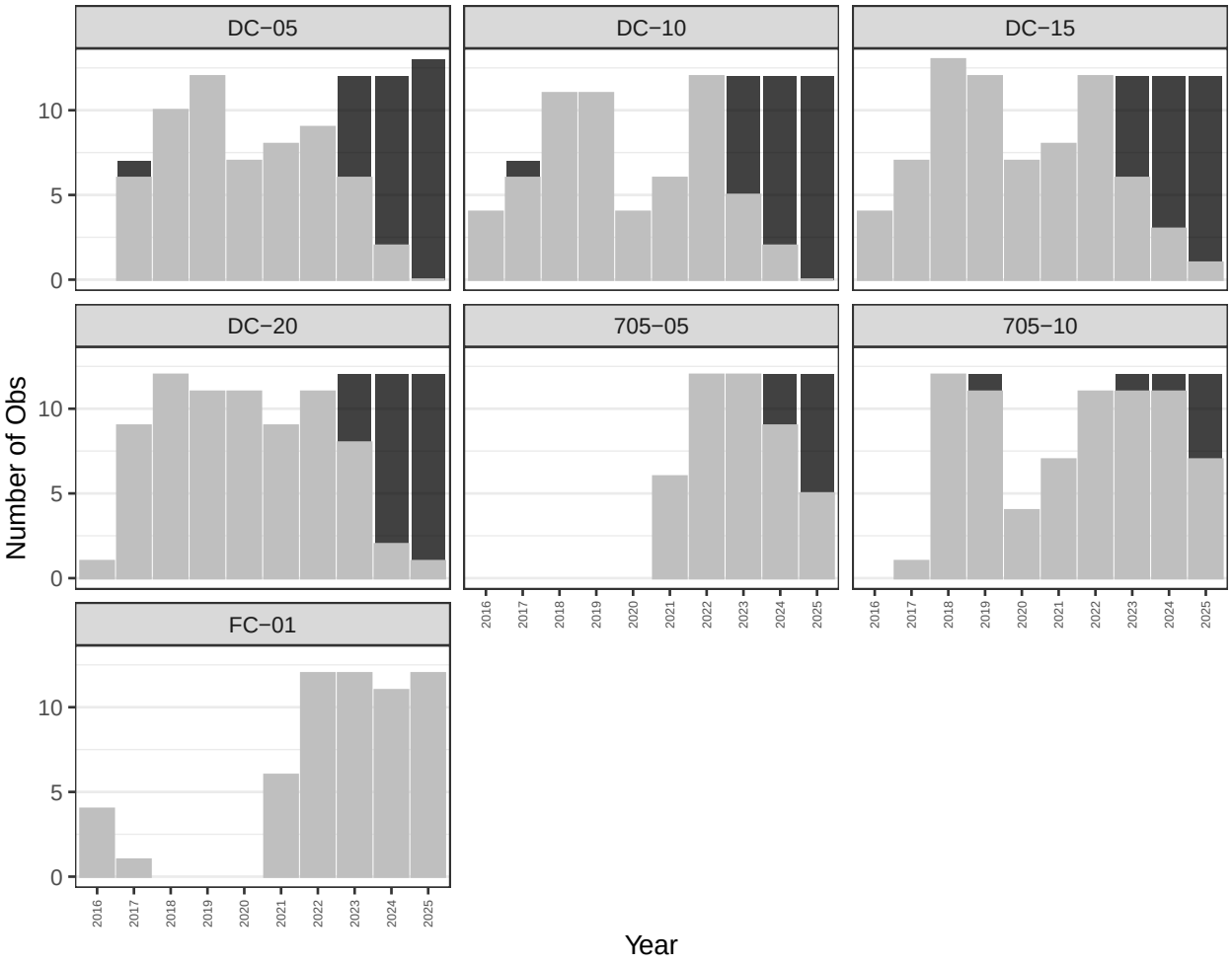
Final Summary Table

Variable	Turbidity
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.3 Chloride

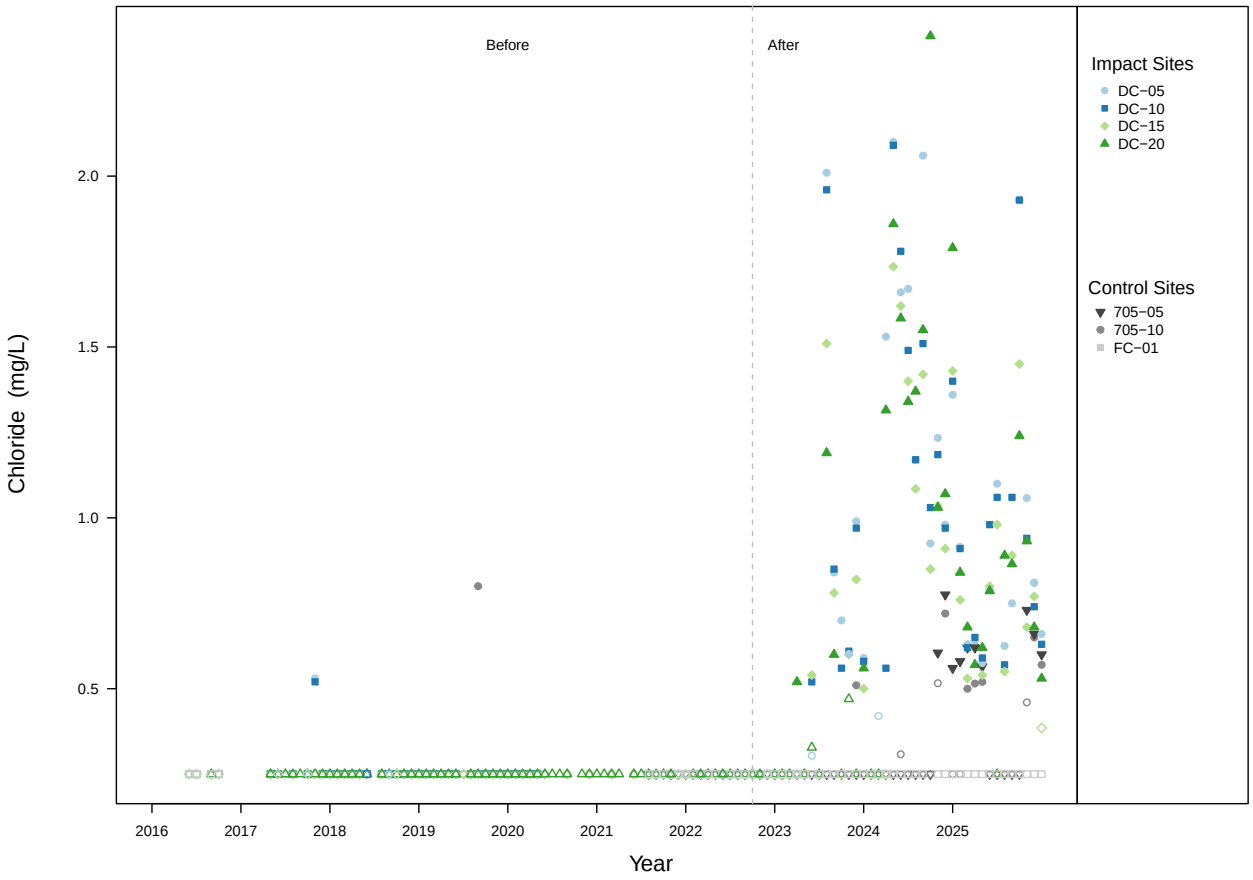
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

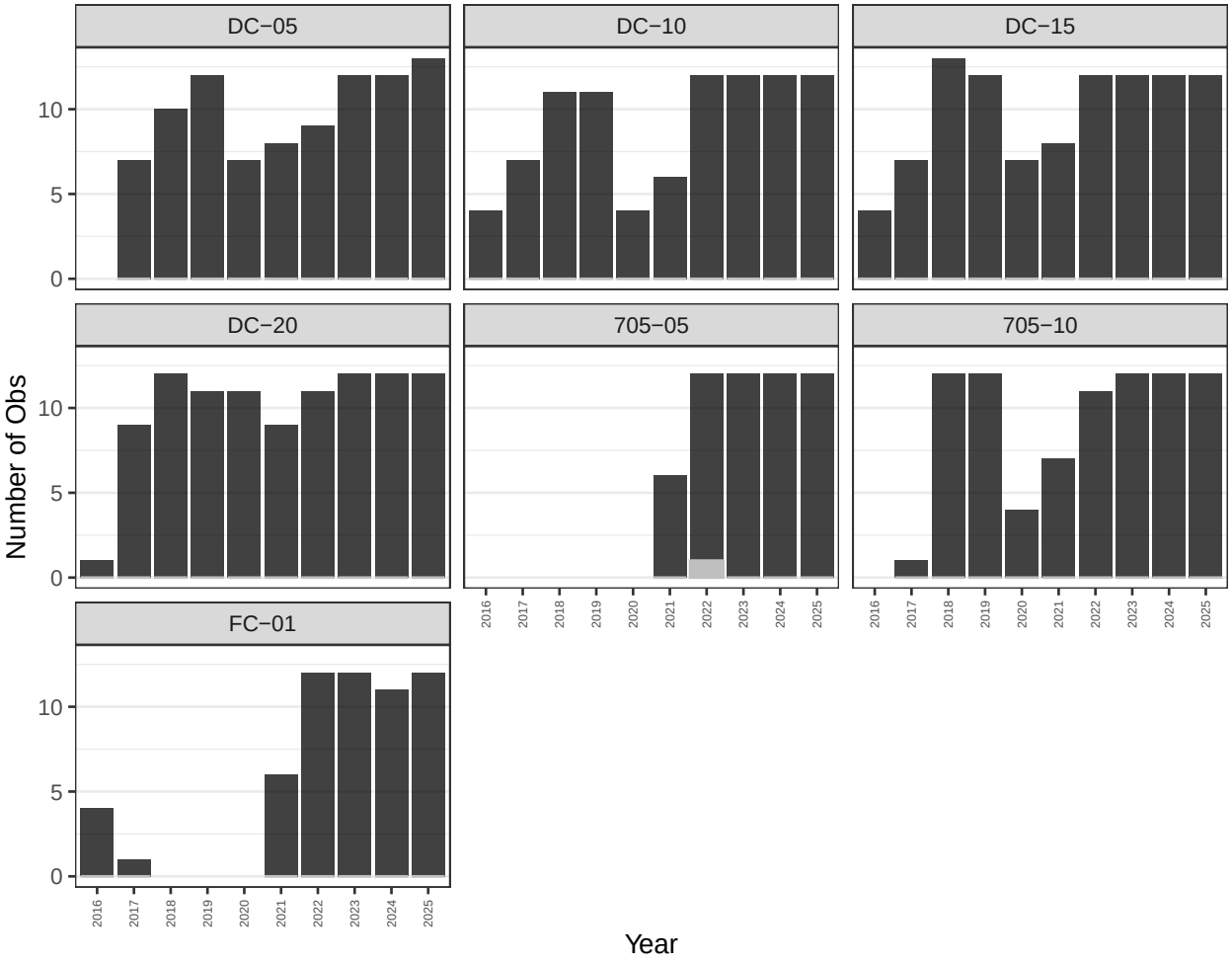
Variable	Chloride
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.4 Sulphate

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

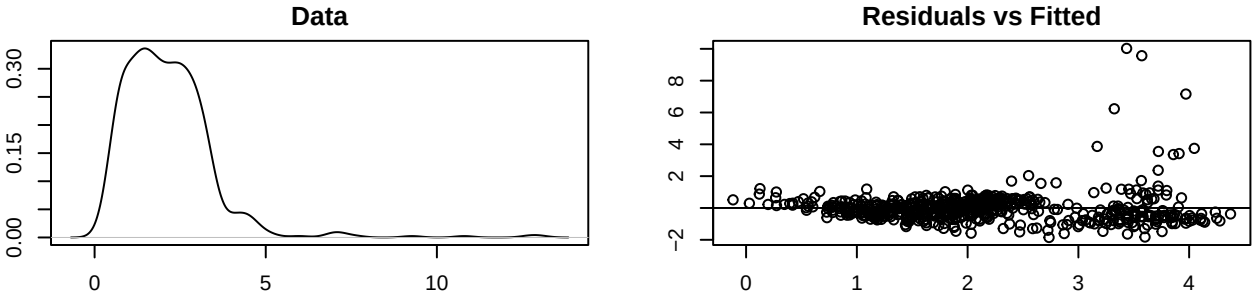
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	1.870	0.000
Davidson Creek	DC-05	after	39	3.290	0.000
Davidson Creek	DC-10	before	52	1.950	0.000
Davidson Creek	DC-10	after	39	3.340	0.000
Davidson Creek	DC-15	before	60	1.940	0.000
Davidson Creek	DC-15	after	39	3.130	0.000
Davidson Creek	DC-20	before	62	1.825	0.000
Davidson Creek	DC-20	after	38	2.955	0.000
Creek 705 (Control)	705-05	before	15	0.560	6.667
Creek 705 (Control)	705-05	after	39	1.050	0.000
Creek 705 (Control)	705-10	before	45	1.090	0.000
Creek 705 (Control)	705-10	after	38	1.366	0.000
Fawnie Creek (Control)	FC-01	before	20	1.685	0.000
Fawnie Creek (Control)	FC-01	after	38	2.346	0.000

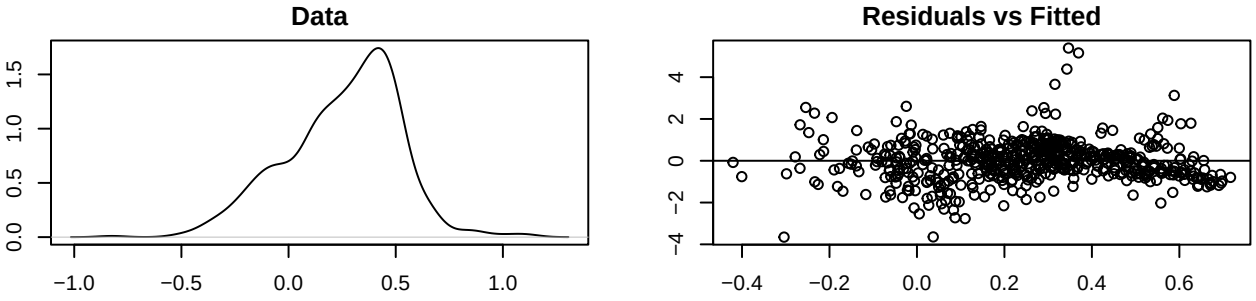
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2023	7	impact	after	13.00	3.435	10.026	Y
Davidson Creek	DC-10	2023	7	impact	after	12.70	3.572	9.568	Y
Davidson Creek	DC-10	2025	9	impact	after	10.80	3.971	7.159	Y
Davidson Creek	DC-15	2023	7	impact	after	9.27	3.324	6.233	Y
Davidson Creek	DC-20	2023	7	impact	after	6.86	3.170	3.868	Y
Davidson Creek	DC-10	2025	12	impact	after	7.62	4.046	3.746	Y
Davidson Creek	DC-15	2025	9	impact	after	7.11	3.723	3.551	Y
Davidson Creek	DC-05	2025	12	impact	after	7.17	3.909	3.418	Y
Davidson Creek	DC-10	2025	11	impact	after	7.06	3.858	3.357	Y

Outliers on log scale:

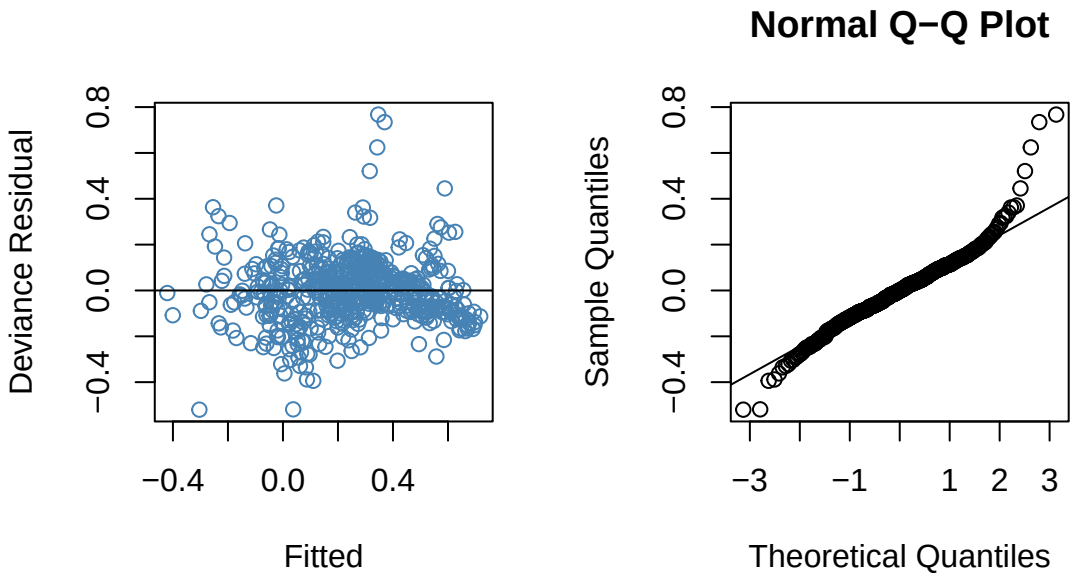
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2023	7	impact	after	1.1139	0.3465	5.392	Y
Davidson Creek	DC-10	2023	7	impact	after	1.1038	0.3694	5.160	Y
Davidson Creek	DC-15	2023	7	impact	after	0.9671	0.3428	4.386	Y
Davidson Creek	DC-20	2023	7	impact	after	0.8363	0.3156	3.659	Y
Creek 705 (Control)	705-05	2022	7	control	before	-0.8239	-0.3039	-3.654	N
Creek 705 (Control)	705-05	2025	9	control	after	-0.4815	0.0372	-3.644	Y
Davidson Creek	DC-10	2025	9	impact	after	1.0334	0.5883	3.127	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.1675	0.1675	1	5.026	8.266	0.0346	
period	0.8639	0.8639	1	25.678	42.646	<0.001	
class:period	0.5325	0.5325	1	555.531	26.287	<0.001	1.59e-06

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.4481	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

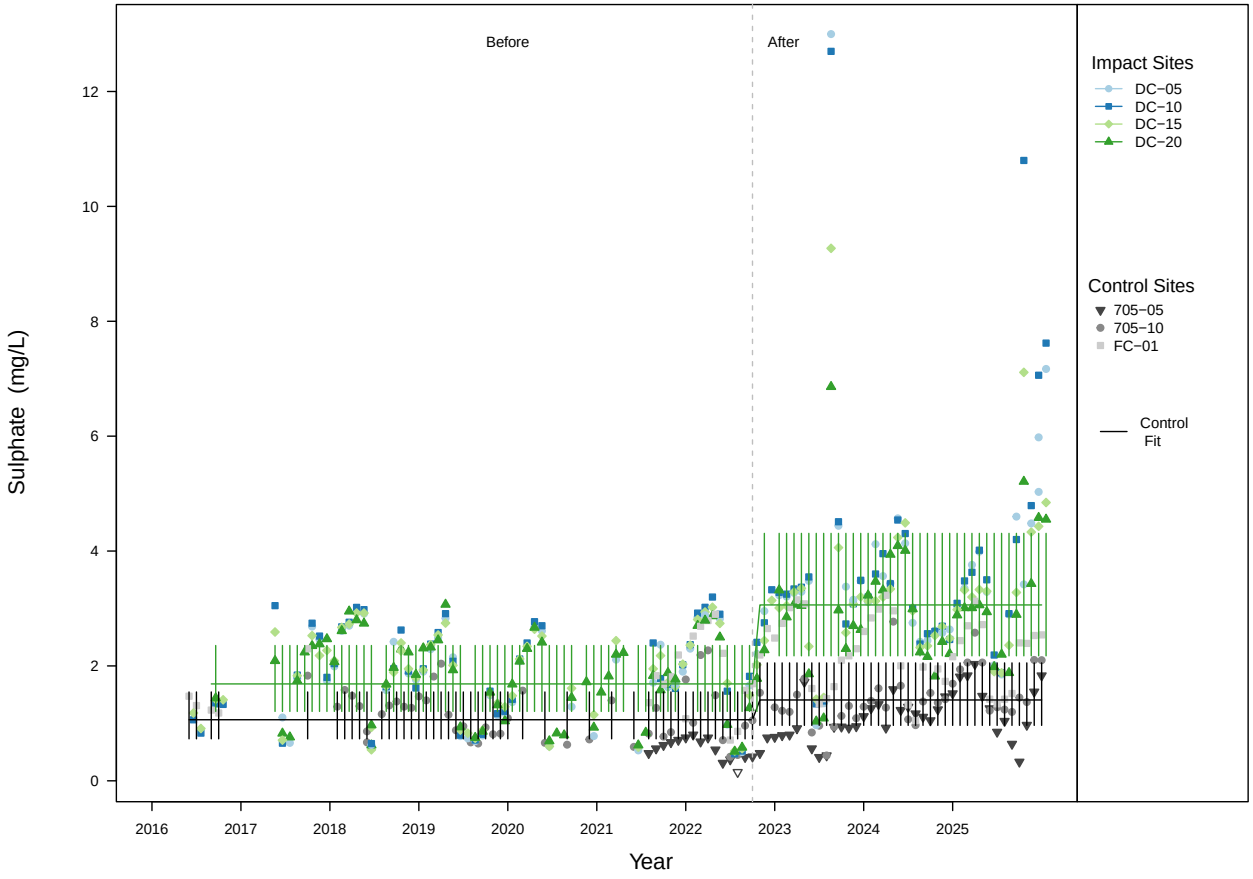
Impact vs.	Estimate	Significance
control sites	0.1371	significant

Conclusion:

The change in Sulphate concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 1.59×10^{-6}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

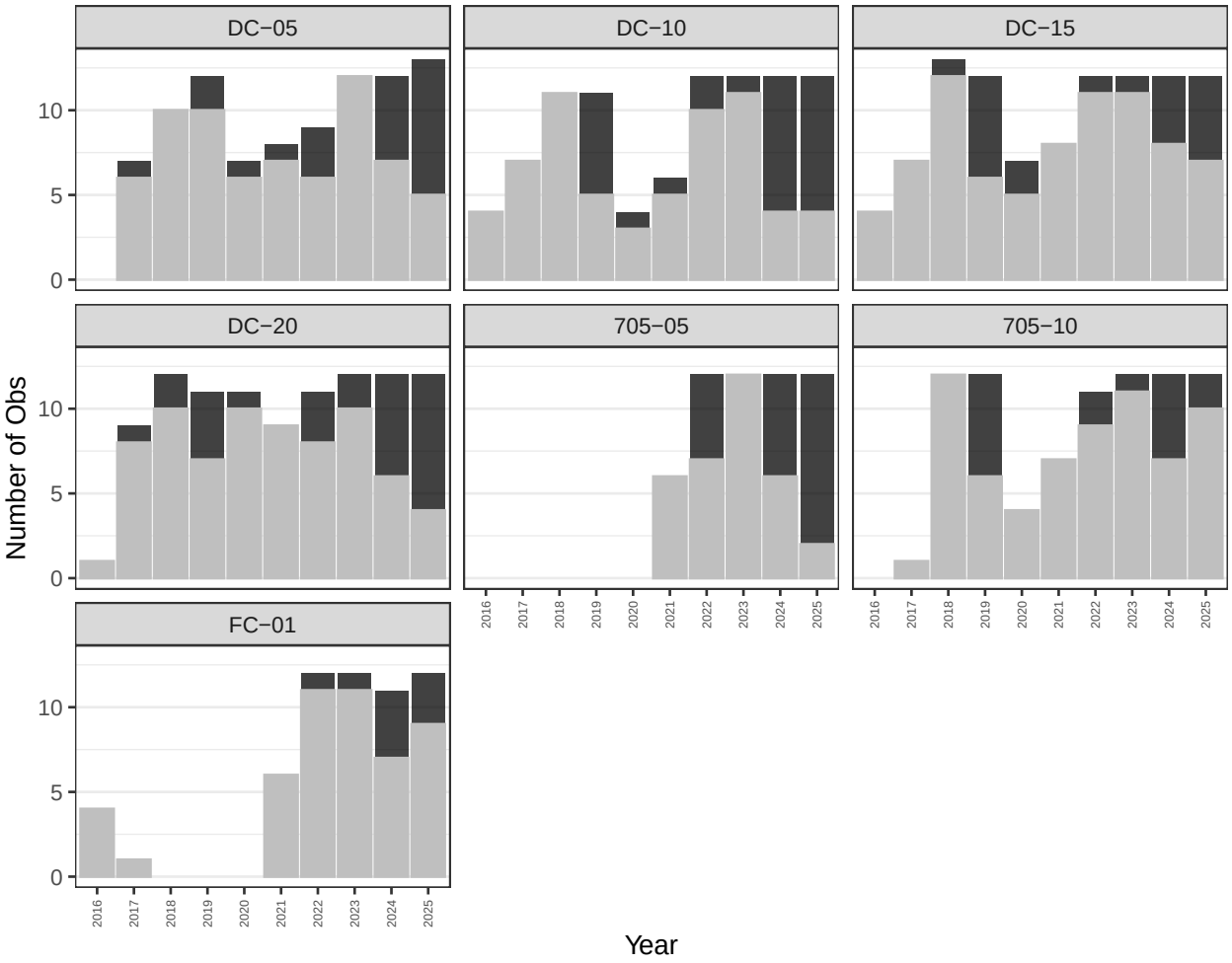
Final Summary Table

Variable	Sulphate
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.5 Ammonia

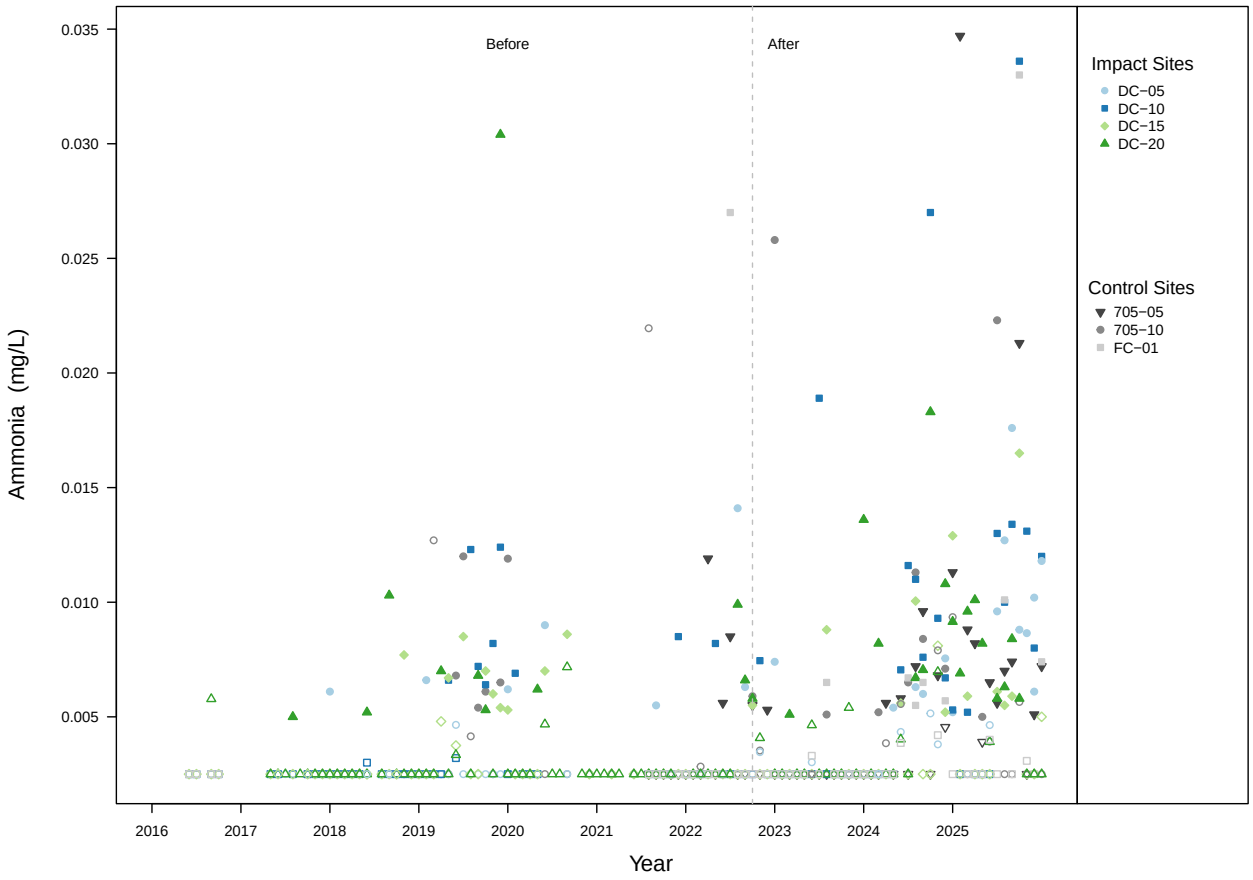
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

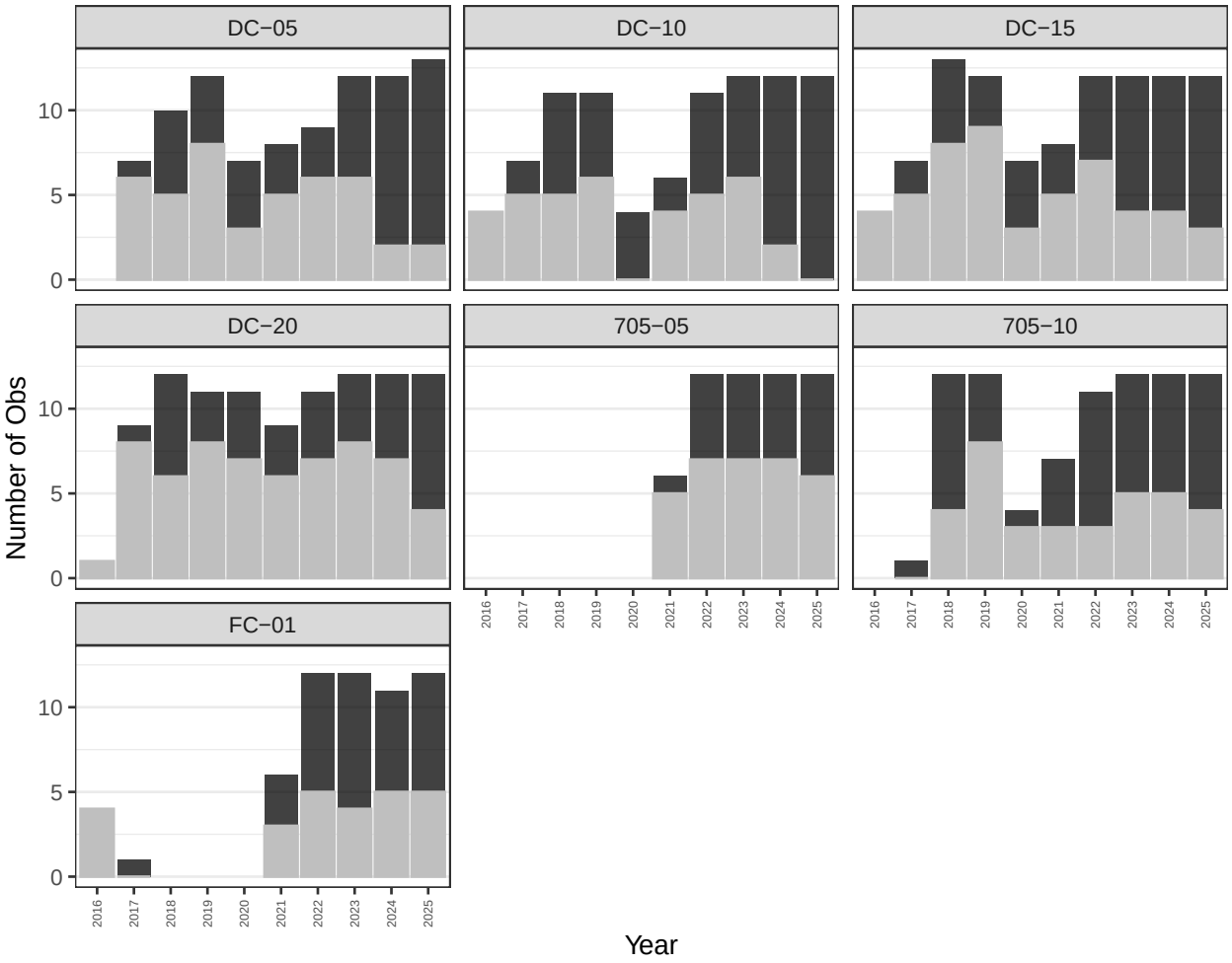
Final Summary Table

Variable	Ammonia
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.6 Nitrate-N

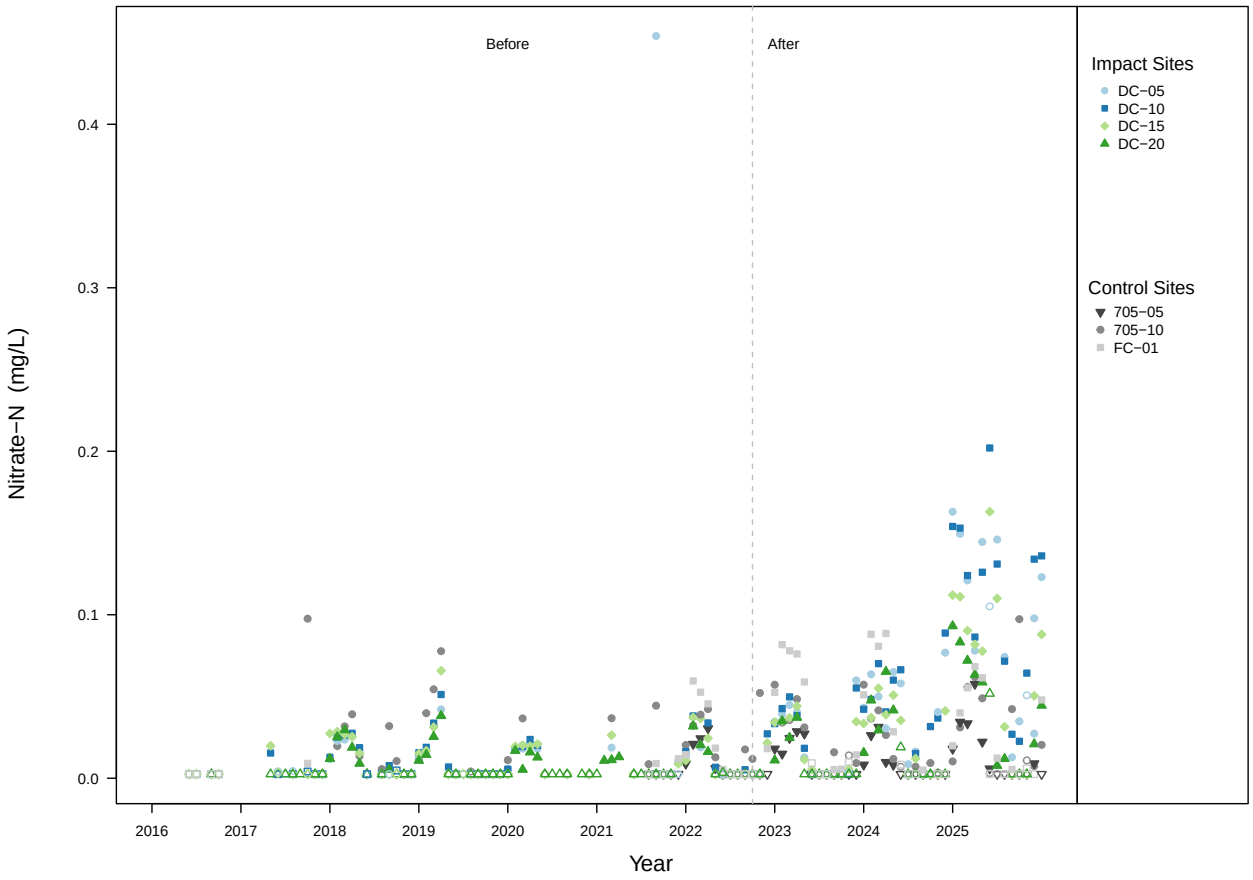
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

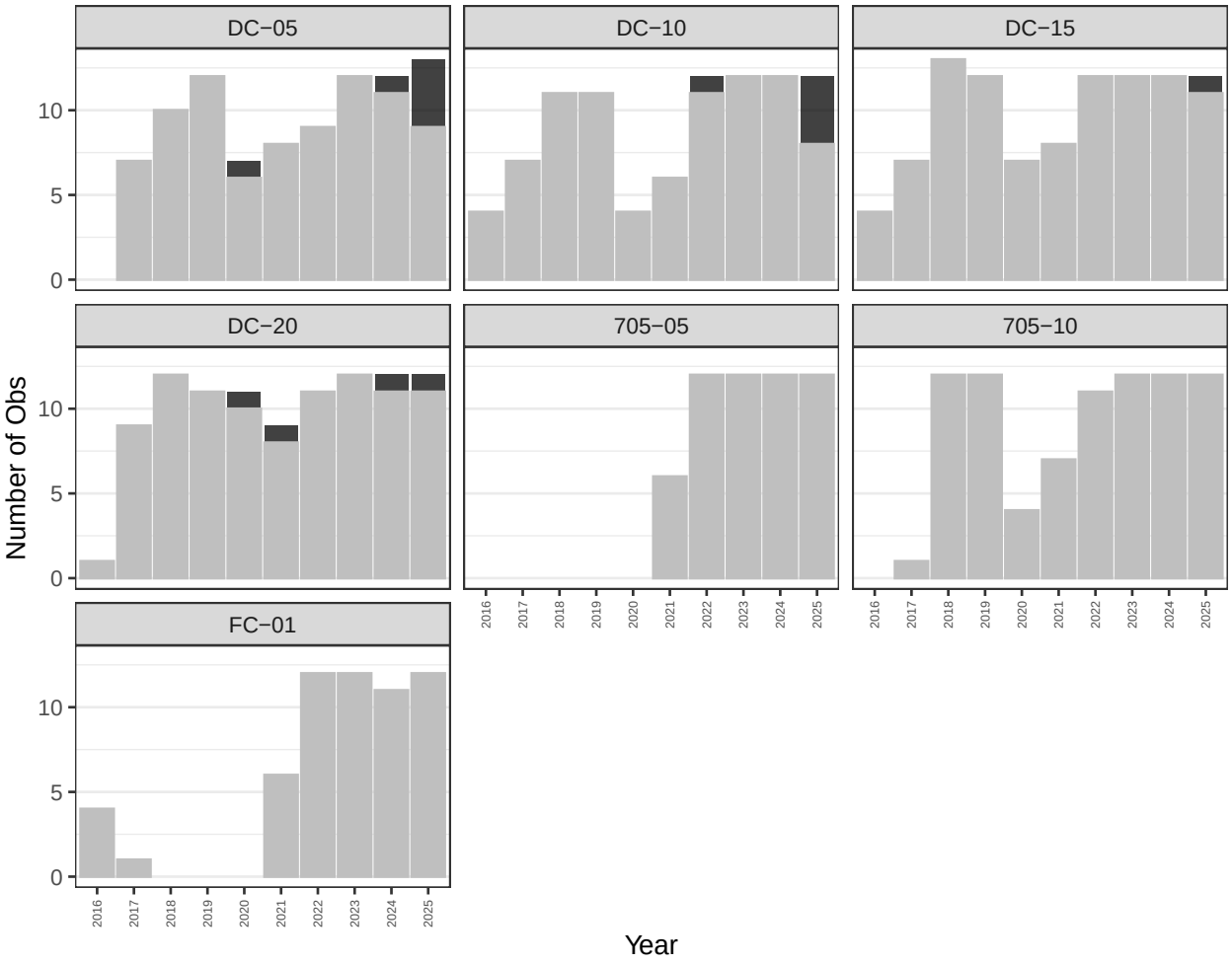
Final Summary Table

Variable	Nitrate-N
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.7 Nitrite-N

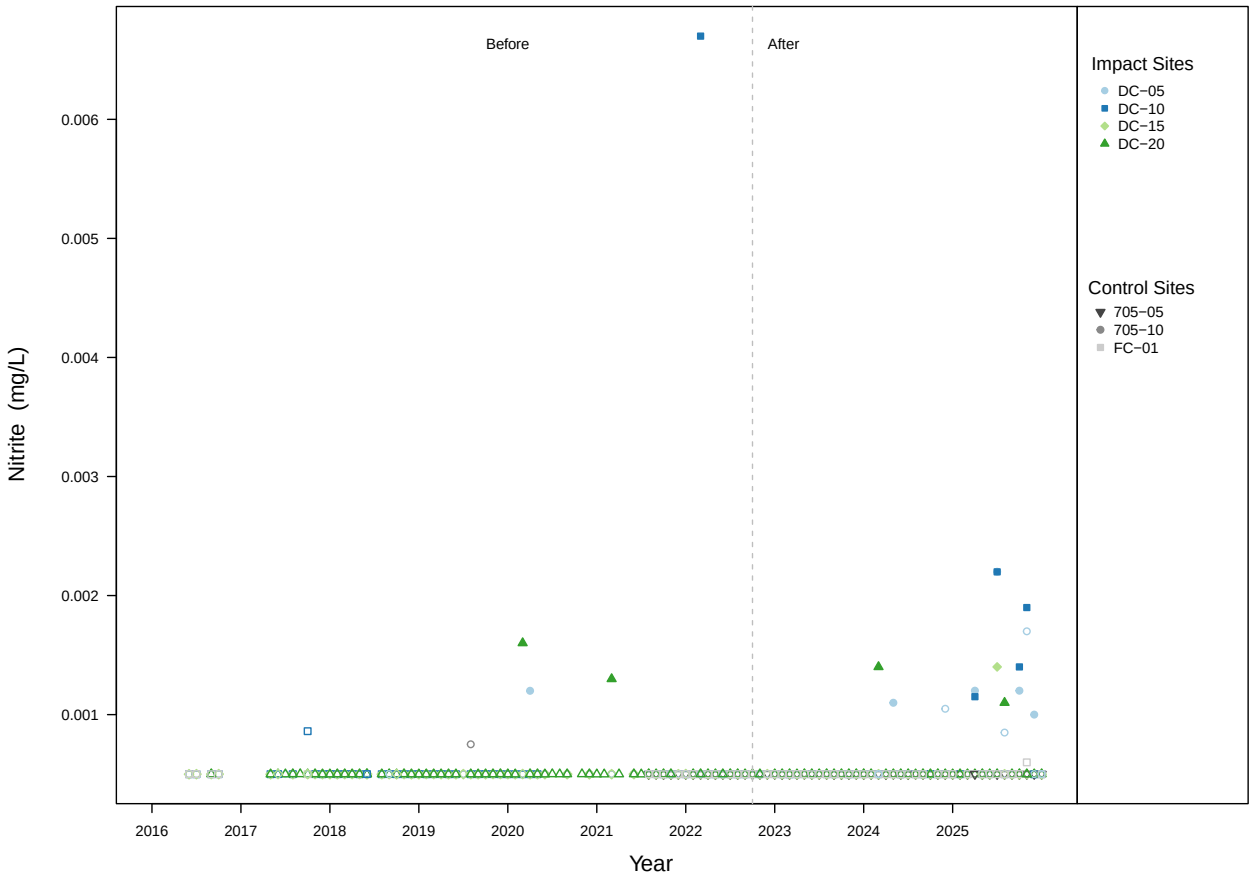
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

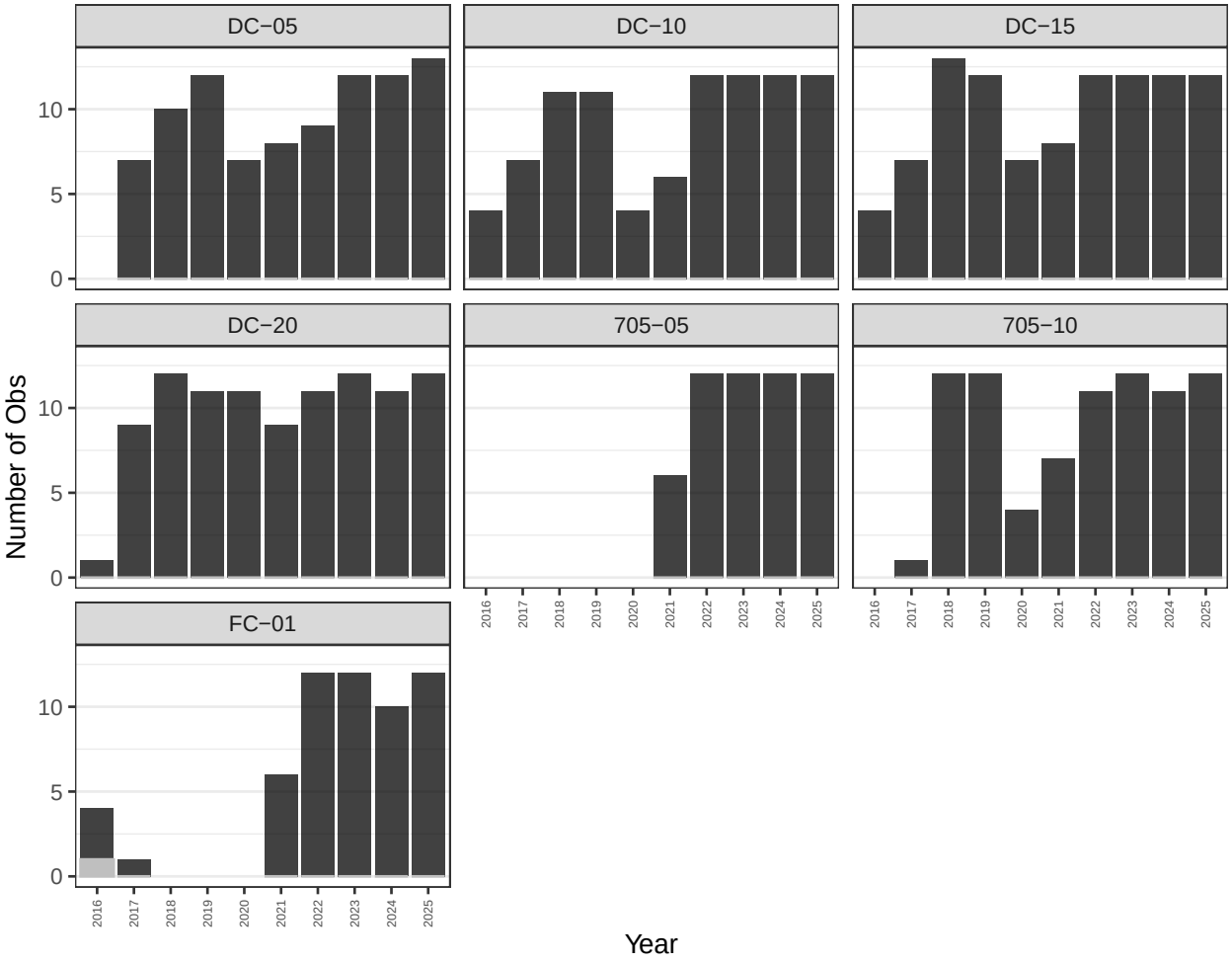
Variable	Nitrite
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.8 Total Phosphorus

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

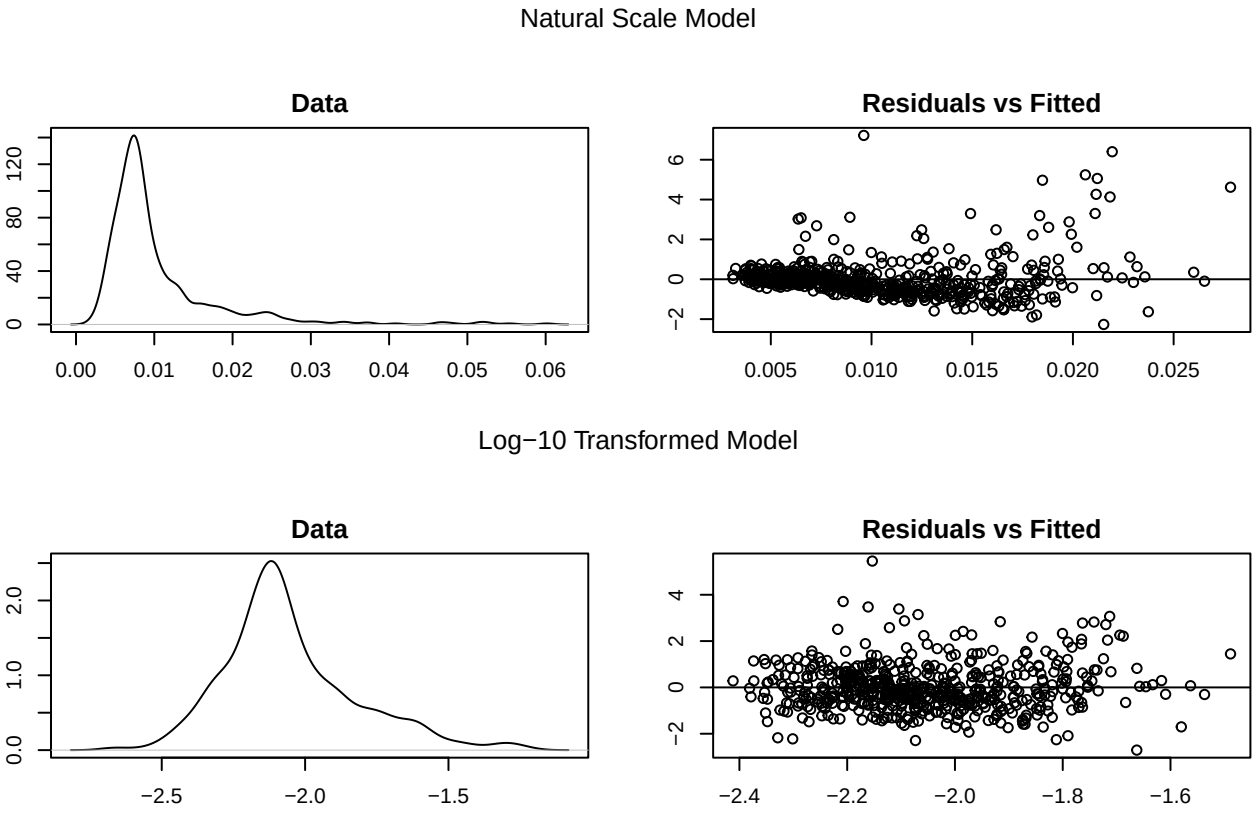
1.2 Sample Sizes for Modelling

The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0081	0
Davidson Creek	DC-05	after	39	0.0138	0
Davidson Creek	DC-10	before	52	0.0074	0
Davidson Creek	DC-10	after	39	0.0108	0
Davidson Creek	DC-15	before	60	0.0074	0
Davidson Creek	DC-15	after	39	0.0087	0
Davidson Creek	DC-20	before	62	0.0082	0
Davidson Creek	DC-20	after	37	0.0130	0
Creek 705 (Control)	705-05	before	15	0.0079	0
Creek 705 (Control)	705-05	after	39	0.0084	0
Creek 705 (Control)	705-10	before	45	0.0059	0
Creek 705 (Control)	705-10	after	37	0.0061	0
Fawnie Creek (Control)	FC-01	before	20	0.0043	5
Fawnie Creek (Control)	FC-01	after	37	0.0059	0

1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0527	0.0096	7.219	Y
Davidson Creek	DC-20	2024	3	impact	after	0.0602	0.0220	6.400	Y
Davidson Creek	DC-15	2023	5	impact	after	0.0519	0.0206	5.242	Y
Davidson Creek	DC-05	2024	3	impact	after	0.0514	0.0212	5.058	Y
Davidson Creek	DC-20	2018	5	impact	before	0.0482	0.0185	4.970	Y
Davidson Creek	DC-05	2024	5	impact	after	0.0554	0.0278	4.620	Y
Davidson Creek	DC-10	2023	5	impact	after	0.0466	0.0212	4.264	Y
Davidson Creek	DC-20	2024	4	impact	after	0.0465	0.0218	4.131	Y
Davidson Creek	DC-05	2024	4	impact	after	0.0408	0.0211	3.300	Y
Creek 705 (Control)	705-05	2024	3	control	after	0.0346	0.0149	3.298	Y
Davidson Creek	DC-05	2024	2	impact	after	0.0374	0.0183	3.196	Y
Davidson Creek	DC-20	2017	10	impact	before	0.0275	0.0089	3.112	Y
Davidson Creek	DC-15	2020	2	impact	before	0.0249	0.0065	3.082	Y
Davidson Creek	DC-15	2017	10	impact	before	0.0244	0.0064	3.022	Y

Outliers on log scale:

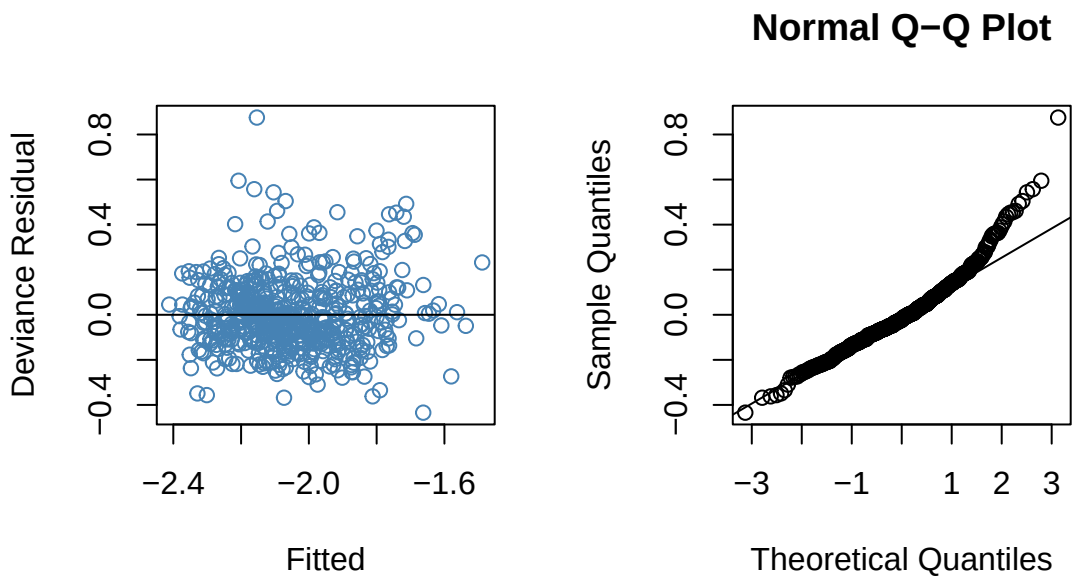
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	-1.278	-2.153	5.454	Y
Davidson Creek	DC-15	2017	10	impact	before	-1.613	-2.207	3.707	Y
Davidson Creek	DC-15	2020	2	impact	before	-1.604	-2.161	3.473	Y
Davidson Creek	DC-20	2017	10	impact	before	-1.561	-2.104	3.387	Y
Creek 705 (Control)	705-10	2024	3	control	after	-1.564	-2.068	3.145	Y
Davidson Creek	DC-20	2024	3	impact	after	-1.221	-1.713	3.067	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.253552	0.253552	1	5.089	9.8485	0.0251	
period	0.001179	0.001179	1	86.872	0.0458	0.831	
class:period	0.705782	0.705782	1	551.312	27.4141	<0.001	1.12e-06

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
572	0.178	96%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

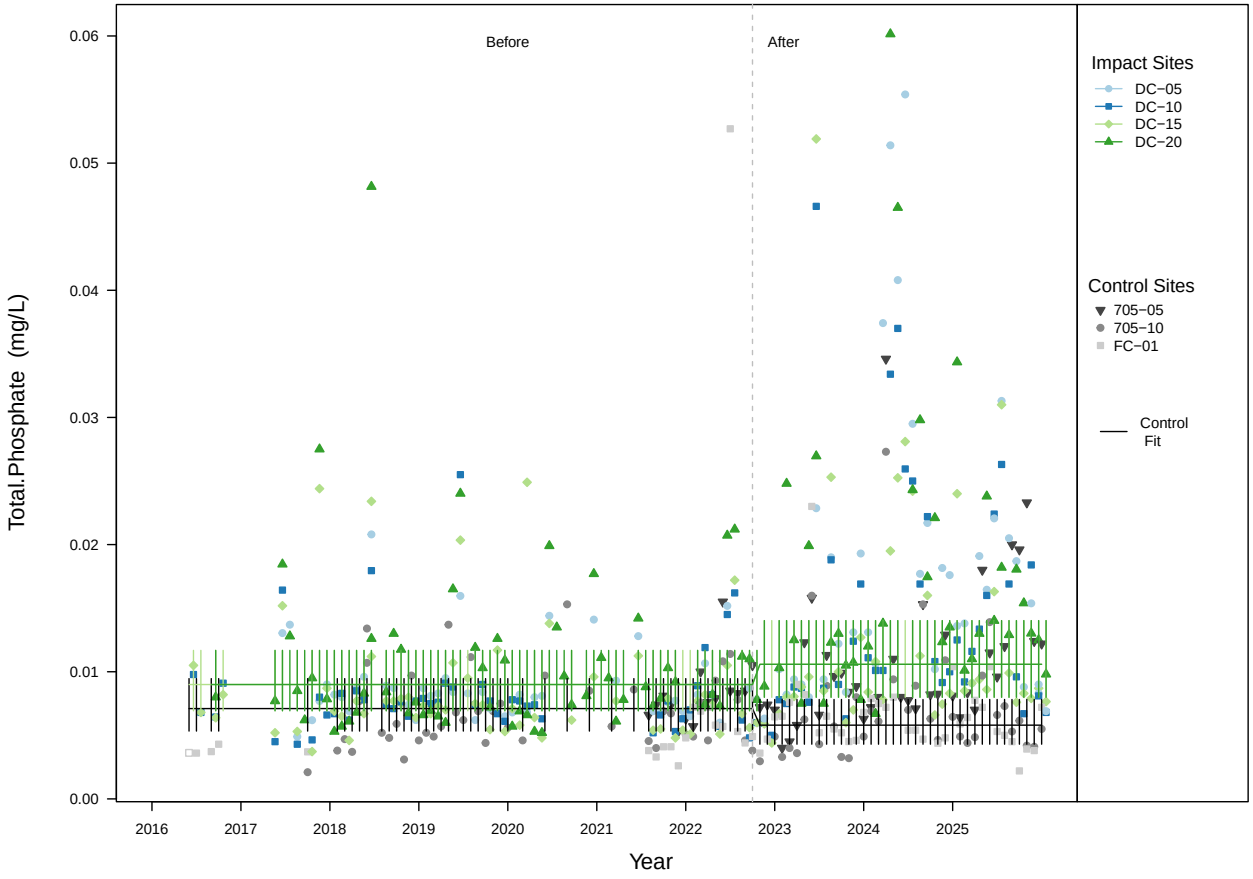
Impact vs.	Estimate	Significance
control sites	0.1588	significant

Conclusion:

The change in Total.Phosphate concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 1.12×10^{-6}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

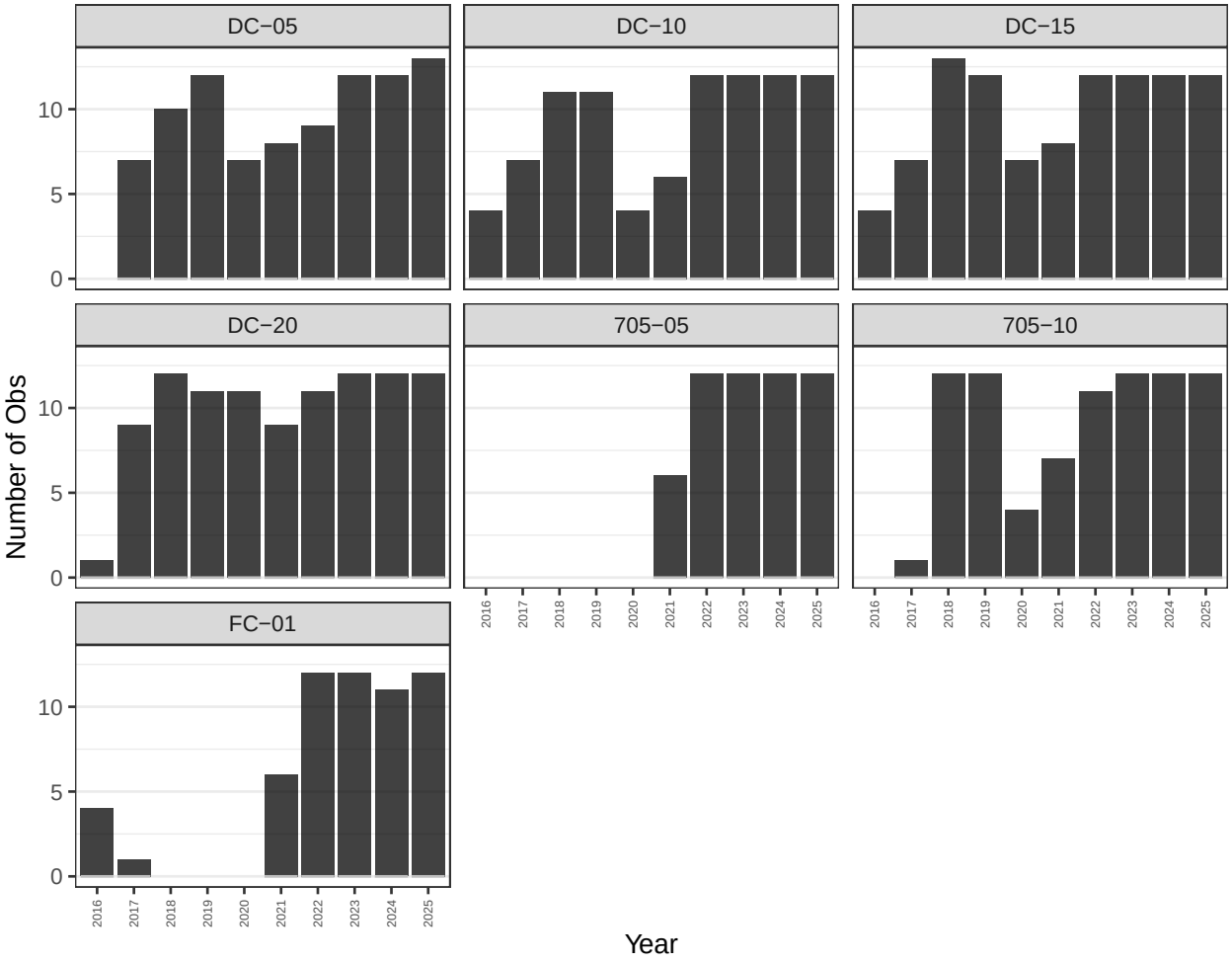
Variable	Total.Phosphate
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.9 Total Aluminum

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

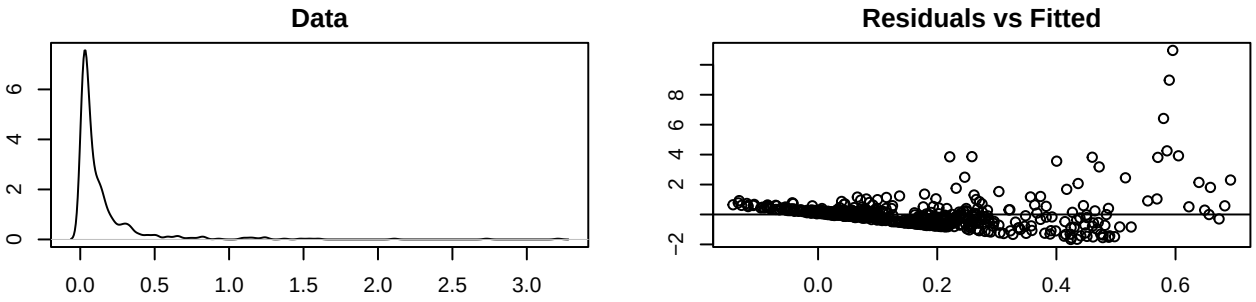
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0491	0
Davidson Creek	DC-05	after	39	0.2015	0
Davidson Creek	DC-10	before	52	0.0427	0
Davidson Creek	DC-10	after	39	0.1520	0
Davidson Creek	DC-15	before	60	0.0350	0
Davidson Creek	DC-15	after	39	0.1040	0
Davidson Creek	DC-20	before	62	0.0417	0
Davidson Creek	DC-20	after	38	0.1111	0
Creek 705 (Control)	705-05	before	15	0.0940	0
Creek 705 (Control)	705-05	after	39	0.0575	0
Creek 705 (Control)	705-10	before	45	0.0944	0
Creek 705 (Control)	705-10	after	38	0.0608	0
Fawnie Creek (Control)	FC-01	before	20	0.0237	0
Fawnie Creek (Control)	FC-01	after	38	0.0172	0

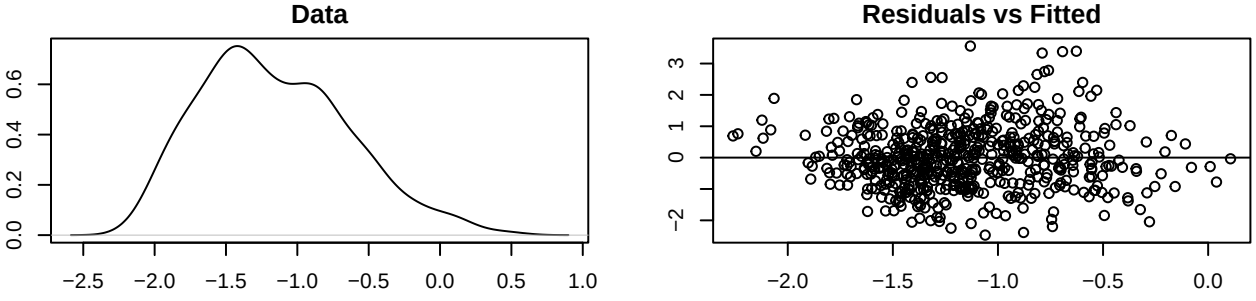
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-20	2024	4	impact	after	3.210	0.5953	10.960	Y
Davidson Creek	DC-05	2024	3	impact	after	2.730	0.5895	8.973	Y
Davidson Creek	DC-20	2024	3	impact	after	2.110	0.5799	6.414	Y
Davidson Creek	DC-10	2024	4	impact	after	1.600	0.5857	4.252	Y
Davidson Creek	DC-05	2024	4	impact	after	1.540	0.6049	3.920	Y
Davidson Creek	DC-20	2018	5	impact	before	1.180	0.2582	3.864	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	1.140	0.2210	3.852	Y
Davidson Creek	DC-05	2024	2	impact	after	1.373	0.4602	3.825	Y
Davidson Creek	DC-10	2024	3	impact	after	1.480	0.5703	3.813	Y
Davidson Creek	DC-15	2025	6	impact	after	1.250	0.4004	3.561	Y
Davidson Creek	DC-20	2024	12	impact	after	1.230	0.4718	3.178	Y

Outliers on log scale:

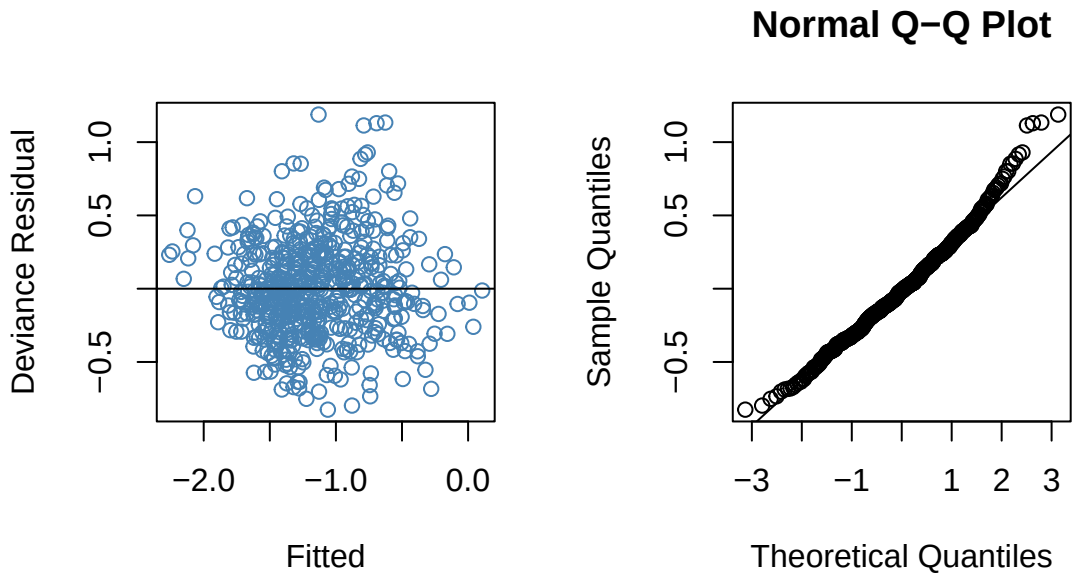
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0569	-1.1312	3.557	Y
Davidson Creek	DC-20	2024	4	impact	after	0.5065	-0.6270	3.393	Y
Davidson Creek	DC-05	2024	3	impact	after	0.4362	-0.6927	3.379	Y
Davidson Creek	DC-20	2024	3	impact	after	0.3243	-0.7895	3.334	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.172	0.172	1	5.067	1.541	0.269	
period	2.561	2.561	1	272.749	22.951	<0.001	
class:period	8.828	8.828	1	551.093	79.108	<0.001	1.21e-16

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.1878	98%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

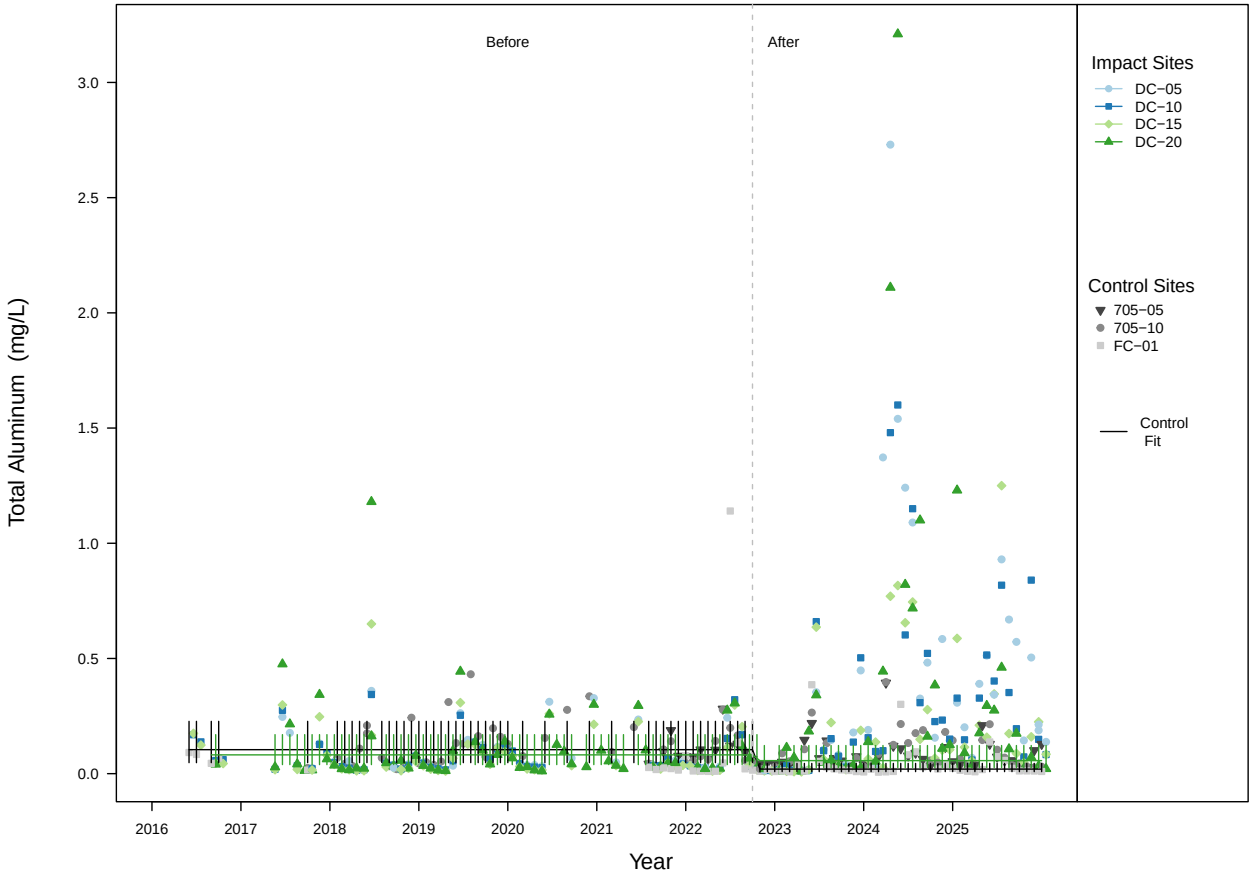
Impact vs.	Estimate	Significance
control sites	0.5602	significant

Conclusion:

The change in Total Aluminum concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 1.21×10^{-16}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

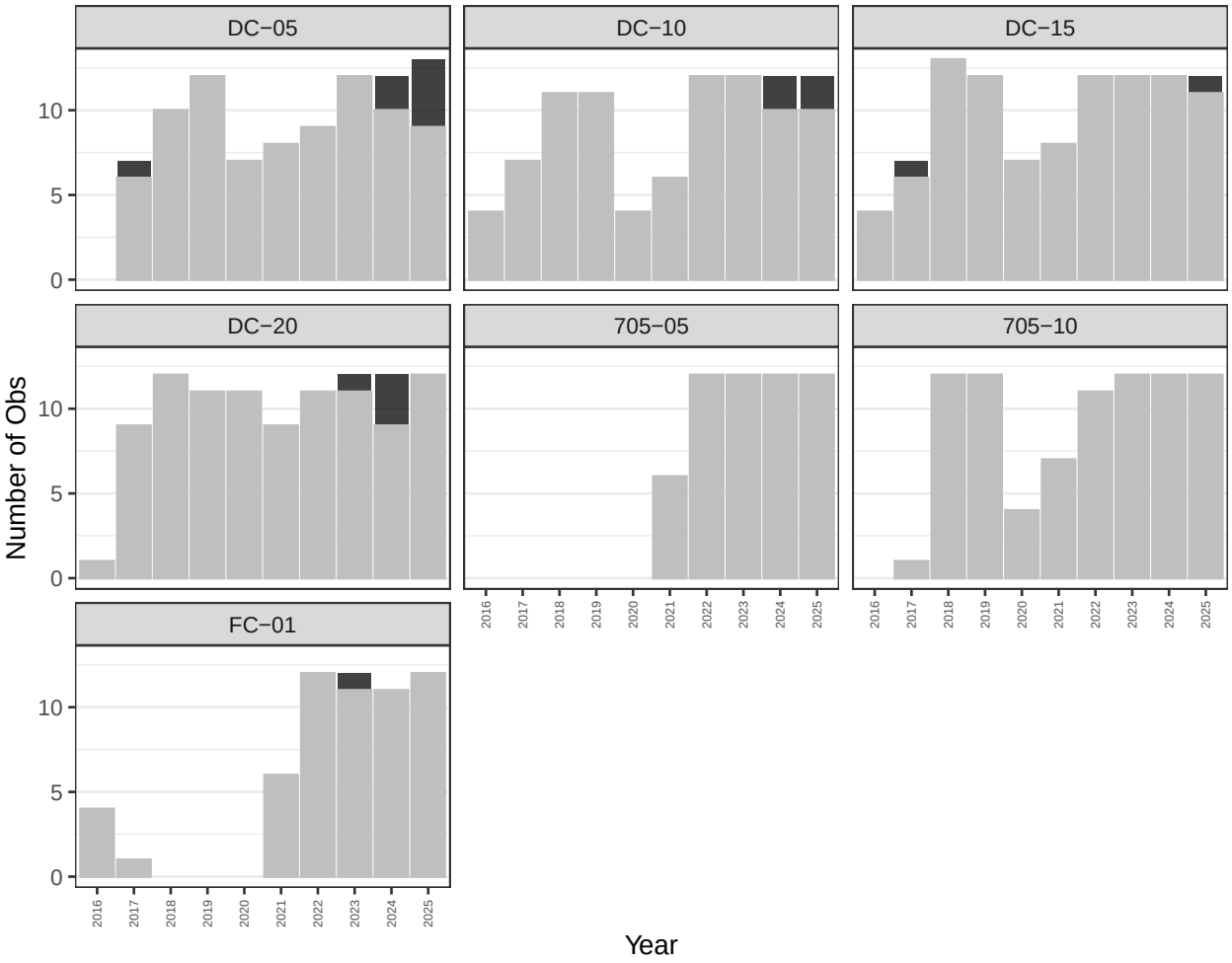
Final Summary Table

Variable	Total Aluminum
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.10 Total Antimony

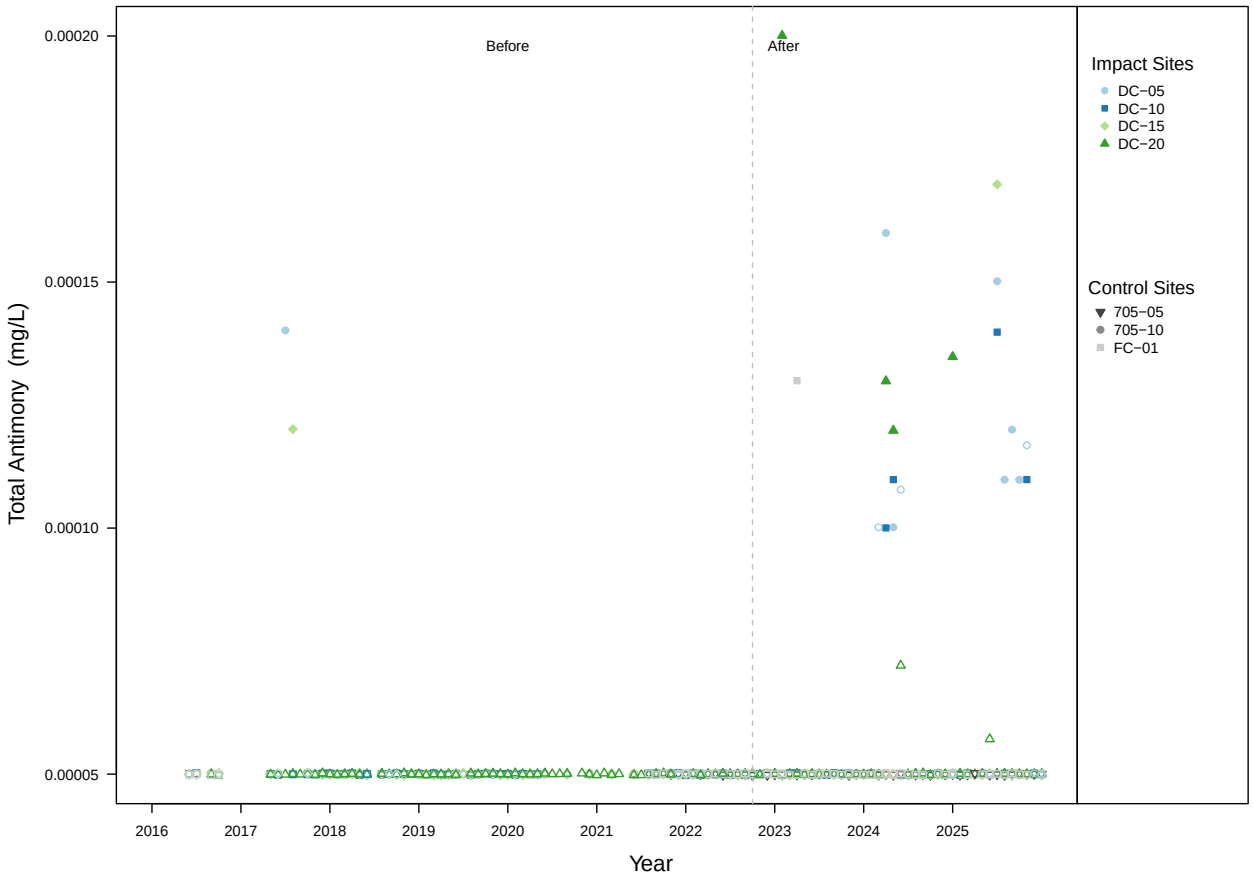
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

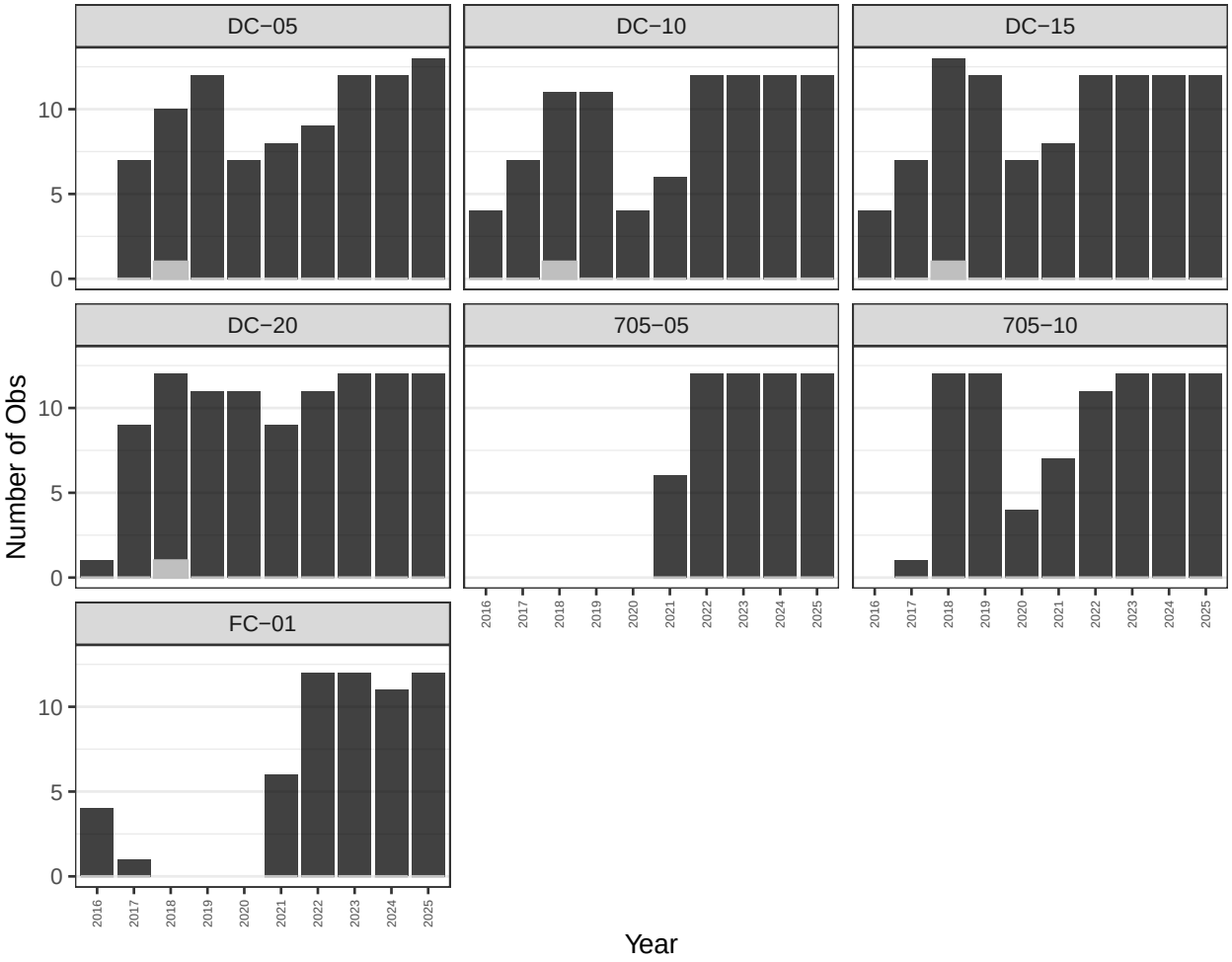
Variable	Total Antimony
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.11 Total Arsenic

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

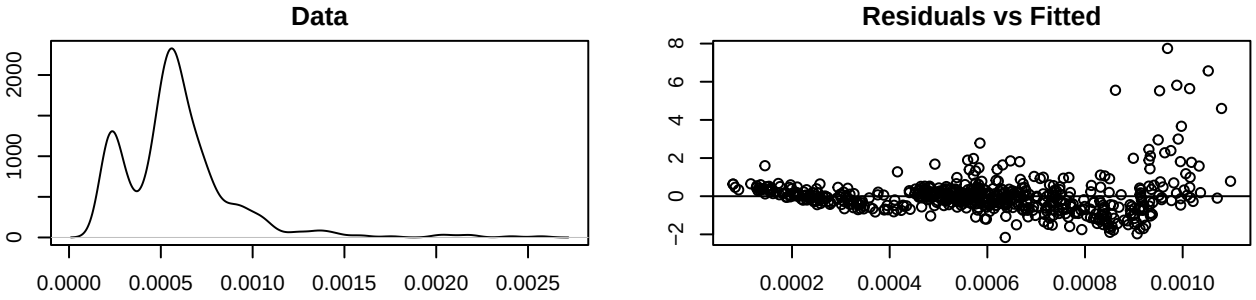
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0006	1.961
Davidson Creek	DC-05	after	39	0.0008	0.000
Davidson Creek	DC-10	before	52	0.0006	1.923
Davidson Creek	DC-10	after	39	0.0007	0.000
Davidson Creek	DC-15	before	60	0.0006	1.667
Davidson Creek	DC-15	after	39	0.0007	0.000
Davidson Creek	DC-20	before	62	0.0005	1.613
Davidson Creek	DC-20	after	38	0.0008	0.000
Creek 705 (Control)	705-05	before	15	0.0003	0.000
Creek 705 (Control)	705-05	after	39	0.0003	0.000
Creek 705 (Control)	705-10	before	45	0.0002	0.000
Creek 705 (Control)	705-10	after	38	0.0002	0.000
Fawnie Creek (Control)	FC-01	before	20	0.0007	0.000
Fawnie Creek (Control)	FC-01	after	38	0.0008	0.000

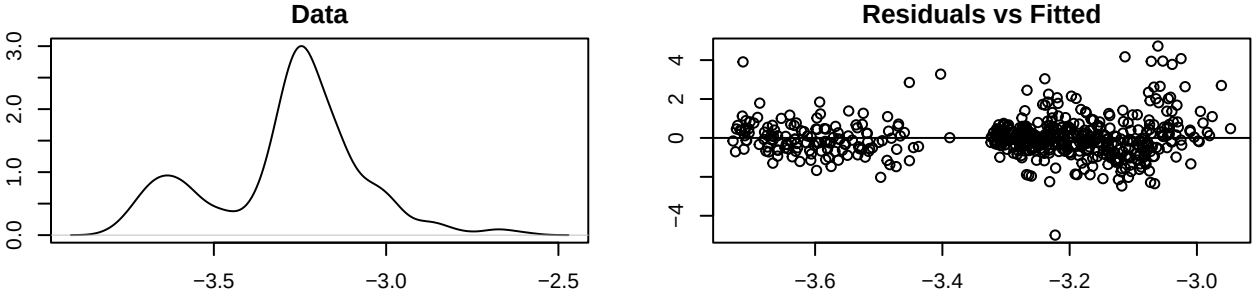
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-15	2025	6	impact	after	0.0026	0.0010	7.747	Y
Davidson Creek	DC-05	2025	6	impact	after	0.0024	0.0011	6.569	Y
Davidson Creek	DC-10	2025	6	impact	after	0.0022	0.0010	5.816	Y
Davidson Creek	DC-05	2024	3	impact	after	0.0022	0.0010	5.640	Y
Davidson Creek	DC-20	2024	12	impact	after	0.0020	0.0009	5.553	Y
Davidson Creek	DC-20	2024	3	impact	after	0.0021	0.0010	5.527	Y
Davidson Creek	DC-05	2025	8	impact	after	0.0020	0.0011	4.598	Y
Davidson Creek	DC-05	2025	7	impact	after	0.0018	0.0010	3.666	Y

Outliers on log scale:

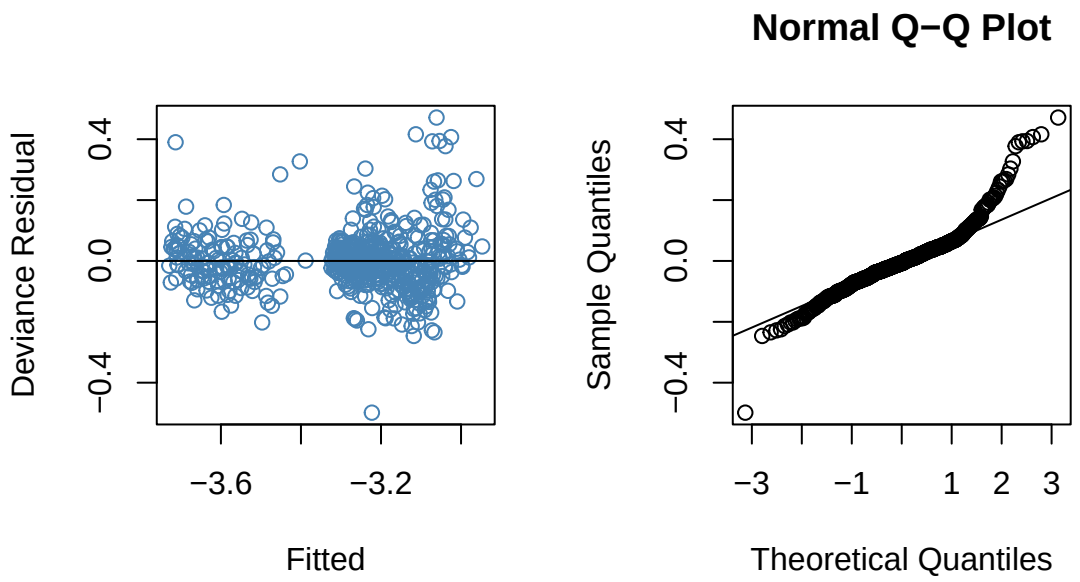
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2021	12	control	before	-3.721	-3.223	-4.994	Y
Davidson Creek	DC-15	2025	6	impact	after	-2.590	-3.061	4.721	Y
Davidson Creek	DC-20	2024	12	impact	after	-2.697	-3.113	4.169	Y
Davidson Creek	DC-05	2025	6	impact	after	-2.618	-3.025	4.077	Y
Davidson Creek	DC-10	2025	6	impact	after	-2.660	-3.054	3.948	Y
Davidson Creek	DC-20	2024	3	impact	after	-2.679	-3.072	3.937	Y
Creek 705 (Control)	705-10	2021	12	control	before	-3.323	-3.713	3.907	Y
Davidson Creek	DC-05	2024	3	impact	after	-2.662	-3.039	3.780	Y
Creek 705 (Control)	705-05	2025	8	control	after	-3.076	-3.403	3.276	Y
Davidson Creek	DC-20	2017	10	impact	before	-2.936	-3.239	3.040	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.04585	0.04585	1	5.007	4.602	0.0847	
period	0.08754	0.08754	1	33.521	8.786	0.00555	
class:period	0.39296	0.39296	1	554.176	39.439	<0.001	4.33e-09

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.4316	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

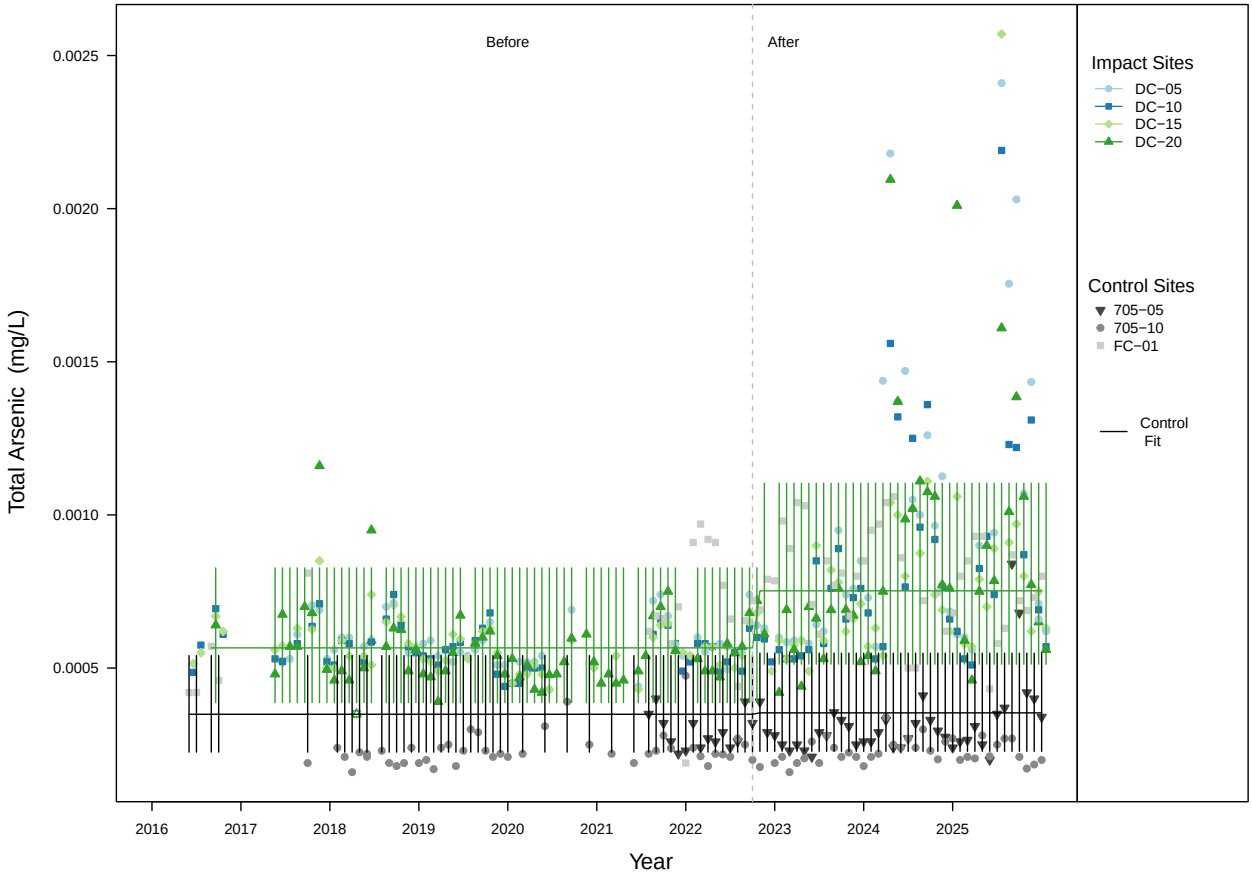
Impact vs.	Estimate	Significance
control sites	0.1179	significant

Conclusion:

The change in Total Arsenic concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 4.33×10^{-9}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

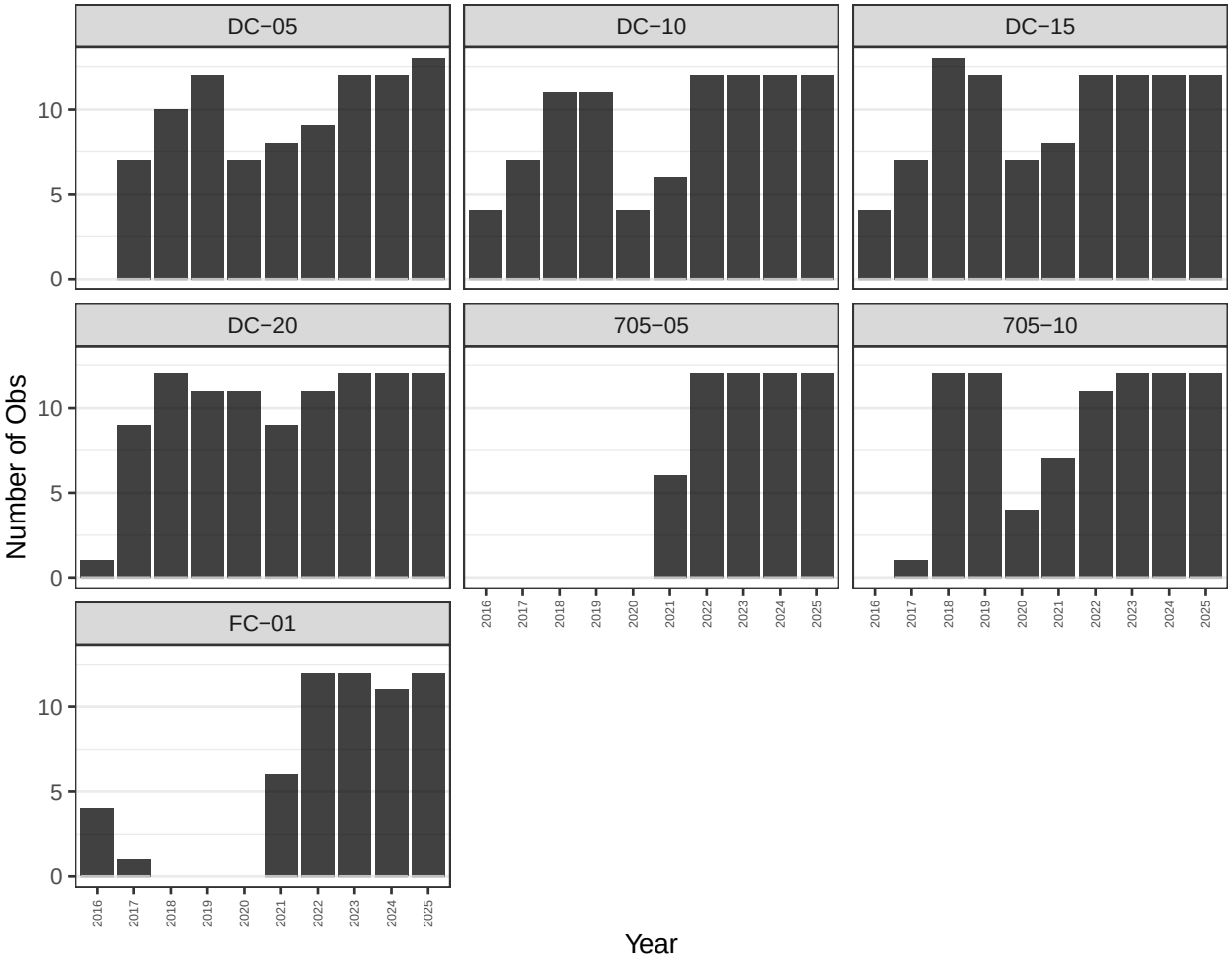
Variable	Total Arsenic
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.12 Total Barium

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

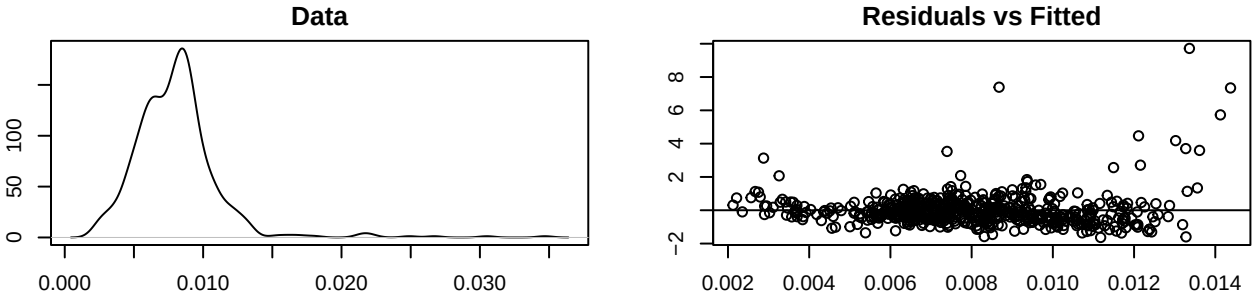
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0063	0
Davidson Creek	DC-05	after	39	0.0096	0
Davidson Creek	DC-10	before	52	0.0064	0
Davidson Creek	DC-10	after	39	0.0096	0
Davidson Creek	DC-15	before	60	0.0074	0
Davidson Creek	DC-15	after	39	0.0099	0
Davidson Creek	DC-20	before	62	0.0079	0
Davidson Creek	DC-20	after	38	0.0098	0
Creek 705 (Control)	705-05	before	15	0.0060	0
Creek 705 (Control)	705-05	after	39	0.0071	0
Creek 705 (Control)	705-10	before	45	0.0088	0
Creek 705 (Control)	705-10	after	38	0.0088	0
Fawnie Creek (Control)	FC-01	before	20	0.0041	0
Fawnie Creek (Control)	FC-01	after	38	0.0039	0

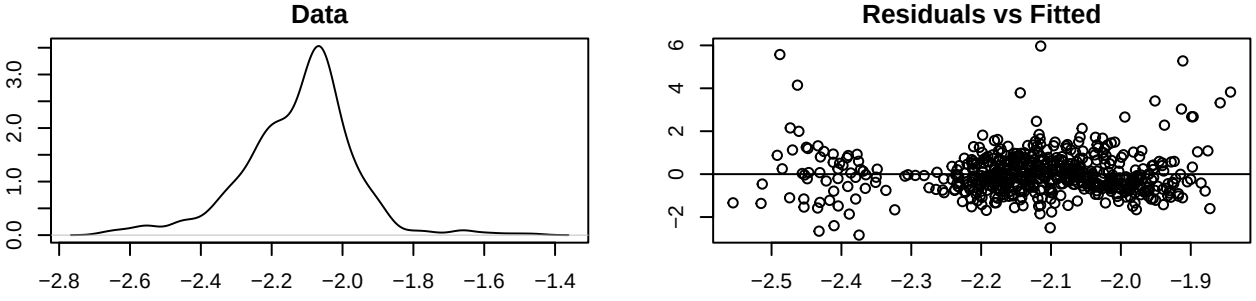
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2024	3	impact	after	0.0347	0.0134	9.719	Y
Davidson Creek	DC-05	2020	4	impact	before	0.0249	0.0087	7.390	Y
Davidson Creek	DC-20	2024	4	impact	after	0.0305	0.0144	7.345	Y
Davidson Creek	DC-20	2024	3	impact	after	0.0267	0.0141	5.727	Y
Davidson Creek	DC-05	2024	2	impact	after	0.0219	0.0121	4.468	Y
Davidson Creek	DC-10	2024	3	impact	after	0.0222	0.0130	4.180	Y
Davidson Creek	DC-10	2024	4	impact	after	0.0214	0.0133	3.702	Y
Davidson Creek	DC-05	2024	4	impact	after	0.0215	0.0136	3.593	Y
Davidson Creek	DC-20	2018	5	impact	before	0.0152	0.0074	3.532	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0098	0.0029	3.131	Y

Outliers on log scale:

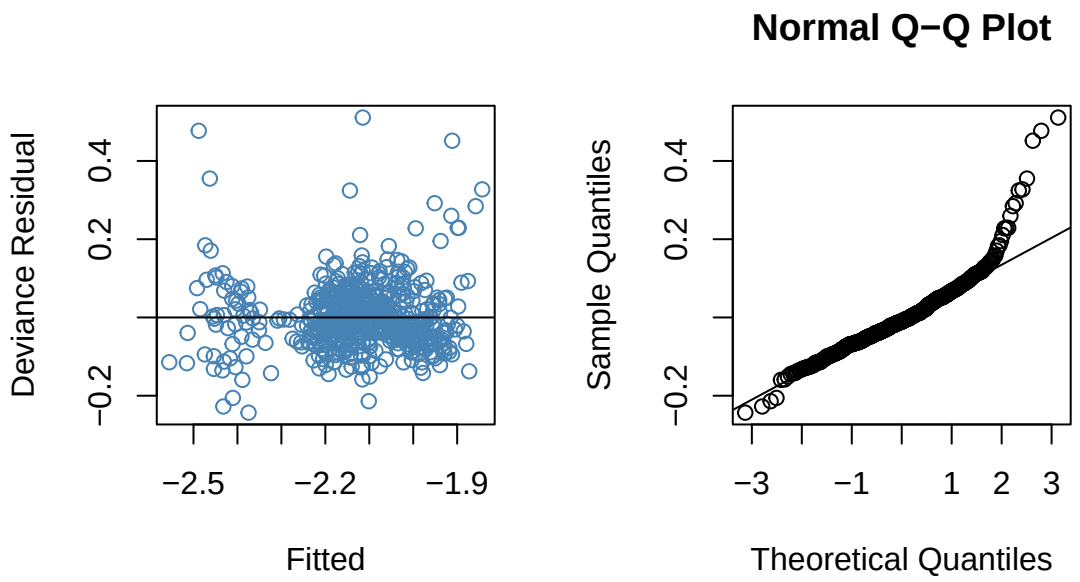
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2020	4	impact	before	-1.604	-2.115	5.968	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	-2.011	-2.488	5.572	Y
Davidson Creek	DC-05	2024	3	impact	after	-1.460	-1.911	5.276	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.108	-2.463	4.146	Y
Davidson Creek	DC-20	2024	4	impact	after	-1.516	-1.843	3.824	Y
Davidson Creek	DC-20	2018	5	impact	before	-1.820	-2.144	3.789	Y
Davidson Creek	DC-05	2024	2	impact	after	-1.659	-1.951	3.410	Y
Davidson Creek	DC-20	2024	3	impact	after	-1.573	-1.858	3.322	Y
Davidson Creek	DC-10	2024	3	impact	after	-1.654	-1.913	3.033	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.01668	0.01668	1	5.01	2.275	0.192	
period	0.24148	0.24148	1	31.15	32.944	<0.001	
class:period	0.59672	0.59672	1	554.43	81.409	<0.001	6.44e-17

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.3395	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

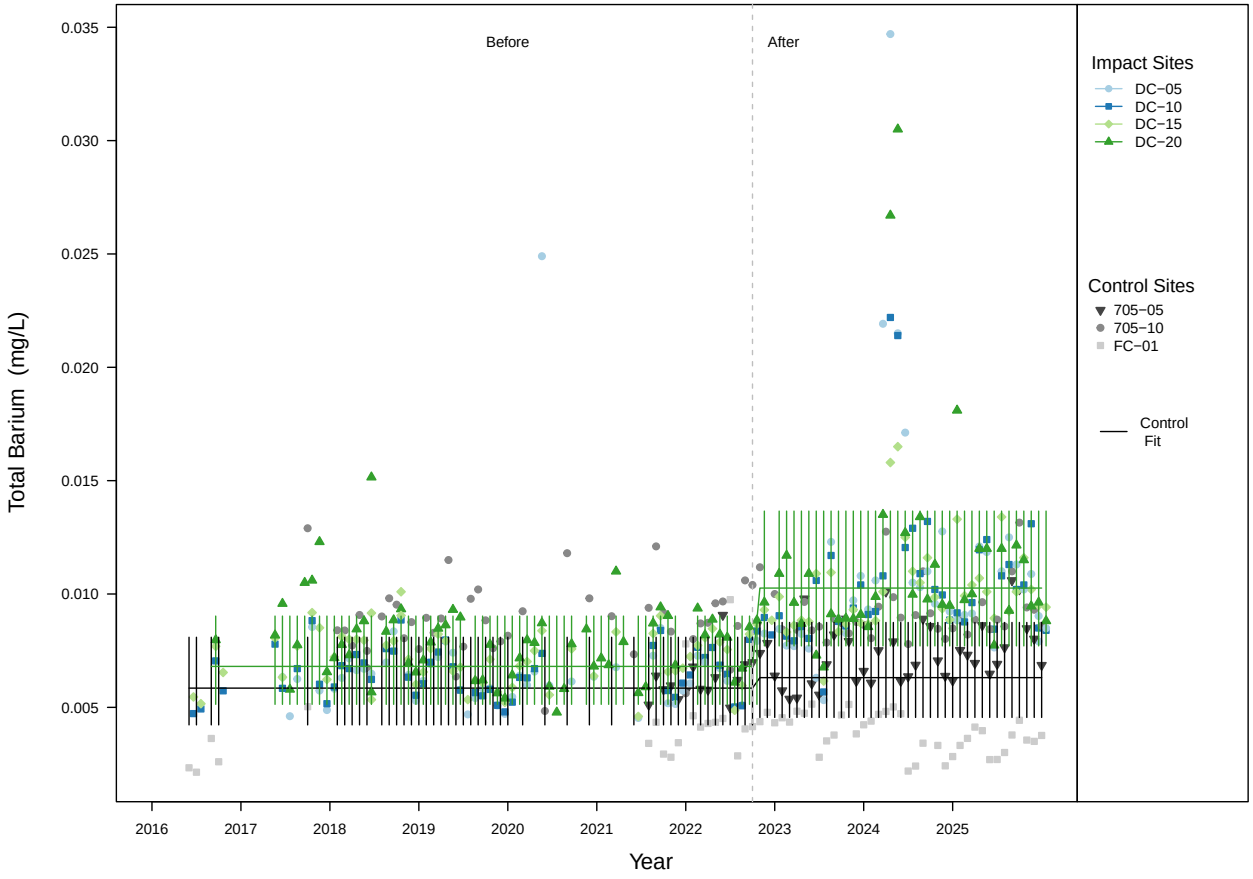
Impact vs.	Estimate	Significance
control sites	0.1452	significant

Conclusion:

The change in Total Barium concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 6.44×10^{-17}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

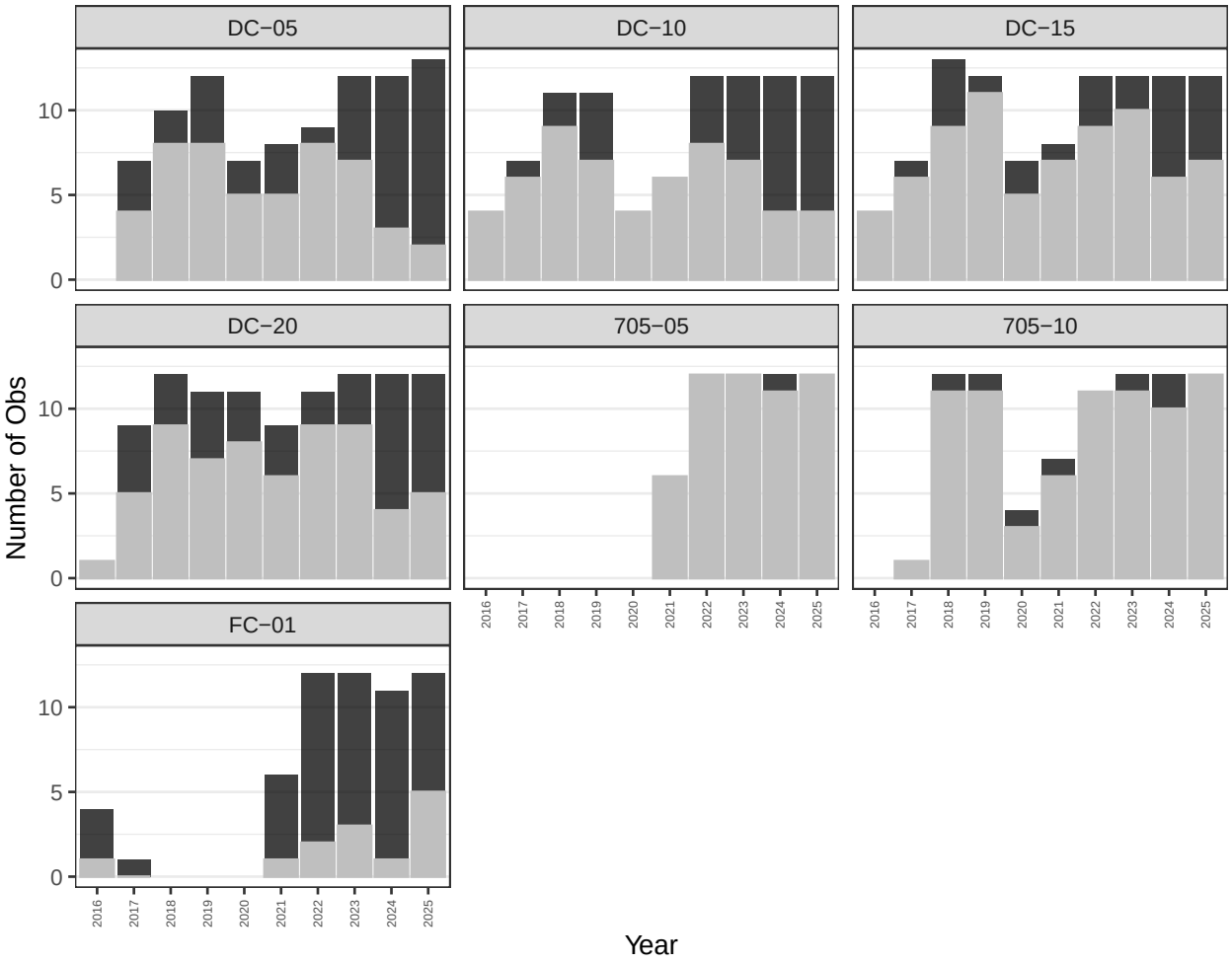
Final Summary Table

Variable	Total Barium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.13 Total Cadmium

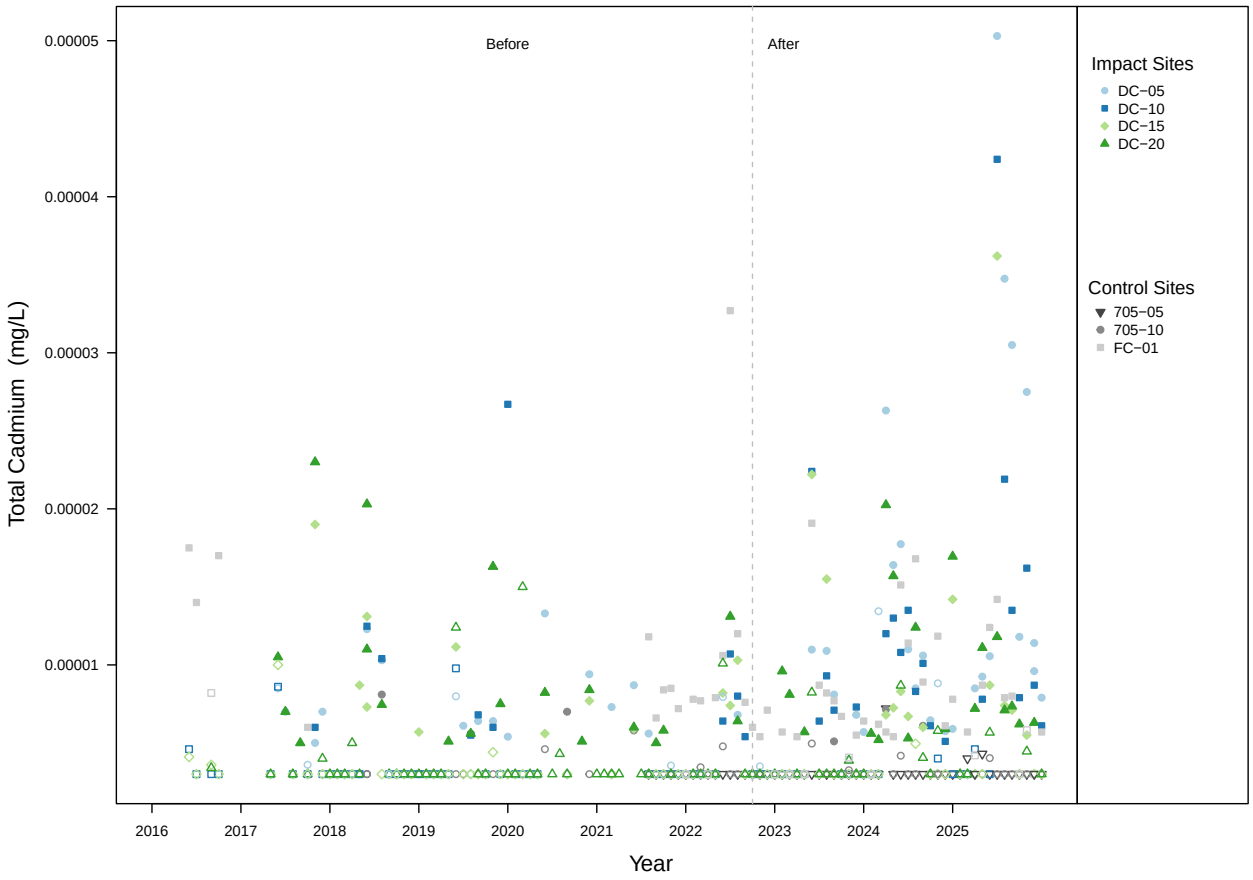
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

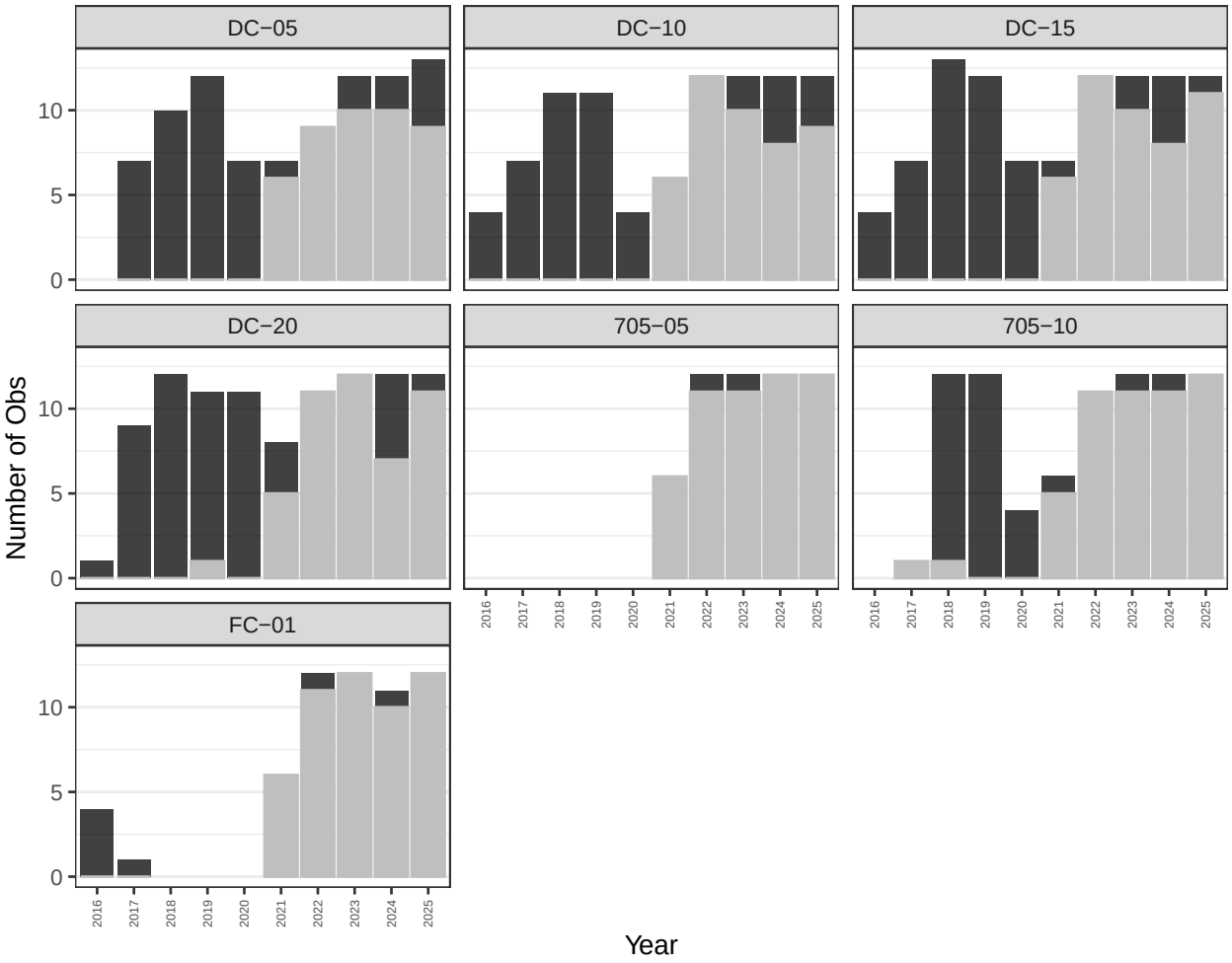
Final Summary Table

Variable	Total Cadmium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.14 Total Chromium

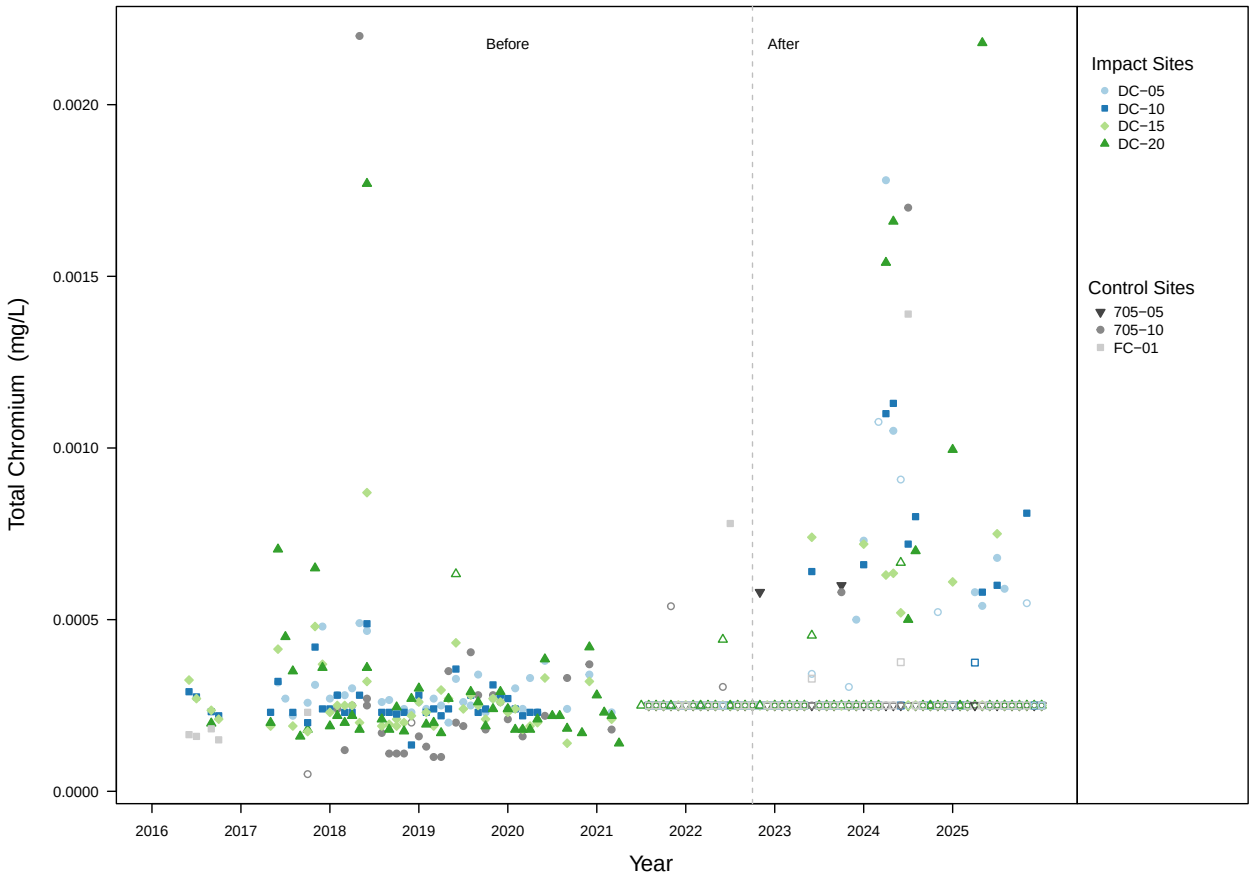
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

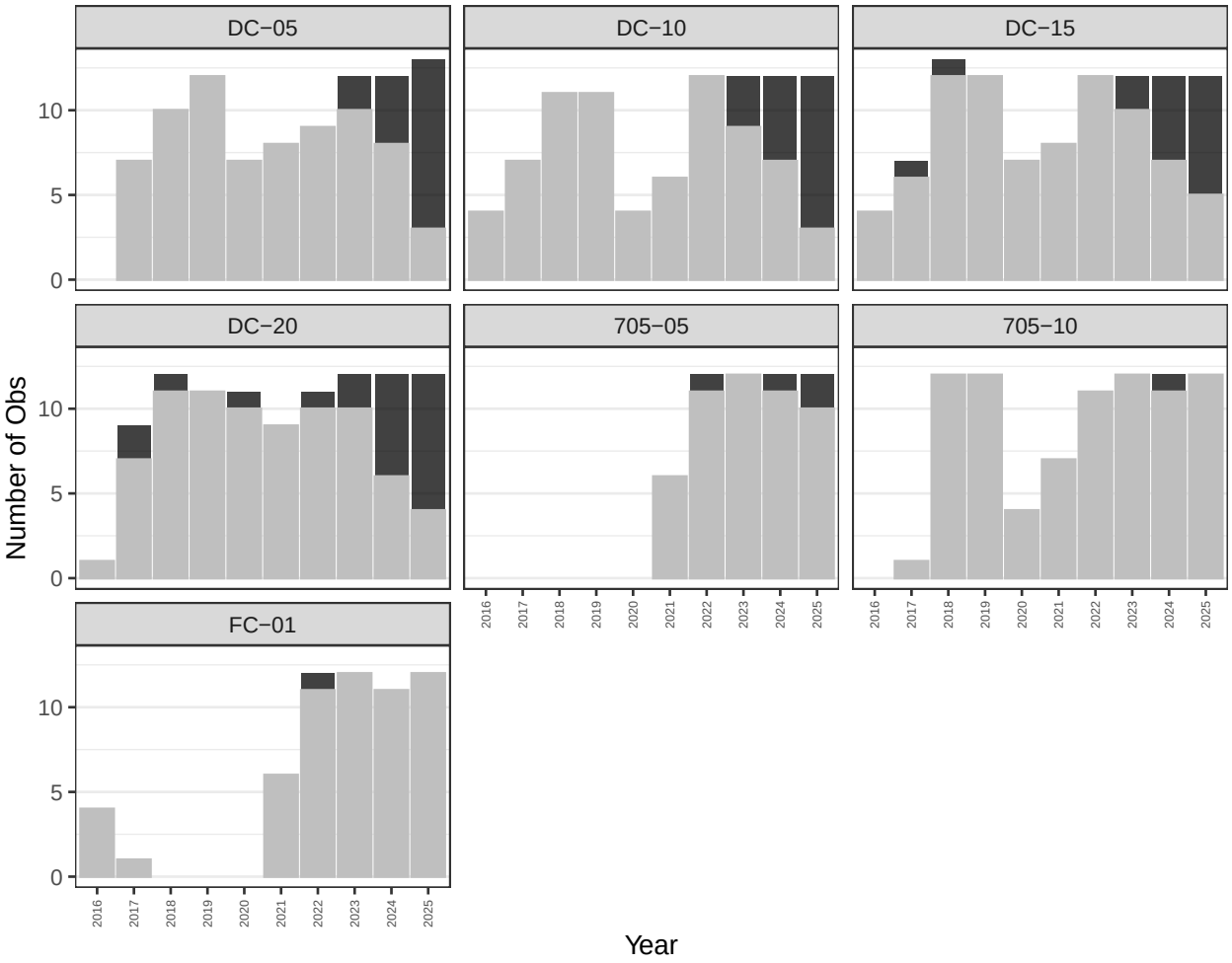
Final Summary Table

Variable	Total Chromium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.15 Total Cobalt

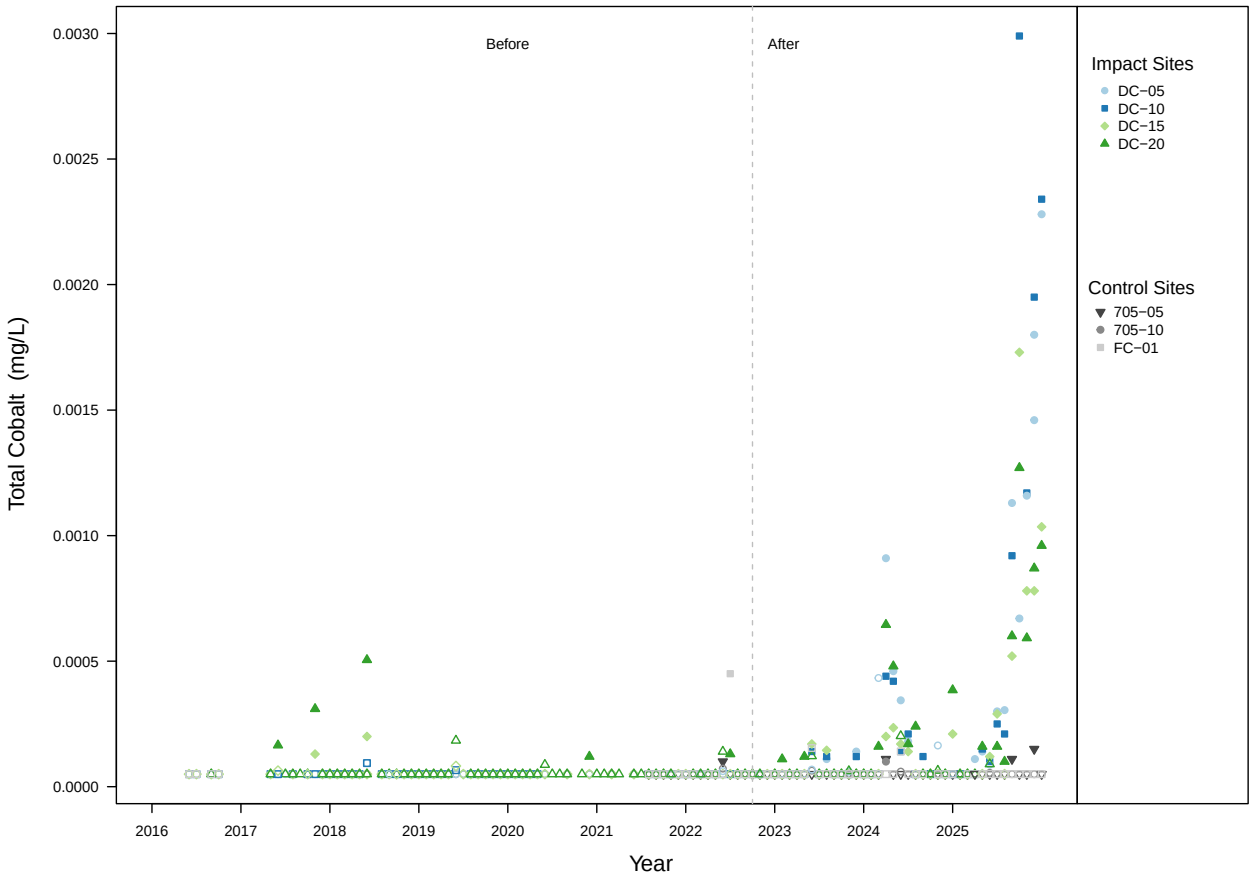
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

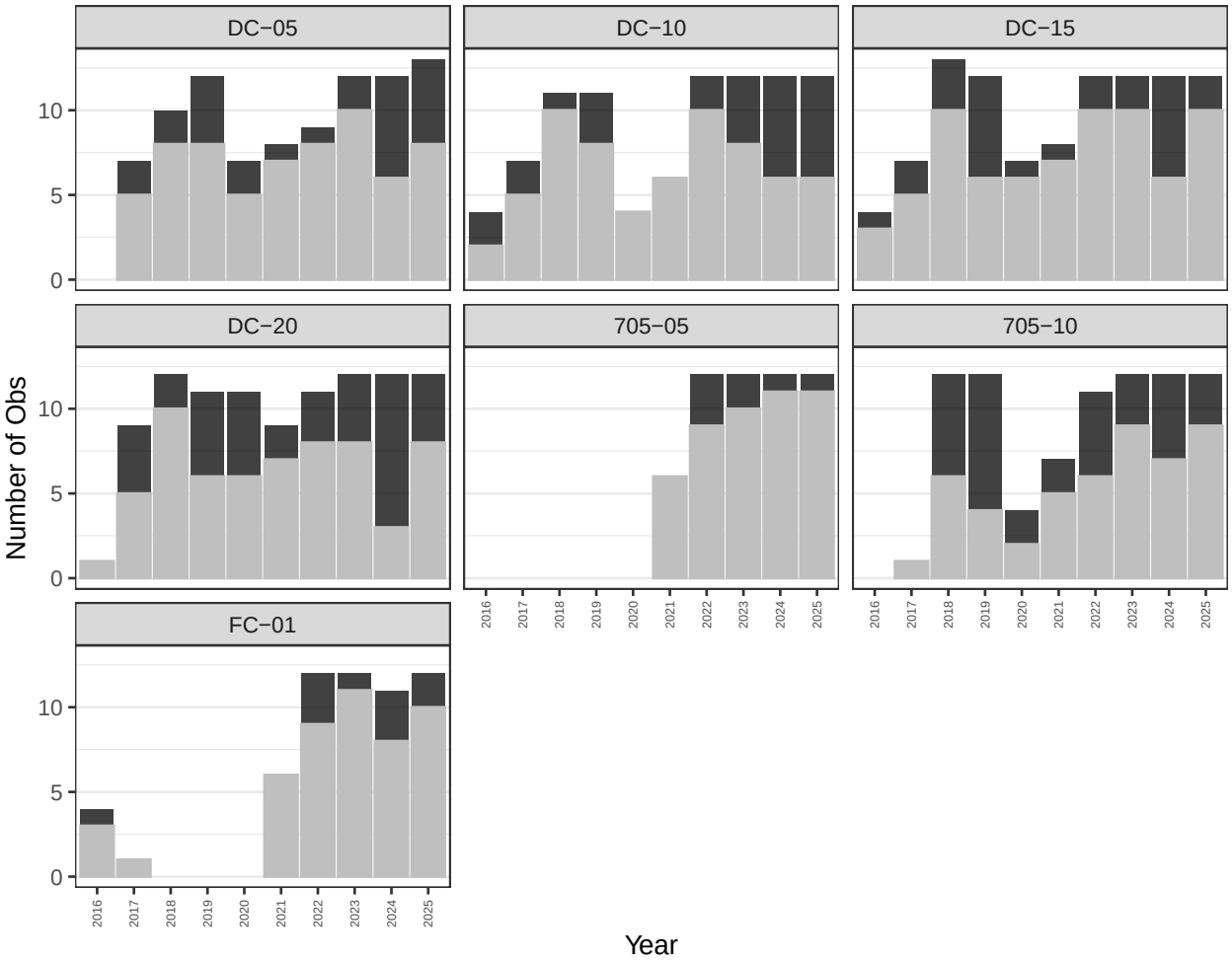
Final Summary Table

Variable	Total Cobalt
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.16 Total Copper

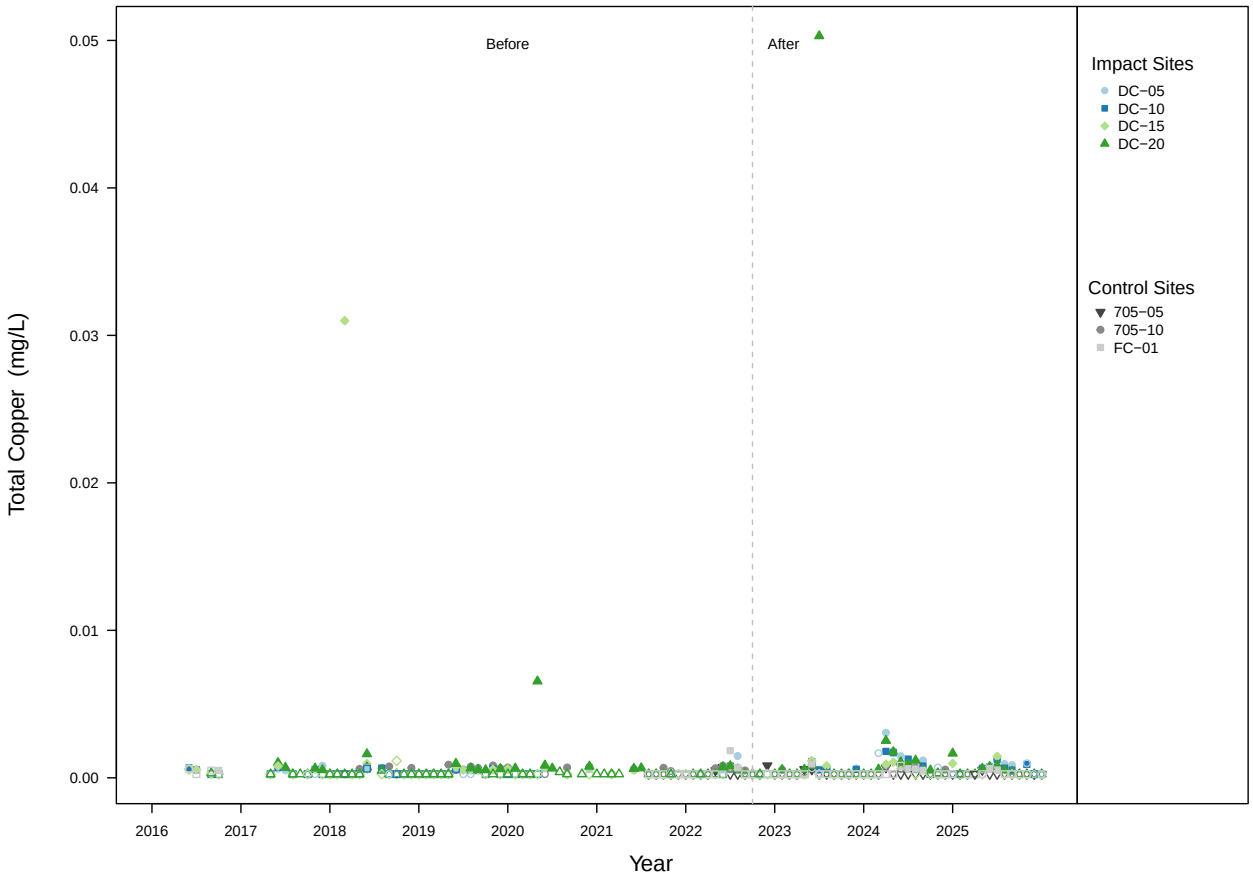
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

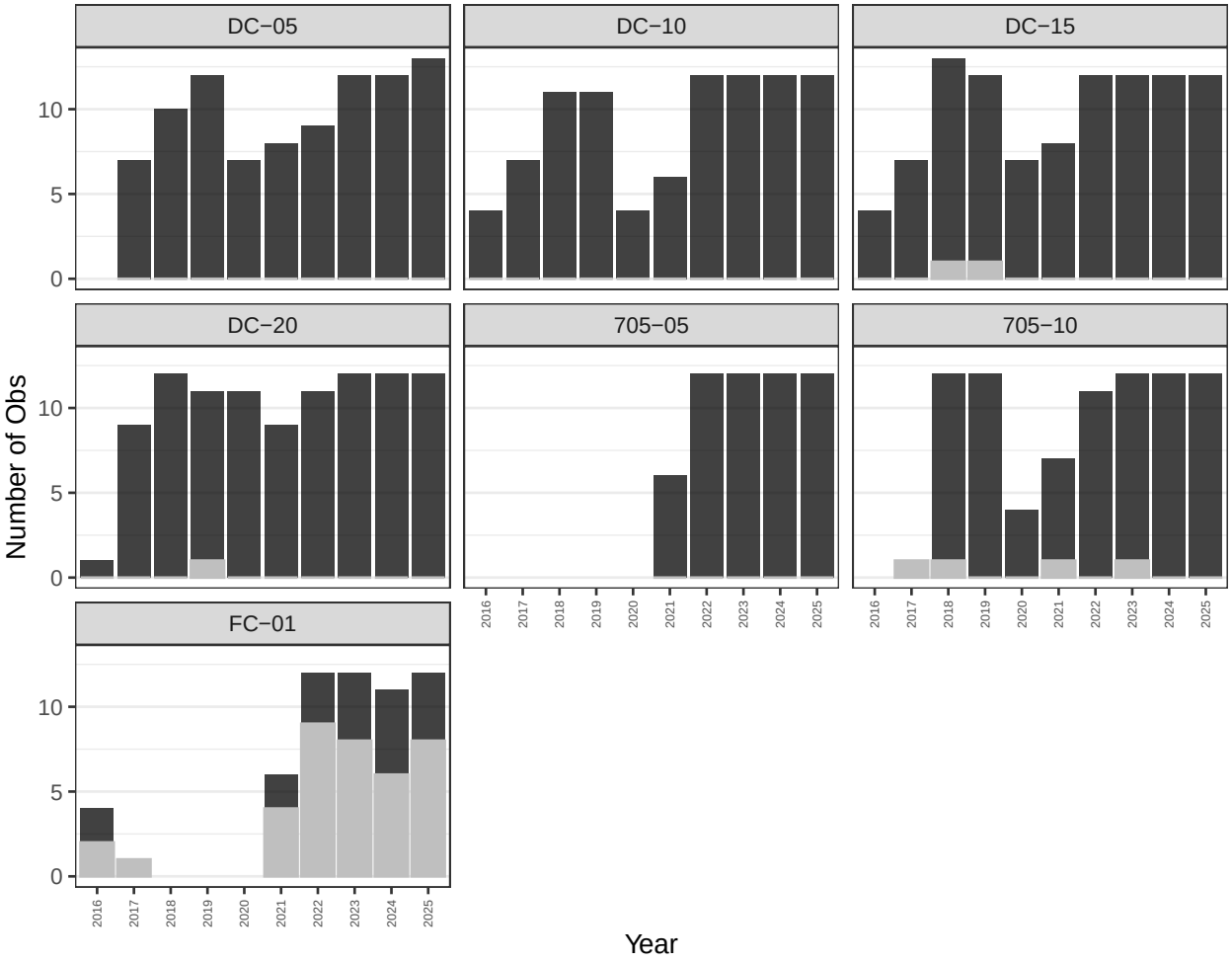
Variable	Total Copper
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.17 Total Iron

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Creek 705 (Control)	705-10	2017	control	before	1
Fawnie Creek (Control)	FC-01	2017	control	before	1
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2023	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11

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(continued)

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2025	control	after	12

1.2 Sample Sizes for Modelling

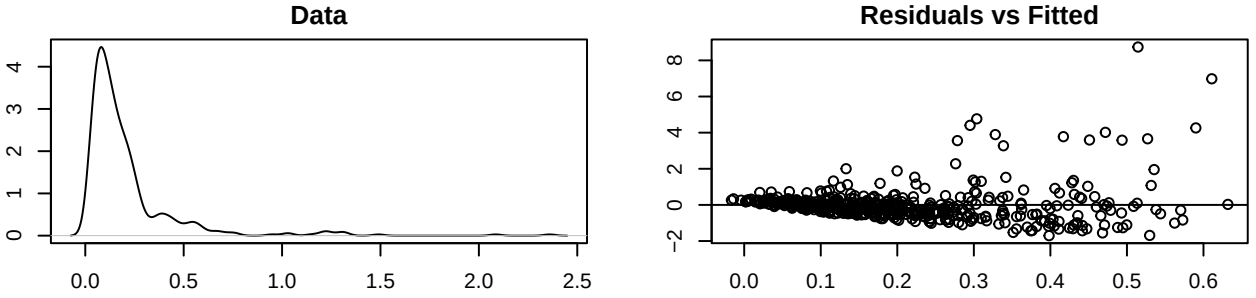
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0910	0.000
Davidson Creek	DC-05	after	39	0.2058	0.000
Davidson Creek	DC-10	before	52	0.0760	0.000
Davidson Creek	DC-10	after	39	0.1700	0.000
Davidson Creek	DC-15	before	60	0.0645	3.333
Davidson Creek	DC-15	after	39	0.1050	0.000
Davidson Creek	DC-20	before	62	0.1470	1.613
Davidson Creek	DC-20	after	38	0.3922	0.000
Creek 705 (Control)	705-05	before	15	0.2100	0.000
Creek 705 (Control)	705-05	after	39	0.2110	0.000
Creek 705 (Control)	705-10	before	28	0.1090	3.571
Fawnie Creek (Control)	FC-01	before	4	0.0335	50.000

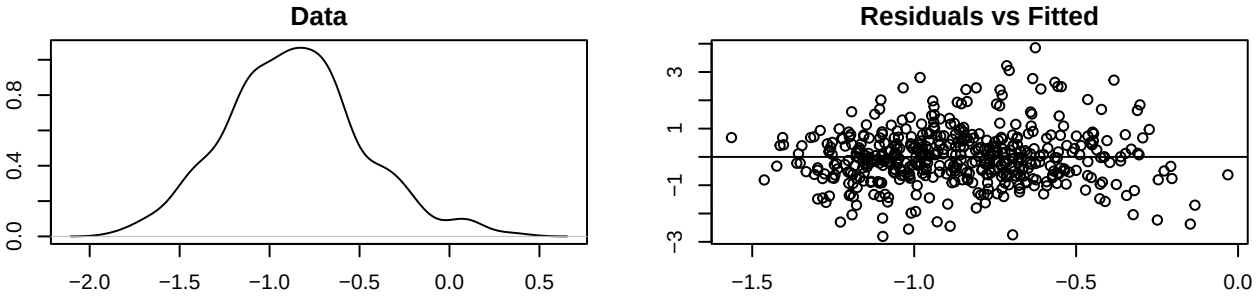
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2024	3	impact	after	2.360	0.5145	8.741	Y
Davidson Creek	DC-20	2024	3	impact	after	2.085	0.6108	6.982	Y
Creek 705 (Control)	705-05	2025	9	control	after	1.310	0.3038	4.765	Y
Davidson Creek	DC-20	2018	5	impact	before	1.225	0.2951	4.404	Y
Davidson Creek	DC-20	2024	4	impact	after	1.490	0.5900	4.262	Y
Davidson Creek	DC-10	2024	3	impact	after	1.320	0.4719	4.017	Y
Creek 705 (Control)	705-05	2025	8	control	after	1.150	0.3280	3.893	Y
Davidson Creek	DC-05	2024	2	impact	after	1.215	0.4170	3.777	Y
Davidson Creek	DC-20	2024	12	impact	after	1.300	0.5270	3.661	Y
Davidson Creek	DC-10	2024	4	impact	after	1.210	0.4511	3.594	Y
Davidson Creek	DC-05	2024	4	impact	after	1.250	0.4937	3.582	Y
Davidson Creek	DC-20	2017	10	impact	before	1.030	0.2785	3.559	Y
Creek 705 (Control)	705-05	2025	10	control	after	1.030	0.3386	3.274	Y

Outliers on log scale:

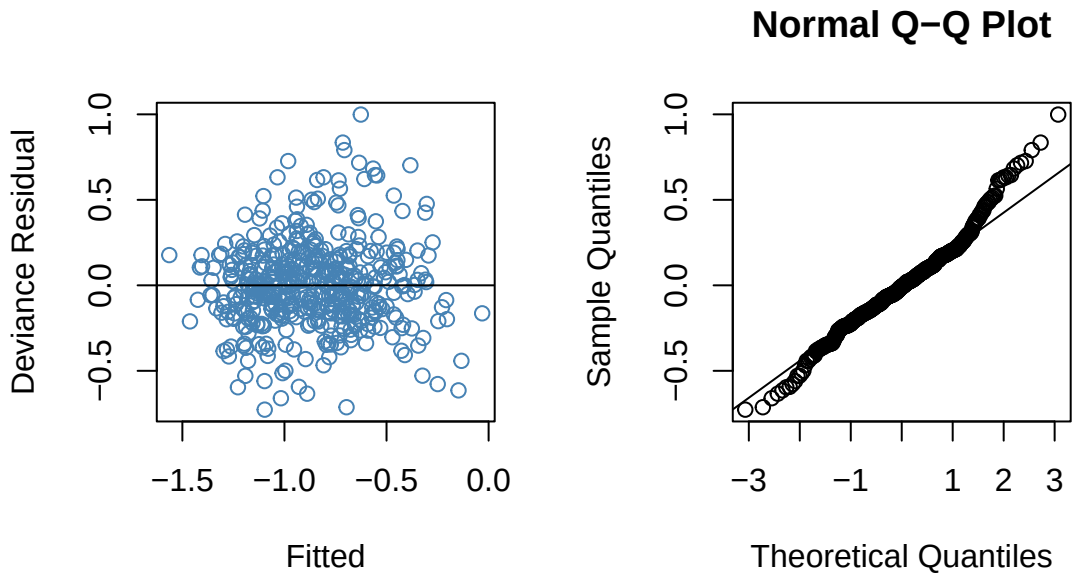
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2024	3	impact	after	0.3729	-0.6259	3.857	Y
Davidson Creek	DC-10	2024	3	impact	after	0.1206	-0.7142	3.224	Y
Davidson Creek	DC-05	2024	2	impact	after	0.0844	-0.7065	3.054	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.02704	0.02704	1	5.085	0.4033	0.5530	
period	0.28560	0.28560	1	166.628	4.2586	0.0406	
class:period	0.34288	0.34288	1	441.134	5.1127	0.0242	0.0341

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
466	0.0345	8%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

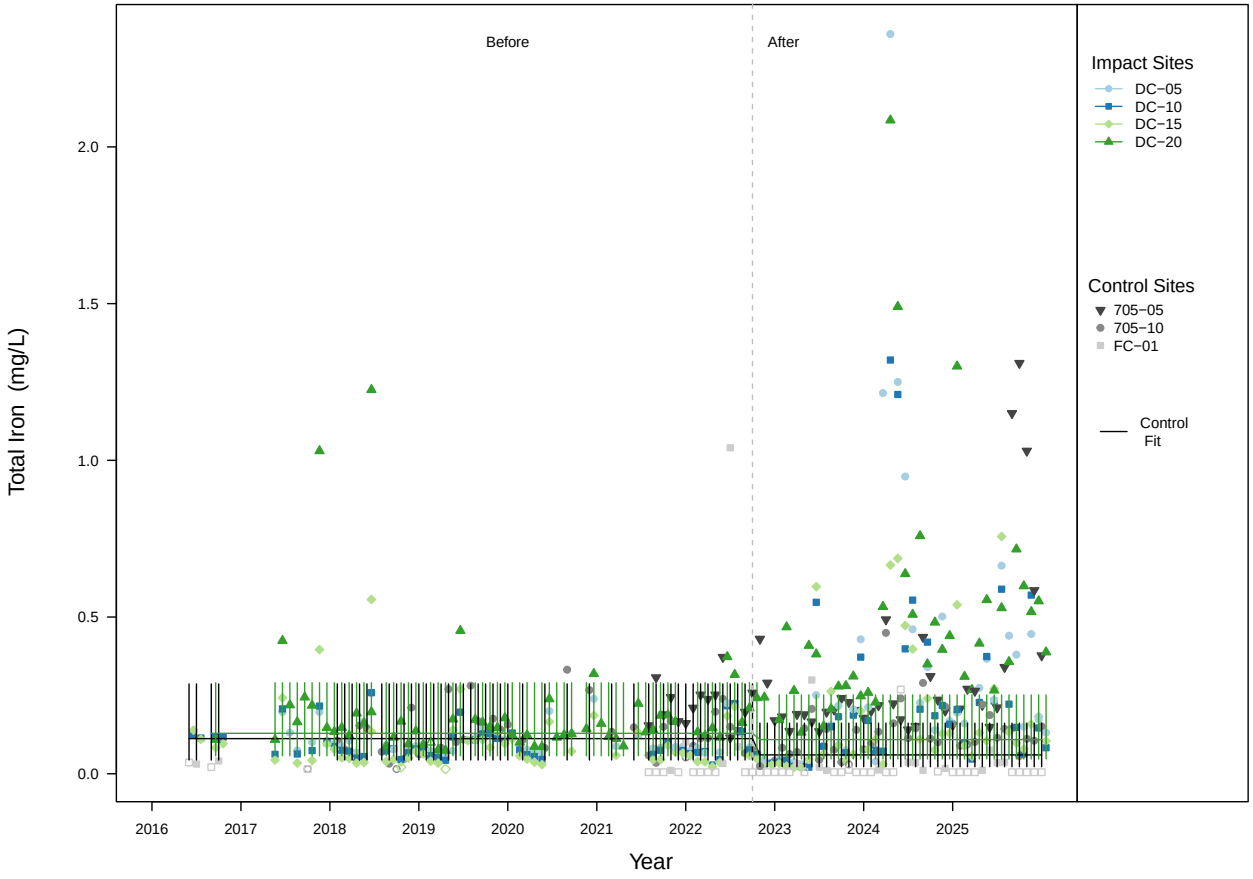
Impact vs.	Estimate	Significance
control sites	0.1972	significant

Conclusion:

The change in Total Iron concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 0.0341) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

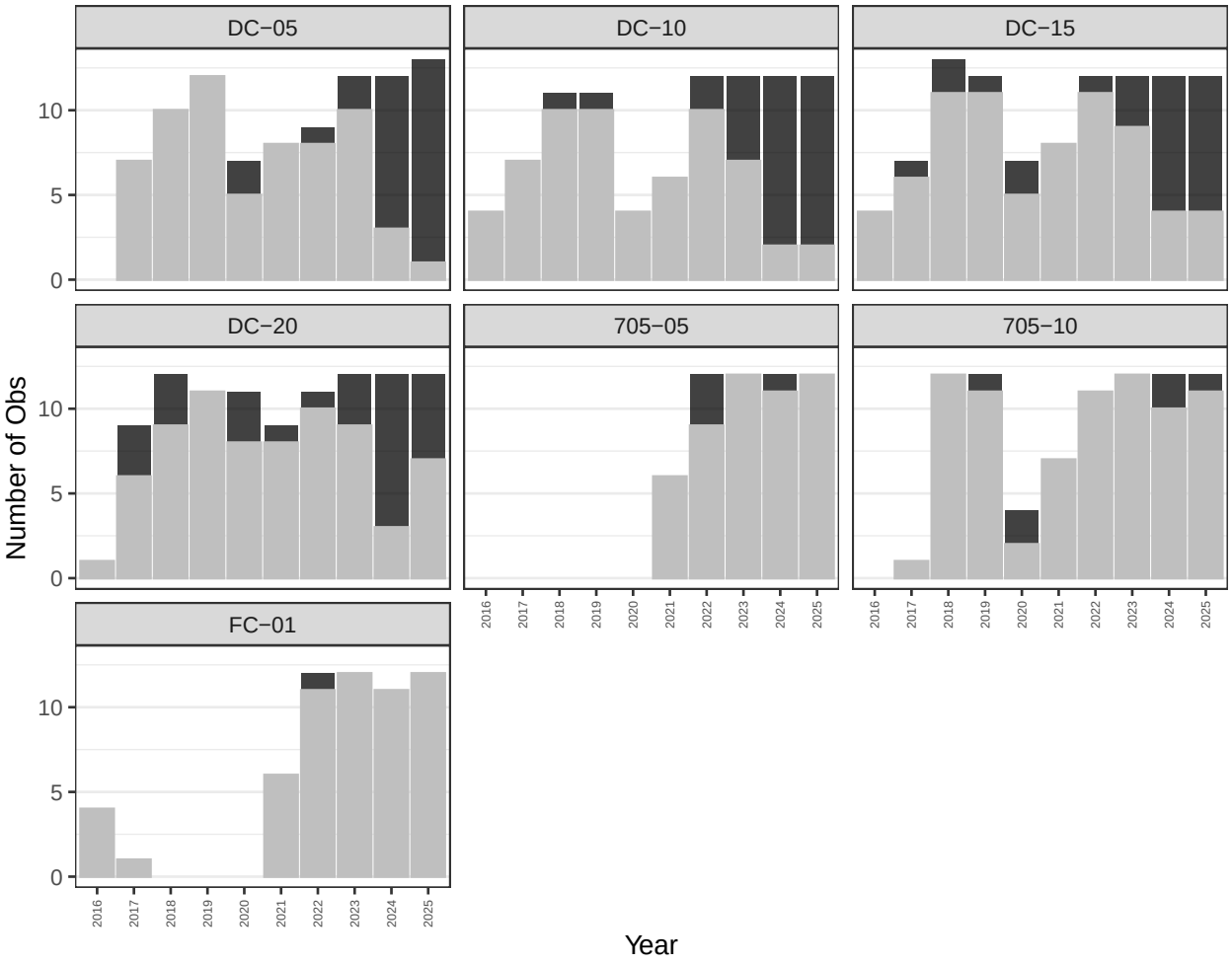
Final Summary Table

Variable	Total Iron
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.18 Total Lead

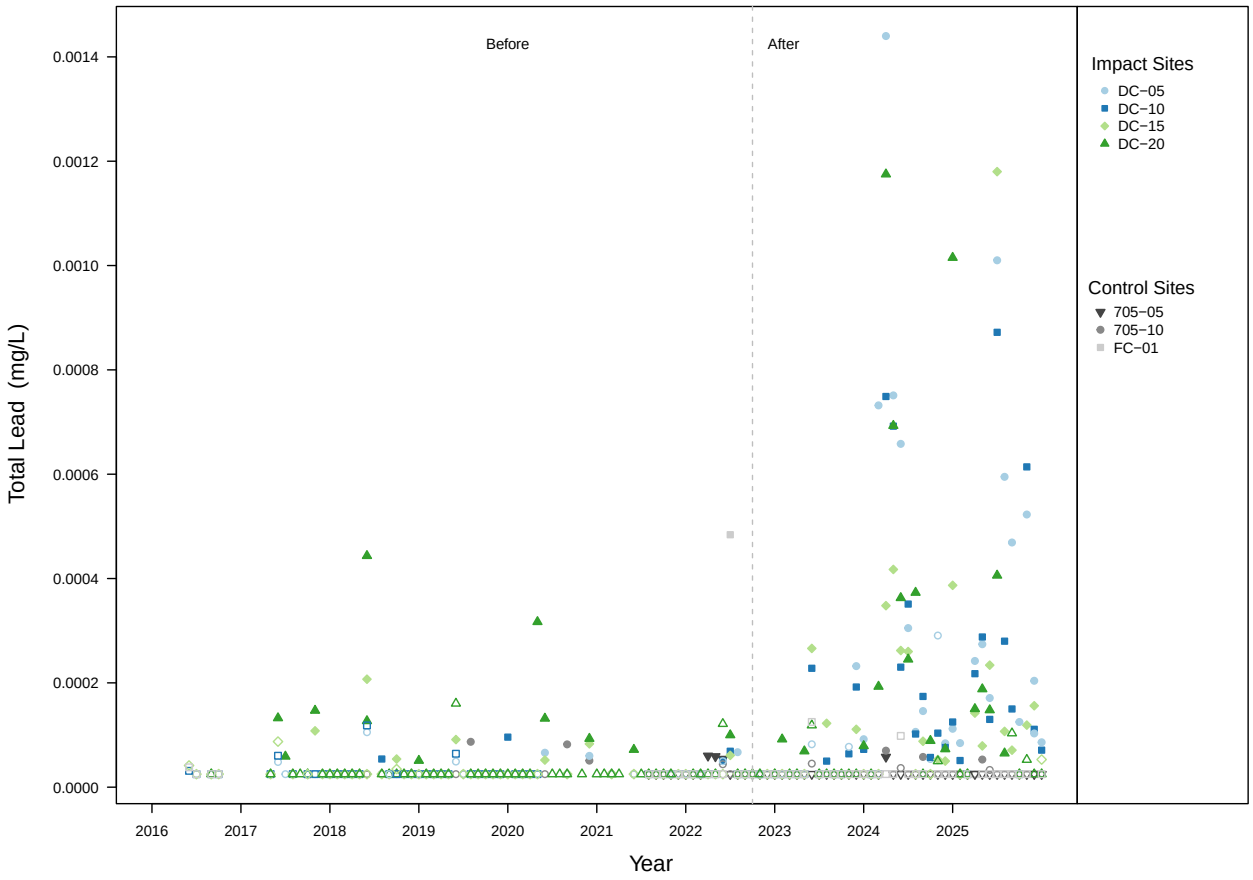
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

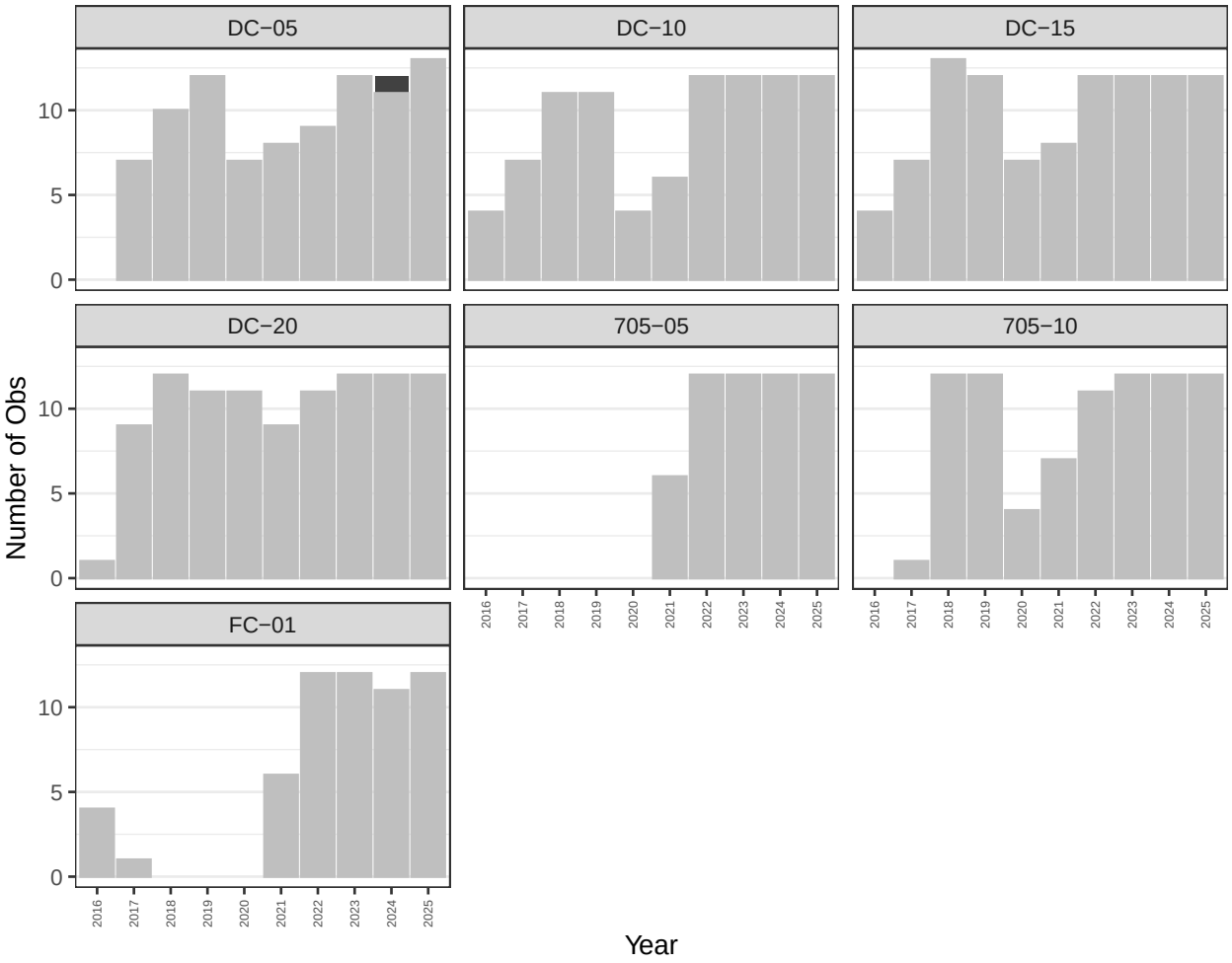
Final Summary Table

Variable	Total Lead
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.19 Total Lithium

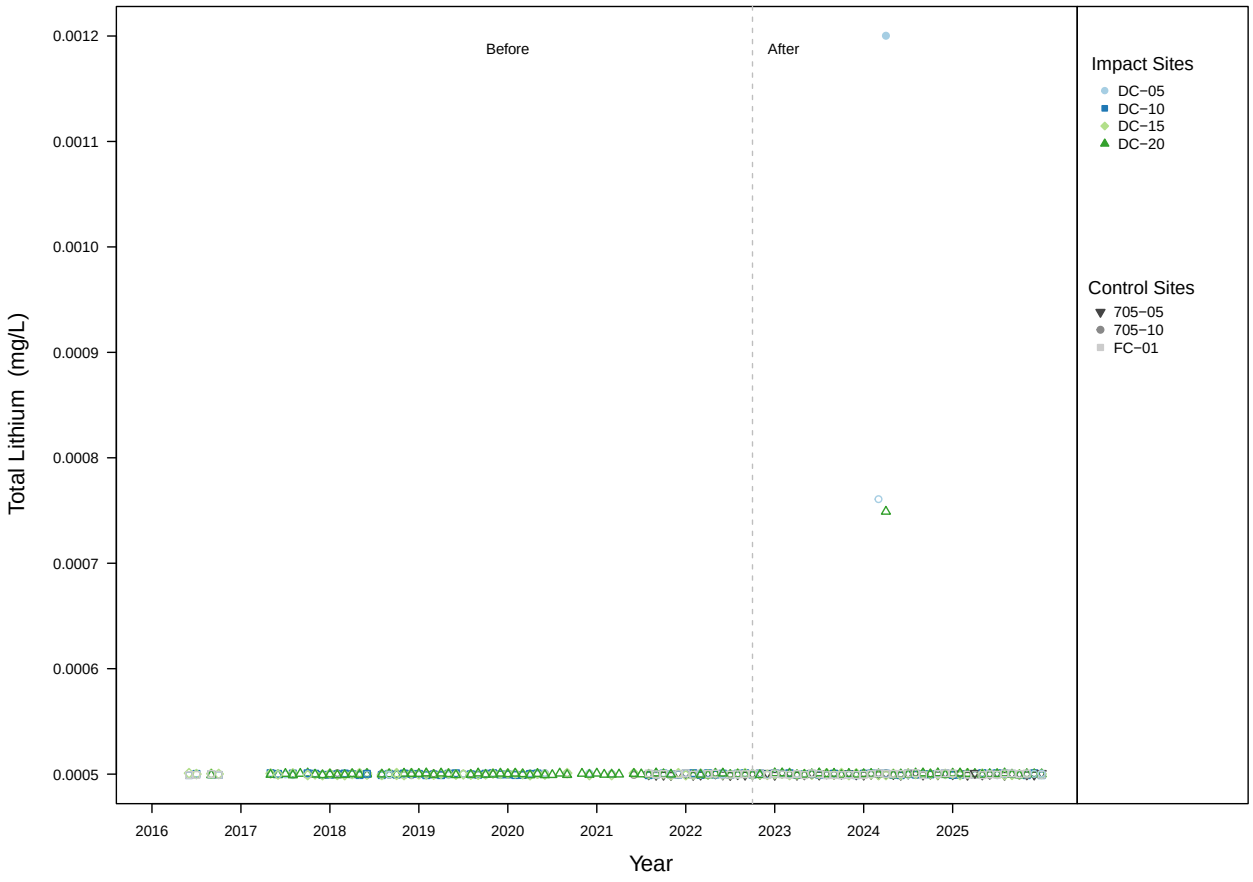
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

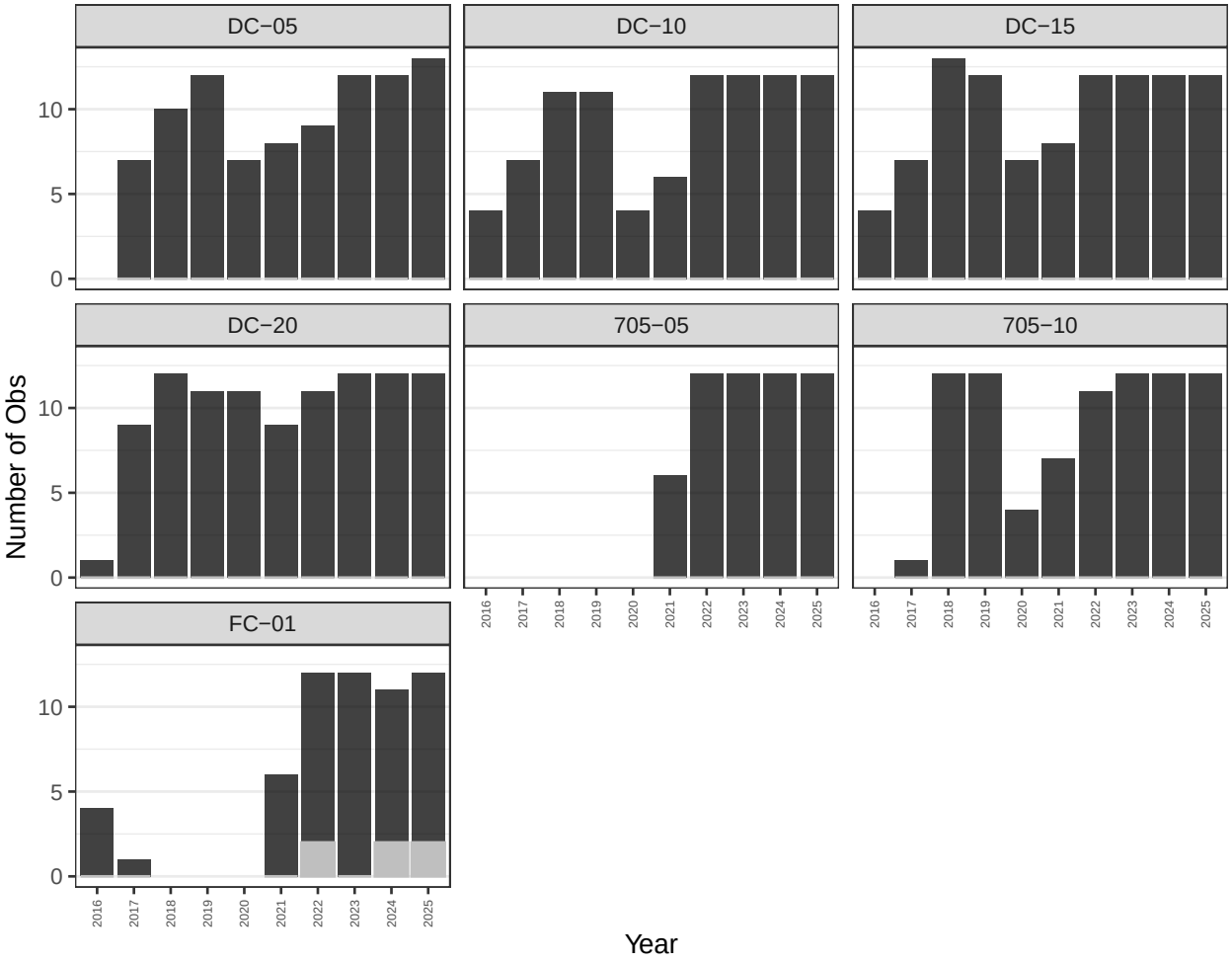
Variable	Total Lithium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.20 Total Manganese

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

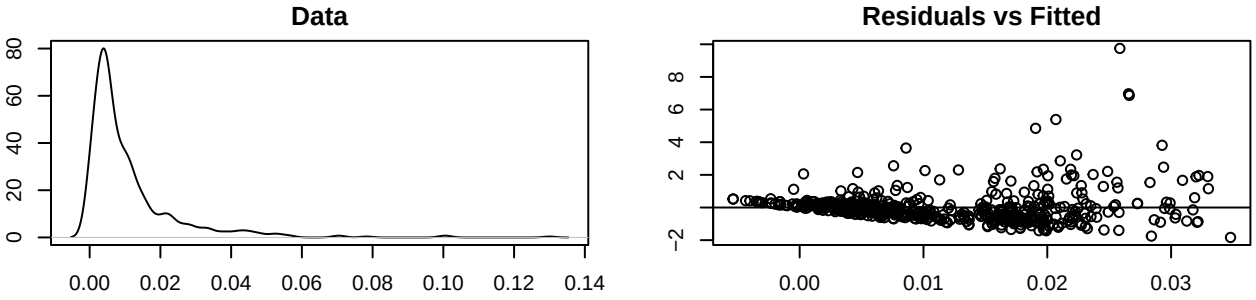
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0044	0.00
Davidson Creek	DC-05	after	39	0.0146	0.00
Davidson Creek	DC-10	before	52	0.0041	0.00
Davidson Creek	DC-10	after	39	0.0096	0.00
Davidson Creek	DC-15	before	60	0.0056	0.00
Davidson Creek	DC-15	after	39	0.0079	0.00
Davidson Creek	DC-20	before	62	0.0121	0.00
Davidson Creek	DC-20	after	38	0.0294	0.00
Creek 705 (Control)	705-05	before	15	0.0111	0.00
Creek 705 (Control)	705-05	after	39	0.0113	0.00
Creek 705 (Control)	705-10	before	45	0.0039	0.00
Creek 705 (Control)	705-10	after	38	0.0033	0.00
Fawnie Creek (Control)	FC-01	before	20	0.0003	5.00
Fawnie Creek (Control)	FC-01	after	38	0.0003	13.16

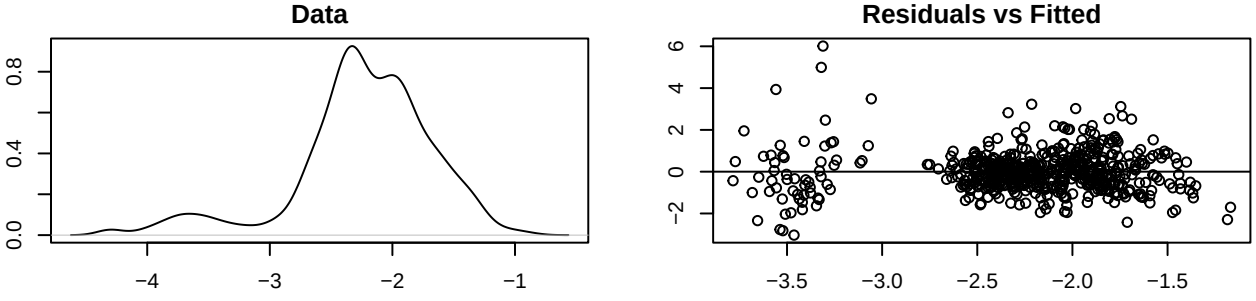
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2025	11	control	after	0.1300	0.0259	9.746	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.1010	0.0266	6.966	Y
Creek 705 (Control)	705-05	2025	10	control	after	0.1000	0.0266	6.867	Y
Davidson Creek	DC-20	2017	10	impact	before	0.0783	0.0207	5.391	Y
Davidson Creek	DC-05	2024	3	impact	after	0.0709	0.0191	4.852	Y
Davidson Creek	DC-20	2024	3	impact	after	0.0700	0.0293	3.811	Y
Davidson Creek	DC-15	2017	10	impact	before	0.0475	0.0086	3.641	Y
Creek 705 (Control)	705-05	2022	5	control	before	0.0568	0.0224	3.222	Y

Outliers on log scale:

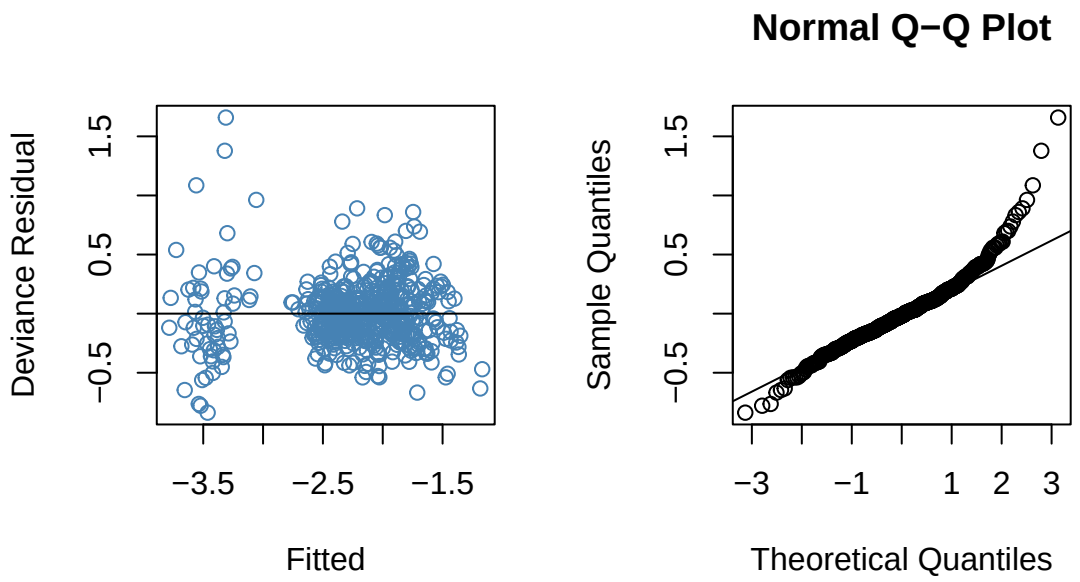
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	-1.6517	-3.311	6.012	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-1.9418	-3.320	4.993	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.4724	-3.558	3.934	Y
Fawnie Creek (Control)	FC-01	2024	5	control	after	-2.0945	-3.057	3.487	Y
Davidson Creek	DC-15	2017	10	impact	before	-1.3233	-2.214	3.228	Y
Creek 705 (Control)	705-05	2025	11	control	after	-0.8861	-1.746	3.115	Y
Fawnie Creek (Control)	FC-01	2024	3	control	after	-4.3010	-3.463	-3.036	N
Davidson Creek	DC-05	2024	3	impact	after	-1.1494	-1.983	3.020	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.117963	0.117963	1	5.005	1.5486	0.268	
period	0.002857	0.002857	1	42.907	0.0375	0.847	
class:period	3.042278	3.042278	1	553.257	39.9380	<0.001	4.33e-09

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.1649	93%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

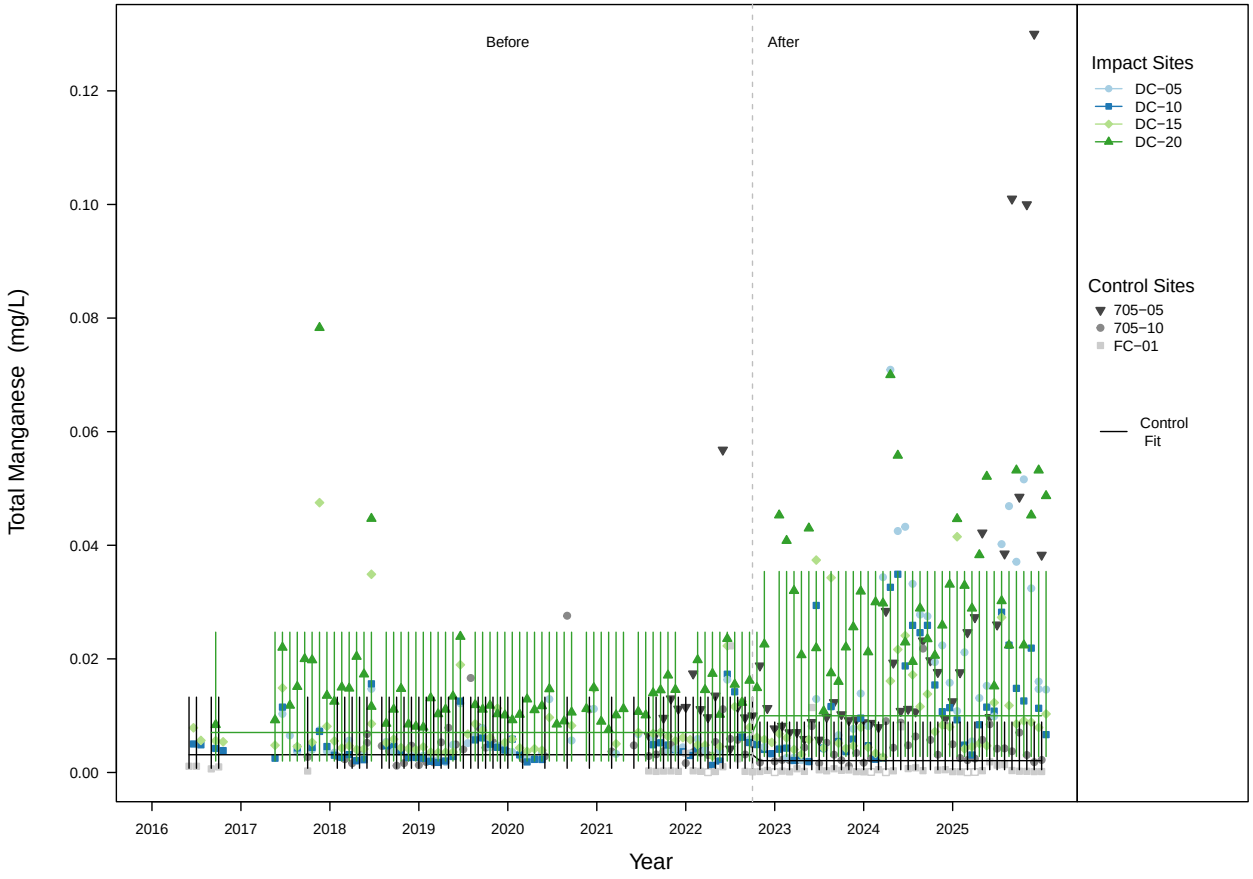
Impact vs.	Estimate	Significance
control sites	0.3281	significant

Conclusion:

The change in Total Manganese concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 4.33×10^{-9}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

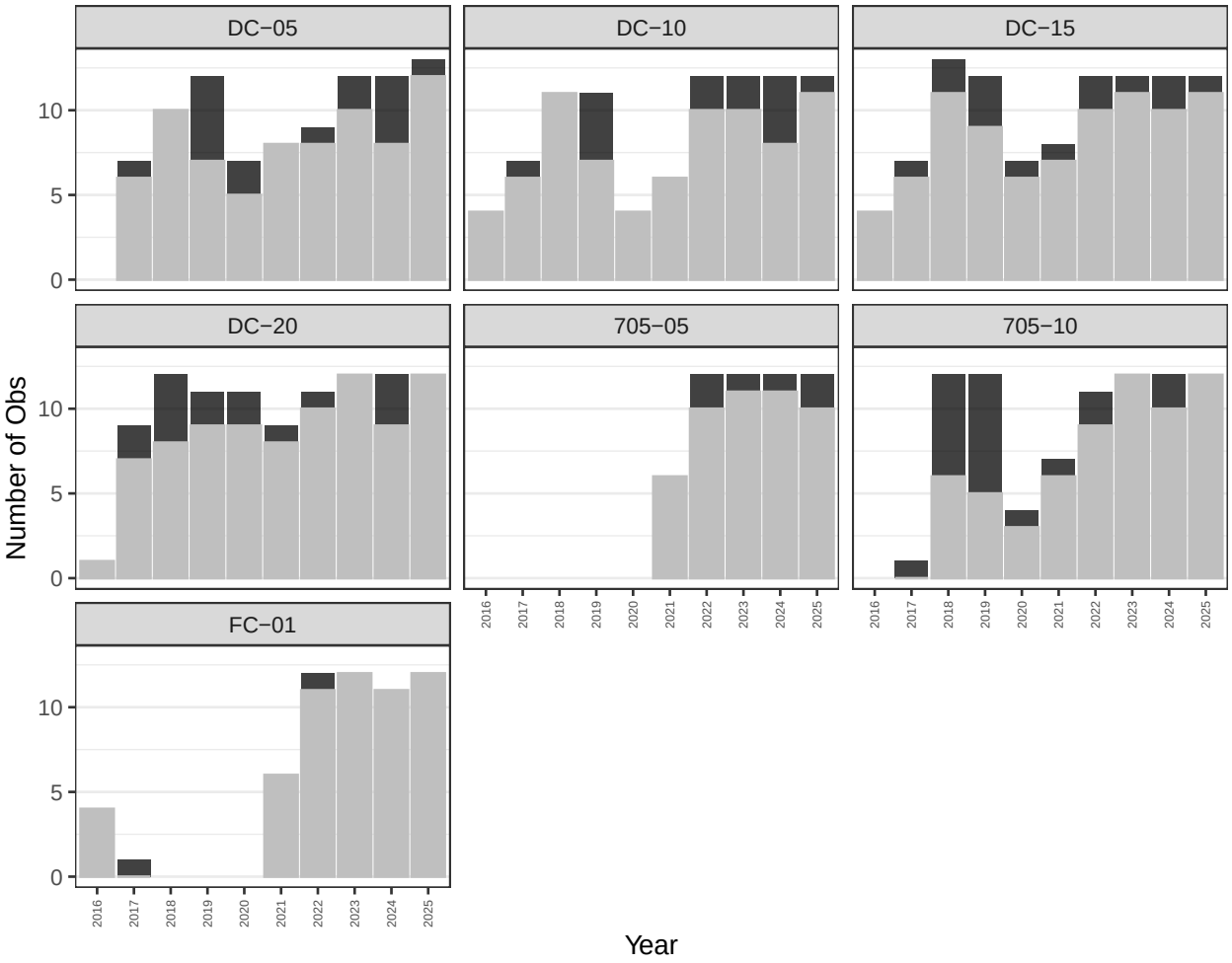
Final Summary Table

Variable	Total Manganese
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.21 Total Mercury

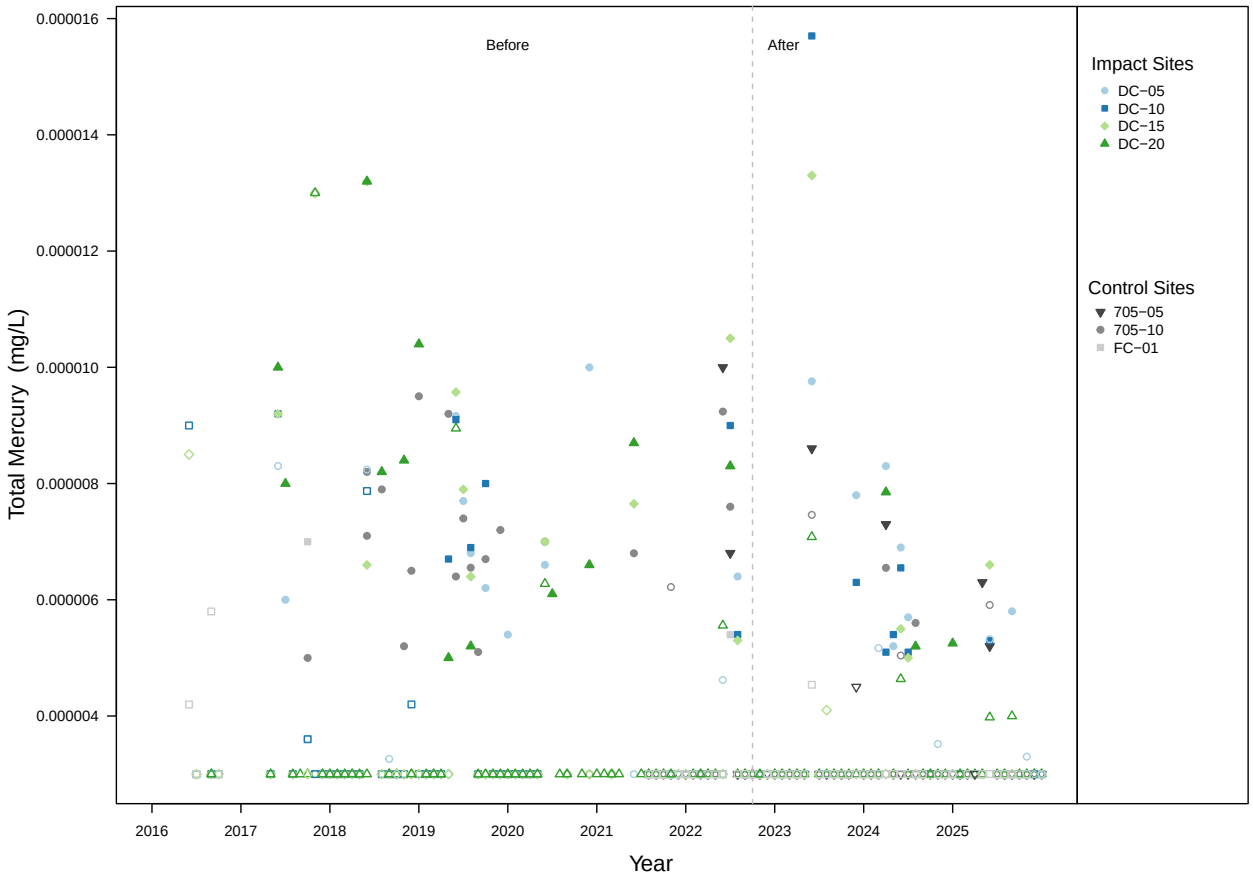
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

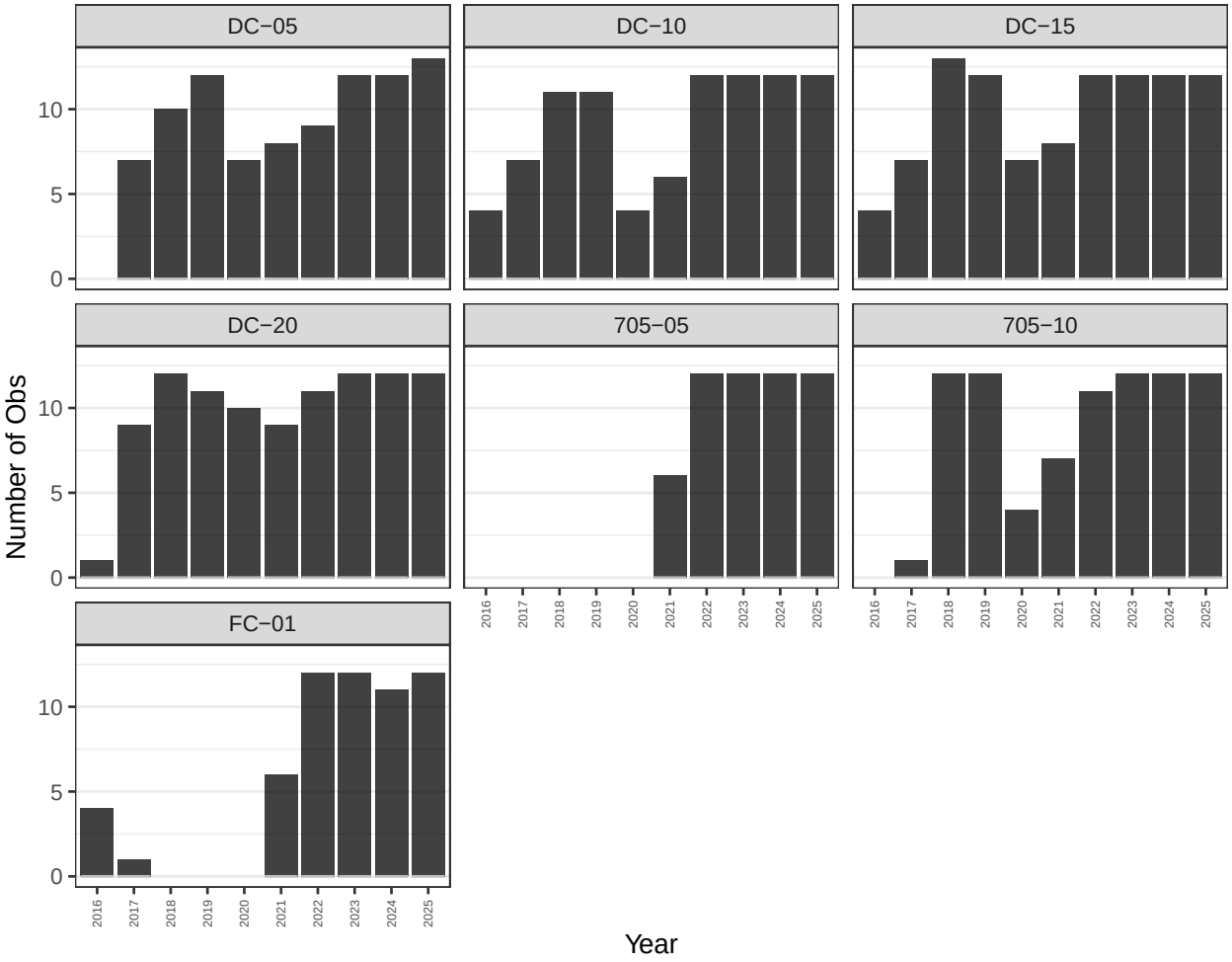
Variable	Total Mercury
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.22 Total Molybdenum

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

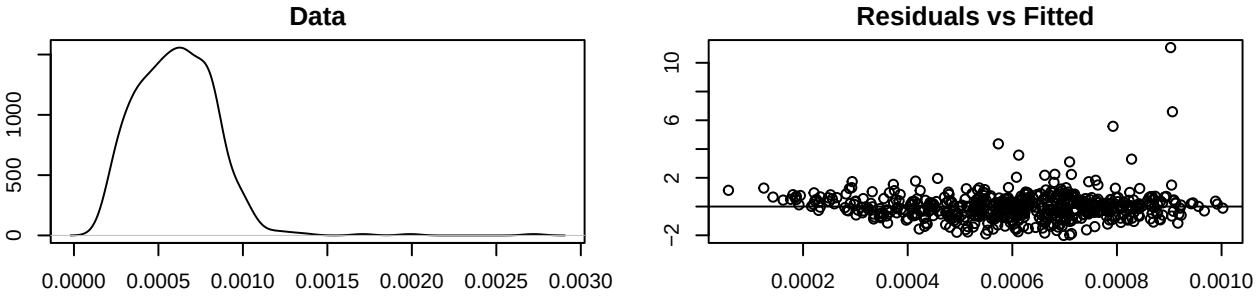
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0006	0
Davidson Creek	DC-05	after	39	0.0007	0
Davidson Creek	DC-10	before	52	0.0006	0
Davidson Creek	DC-10	after	39	0.0008	0
Davidson Creek	DC-15	before	60	0.0006	0
Davidson Creek	DC-15	after	39	0.0008	0
Davidson Creek	DC-20	before	61	0.0006	0
Davidson Creek	DC-20	after	38	0.0007	0
Creek 705 (Control)	705-05	before	15	0.0005	0
Creek 705 (Control)	705-05	after	39	0.0006	0
Creek 705 (Control)	705-10	before	45	0.0004	0
Creek 705 (Control)	705-10	after	38	0.0005	0
Fawnie Creek (Control)	FC-01	before	20	0.0005	0
Fawnie Creek (Control)	FC-01	after	38	0.0007	0

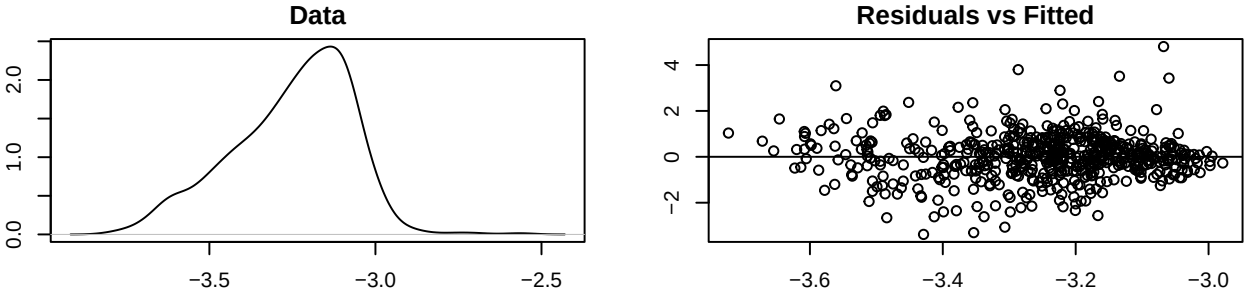
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2023	8	impact	after	0.0027	0.0009	11.057	Y
Davidson Creek	DC-10	2023	8	impact	after	0.0020	0.0009	6.595	Y
Davidson Creek	DC-15	2020	3	impact	before	0.0017	0.0008	5.582	Y
Creek 705 (Control)	705-10	2020	2	control	before	0.0013	0.0006	4.360	Y
Davidson Creek	DC-15	2021	10	impact	before	0.0012	0.0006	3.576	Y
Davidson Creek	DC-10	2024	1	impact	after	0.0014	0.0008	3.297	Y
Davidson Creek	DC-20	2022	4	impact	before	0.0012	0.0007	3.106	Y

Outliers on log scale:

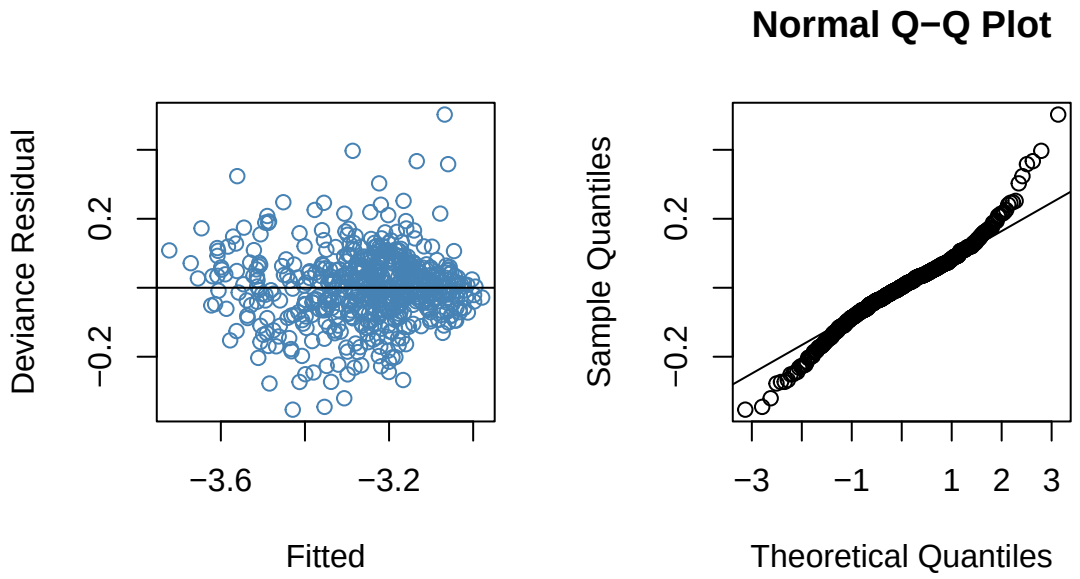
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2023	8	impact	after	-2.565	-3.068	4.805	Y
Creek 705 (Control)	705-10	2020	2	control	before	-2.889	-3.287	3.799	Y
Davidson Creek	DC-15	2020	3	impact	before	-2.767	-3.134	3.512	Y
Davidson Creek	DC-10	2023	8	impact	after	-2.701	-3.060	3.429	Y
Davidson Creek	DC-10	2022	6	impact	before	-3.783	-3.429	-3.382	Y
Davidson Creek	DC-05	2020	11	impact	before	-3.699	-3.353	-3.305	Y
Fawnie Creek (Control)	FC-01	2022	5	control	before	-3.237	-3.561	3.096	Y
Davidson Creek	DC-05	2022	7	impact	before	-3.627	-3.307	-3.066	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.30934	0.30934	1	5.294	28.311	0.00264	
period	0.42764	0.42764	1	67.600	39.139	<0.001	
class:period	0.06483	0.06483	1	554.867	5.933	0.0152	0.0233

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
574	0.2777	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

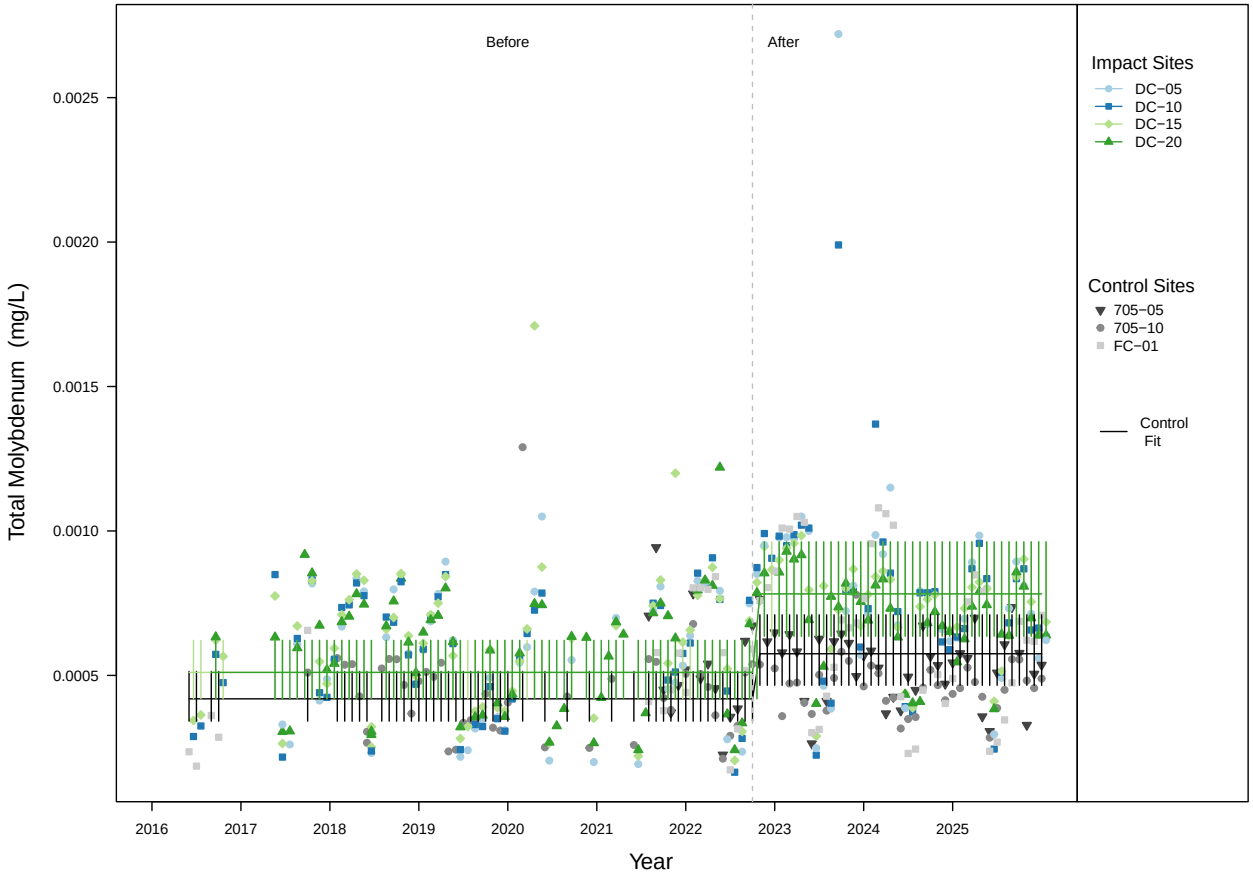
Impact vs.	Estimate	Significance
control sites	0.0479	significant

Conclusion:

The change in Total Molybdenum concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 0.0233) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

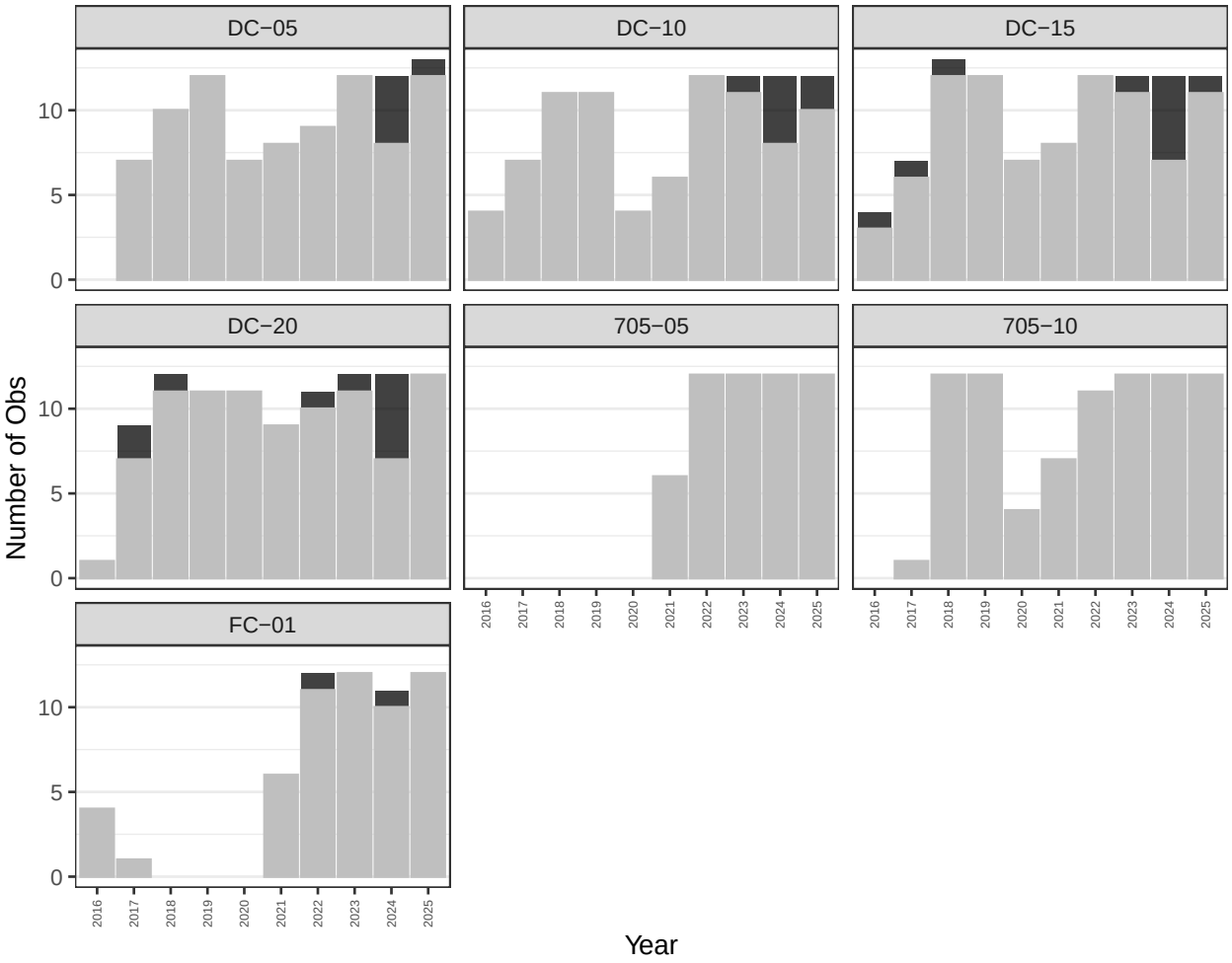
Final Summary Table

Variable	Total Molybdenum
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.23 Total Nickel

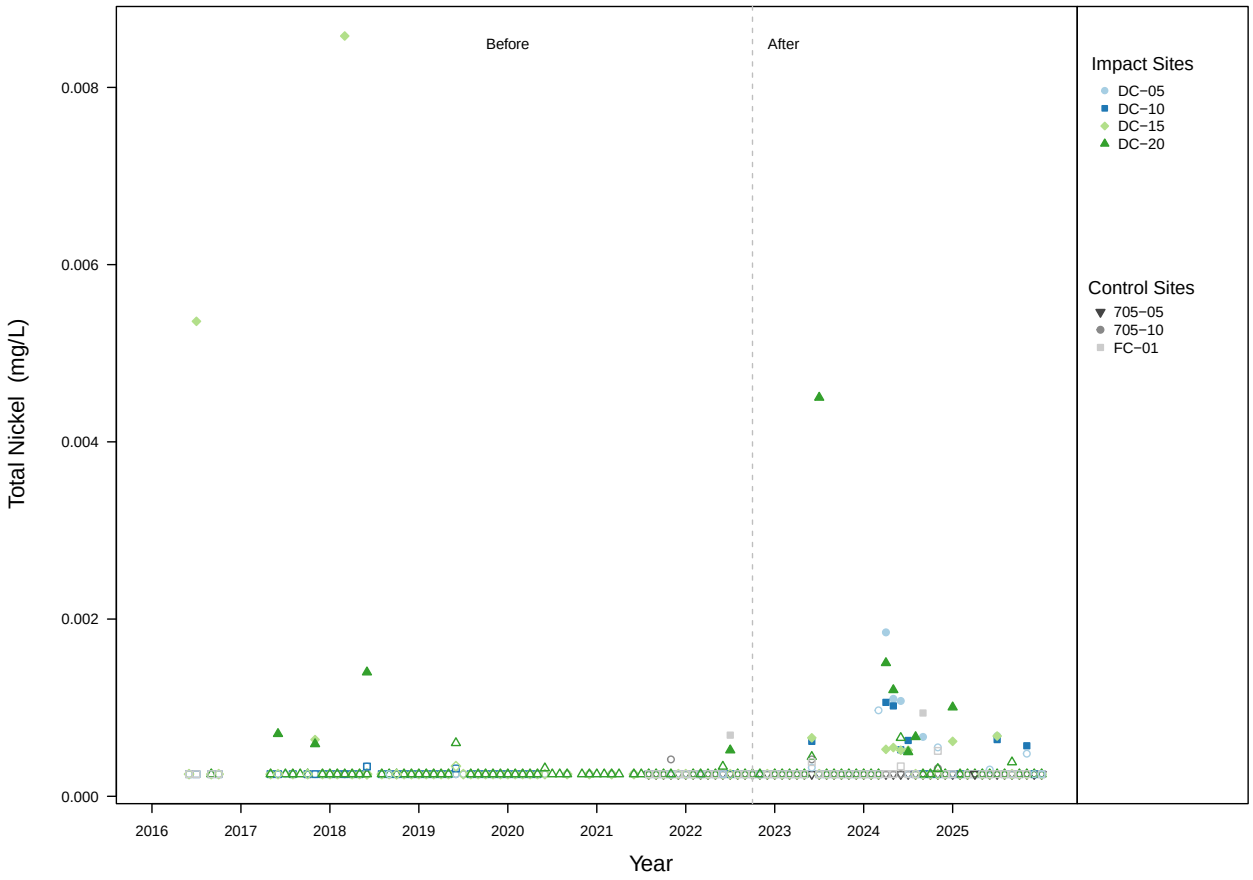
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

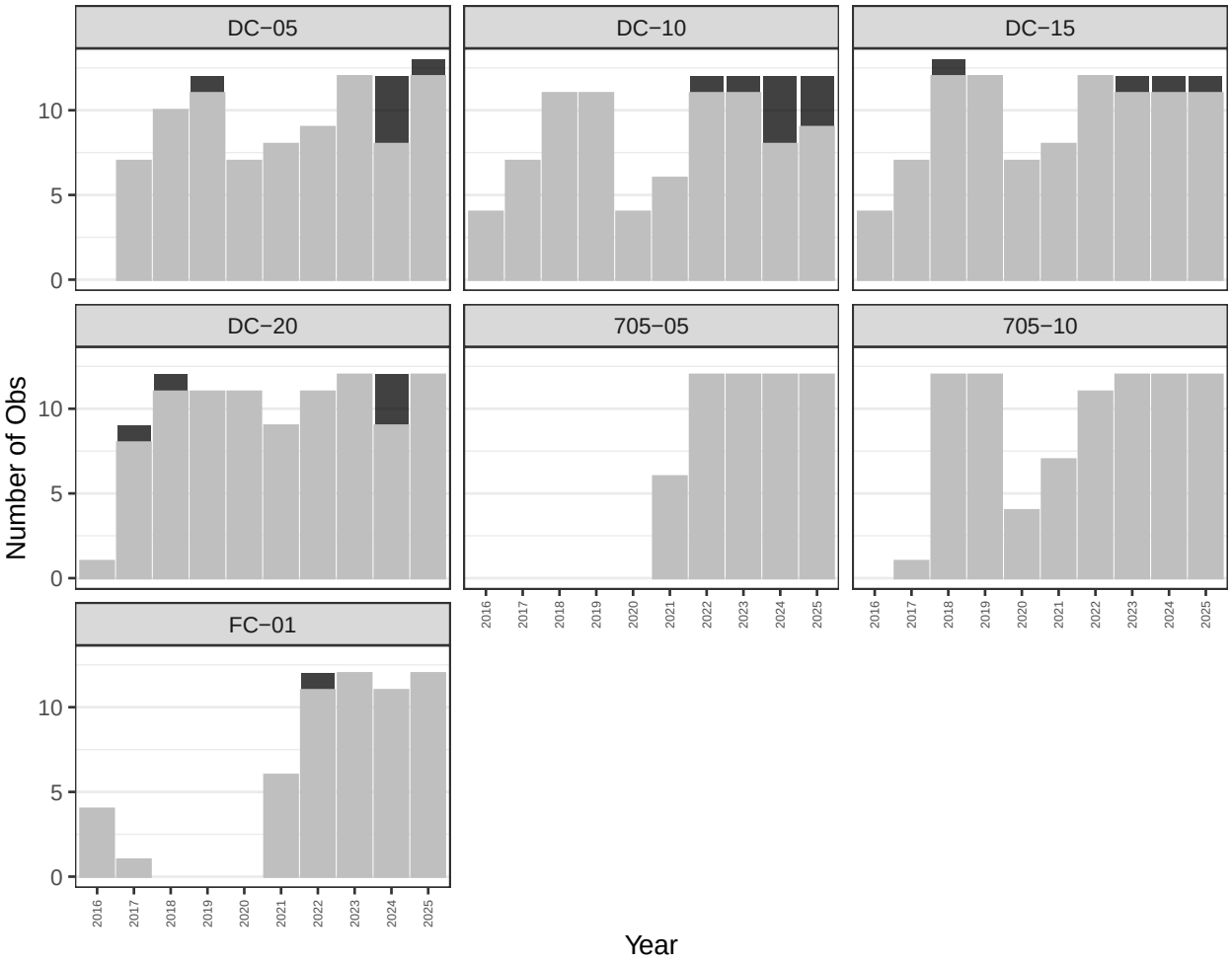
Final Summary Table

Variable	Total Nickel
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.24 Total Silver

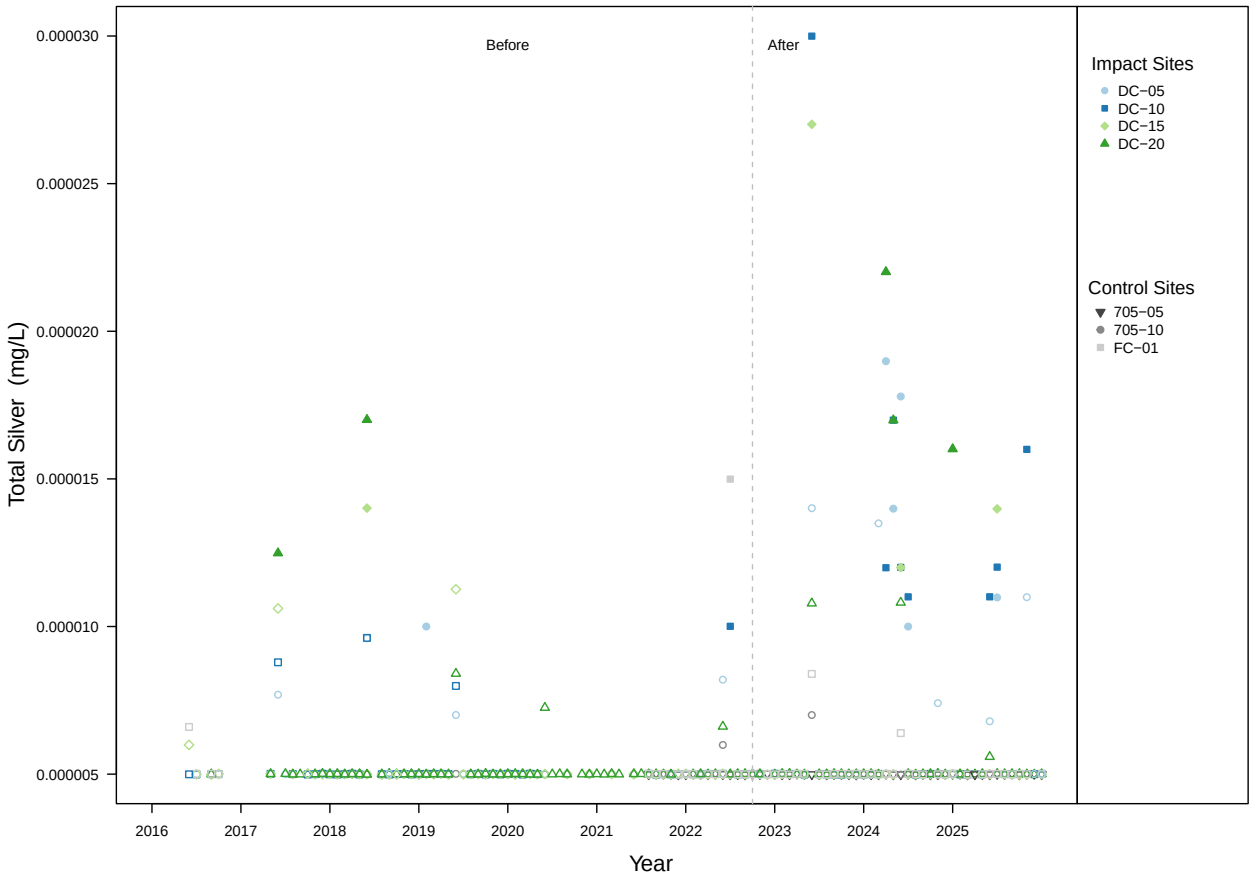
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

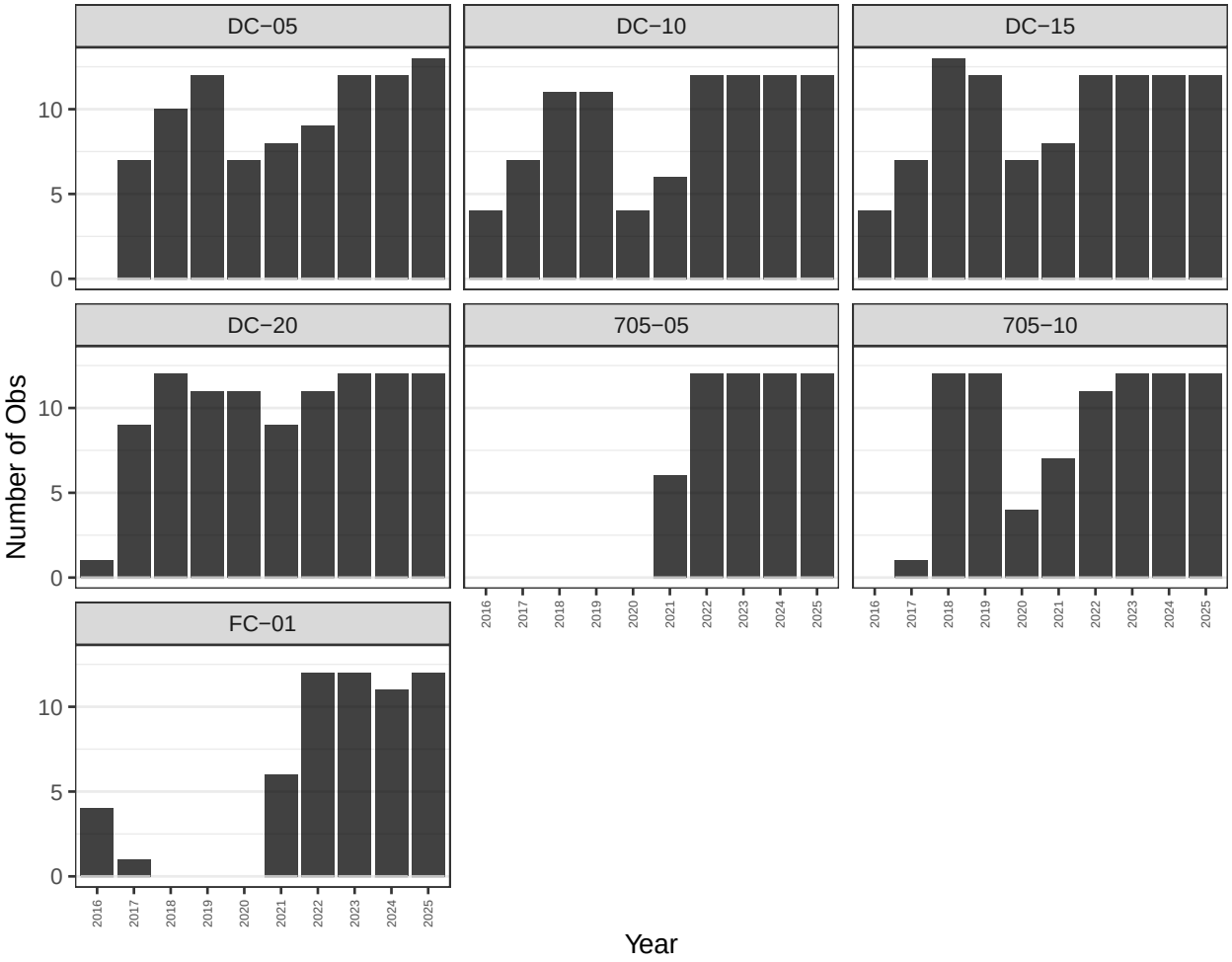
Variable	Total Silver
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.25 Total Strontium

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

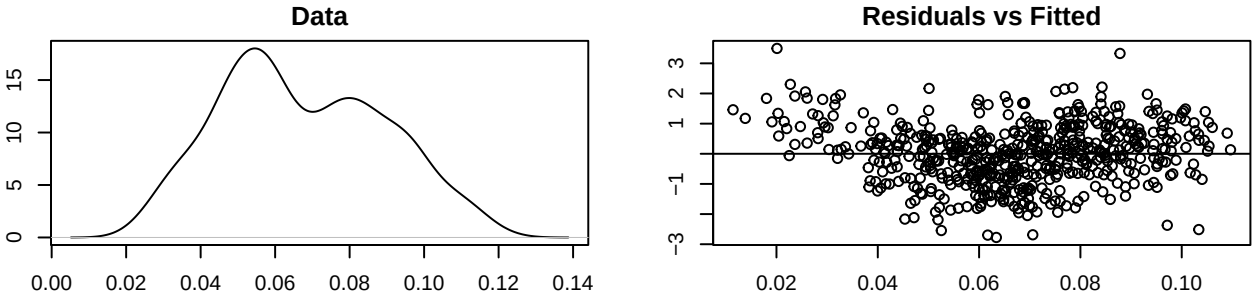
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0626	0
Davidson Creek	DC-05	after	39	0.0795	0
Davidson Creek	DC-10	before	52	0.0672	0
Davidson Creek	DC-10	after	39	0.0837	0
Davidson Creek	DC-15	before	60	0.0725	0
Davidson Creek	DC-15	after	39	0.0934	0
Davidson Creek	DC-20	before	62	0.0759	0
Davidson Creek	DC-20	after	38	0.0925	0
Creek 705 (Control)	705-05	before	15	0.0490	0
Creek 705 (Control)	705-05	after	39	0.0555	0
Creek 705 (Control)	705-10	before	45	0.0567	0
Creek 705 (Control)	705-10	after	38	0.0589	0
Fawnie Creek (Control)	FC-01	before	20	0.0459	0
Fawnie Creek (Control)	FC-01	after	38	0.0494	0

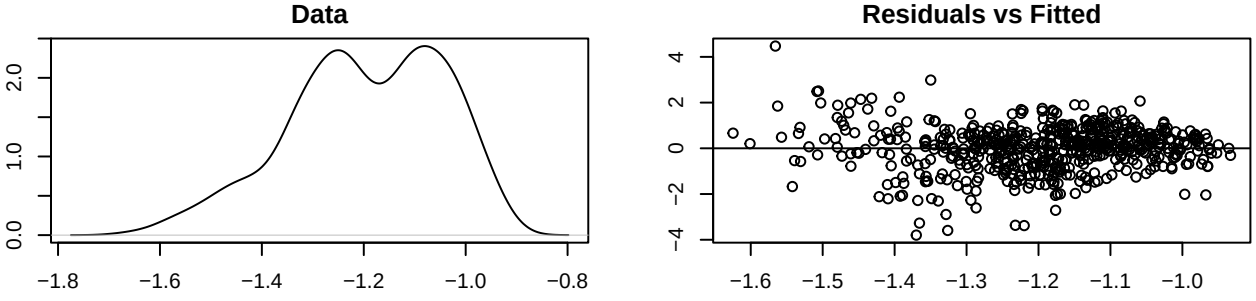
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	5	control	before	0.056	0.0201	3.495	Y
Davidson Creek	DC-05	2024	1	impact	after	0.122	0.0878	3.328	Y

Outliers on log scale:

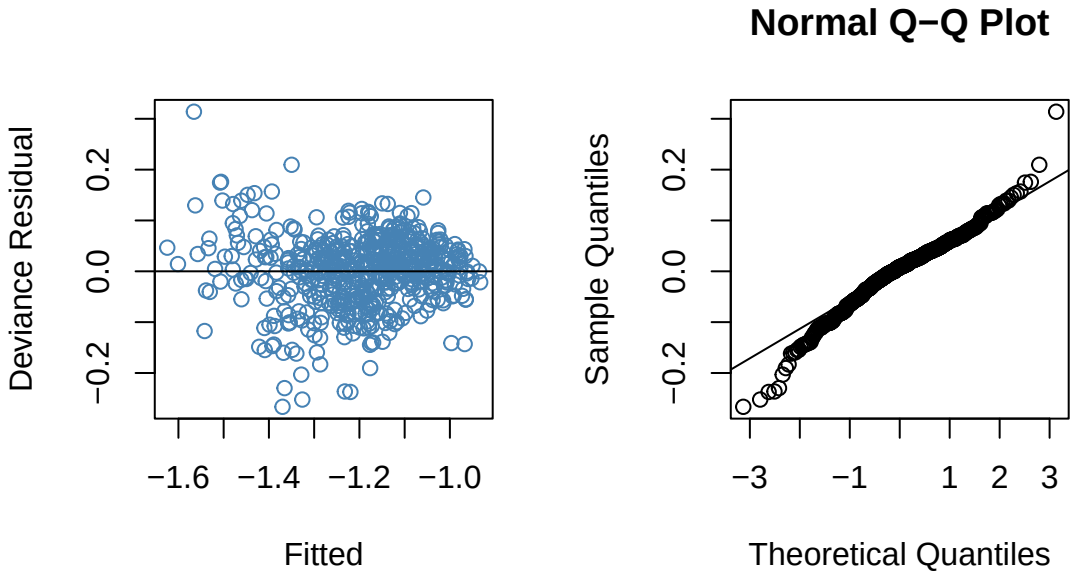
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	5	control	before	-1.252	-1.566	4.472	Y
Davidson Creek	DC-10	2022	6	impact	before	-1.636	-1.370	-3.796	Y
Davidson Creek	DC-15	2022	6	impact	before	-1.578	-1.326	-3.593	Y
Davidson Creek	DC-10	2022	7	impact	before	-1.457	-1.220	-3.380	Y
Davidson Creek	DC-05	2022	7	impact	before	-1.468	-1.232	-3.367	Y
Davidson Creek	DC-15	2018	5	impact	before	-1.595	-1.365	-3.272	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.13856	0.13856	1	5.059	28.12	0.00308	
period	0.26931	0.26931	1	69.775	54.65	<0.001	
class:period	0.09479	0.09479	1	553.758	19.23	<0.001	3.72e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.4834	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

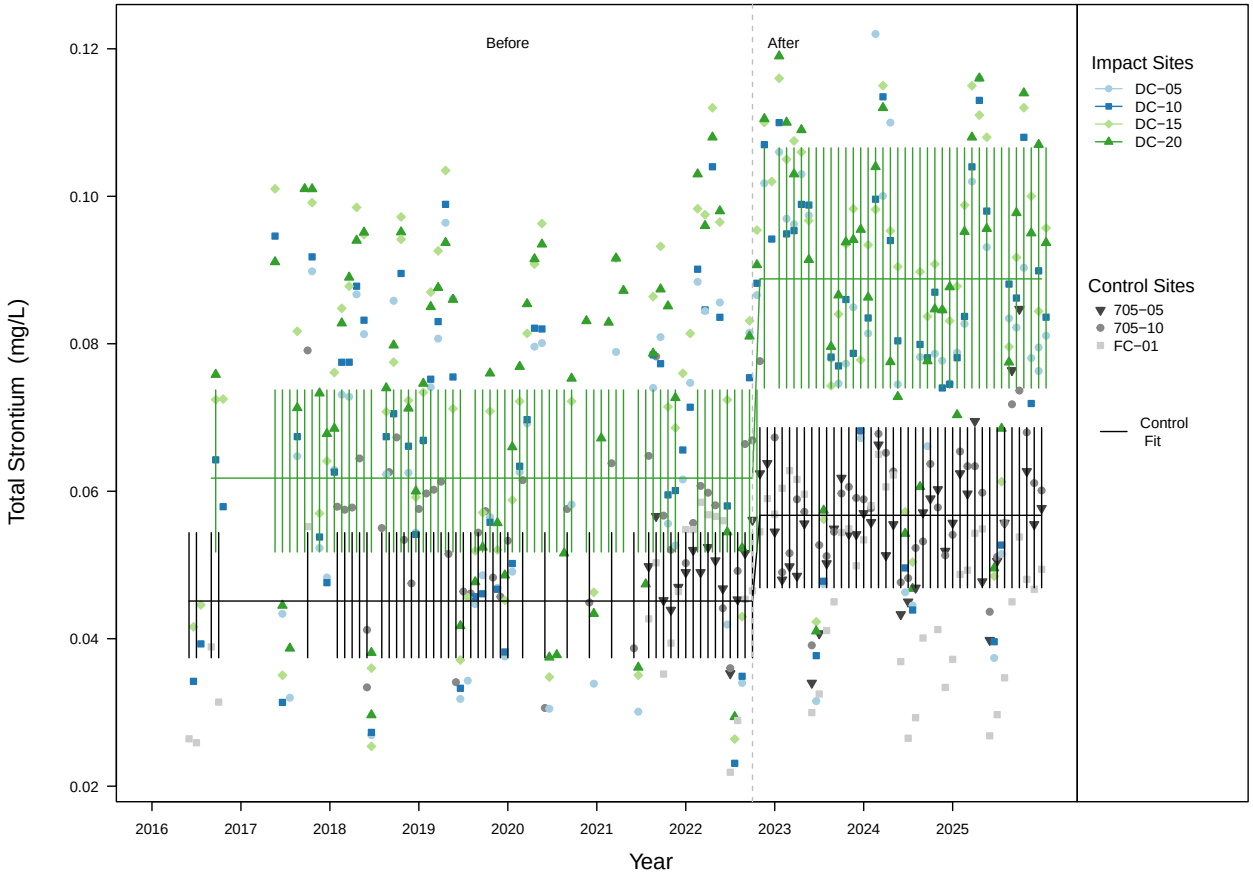
Impact vs.	Estimate	Significance
control sites	0.058	significant

Conclusion:

The change in Total Strontium concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 3.72×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

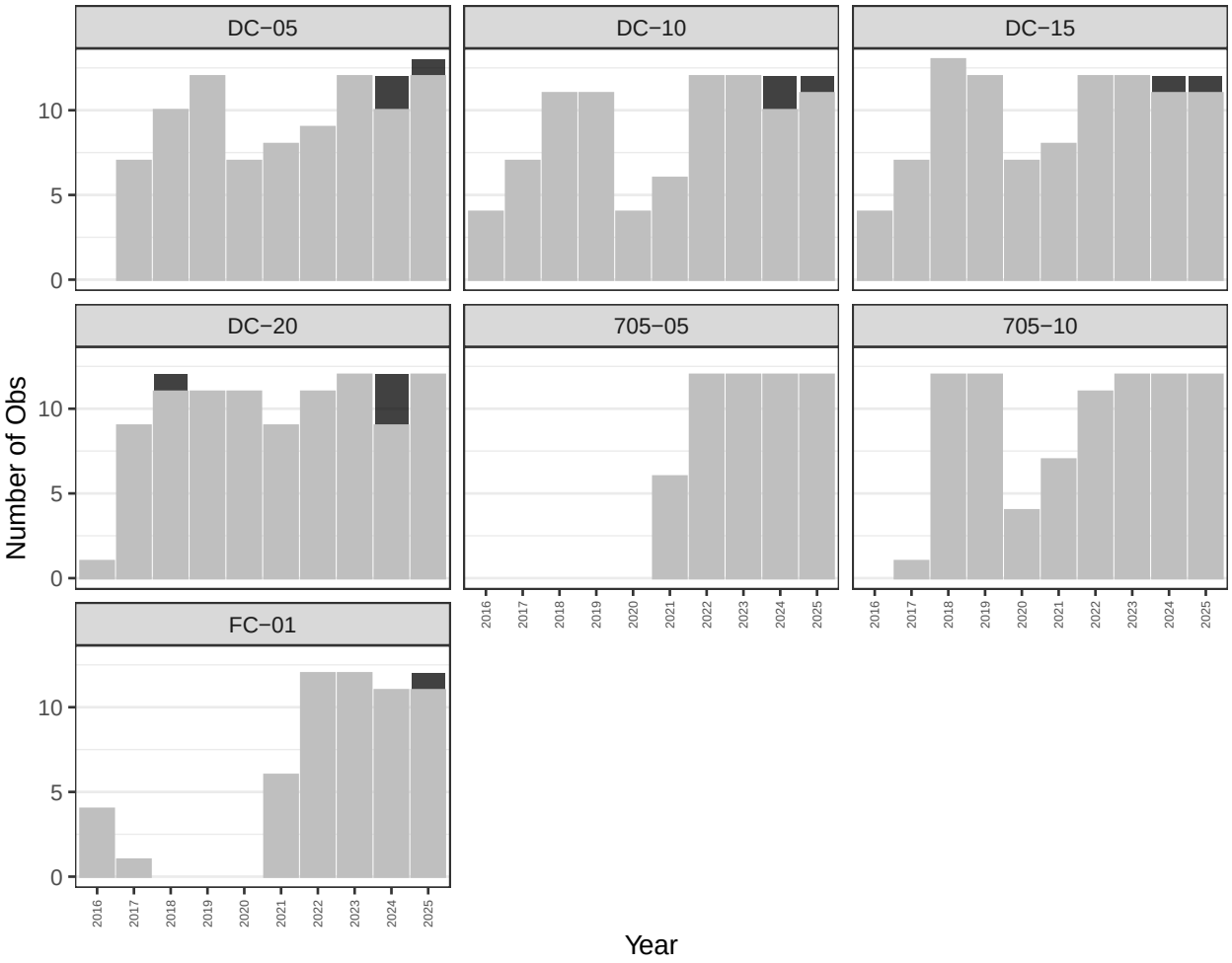
Final Summary Table

Variable	Total Strontium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.26 Total Thallium

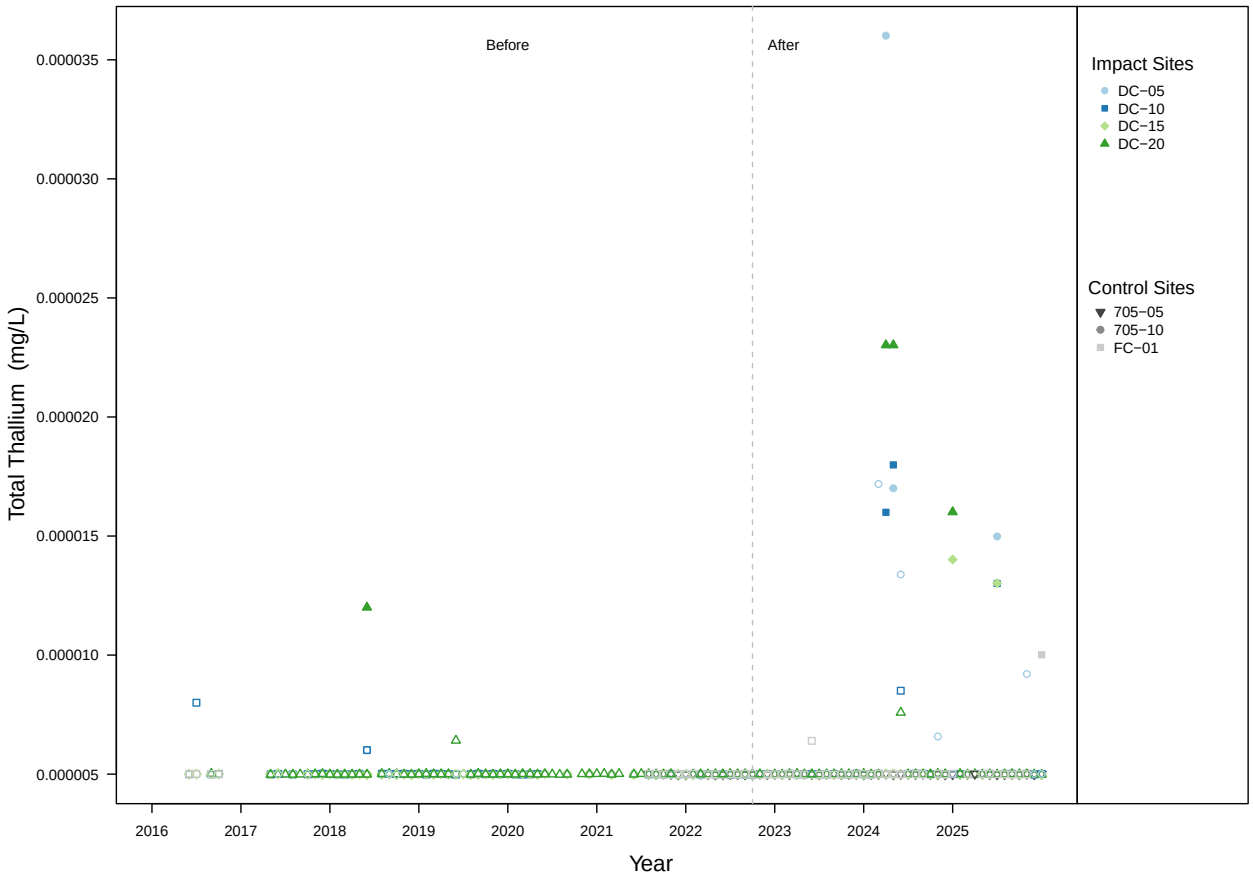
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

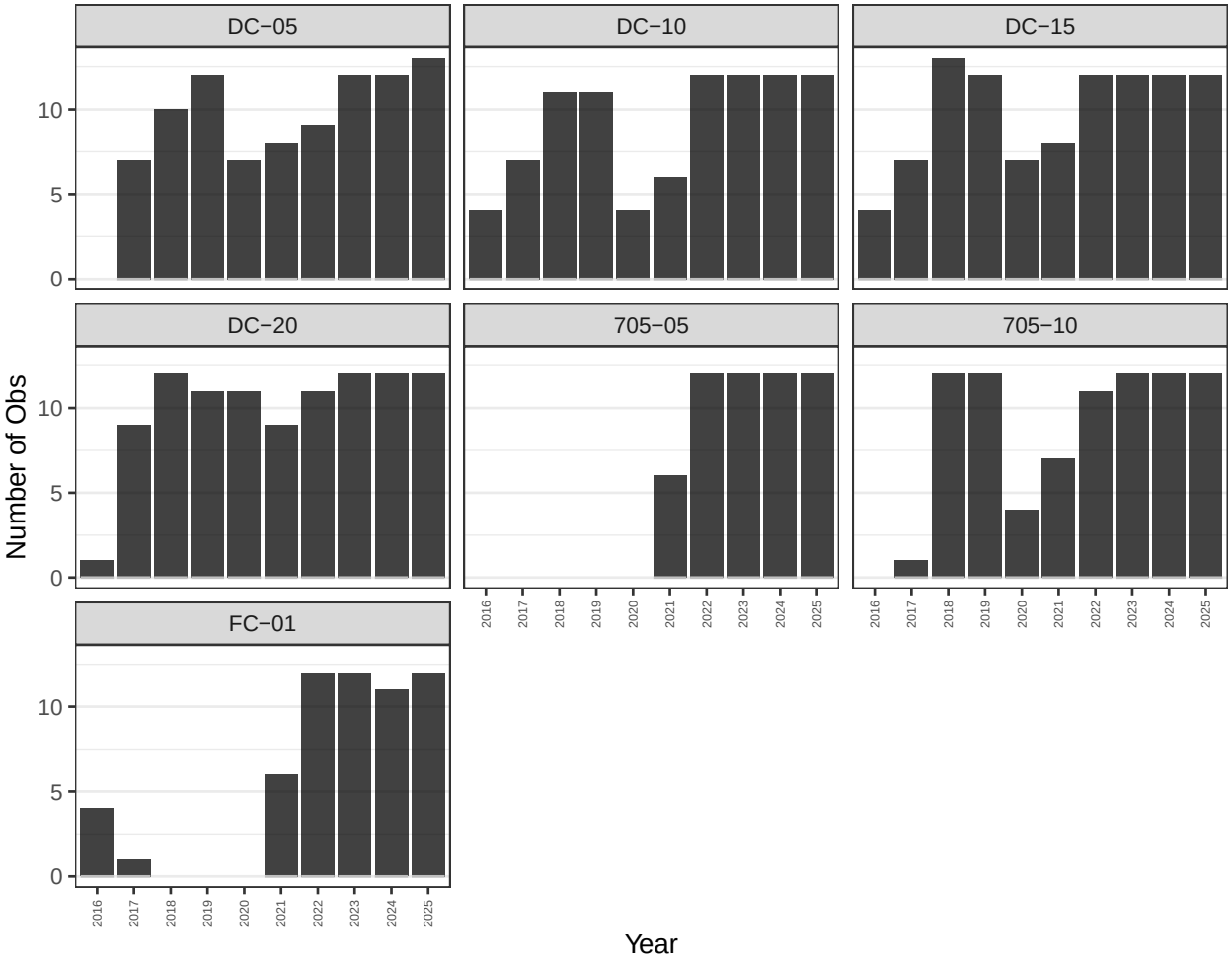
Variable	Total Thallium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.27 Total Uranium

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

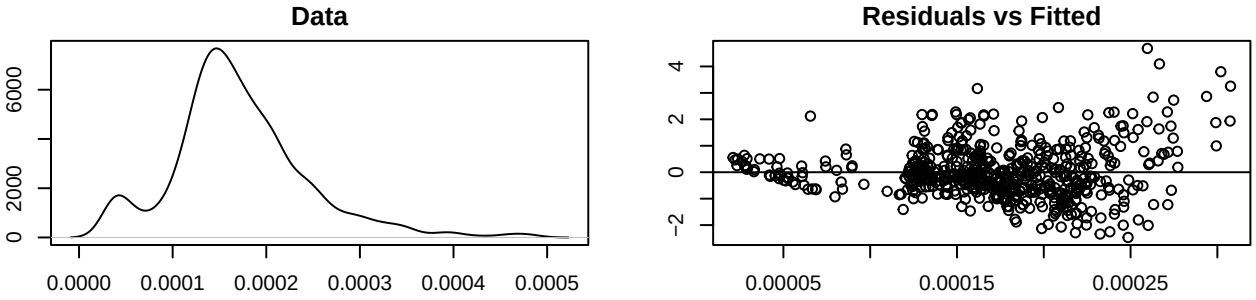
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0002	0
Davidson Creek	DC-05	after	39	0.0002	0
Davidson Creek	DC-10	before	52	0.0002	0
Davidson Creek	DC-10	after	39	0.0002	0
Davidson Creek	DC-15	before	60	0.0002	0
Davidson Creek	DC-15	after	39	0.0002	0
Davidson Creek	DC-20	before	62	0.0002	0
Davidson Creek	DC-20	after	38	0.0002	0
Creek 705 (Control)	705-05	before	15	0.0002	0
Creek 705 (Control)	705-05	after	39	0.0001	0
Creek 705 (Control)	705-10	before	45	0.0002	0
Creek 705 (Control)	705-10	after	38	0.0001	0
Fawnie Creek (Control)	FC-01	before	20	0.0000	0
Fawnie Creek (Control)	FC-01	after	38	0.0001	0

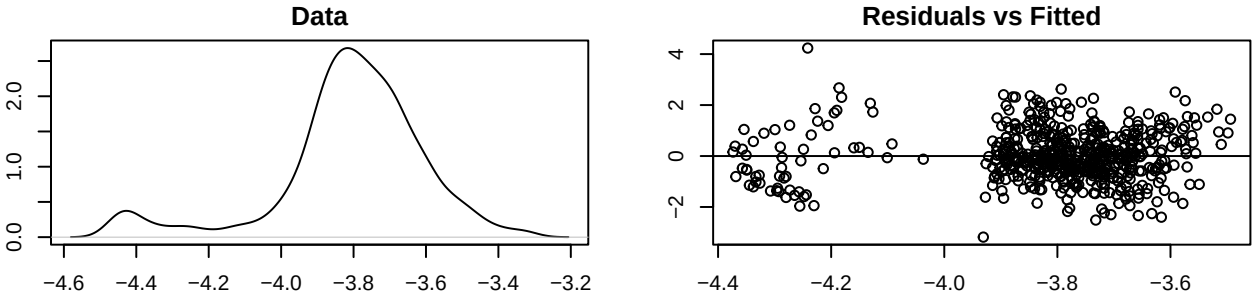
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-05	2024	1	impact	after	0.0005	0.0003	4.682	Y
Davidson Creek	DC-10	2024	2	impact	after	0.0005	0.0003	4.096	Y
Davidson Creek	DC-05	2025	3	impact	after	0.0005	0.0003	3.800	Y
Davidson Creek	DC-05	2024	3	impact	after	0.0005	0.0003	3.254	Y
Davidson Creek	DC-20	2018	5	impact	before	0.0003	0.0002	3.165	Y

Outliers on log scale:

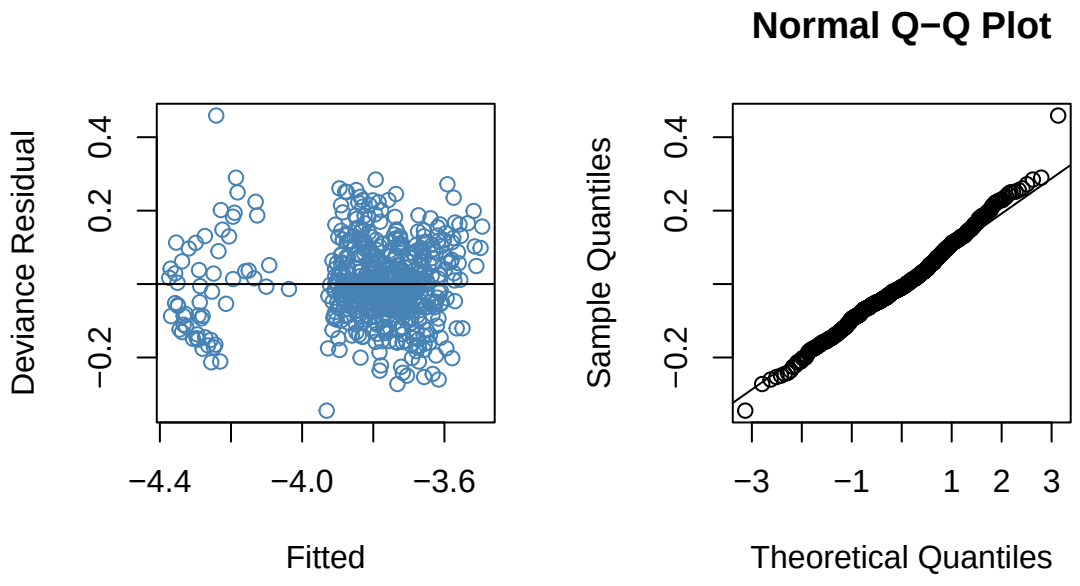
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2021	12	control	before	-3.783	-4.242	4.236	Y
Creek 705 (Control)	705-05	2025	10	control	after	-4.276	-3.931	-3.182	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.03377	0.03377	1	5.008	2.877	0.151	
period	0.06439	0.06439	1	18.510	5.484	0.0305	
class:period	0.64867	0.64867	1	555.441	55.254	<0.001	4.33e-12

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.2626	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

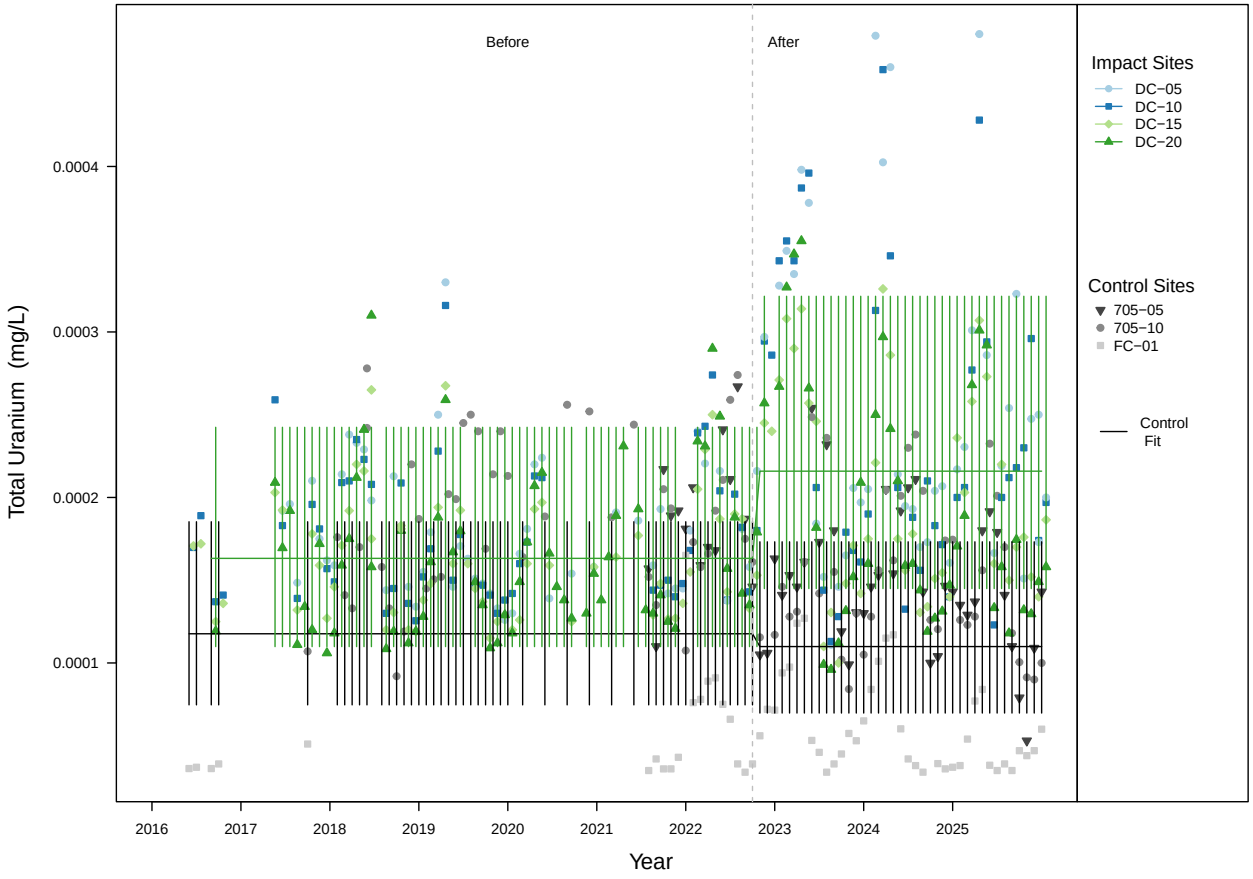
Impact vs.	Estimate	Significance
control sites	0.151	significant

Conclusion:

The change in Total Uranium concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 4.33×10^{-12}) different from the change at the control sites, according to the test on the BACI term (*class*:*period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

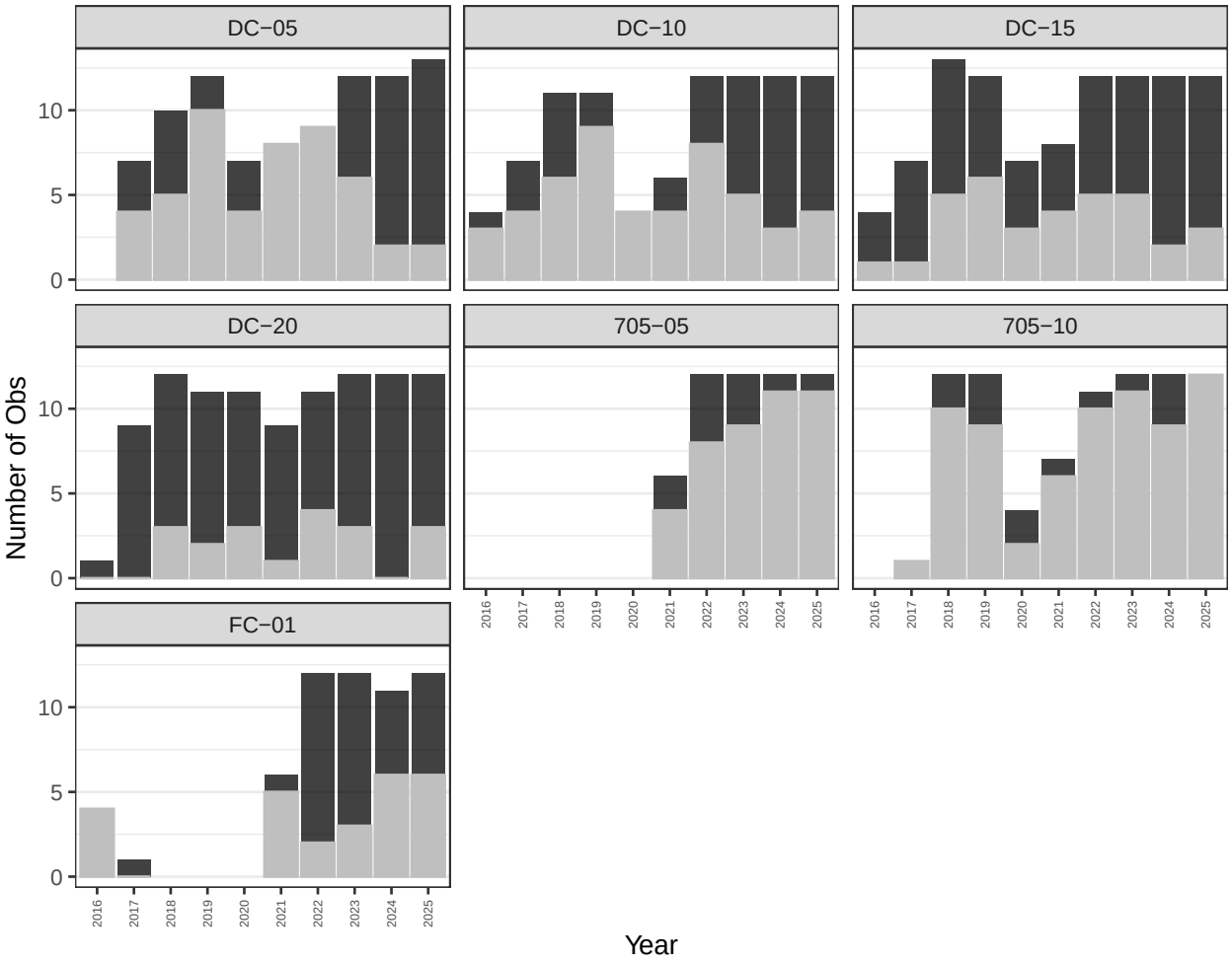
Final Summary Table

Variable	Total Uranium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.28 Total Vanadium

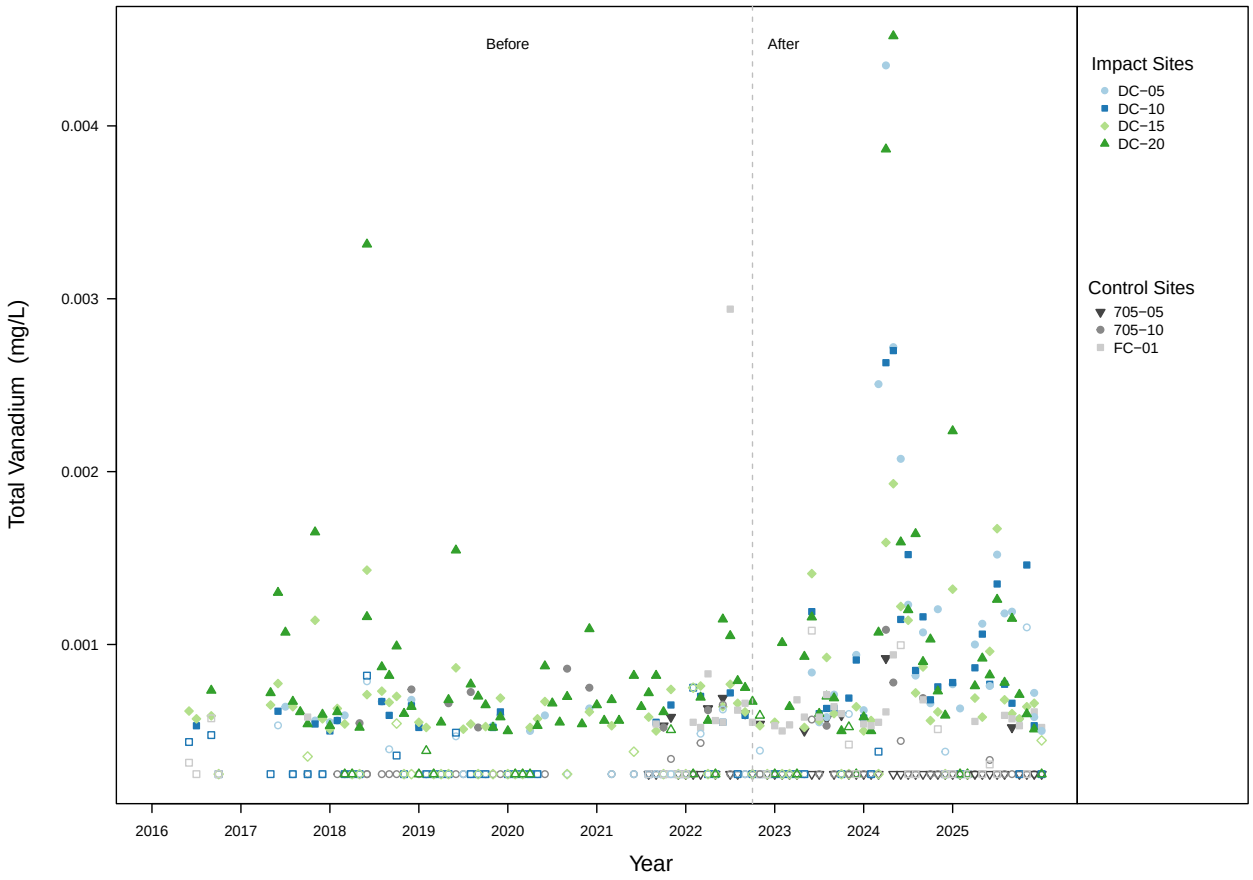
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

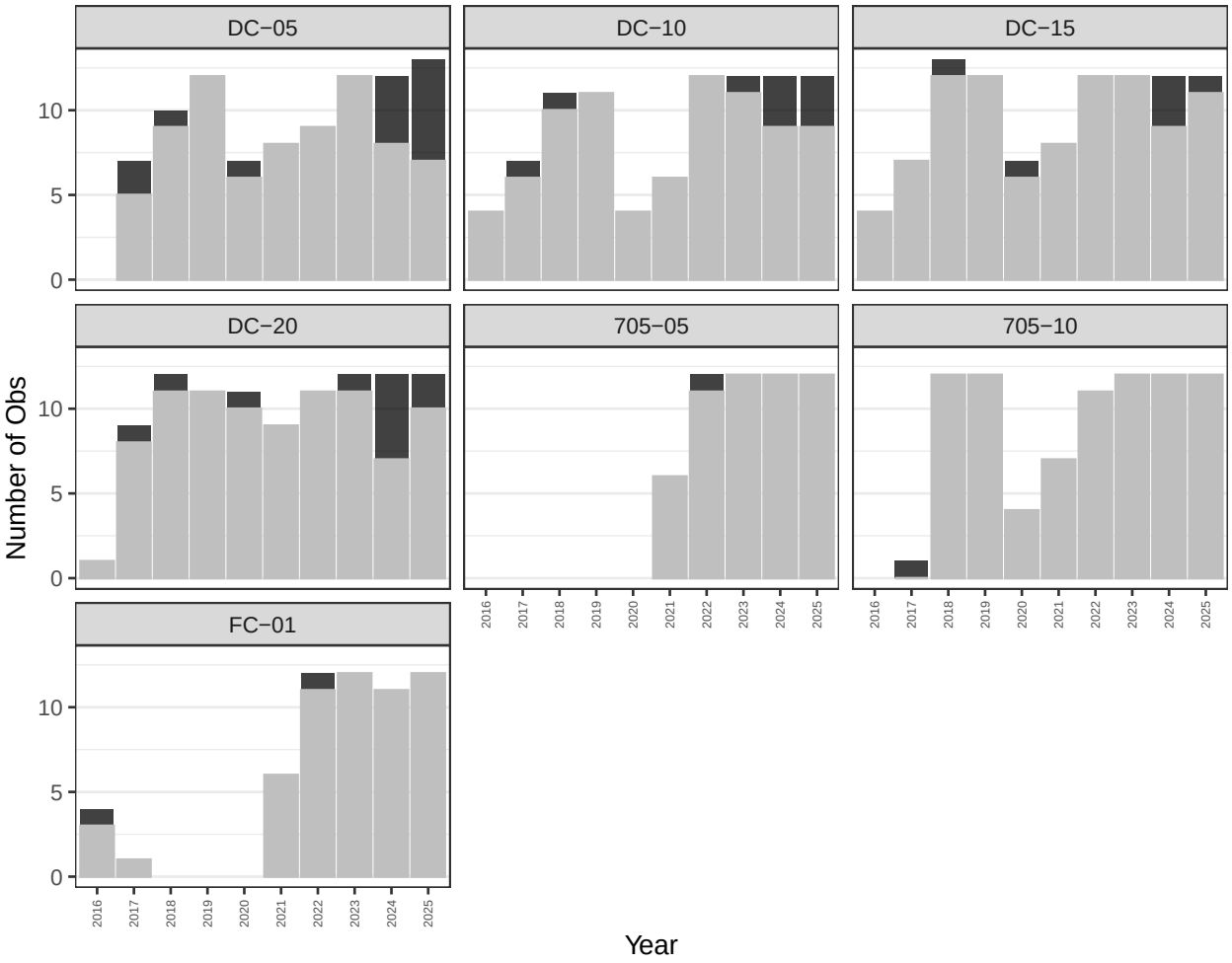
Final Summary Table

Variable	Total Vanadium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.29 Total Zinc

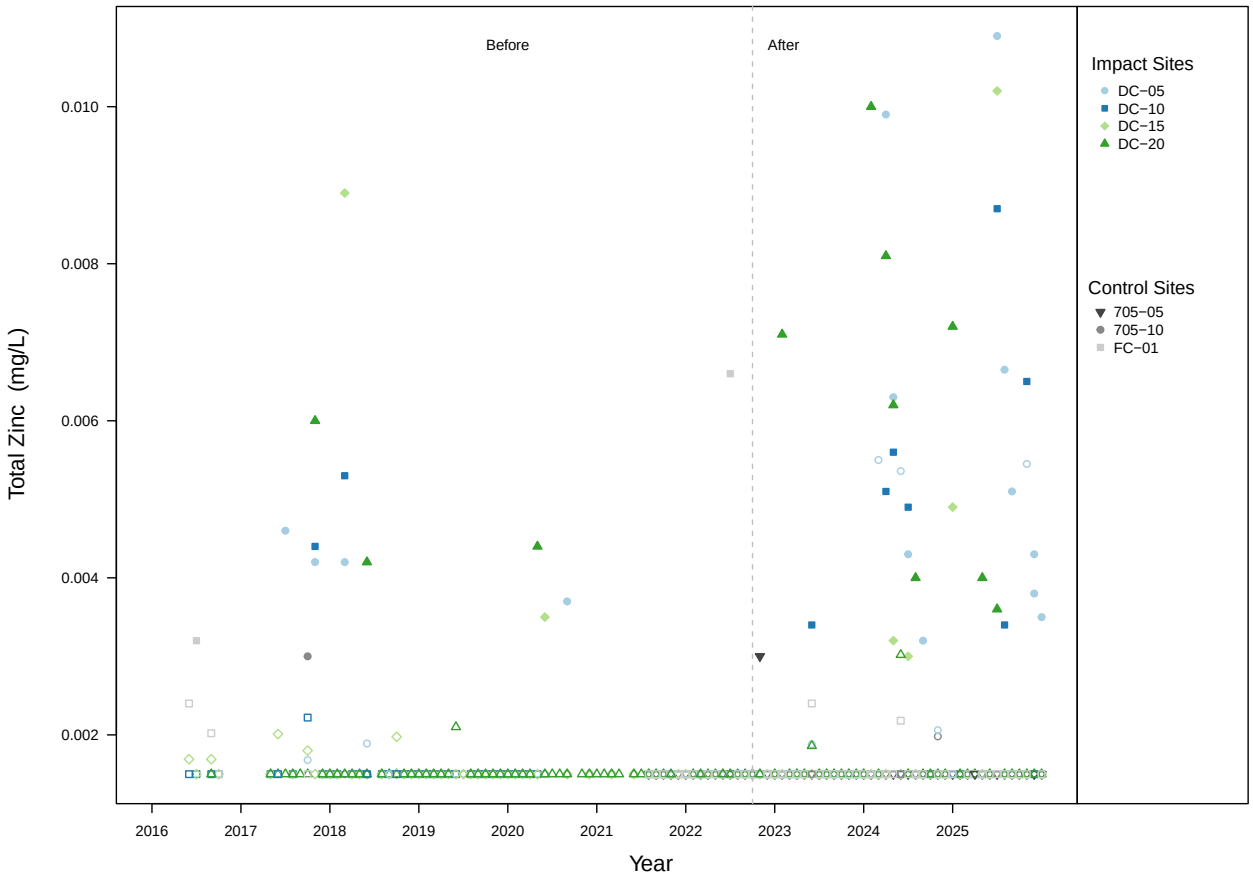
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

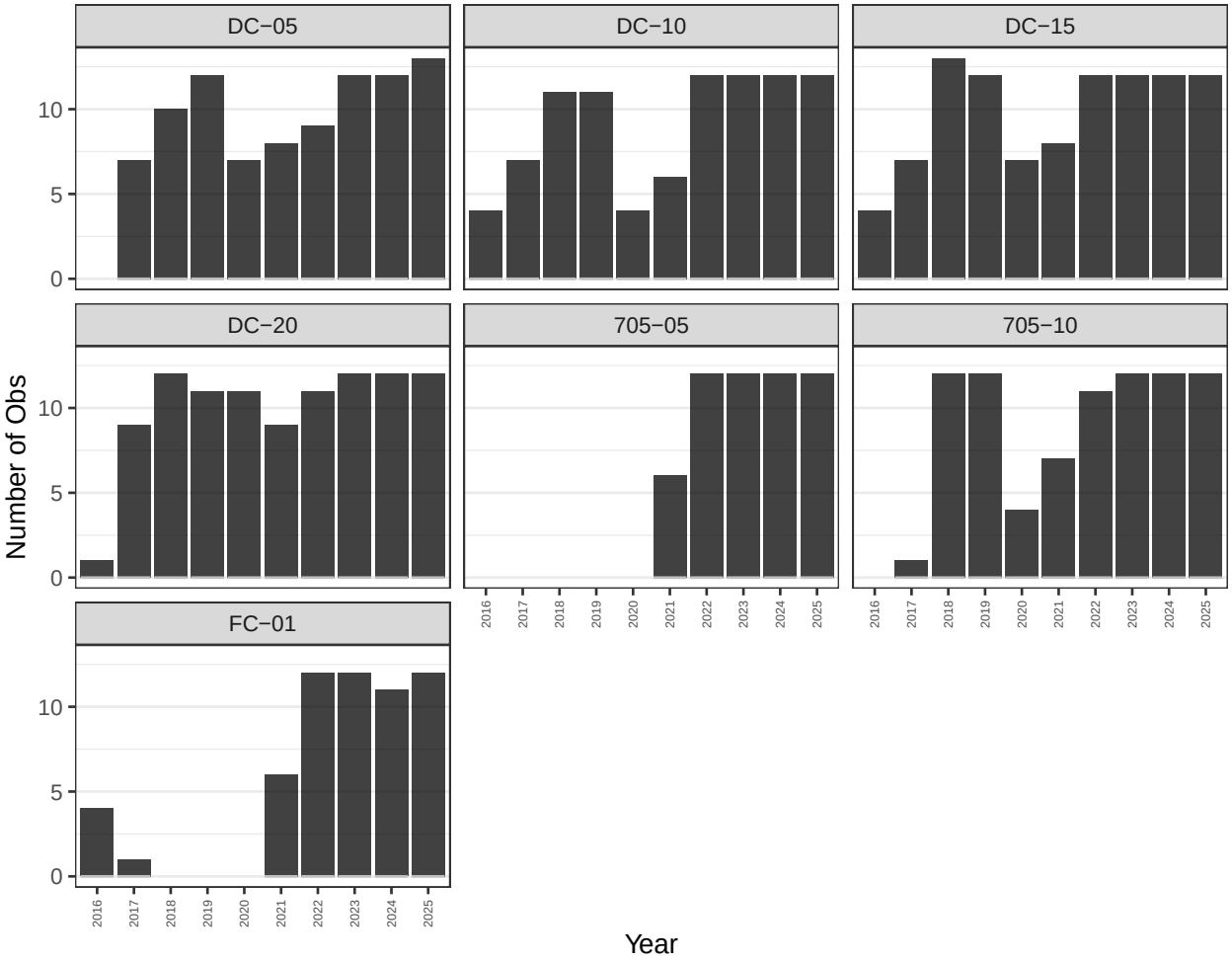
Variable	Total Zinc
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.30 Dissolved Aluminum

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

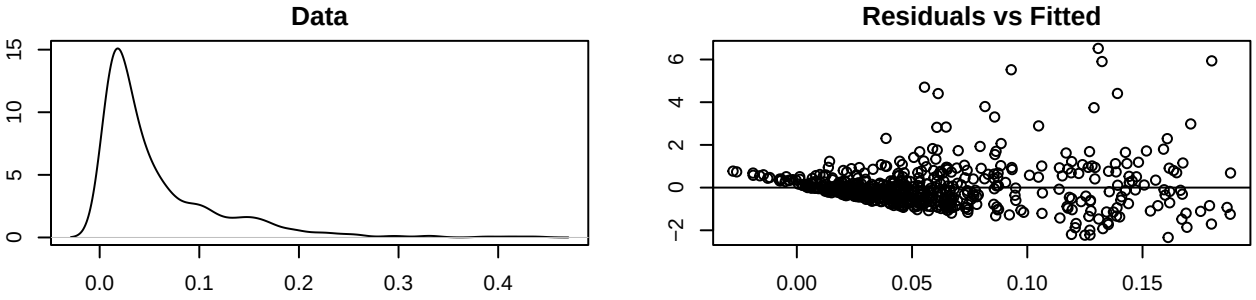
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0344	0
Davidson Creek	DC-05	after	39	0.0441	0
Davidson Creek	DC-10	before	52	0.0295	0
Davidson Creek	DC-10	after	39	0.0384	0
Davidson Creek	DC-15	before	60	0.0243	0
Davidson Creek	DC-15	after	39	0.0310	0
Davidson Creek	DC-20	before	62	0.0186	0
Davidson Creek	DC-20	after	38	0.0200	0
Creek 705 (Control)	705-05	before	15	0.0641	0
Creek 705 (Control)	705-05	after	39	0.0437	0
Creek 705 (Control)	705-10	before	45	0.0675	0
Creek 705 (Control)	705-10	after	38	0.0445	0
Fawnie Creek (Control)	FC-01	before	20	0.0220	0
Fawnie Creek (Control)	FC-01	after	38	0.0100	0

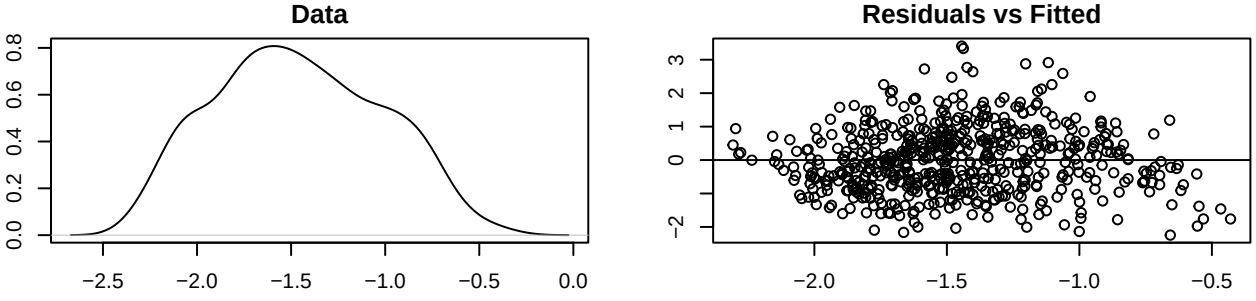
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Davidson Creek	DC-20	2025	6	impact	after	0.413	0.1308	6.520	Y
Davidson Creek	DC-05	2024	6	impact	after	0.437	0.1800	5.937	Y
Davidson Creek	DC-15	2025	6	impact	after	0.388	0.1324	5.904	Y
Davidson Creek	DC-20	2024	7	impact	after	0.332	0.0930	5.521	Y
Creek 705 (Control)	705-05	2024	3	control	after	0.259	0.0554	4.704	Y
Davidson Creek	DC-10	2023	5	impact	after	0.330	0.1391	4.410	Y
Creek 705 (Control)	705-10	2024	3	control	after	0.252	0.0613	4.405	Y
Davidson Creek	DC-05	2020	11	impact	before	0.246	0.0817	3.796	Y
Davidson Creek	DC-15	2023	5	impact	after	0.291	0.1290	3.743	Y
Creek 705 (Control)	705-10	2019	4	control	before	0.229	0.0858	3.308	Y

Outliers on log scale:

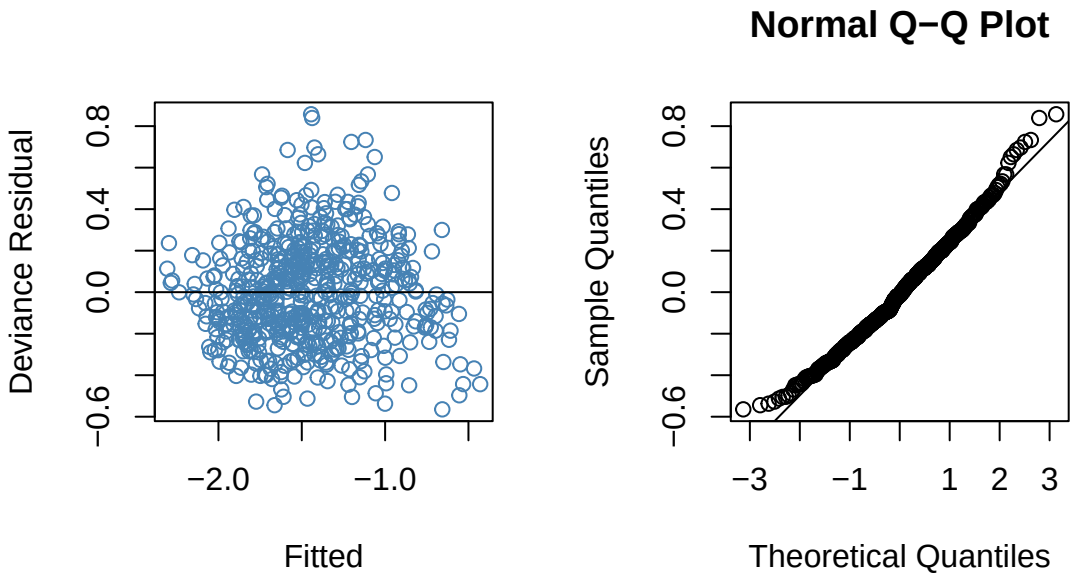
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2024	3	control	after	-0.5867	-1.444	3.407	Y
Creek 705 (Control)	705-10	2024	3	control	after	-0.5986	-1.438	3.335	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.01599	0.01599	1	5.03	0.2526	0.636	
period	2.91989	2.91989	1	239.35	46.1216	<0.001	
class:period	1.32371	1.32371	1	550.01	20.9089	<0.001	1.97e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
575	0.1927	98%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

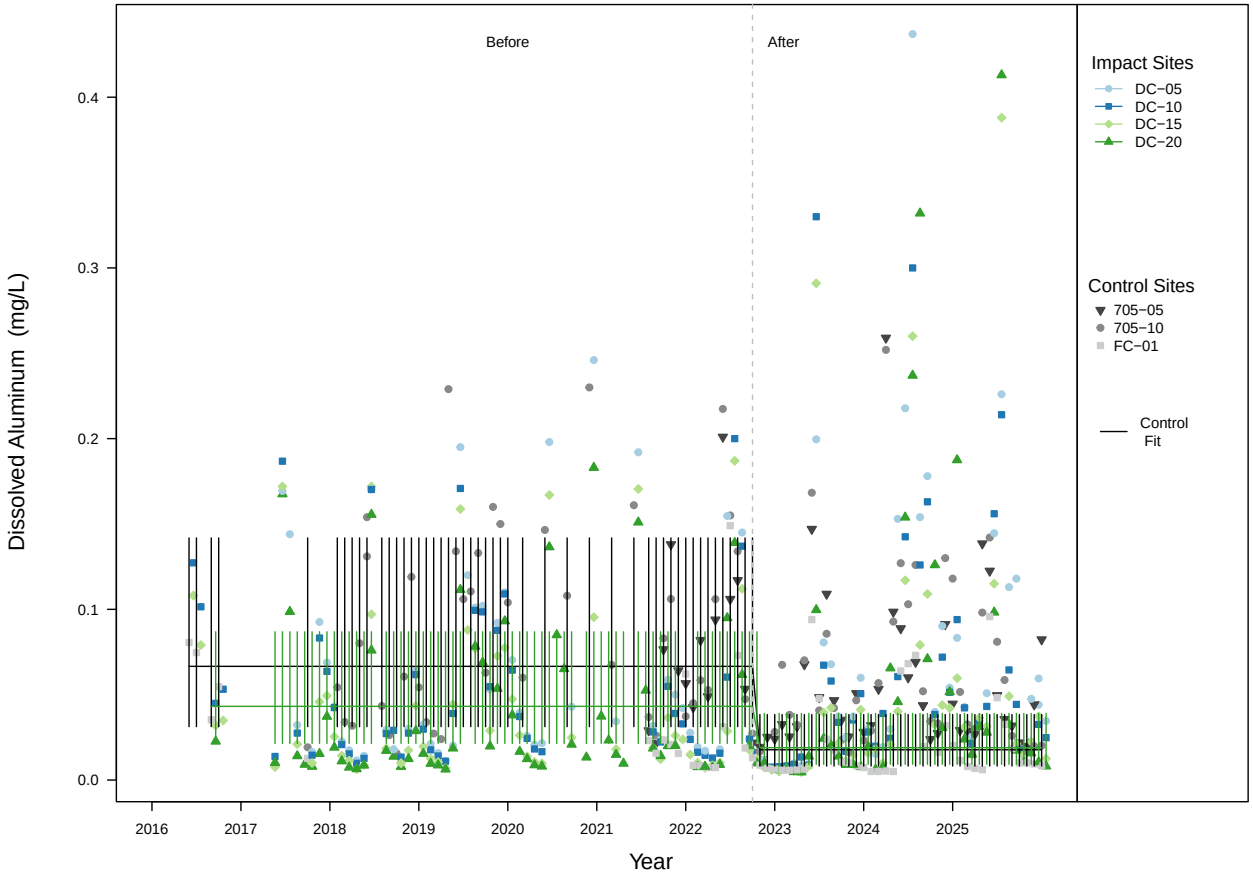
Impact vs.	Estimate	Significance
control sites	0.2169	significant

Conclusion:

The change in Dissolved Aluminum concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 1.97×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class*:*period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

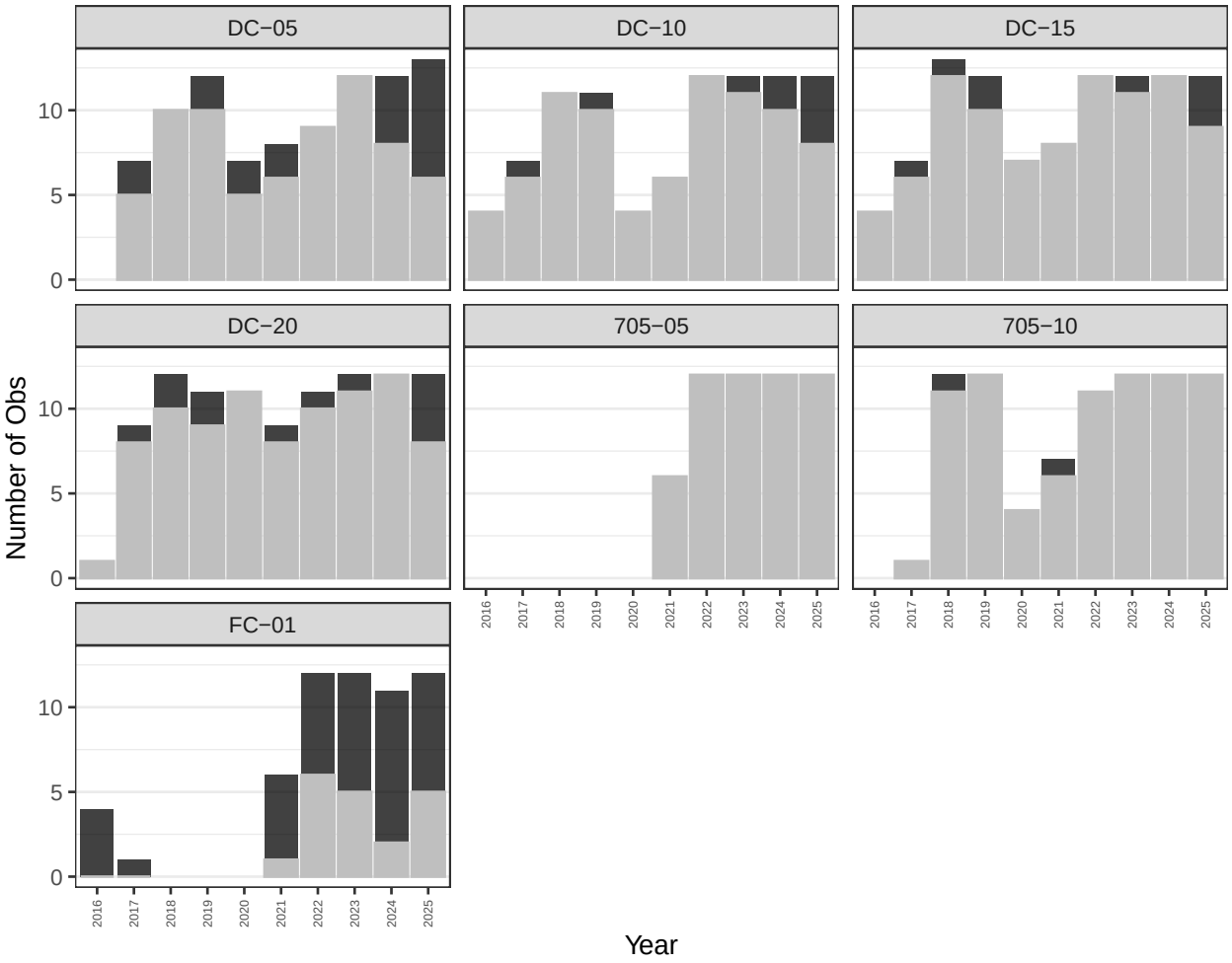
Final Summary Table

Variable	Dissolved Aluminum
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.31 Dissolved Cadmium

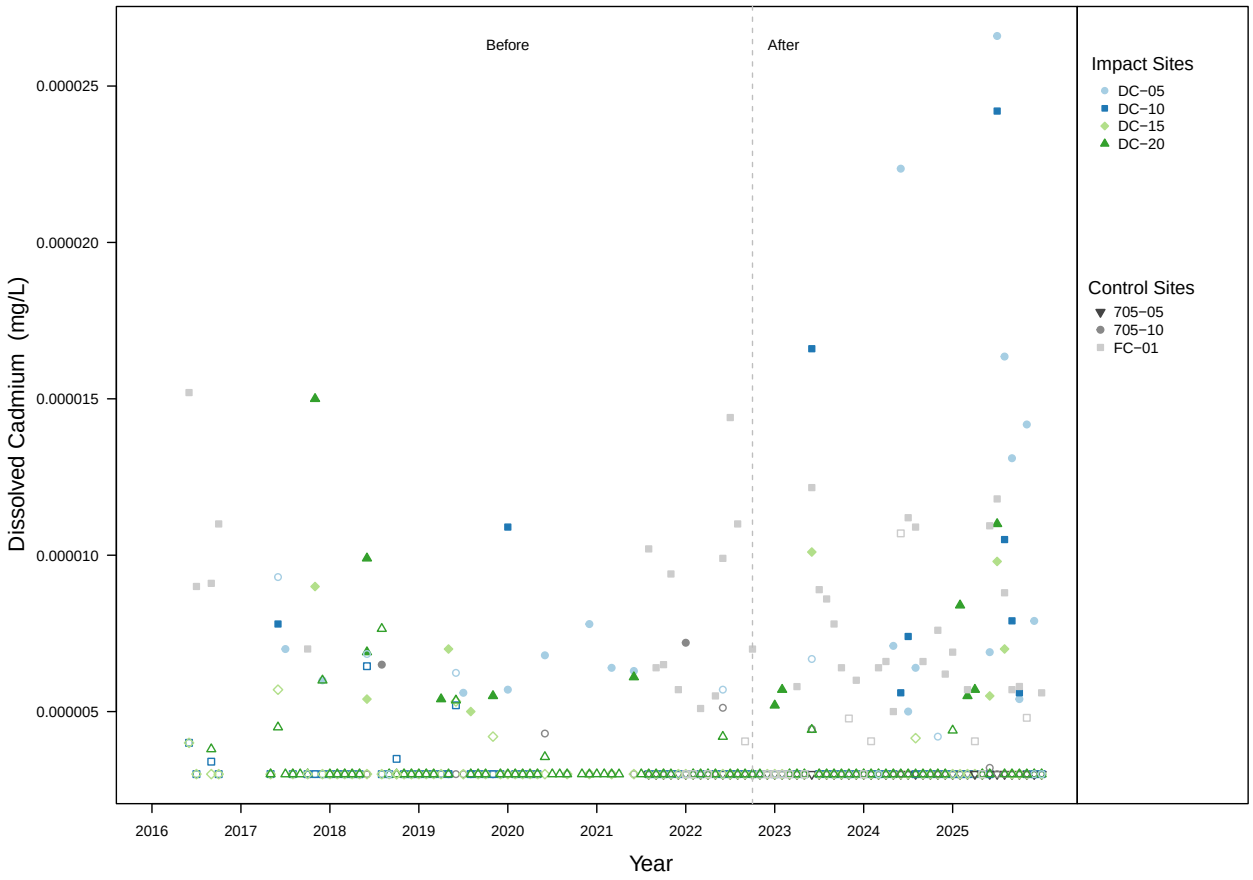
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

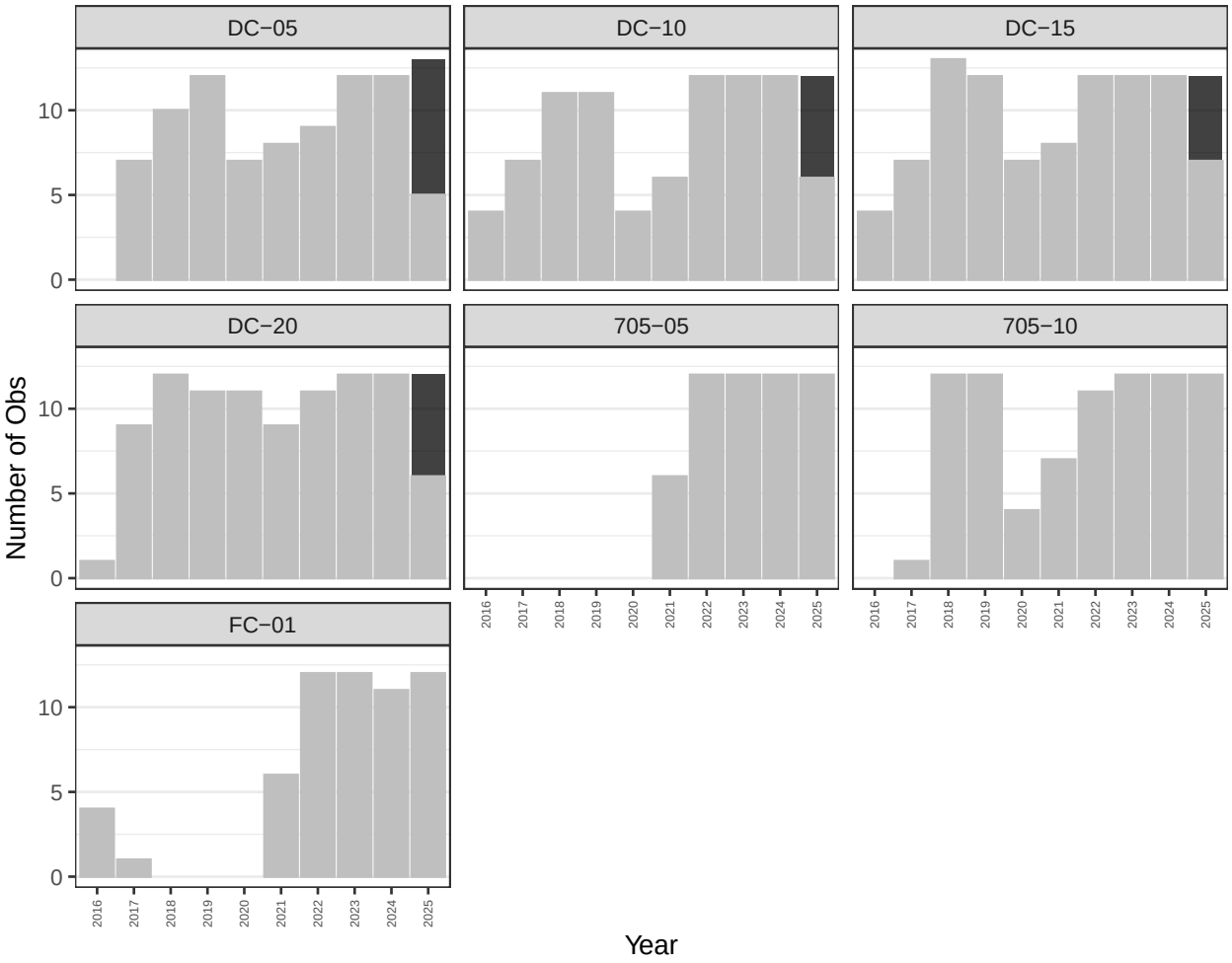
Final Summary Table

Variable	Dissolved Cadmium
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.32 Dissolved Cobalt

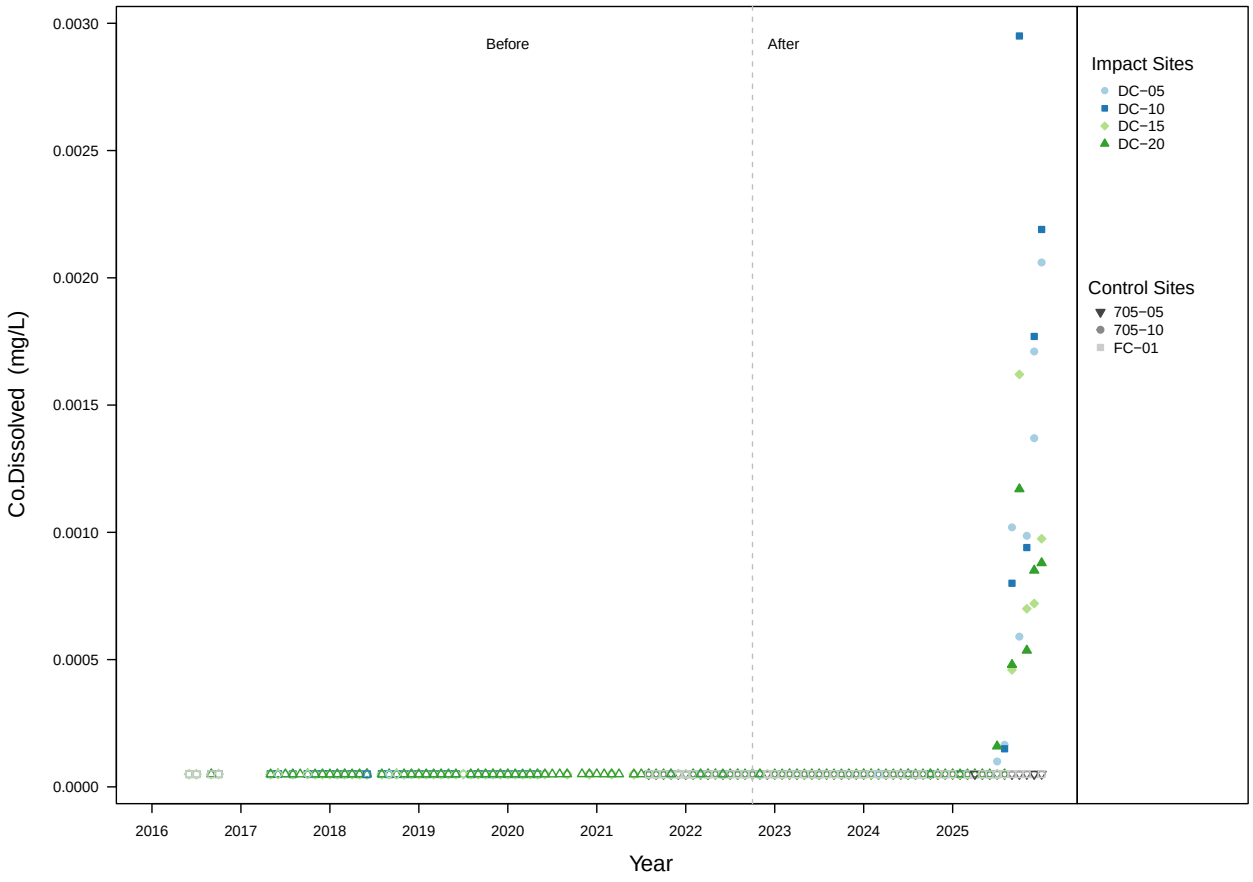
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

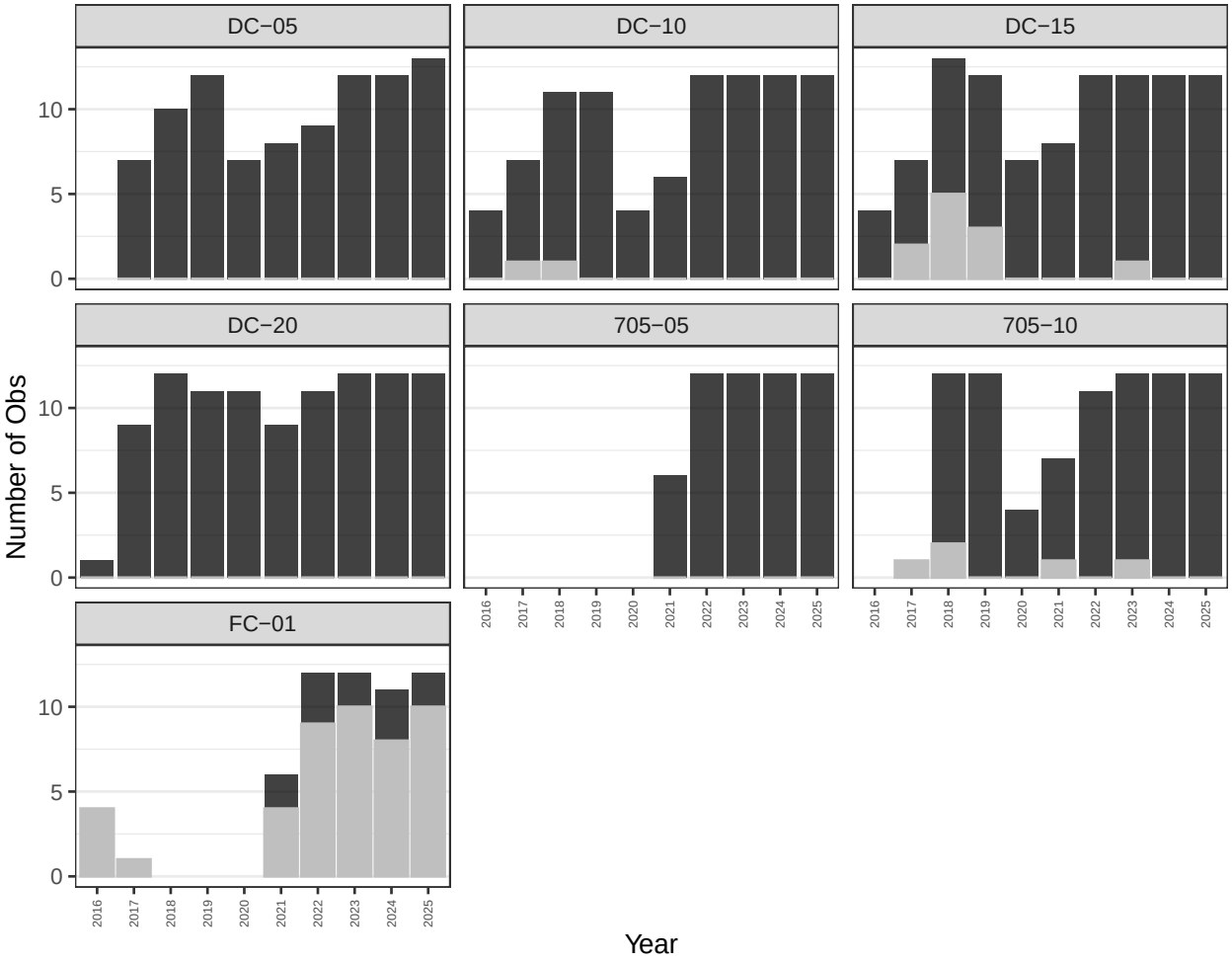
Variable	Co.Dissolved
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.1.33 Dissolved Iron

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Creek 705 (Control)	705-10	2017	control	before	1
Fawnie Creek (Control)	FC-01	2016	control	before	4
Fawnie Creek (Control)	FC-01	2017	control	before	1
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2023	control	after	12

(Continued on Next Page...)

(continued)

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2024	control	after	11
Fawnie Creek (Control)	FC-01	2025	control	after	12

1.2 Sample Sizes for Modelling

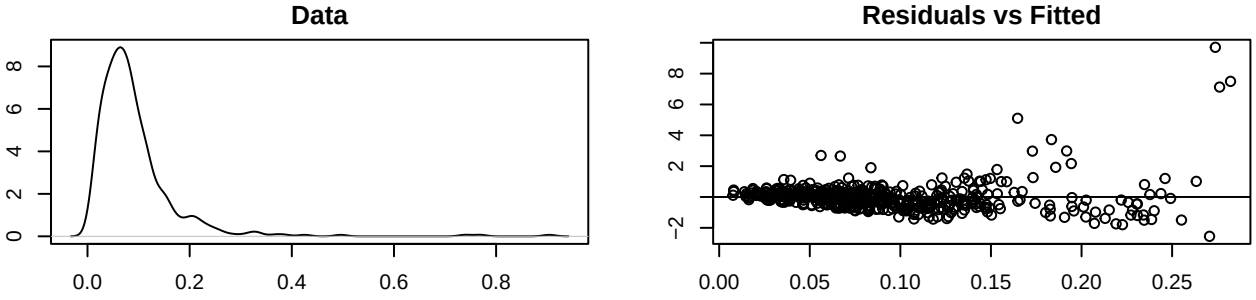
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0680	0.000
Davidson Creek	DC-05	after	39	0.0575	0.000
Davidson Creek	DC-10	before	52	0.0575	3.846
Davidson Creek	DC-10	after	39	0.0420	0.000
Davidson Creek	DC-15	before	60	0.0450	16.667
Davidson Creek	DC-15	after	39	0.0350	2.564
Davidson Creek	DC-20	before	62	0.0860	0.000
Davidson Creek	DC-20	after	38	0.1635	0.000
Creek 705 (Control)	705-05	before	15	0.1480	0.000
Creek 705 (Control)	705-05	after	39	0.1590	0.000
Creek 705 (Control)	705-10	before	28	0.0830	7.143

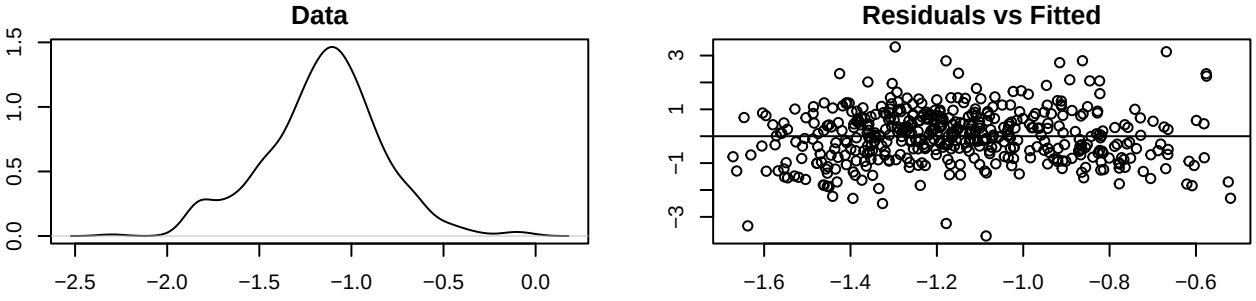
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2025	9	control	after	0.904	0.2739	9.707	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.769	0.2822	7.499	Y
Creek 705 (Control)	705-05	2025	10	control	after	0.739	0.2762	7.130	Y
Davidson Creek	DC-20	2025	6	impact	after	0.496	0.1647	5.104	Y
Davidson Creek	DC-20	2025	9	impact	after	0.425	0.1834	3.722	Y

Outliers on log scale:

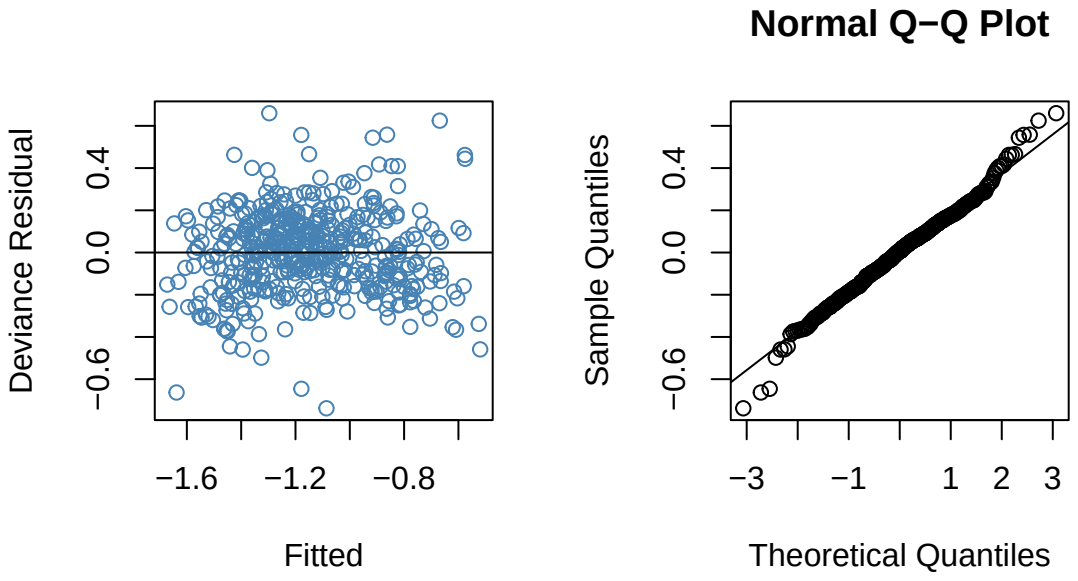
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-10	2018	8	control	before	-1.8239	-1.0860	-3.711	N
Davidson Creek	DC-15	2023	2	impact	after	-2.3010	-1.6380	-3.334	N
Davidson Creek	DC-15	2023	5	impact	after	-0.6364	-1.2965	3.319	Y
Creek 705 (Control)	705-10	2018	9	control	before	-1.8239	-1.1783	-3.246	N
Creek 705 (Control)	705-05	2025	9	control	after	-0.0438	-0.6686	3.141	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.11603	0.11603	1	4.017	2.934	0.162	
period	0.04718	0.04718	1	44.682	1.193	0.281	
class:period	0.09901	0.09901	1	431.778	2.504	0.114	0.137

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
462	0.1434	73%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

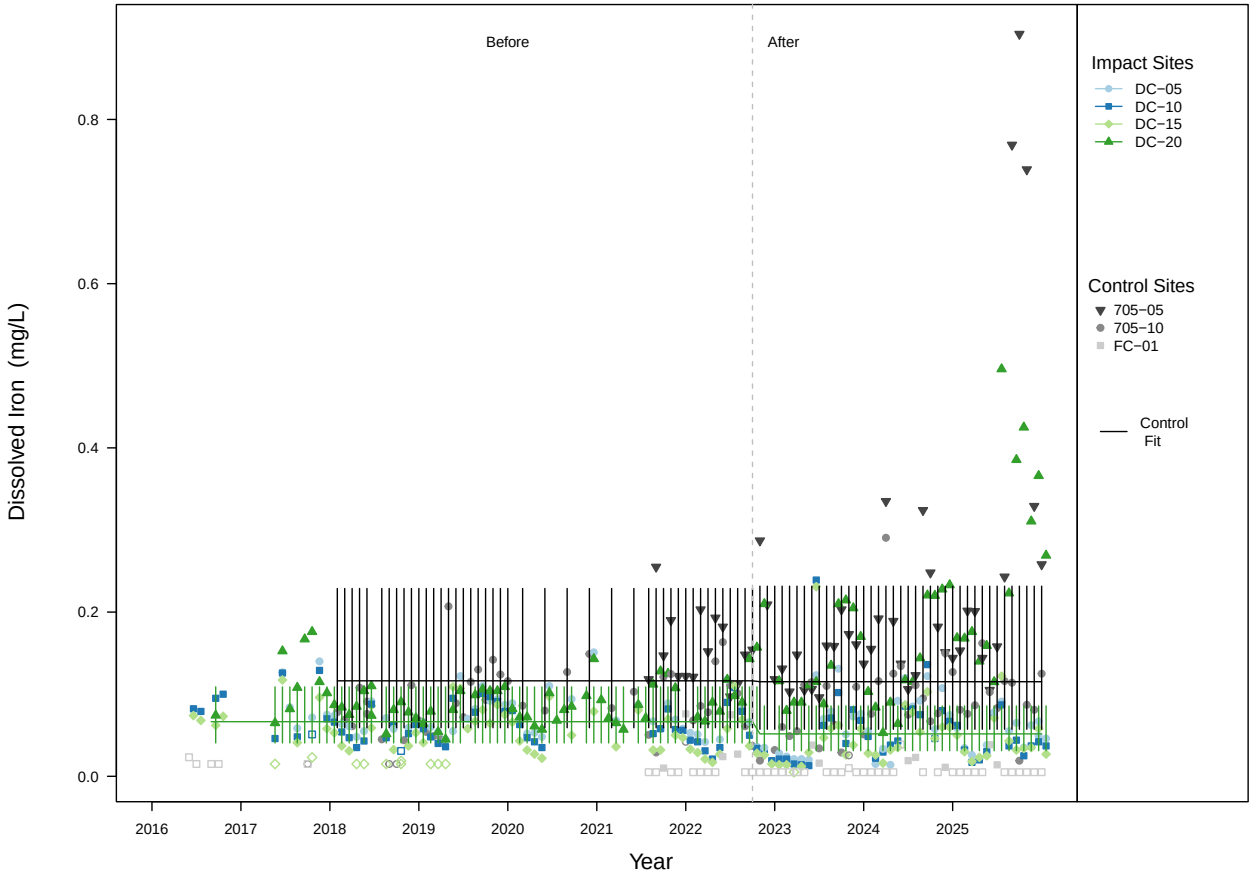
Impact vs.	Estimate	Significance
control sites	-0.1055	not significant

Conclusion:

The change in Dissolved Iron concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.137) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

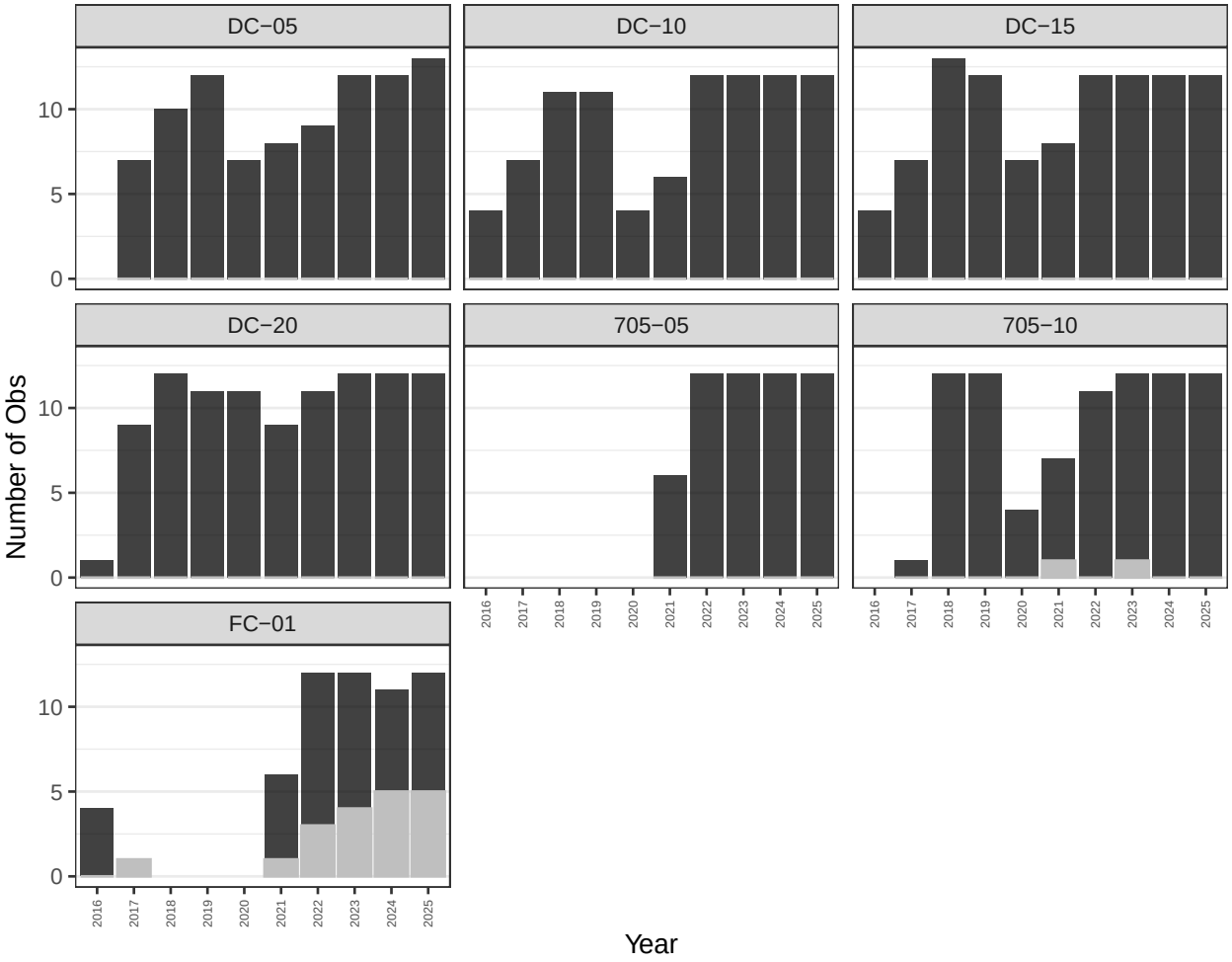
Variable	Dissolved Iron
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	FC-01
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.1.34 Dissolved Manganese

1 Davidson Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2017	control	before	1

1.2 Sample Sizes for Modelling

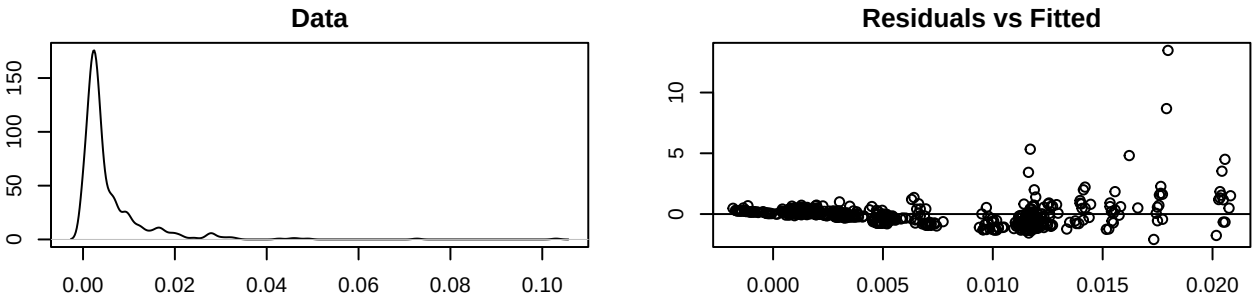
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Davidson Creek	DC-05	before	51	0.0024	0.000
Davidson Creek	DC-05	after	39	0.0039	0.000
Davidson Creek	DC-10	before	52	0.0021	0.000
Davidson Creek	DC-10	after	39	0.0028	0.000
Davidson Creek	DC-15	before	60	0.0032	0.000
Davidson Creek	DC-15	after	39	0.0031	0.000
Davidson Creek	DC-20	before	62	0.0090	0.000
Davidson Creek	DC-20	after	38	0.0194	0.000
Creek 705 (Control)	705-05	before	15	0.0071	0.000
Creek 705 (Control)	705-05	after	39	0.0091	0.000
Creek 705 (Control)	705-10	before	45	0.0020	2.222
Creek 705 (Control)	705-10	after	38	0.0019	2.632
Fawnie Creek (Control)	FC-01	before	19	0.0002	15.790
Fawnie Creek (Control)	FC-01	after	38	0.0001	39.474

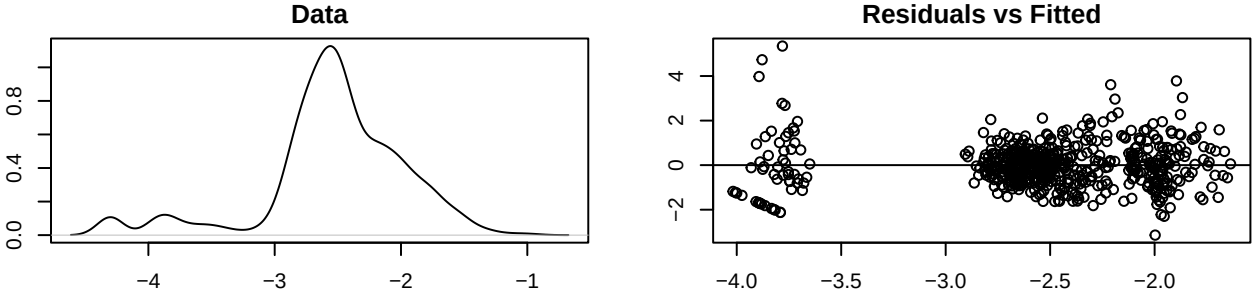
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2025	10	control	after	0.1030	0.0180	13.467	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.0727	0.0179	8.679	Y
Davidson Creek	DC-05	2025	9	impact	after	0.0454	0.0117	5.337	Y
Davidson Creek	DC-20	2022	12	impact	after	0.0466	0.0162	4.813	Y
Davidson Creek	DC-20	2025	11	impact	after	0.0490	0.0206	4.503	Y
Davidson Creek	DC-20	2025	12	impact	after	0.0427	0.0204	3.527	Y
Davidson Creek	DC-05	2025	7	impact	after	0.0333	0.0116	3.433	Y

Outliers on log scale:

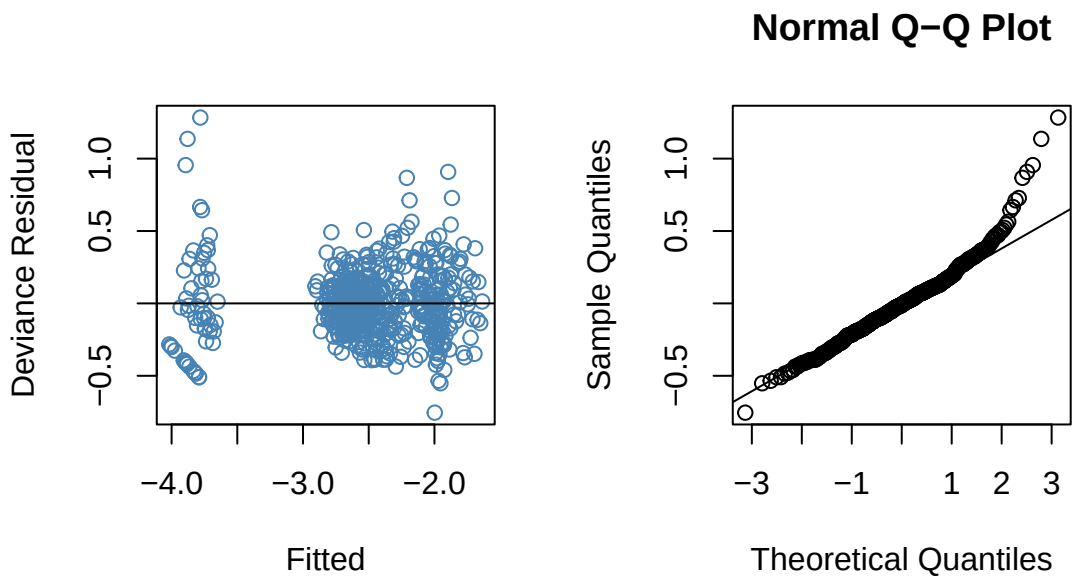
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	-2.4976	-3.781	5.345	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.7423	-3.879	4.731	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-2.9378	-3.893	3.977	Y
Creek 705 (Control)	705-05	2025	10	control	after	-0.9872	-1.895	3.782	Y
Davidson Creek	DC-05	2025	9	impact	after	-1.3429	-2.210	3.611	Y
Creek 705 (Control)	705-05	2022	6	control	before	-2.7520	-1.997	-3.142	Y
Creek 705 (Control)	705-05	2025	8	control	after	-1.1385	-1.867	3.031	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.0669	0.0669	1	5.003	1.159	0.331	
period	0.1242	0.1242	1	18.812	2.153	0.159	
class:period	1.1911	1.1911	1	554.318	20.644	<0.001	2.09e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
574	0.1335	77%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (DC-05, DC-10, DC-15, DC-20) and control sites (705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

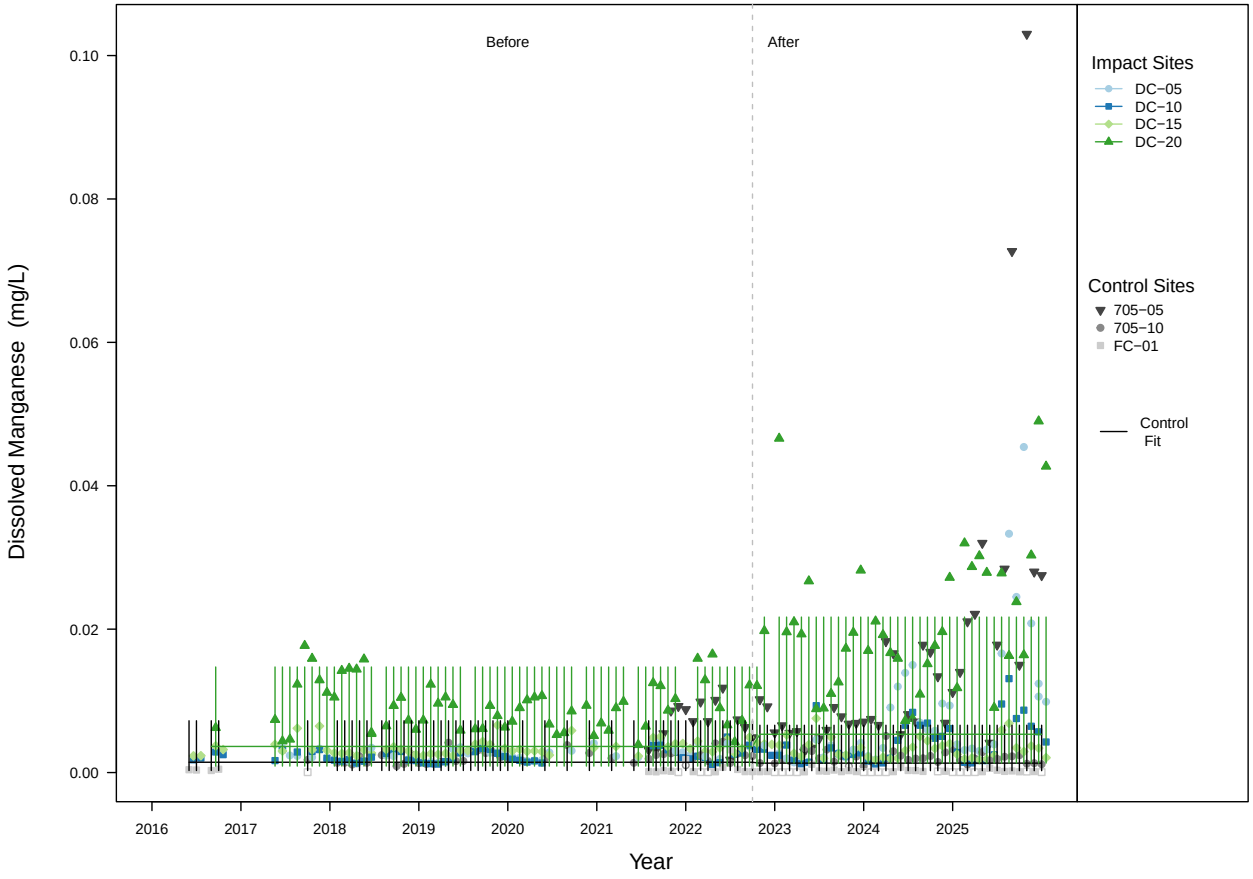
Impact vs.	Estimate	Significance
control sites	0.2057	significant

Conclusion:

The change in Dissolved Manganese concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 2.09×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

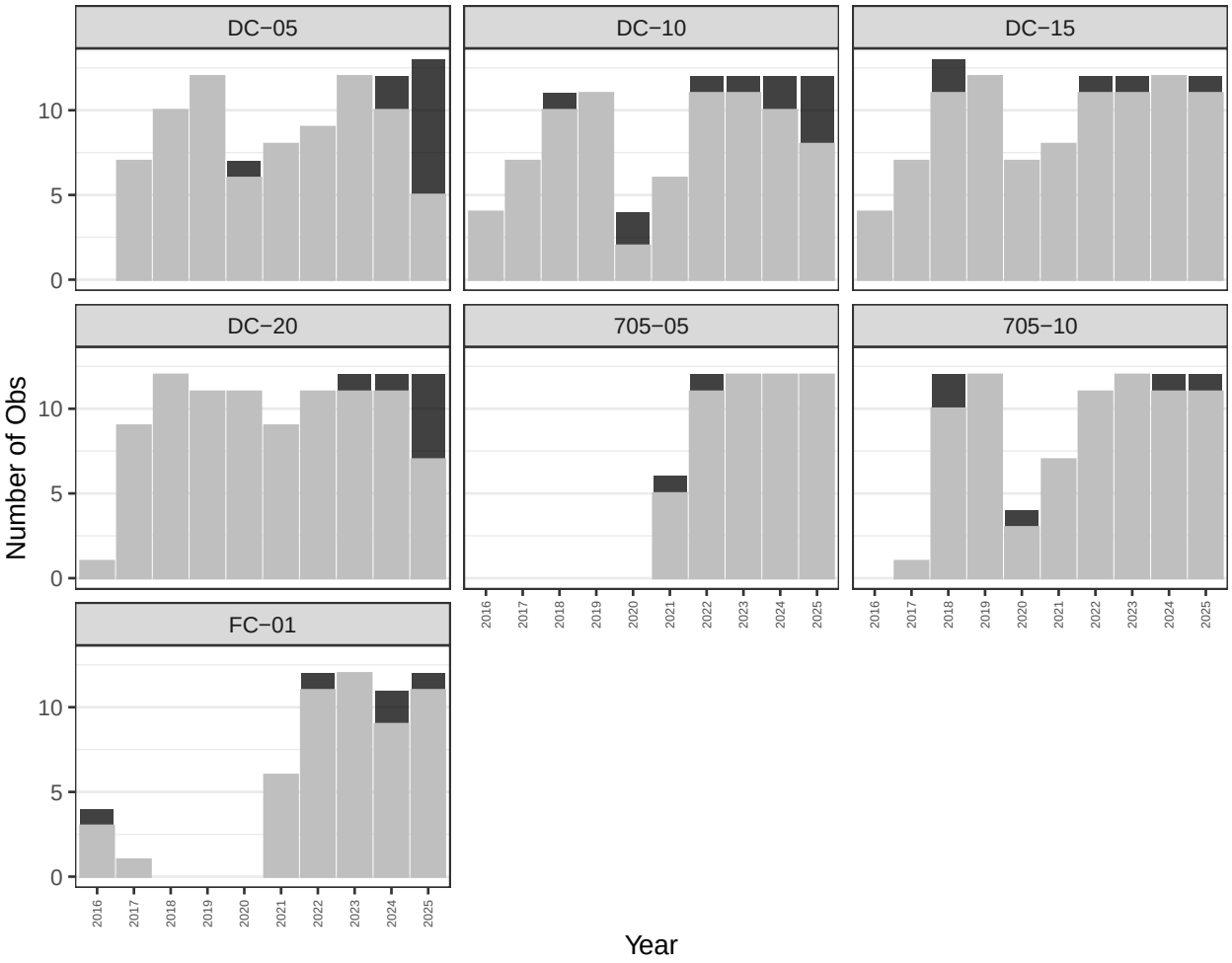
Final Summary Table

Variable	Dissolved Manganese
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.1.35 Dissolved Zinc

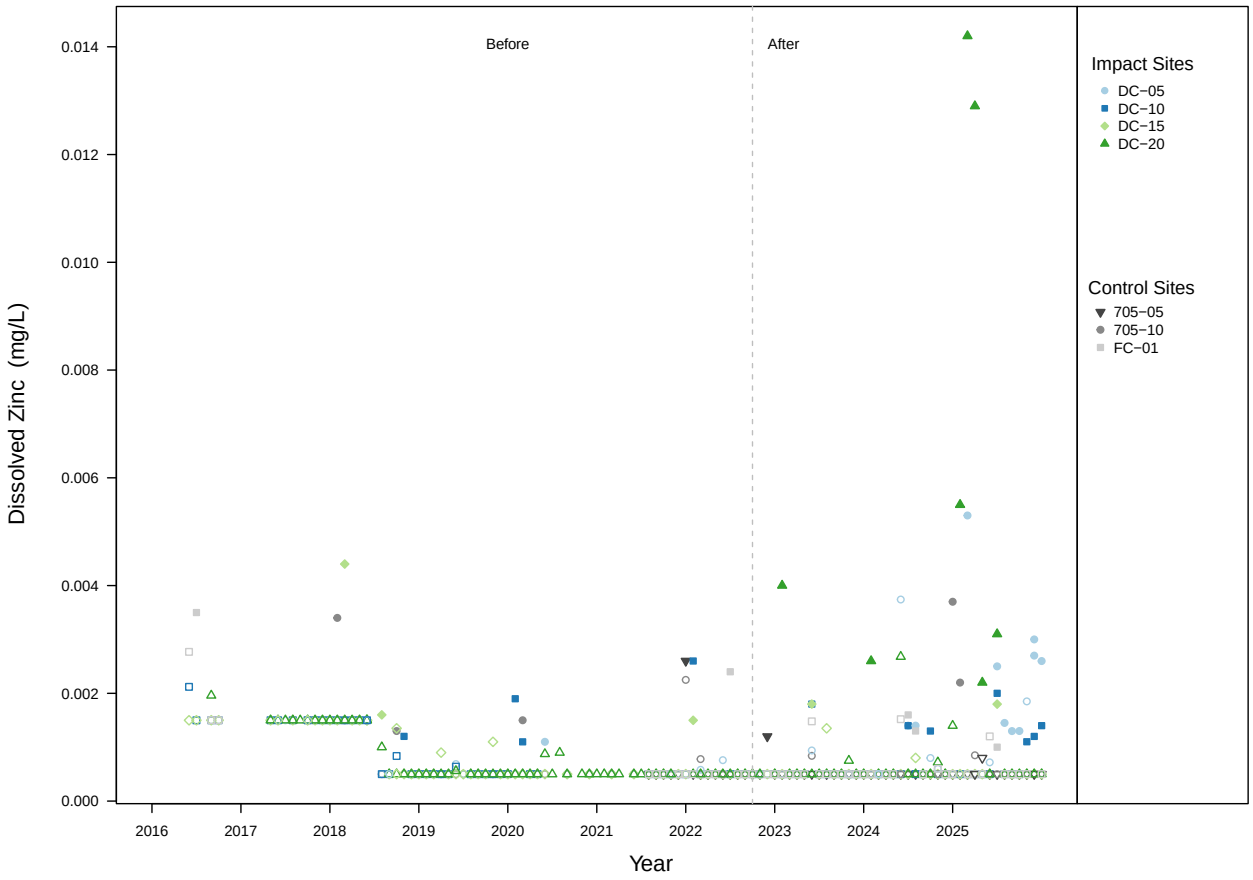
1 Davidson Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

Variable	Dissolved Zinc
Watershed	Davidson Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

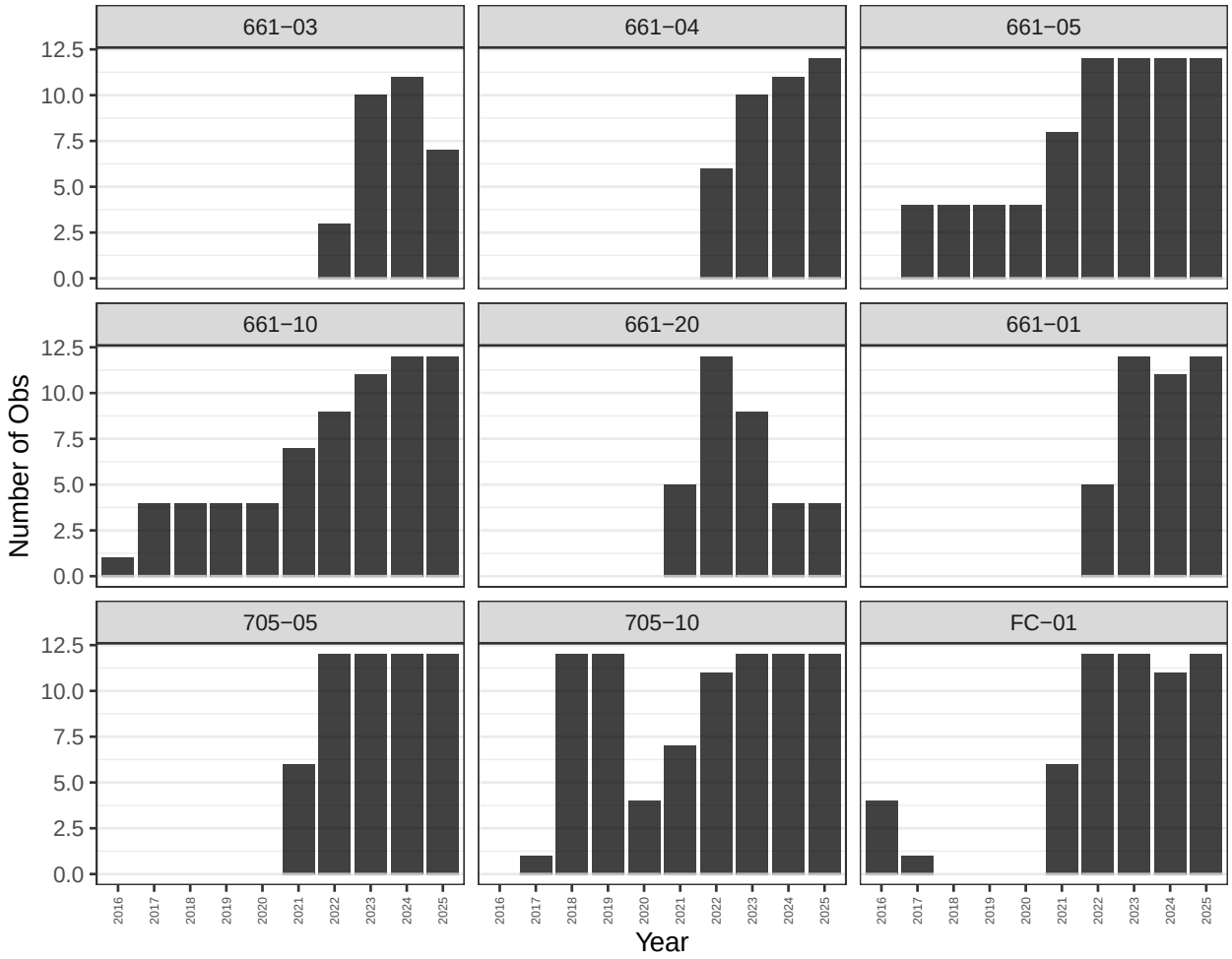
E-2.2 Creek 661

E-2.2.1 pH

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

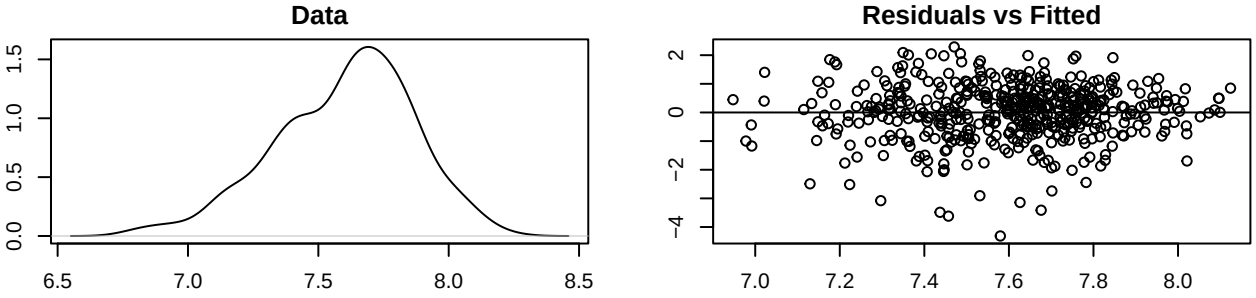
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	7.770	0
Creek 661	661-03	after	29	7.710	0
Creek 661	661-04	before	3	7.600	0
Creek 661	661-04	after	36	7.720	0
Creek 661	661-05	before	33	7.760	0
Creek 661	661-05	after	39	7.875	0
Creek 661	661-10	before	31	7.614	0
Creek 661	661-10	after	37	7.650	0
Creek 661	661-20	before	14	7.910	0
Creek 661	661-20	after	20	8.055	0
Creek 661	661-01	before	3	7.380	0
Creek 661	661-01	after	37	7.270	0
Creek 705 (Control)	705-05	before	15	7.390	0
Creek 705 (Control)	705-05	after	39	7.410	0
Creek 705 (Control)	705-10	before	45	7.600	0
Creek 705 (Control)	705-10	after	38	7.593	0
Fawnie Creek (Control)	FC-01	before	20	7.665	0
Fawnie Creek (Control)	FC-01	after	38	7.720	0

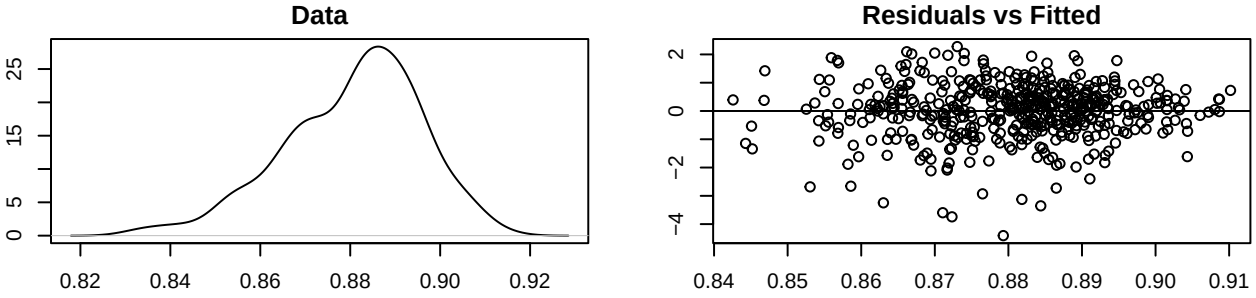
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2023	7	control	after	6.94	7.580	-4.312	Y
Creek 705 (Control)	705-10	2023	7	control	after	6.92	7.457	-3.620	Y
Creek 661	661-10	2024	6	impact	after	6.92	7.437	-3.485	Y
Creek 661	661-20	2022	6	impact	before	7.17	7.676	-3.412	Y
Creek 661	661-05	2024	6	impact	after	7.16	7.626	-3.143	Y
Creek 705 (Control)	705-05	2023	7	control	after	6.84	7.297	-3.080	Y

Outliers on log scale:

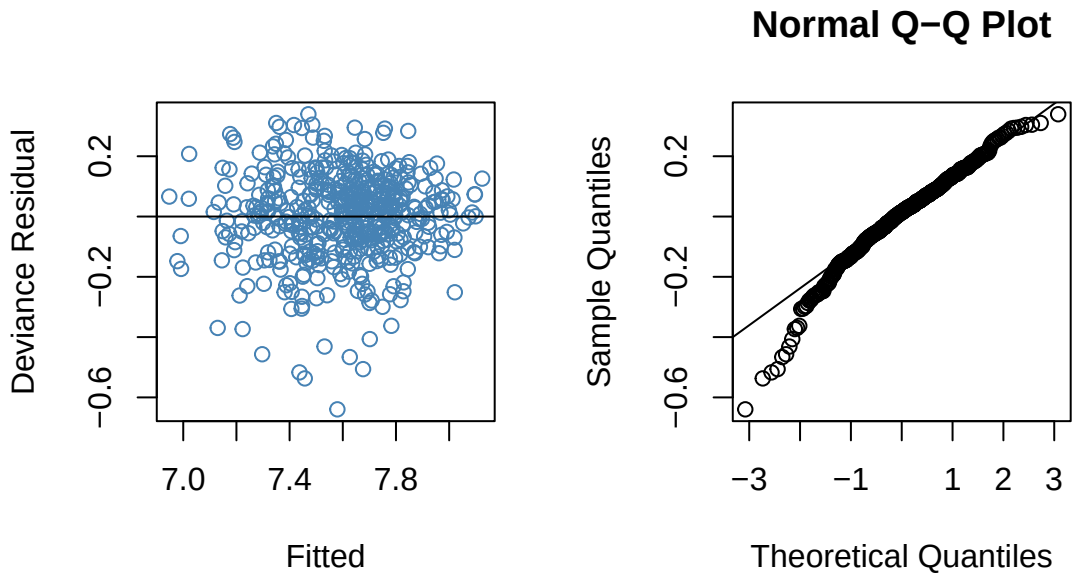
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2023	7	control	after	0.8414	0.8793	-4.407	Y
Creek 705 (Control)	705-10	2023	7	control	after	0.8401	0.8723	-3.743	Y
Creek 661	661-10	2024	6	impact	after	0.8401	0.8711	-3.597	Y
Creek 661	661-20	2022	6	impact	before	0.8555	0.8844	-3.354	Y
Creek 705 (Control)	705-05	2023	7	control	after	0.8351	0.8630	-3.247	Y
Creek 661	661-05	2024	6	impact	after	0.8549	0.8818	-3.126	Y

Based on examination of the residuals, the untransformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.1176	0.1176	1	7.024	5.343	0.0540	
period	0.2050	0.2050	1	30.555	9.316	0.0047	
class:period	0.2357	0.2357	1	457.083	10.707	0.0012	0.00206

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.3312	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

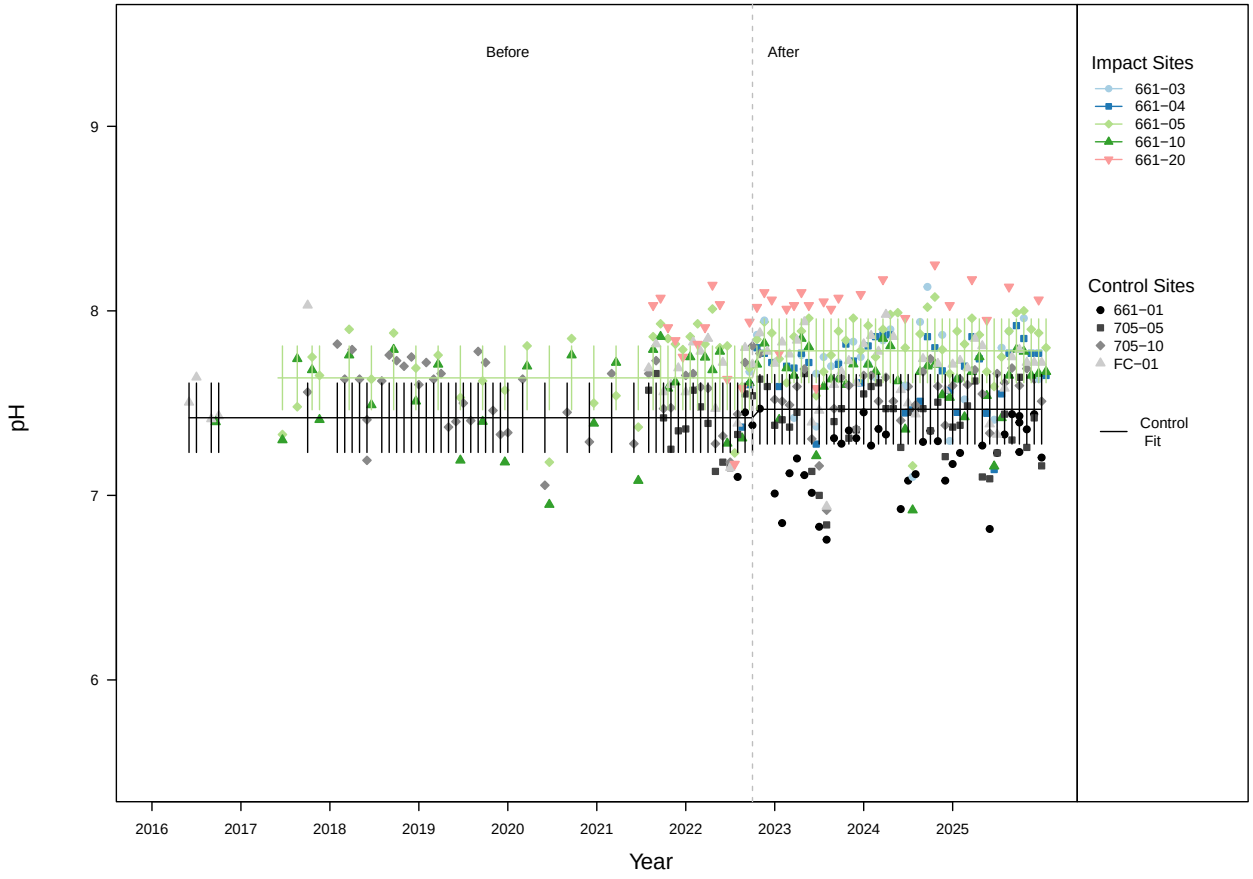
Impact vs.	Estimate	Significance
control sites	0.1008	significant

Conclusion:

The change in pH at the impact sites from *before* to *after* was significantly (*adjusted p =* 0.0021) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility.

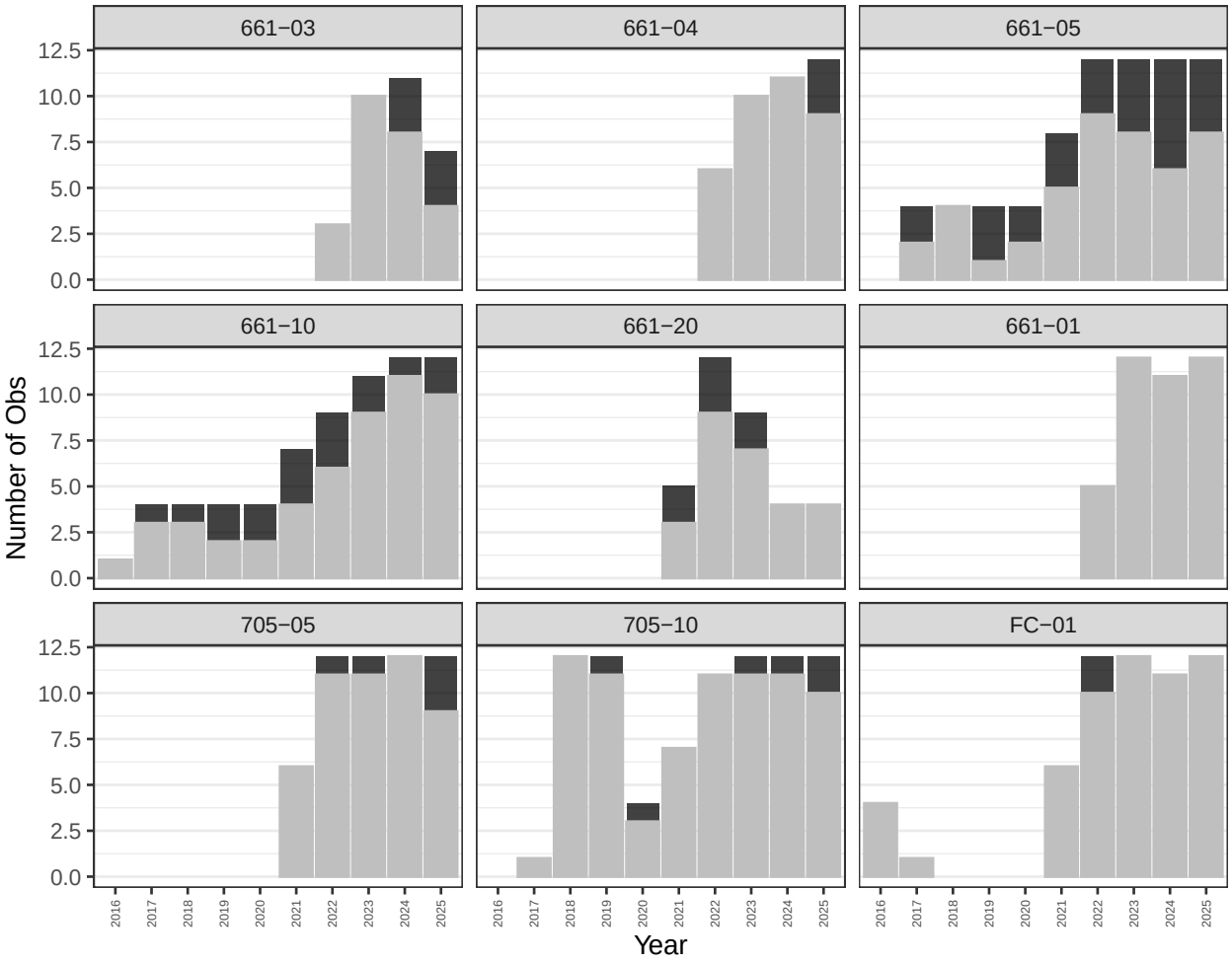
Final Summary Table

Variable	pH
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Untransformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.2 Total Suspended Solids

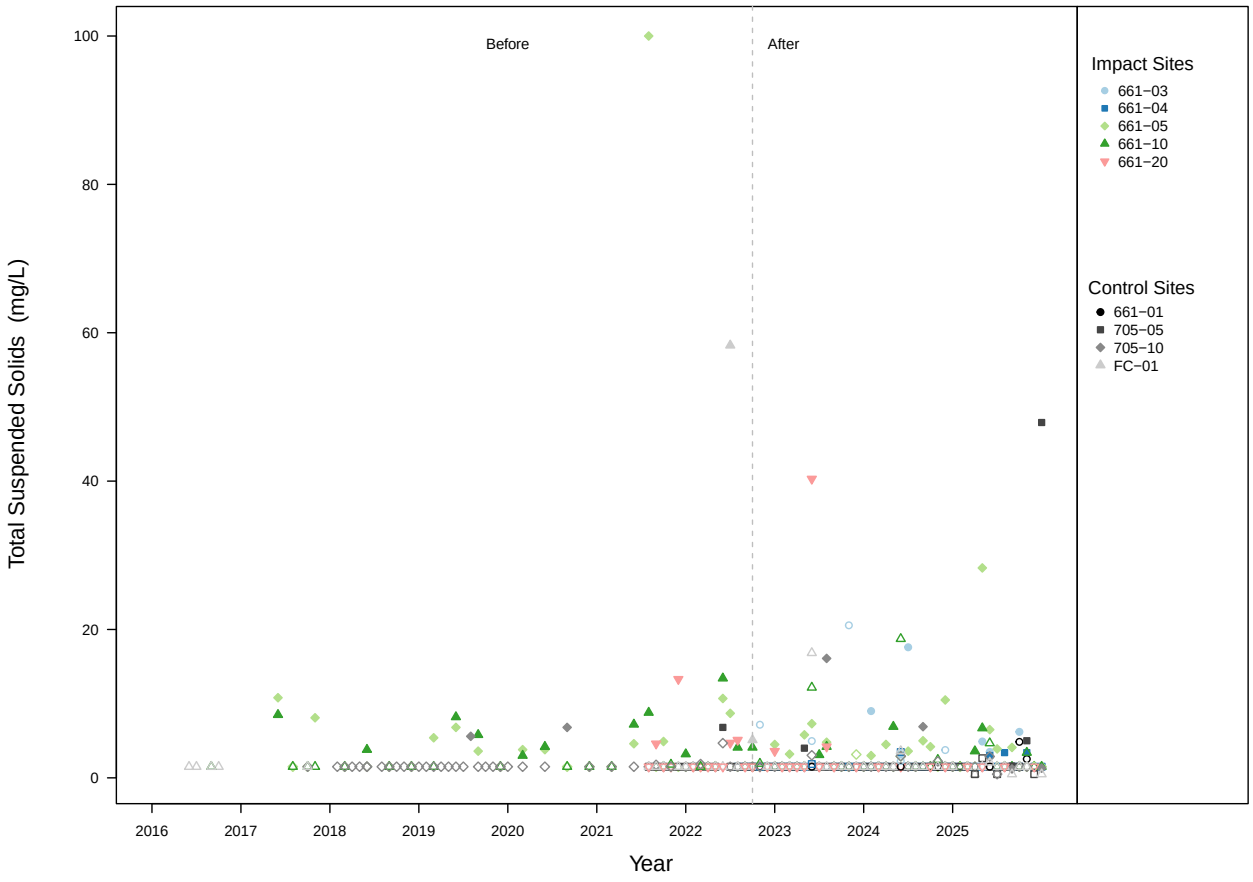
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

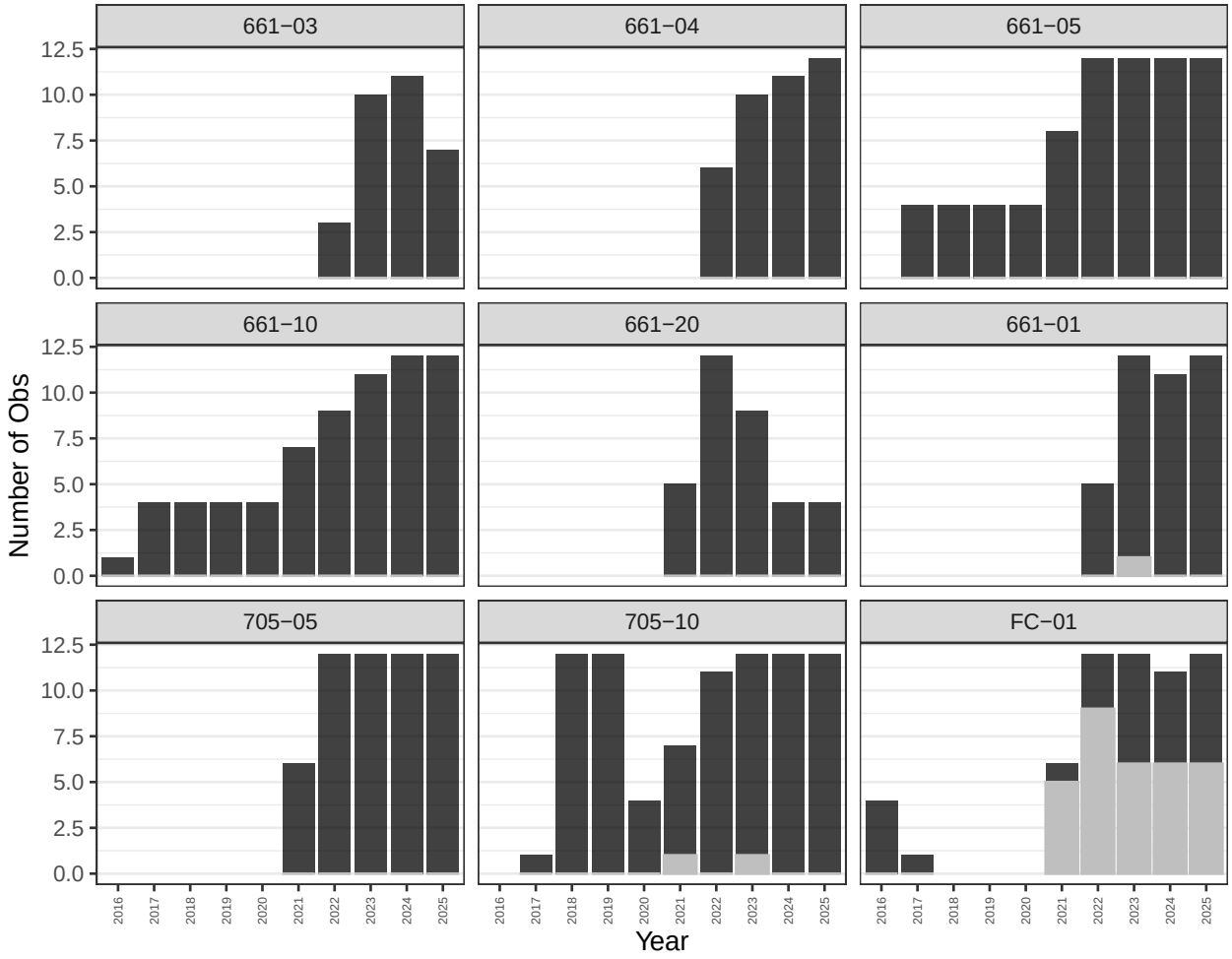
Variable	Total Suspended Solids
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.3 Turbidity

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11

1.2 Sample Sizes for Modelling

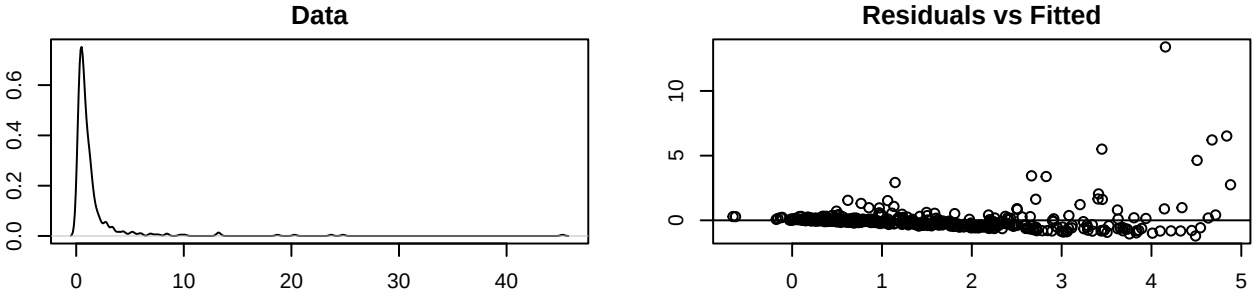
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.245	0.000
Creek 661	661-03	after	29	0.550	0.000
Creek 661	661-04	before	3	0.370	0.000
Creek 661	661-04	after	36	1.231	0.000
Creek 661	661-05	before	33	1.015	0.000
Creek 661	661-05	after	39	1.810	0.000
Creek 661	661-10	before	31	0.860	0.000
Creek 661	661-10	after	37	1.320	0.000
Creek 661	661-20	before	14	0.885	0.000
Creek 661	661-20	after	20	0.665	0.000
Creek 661	661-01	before	3	0.270	0.000
Creek 661	661-01	after	37	0.330	2.703
Creek 705 (Control)	705-05	before	15	0.740	0.000
Creek 705 (Control)	705-05	after	39	0.805	0.000
Creek 705 (Control)	705-10	before	45	0.600	2.222
Creek 705 (Control)	705-10	after	38	0.545	2.632
Fawnie Creek (Control)	FC-01	before	5	0.220	0.000
Fawnie Creek (Control)	FC-01	after	24	0.115	50.000

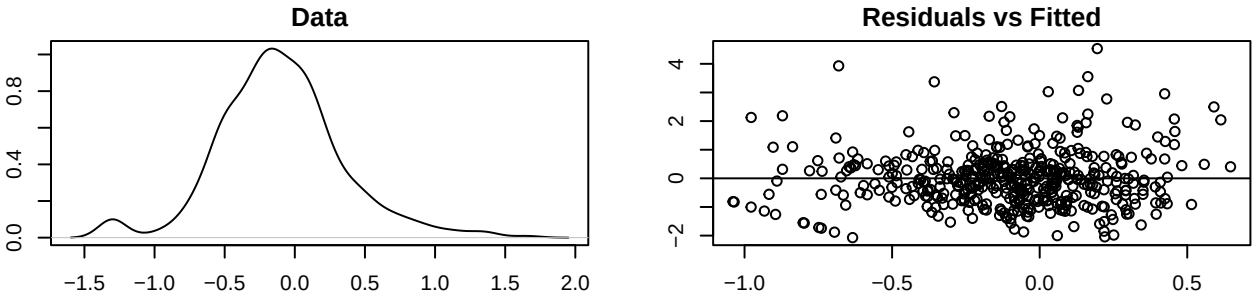
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	45.2	4.156	13.400	Y
Creek 661	661-05	2025	4	impact	after	24.8	4.838	6.517	Y
Creek 661	661-05	2024	3	impact	after	23.7	4.674	6.212	Y
Creek 661	661-04	2025	3	impact	after	20.3	3.448	5.502	Y
Creek 661	661-05	2024	5	impact	after	18.7	4.508	4.633	Y
Creek 661	661-04	2025	7	impact	after	13.2	2.665	3.440	Y
Creek 661	661-20	2023	5	impact	after	13.2	2.828	3.386	Y

Outliers on log scale:

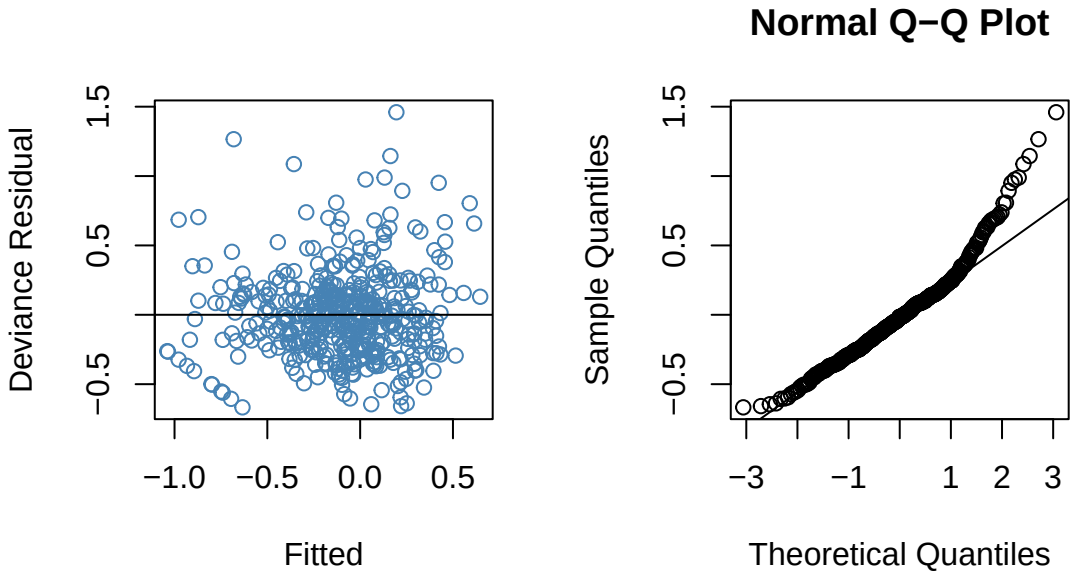
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	1.6551	0.1952	4.532	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	0.5846	-0.6811	3.929	Y
Creek 661	661-04	2025	3	impact	after	1.3075	0.1632	3.552	Y
Creek 705 (Control)	705-10	2023	7	control	after	0.7292	-0.3570	3.372	Y
Creek 661	661-04	2025	7	impact	after	1.1206	0.1316	3.070	Y
Creek 705 (Control)	705-05	2025	12	control	after	1.0043	0.0292	3.027	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.46771	0.46771	1	7.097	4.5072	0.0709	
period	0.02566	0.02566	1	22.948	0.2472	0.624	
class:period	1.22678	1.22678	1	432.370	11.8222	<0.001	0.00131

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
450	0.2334	99%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

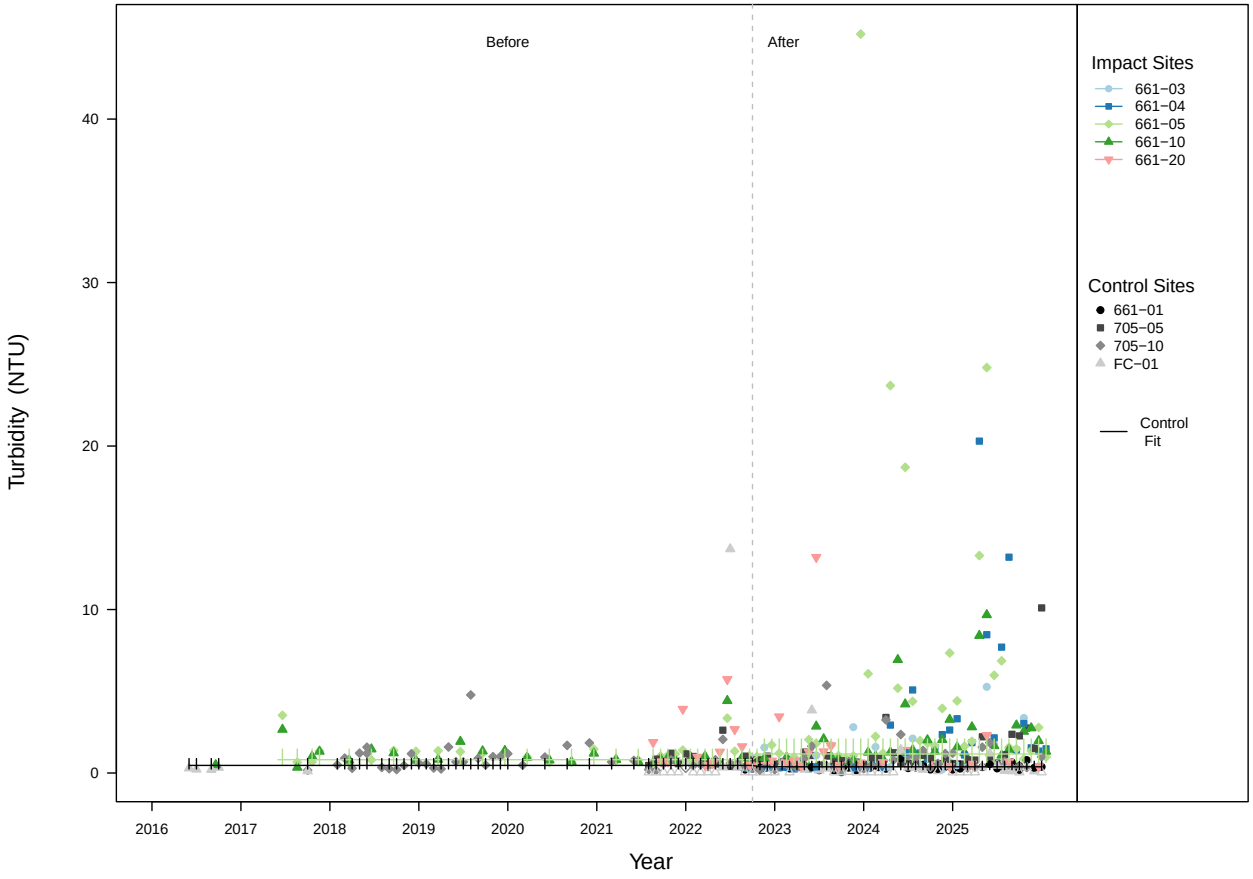
Impact vs.	Estimate	Significance
control sites	0.2435	significant

Conclusion:

The change in Turbidity concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 0.0013) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

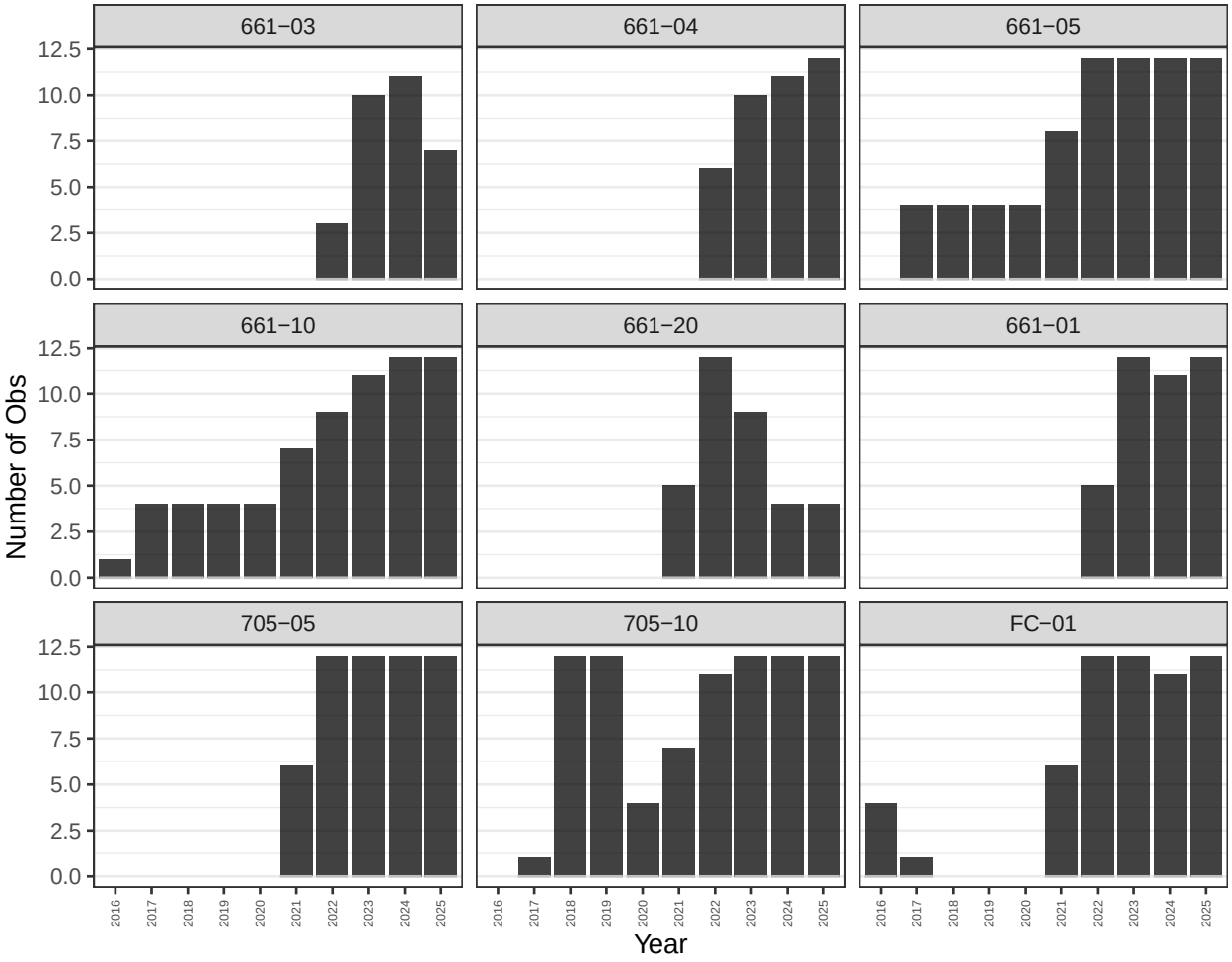
Variable	Turbidity
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.4 Total Dissolved Solids

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

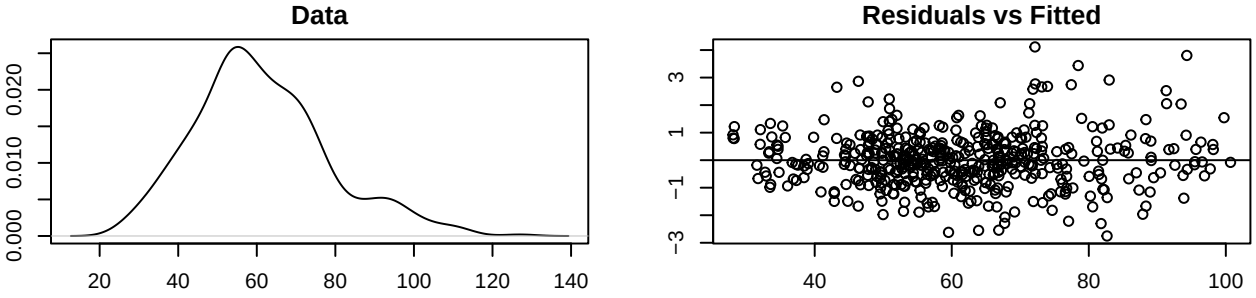
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	89.50	0
Creek 661	661-03	after	29	80.00	0
Creek 661	661-04	before	3	56.00	0
Creek 661	661-04	after	36	66.00	0
Creek 661	661-05	before	33	68.00	0
Creek 661	661-05	after	39	73.00	0
Creek 661	661-10	before	31	59.00	0
Creek 661	661-10	after	37	68.00	0
Creek 661	661-20	before	14	85.25	0
Creek 661	661-20	after	20	95.50	0
Creek 661	661-01	before	3	39.00	0
Creek 661	661-01	after	37	36.00	0
Creek 705 (Control)	705-05	before	15	50.00	0
Creek 705 (Control)	705-05	after	39	48.00	0
Creek 705 (Control)	705-10	before	45	56.00	0
Creek 705 (Control)	705-10	after	38	54.00	0
Fawnie Creek (Control)	FC-01	before	20	51.50	0
Fawnie Creek (Control)	FC-01	after	38	53.00	0

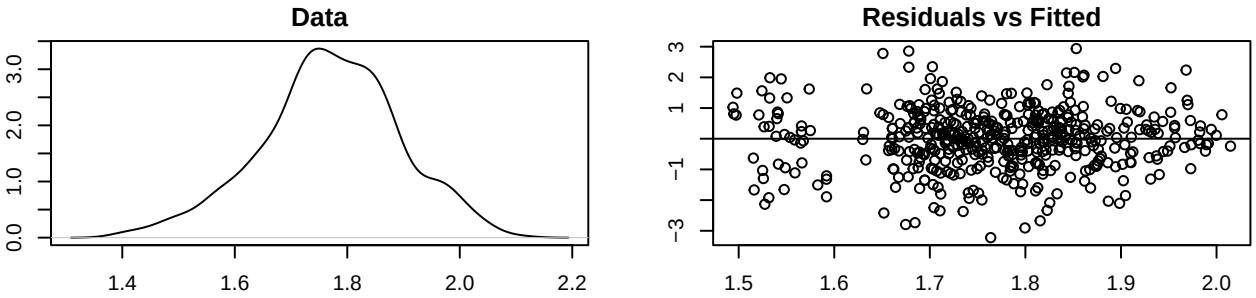
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	107.5	72.15	4.113	Y
Creek 661	661-20	2023	7	impact	after	127.0	94.31	3.804	Y
Creek 661	661-05	2025	4	impact	after	108.0	78.46	3.437	Y

Outliers on log scale:

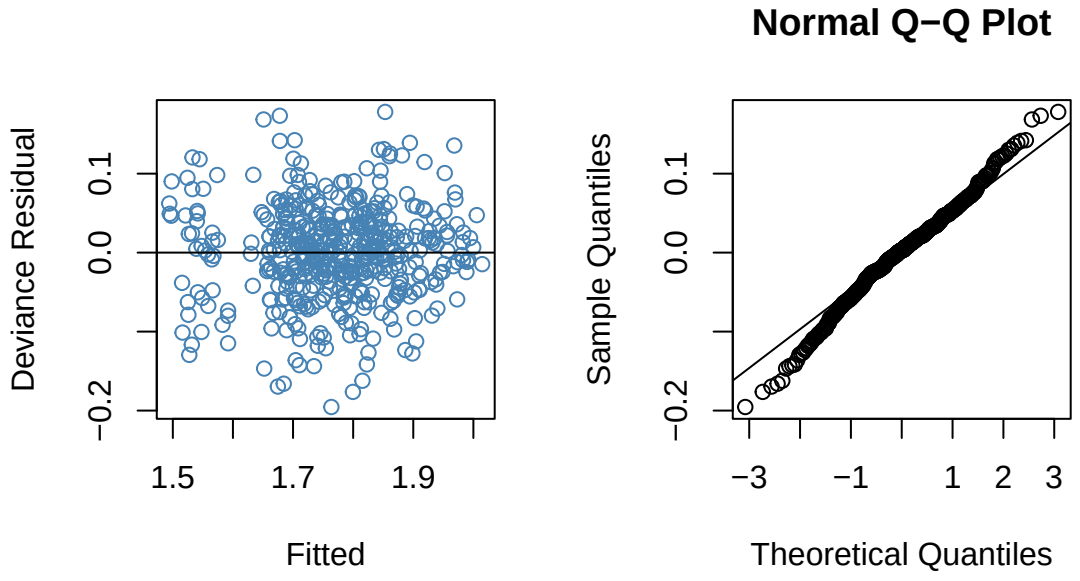
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-10	2019	8	control	before	1.568	1.764	-3.223	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.048216	0.048216	1	7.019	13.107	0.00846	
period	0.009508	0.009508	1	23.669	2.585	0.121	
class:period	0.068360	0.068360	1	457.822	18.584	<0.001	5.04e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.9596	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

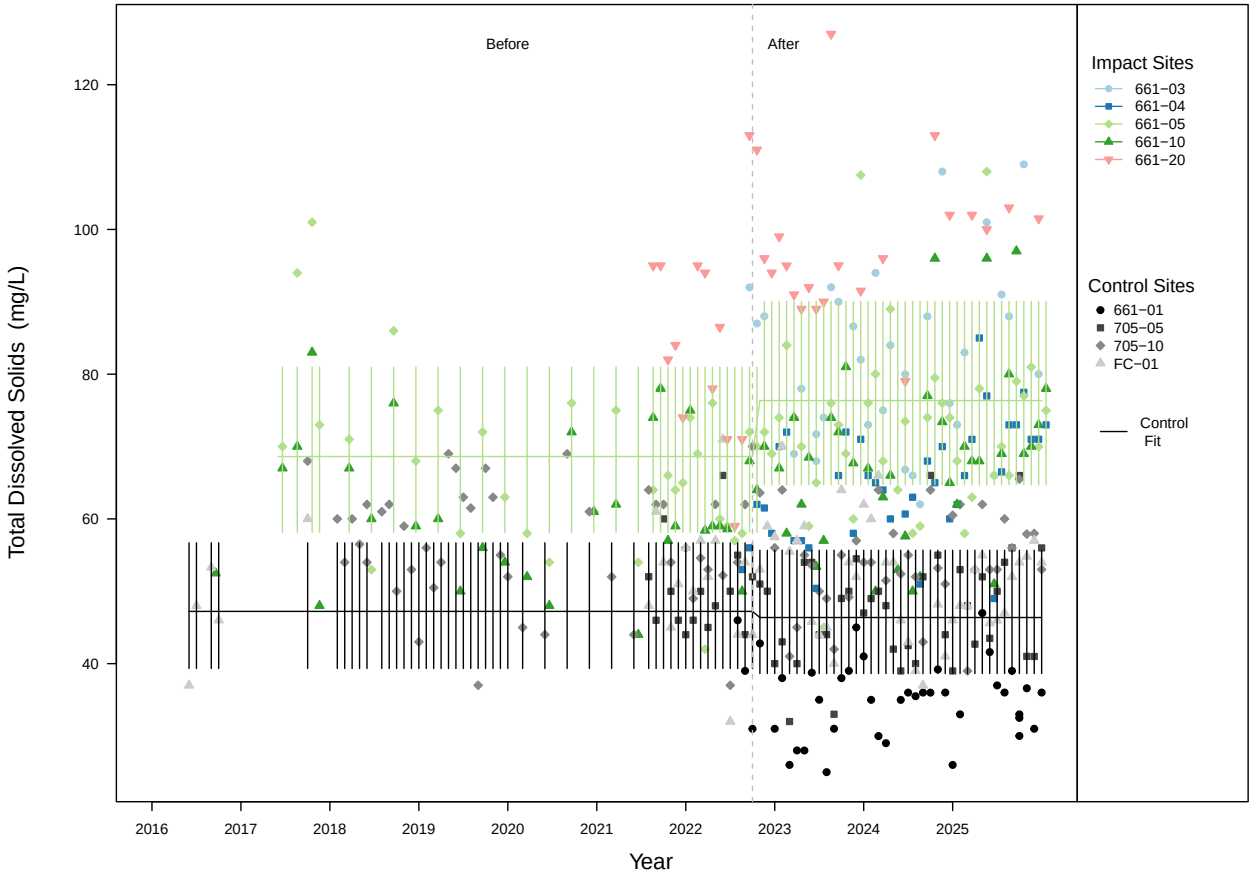
Impact vs.	Estimate	Significance
control sites	0.0542	significant

Conclusion:

The change in Total Dissolved Solids concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 5.04×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class*:*period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

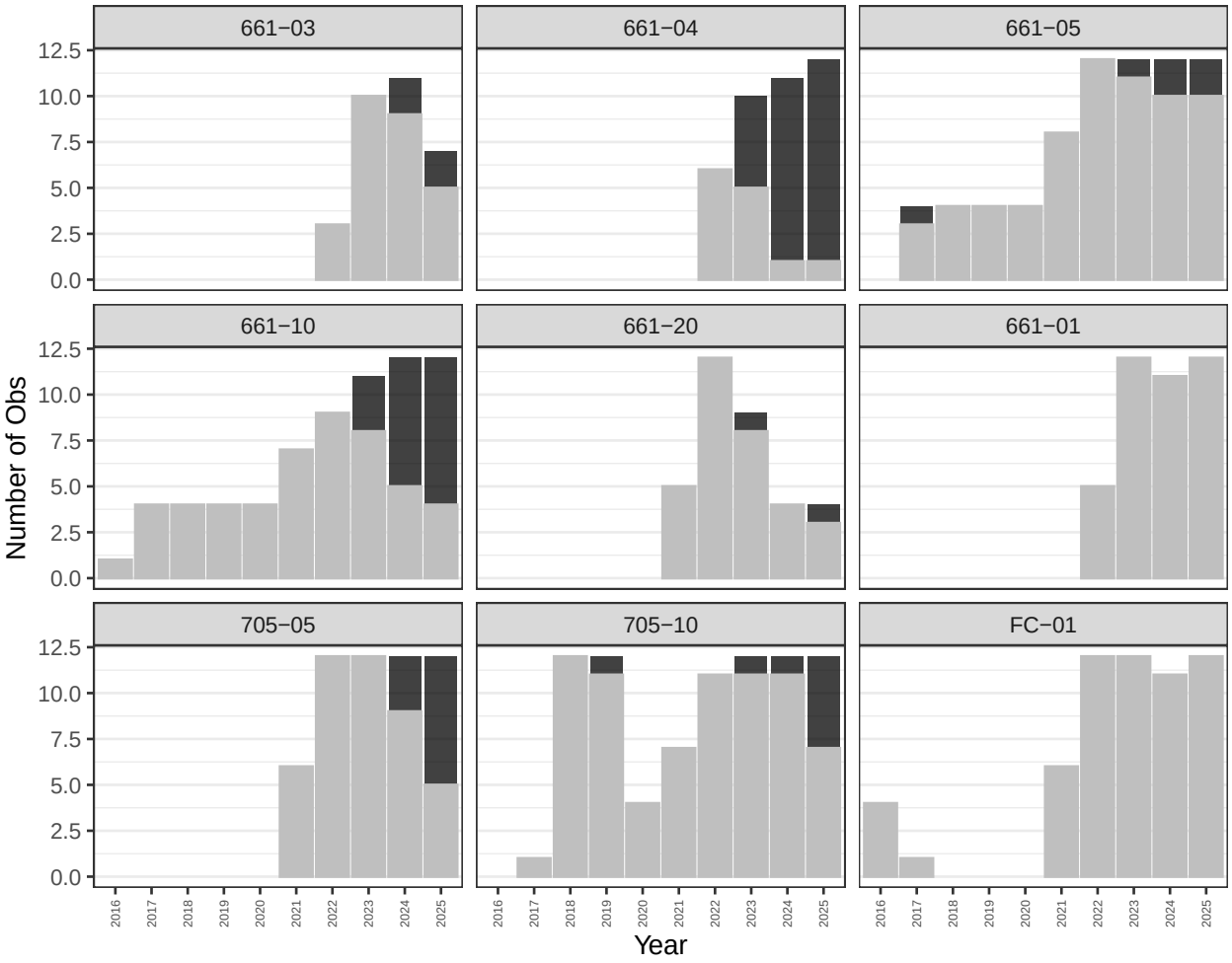
Final Summary Table

Variable	Total Dissolved Solids
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.5 Chloride

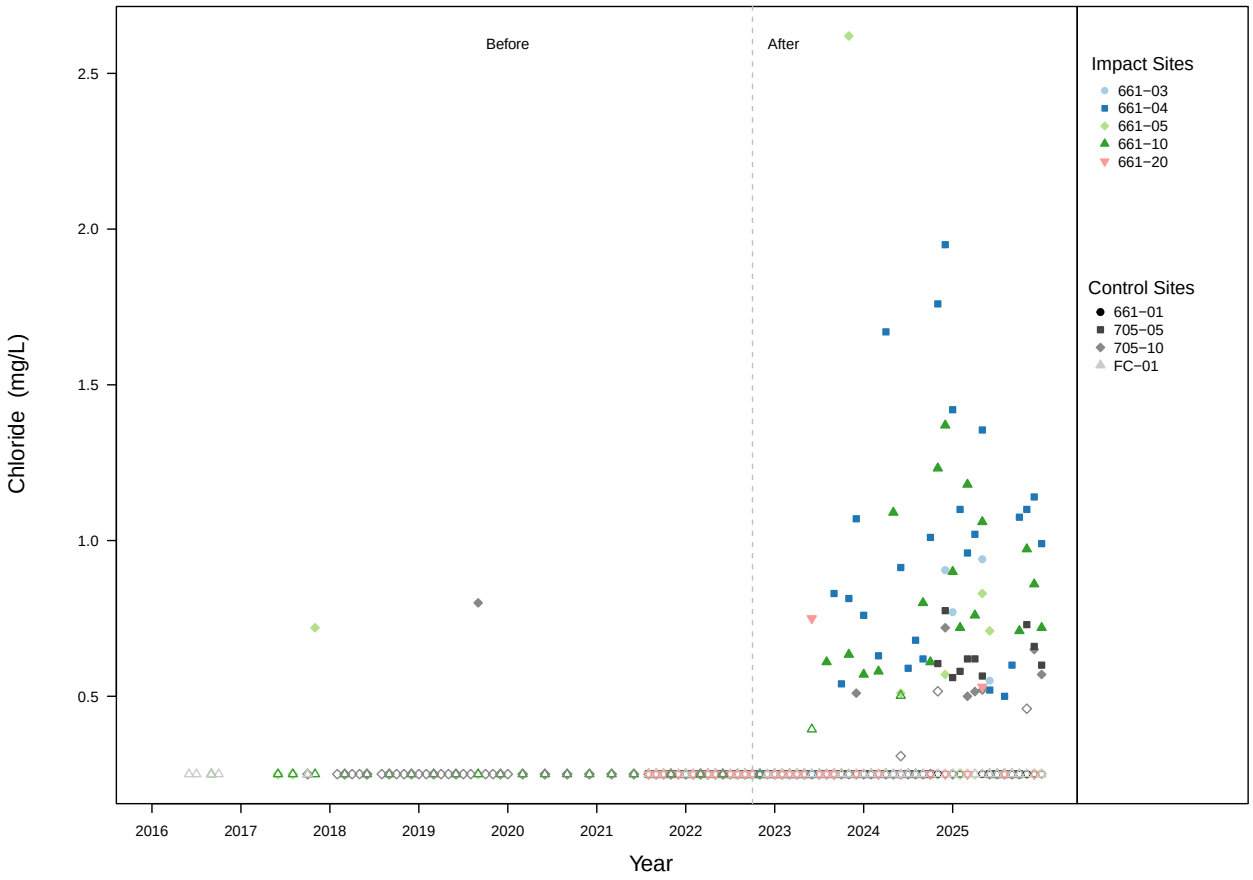
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

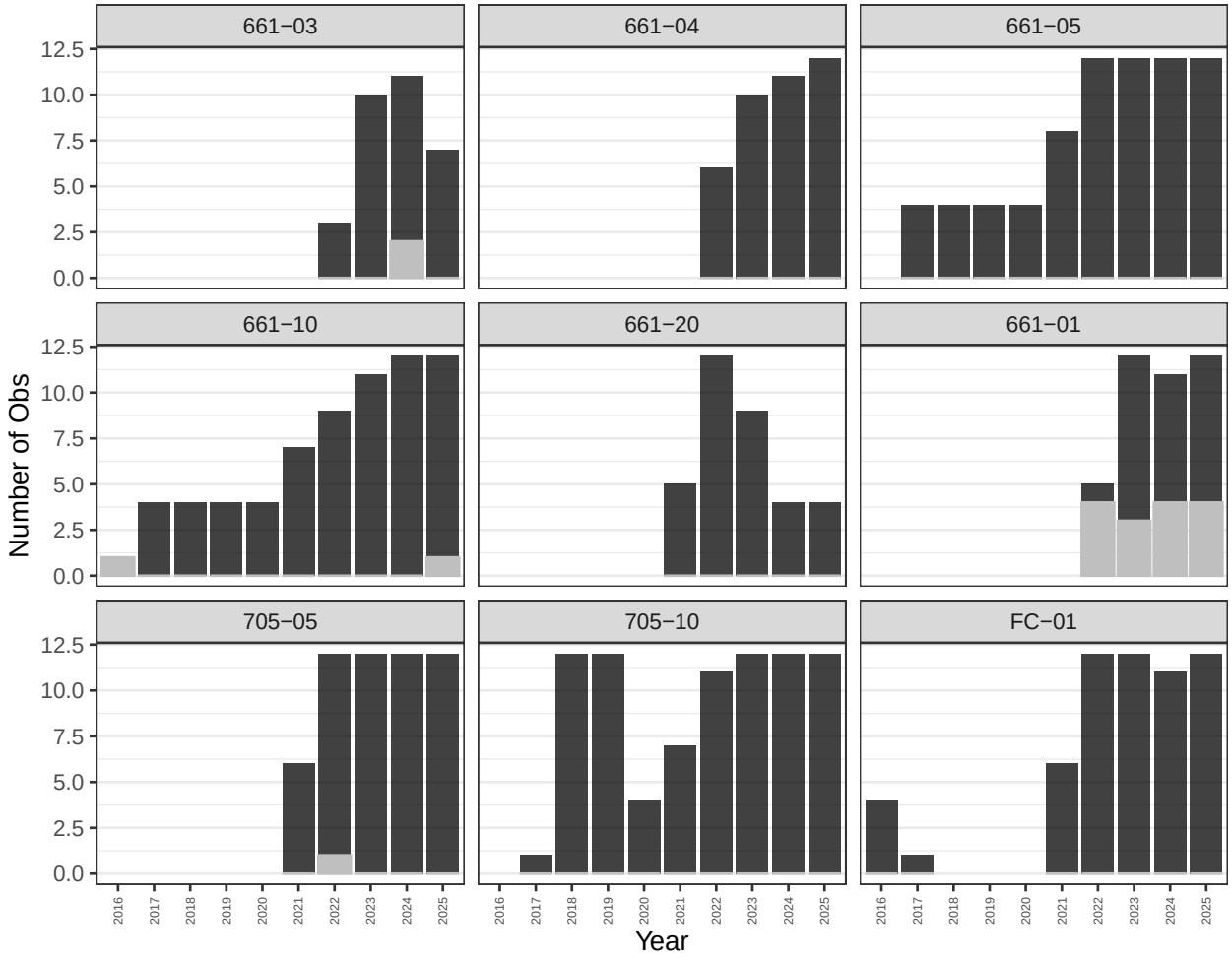
Variable	Chloride
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.6 Sulphate

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Creek 661	661-10	2016	impact	before	1
Creek 661	661-01	2022	control	before	5
Creek 661	661-01	2022	control	after	5

1.2 Sample Sizes for Modelling

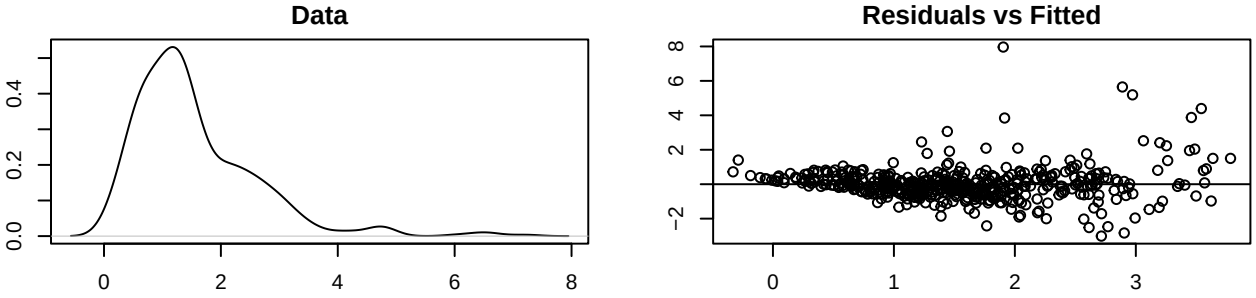
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	1.030	0.000
Creek 661	661-03	after	29	1.120	6.897
Creek 661	661-04	before	3	0.920	0.000
Creek 661	661-04	after	36	3.080	0.000
Creek 661	661-05	before	33	0.880	0.000
Creek 661	661-05	after	39	1.170	0.000
Creek 661	661-10	before	23	1.390	0.000
Creek 661	661-10	after	35	2.160	2.857
Creek 661	661-20	before	14	1.755	0.000
Creek 661	661-20	after	20	2.330	0.000
Creek 661	661-01	after	35	0.420	31.429
Creek 705 (Control)	705-05	before	15	0.560	6.667
Creek 705 (Control)	705-05	after	39	1.050	0.000
Creek 705 (Control)	705-10	before	45	1.090	0.000
Creek 705 (Control)	705-10	after	38	1.366	0.000
Fawnie Creek (Control)	FC-01	before	20	1.685	0.000
Fawnie Creek (Control)	FC-01	after	38	2.346	0.000

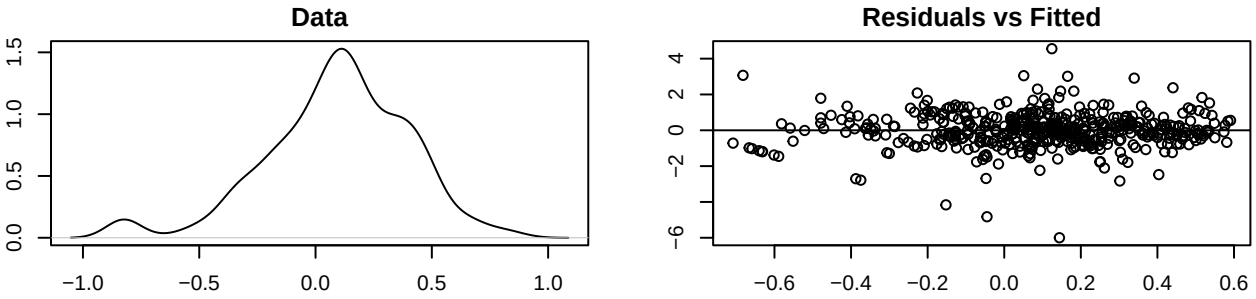
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-03	2025	11	impact	after	7.230	1.904	7.964	Y
Creek 661	661-10	2024	4	impact	after	6.665	2.889	5.646	Y
Creek 661	661-04	2024	5	impact	after	6.443	2.973	5.190	Y
Creek 661	661-04	2024	11	impact	after	6.480	3.541	4.394	Y
Creek 661	661-04	2024	12	impact	after	6.050	3.459	3.874	Y
Creek 661	661-03	2024	1	impact	after	4.485	1.915	3.843	Y
Creek 661	661-10	2023	7	impact	after	3.490	1.442	3.063	Y
Creek 661	661-04	2025	8	impact	after	0.700	2.715	-3.013	Y

Outliers on log scale:

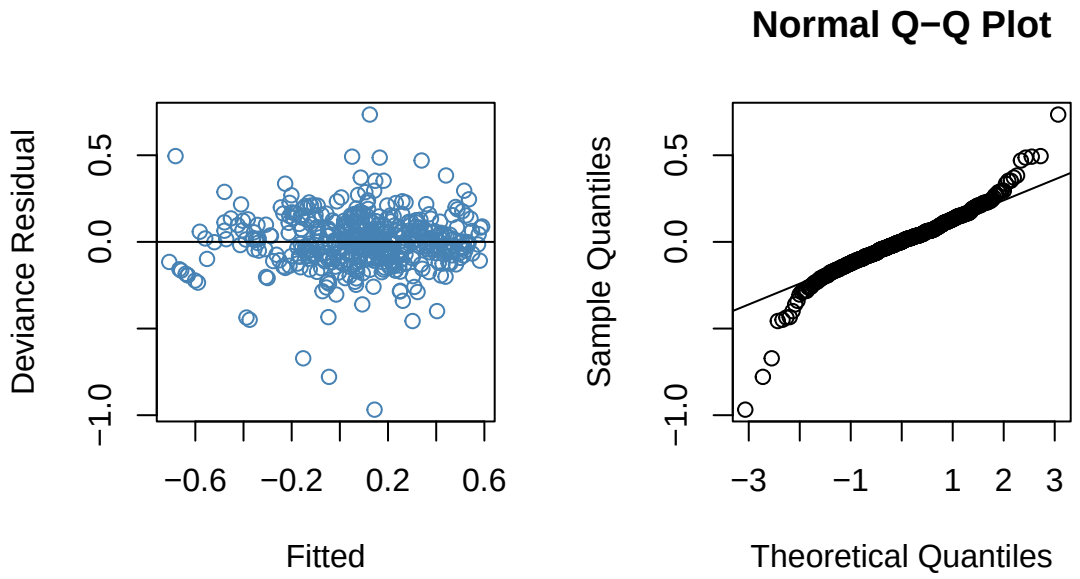
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-10	2025	8	impact	after	-0.8239	0.1441	-5.999	N
Creek 661	661-03	2024	5	impact	after	-0.8239	-0.0451	-4.827	N
Creek 661	661-03	2025	11	impact	after	0.8591	0.1243	4.554	Y
Creek 661	661-03	2024	6	impact	after	-0.8239	-0.1522	-4.163	N
Creek 661	661-01	2023	7	control	after	-0.1871	-0.6822	3.068	Y
Creek 661	661-10	2023	7	impact	after	0.5428	0.0510	3.048	Y
Creek 661	661-03	2024	1	impact	after	0.6518	0.1655	3.014	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.049476	0.049476	1	7.016	1.9001	0.2100	
period	0.268256	0.268256	1	14.877	10.3024	0.0059	
class:period	0.006239	0.006239	1	442.889	0.2396	0.6250	0.64

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
464	0.1465	76%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

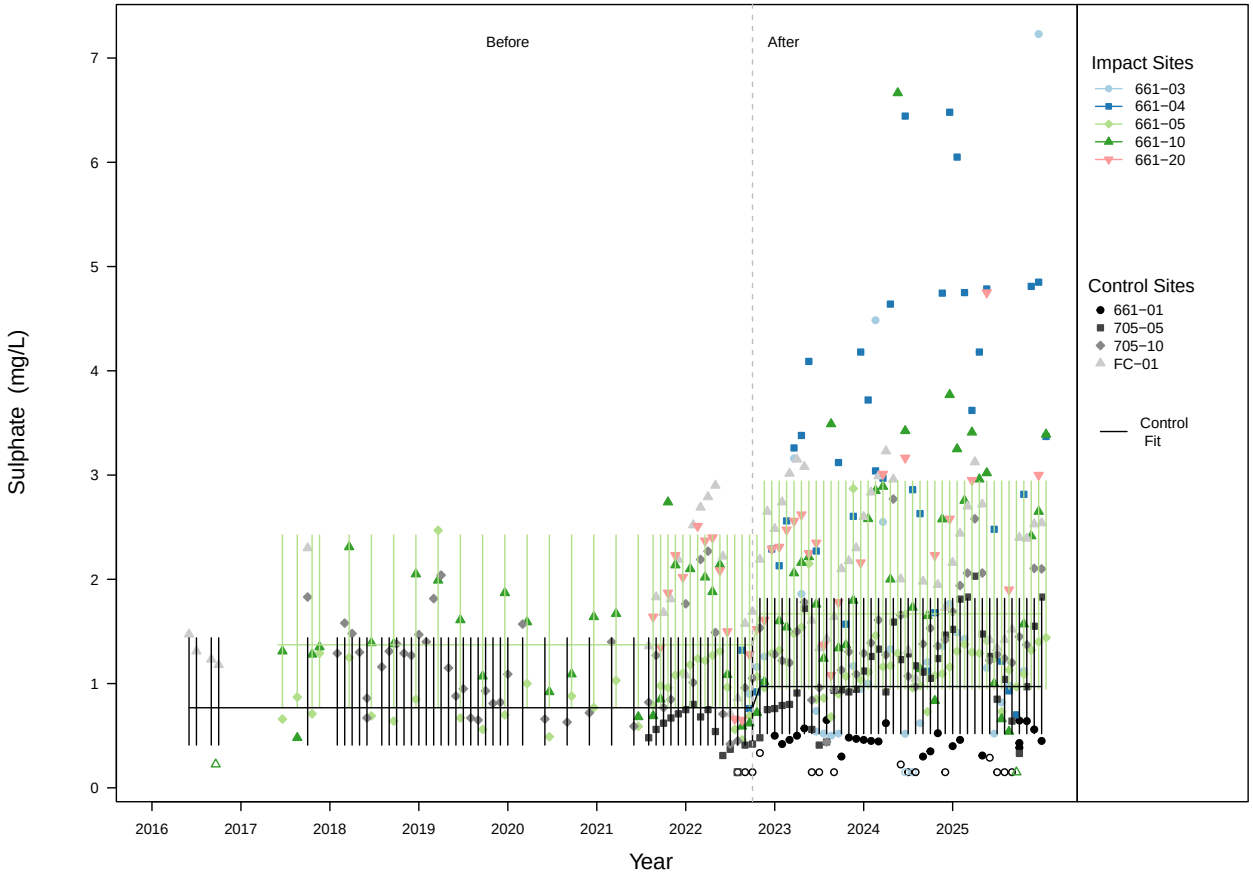
Impact vs.	Estimate	Significance
control sites	-0.0169	not significant

Conclusion:

The change in Sulphate concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p* = 0.64) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

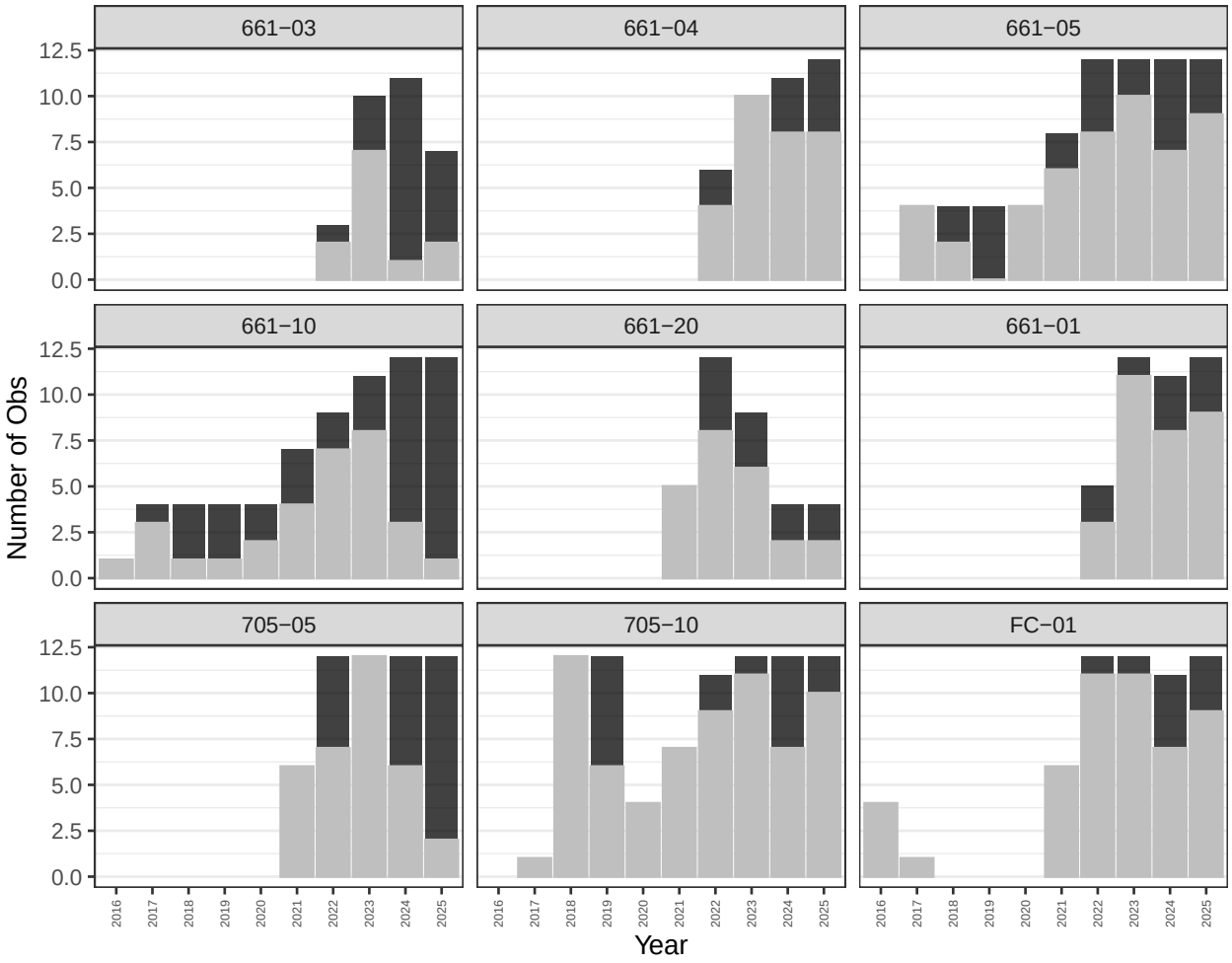
Final Summary Table

Variable	Sulphate
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.2.7 Ammonia

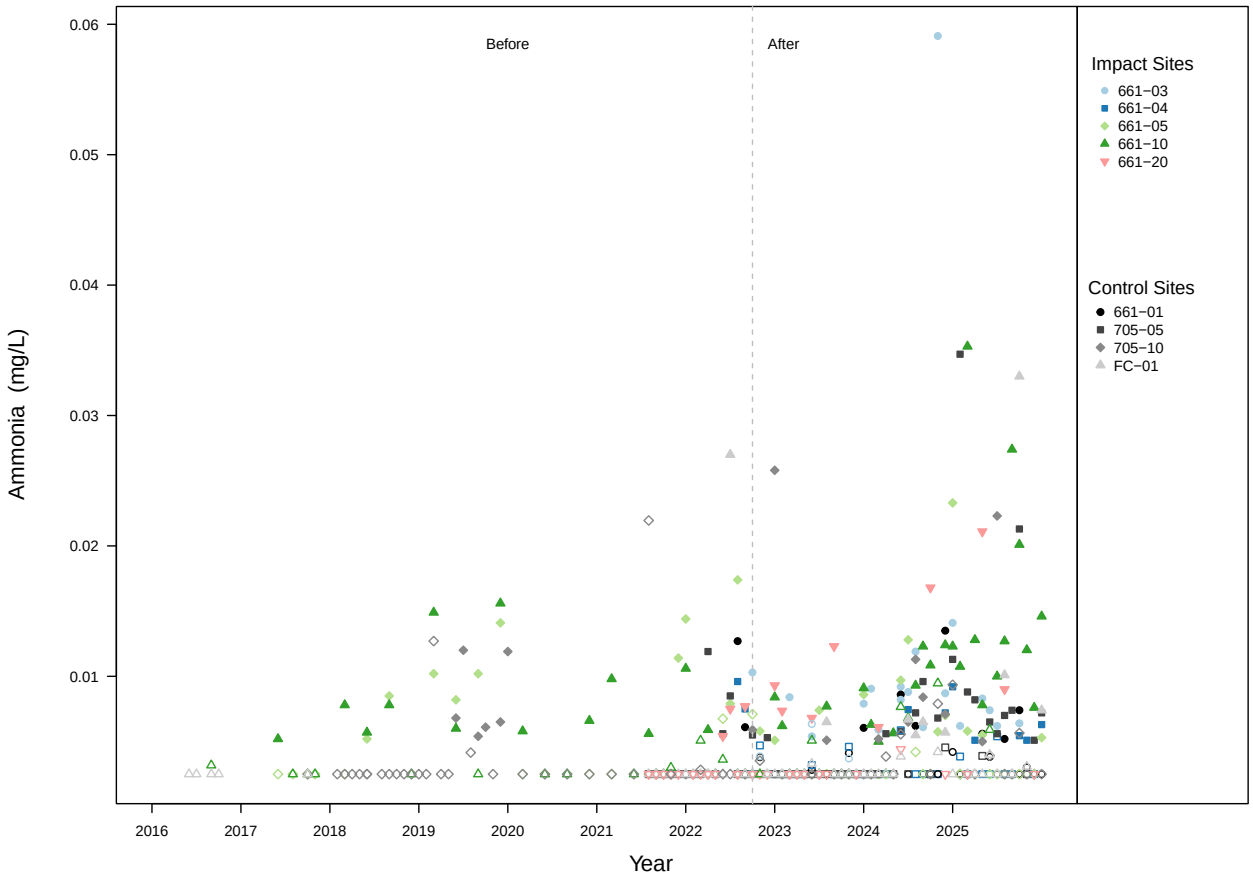
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

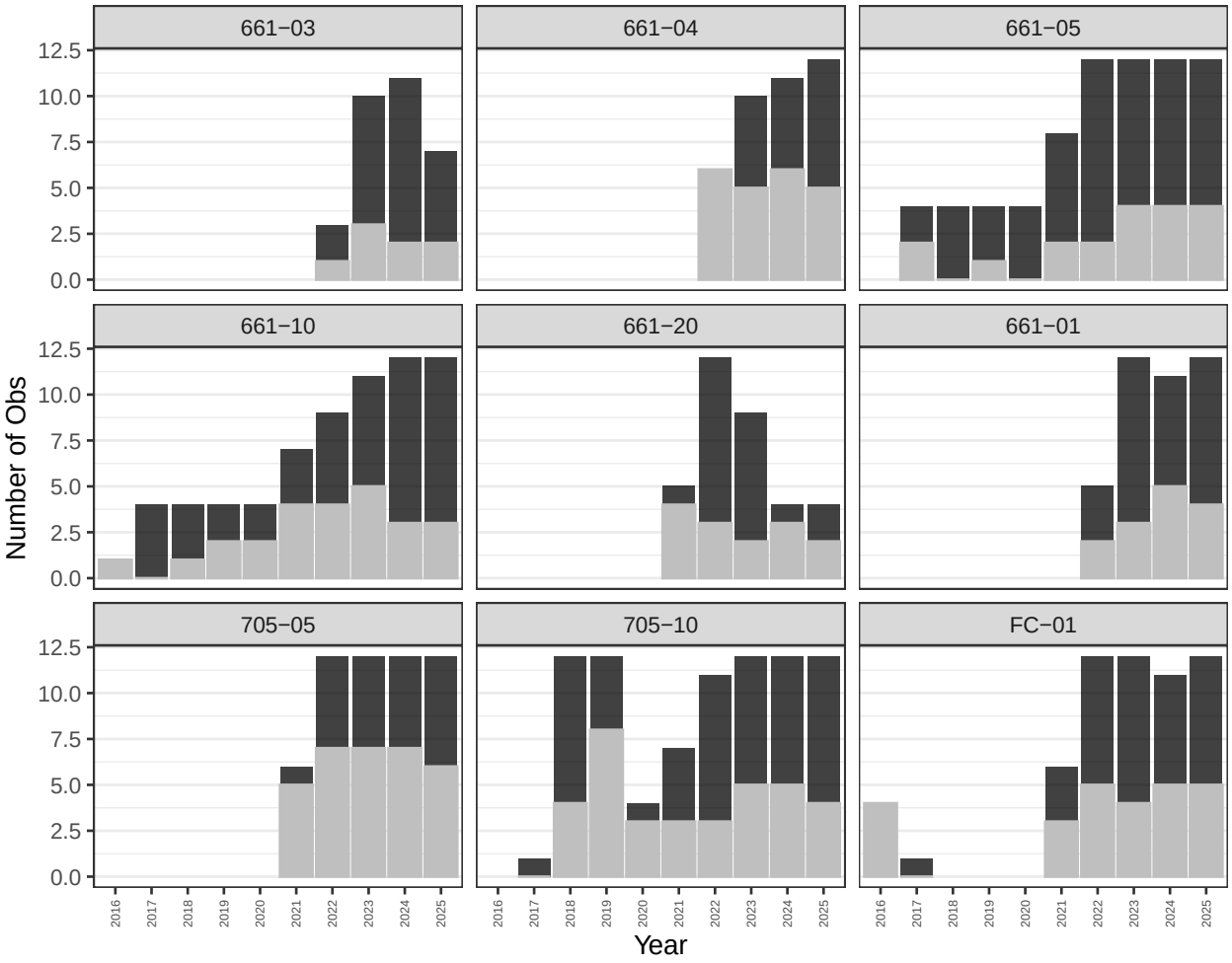
Final Summary Table

Variable	Ammonia
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.8 Nitrate-N

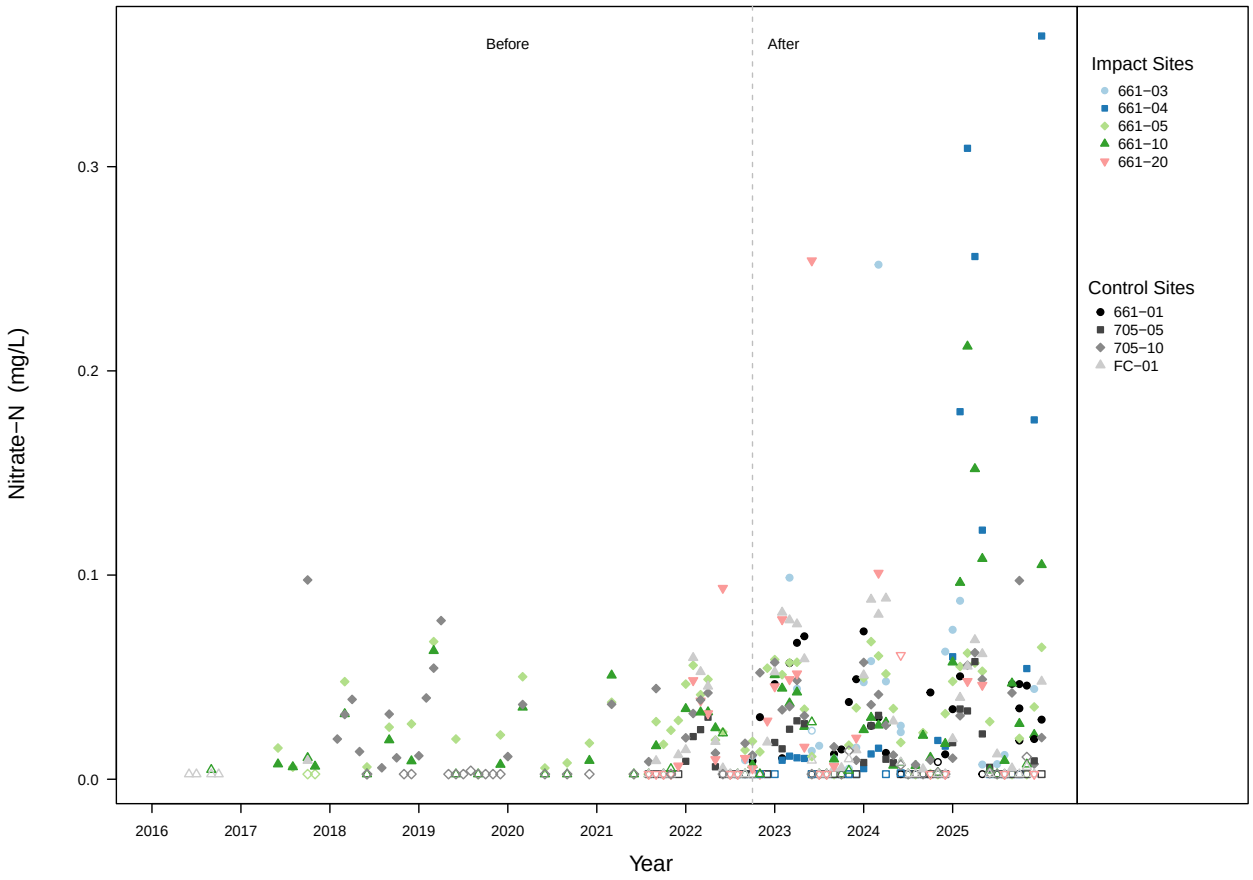
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

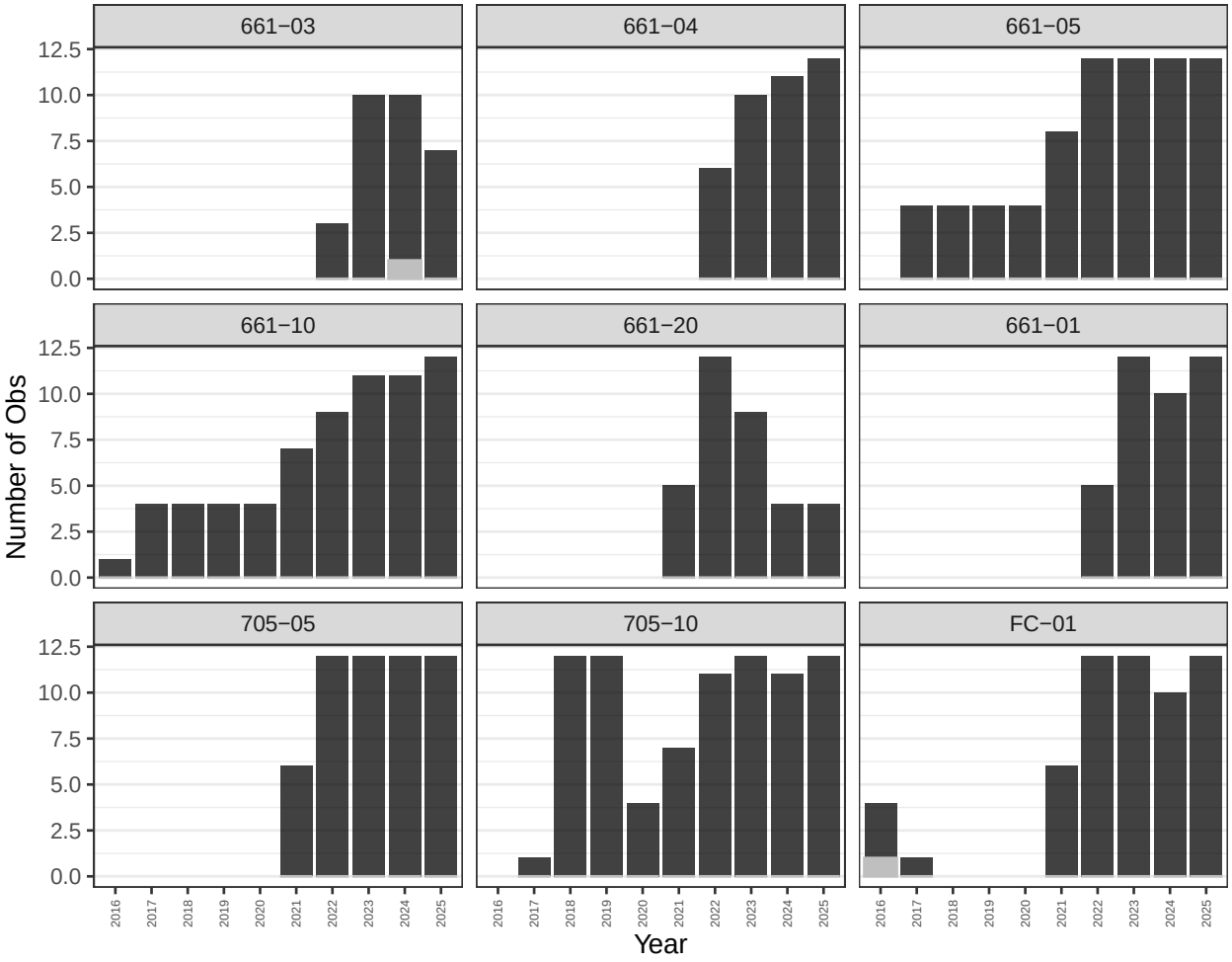
Variable	Nitrate-N
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.9 Total Phosphorus

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

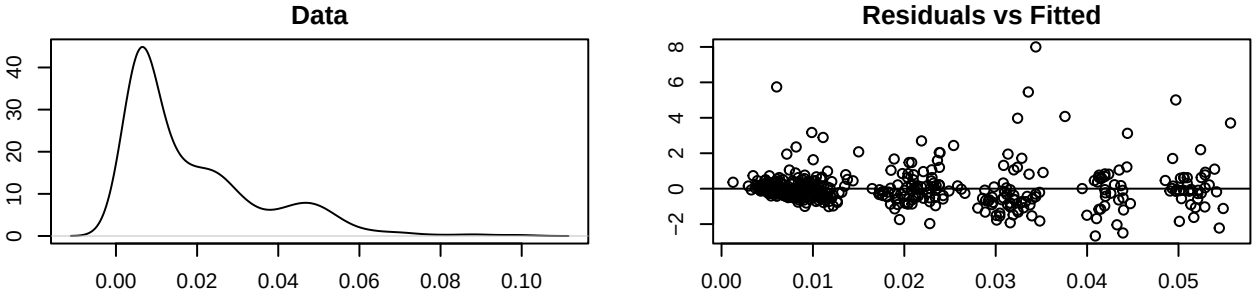
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0034	0.000
Creek 661	661-03	after	28	0.0078	3.571
Creek 661	661-04	before	3	0.0107	0.000
Creek 661	661-04	after	36	0.0168	0.000
Creek 661	661-05	before	33	0.0415	0.000
Creek 661	661-05	after	39	0.0507	0.000
Creek 661	661-10	before	31	0.0216	0.000
Creek 661	661-10	after	36	0.0256	0.000
Creek 661	661-20	before	14	0.0255	0.000
Creek 661	661-20	after	20	0.0270	0.000
Creek 661	661-01	before	3	0.0062	0.000
Creek 661	661-01	after	36	0.0052	0.000
Creek 705 (Control)	705-05	before	15	0.0079	0.000
Creek 705 (Control)	705-05	after	39	0.0084	0.000
Creek 705 (Control)	705-10	before	45	0.0059	0.000
Creek 705 (Control)	705-10	after	37	0.0061	0.000
Fawnie Creek (Control)	FC-01	before	20	0.0043	5.000
Fawnie Creek (Control)	FC-01	after	37	0.0059	0.000

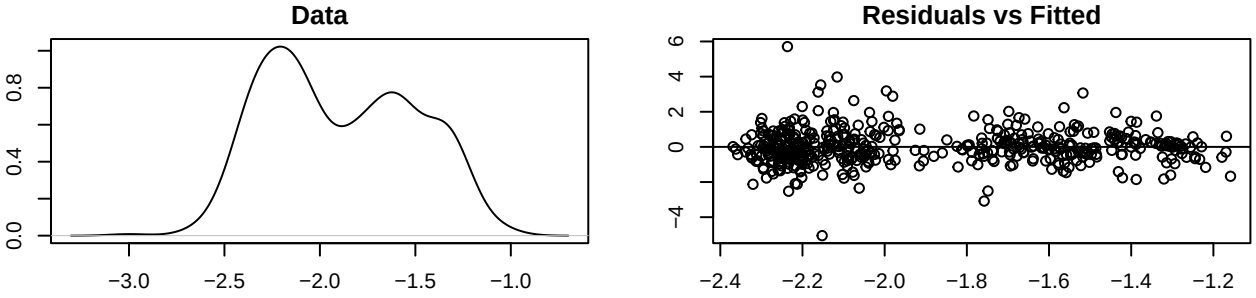
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-10	2025	8	impact	after	0.0994	0.0344	8.000	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0527	0.0060	5.742	Y
Creek 661	661-20	2023	5	impact	after	0.0779	0.0336	5.455	Y
Creek 661	661-05	2023	11	impact	after	0.0904	0.0497	5.007	Y
Creek 661	661-20	2025	4	impact	after	0.0707	0.0376	4.075	Y
Creek 661	661-10	2025	9	impact	after	0.0647	0.0324	3.975	Y
Creek 661	661-05	2025	4	impact	after	0.0858	0.0557	3.705	Y
Creek 661	661-03	2024	1	impact	after	0.0356	0.0099	3.171	Y
Creek 661	661-05	2018	8	impact	before	0.0698	0.0444	3.123	Y

Outliers on log scale:

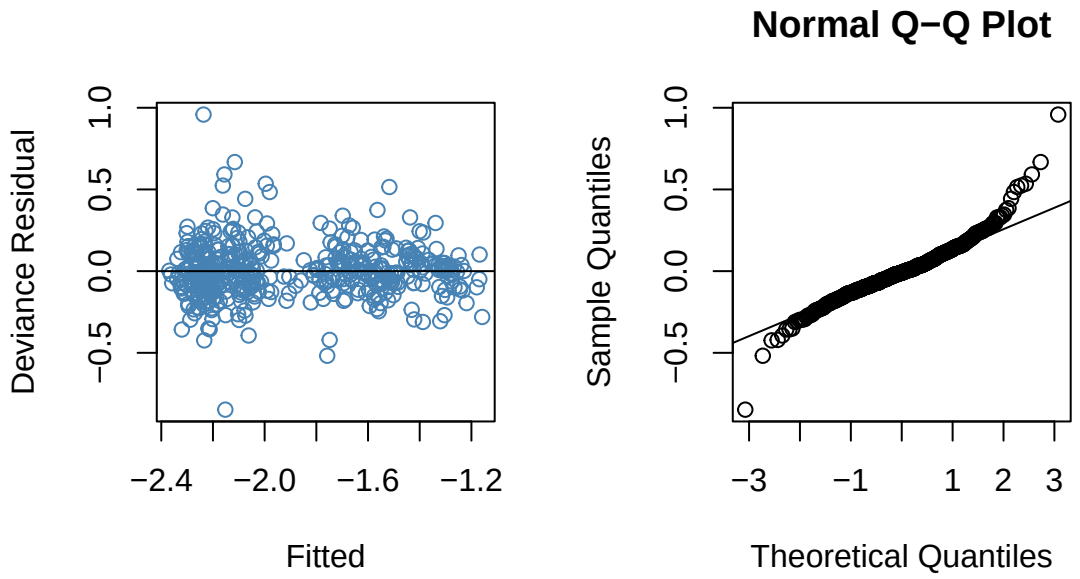
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	-1.278	-2.237	5.709	Y
Creek 661	661-03	2024	10	impact	after	-3.000	-2.152	-5.051	N
Creek 661	661-03	2024	1	impact	after	-1.448	-2.116	3.977	Y
Creek 705 (Control)	705-10	2024	3	control	after	-1.564	-2.156	3.525	Y
Creek 705 (Control)	705-05	2024	3	control	after	-1.461	-1.996	3.186	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-1.638	-2.162	3.119	Y
Creek 661	661-10	2017	7	impact	before	-2.276	-1.758	-3.085	Y
Creek 661	661-10	2025	8	impact	after	-1.003	-1.517	3.067	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.2577	0.2577	1	7.015	9.142	0.0192	
period	0.1400	0.1400	1	22.071	4.969	0.0363	
class:period	0.2122	0.2122	1	452.701	7.529	0.0063	0.0104

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
474	0.7227	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

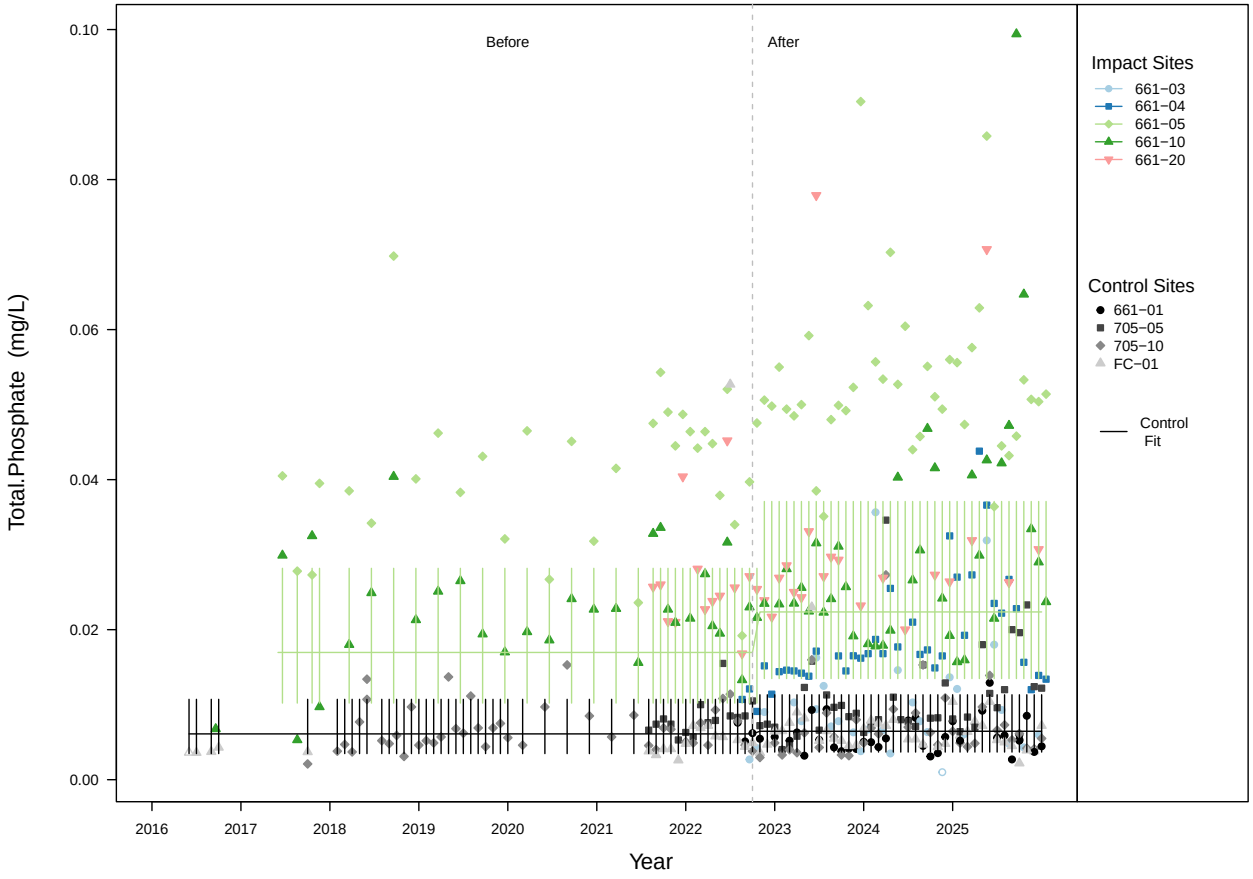
Impact vs.	Estimate	Significance
control sites	0.0958	significant

Conclusion:

The change in Total.Phosphate concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 0.0104) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

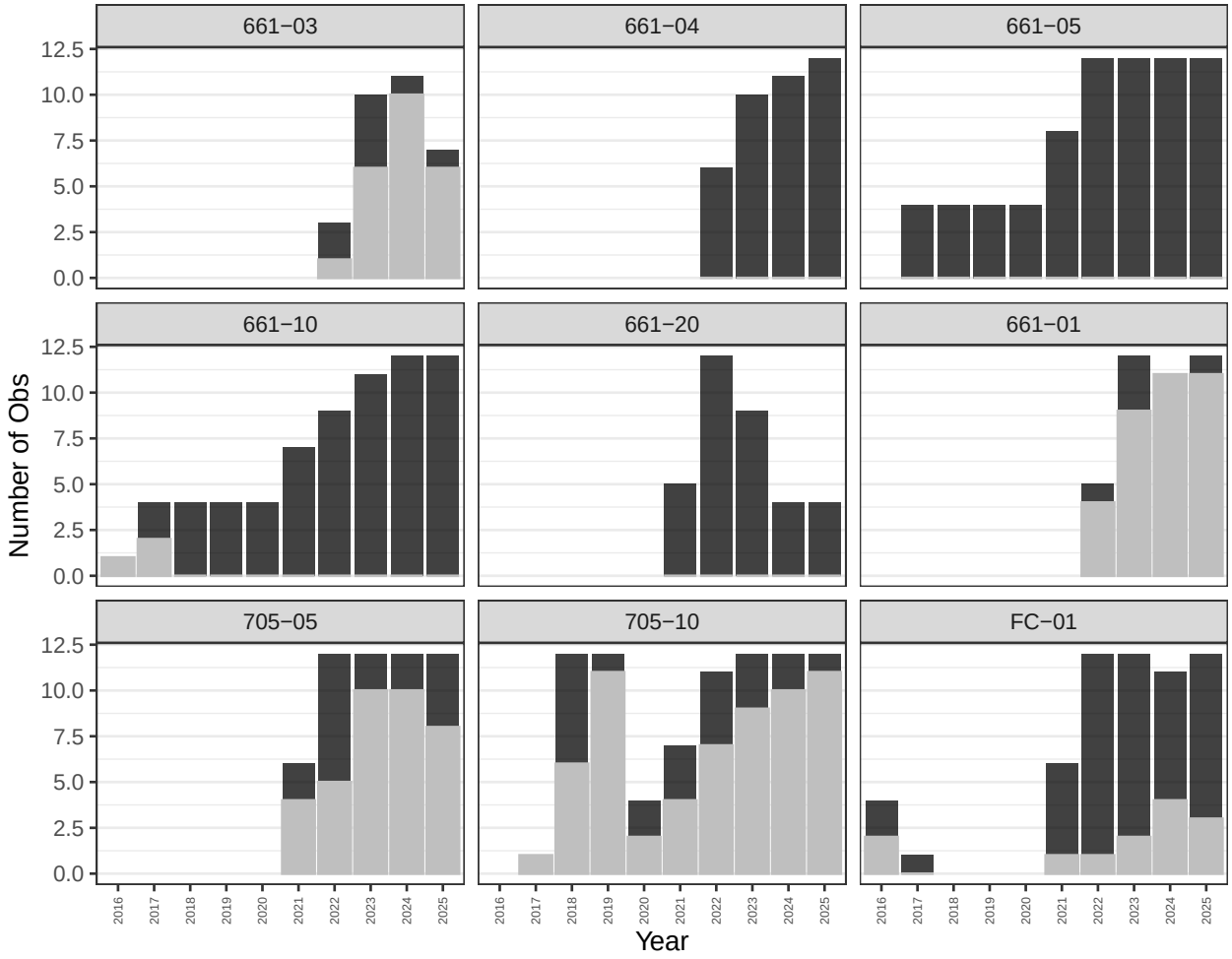
Variable	Total.Phosphate
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.10 Orthophosphate

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Creek 661	661-10	2016	impact	before	1
Creek 661	661-01	2022	control	before	5
Creek 661	661-01	2022	control	after	5
Creek 661	661-01	2023	control	after	12
Creek 661	661-01	2024	control	after	11
Creek 661	661-01	2025	control	after	12
Creek 705 (Control)	705-05	2021	control	before	6

(Continued on Next Page...)

(continued)

Watershed	Site	Year	Class	Period	#Obs Removed
Creek 705 (Control)	705-05	2023	control	after	12
Creek 705 (Control)	705-05	2024	control	after	12
Creek 705 (Control)	705-05	2025	control	after	12
Creek 705 (Control)	705-10	2017	control	before	1
Creek 705 (Control)	705-10	2019	control	before	12
Creek 705 (Control)	705-10	2021	control	before	7
Creek 705 (Control)	705-10	2022	control	before	11
Creek 705 (Control)	705-10	2022	control	after	11
Creek 705 (Control)	705-10	2023	control	after	12
Creek 705 (Control)	705-10	2024	control	after	12
Creek 705 (Control)	705-10	2025	control	after	12

1.2 Sample Sizes for Modelling

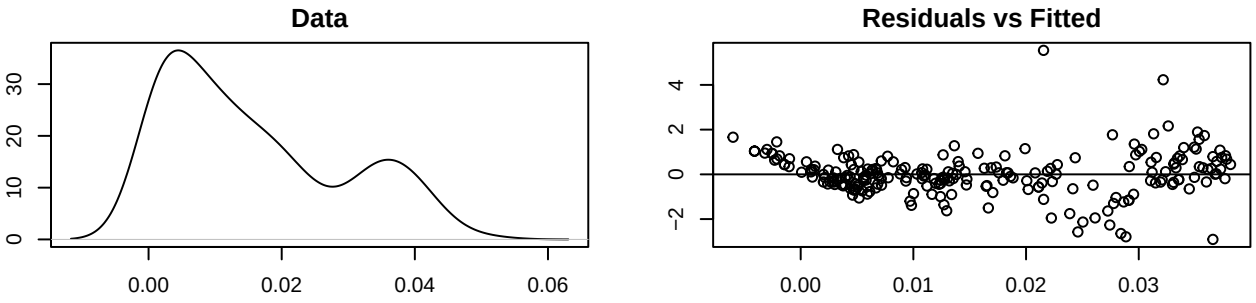
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-04	before	3	0.0098	0.00
Creek 661	661-04	after	36	0.0104	0.00
Creek 661	661-05	before	33	0.0315	0.00
Creek 661	661-05	after	39	0.0368	0.00
Creek 661	661-10	before	8	0.0120	0.00
Creek 661	661-20	before	14	0.0158	0.00
Creek 661	661-20	after	20	0.0186	0.00
Creek 705 (Control)	705-10	before	16	0.0014	50.00
Fawnie Creek (Control)	FC-01	before	20	0.0028	20.00
Fawnie Creek (Control)	FC-01	after	38	0.0029	23.68

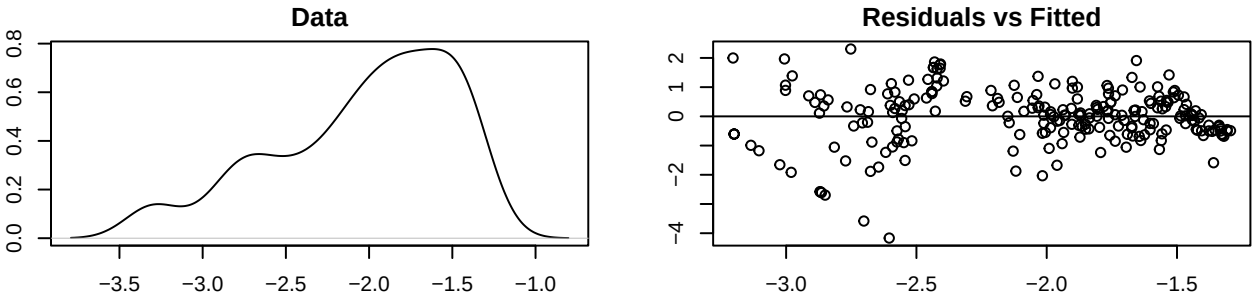
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-20	2025	4	impact	after	0.0461	0.0216	5.543	Y
Creek 661	661-05	2018	8	impact	before	0.0509	0.0322	4.229	Y

Outliers on log scale:

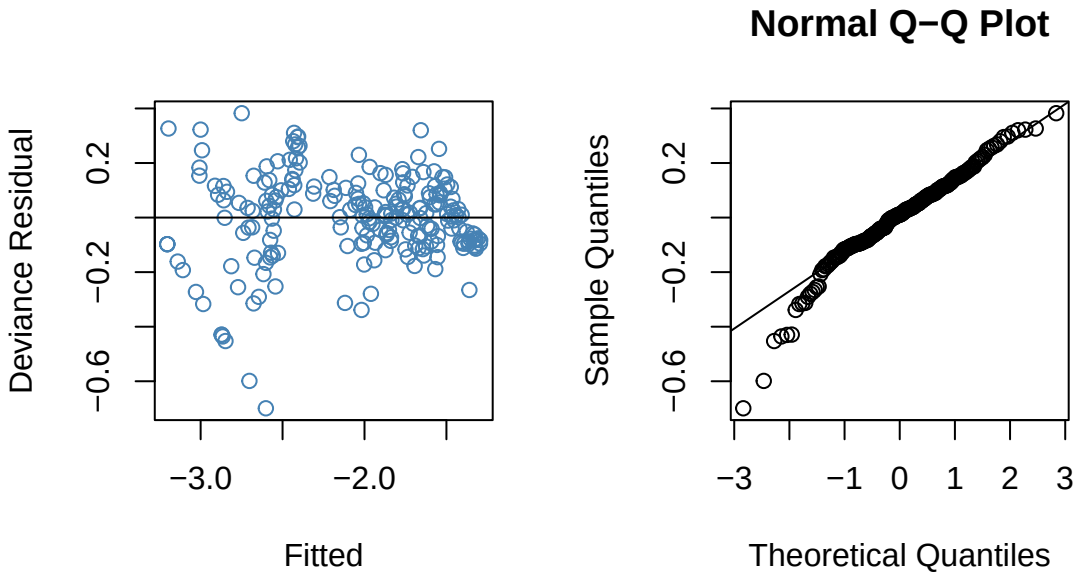
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2021	12	control	before	-3.301	-2.604	-4.166	N
Fawnie Creek (Control)	FC-01	2024	7	control	after	-3.301	-2.702	-3.583	N

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.41983	0.41983	1	3.008	14.955	0.0304	
period	0.10208	0.10208	1	16.399	3.636	0.0742	
class:period	0.03135	0.03135	1	202.813	1.117	0.2920	0.33

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
227	1.786	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-04, 661-05, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

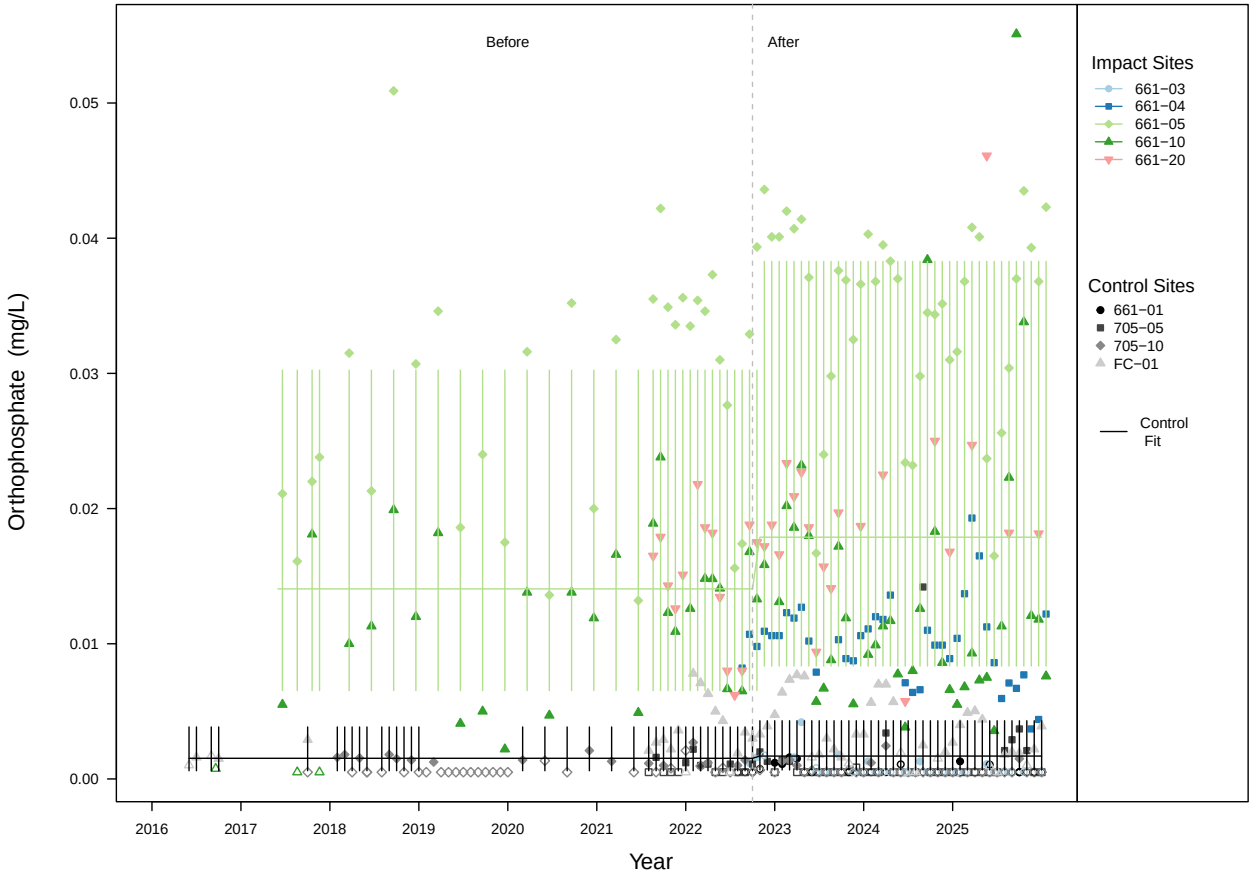
Impact vs.	Estimate	Significance
control sites	0.06	not significant

Conclusion:

The change in Orthophosphate concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p* = 0.33) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

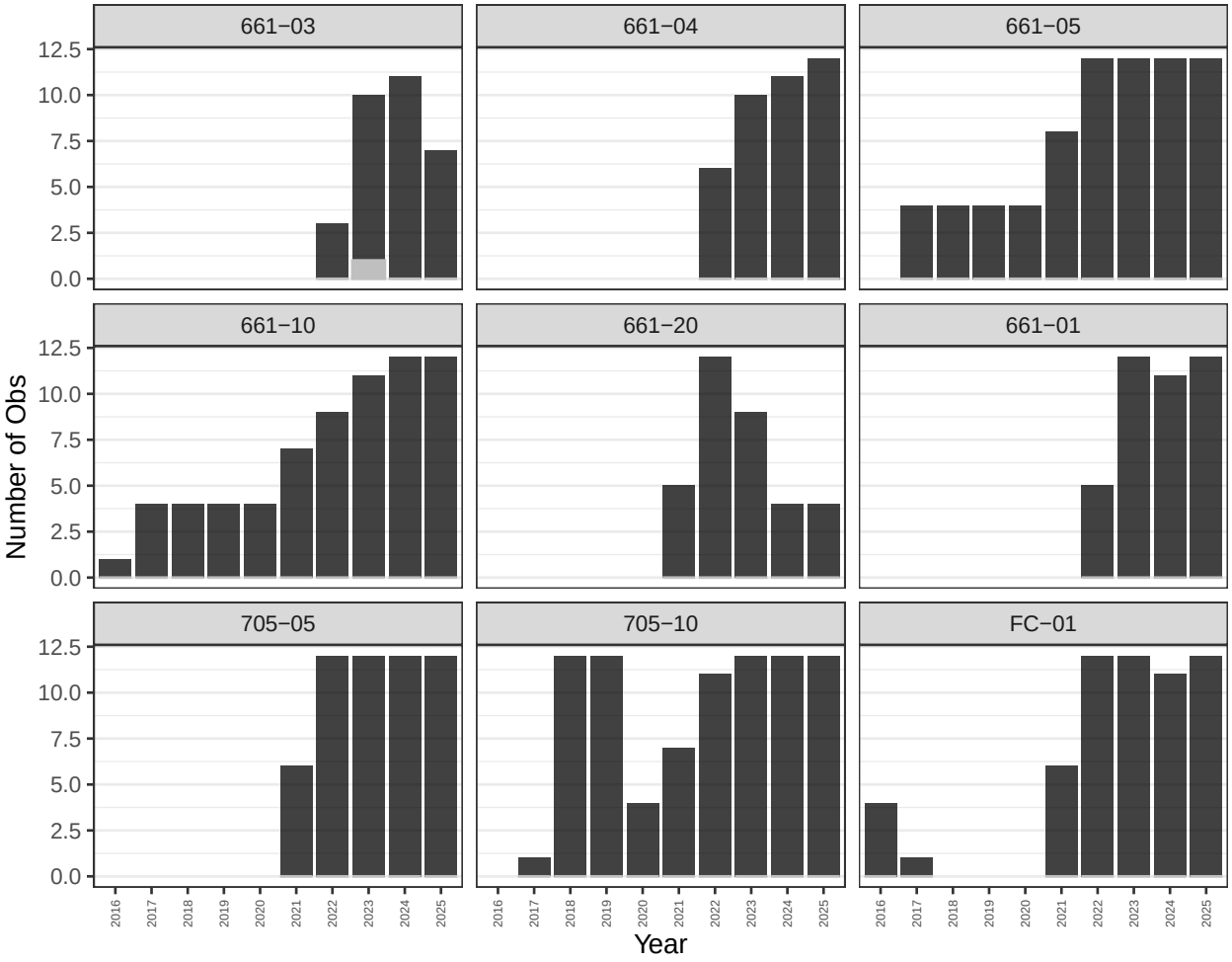
Variable	Orthophosphate
Watershed	Creek 661
Waterbody	Stream
Streams Removed	661-03, 661-03, 661-01, 705-05, 661-10
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.2.11 Total Aluminum

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

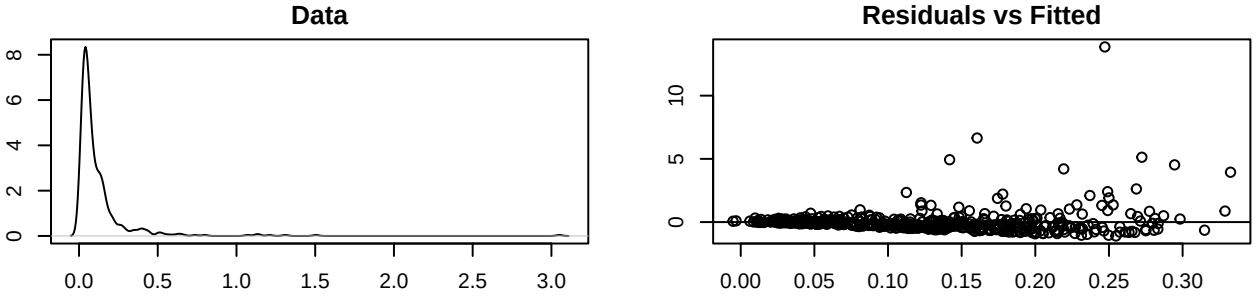
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0204	0.000
Creek 661	661-03	after	29	0.0720	3.448
Creek 661	661-04	before	3	0.0510	0.000
Creek 661	661-04	after	36	0.0846	0.000
Creek 661	661-05	before	33	0.0573	0.000
Creek 661	661-05	after	39	0.1030	0.000
Creek 661	661-10	before	31	0.0850	0.000
Creek 661	661-10	after	37	0.1110	0.000
Creek 661	661-20	before	14	0.0464	0.000
Creek 661	661-20	after	20	0.0252	0.000
Creek 661	661-01	before	3	0.0550	0.000
Creek 661	661-01	after	37	0.0581	0.000
Creek 705 (Control)	705-05	before	15	0.0940	0.000
Creek 705 (Control)	705-05	after	39	0.0575	0.000
Creek 705 (Control)	705-10	before	45	0.0944	0.000
Creek 705 (Control)	705-10	after	38	0.0608	0.000
Fawnie Creek (Control)	FC-01	before	20	0.0237	0.000
Fawnie Creek (Control)	FC-01	after	38	0.0172	0.000

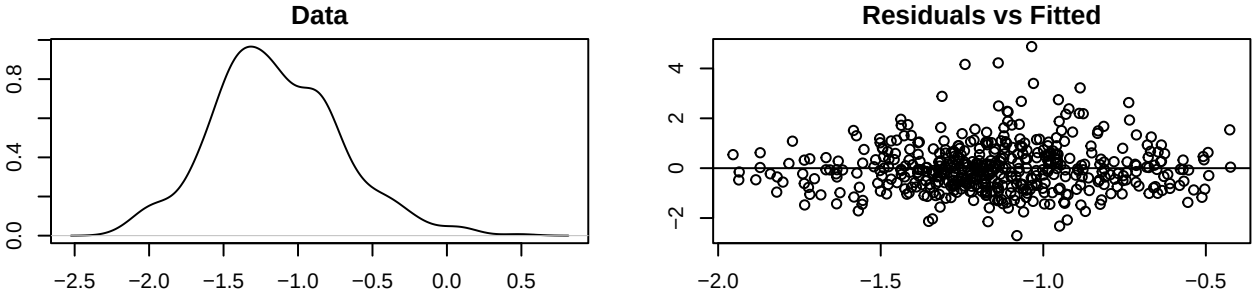
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	3.050	0.2472	13.853	Y
Creek 661	661-03	2024	1	impact	after	1.505	0.1605	6.645	Y
Creek 661	661-05	2024	3	impact	after	1.310	0.2724	5.129	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	1.140	0.1418	4.934	Y
Creek 661	661-05	2025	4	impact	after	1.210	0.2946	4.525	Y
Creek 661	661-04	2025	3	impact	after	1.070	0.2193	4.205	Y
Creek 661	661-05	2024	5	impact	after	1.130	0.3325	3.942	Y

Outliers on log scale:

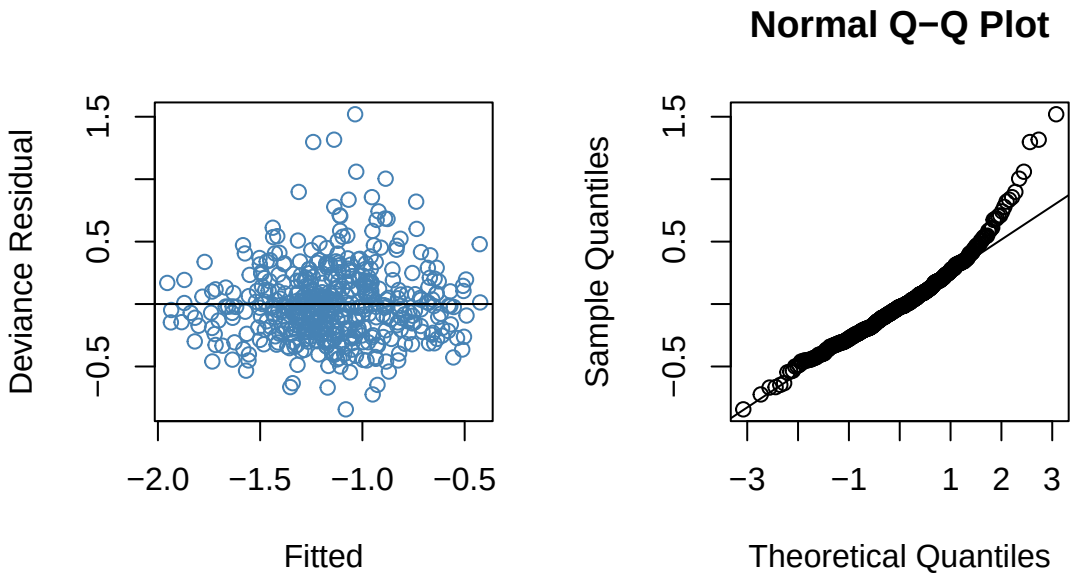
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	0.4843	-1.0357	4.877	Y
Creek 661	661-03	2024	1	impact	after	0.1775	-1.1386	4.223	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0569	-1.2405	4.163	Y
Creek 661	661-04	2025	3	impact	after	0.0294	-1.0302	3.400	Y
Creek 661	661-05	2024	3	impact	after	0.1173	-0.8865	3.221	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.07707	0.07707	1	7.087	0.7935	0.402	
period	0.43358	0.43358	1	36.667	4.4640	0.0415	
class:period	1.66282	1.66282	1	460.728	17.1199	<0.001	9.44e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.0766	26%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

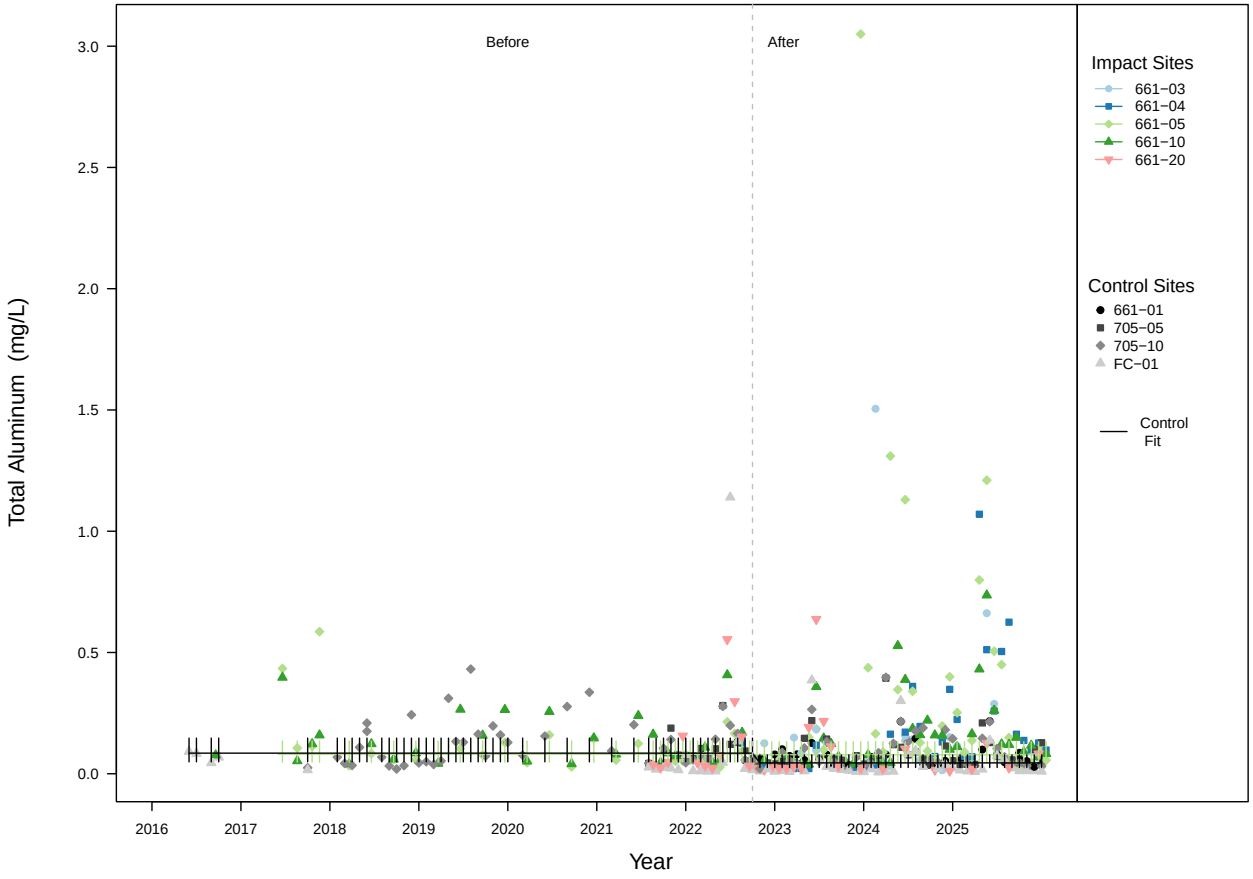
Impact vs.	Estimate	Significance
control sites	0.2676	significant

Conclusion:

The change in Total Aluminum concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 9.44×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class*:*period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

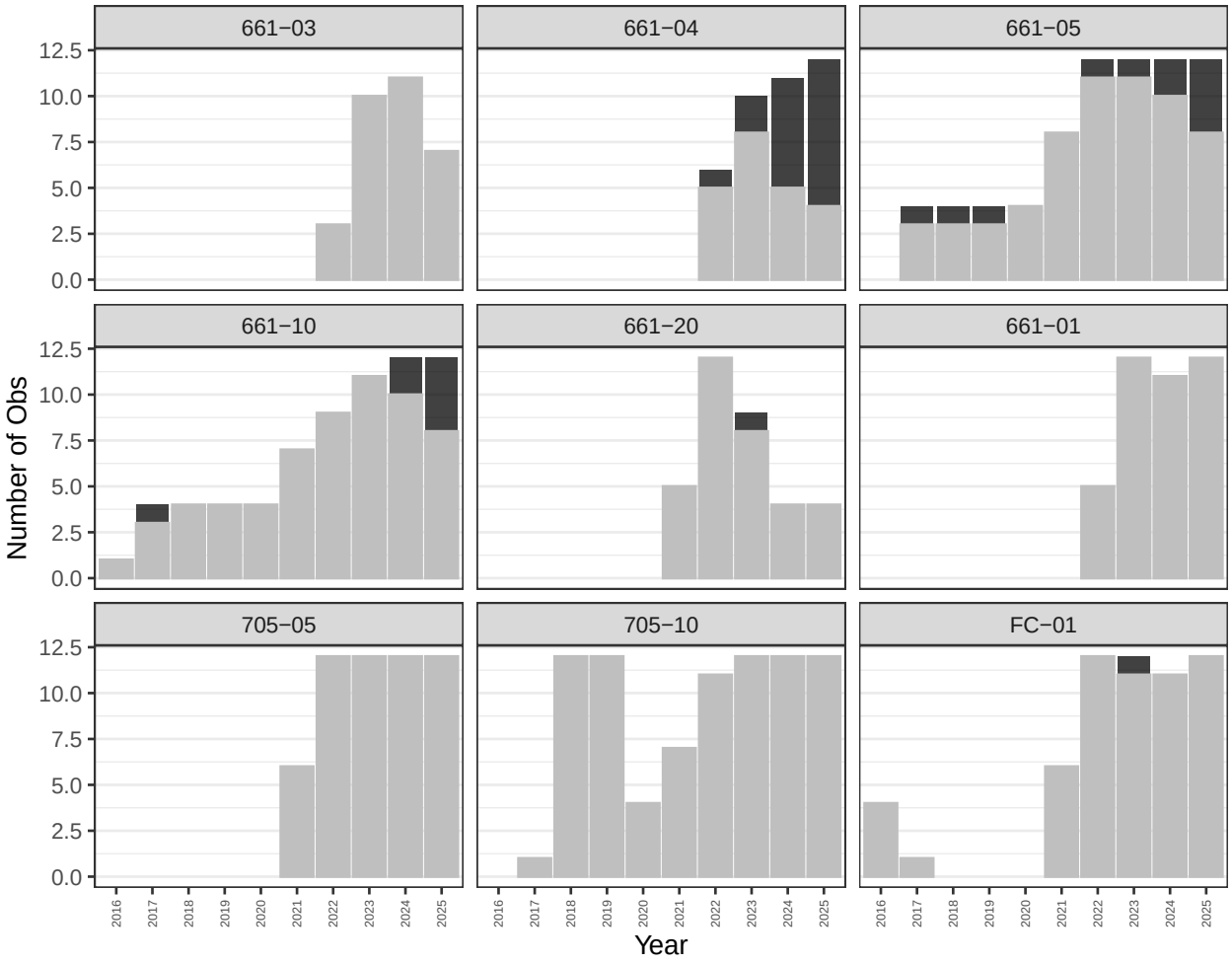
Final Summary Table

Variable	Total Aluminum
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.12 Total Antimony

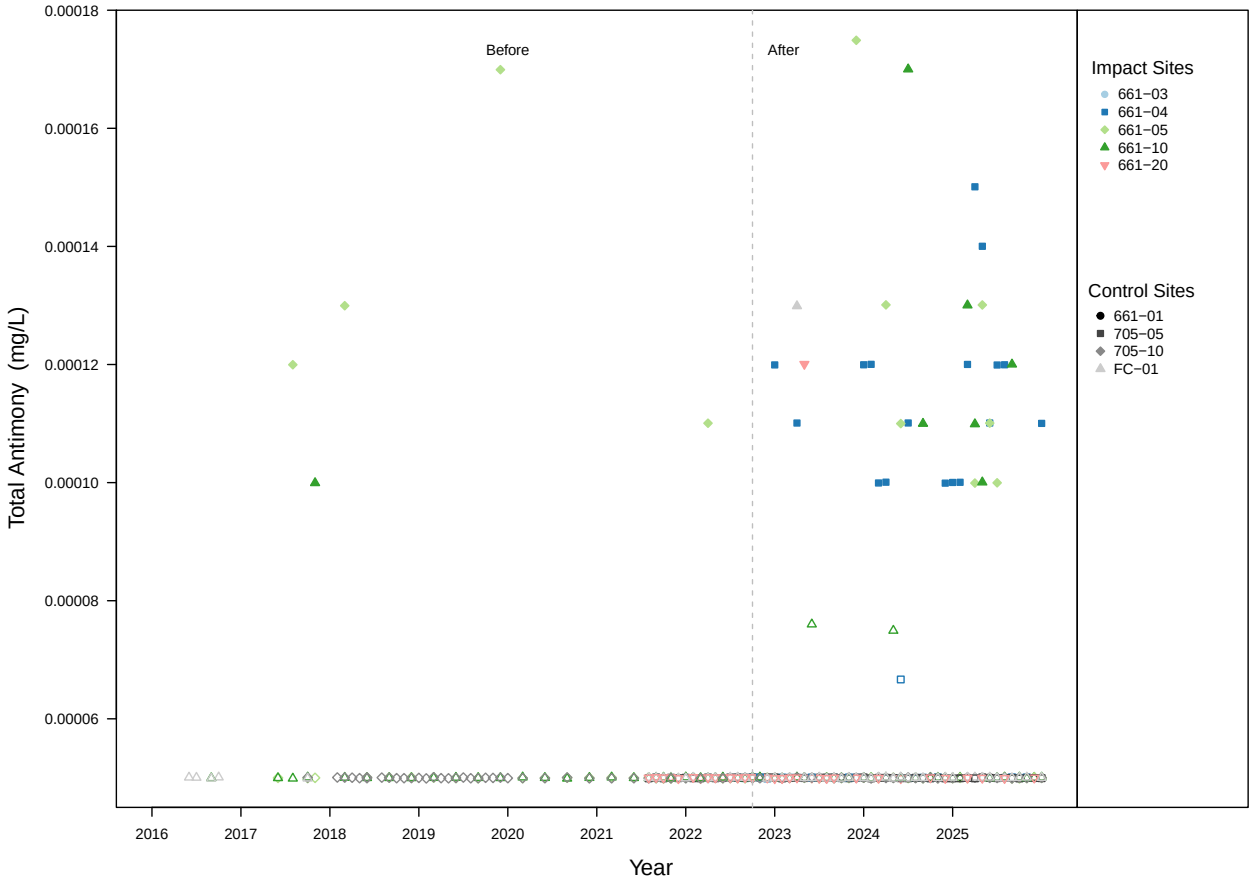
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

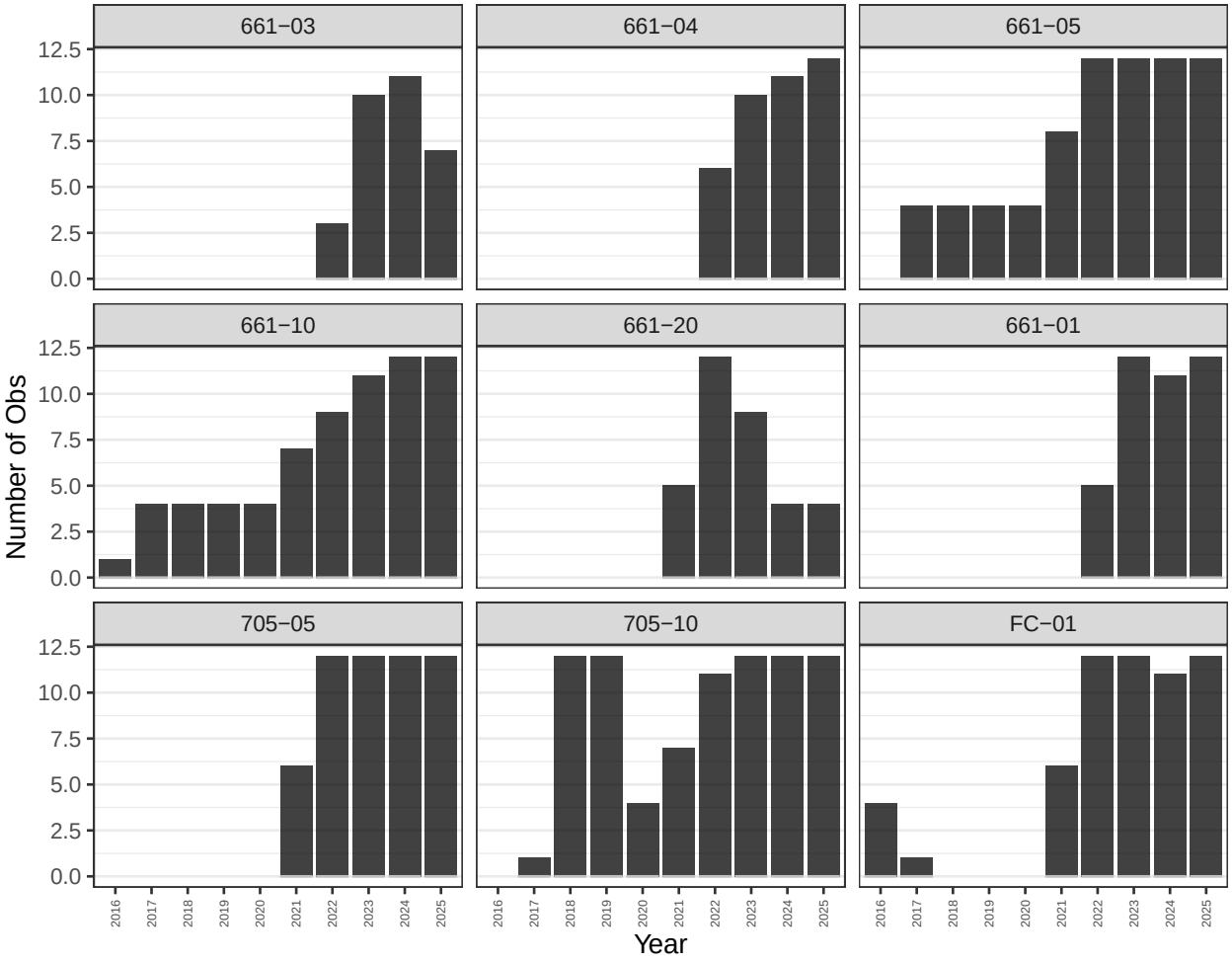
Variable	Total Antimony
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.13 Total Arsenic

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

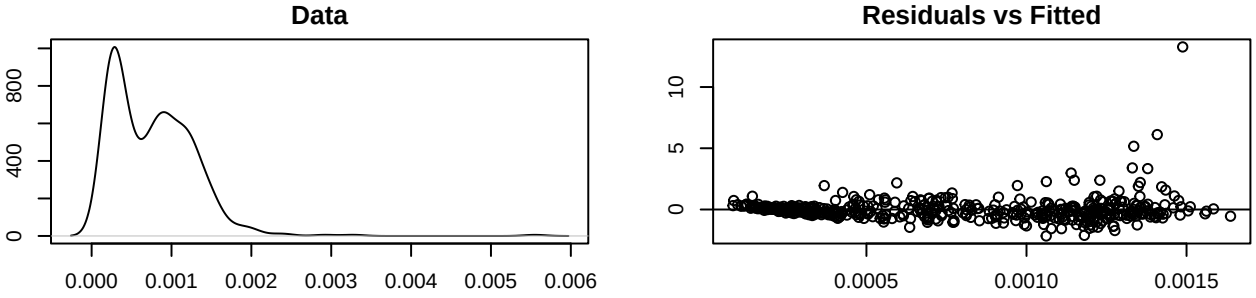
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0003	0
Creek 661	661-03	after	29	0.0003	0
Creek 661	661-04	before	3	0.0012	0
Creek 661	661-04	after	36	0.0012	0
Creek 661	661-05	before	33	0.0012	0
Creek 661	661-05	after	39	0.0013	0
Creek 661	661-10	before	31	0.0009	0
Creek 661	661-10	after	37	0.0011	0
Creek 661	661-20	before	14	0.0010	0
Creek 661	661-20	after	20	0.0009	0
Creek 661	661-01	before	3	0.0007	0
Creek 661	661-01	after	37	0.0005	0
Creek 705 (Control)	705-05	before	15	0.0003	0
Creek 705 (Control)	705-05	after	39	0.0003	0
Creek 705 (Control)	705-10	before	45	0.0002	0
Creek 705 (Control)	705-10	after	38	0.0002	0
Fawnie Creek (Control)	FC-01	before	20	0.0007	0
Fawnie Creek (Control)	FC-01	after	38	0.0008	0

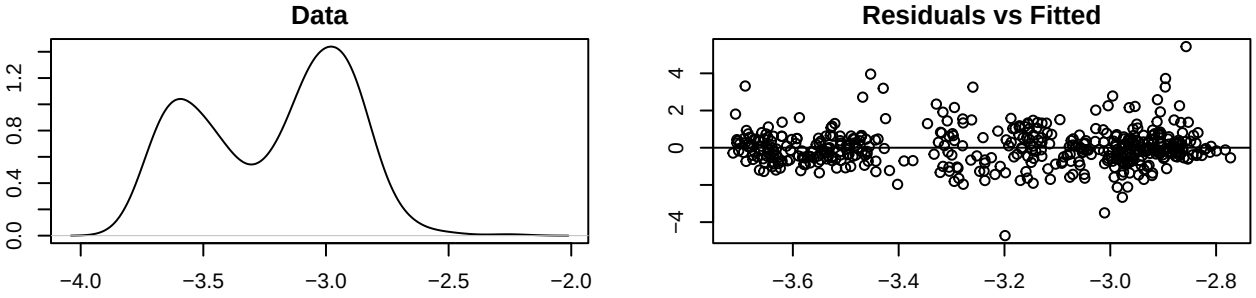
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-10	2025	8	impact	after	0.0056	0.0015	13.273	Y
Creek 661	661-10	2025	9	impact	after	0.0033	0.0014	6.115	Y
Creek 661	661-05	2023	11	impact	after	0.0029	0.0013	5.162	Y
Creek 661	661-10	2025	7	impact	after	0.0024	0.0013	3.396	Y
Creek 661	661-05	2018	8	impact	before	0.0024	0.0014	3.337	Y

Outliers on log scale:

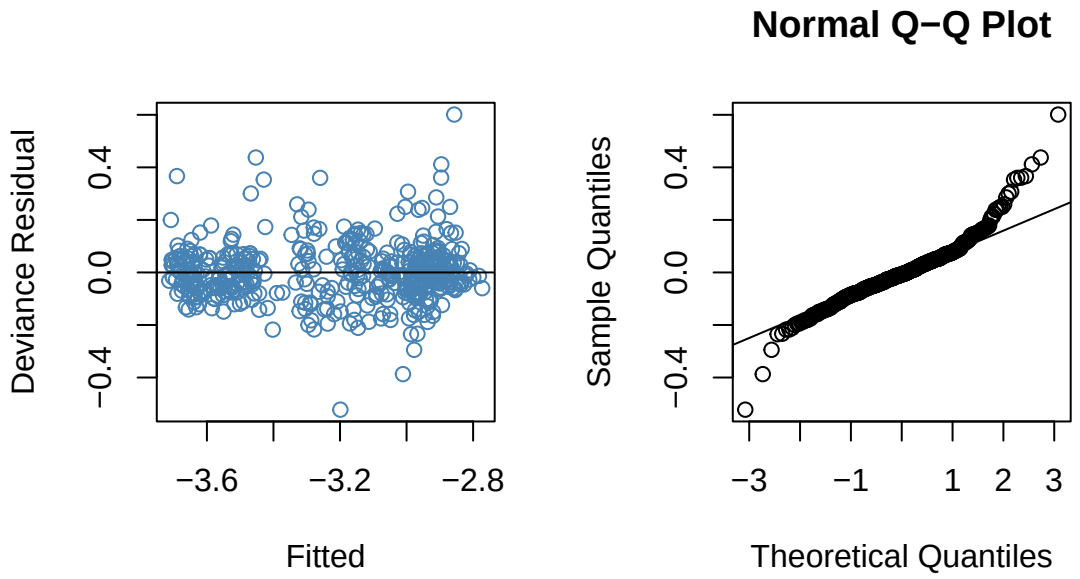
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-10	2025	8	impact	after	-2.256	-2.857	5.437	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-3.721	-3.199	-4.725	Y
Creek 661	661-03	2024	1	impact	after	-3.015	-3.453	3.958	Y
Creek 661	661-10	2025	9	impact	after	-2.484	-2.896	3.722	Y
Creek 661	661-10	2017	7	impact	before	-3.398	-3.011	-3.502	Y
Creek 705 (Control)	705-10	2021	12	control	before	-3.323	-3.690	3.318	Y
Creek 661	661-05	2023	11	impact	after	-2.535	-2.896	3.264	Y
Creek 661	661-01	2025	4	control	after	-2.900	-3.260	3.257	Y
Creek 705 (Control)	705-05	2025	8	control	after	-3.076	-3.429	3.197	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.05751	0.05751	1	7.007	4.706	0.0666	
period	0.16668	0.16668	1	13.214	13.640	0.0026	
class:period	0.06330	0.06330	1	457.266	5.180	0.0233	0.0341

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.4623	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

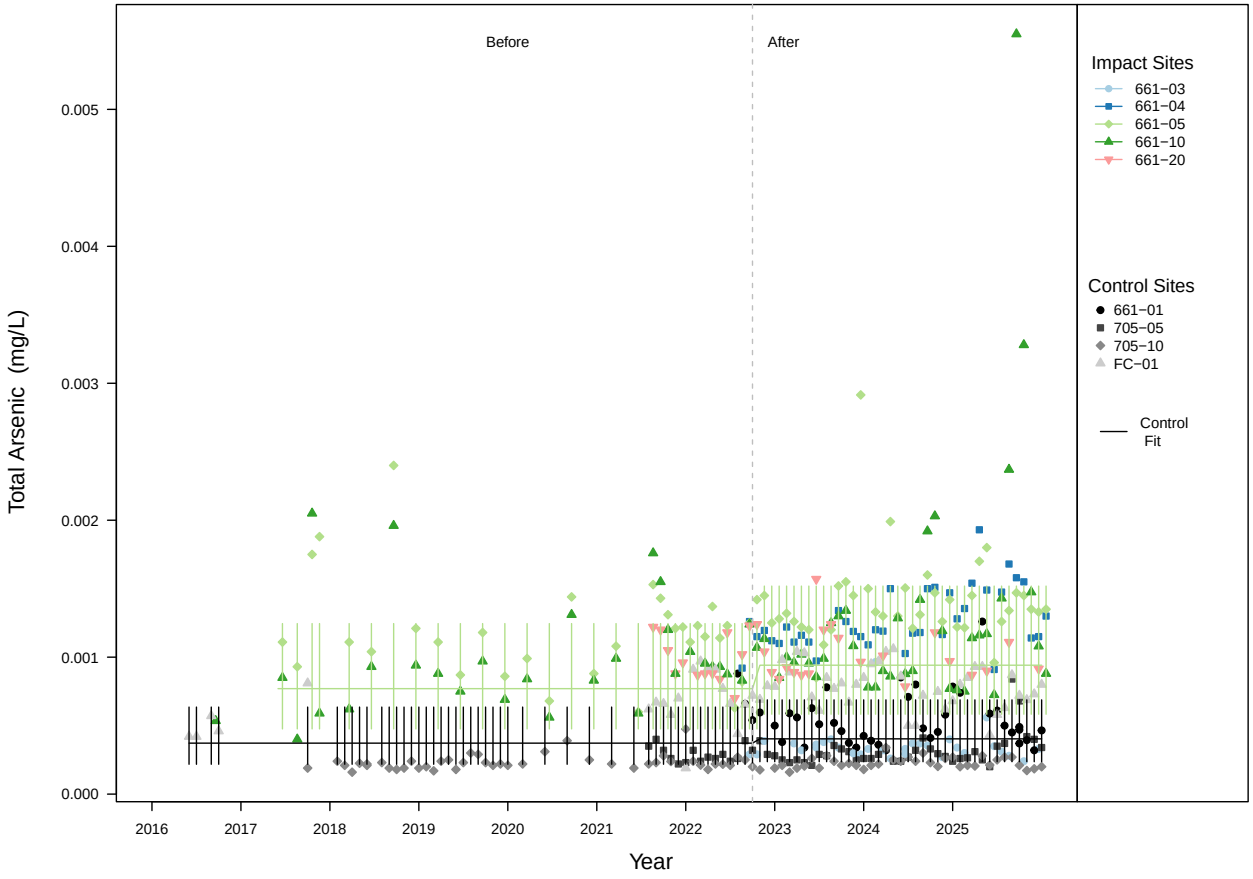
Impact vs.	Estimate	Significance
control sites	0.052	significant

Conclusion:

The change in Total Arsenic concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 0.0341) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

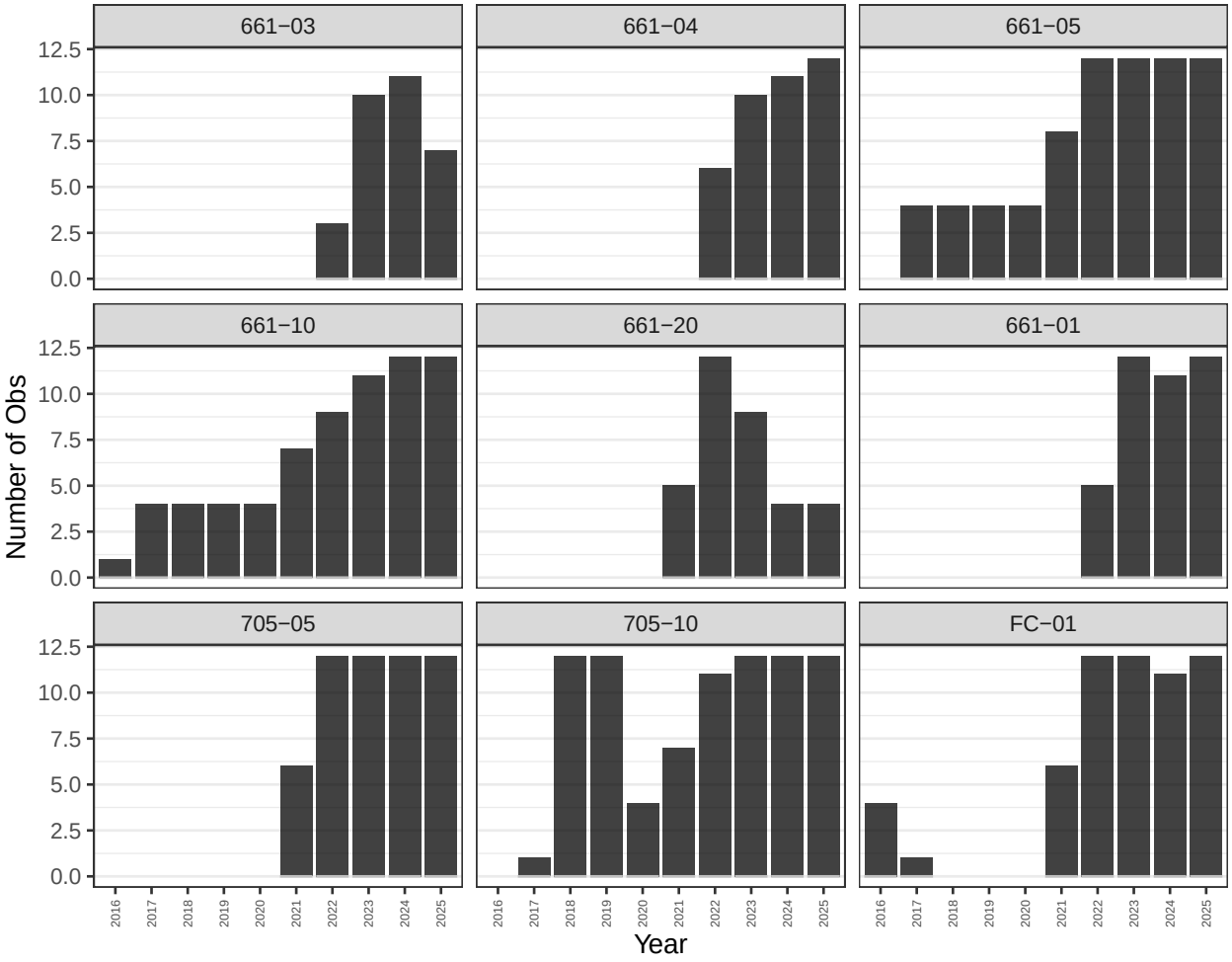
Variable	Total Arsenic
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.14 Total Barium

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

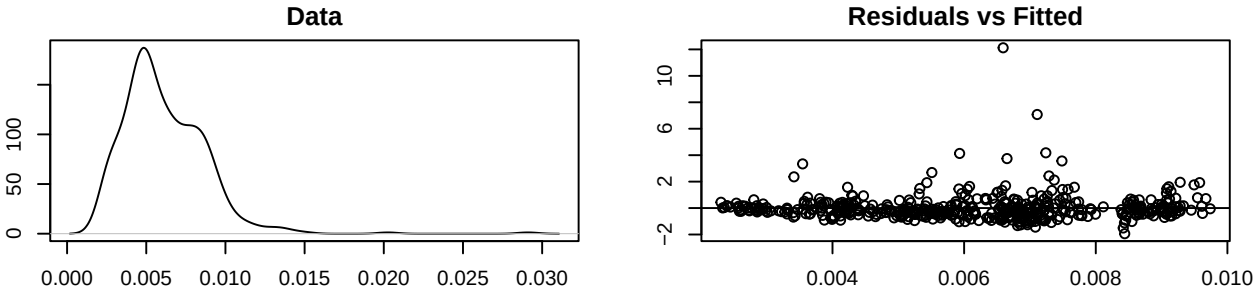
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0082	0
Creek 661	661-03	after	29	0.0062	0
Creek 661	661-04	before	3	0.0039	0
Creek 661	661-04	after	36	0.0050	0
Creek 661	661-05	before	33	0.0047	0
Creek 661	661-05	after	39	0.0057	0
Creek 661	661-10	before	31	0.0044	0
Creek 661	661-10	after	37	0.0053	0
Creek 661	661-20	before	14	0.0066	0
Creek 661	661-20	after	20	0.0072	0
Creek 661	661-01	before	3	0.0032	0
Creek 661	661-01	after	37	0.0027	0
Creek 705 (Control)	705-05	before	15	0.0060	0
Creek 705 (Control)	705-05	after	39	0.0071	0
Creek 705 (Control)	705-10	before	45	0.0088	0
Creek 705 (Control)	705-10	after	38	0.0088	0
Fawnie Creek (Control)	FC-01	before	20	0.0041	0
Fawnie Creek (Control)	FC-01	after	38	0.0039	0

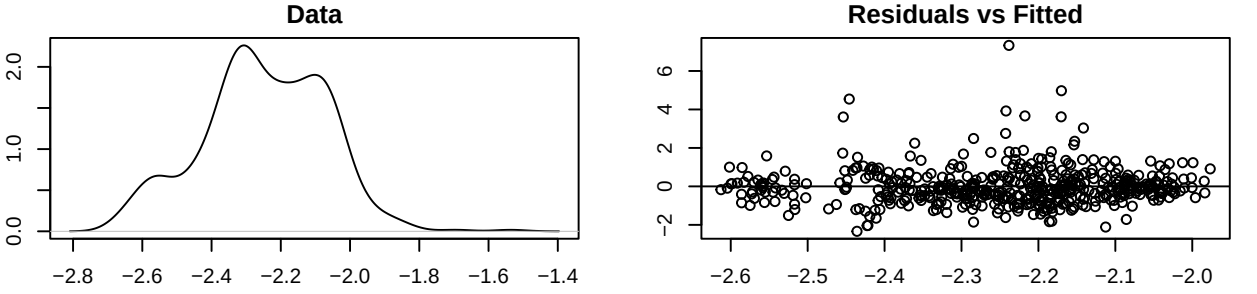
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	0.0291	0.0066	12.121	Y
Creek 661	661-03	2024	1	impact	after	0.0203	0.0071	7.076	Y
Creek 661	661-05	2024	3	impact	after	0.0150	0.0072	4.178	Y
Creek 661	661-04	2025	3	impact	after	0.0136	0.0059	4.130	Y
Creek 661	661-05	2024	5	impact	after	0.0136	0.0067	3.742	Y
Creek 661	661-05	2025	4	impact	after	0.0141	0.0075	3.562	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0098	0.0035	3.341	Y

Outliers on log scale:

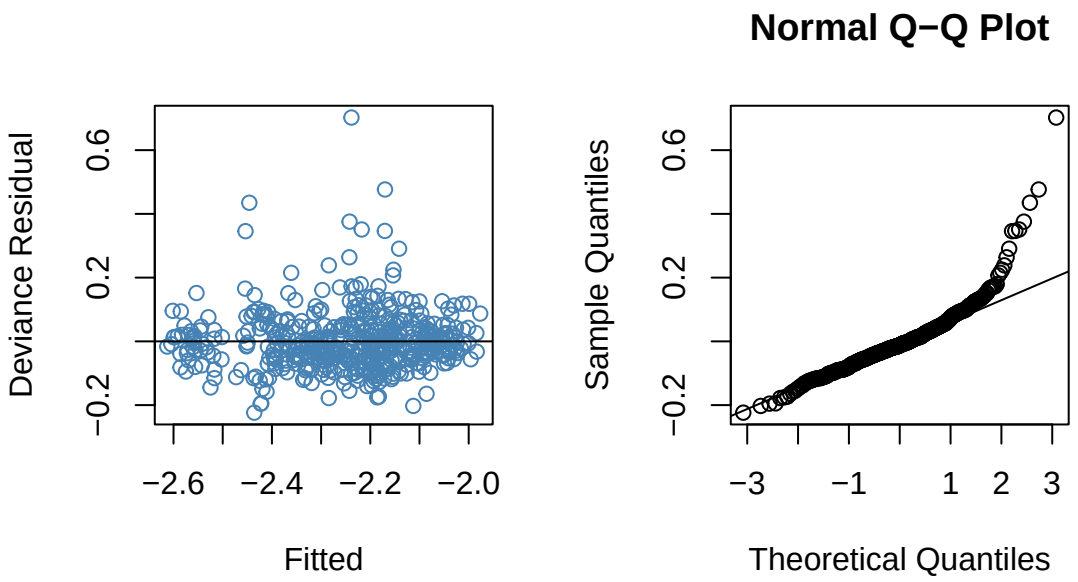
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	-1.536	-2.238	7.330	Y
Creek 661	661-03	2024	1	impact	after	-1.694	-2.170	4.974	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	-2.011	-2.446	4.540	Y
Creek 661	661-04	2025	3	impact	after	-1.867	-2.242	3.921	Y
Creek 661	661-05	2024	5	impact	after	-1.867	-2.217	3.664	Y
Creek 661	661-05	2024	3	impact	after	-1.824	-2.170	3.617	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.108	-2.454	3.609	Y
Creek 661	661-05	2025	4	impact	after	-1.851	-2.142	3.034	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.001815	0.001815	1	7.011	0.1977	0.67	
period	0.065161	0.065161	1	43.510	7.0991	0.0108	
class:period	0.160673	0.160673	1	456.815	17.5048	<0.001	8.21e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.0554	15%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

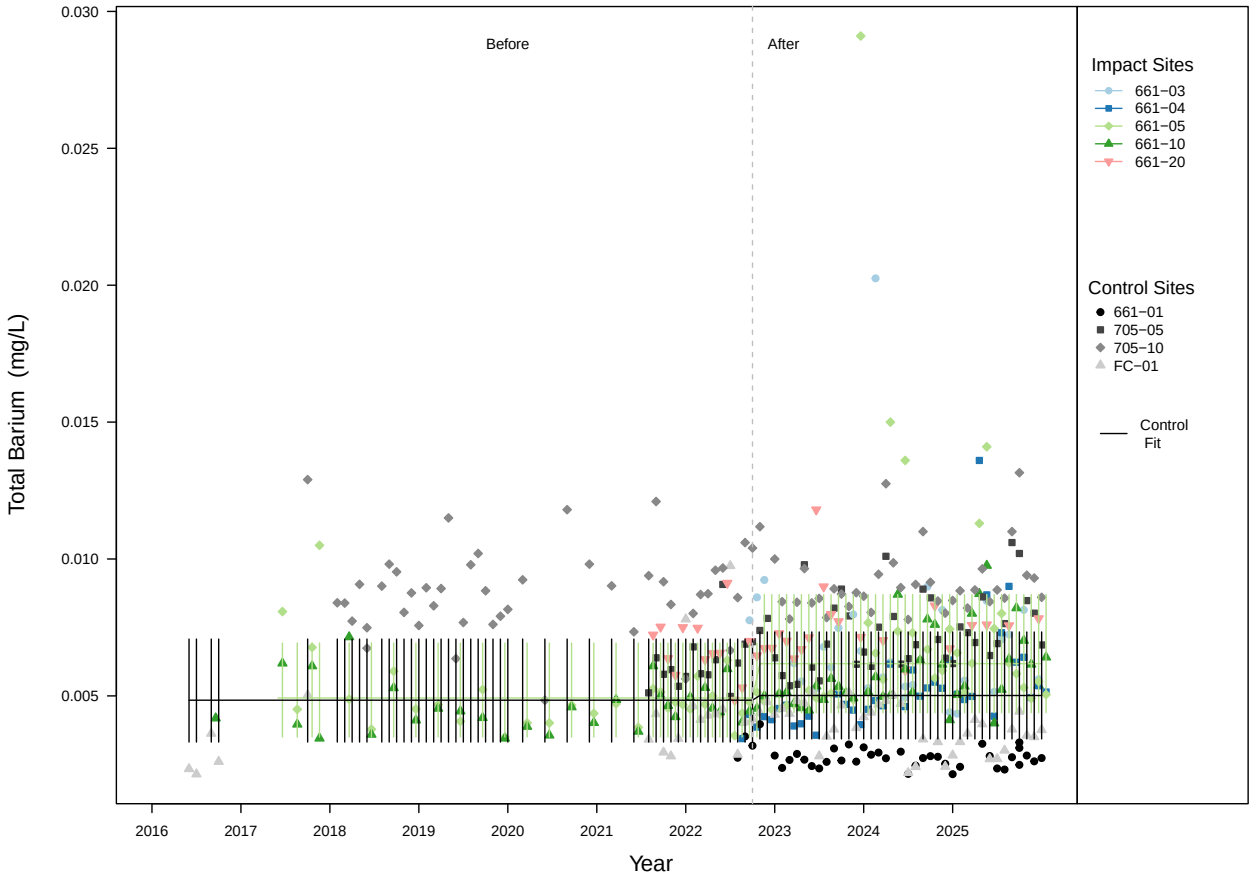
Impact vs.	Estimate	Significance
control sites	0.0833	significant

Conclusion:

The change in Total Barium concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 8.21×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

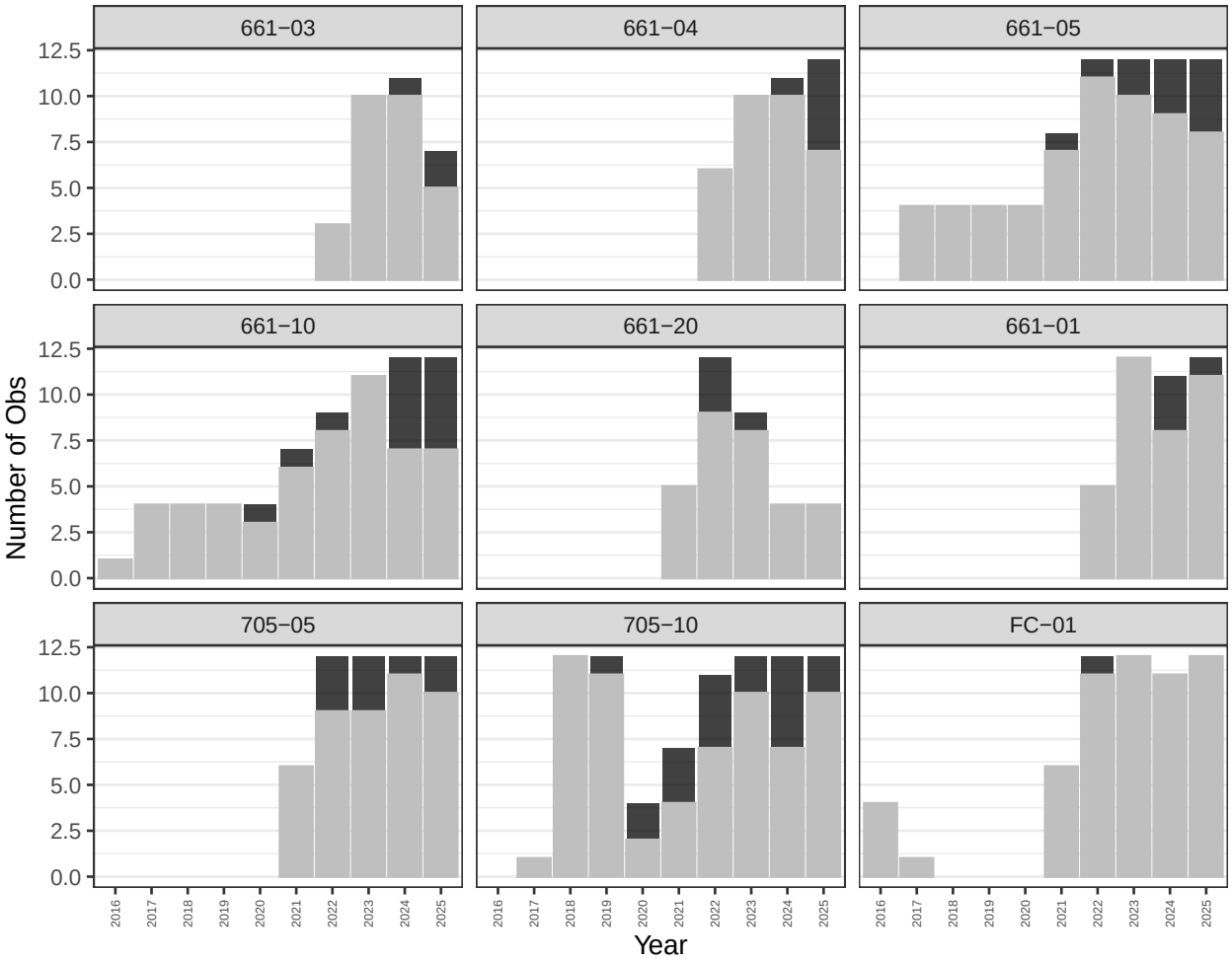
Final Summary Table

Variable	Total Barium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.15 Total Beryllium

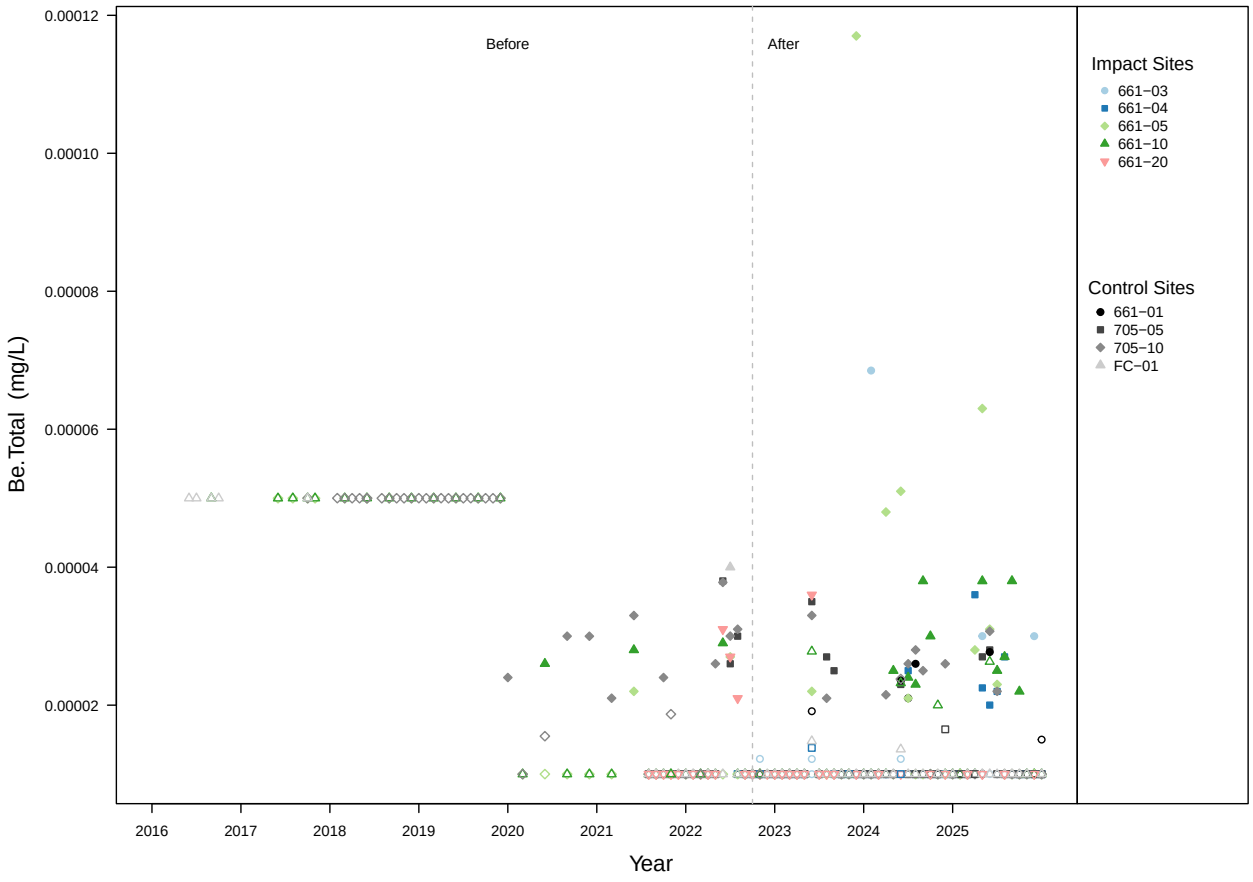
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

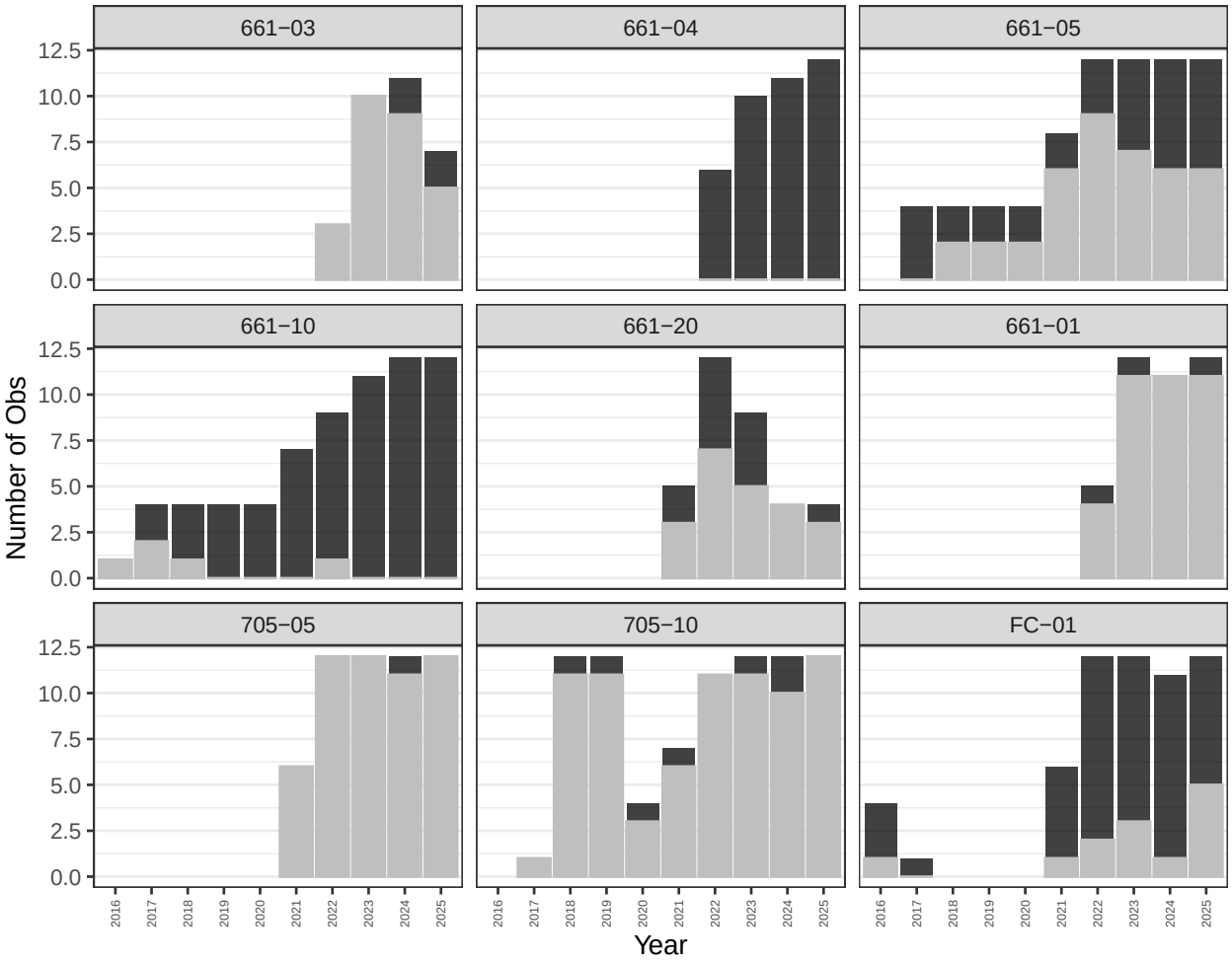
Final Summary Table

Variable	Be.Total
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.16 Total Cadmium

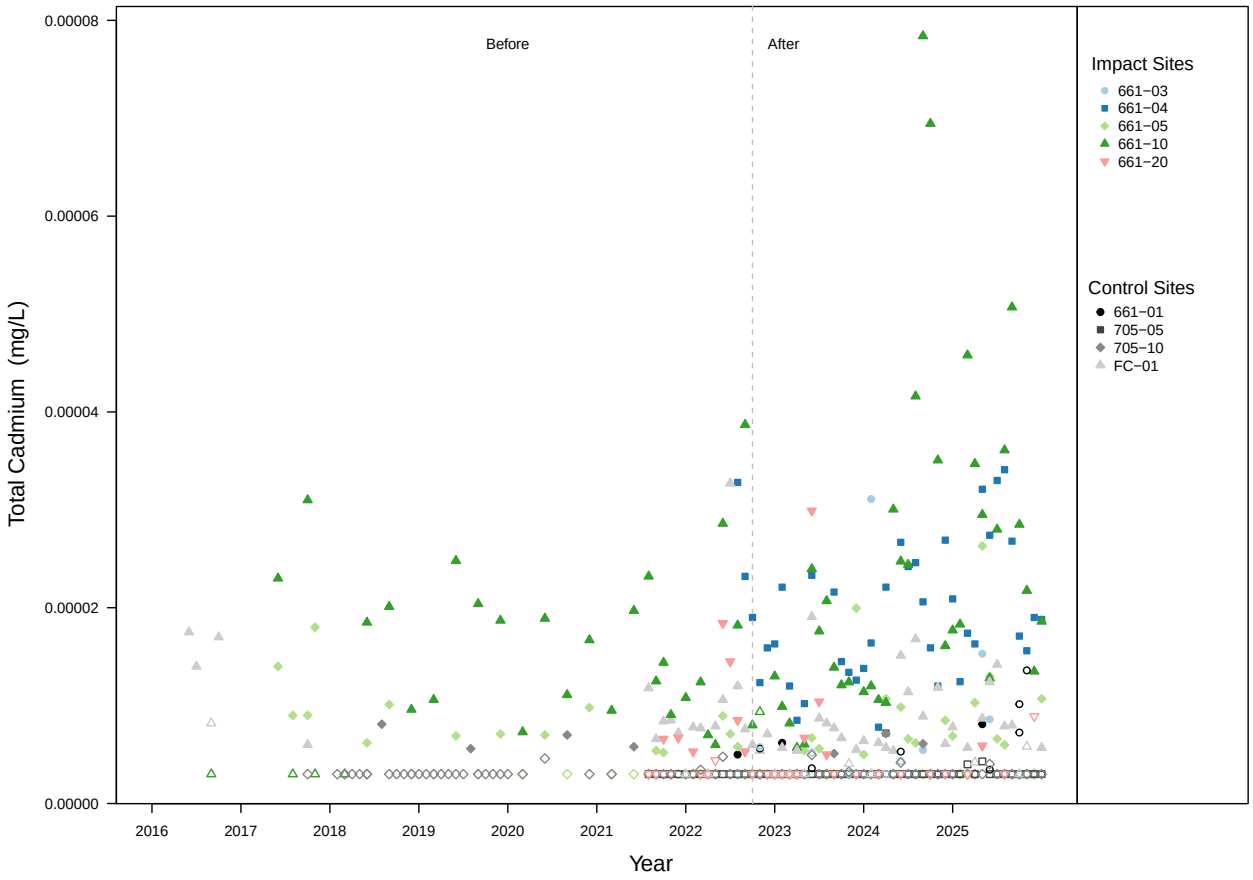
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

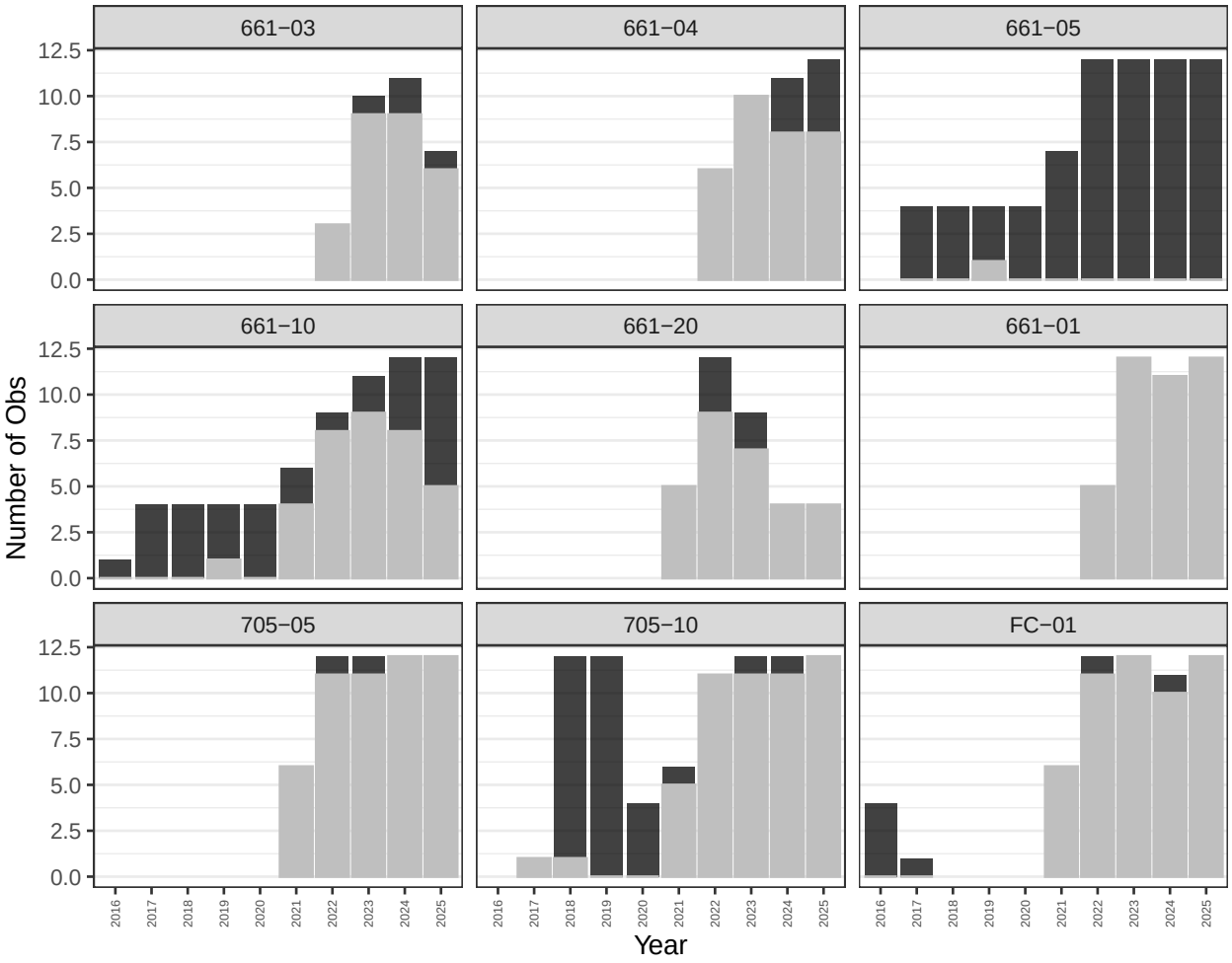
Final Summary Table

Variable	Total Cadmium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.17 Total Chromium

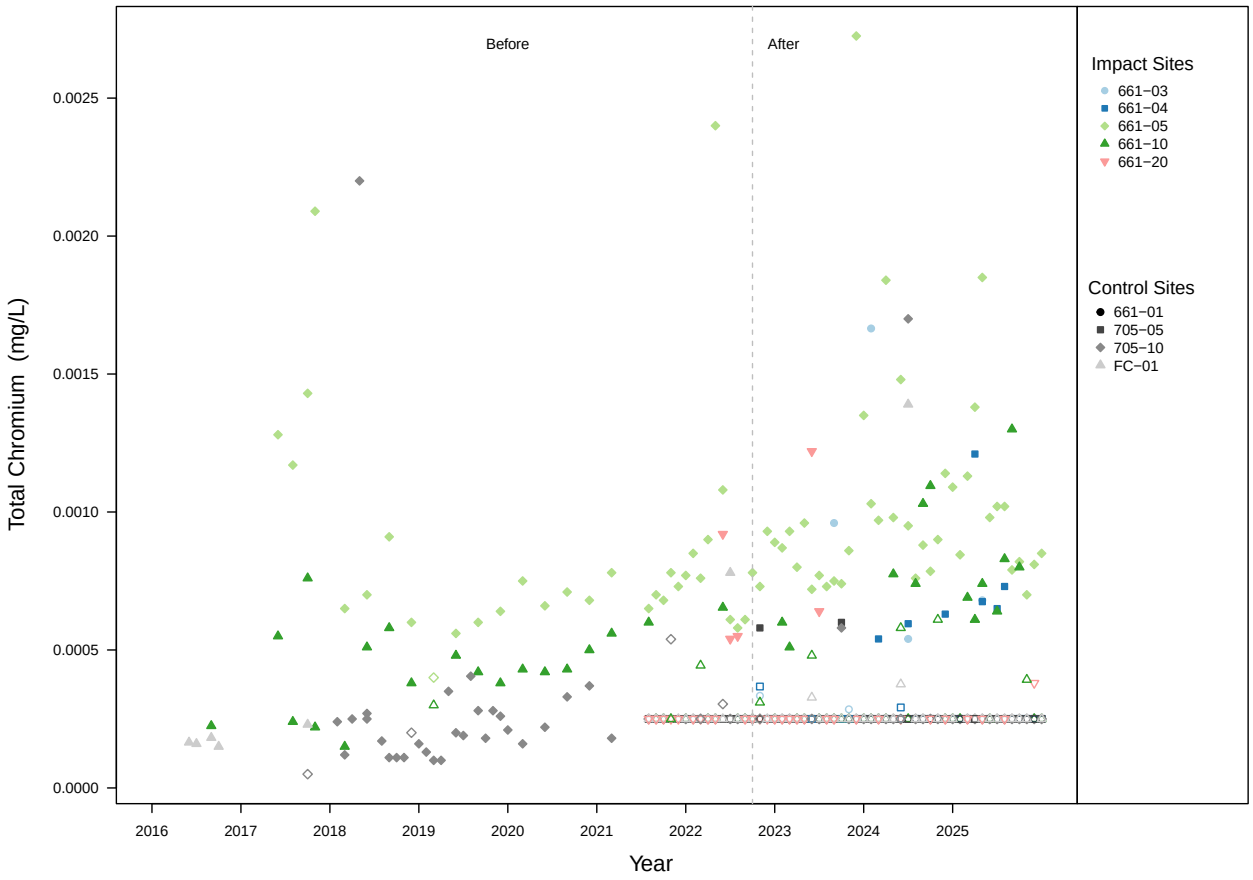
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

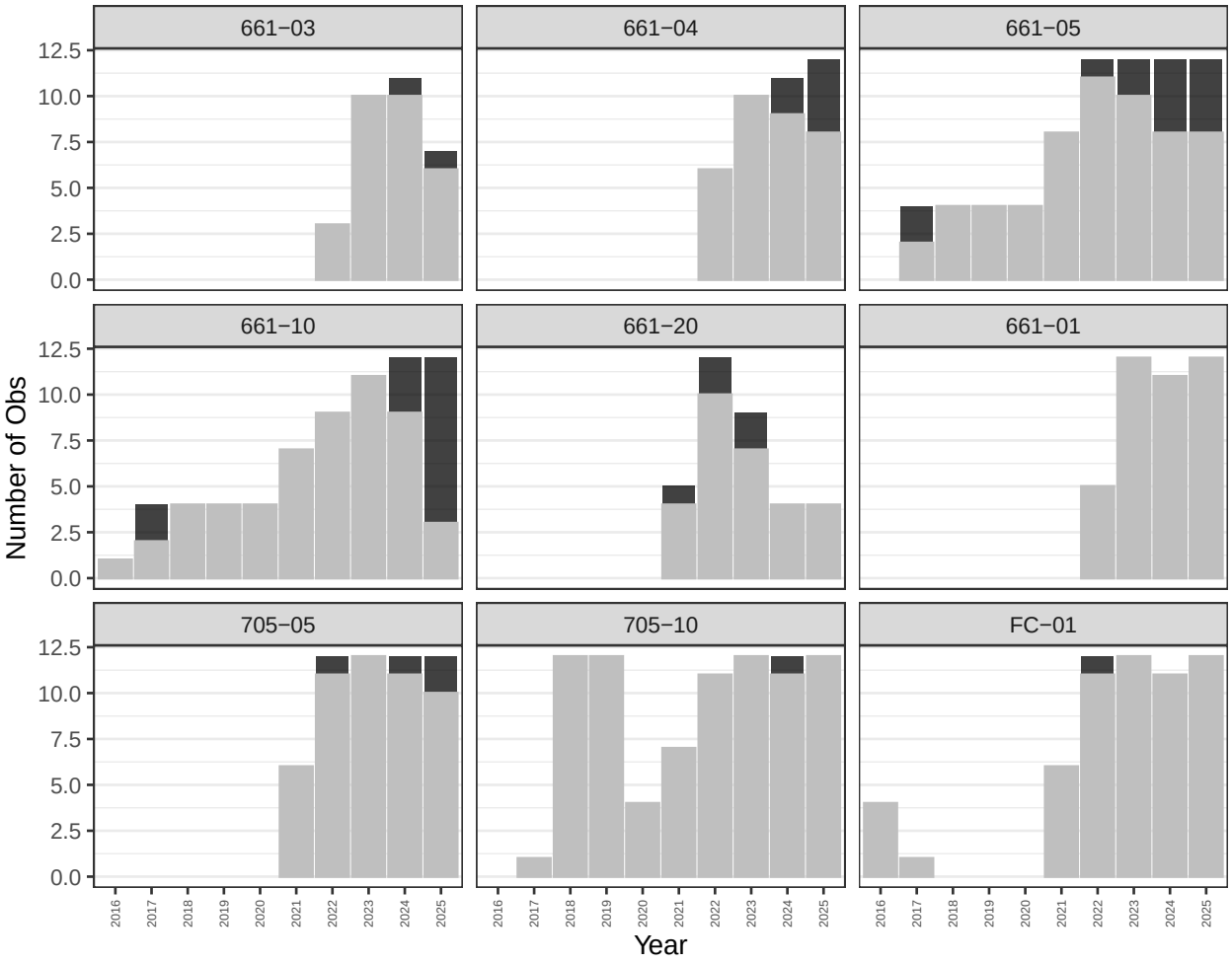
Final Summary Table

Variable	Total Chromium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.18 Total Cobalt

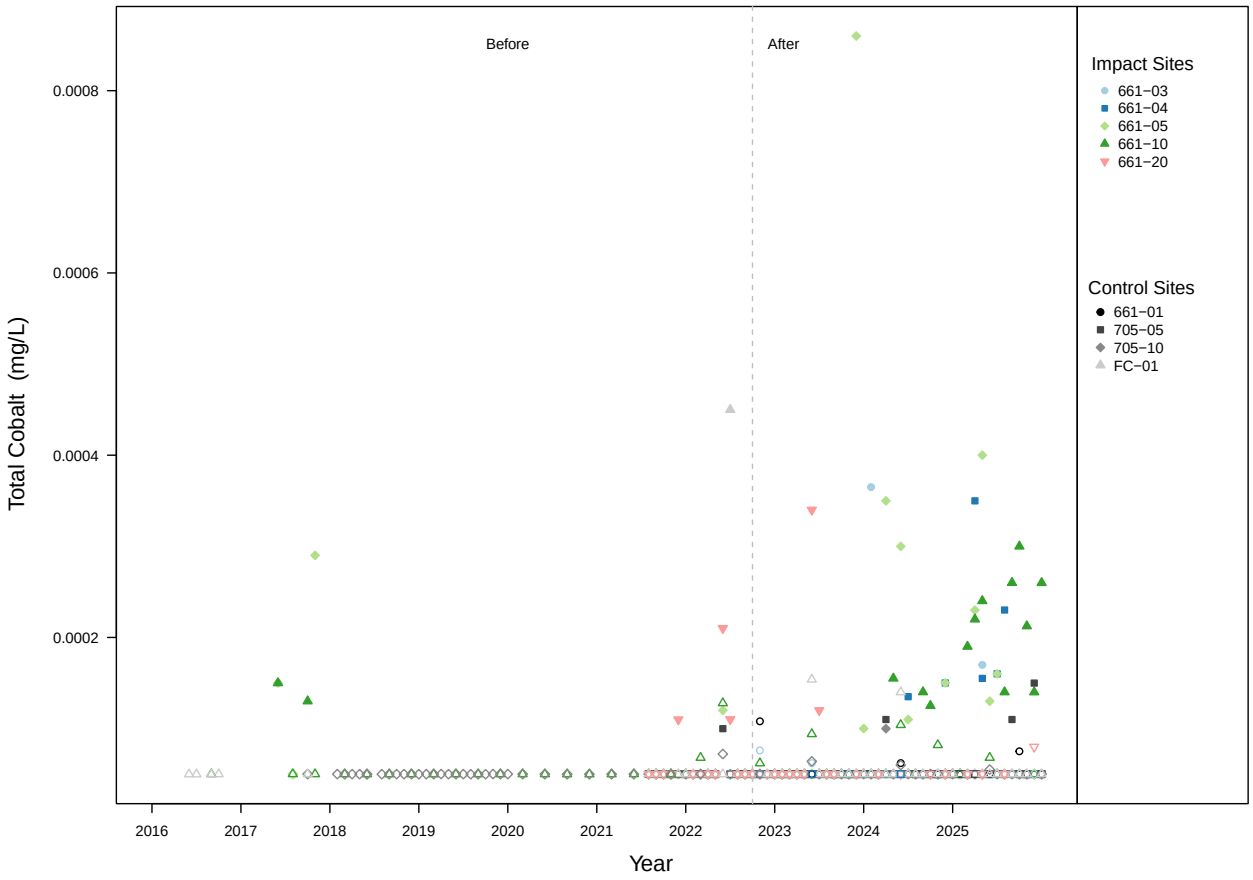
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

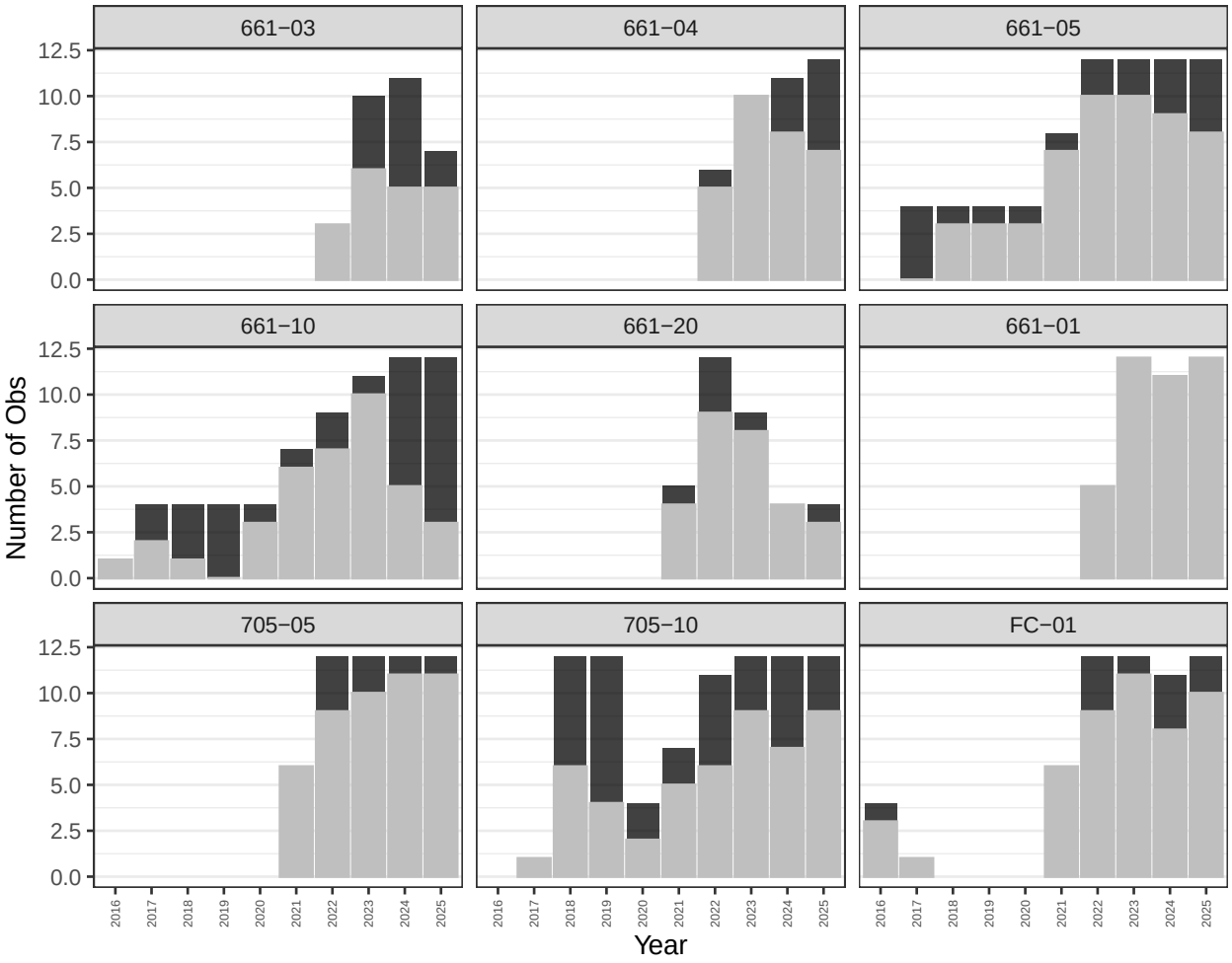
Final Summary Table

Variable	Total Cobalt
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.19 Total Copper

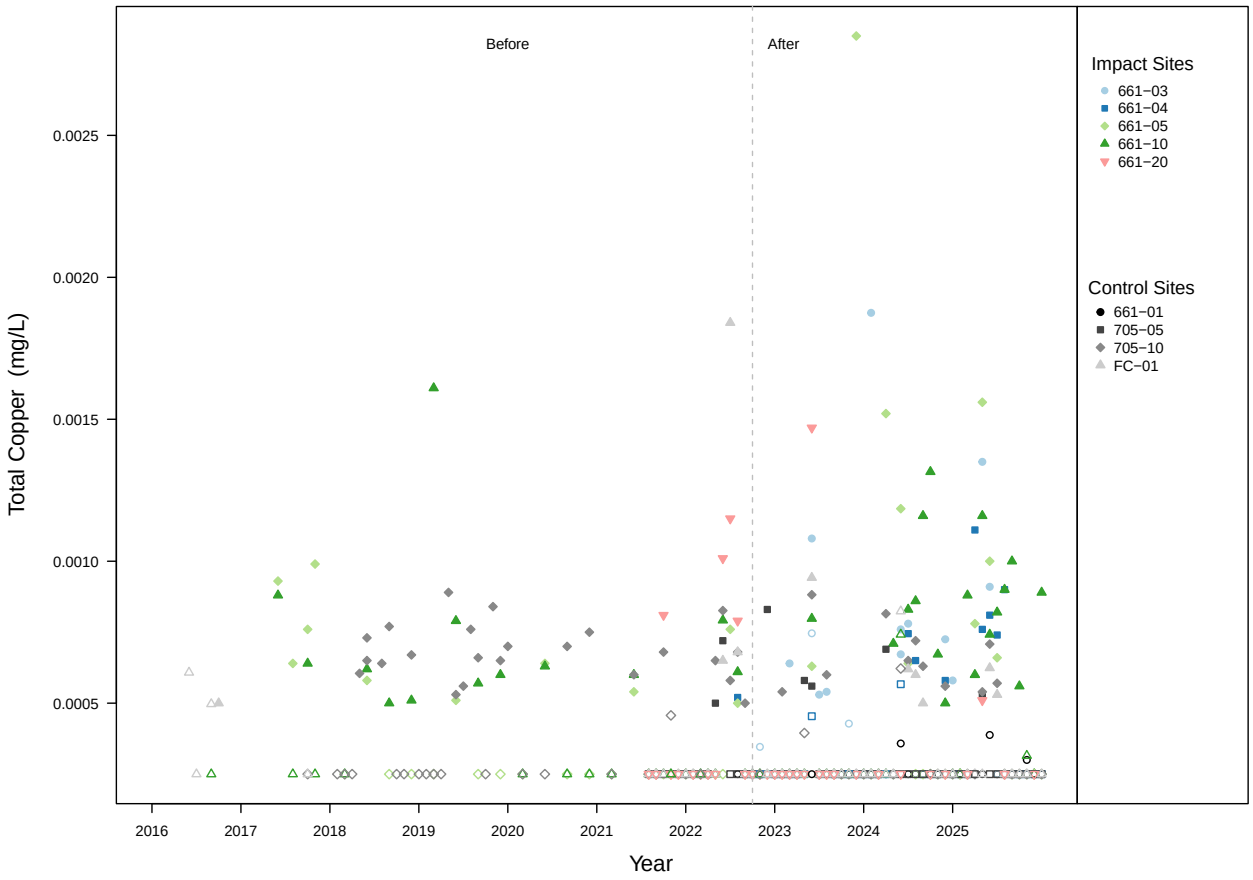
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

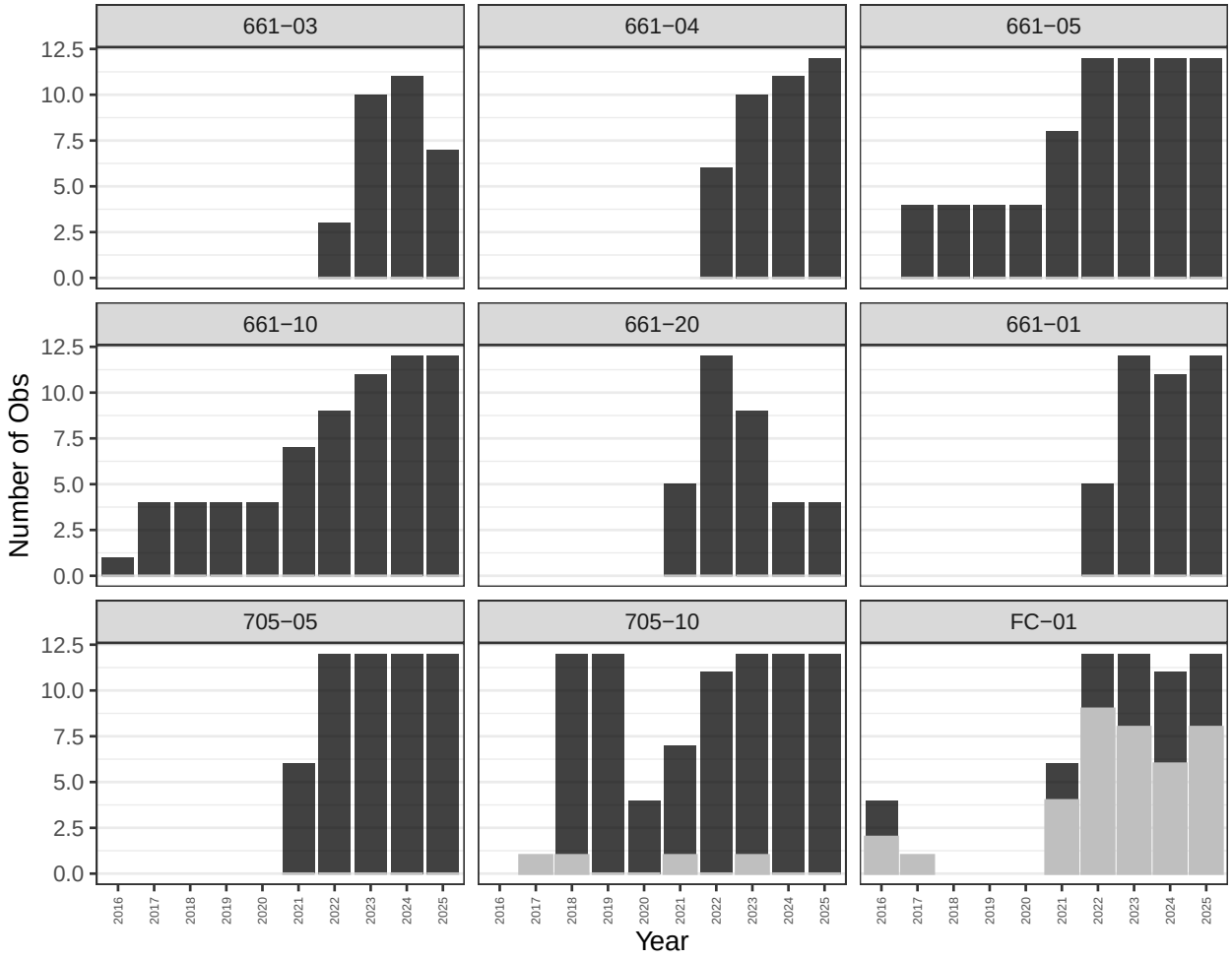
Variable	Total Copper
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.20 Total Iron

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Creek 705 (Control)	705-10	2017	control	before	1
Fawnie Creek (Control)	FC-01	2017	control	before	1
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2023	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11

(Continued on Next Page...)

(continued)

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2025	control	after	12

1.2 Sample Sizes for Modelling

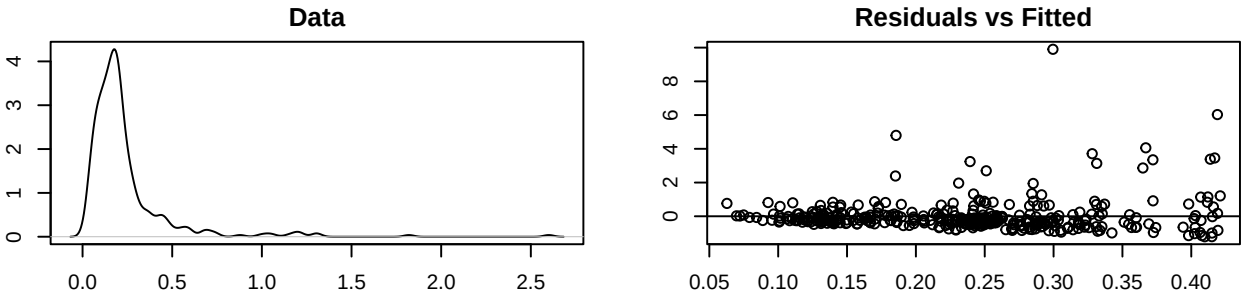
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0795	0.000
Creek 661	661-03	after	29	0.1031	0.000
Creek 661	661-04	before	3	0.0680	0.000
Creek 661	661-04	after	36	0.1065	0.000
Creek 661	661-05	before	33	0.1930	0.000
Creek 661	661-05	after	39	0.2060	0.000
Creek 661	661-10	before	31	0.2110	0.000
Creek 661	661-10	after	37	0.2510	0.000
Creek 661	661-20	before	14	0.1968	0.000
Creek 661	661-20	after	20	0.1500	0.000
Creek 661	661-01	before	3	0.0930	0.000
Creek 661	661-01	after	37	0.1045	0.000
Creek 705 (Control)	705-05	before	15	0.2100	0.000
Creek 705 (Control)	705-05	after	39	0.2110	0.000
Creek 705 (Control)	705-10	before	28	0.1090	3.571
Fawnie Creek (Control)	FC-01	before	4	0.0335	50.000

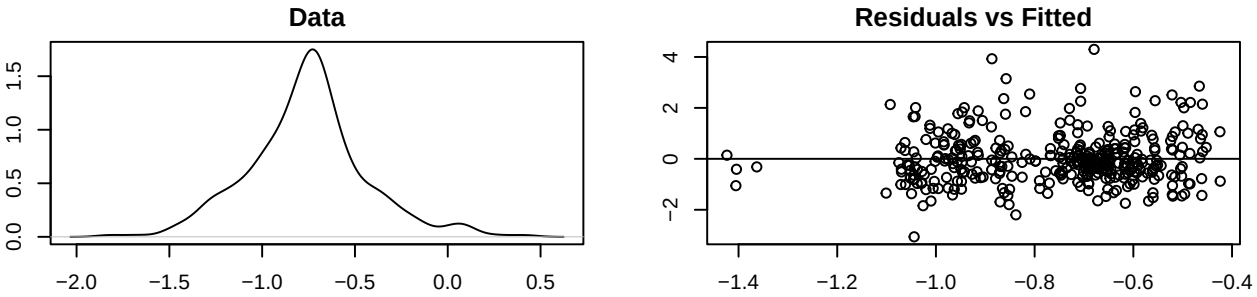
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	2.600	0.2995	9.901	Y
Creek 661	661-10	2025	8	impact	after	1.820	0.4190	6.030	Y
Creek 661	661-03	2024	1	impact	after	1.300	0.1856	4.796	Y
Creek 705 (Control)	705-05	2025	9	control	after	1.310	0.3670	4.059	Y
Creek 661	661-05	2024	3	impact	after	1.190	0.3280	3.710	Y
Creek 661	661-05	2025	4	impact	after	1.220	0.4170	3.456	Y
Creek 661	661-10	2025	9	impact	after	1.200	0.4138	3.384	Y
Creek 705 (Control)	705-05	2025	8	control	after	1.150	0.3721	3.348	Y
Creek 661	661-20	2023	5	impact	after	0.993	0.2394	3.244	Y
Creek 661	661-05	2024	5	impact	after	1.060	0.3313	3.136	Y

Outliers on log scale:

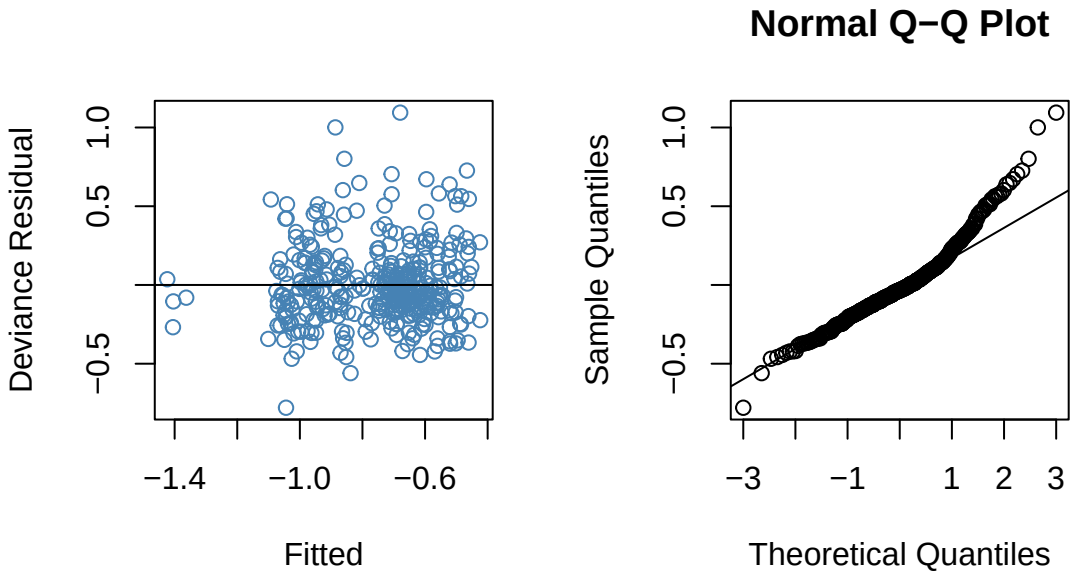
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-05	2023	11	impact	after	0.4150	-0.6795	4.298	Y
Creek 661	661-03	2024	1	impact	after	0.1139	-0.8865	3.929	Y
Creek 661	661-04	2025	3	impact	after	-0.0565	-0.8578	3.146	Y
Creek 705 (Control)	705-10	2018	9	control	before	-1.8239	-1.0442	-3.062	N

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.1010146	0.1010146	1	6.963	1.5575	0.252	
period	0.0295704	0.0295704	1	38.151	0.4559	0.504	
class:period	0.000126	0.000126	1	342.430	0.0019	0.965	0.965

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
370	0.0798	22%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

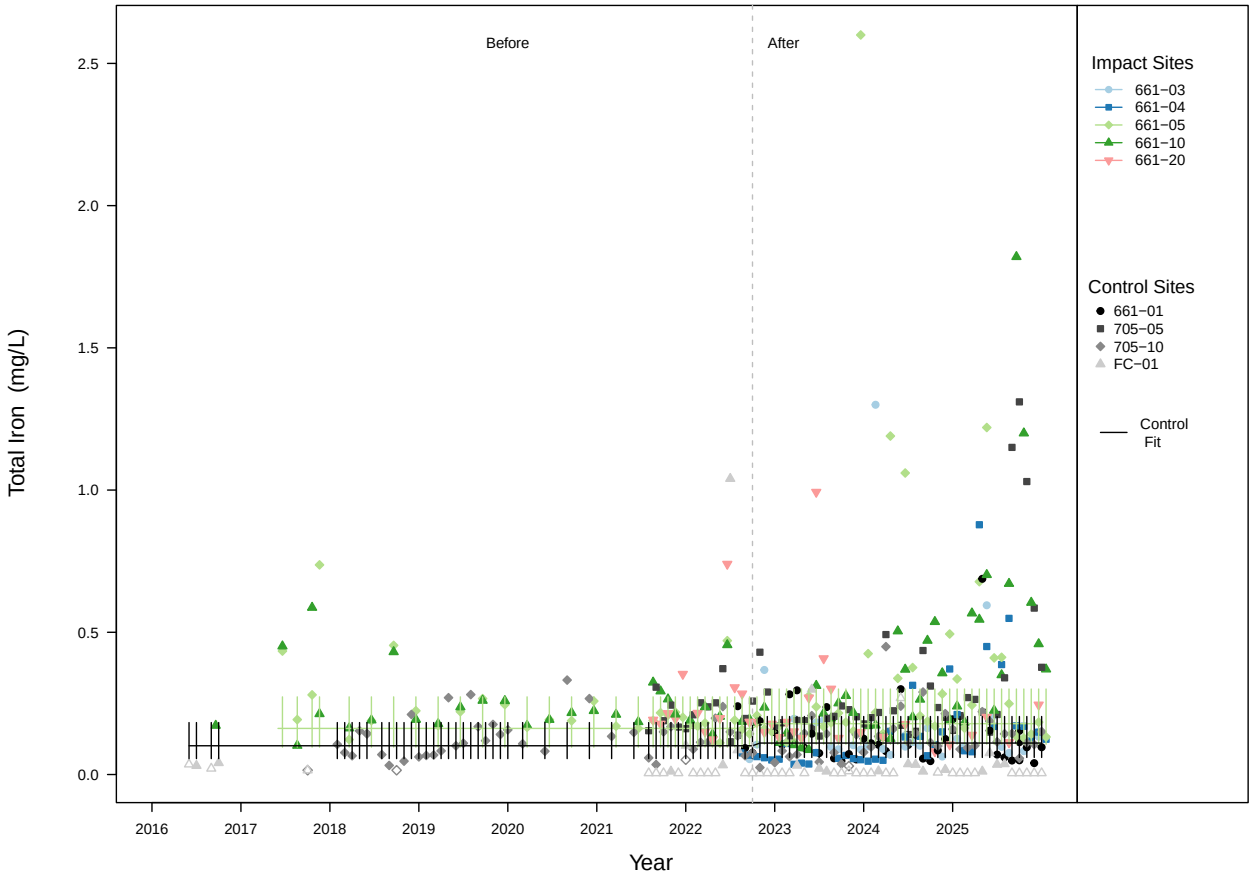
Impact vs.	Estimate	Significance
control sites	0.0035	not significant

Conclusion:

The change in Total Iron concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.965) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

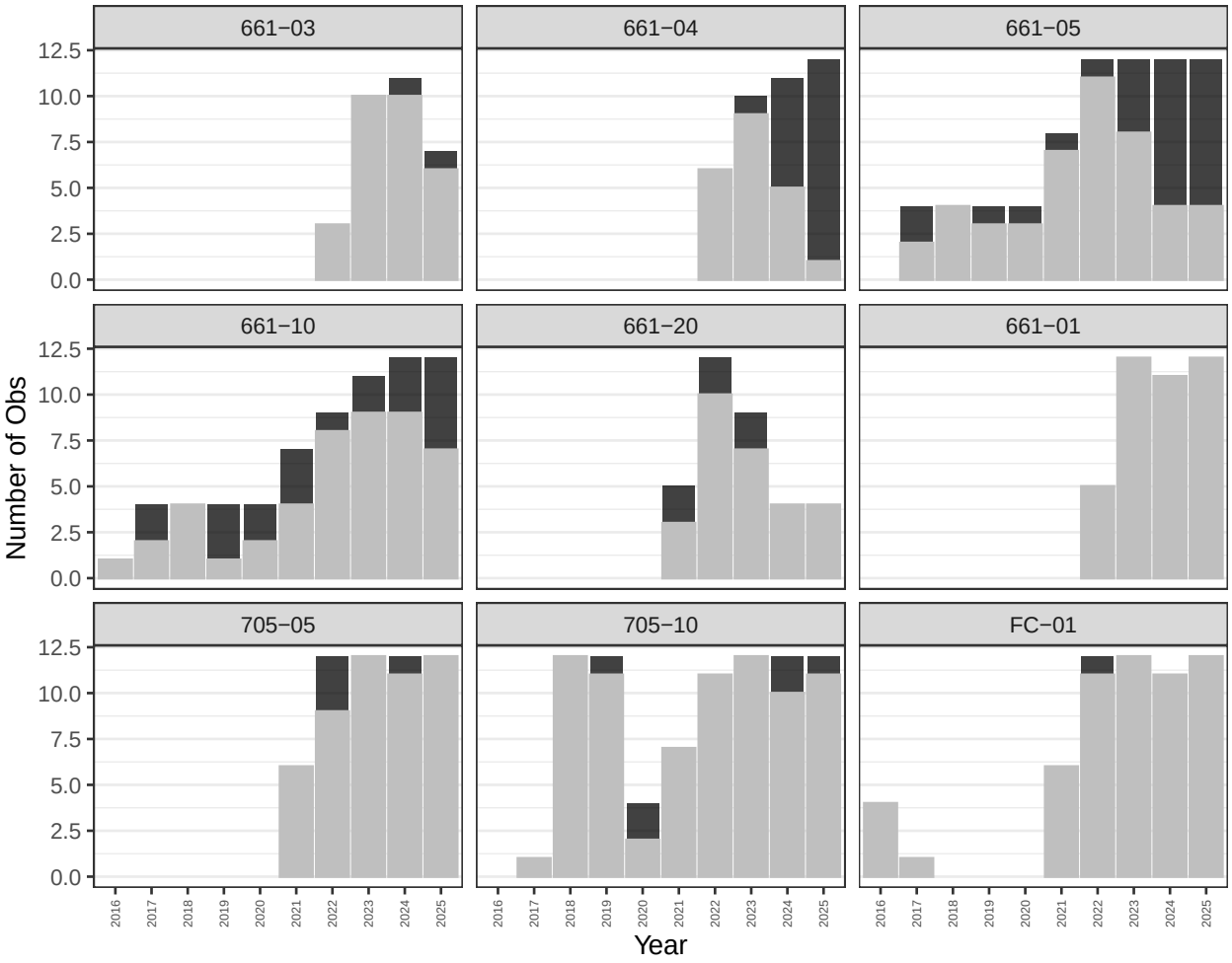
Variable	Total Iron
Watershed	Creek 661
Waterbody	Stream

Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.2.21 Total Lead

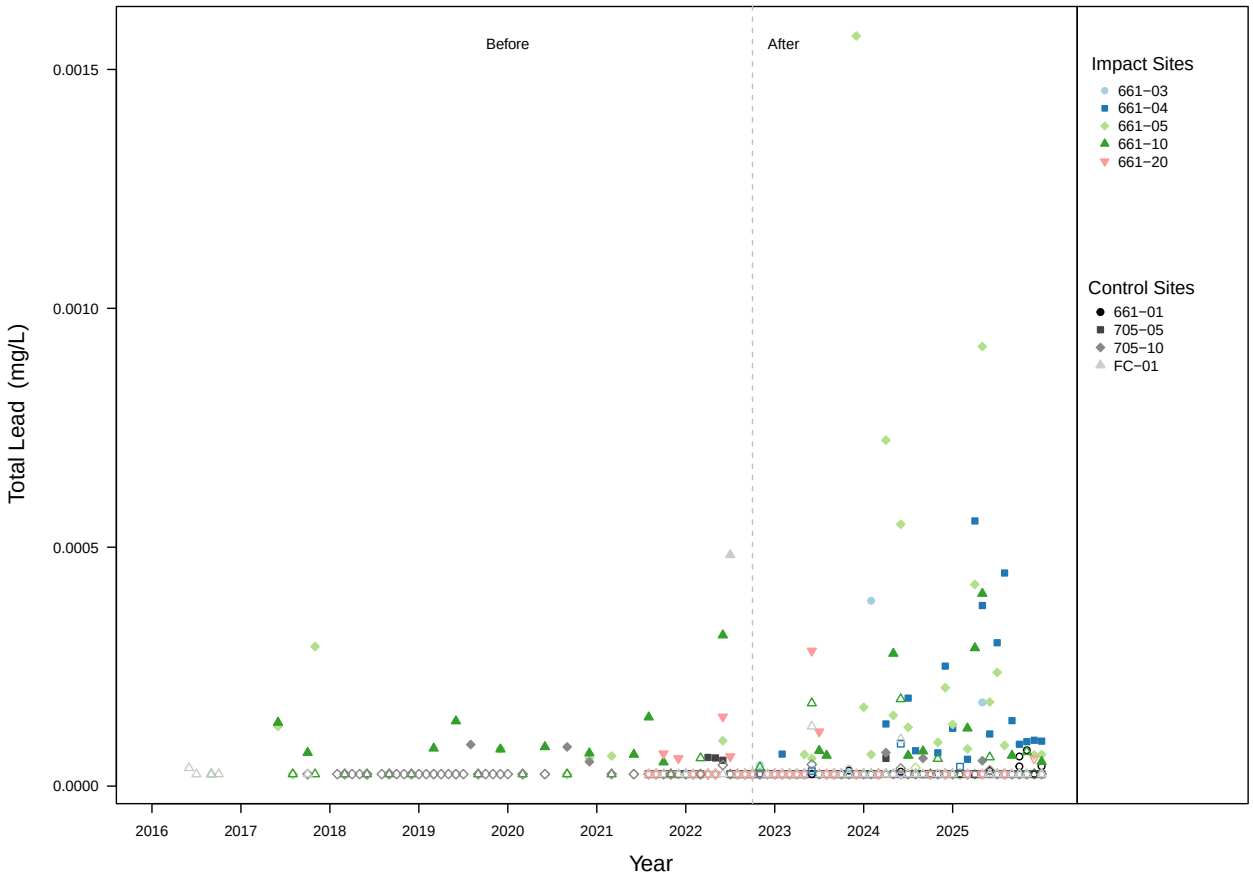
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

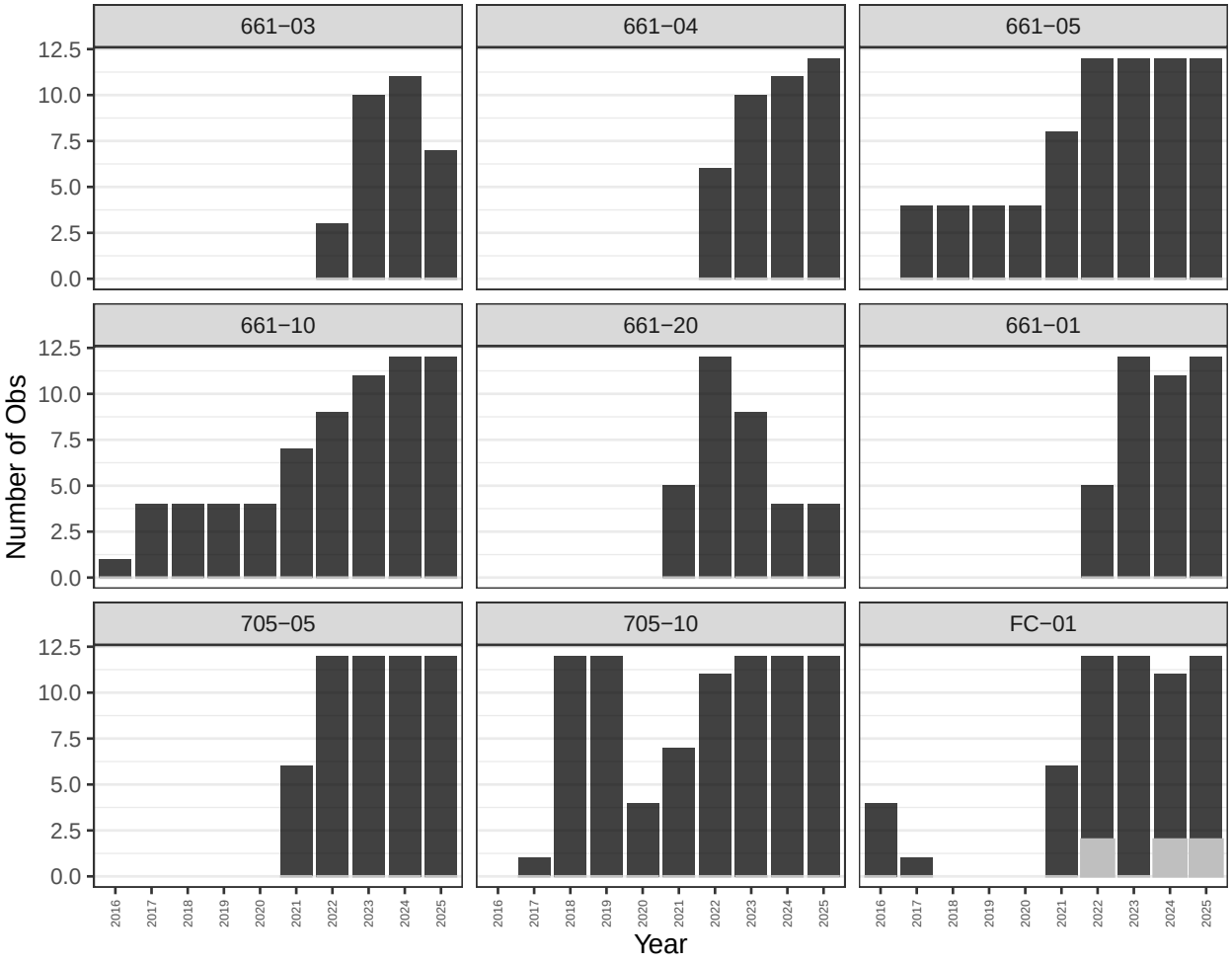
Variable	Total Lead
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.22 Total Manganese

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

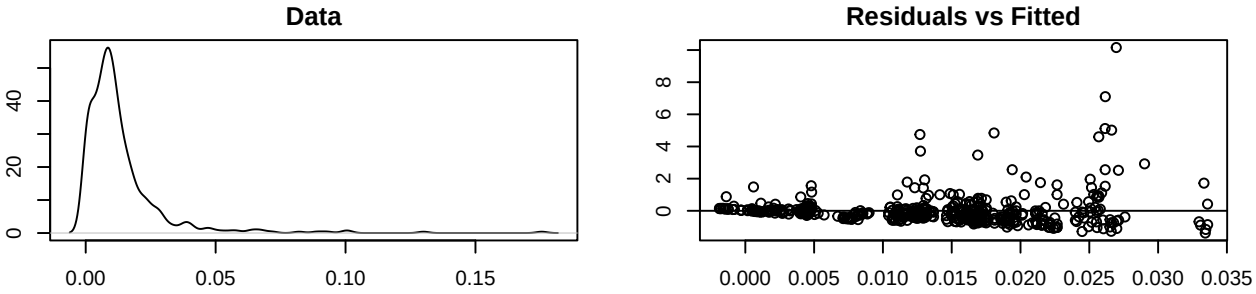
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0219	0.00
Creek 661	661-03	after	29	0.0188	0.00
Creek 661	661-04	before	3	0.0060	0.00
Creek 661	661-04	after	36	0.0095	0.00
Creek 661	661-05	before	33	0.0103	0.00
Creek 661	661-05	after	39	0.0119	0.00
Creek 661	661-10	before	31	0.0136	0.00
Creek 661	661-10	after	37	0.0161	0.00
Creek 661	661-20	before	14	0.0106	0.00
Creek 661	661-20	after	20	0.0084	0.00
Creek 661	661-01	before	3	0.0226	0.00
Creek 661	661-01	after	37	0.0124	0.00
Creek 705 (Control)	705-05	before	15	0.0111	0.00
Creek 705 (Control)	705-05	after	39	0.0113	0.00
Creek 705 (Control)	705-10	before	45	0.0039	0.00
Creek 705 (Control)	705-10	after	38	0.0033	0.00
Fawnie Creek (Control)	FC-01	before	20	0.0003	5.00
Fawnie Creek (Control)	FC-01	after	38	0.0003	13.16

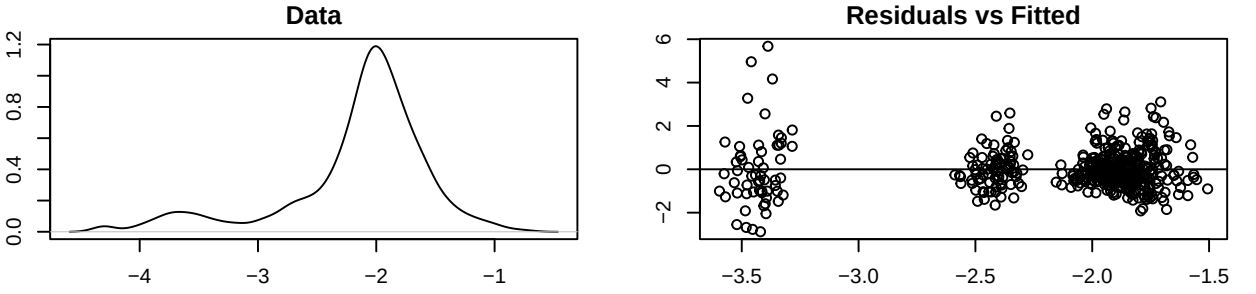
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-03	2024	1	impact	after	0.1755	0.0270	10.156	Y
Creek 705 (Control)	705-05	2025	11	control	after	0.1300	0.0262	7.100	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.1010	0.0261	5.118	Y
Creek 705 (Control)	705-05	2025	10	control	after	0.1000	0.0266	5.017	Y
Creek 661	661-01	2022	10	control	after	0.0889	0.0181	4.841	Y
Creek 661	661-20	2023	5	impact	after	0.0821	0.0127	4.746	Y
Creek 661	661-10	2025	9	impact	after	0.0930	0.0257	4.603	Y
Creek 661	661-05	2023	11	impact	after	0.0670	0.0127	3.711	Y
Creek 661	661-05	2017	10	impact	before	0.0676	0.0169	3.467	Y

Outliers on log scale:

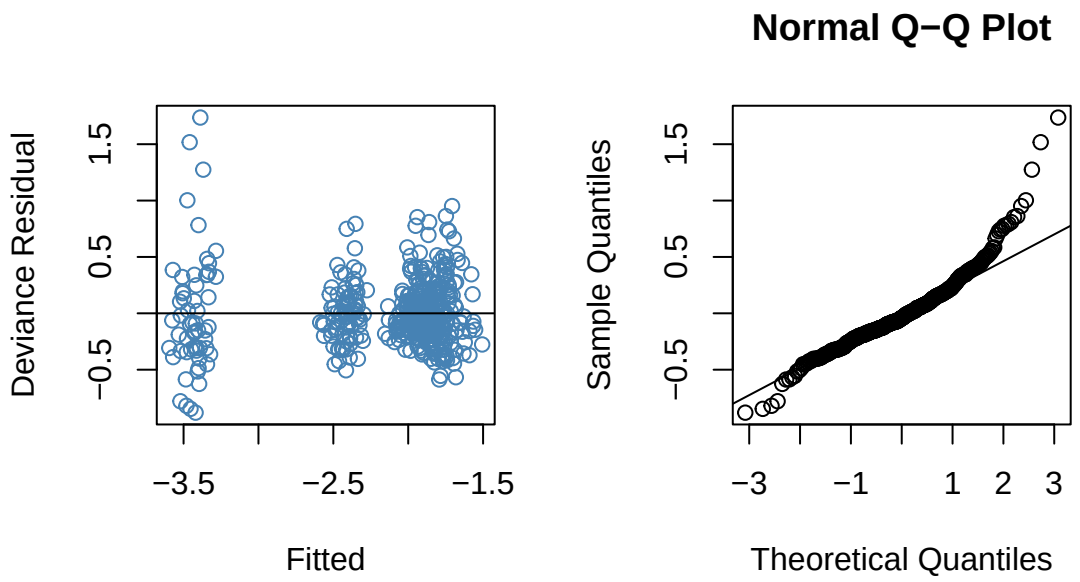
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	-1.6517	-3.388	5.676	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-1.9418	-3.459	4.960	Y
Fawnie Creek (Control)	FC-01	2024	5	control	after	-2.0945	-3.369	4.165	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.4724	-3.475	3.276	Y
Creek 661	661-03	2024	1	impact	after	-0.7557	-1.707	3.109	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.19757	0.19757	1	7.011	2.1111	0.189	
period	0.01068	0.01068	1	18.033	0.1142	0.739	
class:period	0.24559	0.24559	1	459.135	2.6242	0.106	0.13

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.1844	94%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

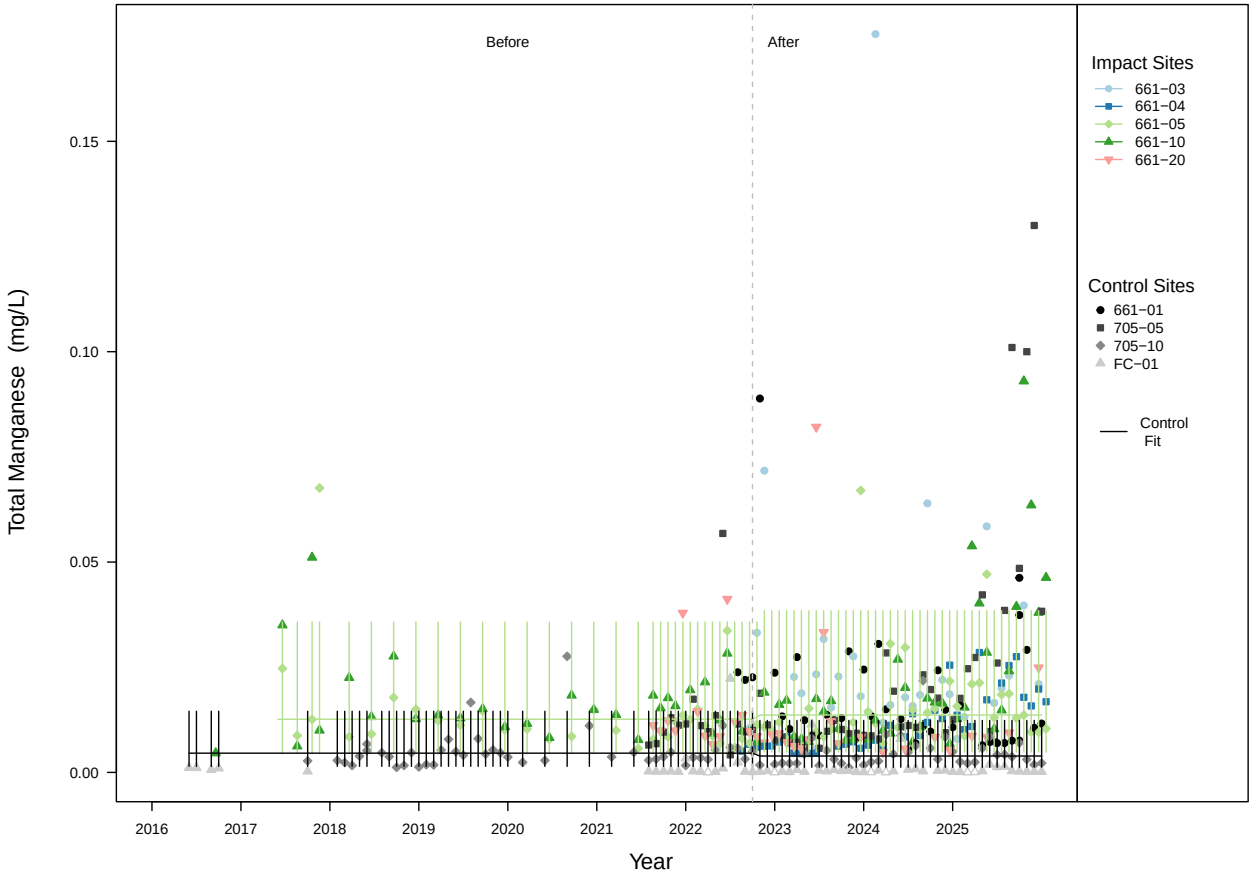
Impact vs.	Estimate	Significance
control sites	0.1025	not significant

Conclusion:

The change in Total Manganese concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.13) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

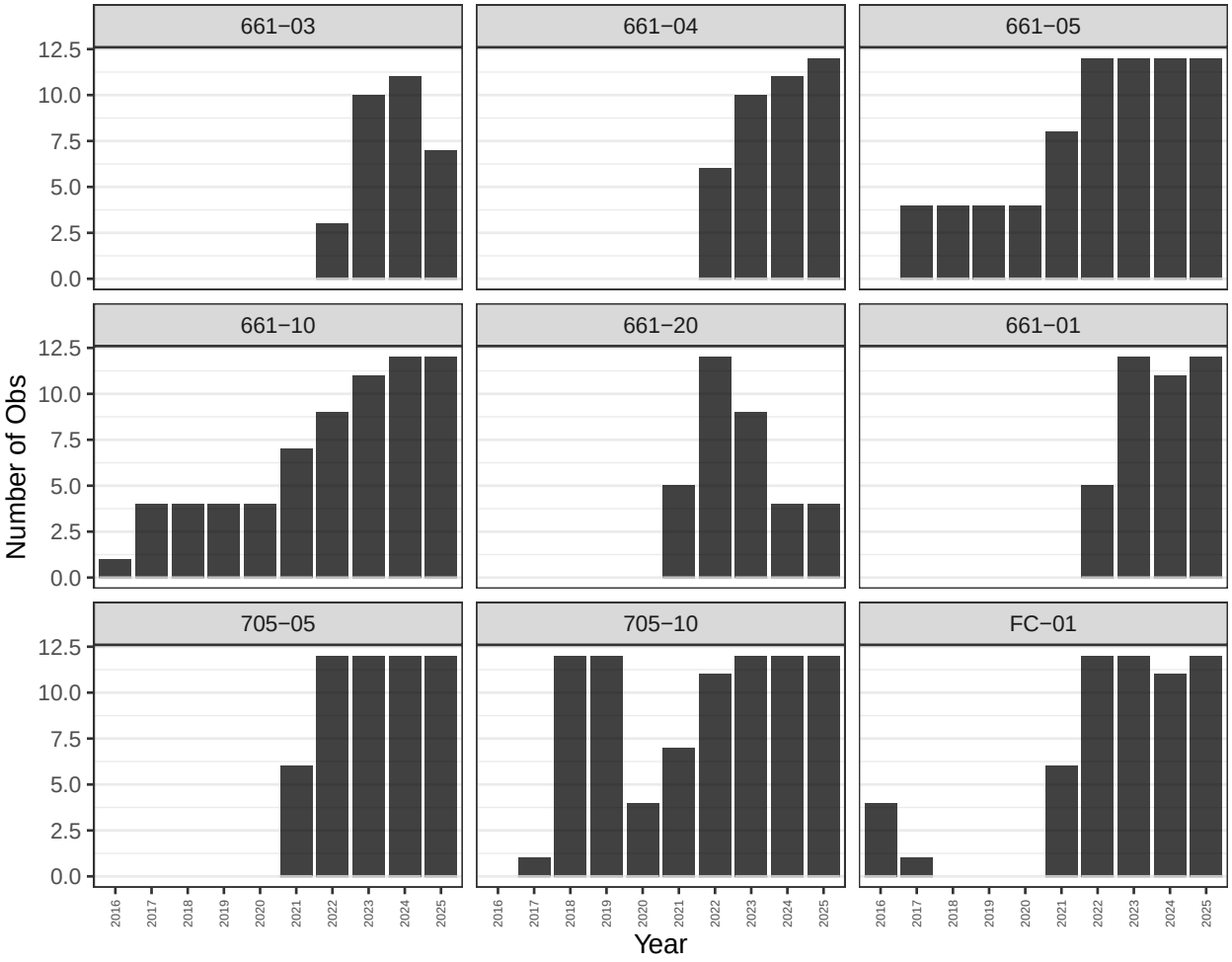
Variable	Total Manganese
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.2.23 Total Molybdenum

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

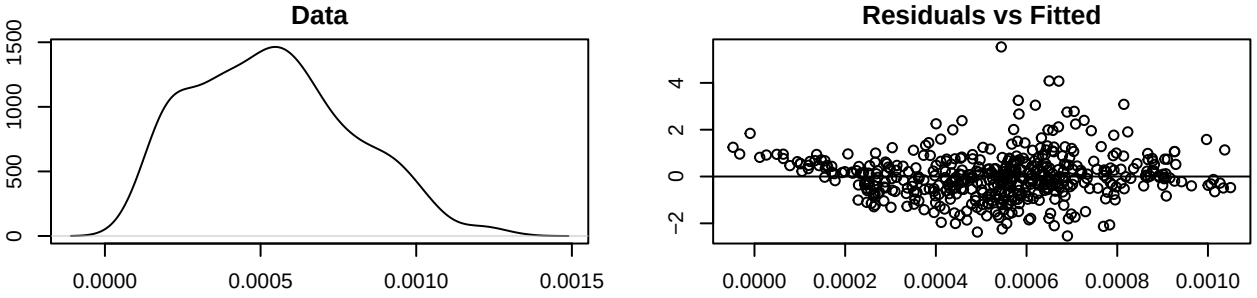
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0003	0
Creek 661	661-03	after	29	0.0002	0
Creek 661	661-04	before	3	0.0006	0
Creek 661	661-04	after	36	0.0006	0
Creek 661	661-05	before	33	0.0007	0
Creek 661	661-05	after	39	0.0008	0
Creek 661	661-10	before	31	0.0004	0
Creek 661	661-10	after	37	0.0006	0
Creek 661	661-20	before	14	0.0009	0
Creek 661	661-20	after	20	0.0010	0
Creek 661	661-01	before	3	0.0003	0
Creek 661	661-01	after	37	0.0002	0
Creek 705 (Control)	705-05	before	15	0.0005	0
Creek 705 (Control)	705-05	after	39	0.0006	0
Creek 705 (Control)	705-10	before	45	0.0004	0
Creek 705 (Control)	705-10	after	38	0.0005	0
Fawnie Creek (Control)	FC-01	before	20	0.0005	0
Fawnie Creek (Control)	FC-01	after	38	0.0007	0

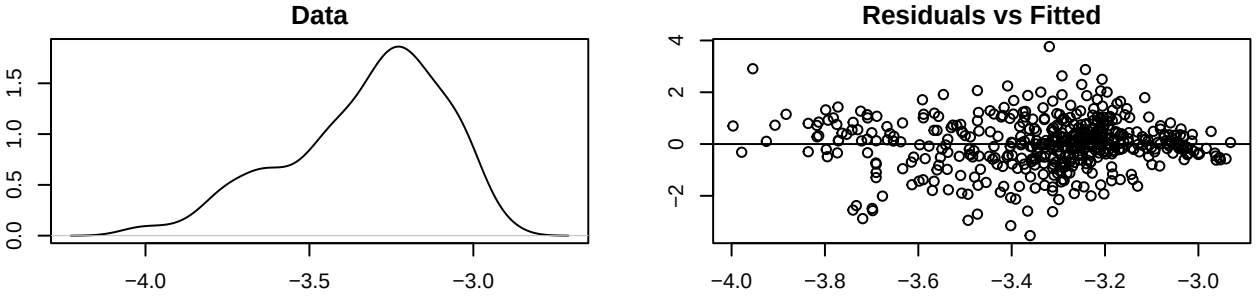
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-10	2020	2	control	before	0.0013	0.0005	5.536	Y
Creek 661	661-10	2025	8	impact	after	0.0012	0.0006	4.084	Y
Creek 661	661-05	2017	7	impact	before	0.0012	0.0007	4.075	Y
Fawnie Creek (Control)	FC-01	2024	4	control	after	0.0010	0.0006	3.253	Y
Creek 661	661-05	2017	9	impact	before	0.0012	0.0008	3.084	Y
Fawnie Creek (Control)	FC-01	2023	4	control	after	0.0010	0.0006	3.048	Y

Outliers on log scale:

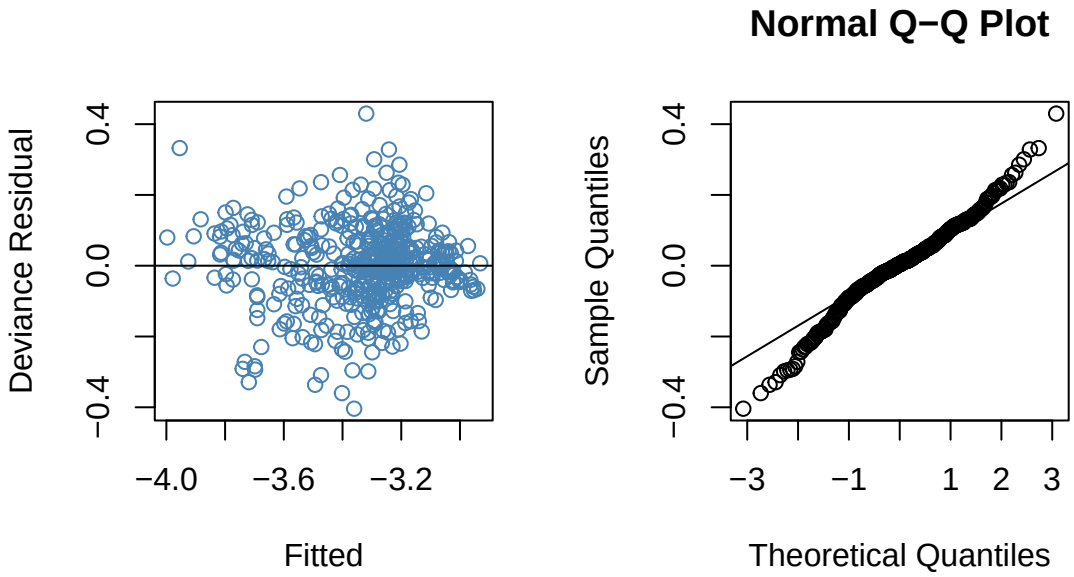
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-10	2020	2	control	before	-2.889	-3.319	3.763	Y
Creek 661	661-10	2017	10	impact	before	-3.764	-3.360	-3.537	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	-3.762	-3.402	-3.152	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.009856	0.009856	1	7.008	0.7555	0.414	
period	0.185096	0.185096	1	69.482	14.1882	<0.001	
class:period	0.037587	0.037587	1	454.512	2.8811	0.0903	0.114

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.0974	40%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

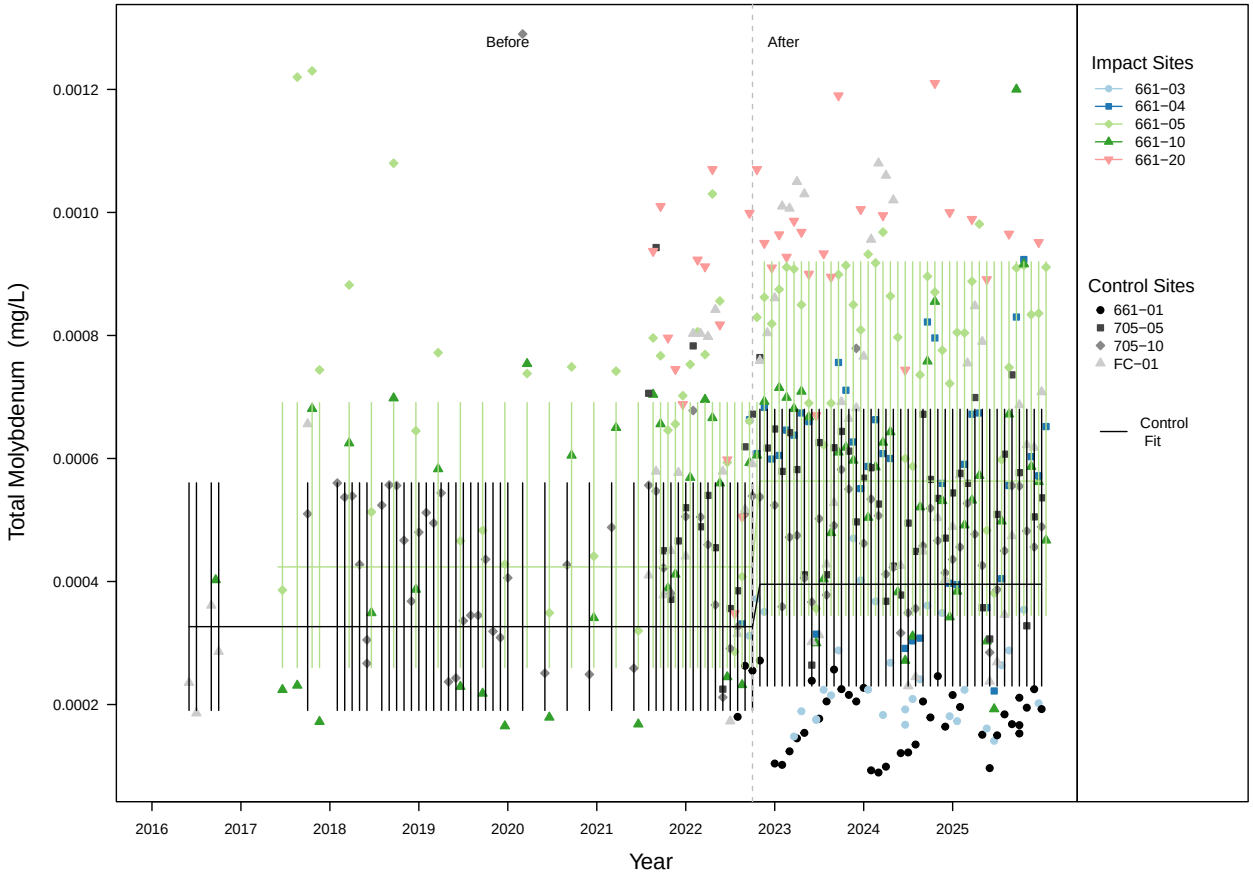
Impact vs.	Estimate	Significance
control sites	0.0404	not significant

Conclusion:

The change in Total Molybdenum concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.114) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

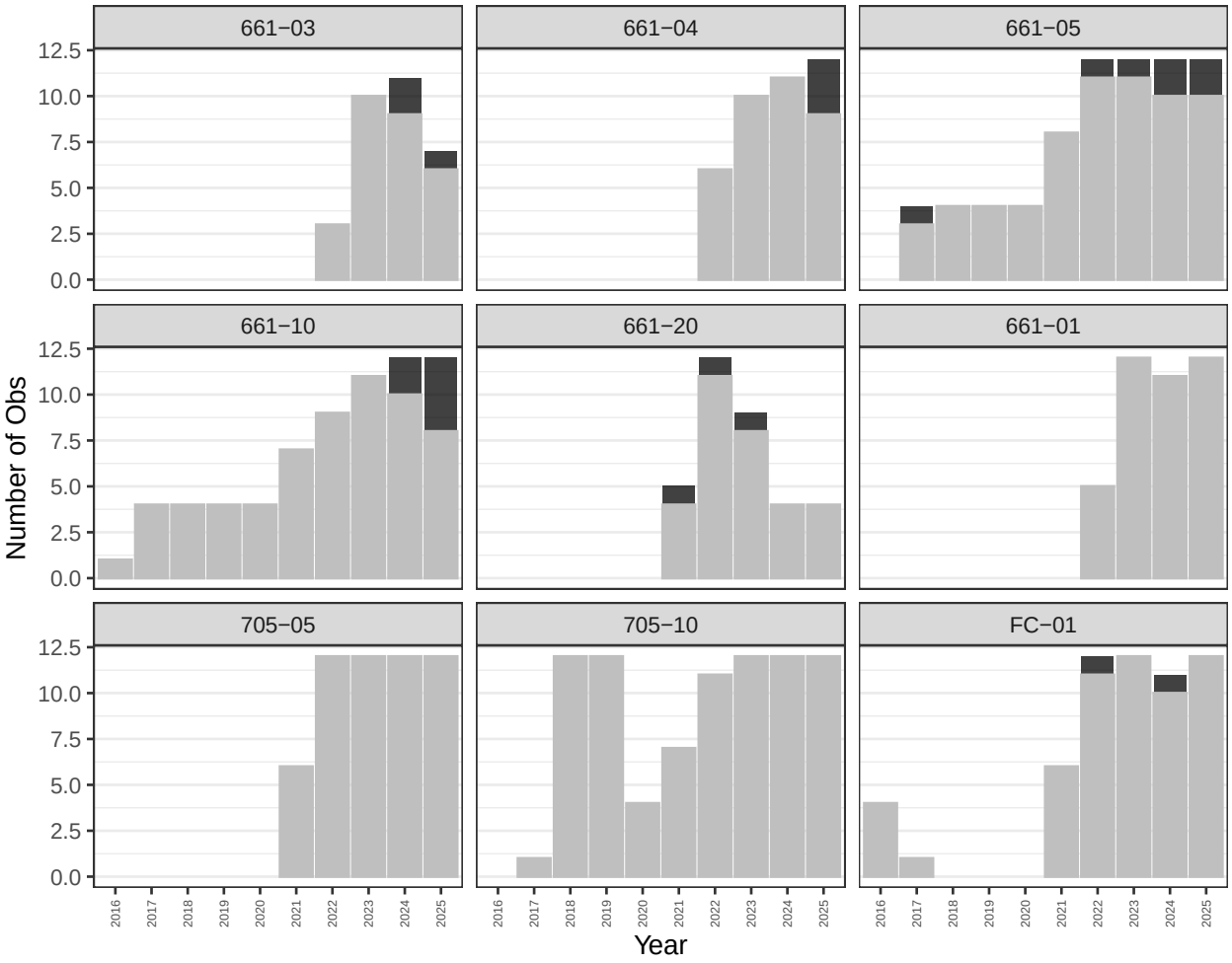
Final Summary Table

Variable	Total Molybdenum
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.2.24 Total Nickel

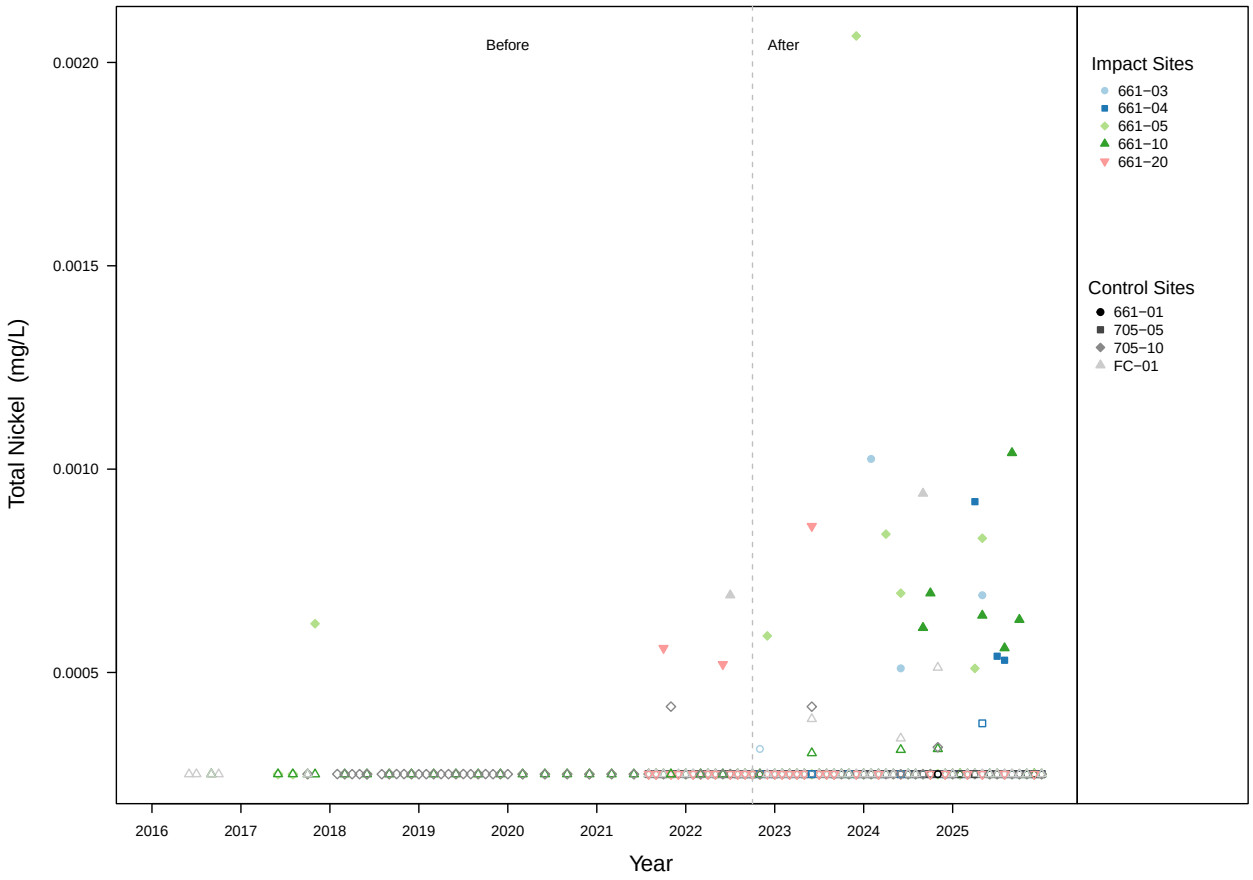
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

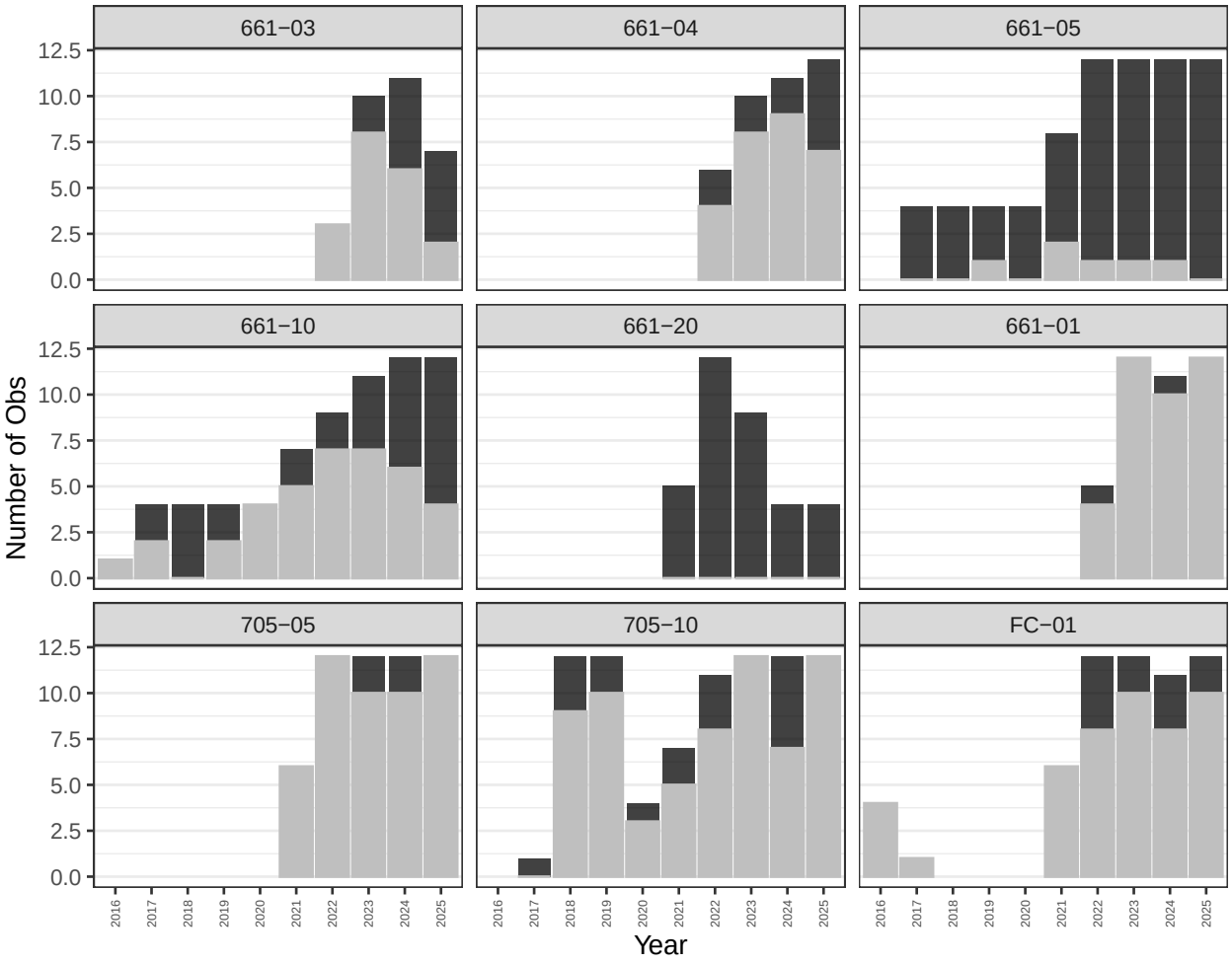
Final Summary Table

Variable	Total Nickel
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.25 Total Selenium

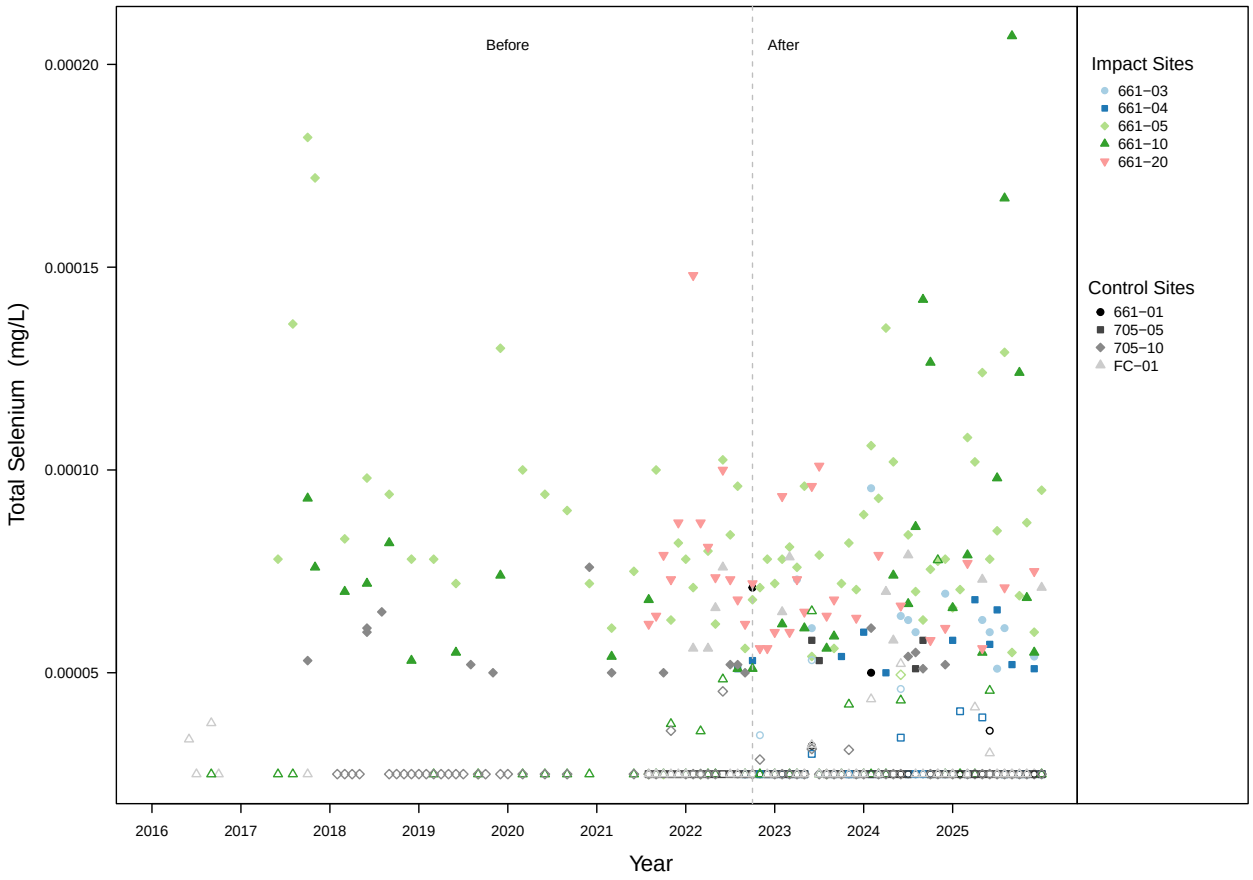
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

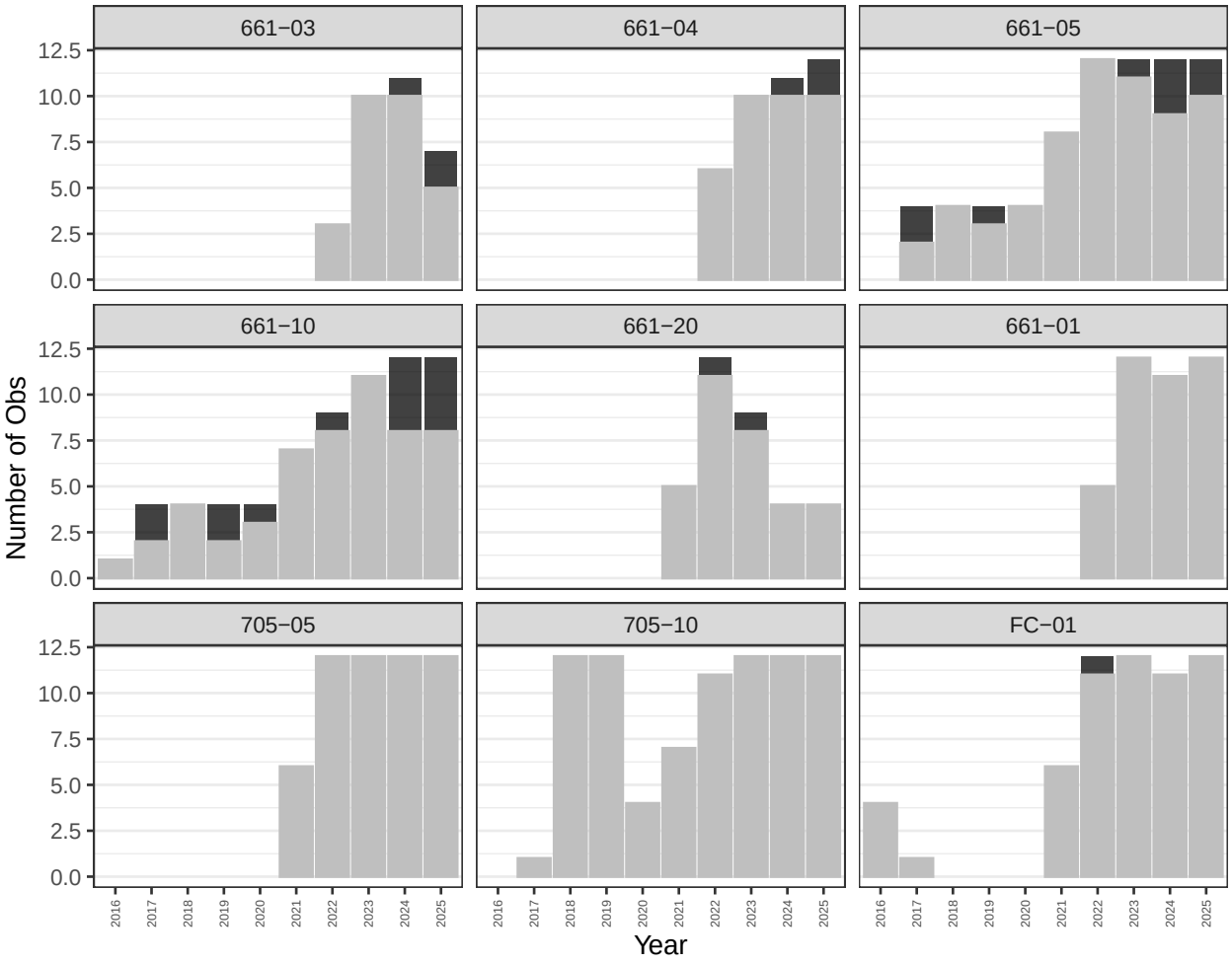
Final Summary Table

Variable	Total Selenium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.26 Total Silver

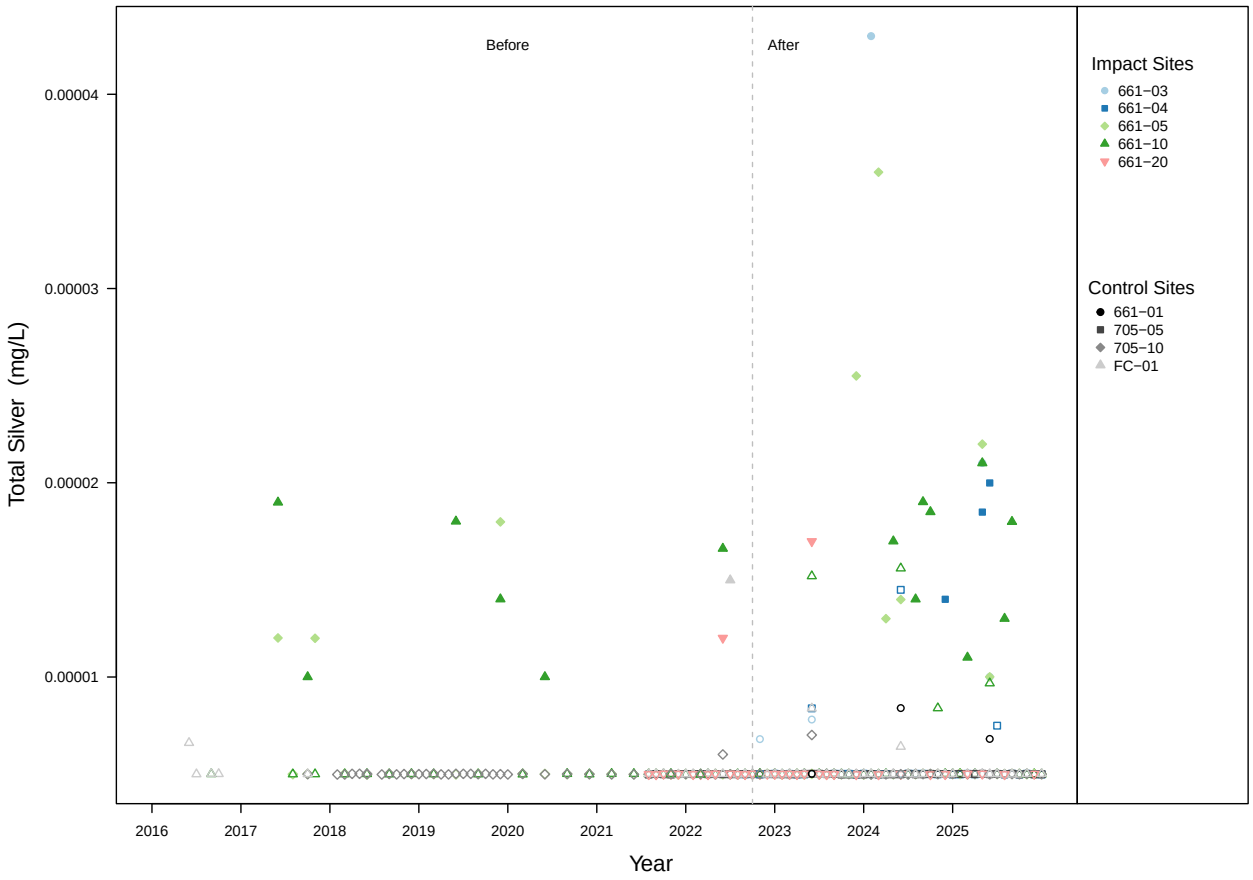
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

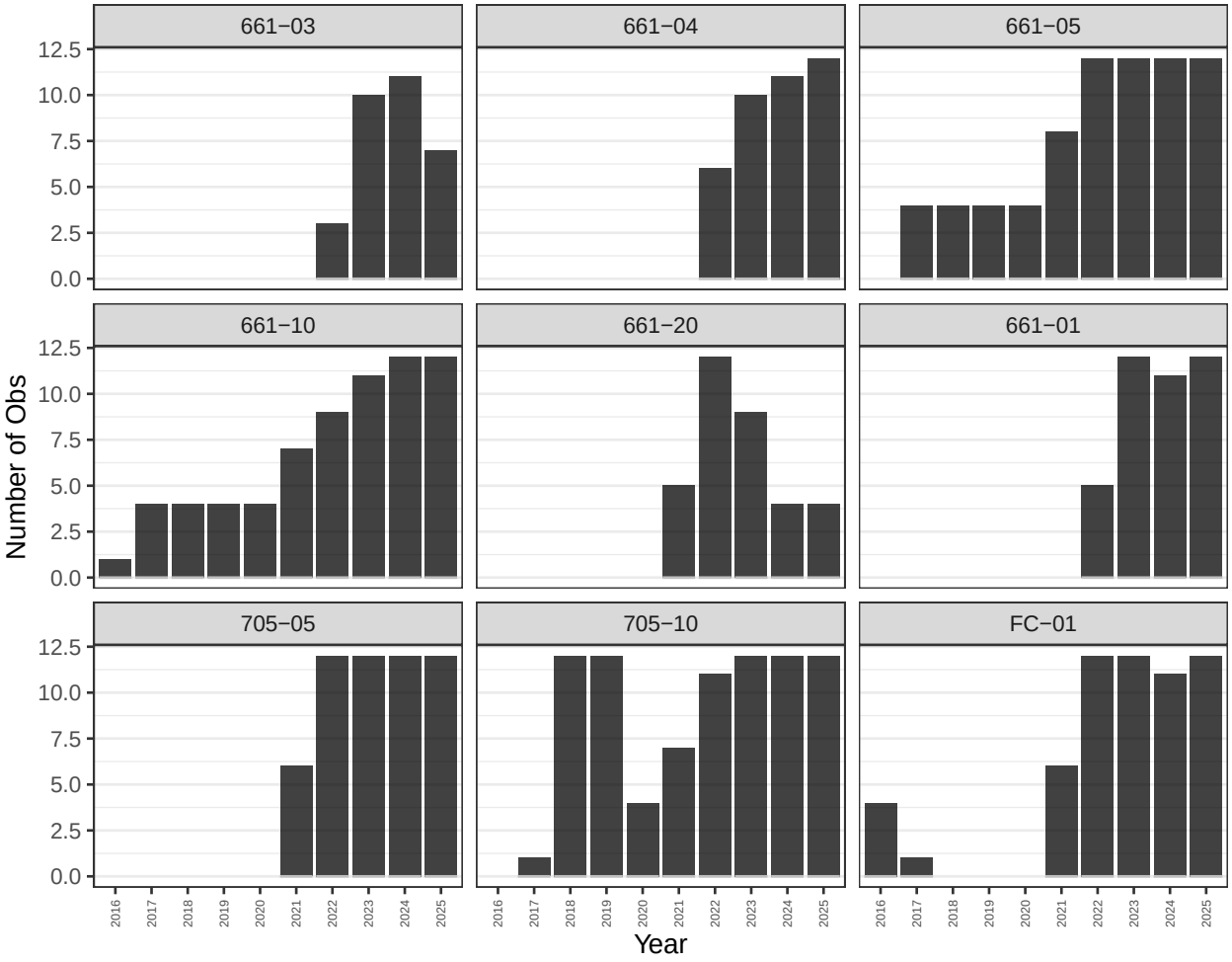
Variable	Total Silver
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.27 Total Strontium

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

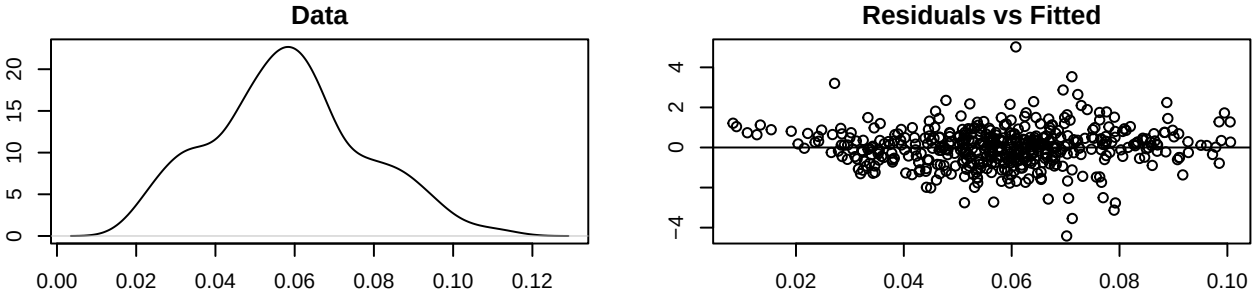
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0992	0
Creek 661	661-03	after	29	0.0631	0
Creek 661	661-04	before	3	0.0522	0
Creek 661	661-04	after	36	0.0636	0
Creek 661	661-05	before	33	0.0739	0
Creek 661	661-05	after	39	0.0837	0
Creek 661	661-10	before	31	0.0558	0
Creek 661	661-10	after	37	0.0659	0
Creek 661	661-20	before	14	0.0862	0
Creek 661	661-20	after	20	0.0957	0
Creek 661	661-01	before	3	0.0342	0
Creek 661	661-01	after	37	0.0285	0
Creek 705 (Control)	705-05	before	15	0.0490	0
Creek 705 (Control)	705-05	after	39	0.0555	0
Creek 705 (Control)	705-10	before	45	0.0567	0
Creek 705 (Control)	705-10	after	38	0.0589	0
Fawnie Creek (Control)	FC-01	before	20	0.0459	0
Fawnie Creek (Control)	FC-01	after	38	0.0494	0

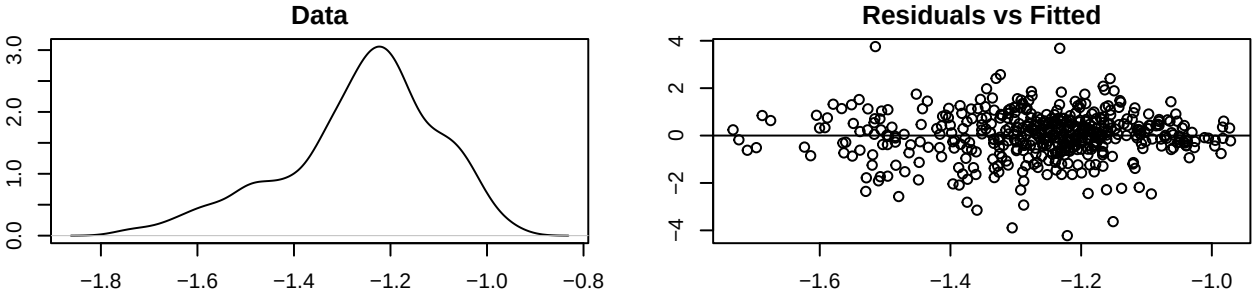
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-10	2018	2	impact	before	0.1060	0.0608	5.019	Y
Creek 661	661-20	2022	6	impact	before	0.0304	0.0702	-4.417	Y
Creek 661	661-03	2025	4	impact	after	0.0393	0.0712	-3.544	Y
Creek 661	661-03	2022	9	impact	before	0.1030	0.0712	3.532	Y
Fawnie Creek (Control)	FC-01	2022	5	control	before	0.0560	0.0272	3.201	Y
Creek 661	661-20	2022	7	impact	before	0.0508	0.0790	-3.129	Y

Outliers on log scale:

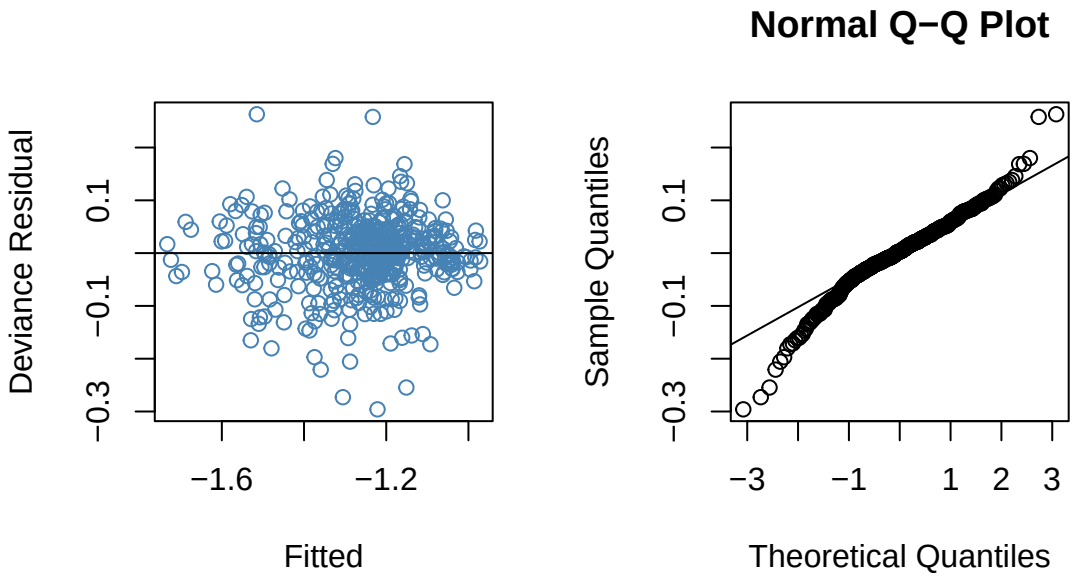
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-20	2022	6	impact	before	-1.5171	-1.221	-4.223	Y
Creek 661	661-10	2017	10	impact	before	-1.5784	-1.306	-3.894	Y
Fawnie Creek (Control)	FC-01	2022	5	control	before	-1.2518	-1.515	3.753	Y
Creek 661	661-10	2018	2	impact	before	-0.9747	-1.233	3.682	Y
Creek 661	661-03	2025	4	impact	after	-1.4056	-1.151	-3.632	Y
Creek 661	661-10	2019	11	impact	before	-1.5800	-1.359	-3.149	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.02571	0.02571	1	7.012	5.235	0.0559	
period	0.12498	0.12498	1	50.441	25.446	<0.001	
class:period	0.03515	0.03515	1	455.284	7.156	0.00774	0.0123

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.4146	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

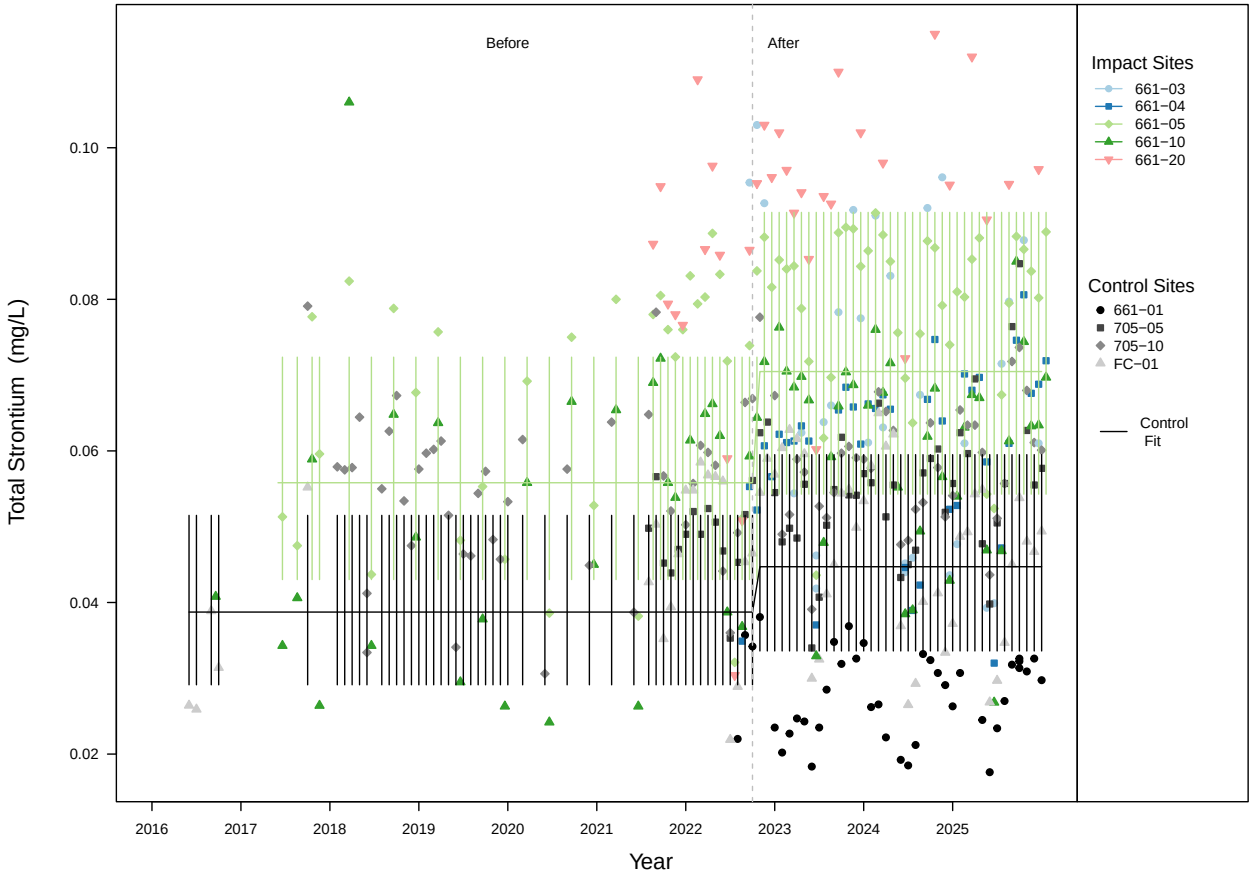
Impact vs.	Estimate	Significance
control sites	0.039	significant

Conclusion:

The change in Total Strontium concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 0.0123) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

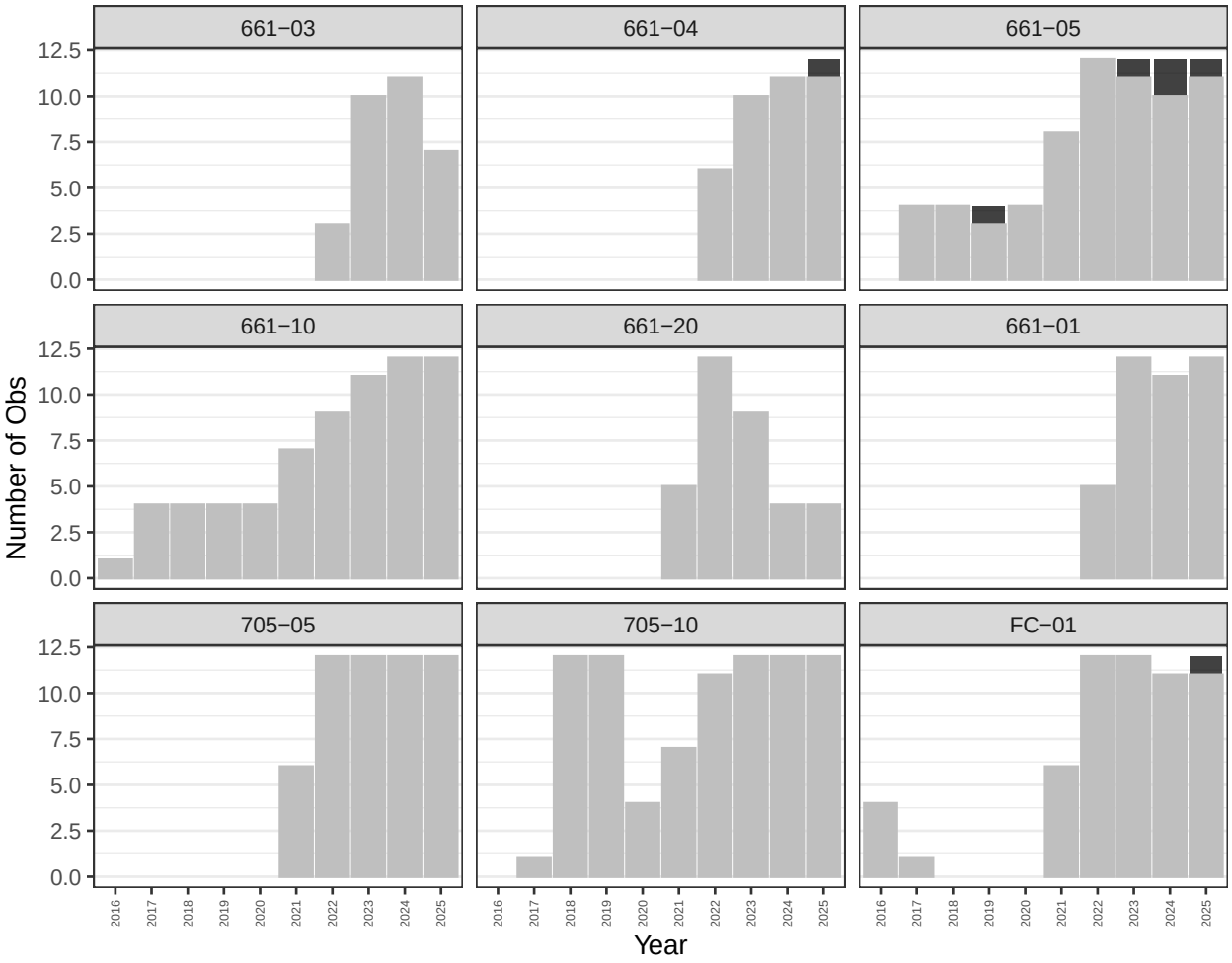
Final Summary Table

Variable	Total Strontium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.28 Total Thallium

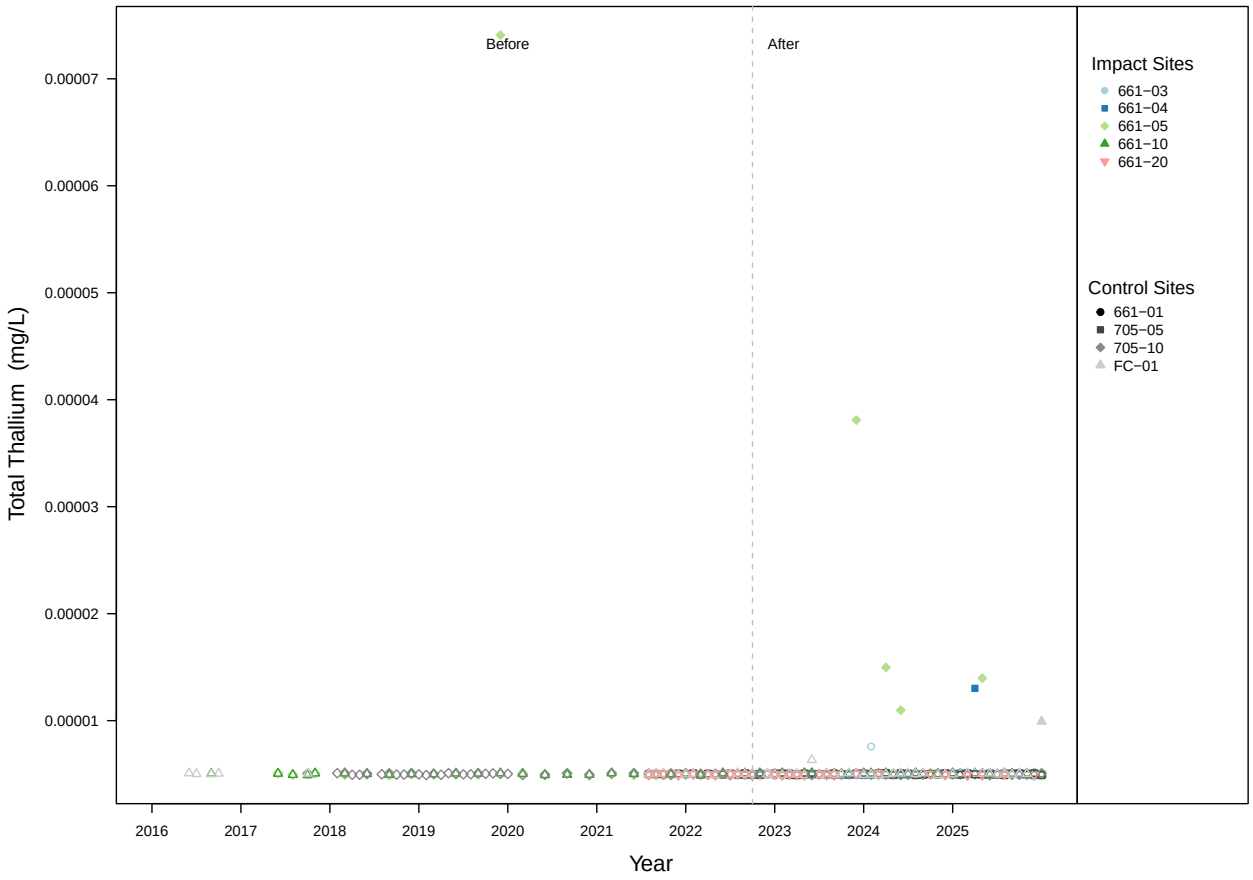
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

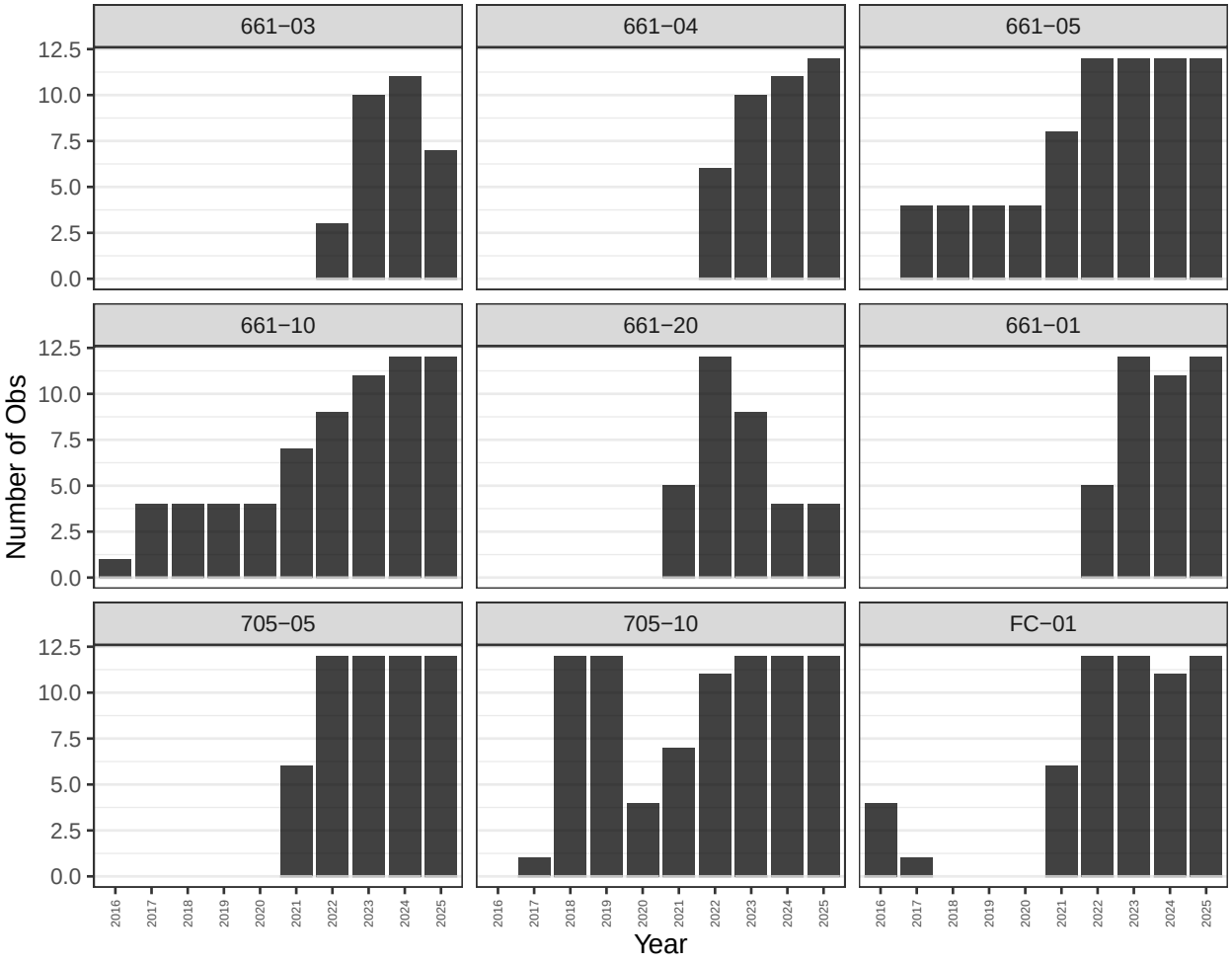
Variable	Total Thallium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.29 Total Uranium

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

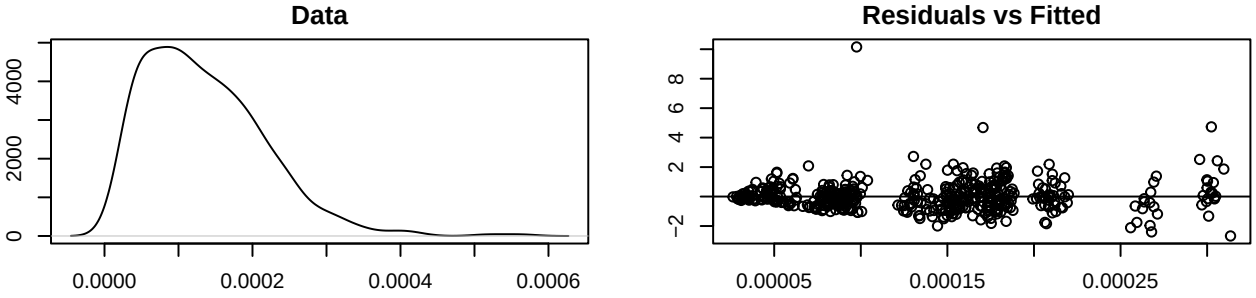
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0001	0
Creek 661	661-03	after	29	0.0001	0
Creek 661	661-04	before	3	0.0001	0
Creek 661	661-04	after	36	0.0001	0
Creek 661	661-05	before	33	0.0002	0
Creek 661	661-05	after	39	0.0002	0
Creek 661	661-10	before	31	0.0001	0
Creek 661	661-10	after	37	0.0001	0
Creek 661	661-20	before	14	0.0002	0
Creek 661	661-20	after	20	0.0003	0
Creek 661	661-01	before	3	0.0000	0
Creek 661	661-01	after	37	0.0000	0
Creek 705 (Control)	705-05	before	15	0.0002	0
Creek 705 (Control)	705-05	after	39	0.0001	0
Creek 705 (Control)	705-10	before	45	0.0002	0
Creek 705 (Control)	705-10	after	38	0.0001	0
Fawnie Creek (Control)	FC-01	before	20	0.0000	0
Fawnie Creek (Control)	FC-01	after	38	0.0001	0

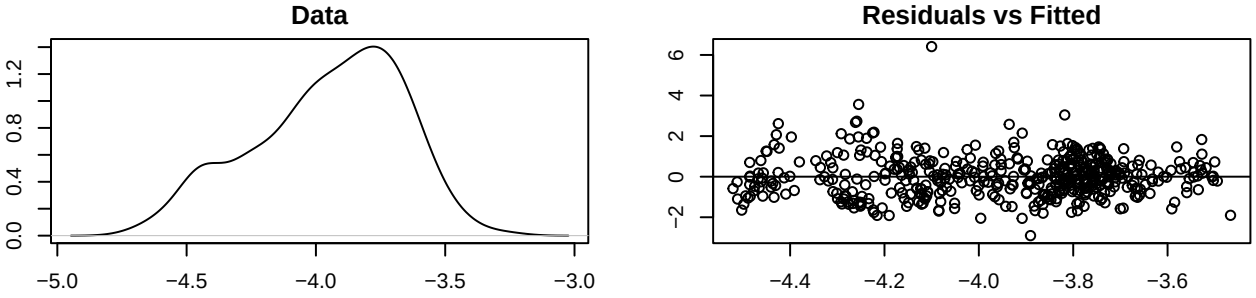
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-03	2024	1	impact	after	0.0006	0.0001	10.155	Y
Creek 661	661-20	2025	2	impact	after	0.0005	0.0003	4.730	Y
Creek 661	661-05	2017	10	impact	before	0.0004	0.0002	4.684	Y

Outliers on log scale:

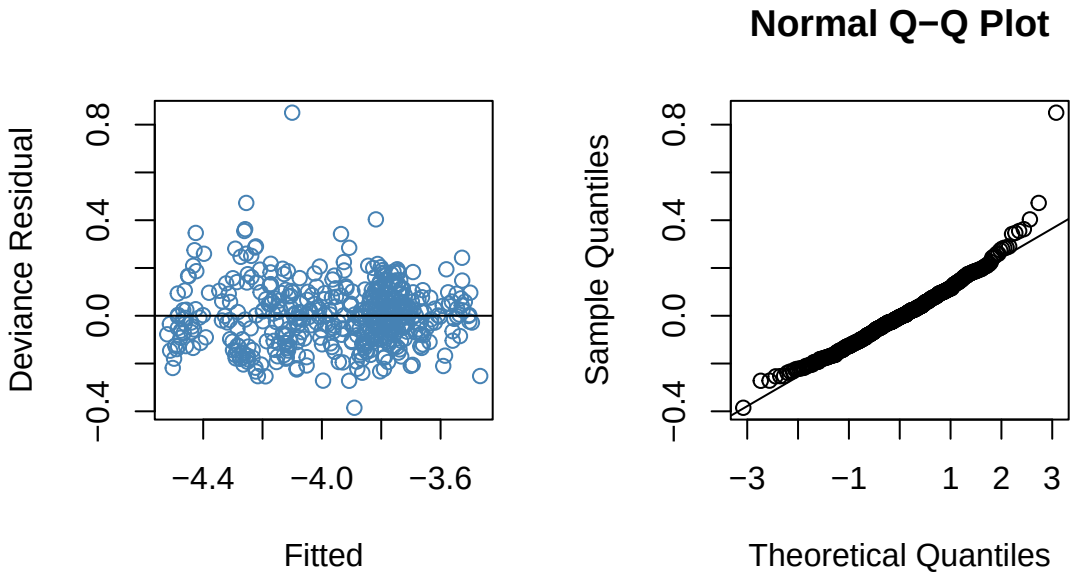
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-03	2024	1	impact	after	-3.250	-4.100	6.412	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-3.783	-4.255	3.562	Y
Creek 661	661-05	2017	10	impact	before	-3.414	-3.818	3.042	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.01018	0.01018	1	7.007	0.5789	0.472	
period	0.01719	0.01719	1	15.206	0.9775	0.338	
class:period	0.46846	0.46846	1	457.739	26.6416	<0.001	1.57e-06

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.0822	29%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

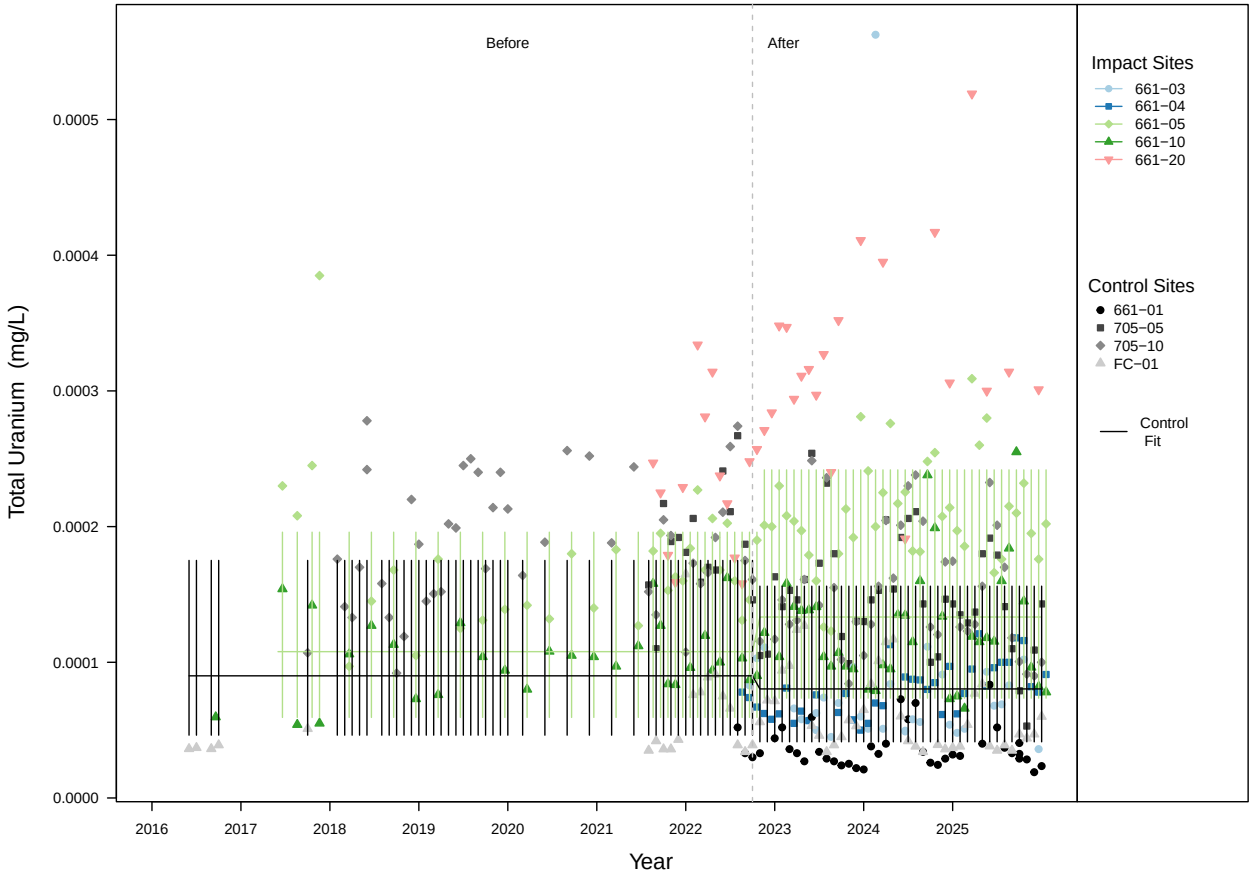
Impact vs.	Estimate	Significance
control sites	0.1415	significant

Conclusion:

The change in Total Uranium concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 1.57×10^{-6}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

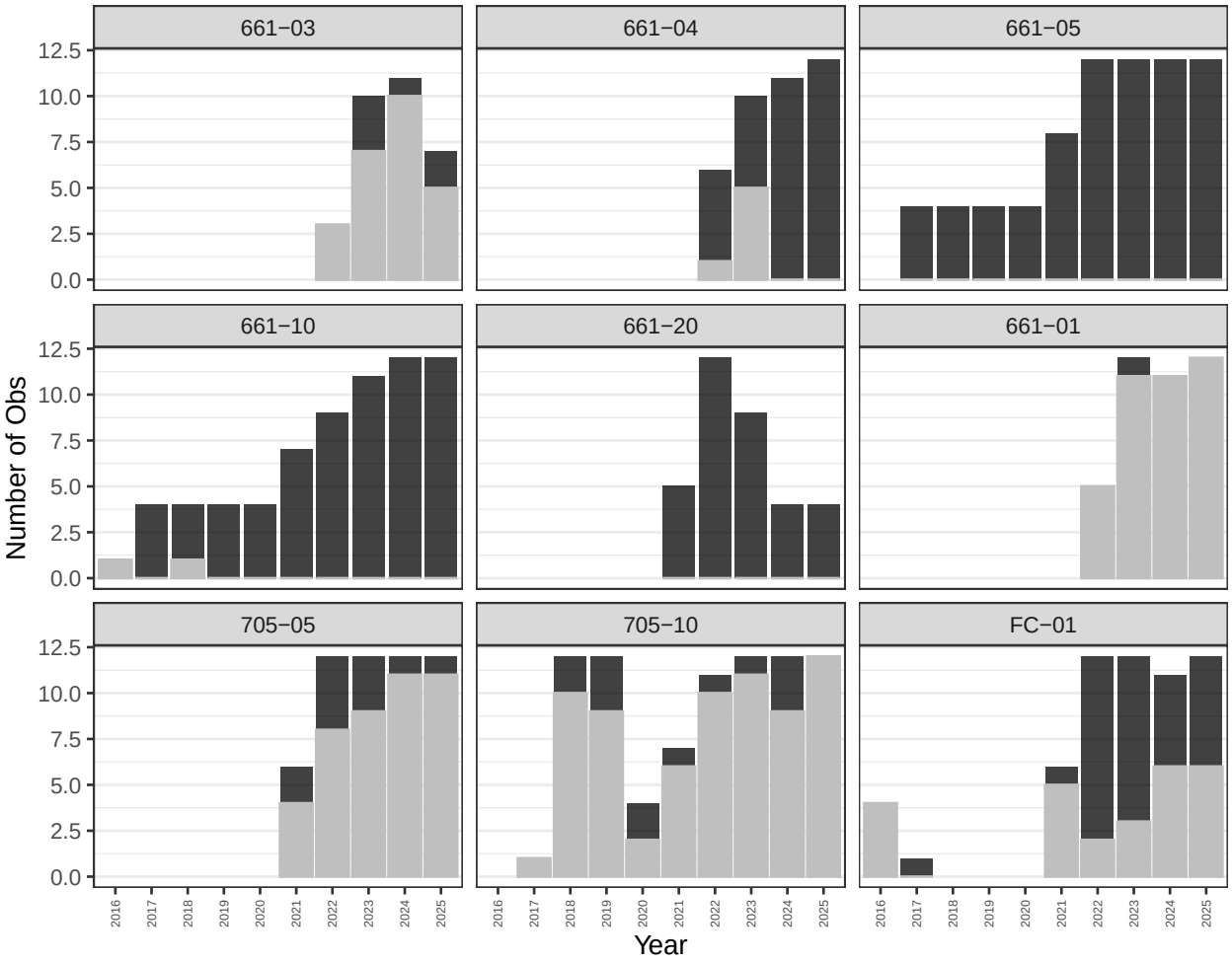
Final Summary Table

Variable	Total Uranium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.30 Total Vanadium

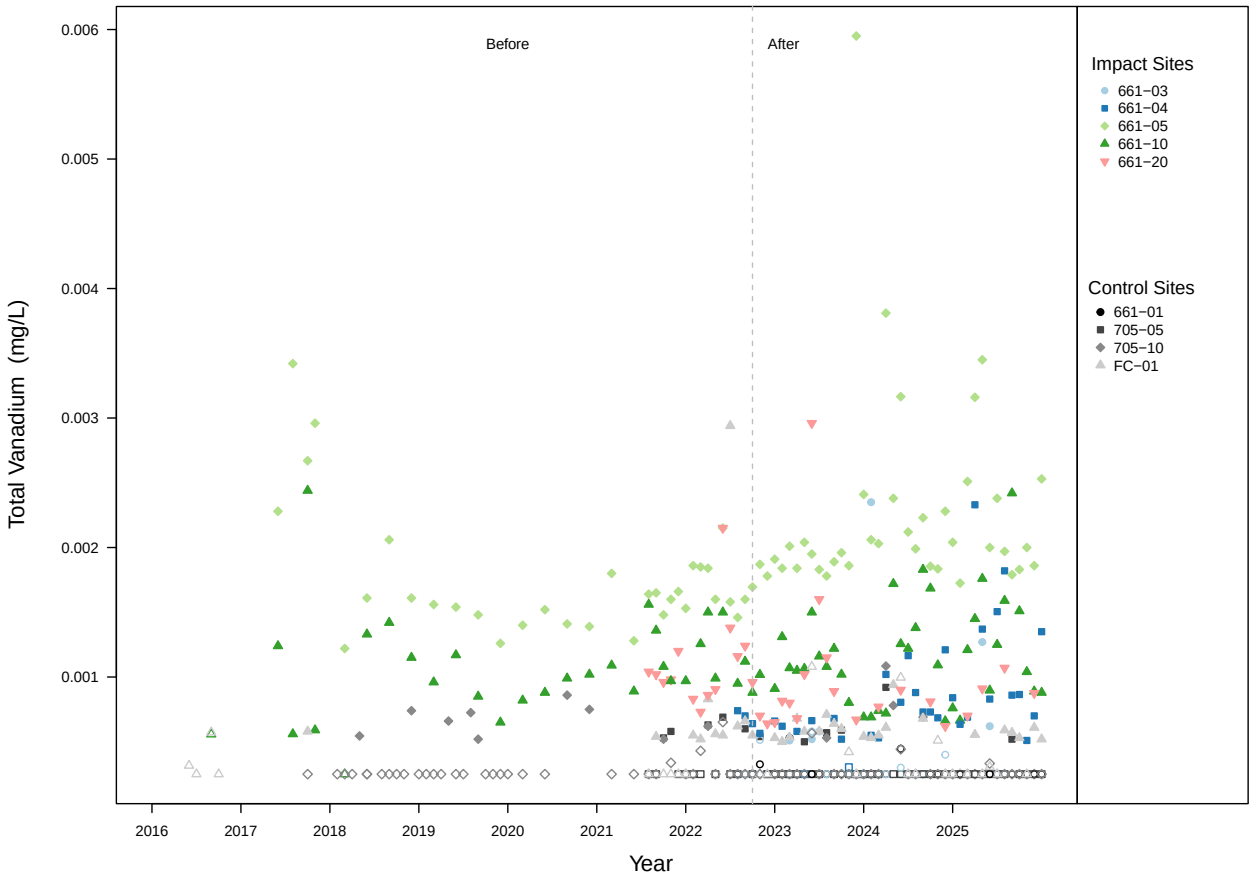
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

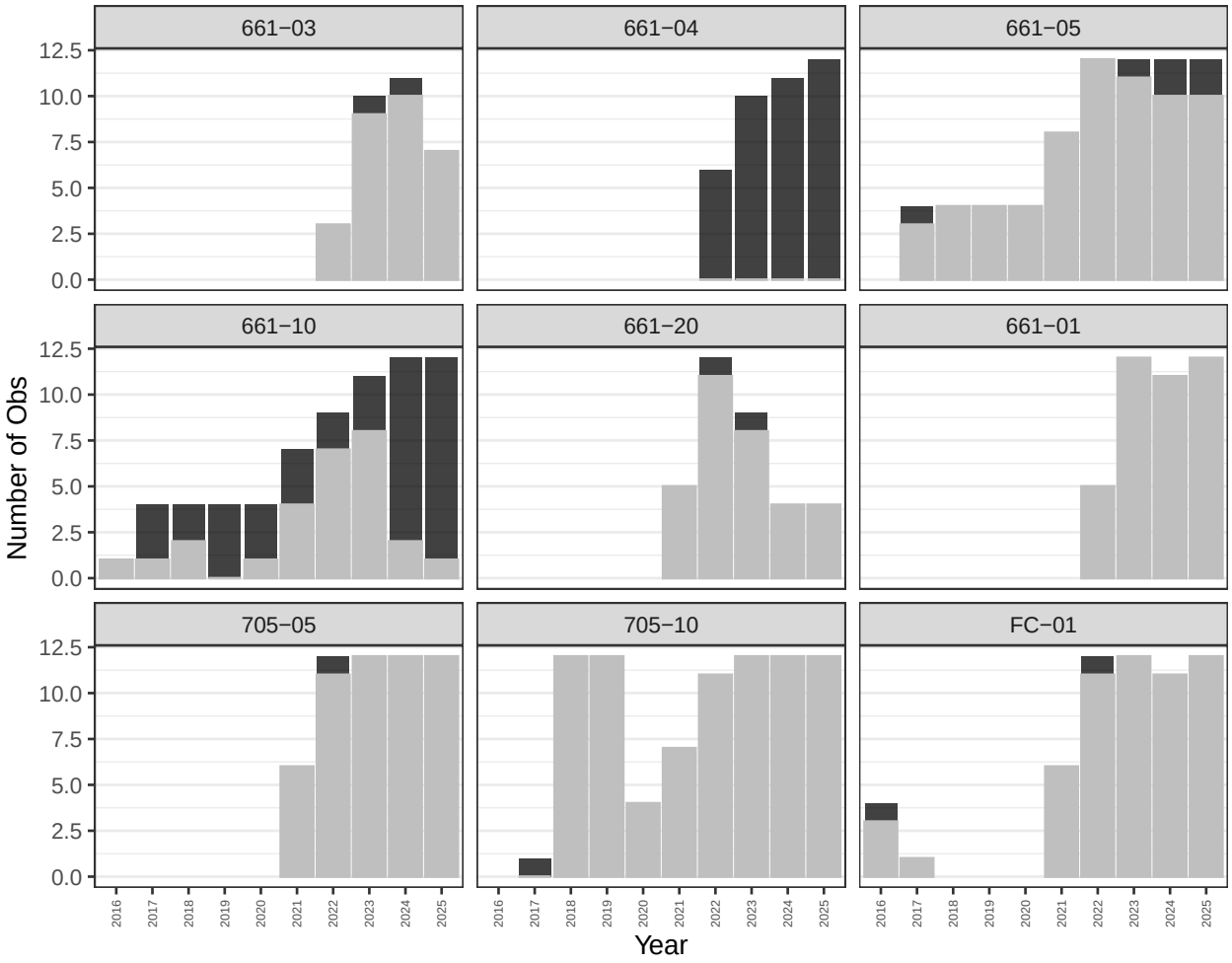
Final Summary Table

Variable	Total Vanadium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.31 Total Zinc

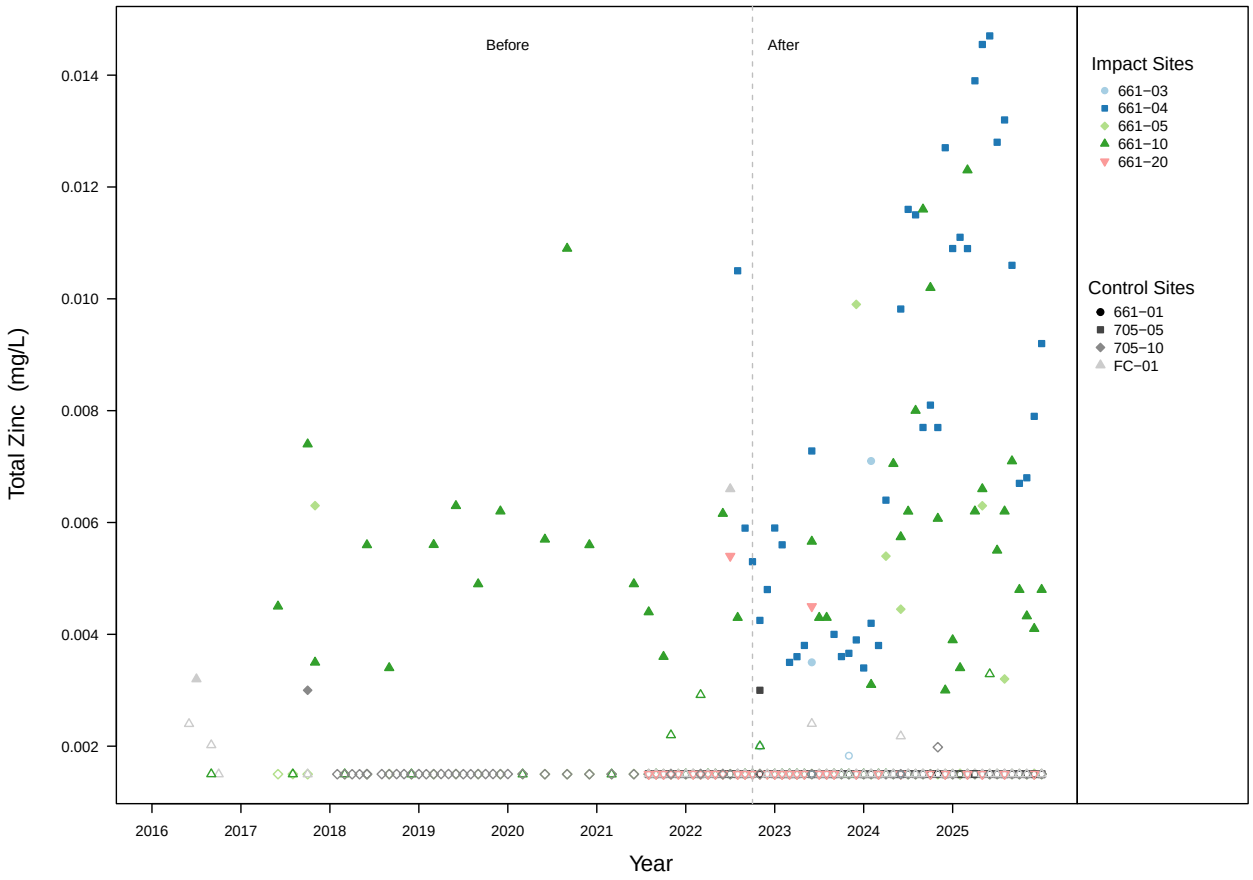
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

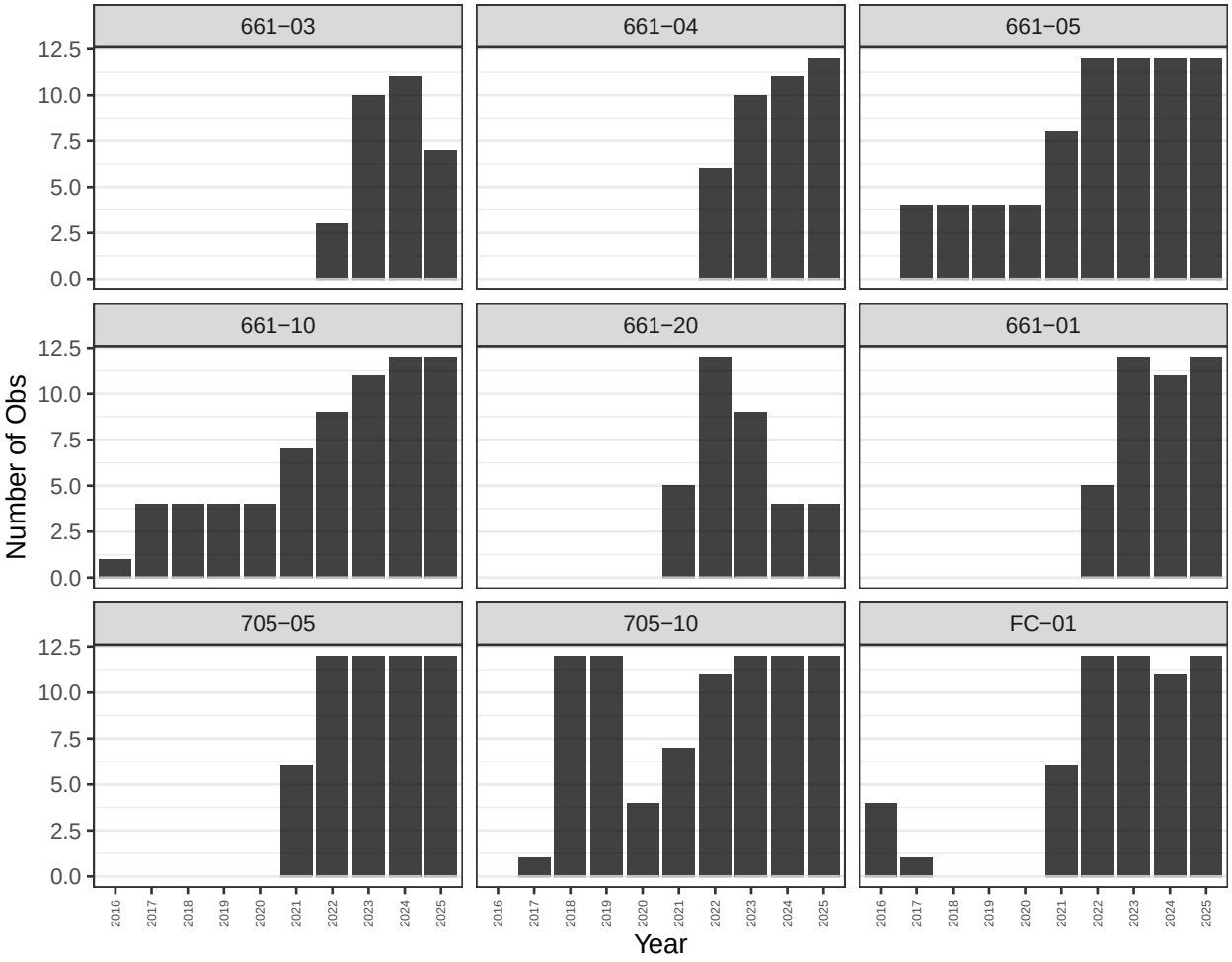
Variable	Total Zinc
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.32 Dissolved Aluminum

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

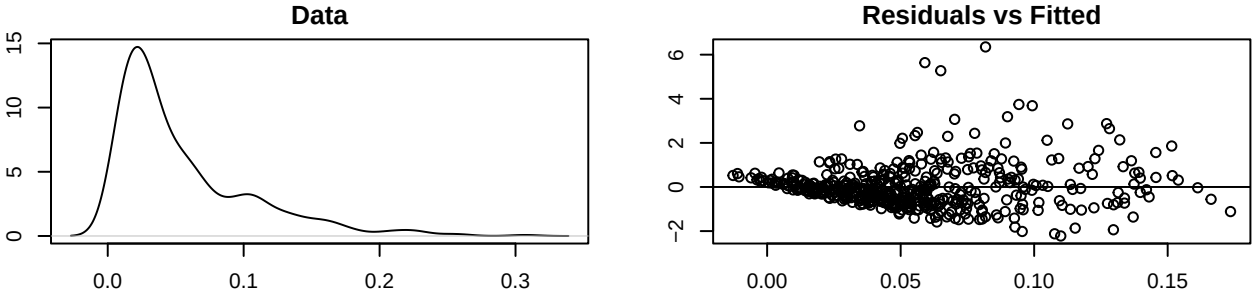
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0134	0
Creek 661	661-03	after	29	0.0505	0
Creek 661	661-04	before	3	0.1080	0
Creek 661	661-04	after	36	0.0253	0
Creek 661	661-05	before	33	0.0256	0
Creek 661	661-05	after	39	0.0203	0
Creek 661	661-10	before	31	0.0470	0
Creek 661	661-10	after	37	0.0511	0
Creek 661	661-20	before	14	0.0219	0
Creek 661	661-20	after	20	0.0116	0
Creek 661	661-01	before	3	0.0414	0
Creek 661	661-01	after	37	0.0471	0
Creek 705 (Control)	705-05	before	15	0.0641	0
Creek 705 (Control)	705-05	after	39	0.0437	0
Creek 705 (Control)	705-10	before	45	0.0675	0
Creek 705 (Control)	705-10	after	38	0.0445	0
Fawnie Creek (Control)	FC-01	before	20	0.0220	0
Fawnie Creek (Control)	FC-01	after	38	0.0100	0

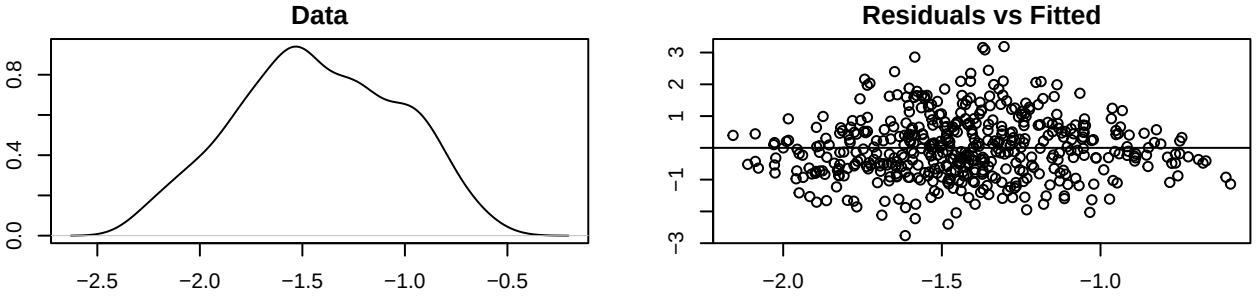
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-03	2025	4	impact	after	0.307	0.0818	6.350	Y
Creek 705 (Control)	705-05	2024	3	control	after	0.259	0.0591	5.637	Y
Creek 705 (Control)	705-10	2024	3	control	after	0.252	0.0650	5.272	Y
Creek 661	661-10	2019	11	impact	before	0.227	0.0943	3.742	Y
Creek 705 (Control)	705-10	2020	11	control	before	0.230	0.0993	3.686	Y
Creek 661	661-10	2025	4	impact	after	0.203	0.0900	3.186	Y
Creek 661	661-20	2022	6	impact	before	0.179	0.0702	3.067	Y

Outliers on log scale:

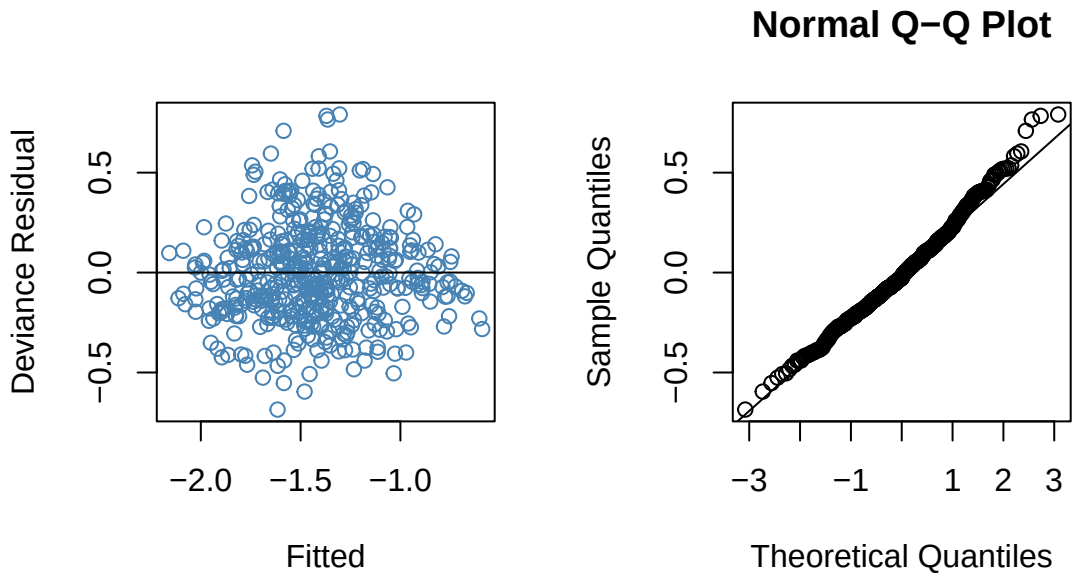
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-03	2025	4	impact	after	-0.5129	-1.304	3.187	Y
Creek 705 (Control)	705-05	2024	3	control	after	-0.5867	-1.371	3.159	Y
Creek 705 (Control)	705-10	2024	3	control	after	-0.5986	-1.364	3.085	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.03135	0.03135	1	7.047	0.509	0.499	
period	1.51498	1.51498	1	54.601	24.594	<0.001	
class:period	0.12316	0.12316	1	457.586	1.999	0.158	0.184

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
479	0.1294	65%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

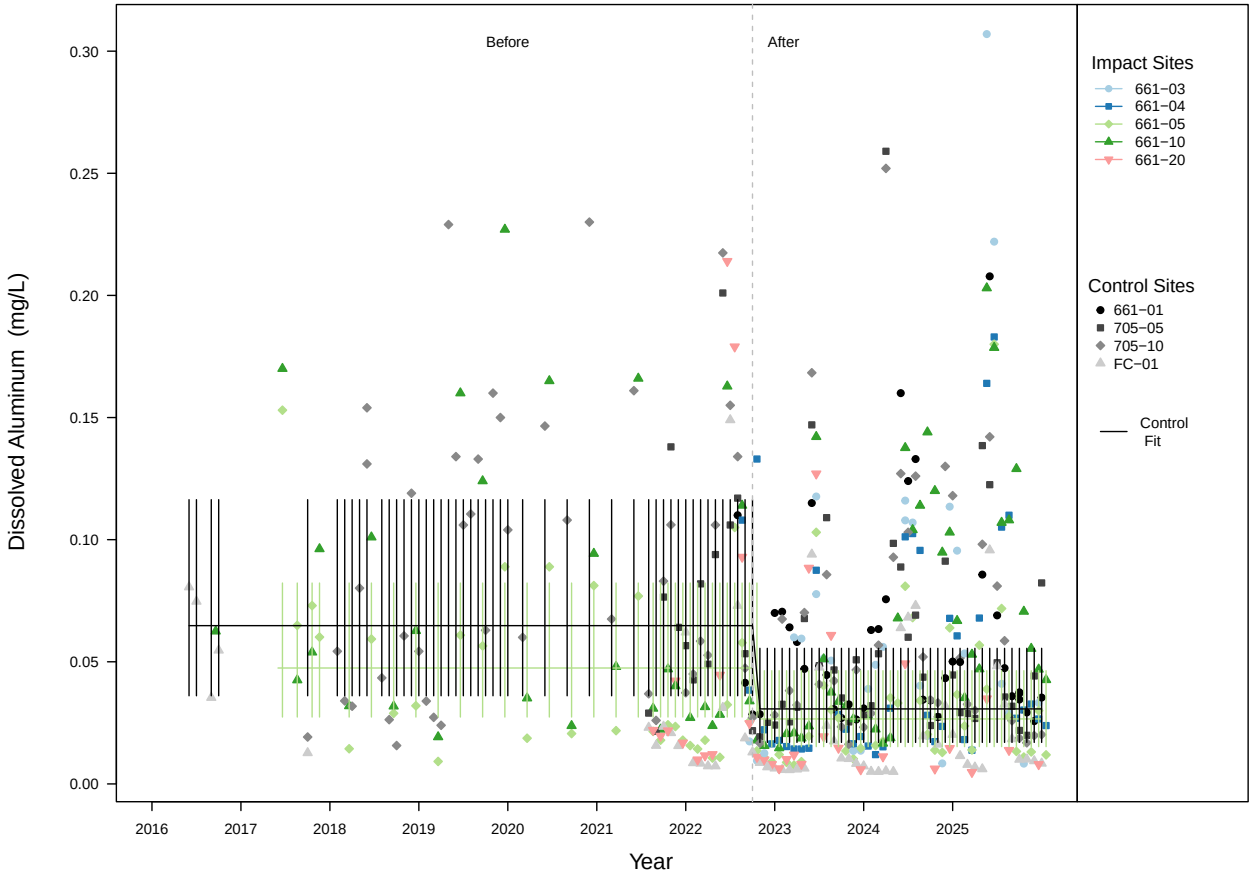
Impact vs.	Estimate	Significance
control sites	0.073	not significant

Conclusion:

The change in Dissolved Aluminum concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.184) different from the change at the control sites, according to the test on the BACI term (*class*:*period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

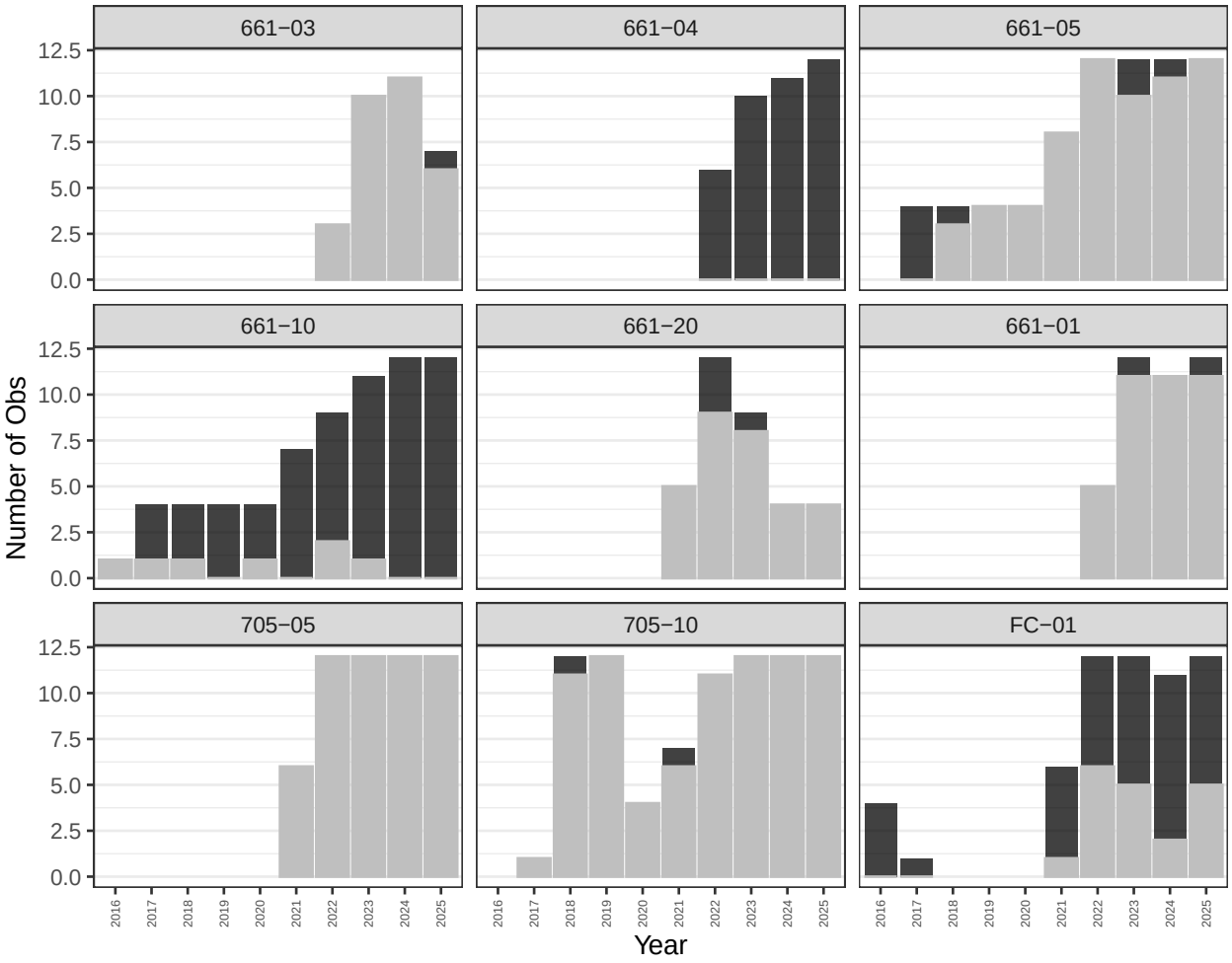
Final Summary Table

Variable	Dissolved Aluminum
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.2.33 Dissolved Cadmium

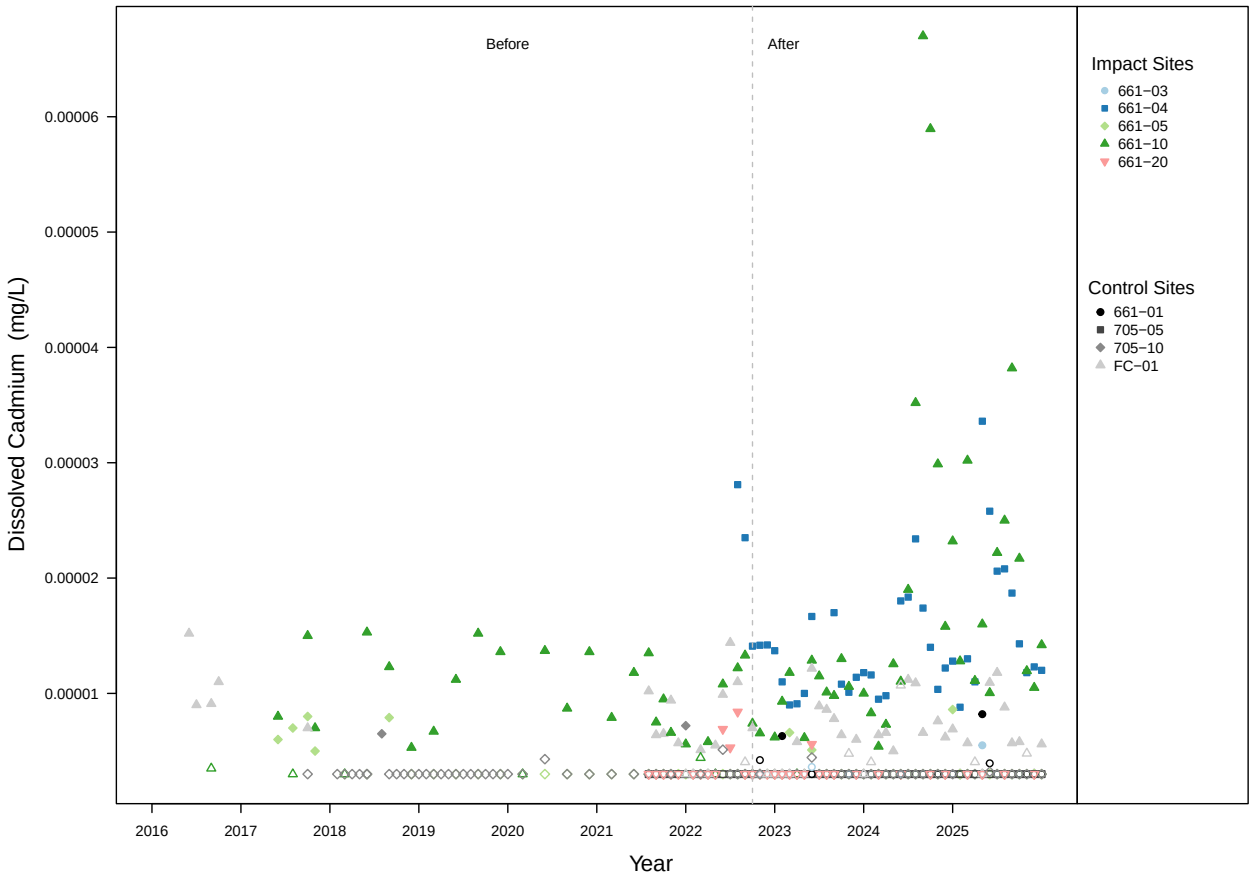
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

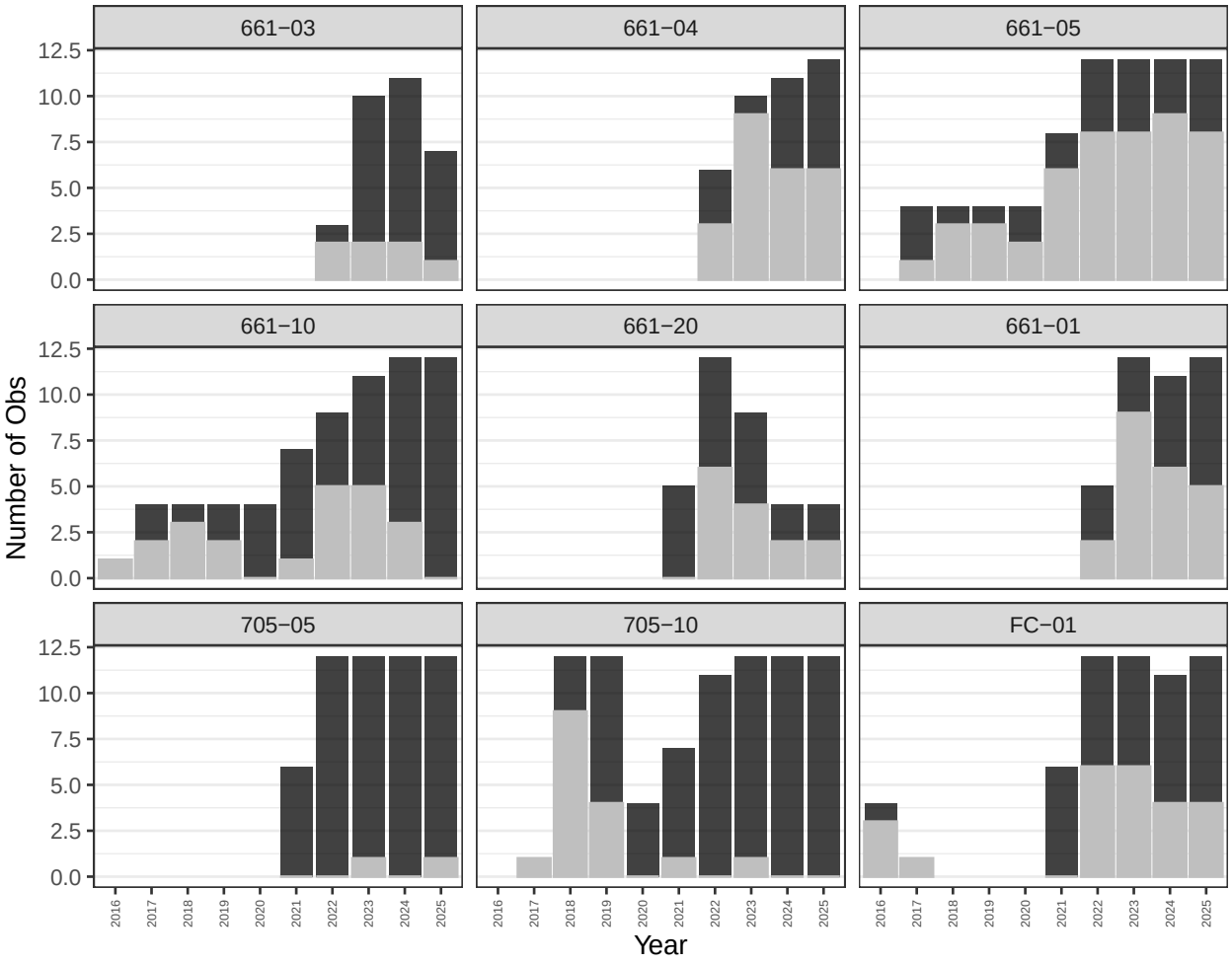
Final Summary Table

Variable	Dissolved Cadmium
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.34 Dissolved Copper

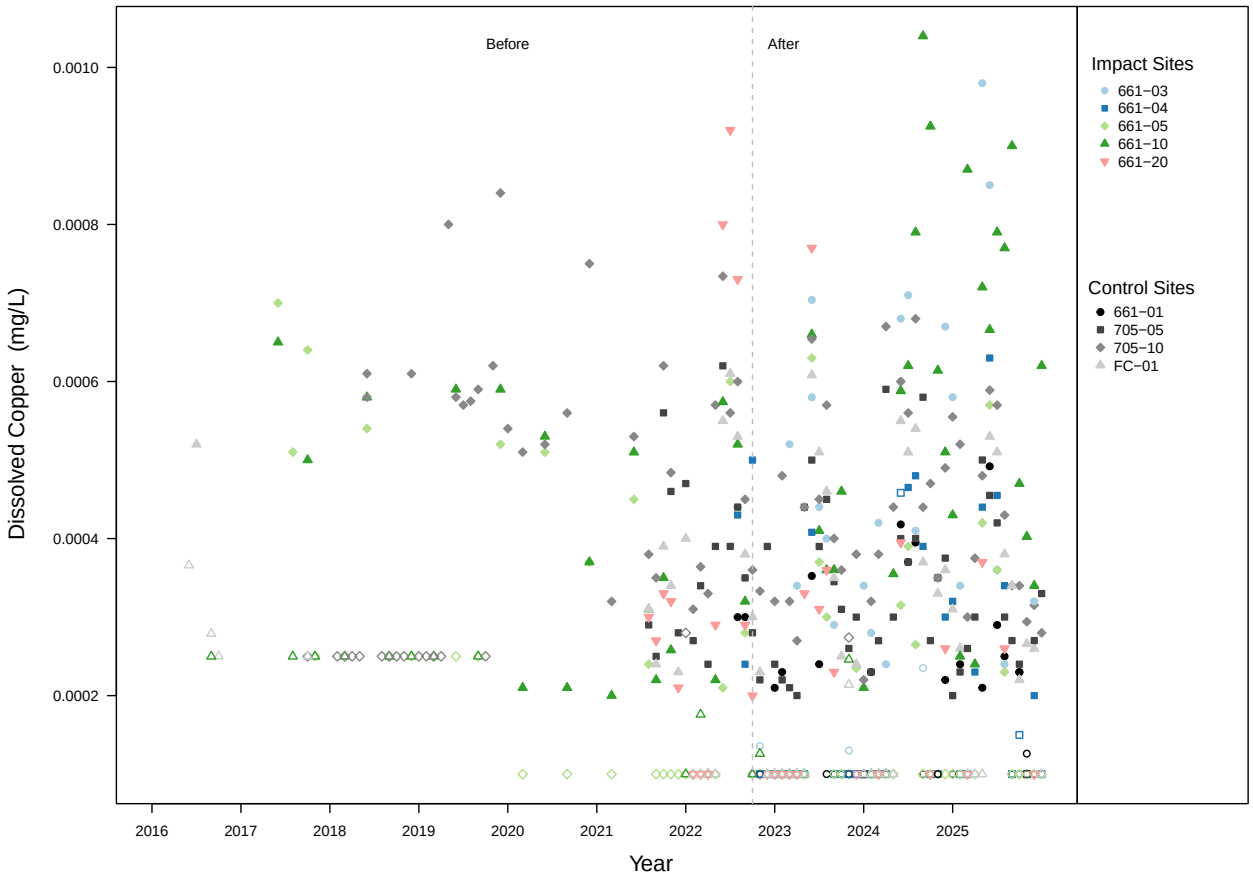
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

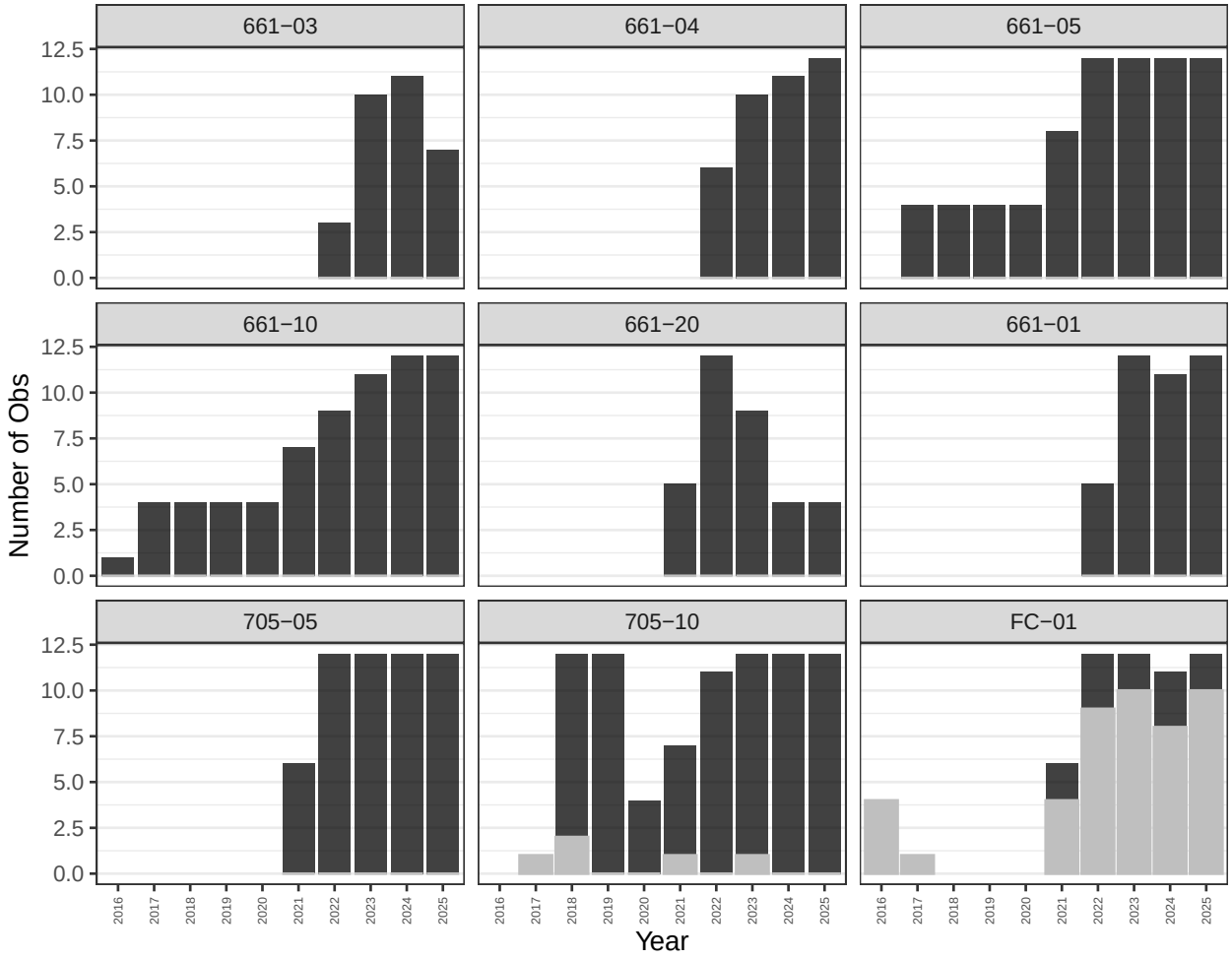
Variable	Dissolved Copper
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.2.35 Dissolved Iron

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Creek 705 (Control)	705-10	2017	control	before	1
Fawnie Creek (Control)	FC-01	2016	control	before	4
Fawnie Creek (Control)	FC-01	2017	control	before	1
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2023	control	after	12

(Continued on Next Page...)

(continued)

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2024	control	after	11
Fawnie Creek (Control)	FC-01	2025	control	after	12

1.2 Sample Sizes for Modelling

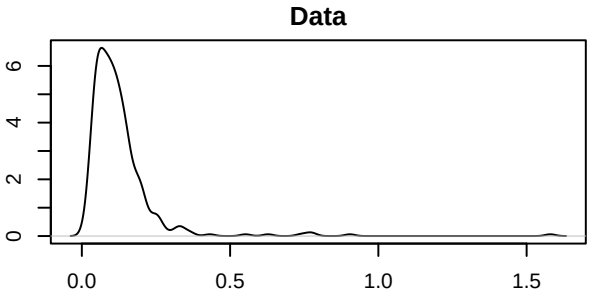
The remaining sample sizes per site and period are summarised in the table below.

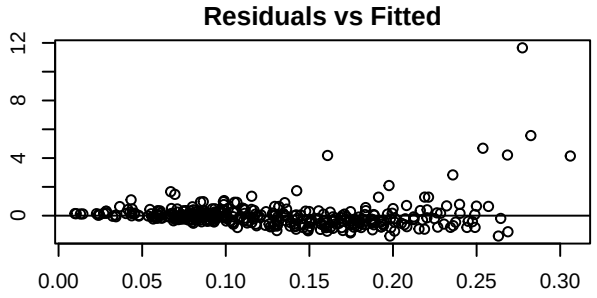
Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0590	0.000
Creek 661	661-03	after	29	0.0680	0.000
Creek 661	661-04	before	3	0.0500	0.000
Creek 661	661-04	after	36	0.0450	0.000
Creek 661	661-05	before	33	0.1230	0.000
Creek 661	661-05	after	39	0.0780	0.000
Creek 661	661-10	before	31	0.1400	0.000
Creek 661	661-10	after	37	0.1437	0.000
Creek 661	661-20	before	14	0.1470	0.000
Creek 661	661-20	after	20	0.0940	0.000
Creek 661	661-01	before	3	0.0670	0.000
Creek 661	661-01	after	37	0.0770	0.000
Creek 705 (Control)	705-05	before	15	0.1480	0.000
Creek 705 (Control)	705-05	after	39	0.1590	0.000
Creek 705 (Control)	705-10	before	28	0.0830	7.143

1.3 Initial Model Fit

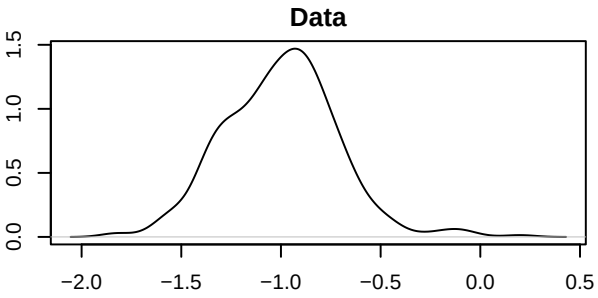
Initially a model was fit to all sites to assess the need for transformations.

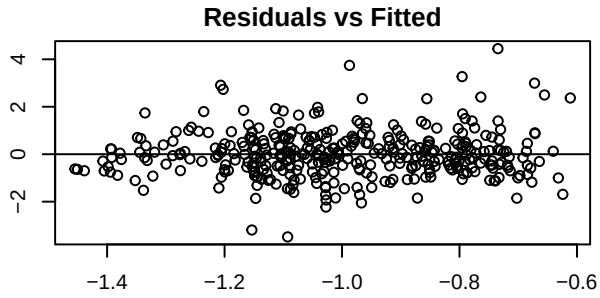
Natural Scale Model





Log−10 Transformed Model





Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-10	2025	8	impact	after	1.580	0.2774	11.658	Y
Creek 705 (Control)	705-05	2025	9	control	after	0.904	0.2824	5.563	Y
Creek 661	661-10	2025	9	impact	after	0.777	0.2538	4.683	Y
Creek 705 (Control)	705-05	2025	10	control	after	0.739	0.2685	4.211	Y
Creek 661	661-01	2025	4	control	after	0.628	0.1609	4.181	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.769	0.3060	4.143	Y

Outliers on log scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 661	661-10	2025	8	impact	after	0.1987	-0.7346	4.448	Y
Creek 661	661-01	2025	4	control	after	-0.2020	-0.9873	3.743	Y
Creek 705 (Control)	705-10	2018	8	control	before	-1.8239	-1.0926	-3.486	N
Creek 661	661-10	2025	9	impact	after	-0.1096	-0.7955	3.269	Y

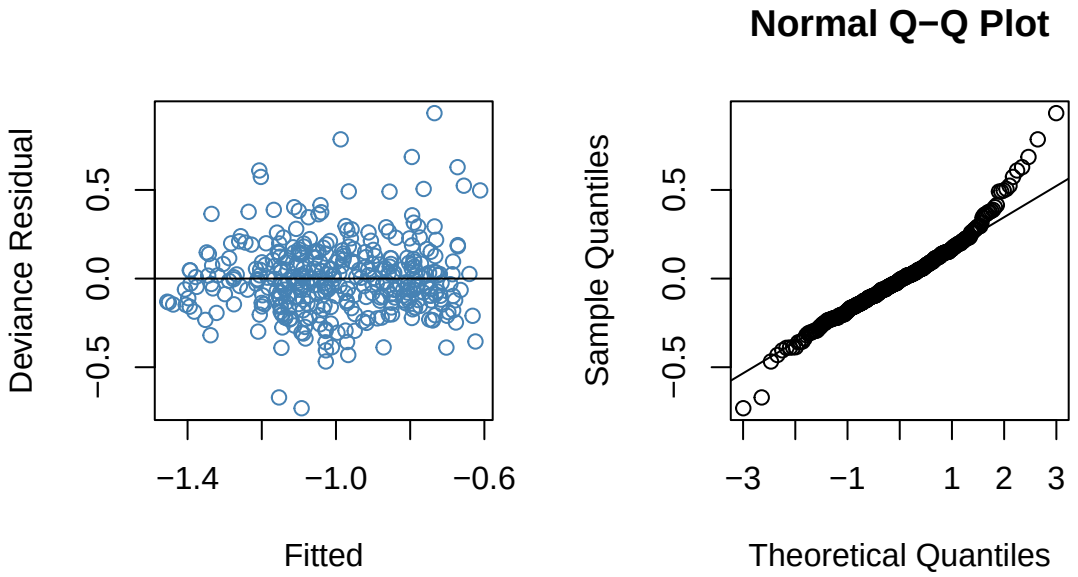
Creek 705 (Control)	705-10	2018	9	control	before	-1.8239	-1.1535	-3.195	N

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.002962	0.002962	1	5.95	0.0673	0.8040	
period	0.008778	0.008778	1	31.45	0.1994	0.6580	
class:period	0.224401	0.224401	1	344.20	5.0975	0.0246	0.0341

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
366	0.0271	7%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

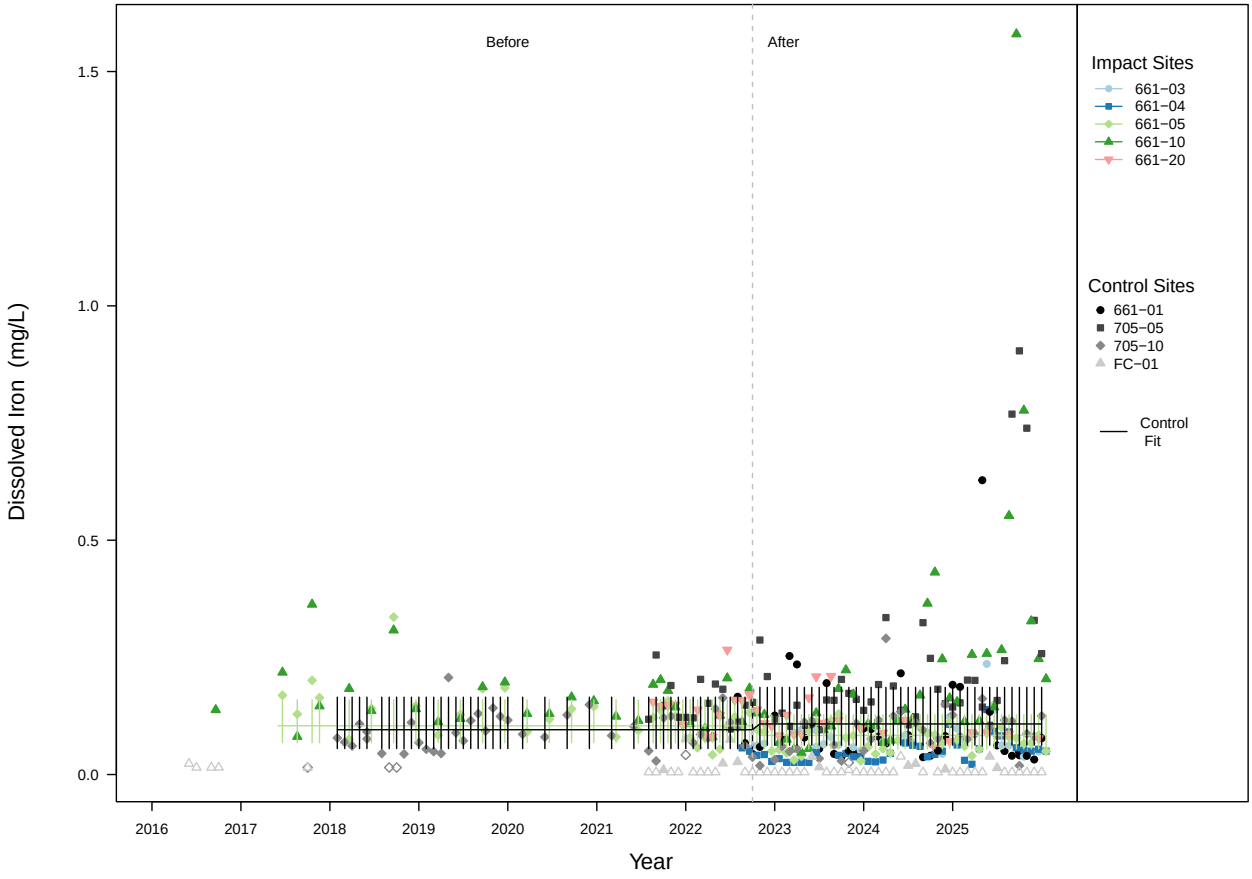
Impact vs.	Estimate	Significance
control sites	-0.148	significant

Conclusion:

The change in Dissolved Iron concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 0.0341) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

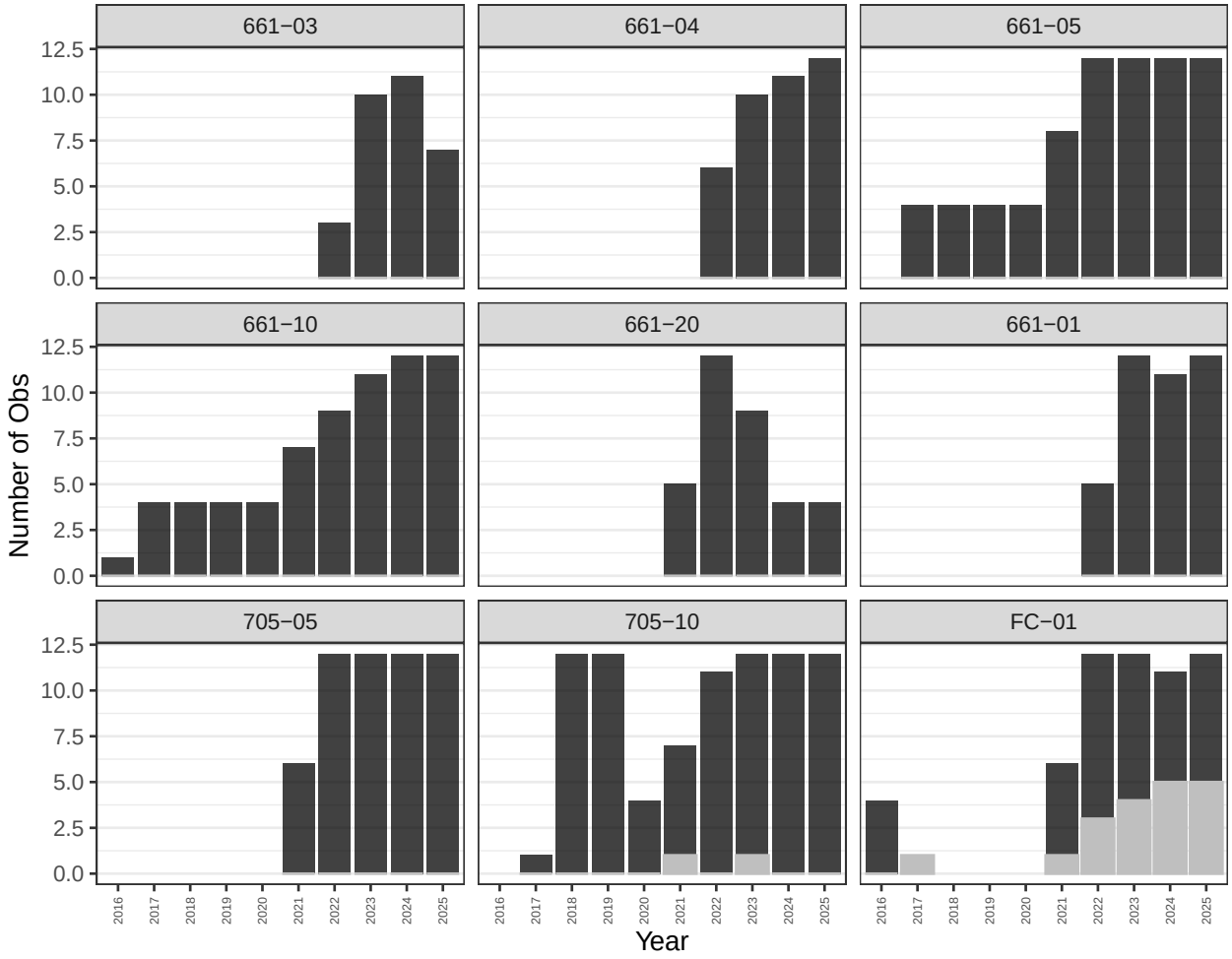
Variable	Dissolved Iron
Watershed	Creek 661
Waterbody	Stream
Streams Removed	FC-01
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.2.36 Dissolved Manganese

1 Creek 661

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2017	control	before	1

1.2 Sample Sizes for Modelling

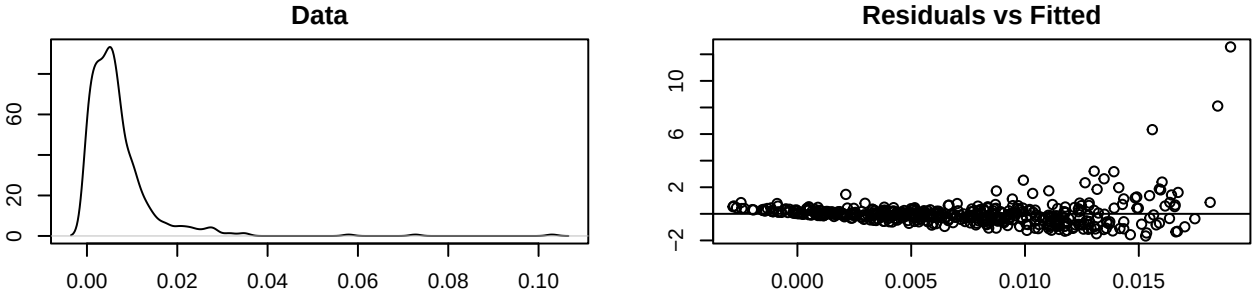
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Creek 661	661-03	before	2	0.0186	0.000
Creek 661	661-03	after	29	0.0105	0.000
Creek 661	661-04	before	3	0.0044	0.000
Creek 661	661-04	after	36	0.0052	0.000
Creek 661	661-05	before	33	0.0058	0.000
Creek 661	661-05	after	39	0.0057	0.000
Creek 661	661-10	before	31	0.0087	0.000
Creek 661	661-10	after	37	0.0075	0.000
Creek 661	661-20	before	14	0.0053	0.000
Creek 661	661-20	after	20	0.0042	0.000
Creek 661	661-01	before	3	0.0123	0.000
Creek 661	661-01	after	37	0.0096	0.000
Creek 705 (Control)	705-05	before	15	0.0071	0.000
Creek 705 (Control)	705-05	after	39	0.0091	0.000
Creek 705 (Control)	705-10	before	45	0.0020	2.222
Creek 705 (Control)	705-10	after	38	0.0019	2.632
Fawnie Creek (Control)	FC-01	before	19	0.0002	15.790
Fawnie Creek (Control)	FC-01	after	38	0.0001	39.474

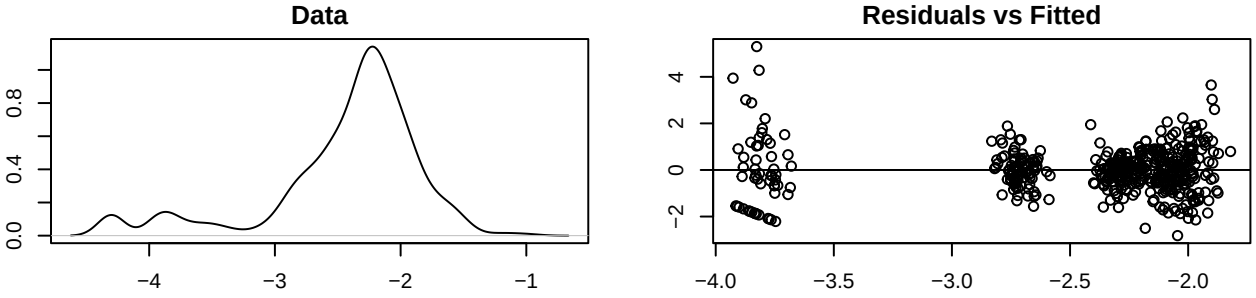
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2025	10	control	after	0.1030	0.0190	12.552	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.0727	0.0185	8.107	Y
Creek 661	661-03	2024	8	impact	after	0.0580	0.0156	6.332	Y
Creek 661	661-10	2025	2	impact	after	0.0345	0.0130	3.208	Y
Creek 661	661-10	2025	9	impact	after	0.0351	0.0139	3.168	Y

Outliers on log scale:

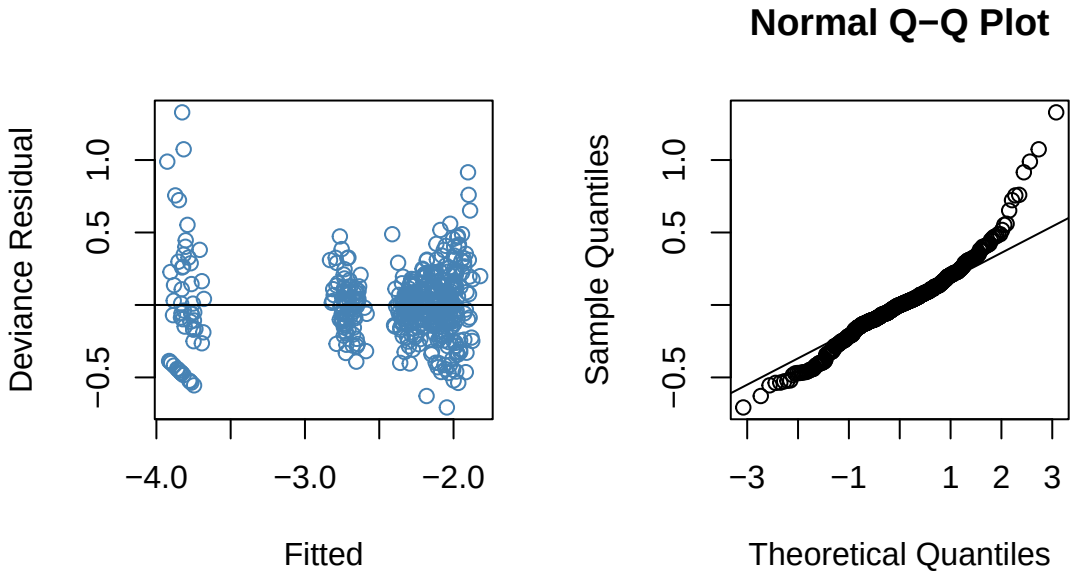
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	-2.4976	-3.826	5.298	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.7423	-3.816	4.282	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-2.9378	-3.927	3.942	Y
Creek 705 (Control)	705-05	2025	10	control	after	-0.9872	-1.902	3.649	Y
Creek 705 (Control)	705-05	2025	8	control	after	-1.1385	-1.898	3.029	Y
Fawnie Creek (Control)	FC-01	2024	5	control	after	-3.1169	-3.873	3.013	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.099550	0.099550	1	7.007	1.5822	0.249	
period	0.003109	0.003109	1	16.374	0.0494	0.827	
class:period	0.035473	0.035473	1	458.121	0.5638	0.453	0.475

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
478	0.1514	80%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (661-03, 661-04, 661-05, 661-10, 661-20) and control sites (661-01, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

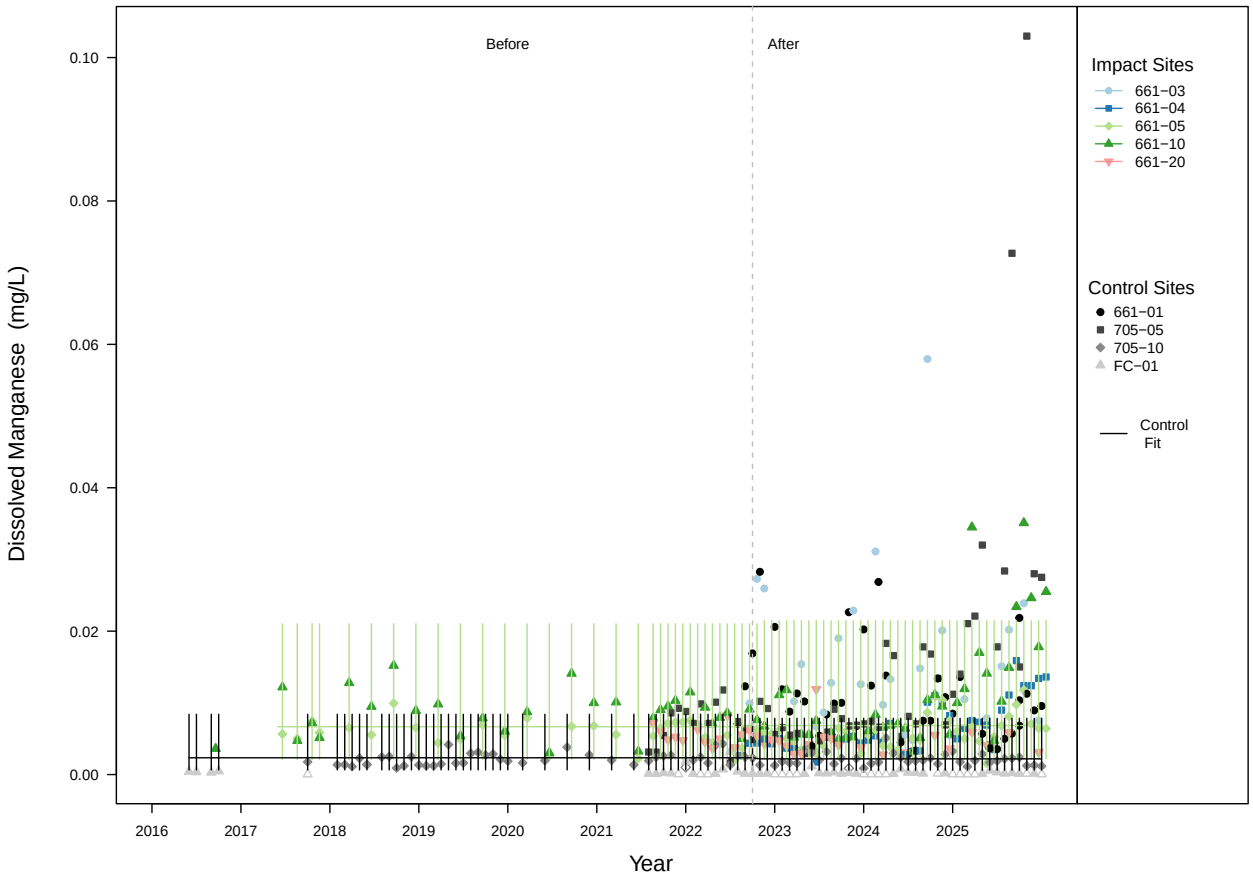
Impact vs.	Estimate	Significance
control sites	0.0391	not significant

Conclusion:

The change in Dissolved Manganese concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.475) different from the change at the control sites, according to the test on the BACI term (*class*:*period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

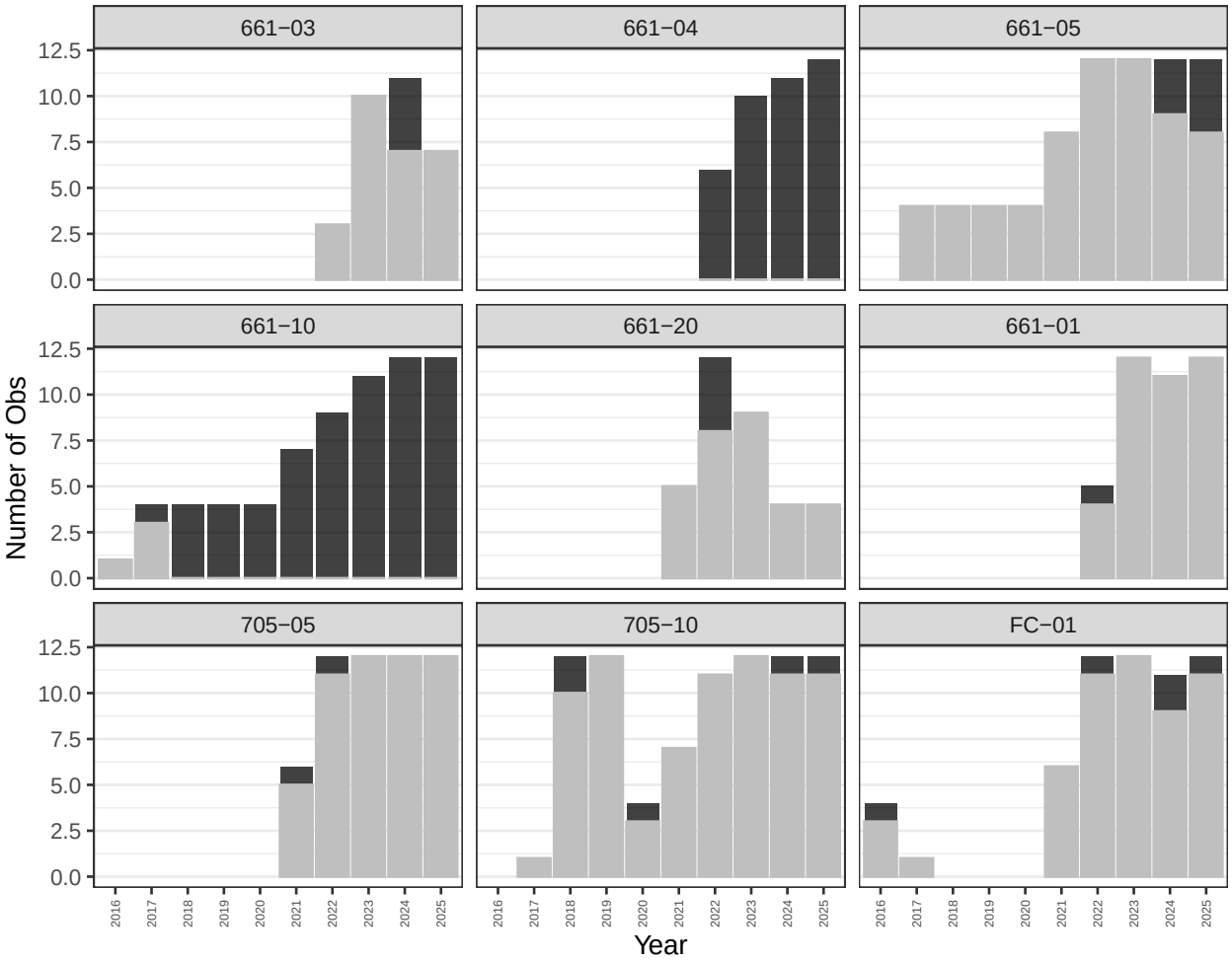
Final Summary Table

Variable	Dissolved Manganese
Watershed	Creek 661
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.2.37 Dissolved Zinc

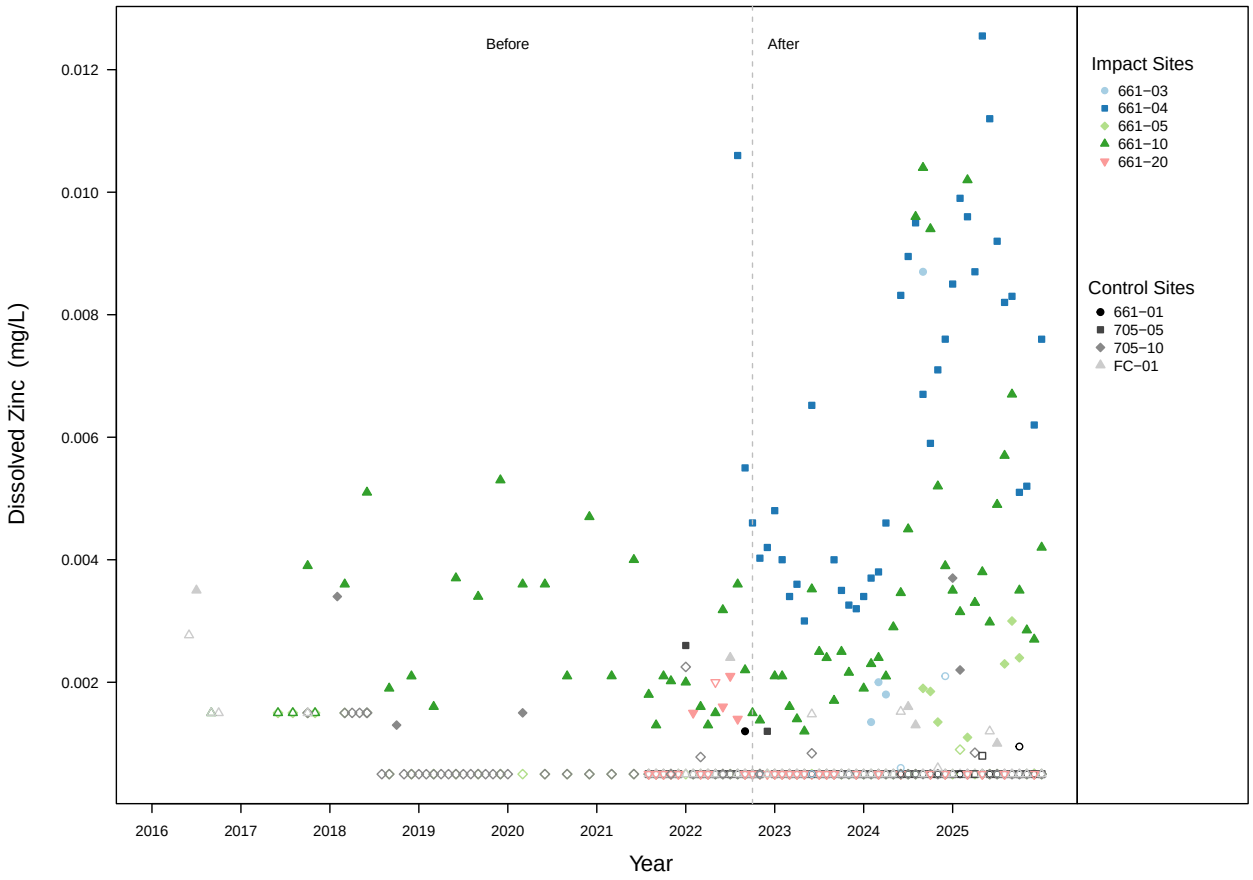
1 Creek 661

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

Variable	Dissolved Zinc
Watershed	Creek 661
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

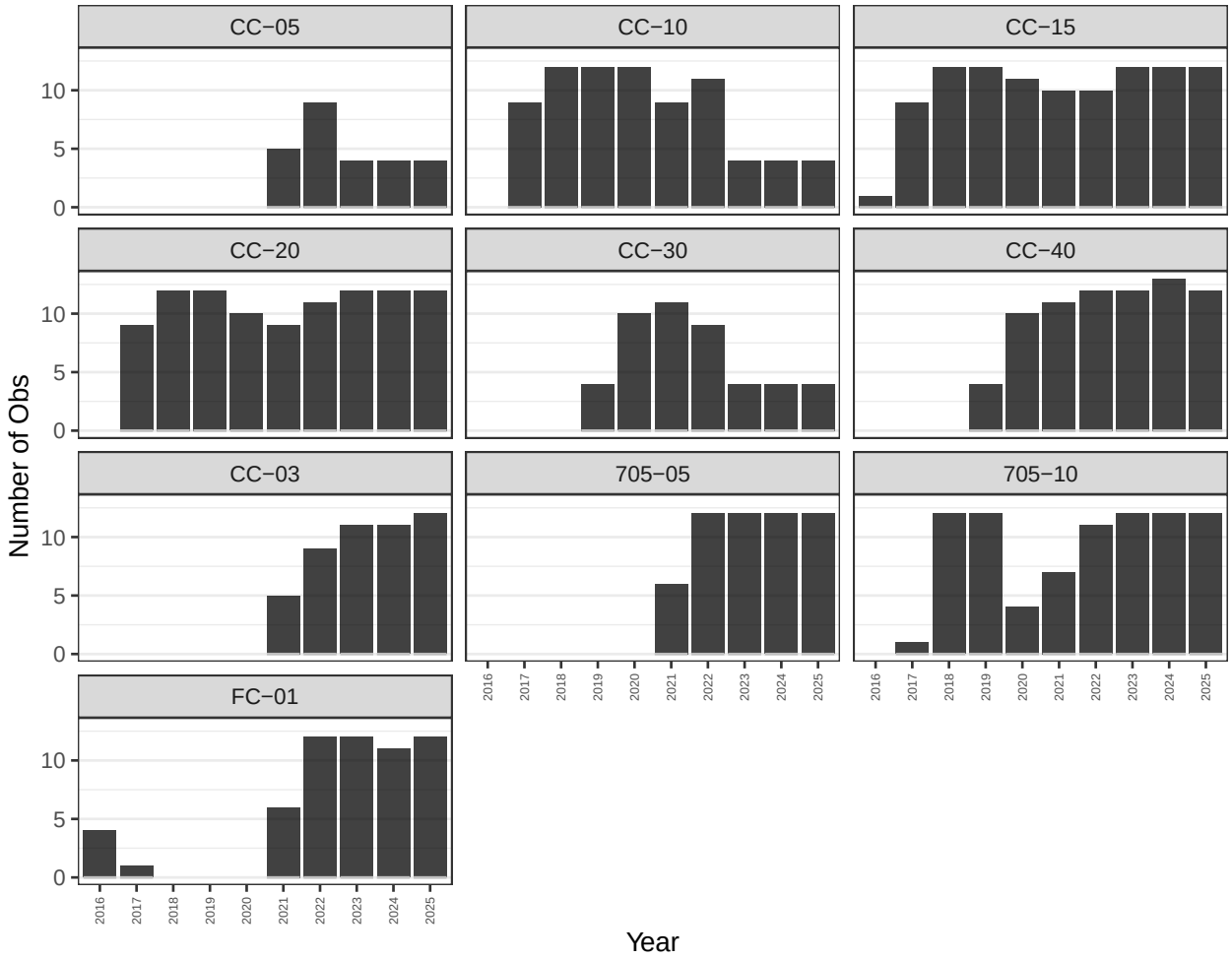
E-2.3 Chedakuz Creek

E-2.3.1 pH

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

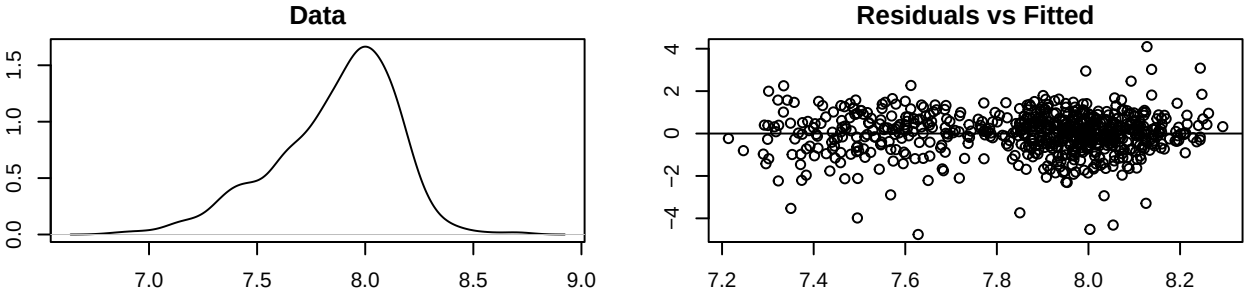
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	8.060	0
Chedakuz Creek	CC-05	after	14	8.148	0
Chedakuz Creek	CC-10	before	62	8.040	0
Chedakuz Creek	CC-10	after	15	8.020	0
Chedakuz Creek	CC-15	before	63	7.970	0
Chedakuz Creek	CC-15	after	38	7.980	0
Chedakuz Creek	CC-20	before	61	7.960	0
Chedakuz Creek	CC-20	after	38	7.990	0
Chedakuz Creek	CC-30	before	30	7.894	0
Chedakuz Creek	CC-30	after	16	8.085	0
Chedakuz Creek	CC-40	before	34	7.890	0
Chedakuz Creek	CC-40	after	40	8.055	0
Chedakuz Creek	CC-03	before	12	8.115	0
Chedakuz Creek	CC-03	after	36	8.213	0
Creek 705 (Control)	705-05	before	15	7.390	0
Creek 705 (Control)	705-05	after	39	7.410	0
Creek 705 (Control)	705-10	before	45	7.600	0
Creek 705 (Control)	705-10	after	38	7.593	0
Fawnie Creek (Control)	FC-01	before	20	7.665	0
Fawnie Creek (Control)	FC-01	after	38	7.720	0

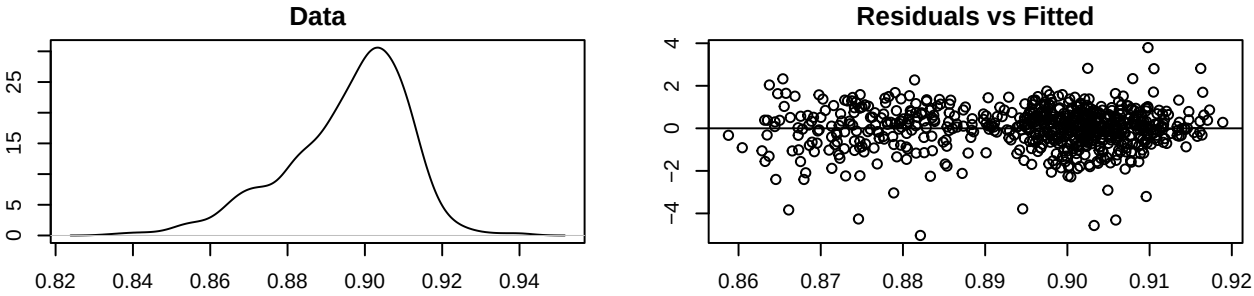
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2023	7	control	after	6.940	7.628	-4.761	Y
Chedakuz Creek	CC-40	2021	9	impact	before	7.350	8.003	-4.520	Y
Chedakuz Creek	CC-10	2024	11	impact	after	7.430	8.054	-4.317	Y
Chedakuz Creek	CC-10	2020	8	impact	before	8.720	8.128	4.097	Y
Creek 705 (Control)	705-10	2023	7	control	after	6.920	7.495	-3.982	Y
Chedakuz Creek	CC-15	2020	6	impact	before	7.310	7.850	-3.738	Y
Creek 705 (Control)	705-05	2023	7	control	after	6.840	7.350	-3.530	Y
Chedakuz Creek	CC-03	2024	6	control	after	7.650	8.126	-3.291	Y
Chedakuz Creek	CC-10	2025	8	impact	after	8.690	8.244	3.084	Y
Chedakuz Creek	CC-15	2025	8	impact	after	8.575	8.138	3.024	Y

Outliers on log scale:

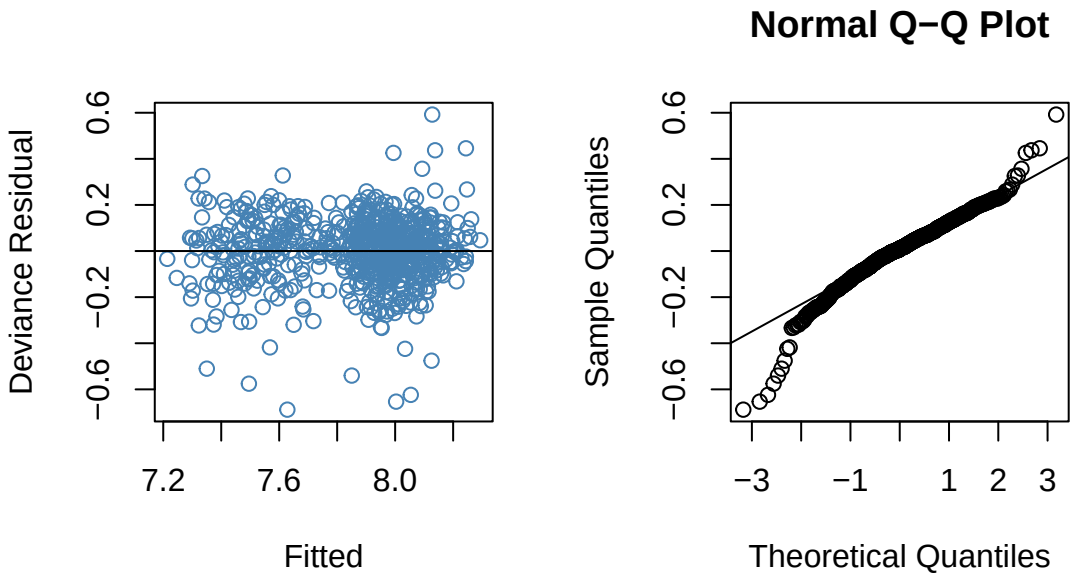
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2023	7	control	after	0.8414	0.8821	-5.036	Y
Chedakuz Creek	CC-40	2021	9	impact	before	0.8663	0.9033	-4.567	Y
Chedakuz Creek	CC-10	2024	11	impact	after	0.8710	0.9059	-4.312	Y
Creek 705 (Control)	705-10	2023	7	control	after	0.8401	0.8746	-4.261	Y
Creek 705 (Control)	705-05	2023	7	control	after	0.8351	0.8661	-3.836	Y
Chedakuz Creek	CC-10	2020	8	impact	before	0.9405	0.9098	3.795	Y
Chedakuz Creek	CC-15	2020	6	impact	before	0.8639	0.8946	-3.786	Y
Chedakuz Creek	CC-03	2024	6	control	after	0.8837	0.9096	-3.204	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.8543	0.8789	-3.036	Y

Based on examination of the residuals, the untransformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.12088	0.12088	1	8.011	5.787	0.0428	
period	0.08513	0.08513	1	45.957	4.075	0.0494	
class:period	0.07726	0.07726	1	644.295	3.699	0.0549	0.0731

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
666	0.3177	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

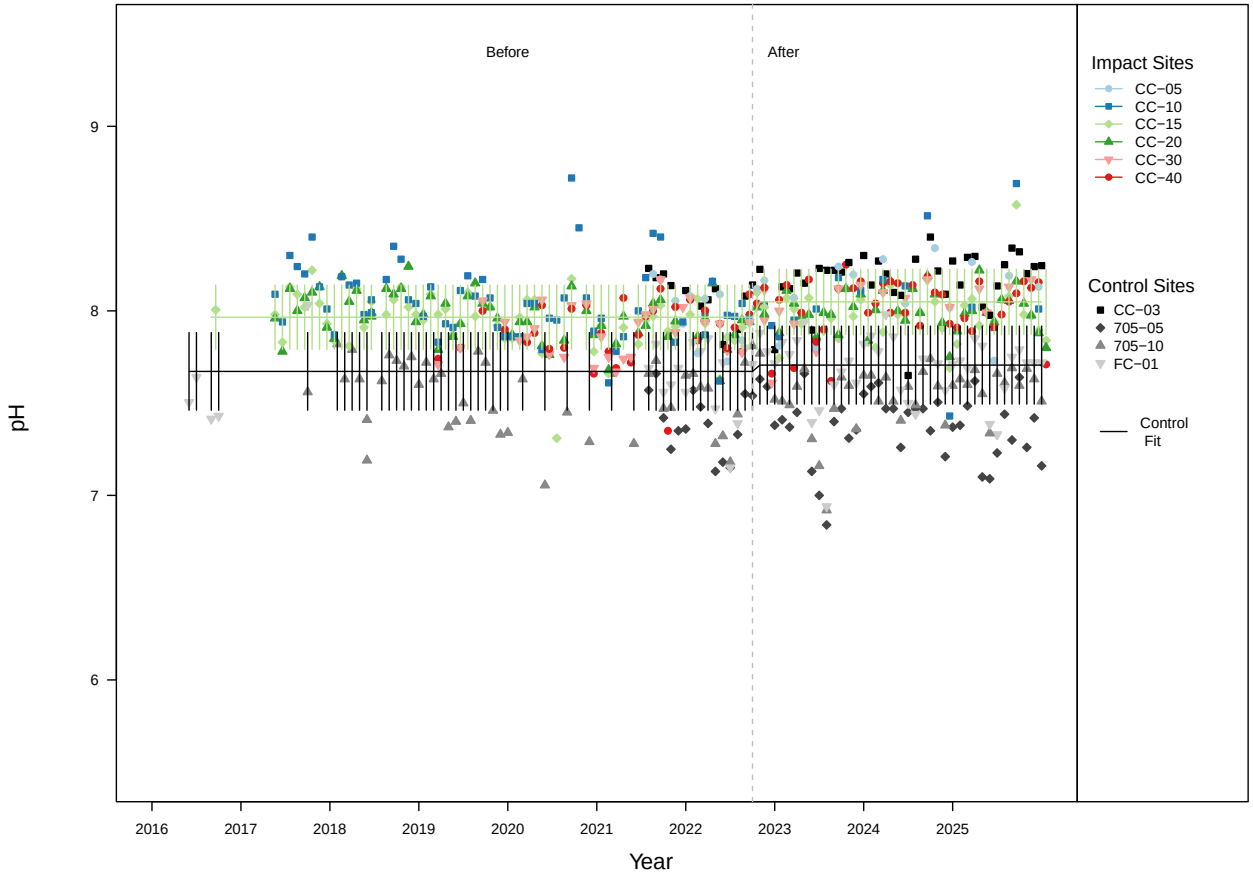
Impact vs.	Estimate	Significance
control sites	0.0492	not significant

Conclusion:

The change in pH at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.0731) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility.

Final Summary Table

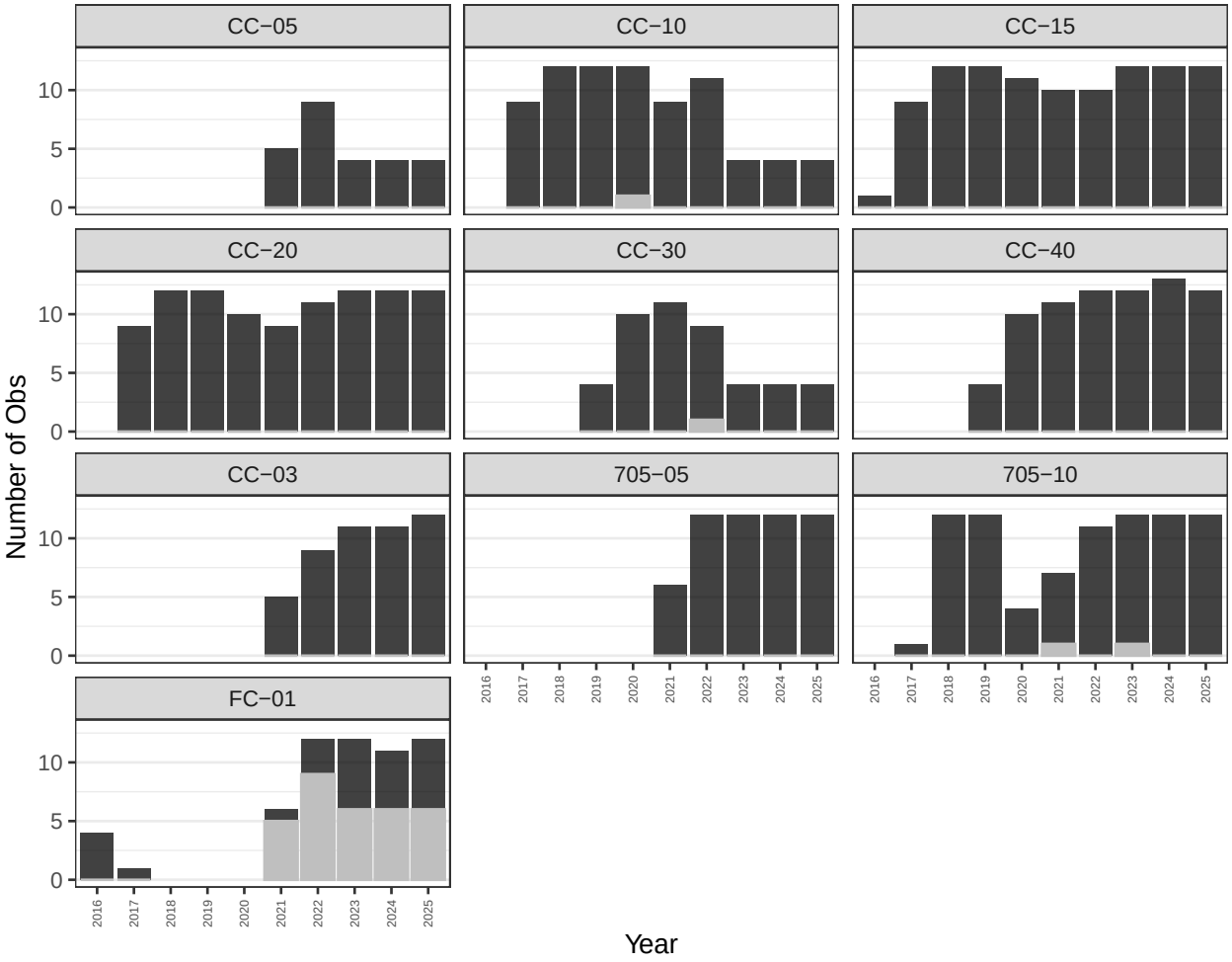
Variable	pH
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Untransformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.3.2 Turbidity

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11

1.2 Sample Sizes for Modelling

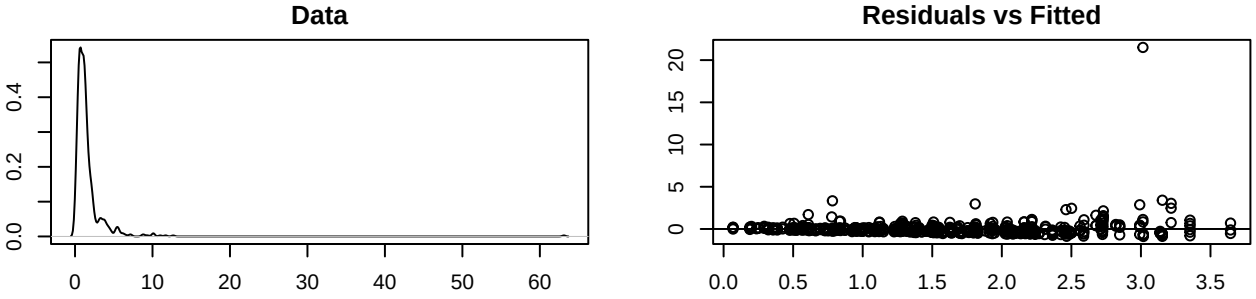
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	1.5800	0.000
Chedakuz Creek	CC-05	after	14	0.7950	0.000
Chedakuz Creek	CC-10	before	62	0.6675	1.613
Chedakuz Creek	CC-10	after	15	0.8900	0.000
Chedakuz Creek	CC-15	before	63	1.1700	0.000
Chedakuz Creek	CC-15	after	38	1.9425	0.000
Chedakuz Creek	CC-20	before	61	1.1100	0.000
Chedakuz Creek	CC-20	after	38	1.5750	0.000
Chedakuz Creek	CC-30	before	30	1.4000	3.333
Chedakuz Creek	CC-30	after	16	1.4745	0.000
Chedakuz Creek	CC-40	before	34	1.4025	0.000
Chedakuz Creek	CC-40	after	40	1.5325	0.000
Chedakuz Creek	CC-03	before	12	1.5435	0.000
Chedakuz Creek	CC-03	after	36	0.7800	0.000
Creek 705 (Control)	705-05	before	15	0.7400	0.000
Creek 705 (Control)	705-05	after	39	0.8050	0.000
Creek 705 (Control)	705-10	before	45	0.6000	2.222
Creek 705 (Control)	705-10	after	38	0.5450	2.632
Fawnie Creek (Control)	FC-01	before	5	0.2200	0.000
Fawnie Creek (Control)	FC-01	after	24	0.1150	50.000

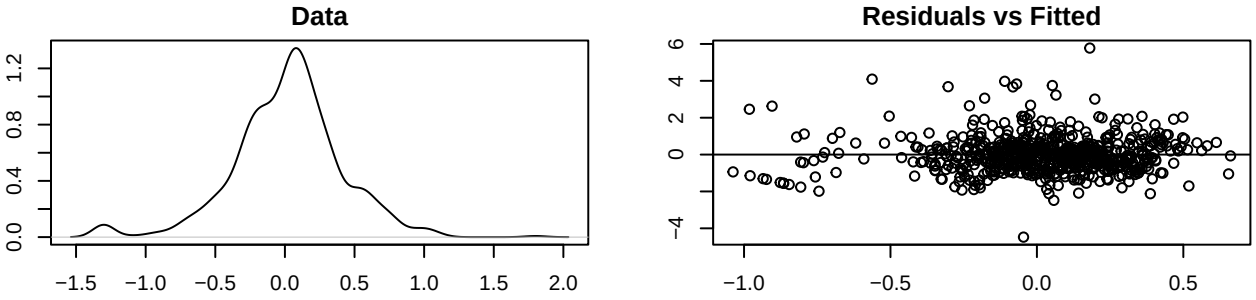
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-20	2018	10	impact	before	63.10	3.0144	21.503	Y
Chedakuz Creek	CC-10	2022	10	impact	after	12.67	3.1540	3.405	Y
Creek 705 (Control)	705-05	2025	12	control	after	10.10	0.7825	3.334	Y
Chedakuz Creek	CC-15	2024	4	impact	after	11.70	3.2173	3.036	Y

Outliers on log scale:

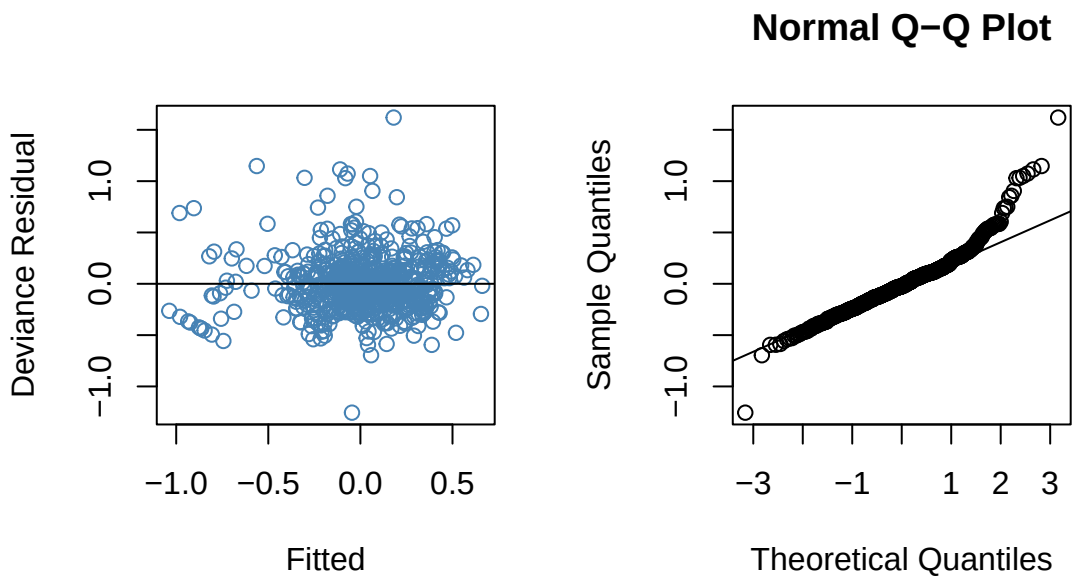
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-20	2018	10	impact	before	1.8000	0.1805	5.776	Y
Chedakuz Creek	CC-10	2020	10	impact	before	-1.3010	-0.0457	-4.477	N
Fawnie Creek (Control)	FC-01	2023	5	control	after	0.5846	-0.5626	4.091	Y
Creek 705 (Control)	705-05	2025	12	control	after	1.0043	-0.1099	3.974	Y
Chedakuz Creek	CC-10	2021	11	impact	before	1.0043	-0.0693	3.829	Y
Chedakuz Creek	CC-10	2022	10	impact	after	1.1027	0.0527	3.745	Y
Creek 705 (Control)	705-10	2023	7	control	after	0.7292	-0.3031	3.682	Y
Chedakuz Creek	CC-10	2021	10	impact	before	0.9474	-0.0817	3.671	Y
Chedakuz Creek	CC-10	2022	11	impact	after	0.9703	0.0652	3.228	Y
Creek 705 (Control)	705-10	2019	7	control	before	0.6790	-0.1785	3.058	Y
Chedakuz Creek	CC-10	2024	11	impact	after	1.0414	0.1978	3.009	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.53236	0.53236	1	8.071	6.7718	0.0313	
period	0.01314	0.01314	1	16.661	0.1672	0.688	
class:period	1.18820	1.18820	1	616.243	15.1145	<0.001	0.000241

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
637	0.2341	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

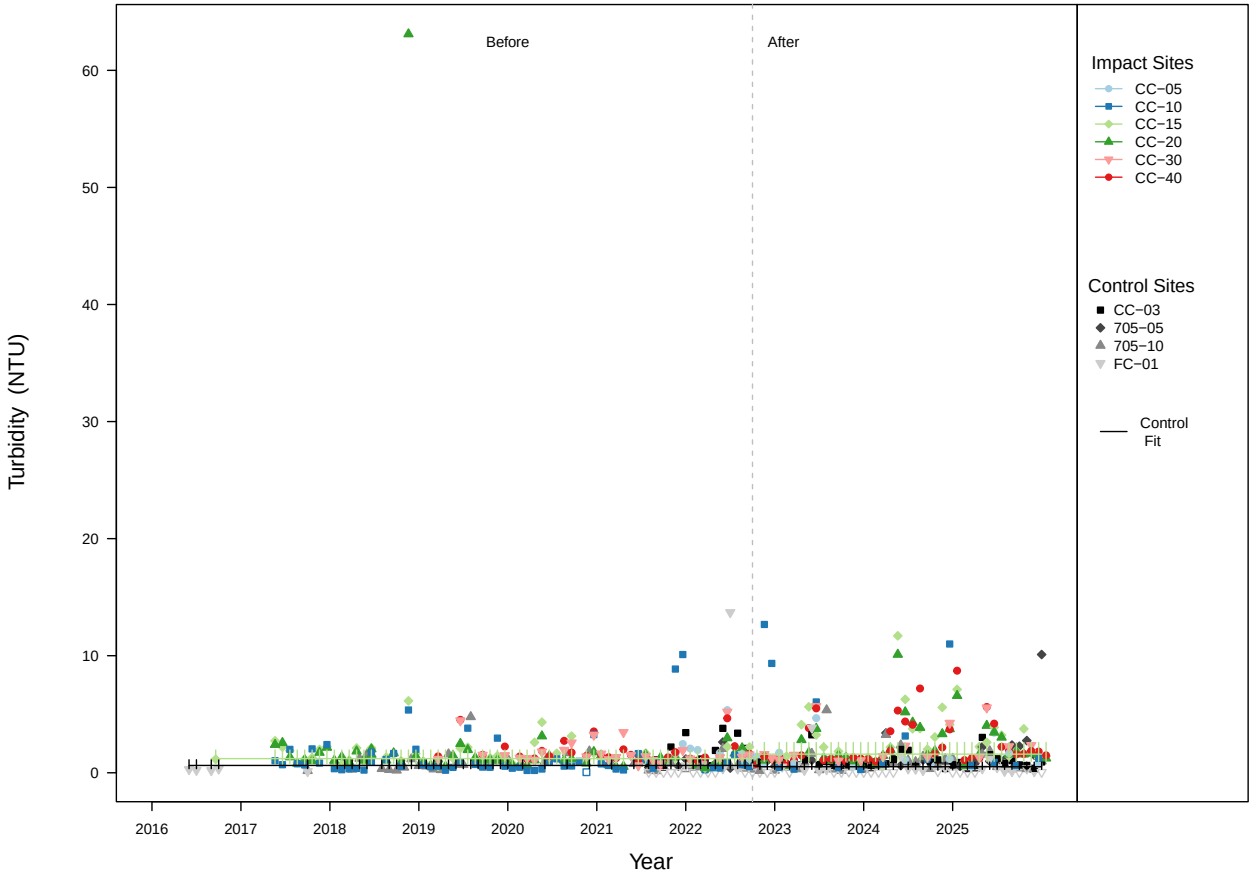
Impact vs.	Estimate	Significance
control sites	0.2026	significant

Conclusion:

The change in Turbidity concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 2.41×10^{-4}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

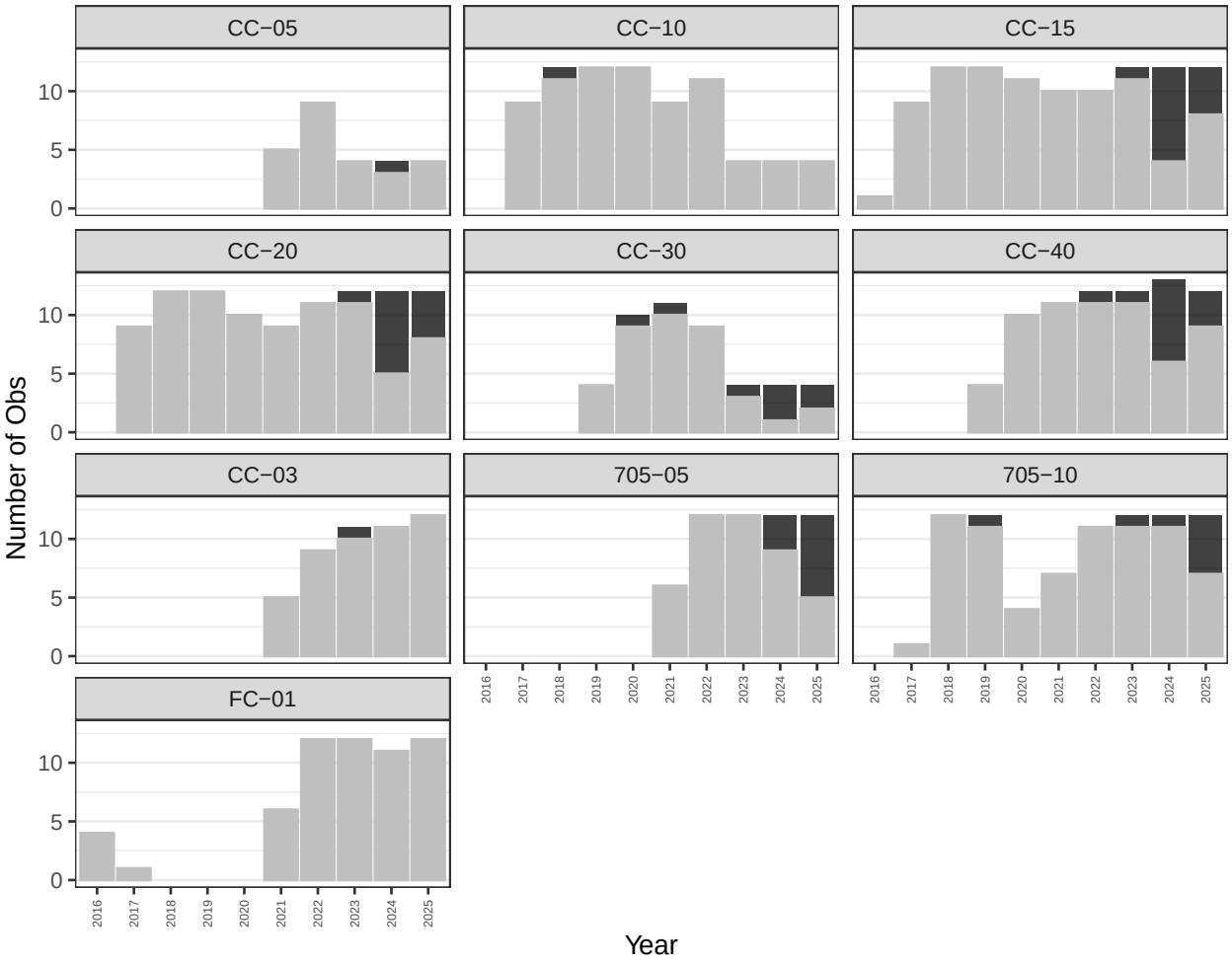
Final Summary Table

Variable	Turbidity
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.3 Chloride

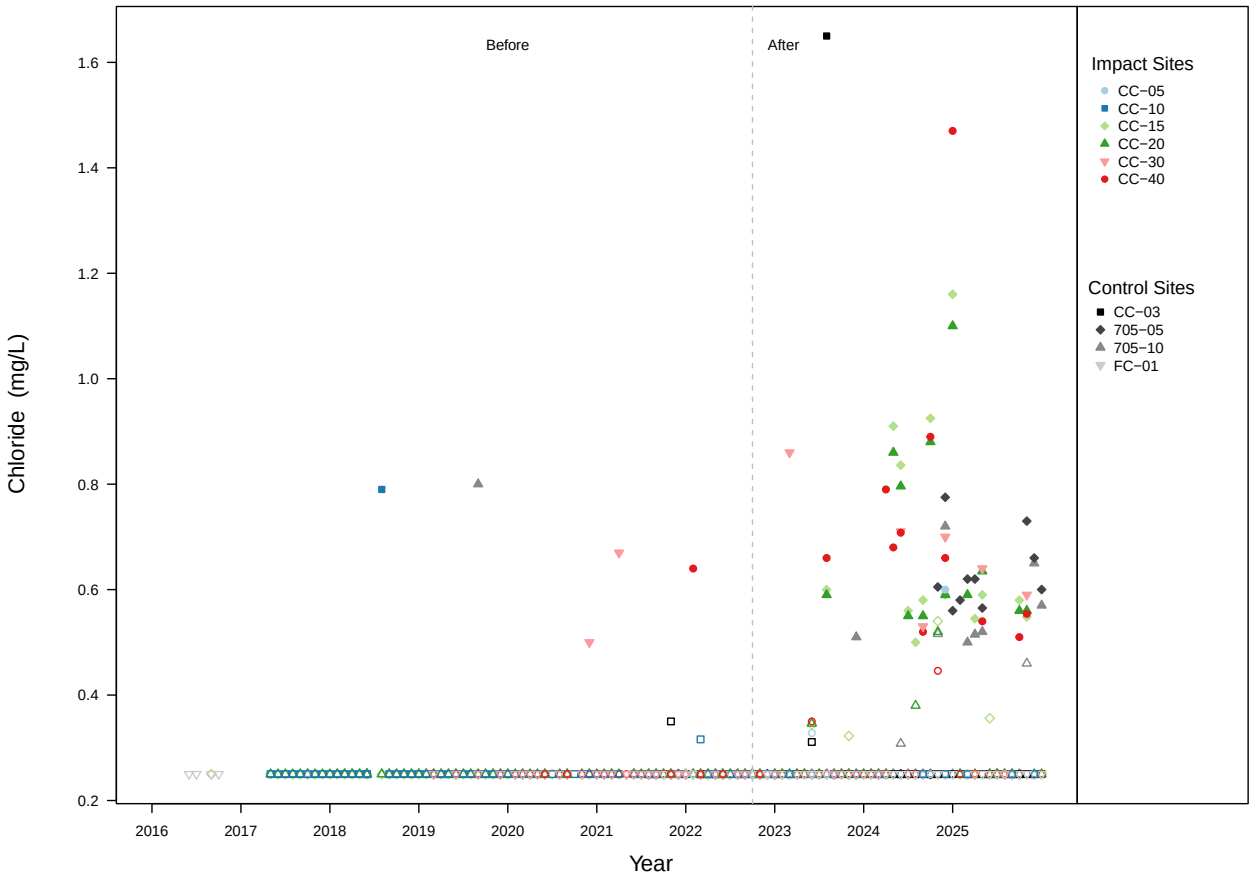
1 Chedakuz Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

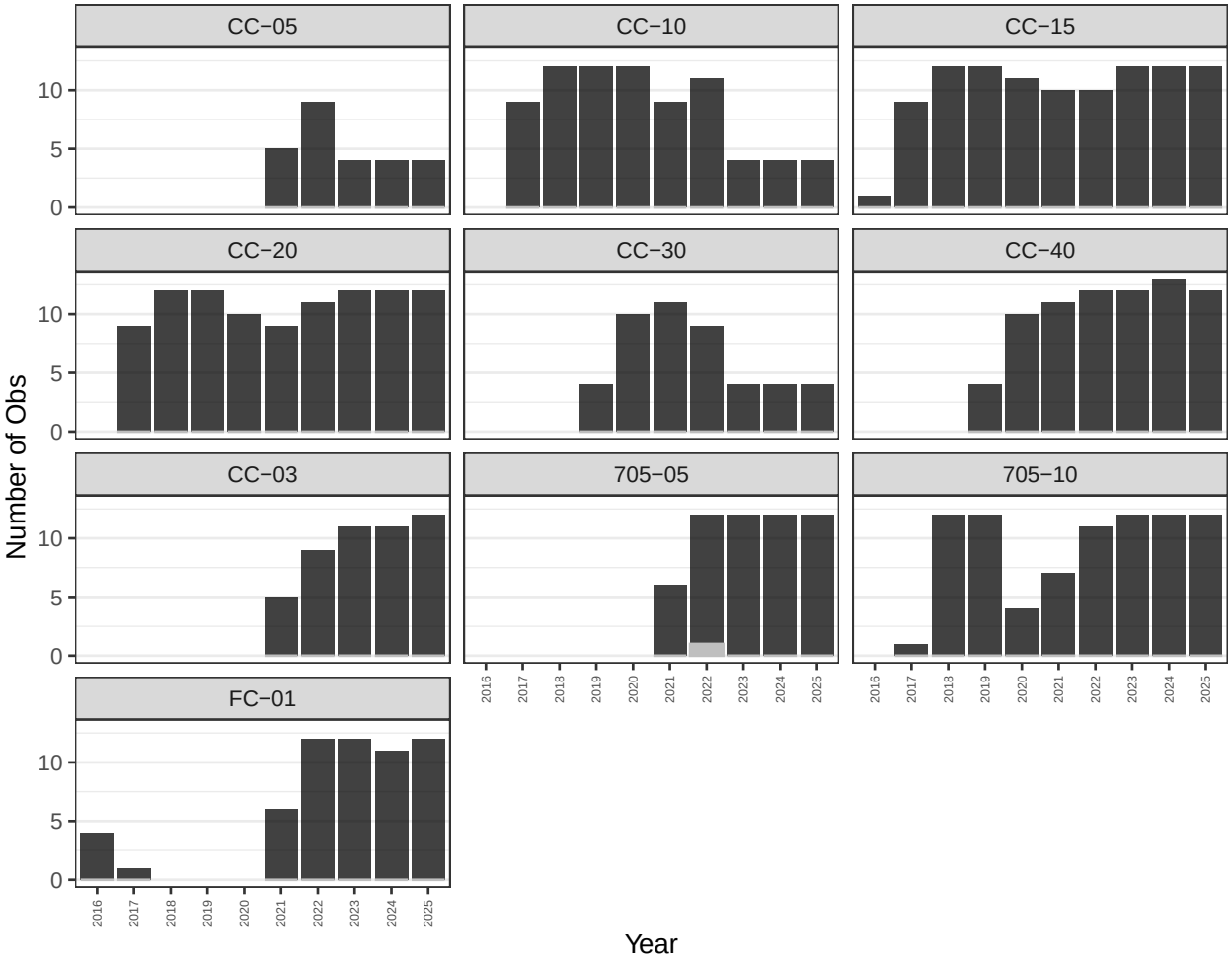
Variable	Chloride
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.3.4 Sulphate

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

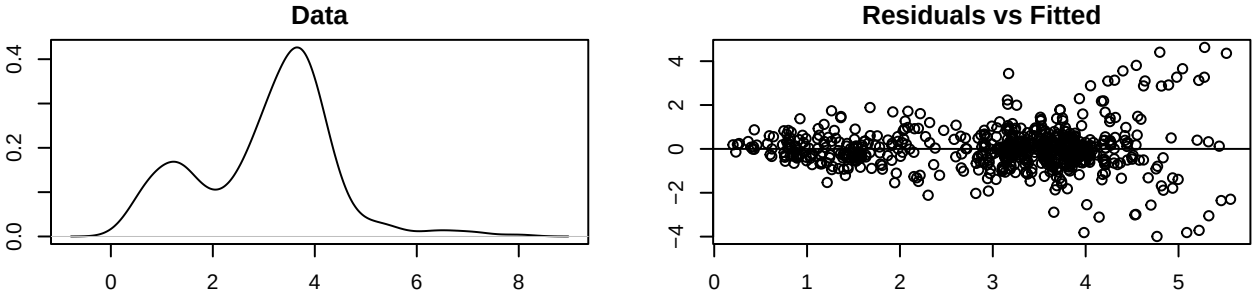
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	3.565	0.000
Chedakuz Creek	CC-05	after	14	3.475	0.000
Chedakuz Creek	CC-10	before	62	3.680	0.000
Chedakuz Creek	CC-10	after	15	3.670	0.000
Chedakuz Creek	CC-15	before	63	3.530	0.000
Chedakuz Creek	CC-15	after	38	3.839	0.000
Chedakuz Creek	CC-20	before	61	3.450	0.000
Chedakuz Creek	CC-20	after	38	3.776	0.000
Chedakuz Creek	CC-30	before	30	3.096	0.000
Chedakuz Creek	CC-30	after	16	3.417	0.000
Chedakuz Creek	CC-40	before	34	3.391	0.000
Chedakuz Creek	CC-40	after	40	4.000	0.000
Chedakuz Creek	CC-03	before	12	4.372	0.000
Chedakuz Creek	CC-03	after	36	4.255	0.000
Creek 705 (Control)	705-05	before	15	0.560	6.667
Creek 705 (Control)	705-05	after	39	1.050	0.000
Creek 705 (Control)	705-10	before	45	1.090	0.000
Creek 705 (Control)	705-10	after	38	1.366	0.000
Fawnie Creek (Control)	FC-01	before	20	1.685	0.000
Fawnie Creek (Control)	FC-01	after	38	2.346	0.000

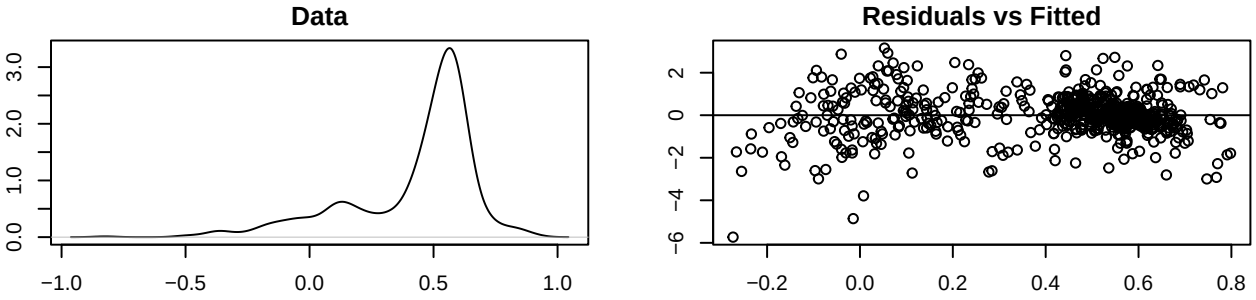
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-03	2025	11	control	after	7.960	5.281	4.627	Y
Chedakuz Creek	CC-03	2025	7	control	after	7.350	4.798	4.407	Y
Chedakuz Creek	CC-03	2025	12	control	after	8.040	5.516	4.360	Y
Chedakuz Creek	CC-03	2025	5	control	after	2.456	4.768	-3.993	Y
Chedakuz Creek	CC-03	2022	5	control	before	1.773	3.982	-3.815	Y
Chedakuz Creek	CC-03	2024	4	control	after	2.880	5.088	-3.814	Y
Chedakuz Creek	CC-20	2025	2	impact	after	6.750	4.545	3.808	Y
Chedakuz Creek	CC-03	2024	3	control	after	3.070	5.222	-3.716	Y
Chedakuz Creek	CC-03	2024	11	control	after	7.160	5.043	3.655	Y
Chedakuz Creek	CC-03	2021	9	control	before	6.460	4.401	3.556	Y
Chedakuz Creek	CC-40	2023	7	impact	after	5.160	3.170	3.436	Y
Chedakuz Creek	CC-03	2024	10	control	after	6.874	4.981	3.270	Y
Chedakuz Creek	CC-03	2024	12	control	after	7.170	5.278	3.268	Y
Chedakuz Creek	CC-20	2025	4	impact	after	6.125	4.312	3.132	Y
Chedakuz Creek	CC-03	2025	10	control	after	7.027	5.218	3.124	Y
Chedakuz Creek	CC-03	2023	5	control	after	2.344	4.145	-3.111	Y
Chedakuz Creek	CC-03	2022	10	control	after	6.433	4.639	3.098	Y
Chedakuz Creek	CC-03	2021	8	control	before	6.030	4.239	3.093	Y
Chedakuz Creek	CC-03	2025	4	control	after	3.560	5.326	-3.050	Y
Chedakuz Creek	CC-03	2024	5	control	after	2.788	4.530	-3.009	Y

Outliers on log scale:

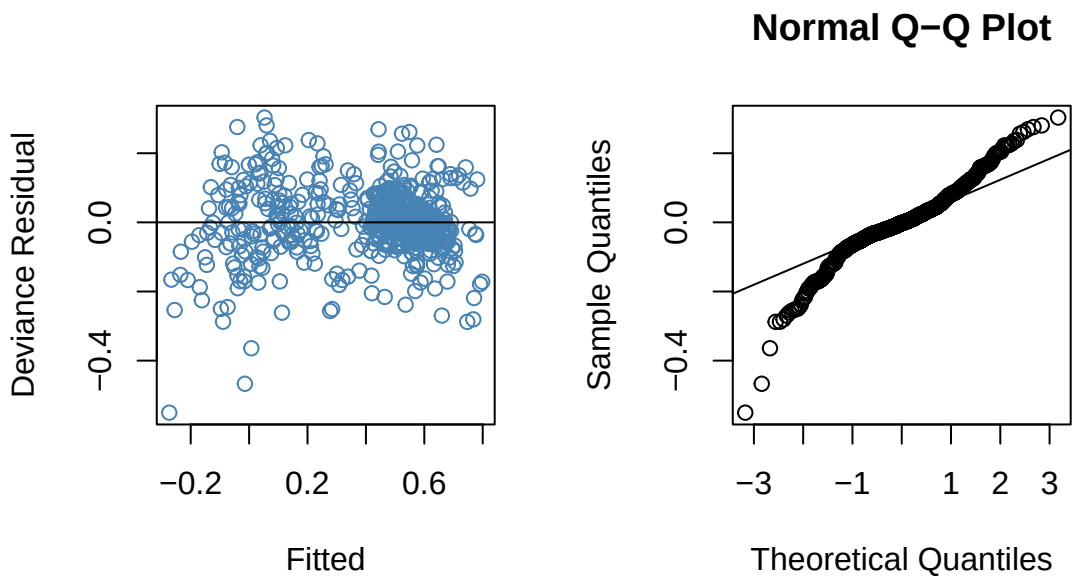
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2022	7	control	before	-0.8239	-0.2734	-5.731	N
Creek 705 (Control)	705-05	2025	9	control	after	-0.4815	-0.0145	-4.862	Y
Creek 705 (Control)	705-10	2023	7	control	after	-0.3565	0.0077	-3.792	Y
Creek 705 (Control)	705-10	2022	3	control	before	0.3560	0.0528	3.157	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.0655	0.0655	1	8.005	7.099	0.0286	
period	0.1264	0.1264	1	38.287	13.699	<0.001	
class:period	0.2045	0.2045	1	643.871	22.163	<0.001	1.1e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
666	0.4707	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

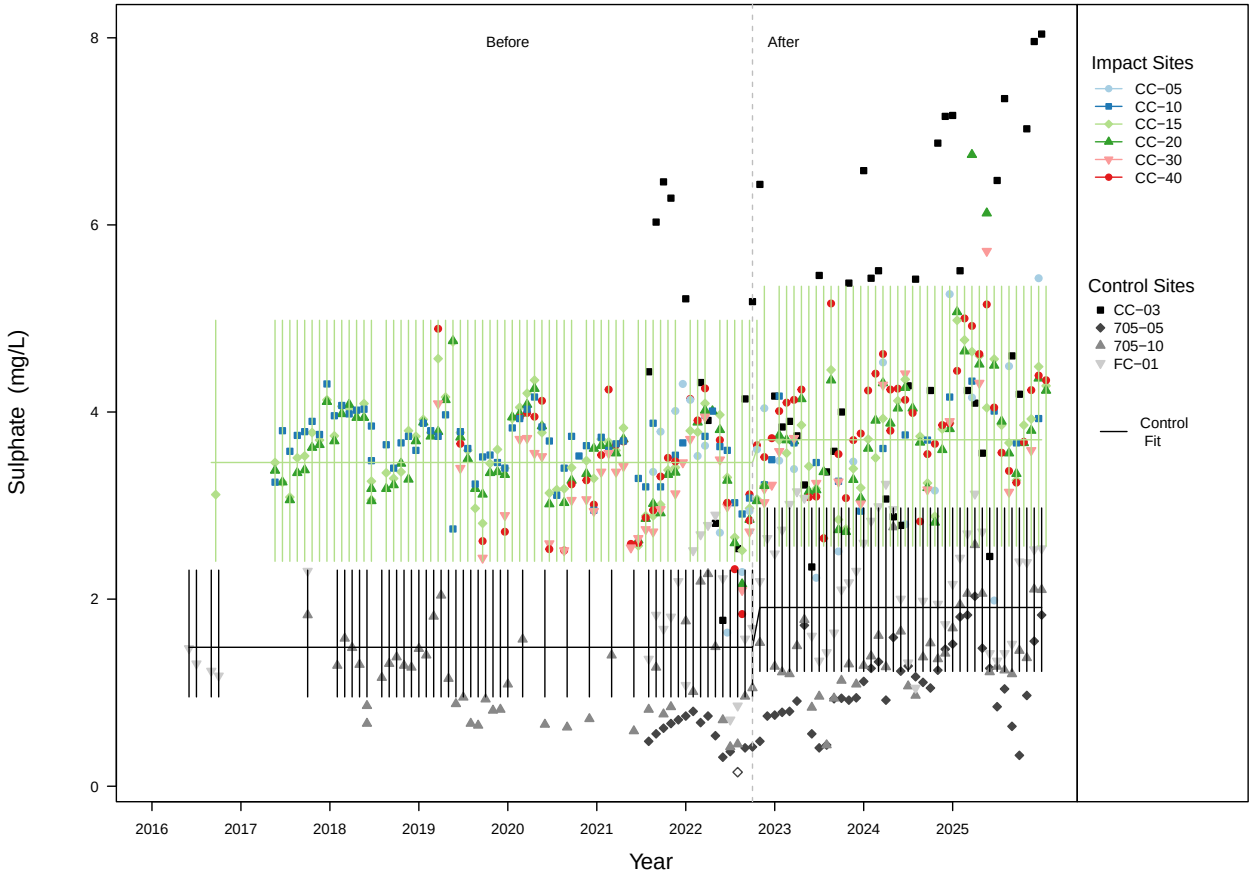
Impact vs.	Estimate	Significance
control sites	-0.08	significant

Conclusion:

The change in Sulphate concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 1.1×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

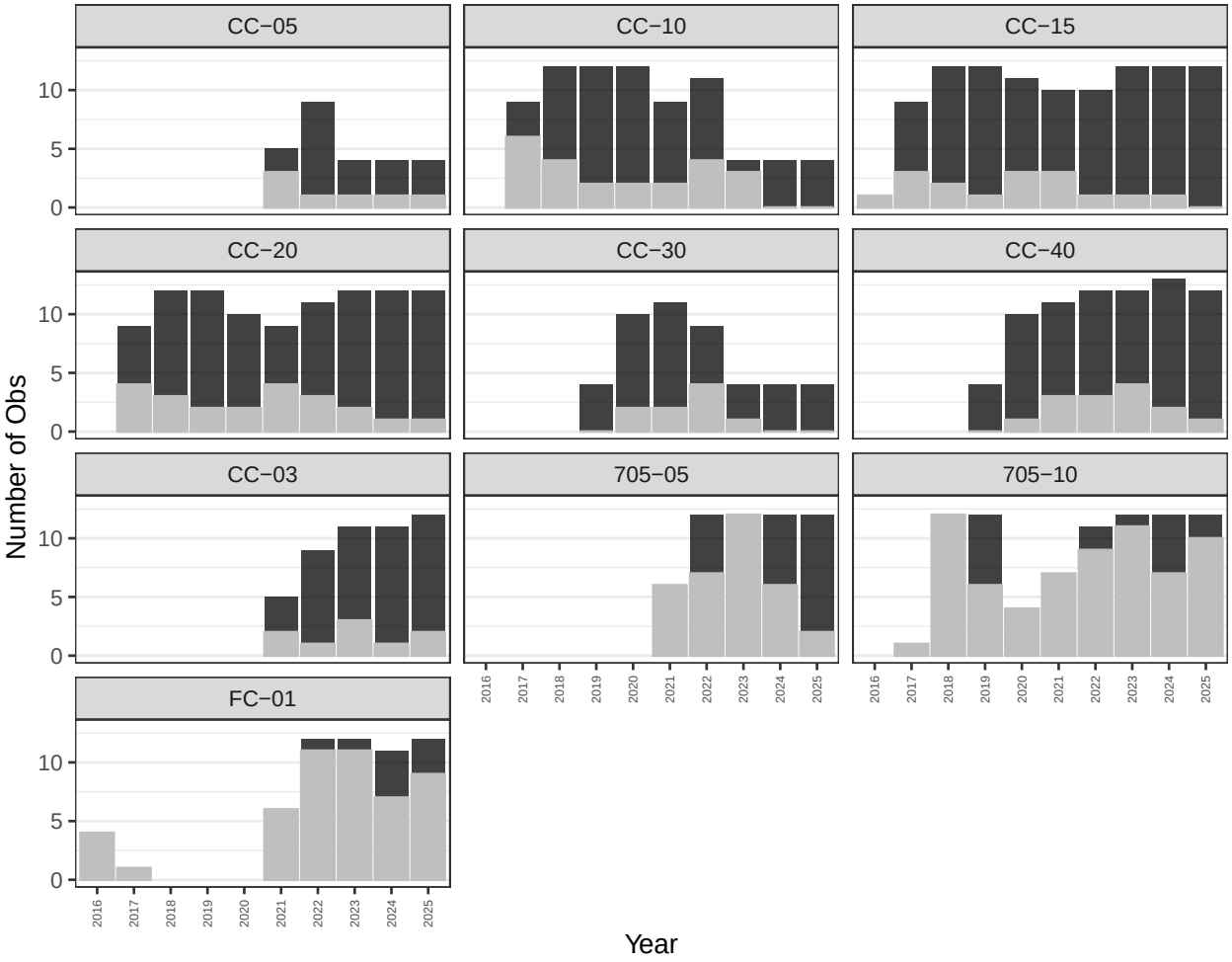
Variable	Sulphate
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.5 Ammonia

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Chedakuz Creek	CC-05	2021	impact	before	5
Chedakuz Creek	CC-10	2017	impact	before	9
Chedakuz Creek	CC-10	2023	impact	after	4
Chedakuz Creek	CC-15	2016	impact	before	1
Creek 705 (Control)	705-05	2021	control	before	6
Creek 705 (Control)	705-05	2022	control	before	12
Creek 705 (Control)	705-05	2022	control	after	12

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Watershed	Site	Year	Class	Period	#Obs Removed
Creek 705 (Control)	705-05	2023	control	after	12
Creek 705 (Control)	705-10	2017	control	before	1
Creek 705 (Control)	705-10	2018	control	before	12
Creek 705 (Control)	705-10	2020	control	before	4
Creek 705 (Control)	705-10	2021	control	before	7
Creek 705 (Control)	705-10	2022	control	before	11
Creek 705 (Control)	705-10	2022	control	after	11
Creek 705 (Control)	705-10	2023	control	after	12
Creek 705 (Control)	705-10	2024	control	after	12
Creek 705 (Control)	705-10	2025	control	after	12
Fawnie Creek (Control)	FC-01	2016	control	before	4
Fawnie Creek (Control)	FC-01	2017	control	before	1
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2023	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11
Fawnie Creek (Control)	FC-01	2025	control	after	12

1.2 Sample Sizes for Modelling

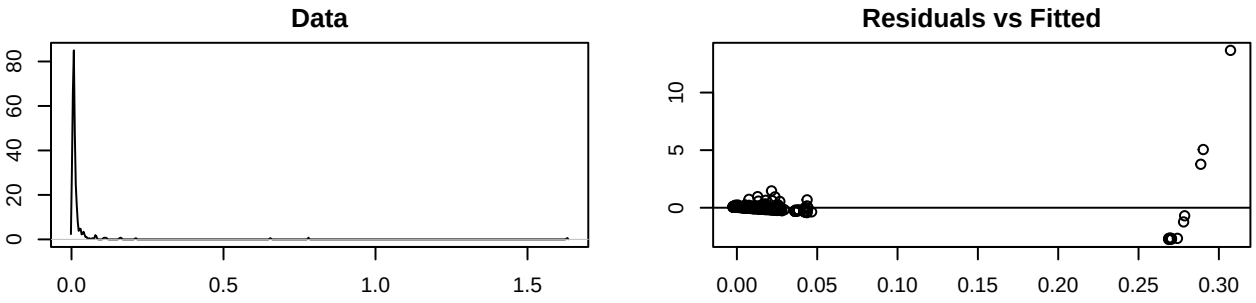
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-10	before	12	0.0078	16.667
Chedakuz Creek	CC-15	before	12	0.0088	8.333
Chedakuz Creek	CC-20	before	61	0.0068	27.869
Chedakuz Creek	CC-20	after	38	0.0082	13.158
Chedakuz Creek	CC-30	before	30	0.0082	20.000
Chedakuz Creek	CC-30	after	16	0.0080	18.750
Chedakuz Creek	CC-40	before	34	0.0089	17.647
Chedakuz Creek	CC-40	after	40	0.0094	20.000
Chedakuz Creek	CC-03	before	12	0.0158	16.667
Chedakuz Creek	CC-03	after	36	0.0086	19.444
Creek 705 (Control)	705-10	before	12	0.0058	50.000

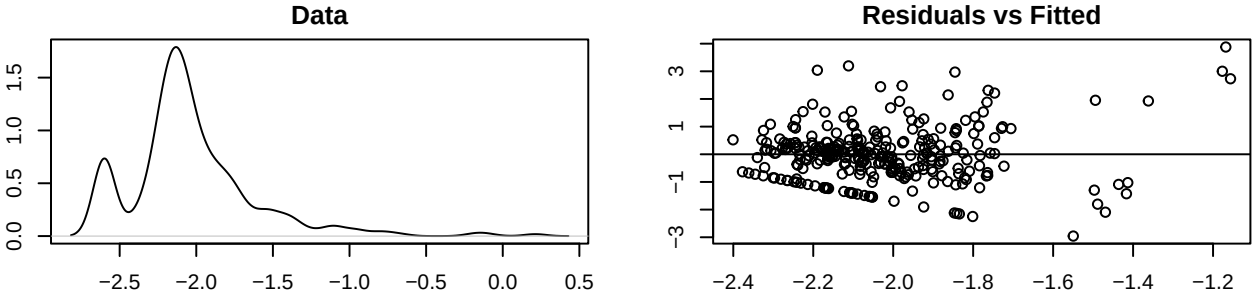
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-03	2021	12	control	before	1.6300	0.3073	13.665	Y
Chedakuz Creek	CC-03	2022	2	control	before	0.7794	0.2903	5.053	Y
Chedakuz Creek	CC-03	2022	3	control	before	0.6540	0.2887	3.773	Y

Outliers on log scale:

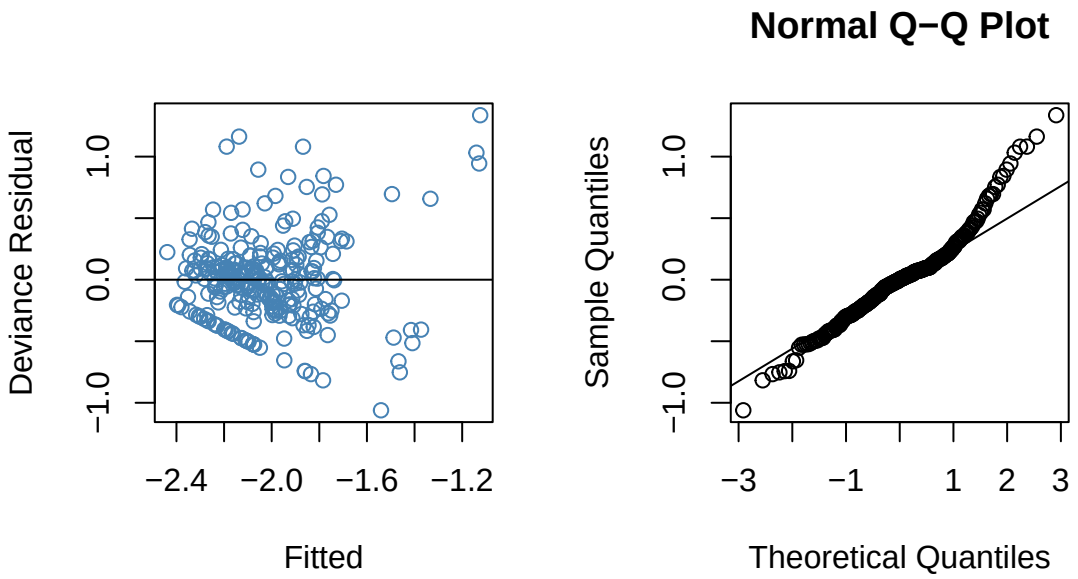
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-03	2021	12	control	before	0.2122	-1.168	3.878	Y
Chedakuz Creek	CC-20	2024	10	impact	after	-0.9744	-2.112	3.196	Y
Chedakuz Creek	CC-20	2018	4	impact	before	-1.1079	-2.190	3.039	Y
Chedakuz Creek	CC-03	2022	2	control	before	-0.1082	-1.177	3.002	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.004942	0.004942	1	3.005	0.0385	0.857	
period	1.442173	1.442173	1	23.722	11.2277	0.00269	
class:period	4.516012	4.516012	1	258.043	35.1582	<0.001	5.22e-08

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
303	0.0921	24%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

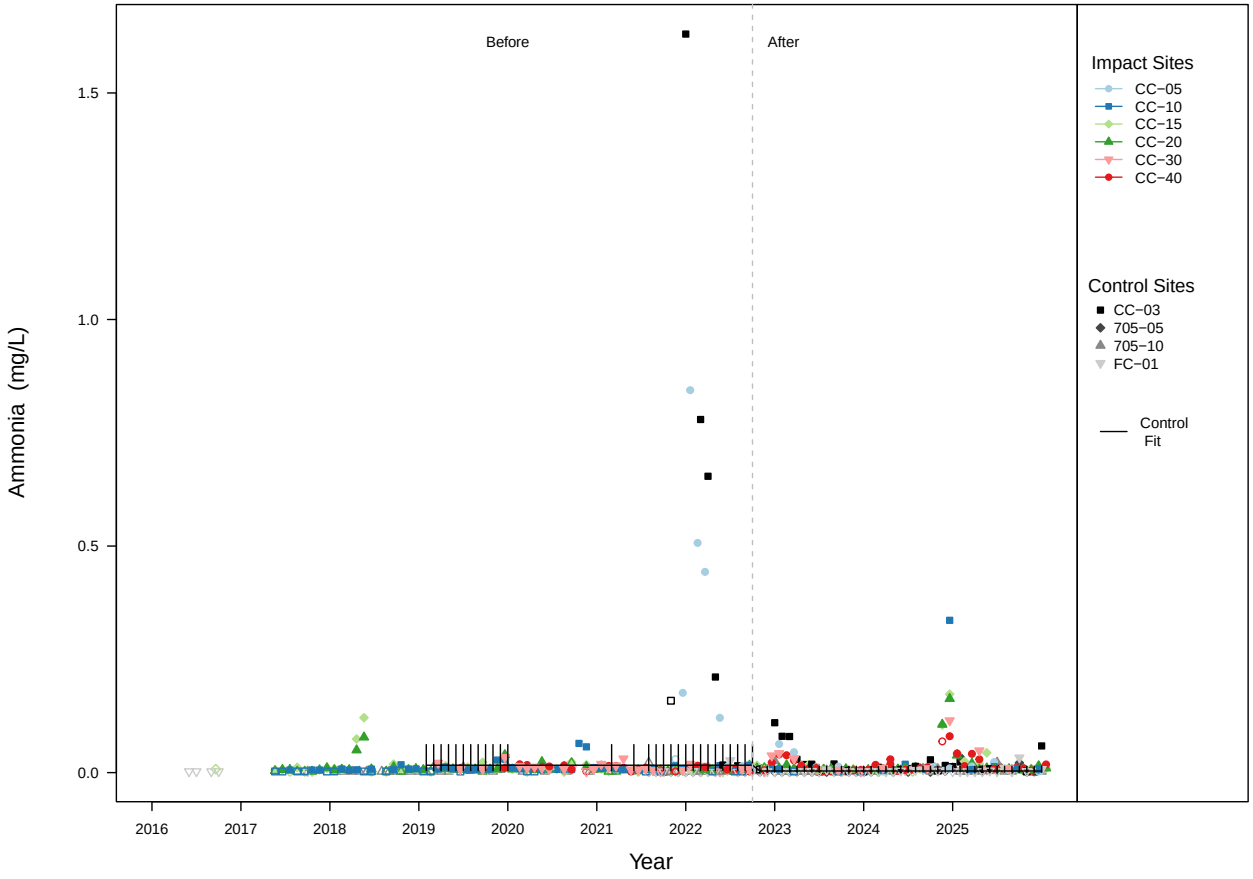
Impact vs.	Estimate	Significance
control sites	0.7958	significant

Conclusion:

The change in Ammonia concentrations at the impact sites from *before* to *after* was significantly (*adjusted* $p = 5.22 \times 10^{-8}$) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

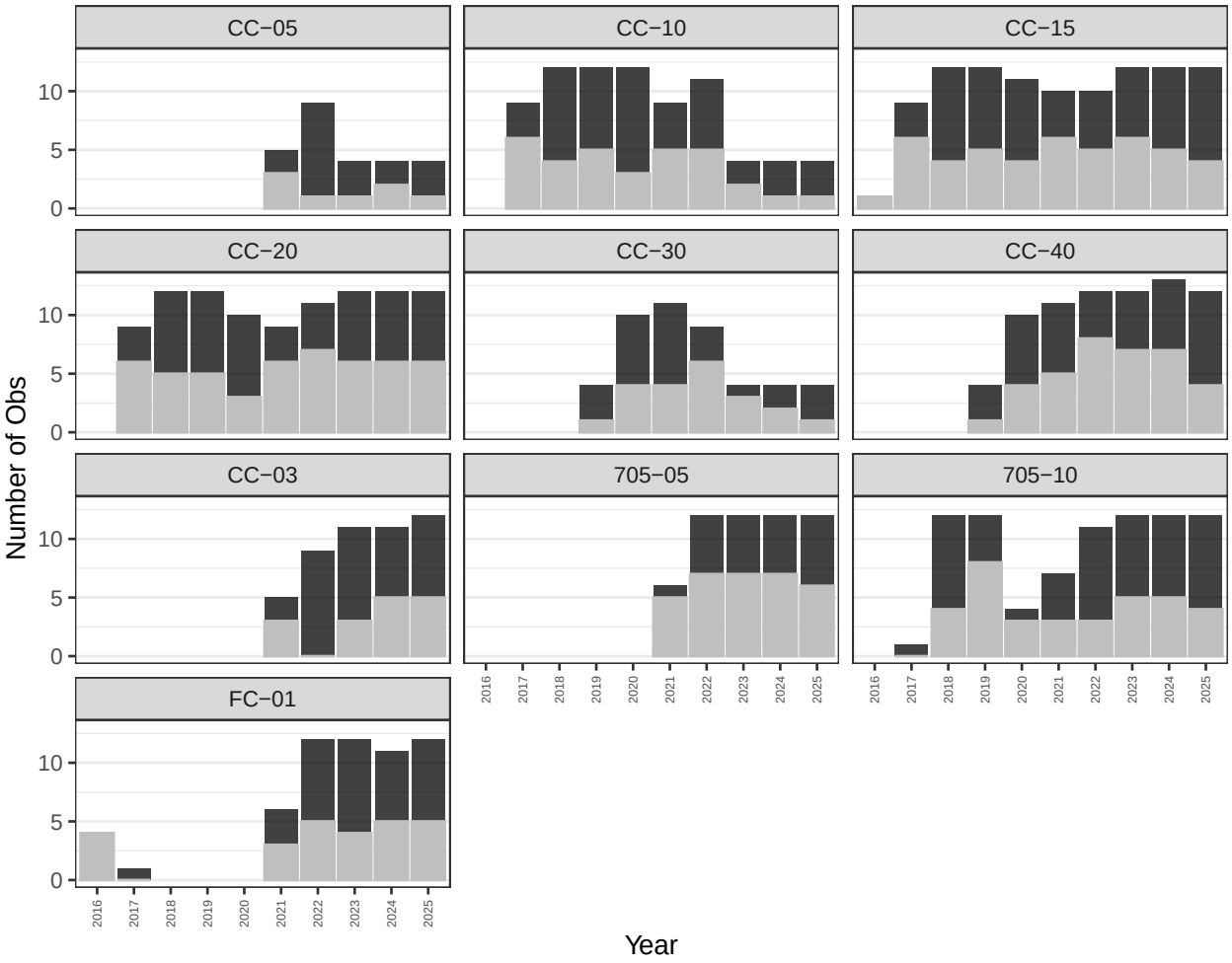
Final Summary Table

Variable	Ammonia
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	CC-05, 705-05, FC-01, CC-10, CC-15
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.6 Nitrate-N

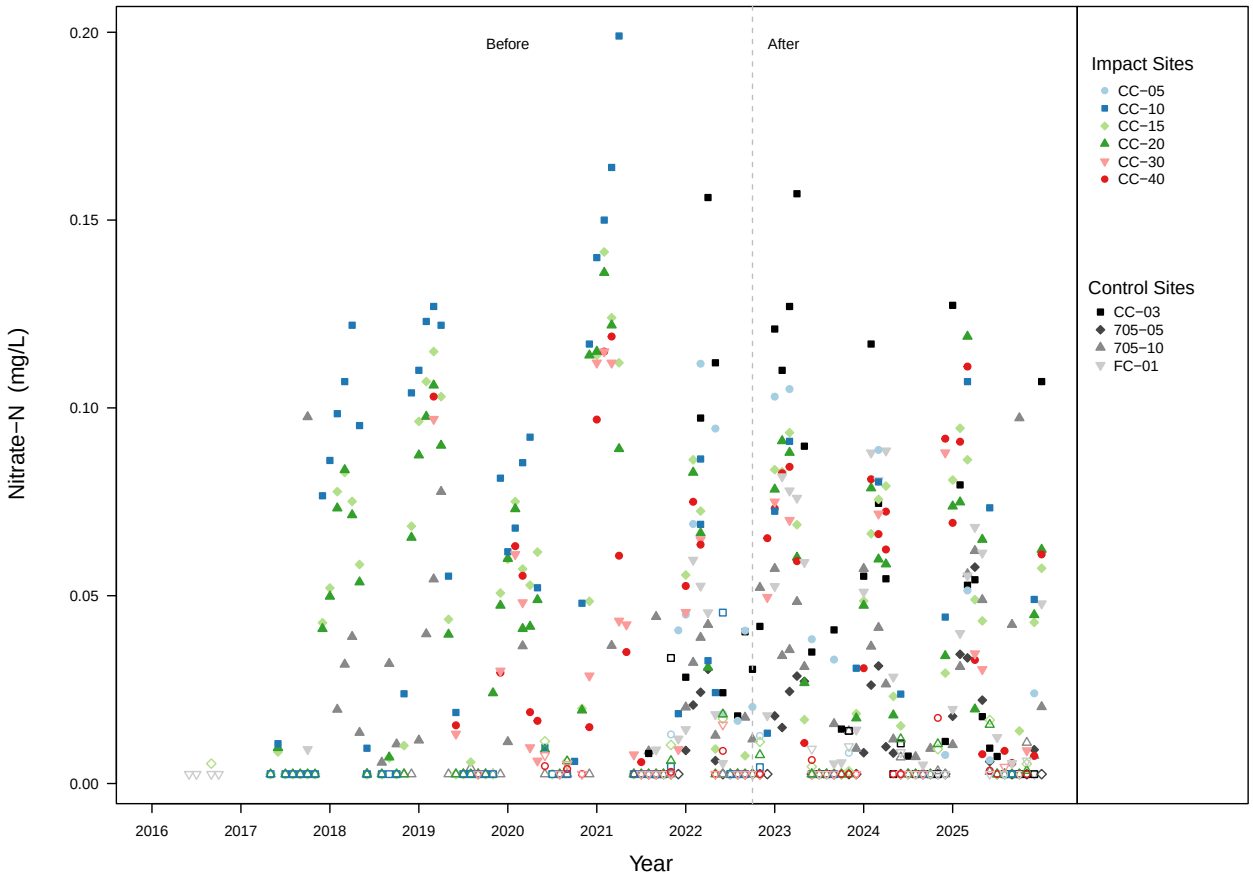
1 Chedakuz Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

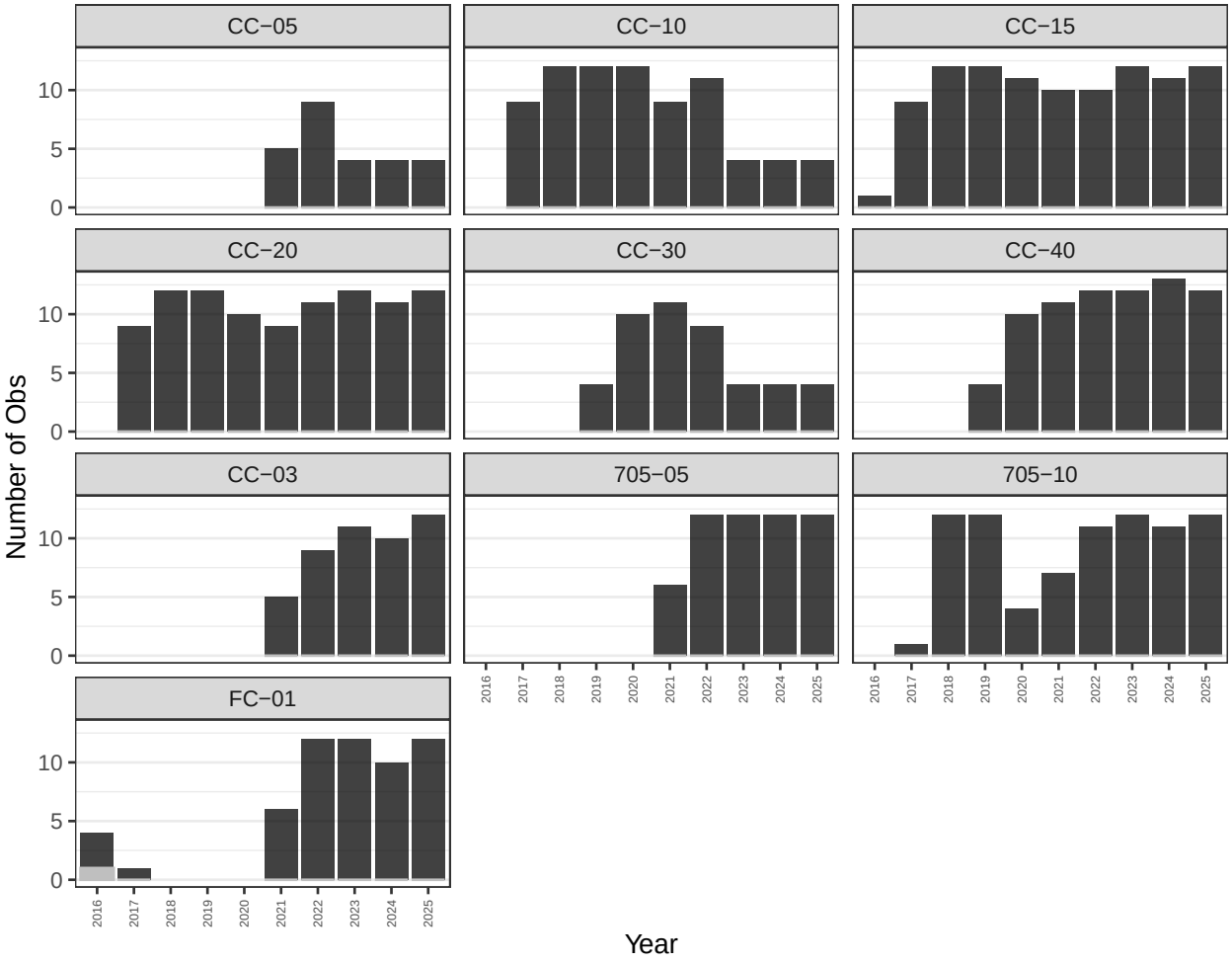
Variable	Nitrate-N
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.3.7 Total Phosphorus

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

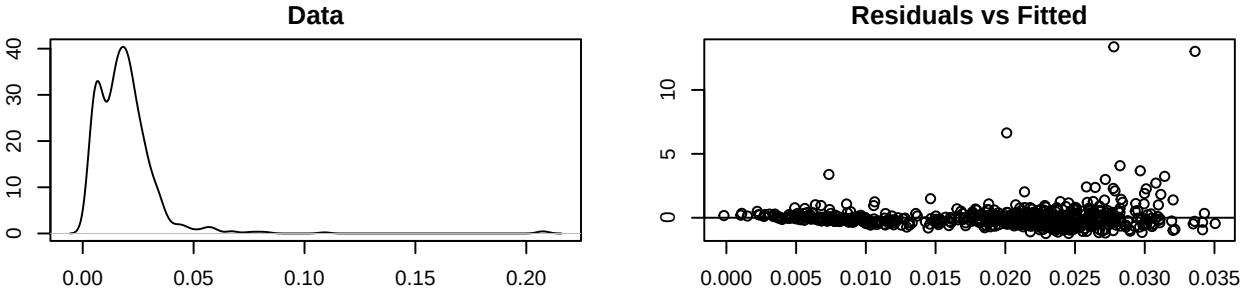
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.0273	0
Chedakuz Creek	CC-05	after	14	0.0234	0
Chedakuz Creek	CC-10	before	62	0.0266	0
Chedakuz Creek	CC-10	after	15	0.0270	0
Chedakuz Creek	CC-15	before	63	0.0203	0
Chedakuz Creek	CC-15	after	37	0.0206	0
Chedakuz Creek	CC-20	before	61	0.0191	0
Chedakuz Creek	CC-20	after	37	0.0199	0
Chedakuz Creek	CC-30	before	30	0.0195	0
Chedakuz Creek	CC-30	after	16	0.0192	0
Chedakuz Creek	CC-40	before	34	0.0190	0
Chedakuz Creek	CC-40	after	40	0.0181	0
Chedakuz Creek	CC-03	before	12	0.0286	0
Chedakuz Creek	CC-03	after	35	0.0203	0
Creek 705 (Control)	705-05	before	15	0.0079	0
Creek 705 (Control)	705-05	after	39	0.0084	0
Creek 705 (Control)	705-10	before	45	0.0059	0
Creek 705 (Control)	705-10	after	37	0.0061	0
Fawnie Creek (Control)	FC-01	before	20	0.0043	5
Fawnie Creek (Control)	FC-01	after	37	0.0059	0

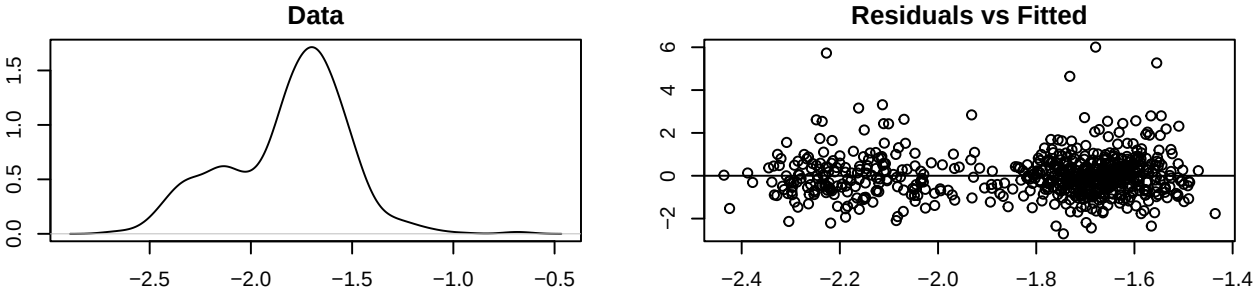
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-20	2018	10	impact	before	0.2070	0.0278	13.373	Y
Chedakuz Creek	CC-10	2024	11	impact	after	0.2080	0.0336	13.013	Y
Chedakuz Creek	CC-40	2020	7	impact	before	0.1090	0.0201	6.633	Y
Chedakuz Creek	CC-15	2025	4	impact	after	0.0828	0.0282	4.072	Y
Chedakuz Creek	CC-10	2023	5	impact	after	0.0789	0.0297	3.673	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0527	0.0074	3.384	Y
Chedakuz Creek	CC-15	2018	4	impact	before	0.0748	0.0314	3.236	Y

Outliers on log scale:

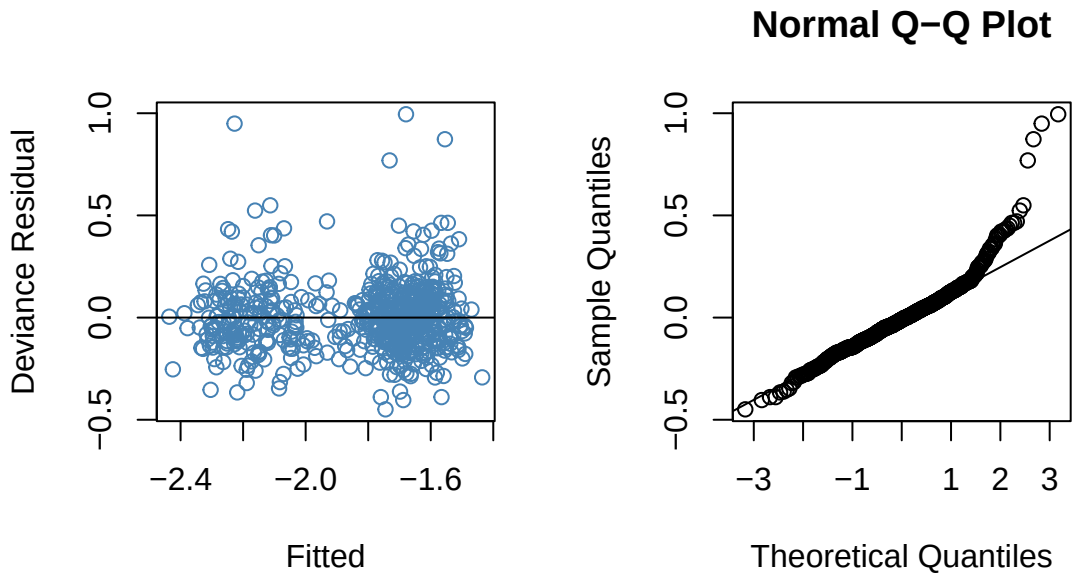
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-20	2018	10	impact	before	-0.6840	-1.679	6.005	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	-1.2782	-2.227	5.729	Y
Chedakuz Creek	CC-10	2024	11	impact	after	-0.6819	-1.555	5.267	Y
Chedakuz Creek	CC-40	2020	7	impact	before	-0.9626	-1.732	4.641	Y
Creek 705 (Control)	705-10	2024	3	control	after	-1.5638	-2.113	3.316	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-1.6383	-2.162	3.160	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.298137	0.298137	1	8.021	10.8594	0.0109	
period	0.006092	0.006092	1	56.426	0.2219	0.6390	
class:period	0.022378	0.022378	1	640.114	0.8151	0.3670	0.394

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
661	0.4766	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

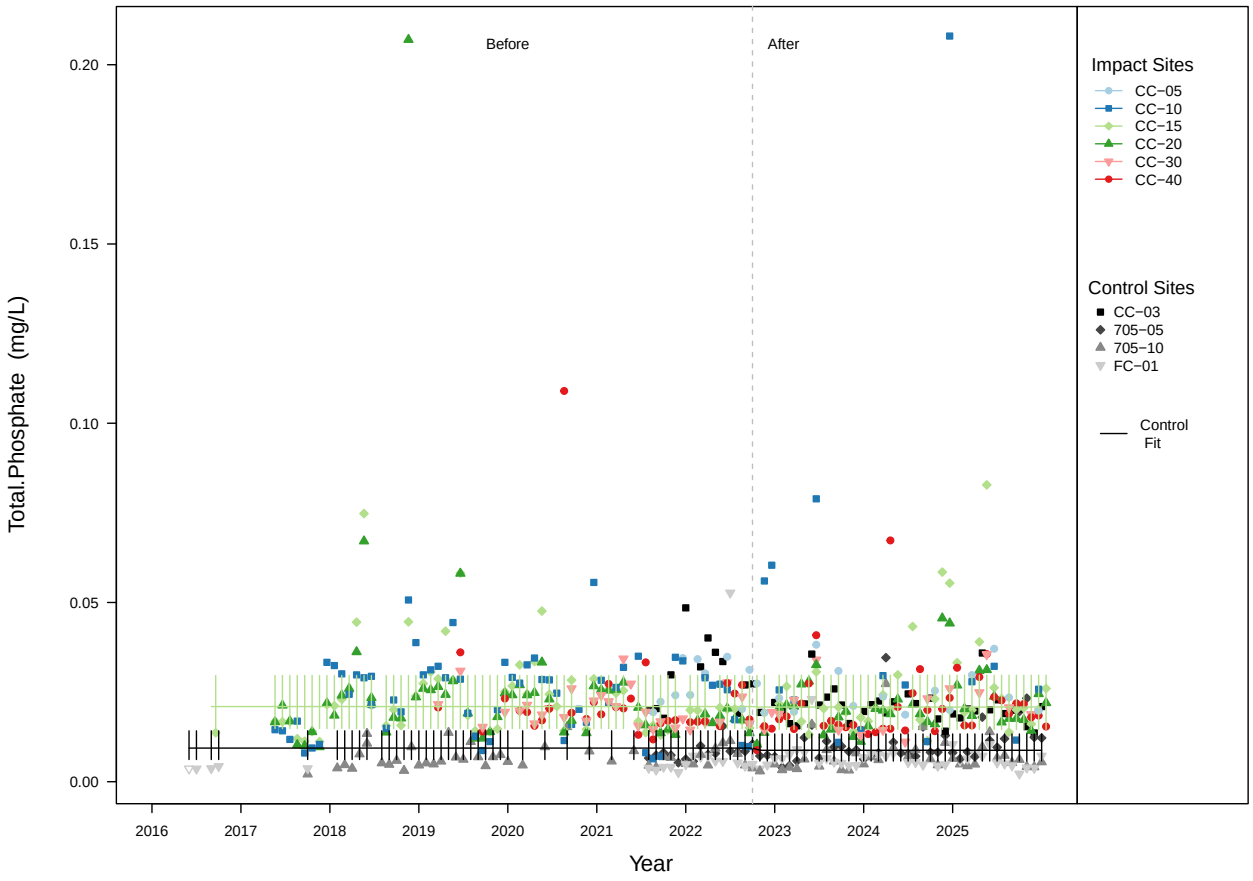
Impact vs.	Estimate	Significance
control sites	0.0266	not significant

Conclusion:

The change in Total.Phosphate concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.394) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

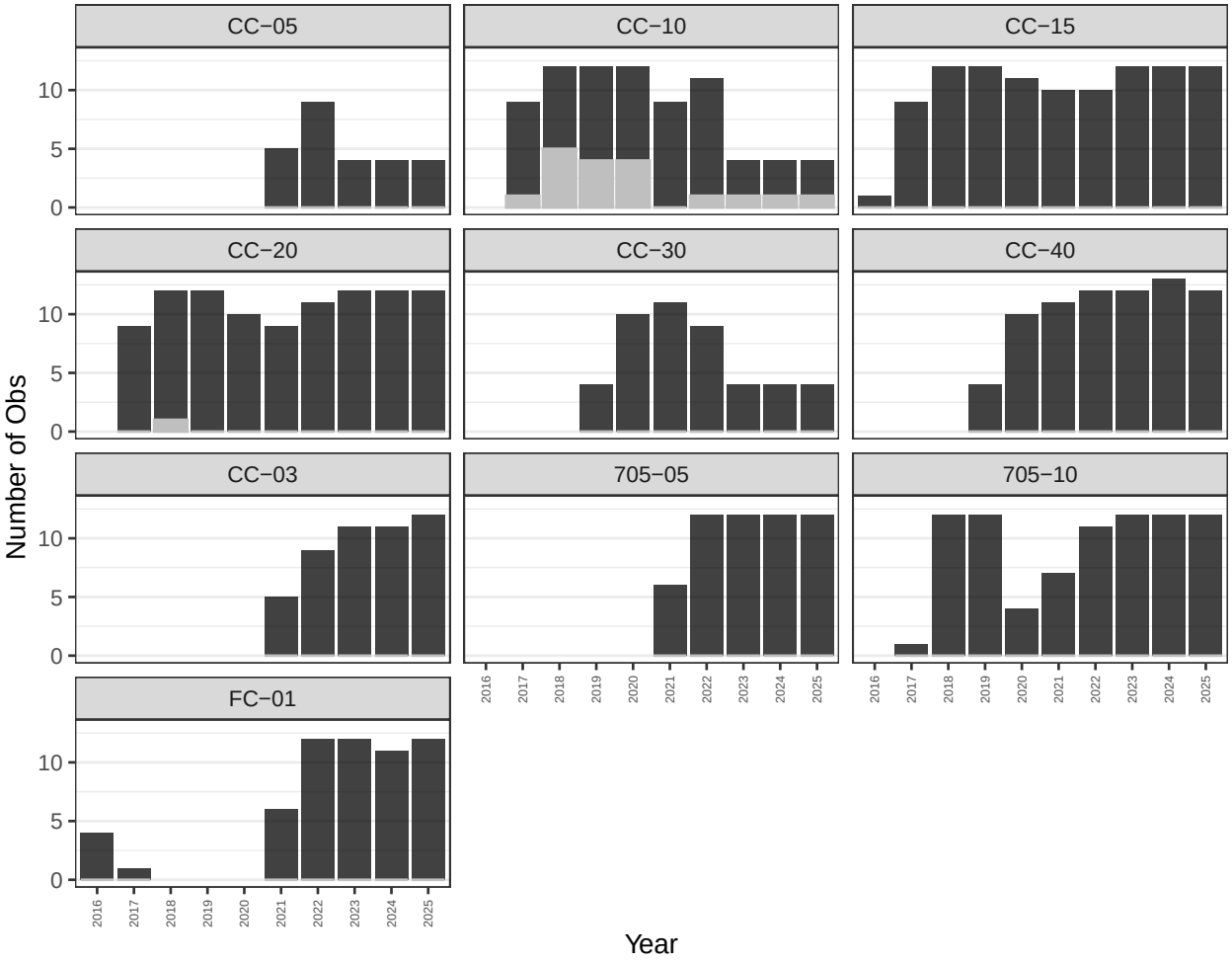
Variable	Total.Phosphate
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.3.8 Total Aluminum

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

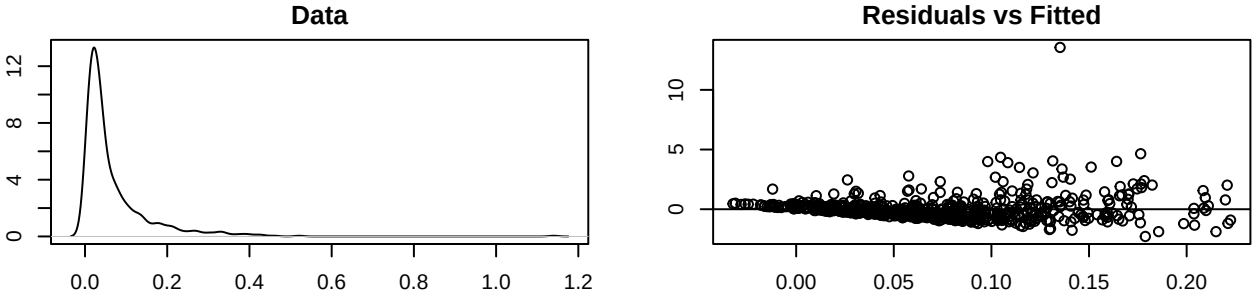
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.0363	0.000
Chedakuz Creek	CC-05	after	14	0.0307	0.000
Chedakuz Creek	CC-10	before	62	0.0072	24.194
Chedakuz Creek	CC-10	after	15	0.0052	20.000
Chedakuz Creek	CC-15	before	63	0.0357	0.000
Chedakuz Creek	CC-15	after	38	0.0665	0.000
Chedakuz Creek	CC-20	before	61	0.0324	1.639
Chedakuz Creek	CC-20	after	38	0.0441	0.000
Chedakuz Creek	CC-30	before	30	0.0448	0.000
Chedakuz Creek	CC-30	after	16	0.0254	0.000
Chedakuz Creek	CC-40	before	34	0.0397	0.000
Chedakuz Creek	CC-40	after	40	0.0288	0.000
Chedakuz Creek	CC-03	before	12	0.0262	0.000
Chedakuz Creek	CC-03	after	36	0.0187	0.000
Creek 705 (Control)	705-05	before	15	0.0940	0.000
Creek 705 (Control)	705-05	after	39	0.0575	0.000
Creek 705 (Control)	705-10	before	45	0.0944	0.000
Creek 705 (Control)	705-10	after	38	0.0608	0.000
Fawnie Creek (Control)	FC-01	before	20	0.0237	0.000
Fawnie Creek (Control)	FC-01	after	38	0.0172	0.000

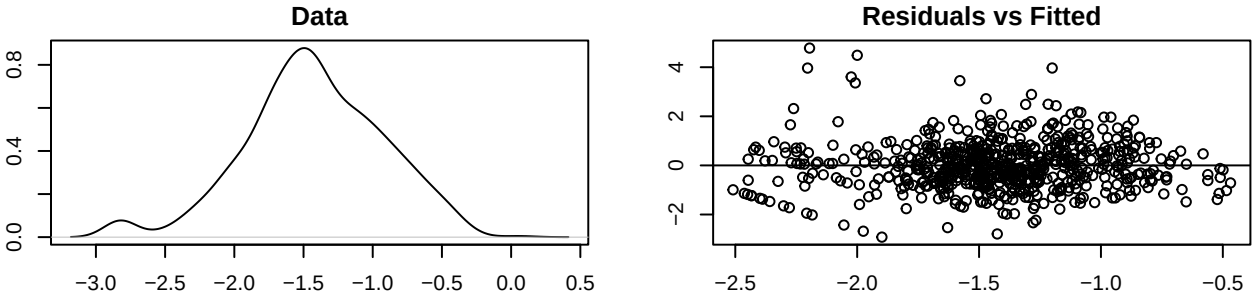
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	1.1400	0.1352	13.554	Y
Chedakuz Creek	CC-15	2024	4	impact	after	0.5210	0.1765	4.647	Y
Chedakuz Creek	CC-40	2024	12	impact	after	0.4270	0.1047	4.347	Y
Creek 705 (Control)	705-10	2019	7	control	before	0.4315	0.1314	4.048	Y
Chedakuz Creek	CC-20	2024	4	impact	after	0.4610	0.1641	4.005	Y
Creek 705 (Control)	705-05	2024	3	control	after	0.3940	0.0981	3.991	Y
Creek 705 (Control)	705-10	2024	3	control	after	0.3975	0.1084	3.900	Y
Chedakuz Creek	CC-05	2022	5	impact	before	0.4128	0.1511	3.530	Y
Chedakuz Creek	CC-15	2024	12	impact	after	0.3740	0.1144	3.502	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	0.3860	0.1362	3.369	Y
Chedakuz Creek	CC-40	2024	7	impact	after	0.3470	0.1213	3.044	Y

Outliers on log scale:

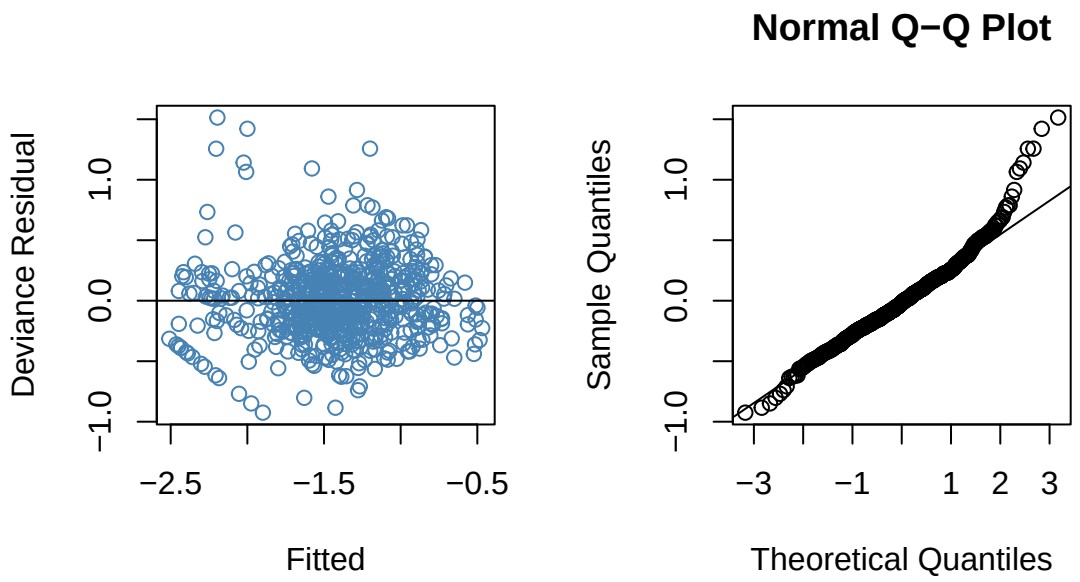
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-10	2022	10	impact	after	-0.6814	-2.195	4.779	Y
Chedakuz Creek	CC-10	2022	11	impact	after	-0.5784	-2.000	4.486	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	0.0569	-1.200	3.967	Y
Chedakuz Creek	CC-10	2021	10	impact	before	-0.9472	-2.204	3.965	Y
Chedakuz Creek	CC-10	2020	11	impact	before	-0.8827	-2.024	3.603	Y
Chedakuz Creek	CC-10	2023	5	impact	after	-0.4855	-1.579	3.450	Y
Chedakuz Creek	CC-10	2021	11	impact	before	-0.9431	-2.008	3.360	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.06321	0.06321	1	8.023	0.6296	0.45	
period	0.24382	0.24382	1	24.800	2.4288	0.132	
class:period	2.02686	2.02686	1	644.606	20.1898	<0.001	2.38e-05

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
666	0.0316	9%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

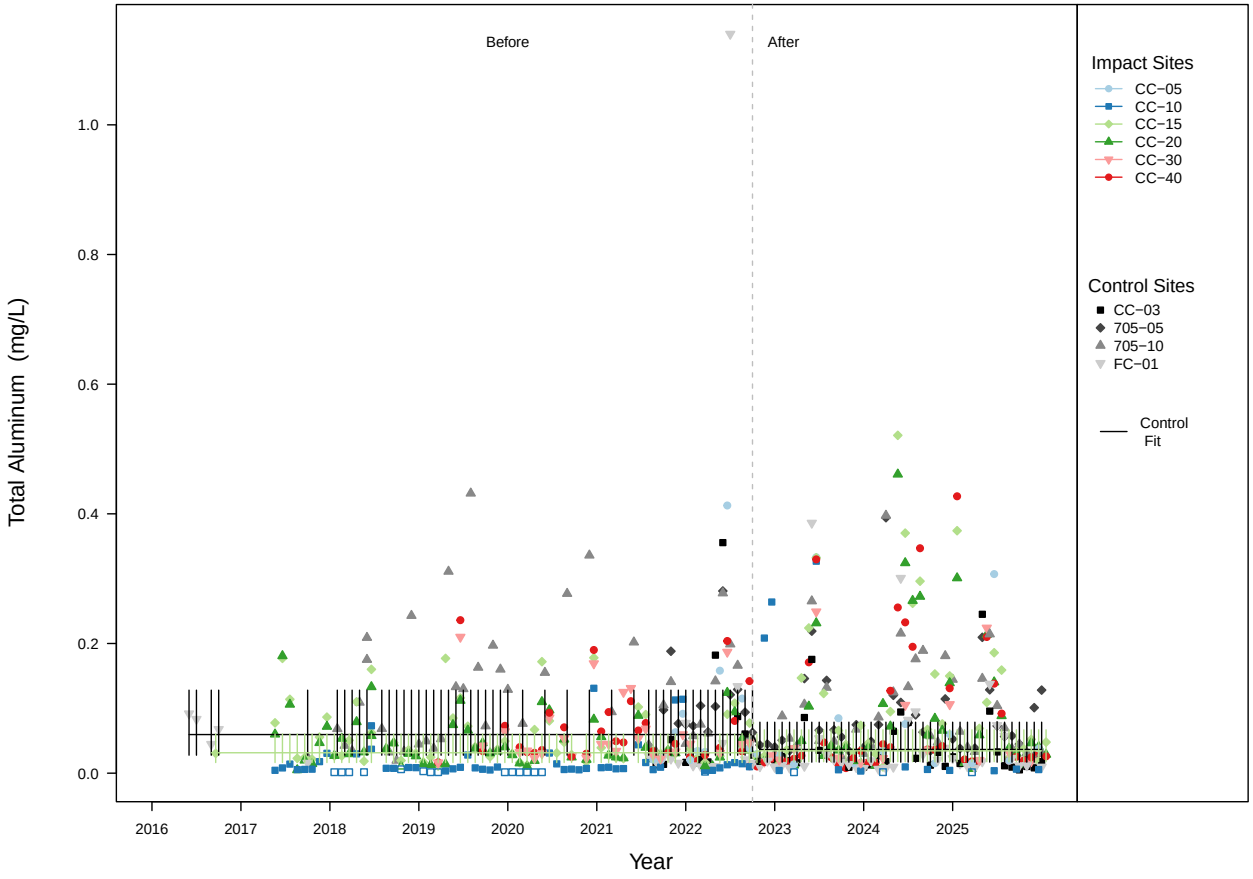
Impact vs.	Estimate	Significance
control sites	0.2512	significant

Conclusion:

The change in Total Aluminum concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 2.38×10^{-5}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

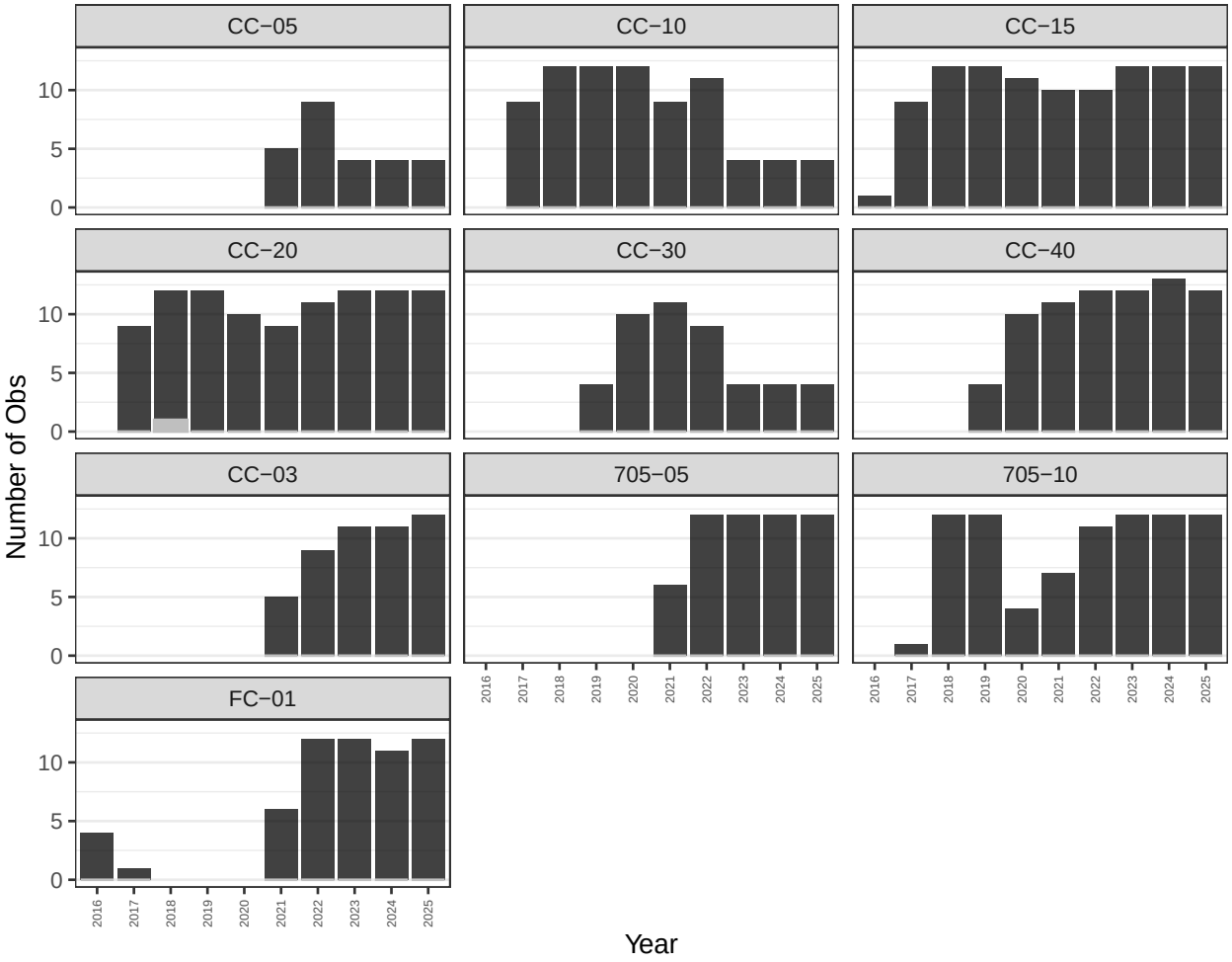
Variable	Total Aluminum
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.9 Total Arsenic

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

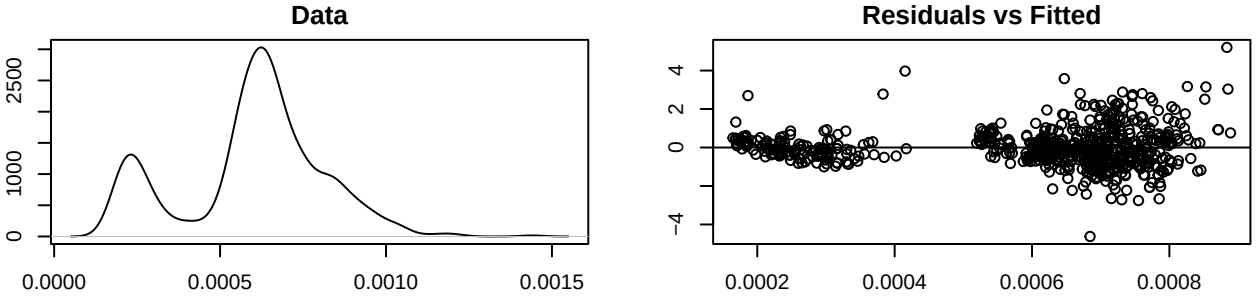
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.0007	0.000
Chedakuz Creek	CC-05	after	14	0.0007	0.000
Chedakuz Creek	CC-10	before	62	0.0006	0.000
Chedakuz Creek	CC-10	after	15	0.0006	0.000
Chedakuz Creek	CC-15	before	63	0.0006	0.000
Chedakuz Creek	CC-15	after	38	0.0007	0.000
Chedakuz Creek	CC-20	before	61	0.0006	1.639
Chedakuz Creek	CC-20	after	38	0.0007	0.000
Chedakuz Creek	CC-30	before	30	0.0006	0.000
Chedakuz Creek	CC-30	after	16	0.0007	0.000
Chedakuz Creek	CC-40	before	34	0.0007	0.000
Chedakuz Creek	CC-40	after	40	0.0008	0.000
Chedakuz Creek	CC-03	before	12	0.0007	0.000
Chedakuz Creek	CC-03	after	36	0.0007	0.000
Creek 705 (Control)	705-05	before	15	0.0003	0.000
Creek 705 (Control)	705-05	after	39	0.0003	0.000
Creek 705 (Control)	705-10	before	45	0.0002	0.000
Creek 705 (Control)	705-10	after	38	0.0002	0.000
Fawnie Creek (Control)	FC-01	before	20	0.0007	0.000
Fawnie Creek (Control)	FC-01	after	38	0.0008	0.000

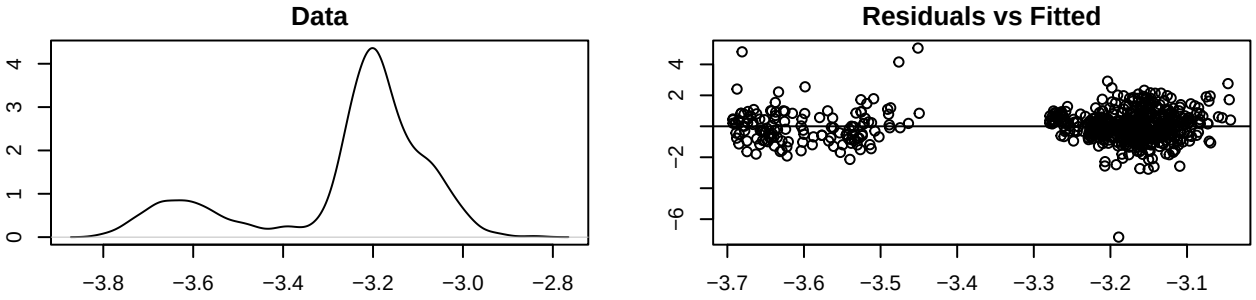
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-40	2025	8	impact	after	0.0014	0.0009	5.201	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	0.0002	0.0007	-4.624	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.0008	0.0004	3.971	Y
Chedakuz Creek	CC-03	2021	12	control	before	0.0010	0.0006	3.581	Y
Chedakuz Creek	CC-15	2025	8	impact	after	0.0012	0.0008	3.168	Y
Chedakuz Creek	CC-40	2024	9	impact	after	0.0012	0.0009	3.149	Y
Chedakuz Creek	CC-40	2024	8	impact	after	0.0012	0.0009	3.035	Y

Outliers on log scale:

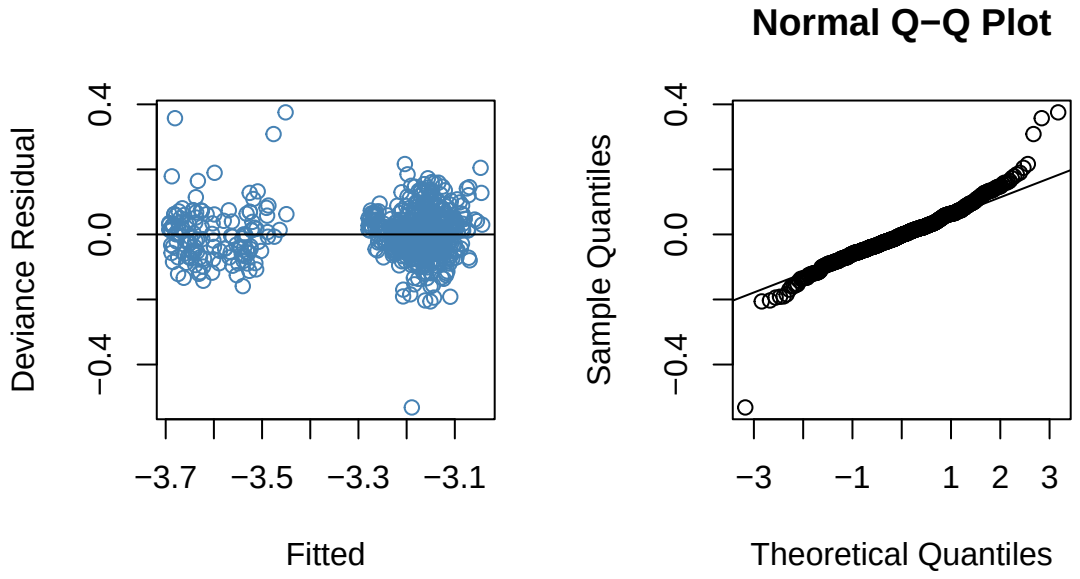
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2021	12	control	before	-3.721	-3.189	-7.160	Y
Creek 705 (Control)	705-05	2025	8	control	after	-3.076	-3.451	5.053	Y
Creek 705 (Control)	705-10	2021	12	control	before	-3.323	-3.681	4.811	Y
Creek 705 (Control)	705-05	2025	9	control	after	-3.167	-3.476	4.154	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.023531	0.023531	1	8.004	4.2628	0.0728	
period	0.098679	0.098679	1	12.370	17.8760	0.0011	
class:period	0.005418	0.005418	1	626.964	0.9814	0.3220	0.355

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
666	0.3129	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

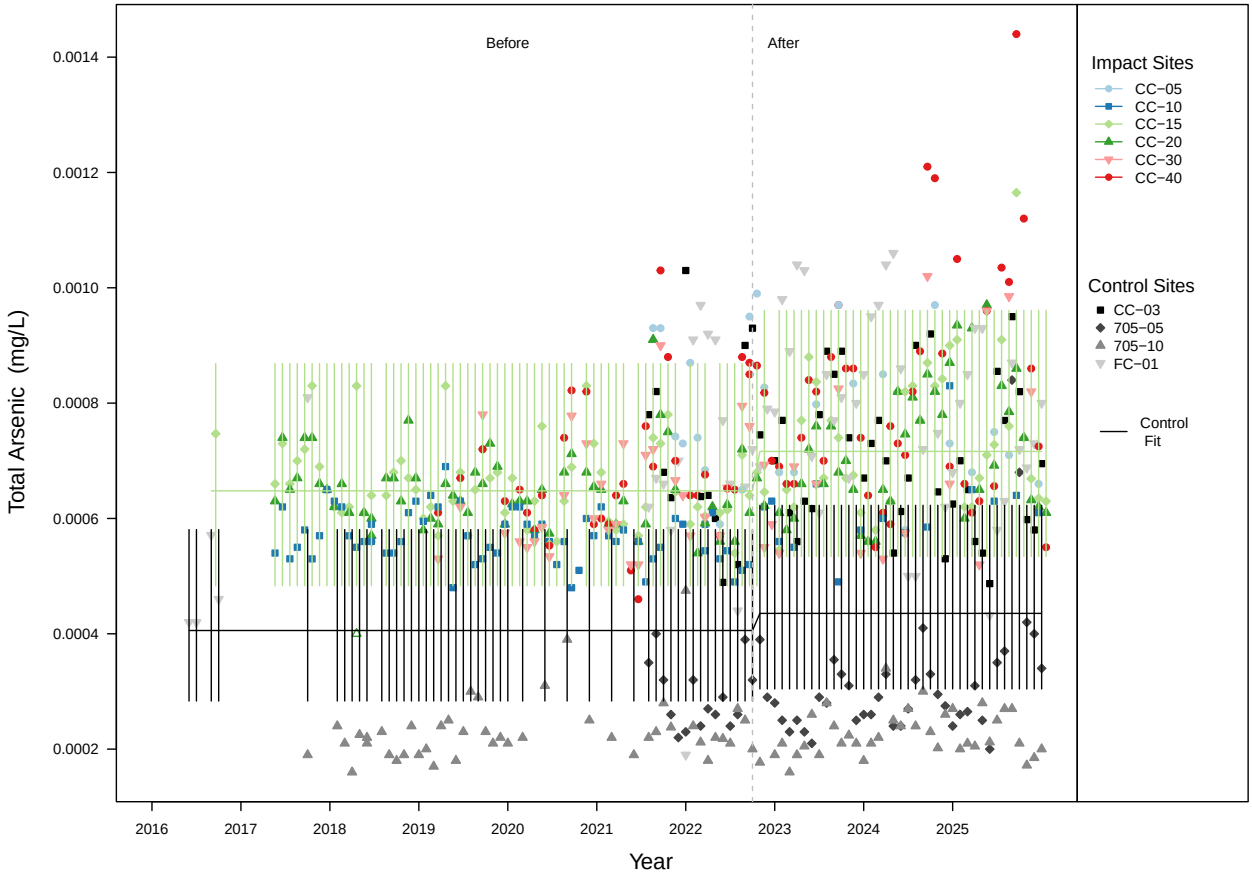
Impact vs.	Estimate	Significance
control sites	0.0129	not significant

Conclusion:

The change in Total Arsenic concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.355) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

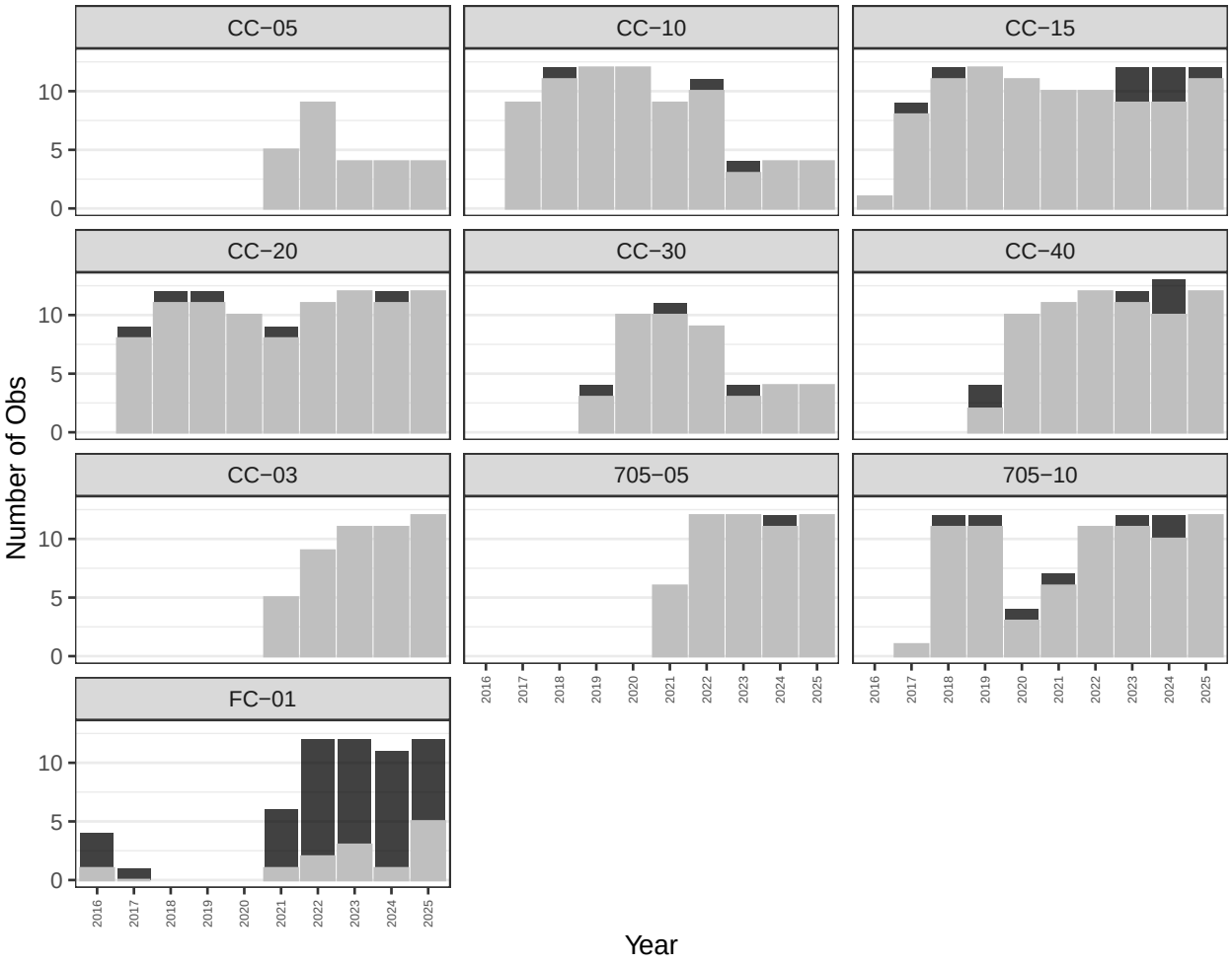
Final Summary Table

Variable	Total Arsenic
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.3.10 Total Cadmium

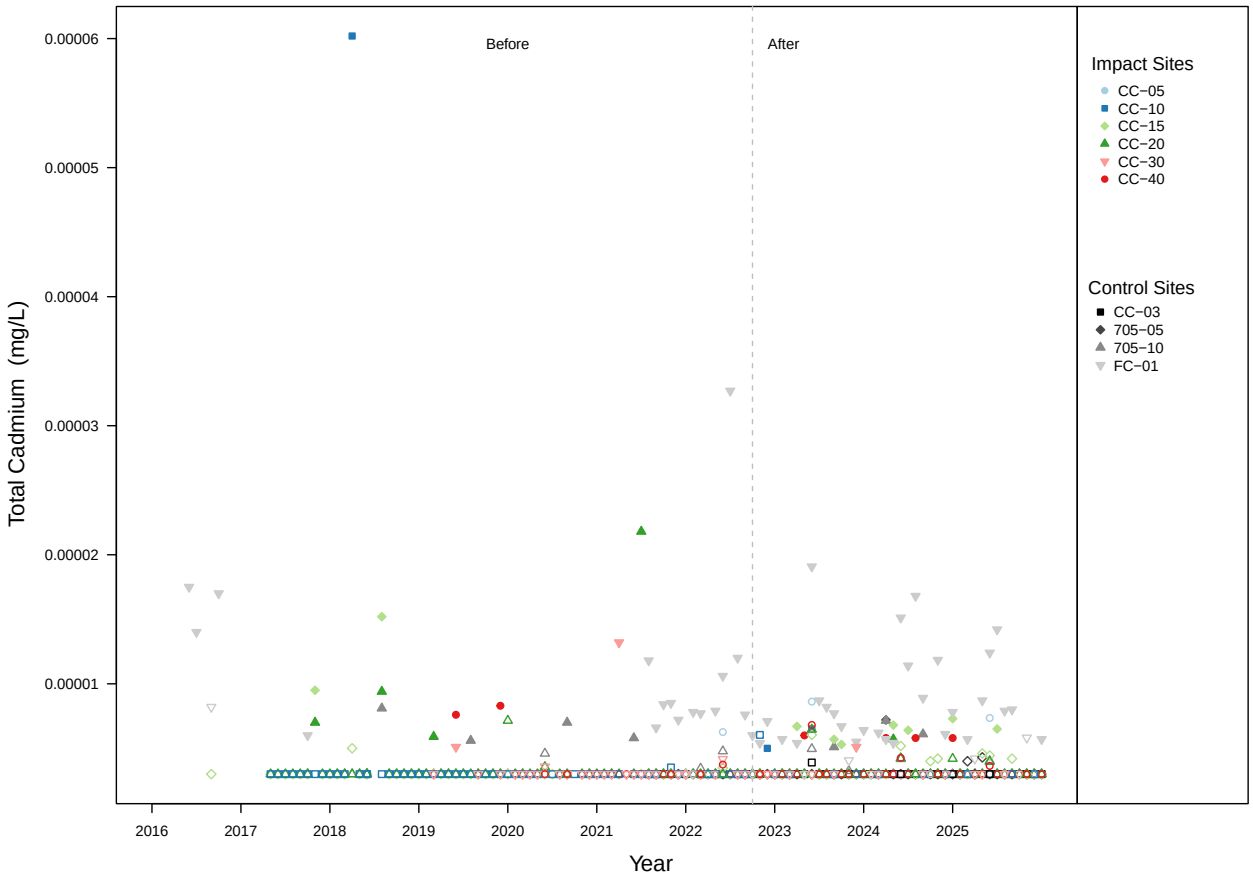
1 Chedakuz Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

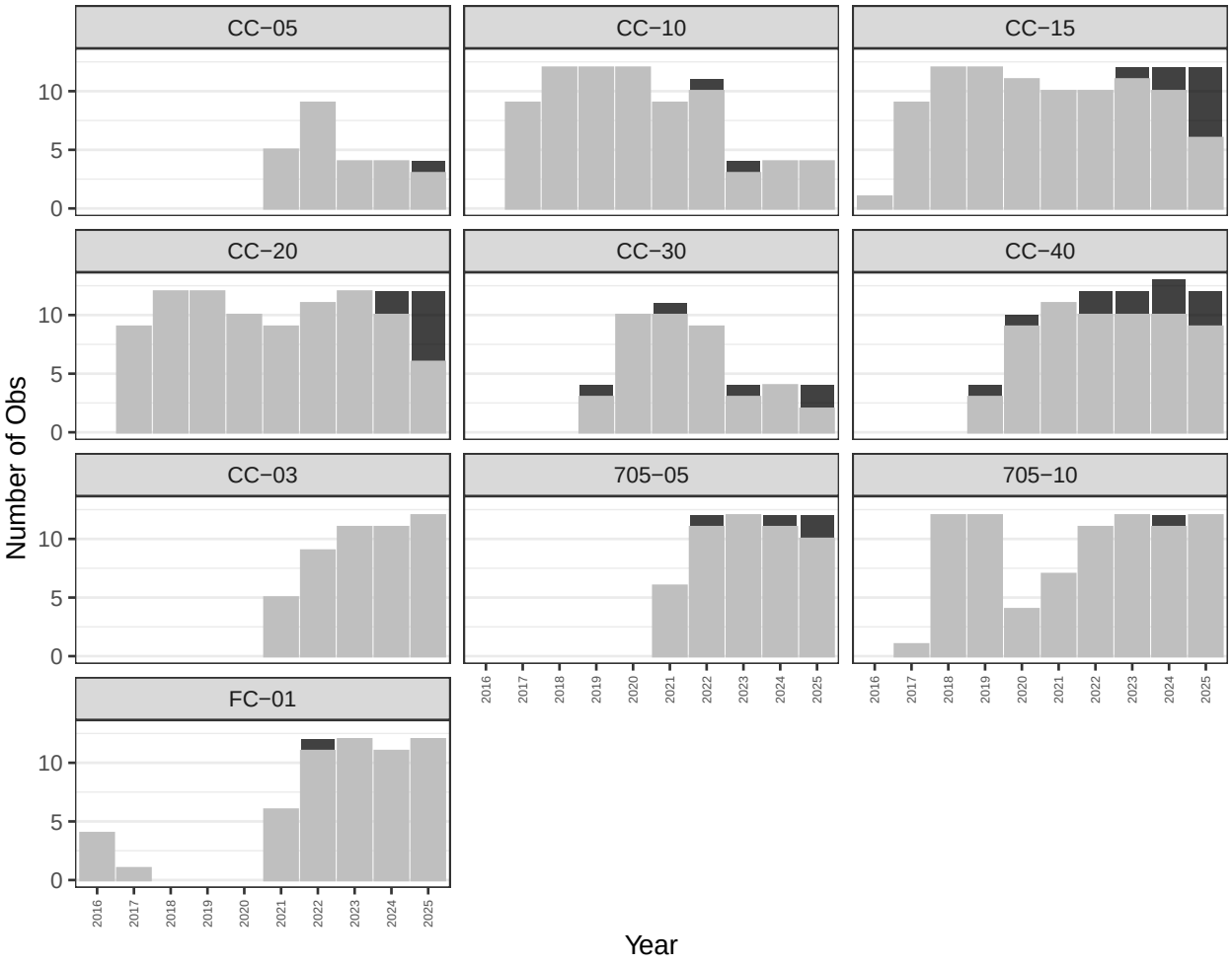
Final Summary Table

Variable	Total Cadmium
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.3.11 Total Cobalt

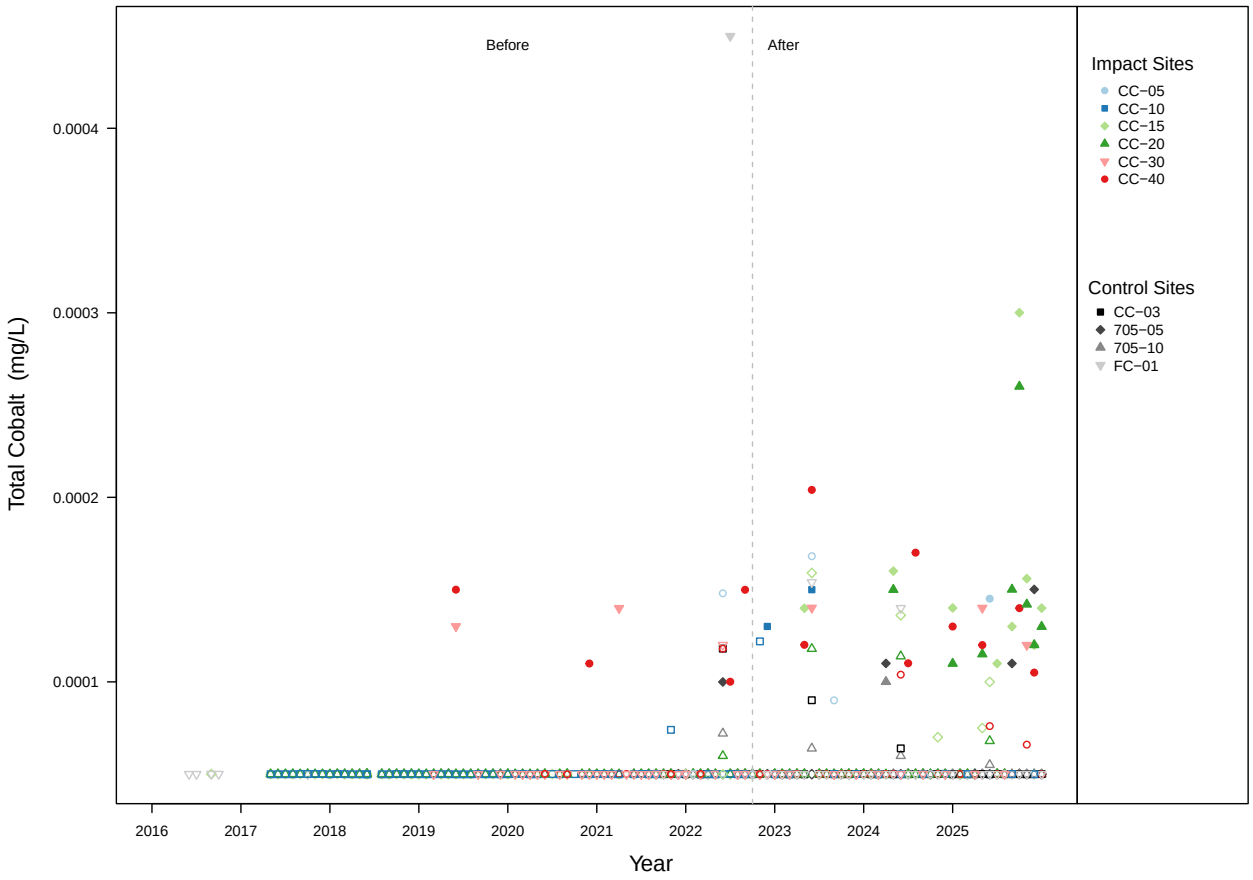
1 Chedakuz Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

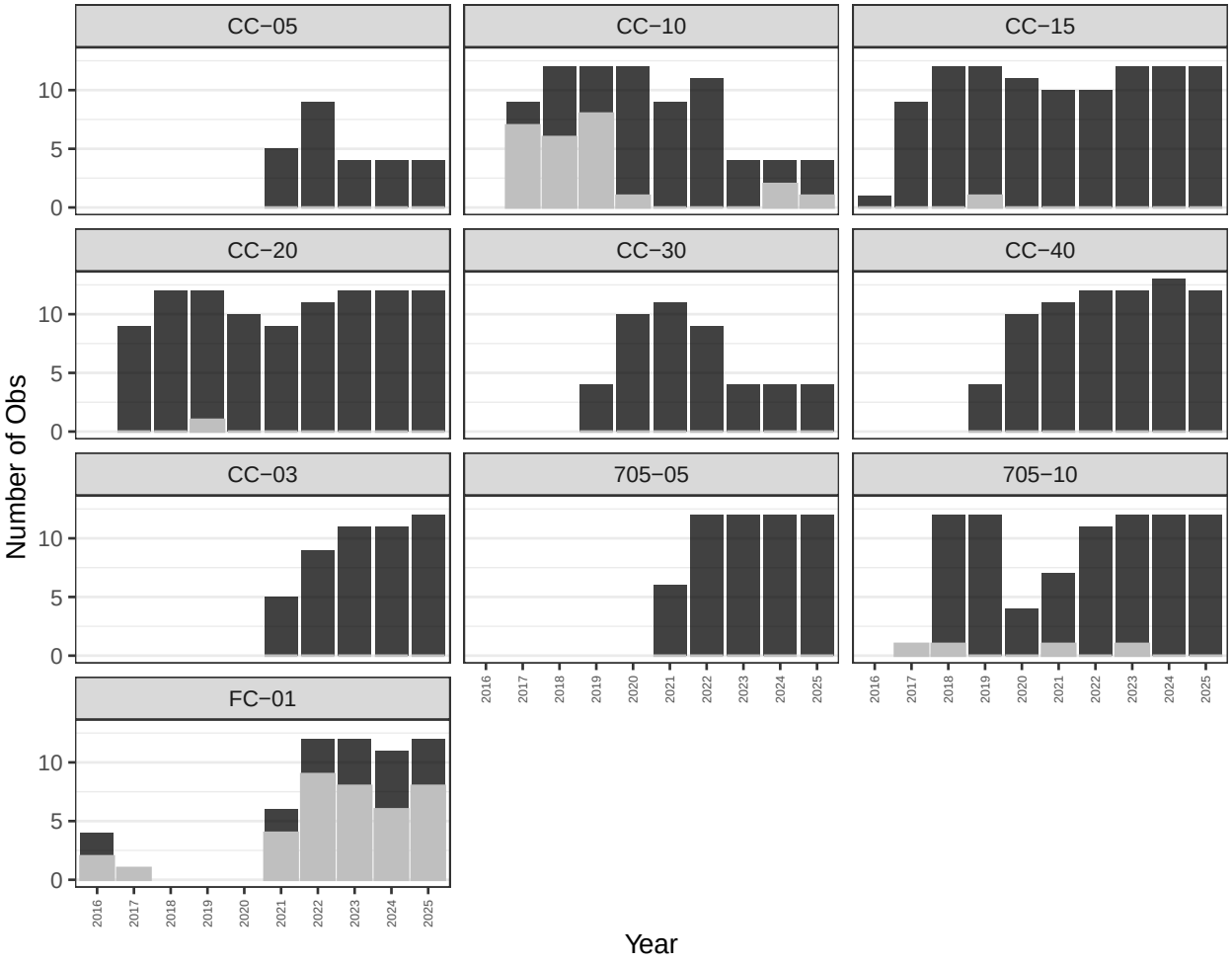
Variable	Total Cobalt
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.3.12 Total Iron

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Chedakuz Creek	CC-10	2017	impact	before	9
Chedakuz Creek	CC-10	2019	impact	before	12
Creek 705 (Control)	705-10	2017	control	before	1
Fawnie Creek (Control)	FC-01	2017	control	before	1
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12

(Continued on Next Page...)

(continued)

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2023	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11
Fawnie Creek (Control)	FC-01	2025	control	after	12

1.2 Sample Sizes for Modelling

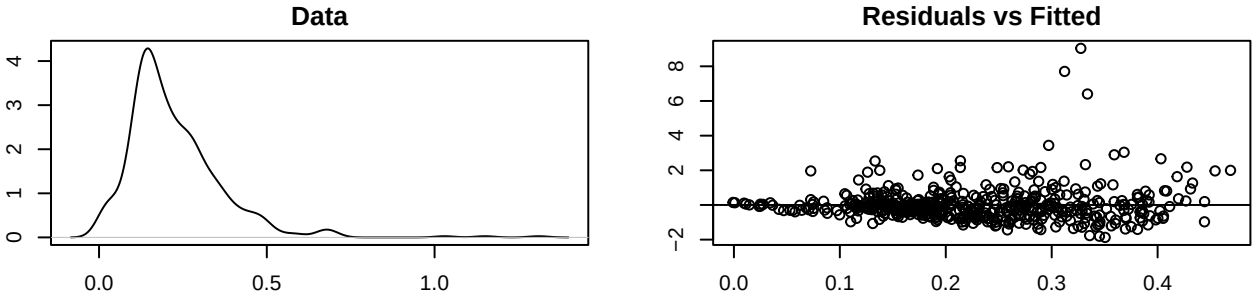
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.2285	0.000
Chedakuz Creek	CC-05	after	14	0.1370	0.000
Chedakuz Creek	CC-10	before	24	0.0255	29.167
Chedakuz Creek	CC-15	before	63	0.1460	1.587
Chedakuz Creek	CC-15	after	38	0.2315	0.000
Chedakuz Creek	CC-20	before	61	0.1452	1.639
Chedakuz Creek	CC-20	after	38	0.2023	0.000
Chedakuz Creek	CC-30	before	30	0.2880	0.000
Chedakuz Creek	CC-30	after	16	0.3580	0.000
Chedakuz Creek	CC-40	before	34	0.3000	0.000
Chedakuz Creek	CC-40	after	40	0.3435	0.000
Chedakuz Creek	CC-03	before	12	0.2065	0.000
Chedakuz Creek	CC-03	after	36	0.1395	0.000
Creek 705 (Control)	705-05	before	15	0.2100	0.000
Creek 705 (Control)	705-05	after	39	0.2110	0.000
Creek 705 (Control)	705-10	before	16	0.0940	6.250
Fawnie Creek (Control)	FC-01	before	4	0.0335	50.000

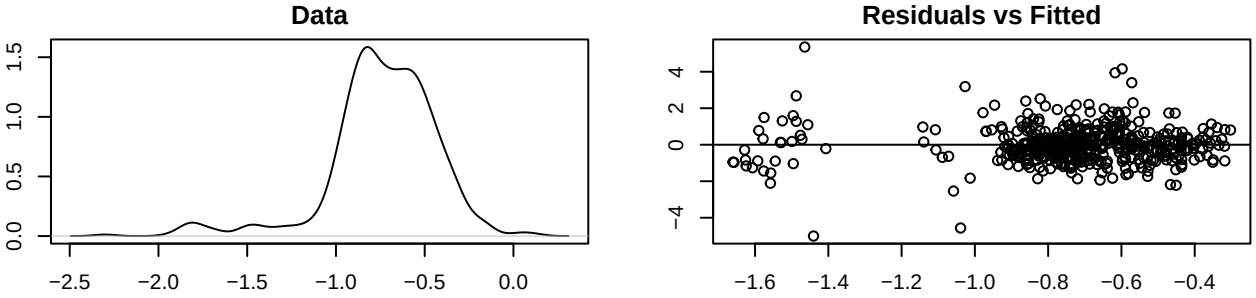
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2025	9	control	after	1.310	0.3275	9.035	Y
Creek 705 (Control)	705-05	2025	8	control	after	1.150	0.3122	7.705	Y
Creek 705 (Control)	705-05	2025	10	control	after	1.030	0.3338	6.403	Y
Chedakuz Creek	CC-30	2021	3	impact	before	0.671	0.2972	3.438	Y
Chedakuz Creek	CC-40	2024	12	impact	after	0.699	0.3684	3.041	Y

Outliers on log scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-10	2020	11	impact	before	-0.5436	-1.4643	5.352	Y
Chedakuz Creek	CC-10	2020	4	impact	before	-2.3010	-1.4403	-5.003	N
Creek 705 (Control)	705-10	2018	9	control	before	-1.8239	-1.0390	-4.563	N
Creek 705 (Control)	705-05	2025	9	control	after	0.1173	-0.5980	4.158	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.0607	-0.6172	3.941	Y

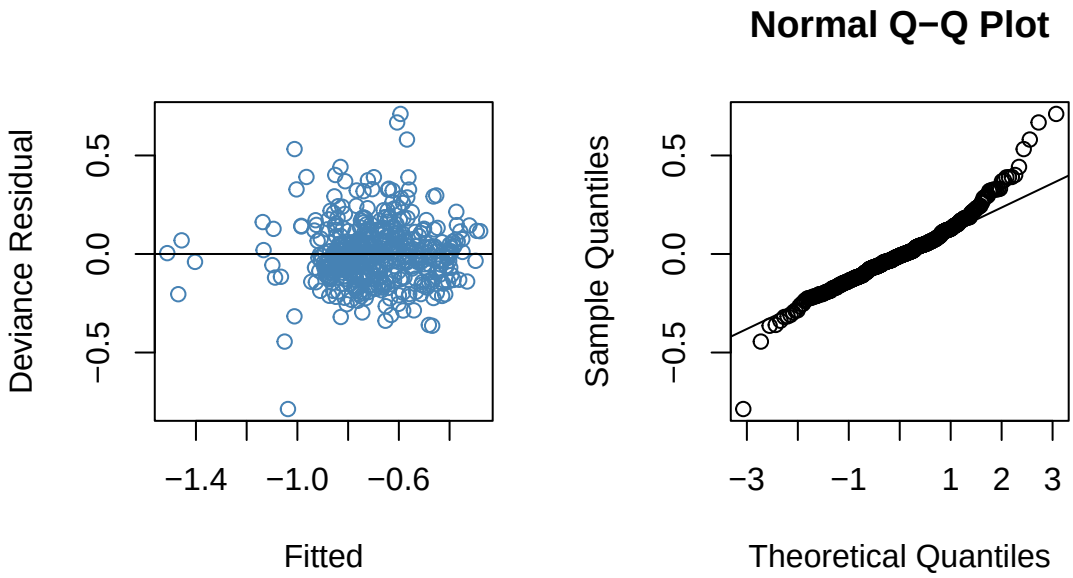
Creek 705 (Control)	705-05	2025	10	control	after	0.0128	-0.5718	3.399	Y
Creek 705 (Control)	705-10	2020	8	control	before	-0.4789	-1.0267	3.185	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.088828	0.088828	1	7.027	3.5361	0.102	
period	0.005374	0.005374	1	22.625	0.2139	0.648	
class:period	0.273185	0.273185	1	441.651	10.8752	0.001	0.00197

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
492	0.2352	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

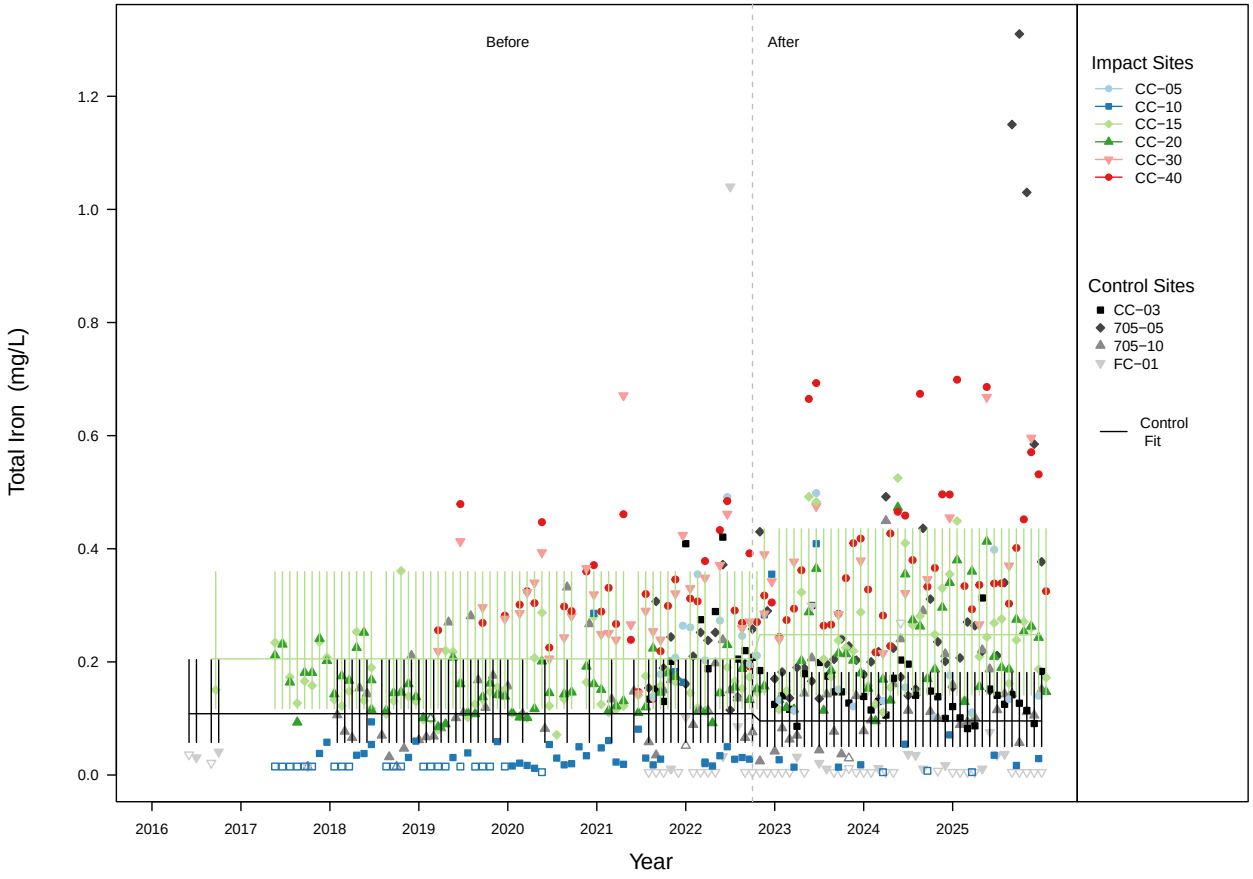
Impact vs.	Estimate	Significance
control sites	0.1366	significant

Conclusion:

The change in Total Iron concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 0.002) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

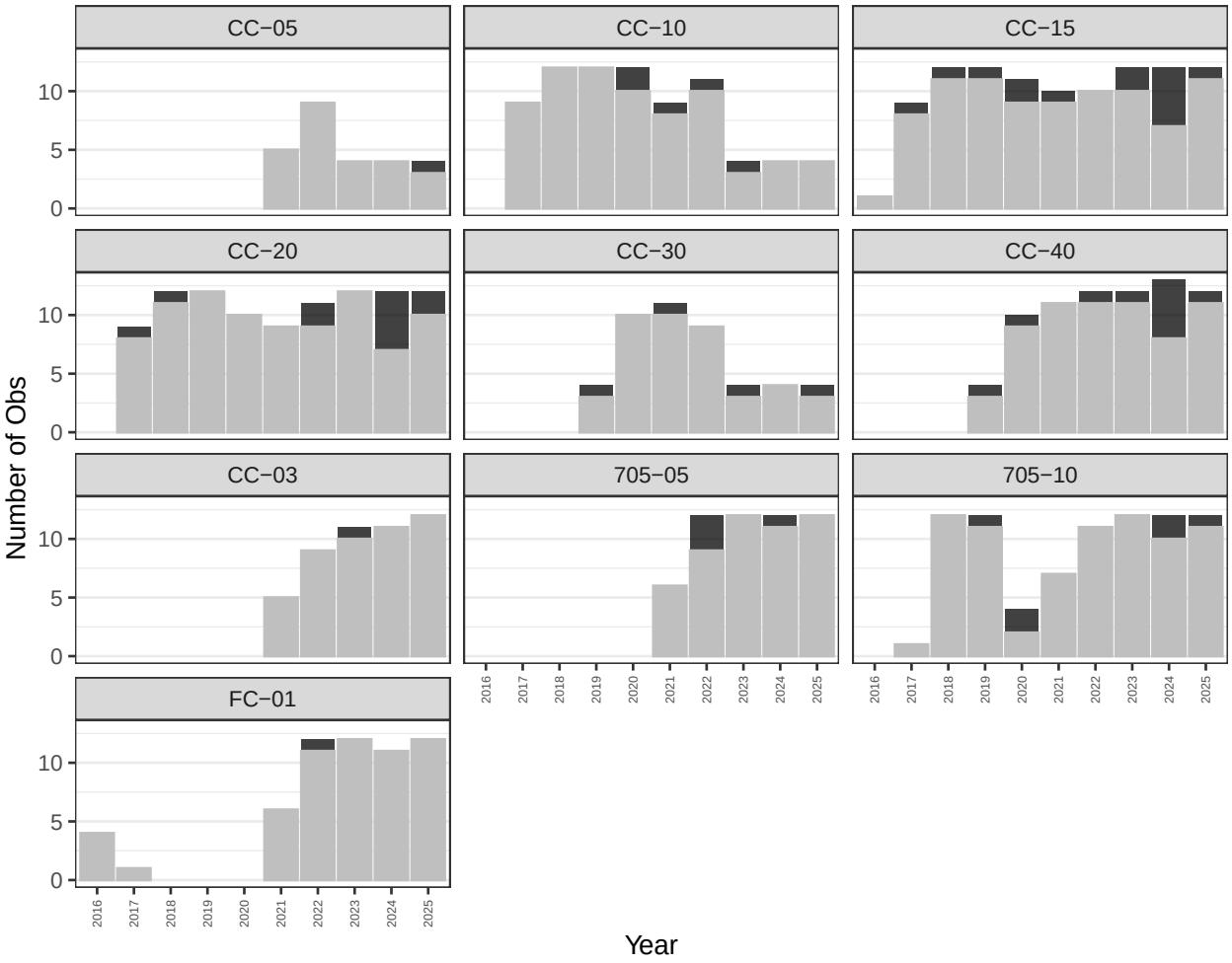
Final Summary Table

Variable	Total Iron
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	CC-10
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.13 Total Lead

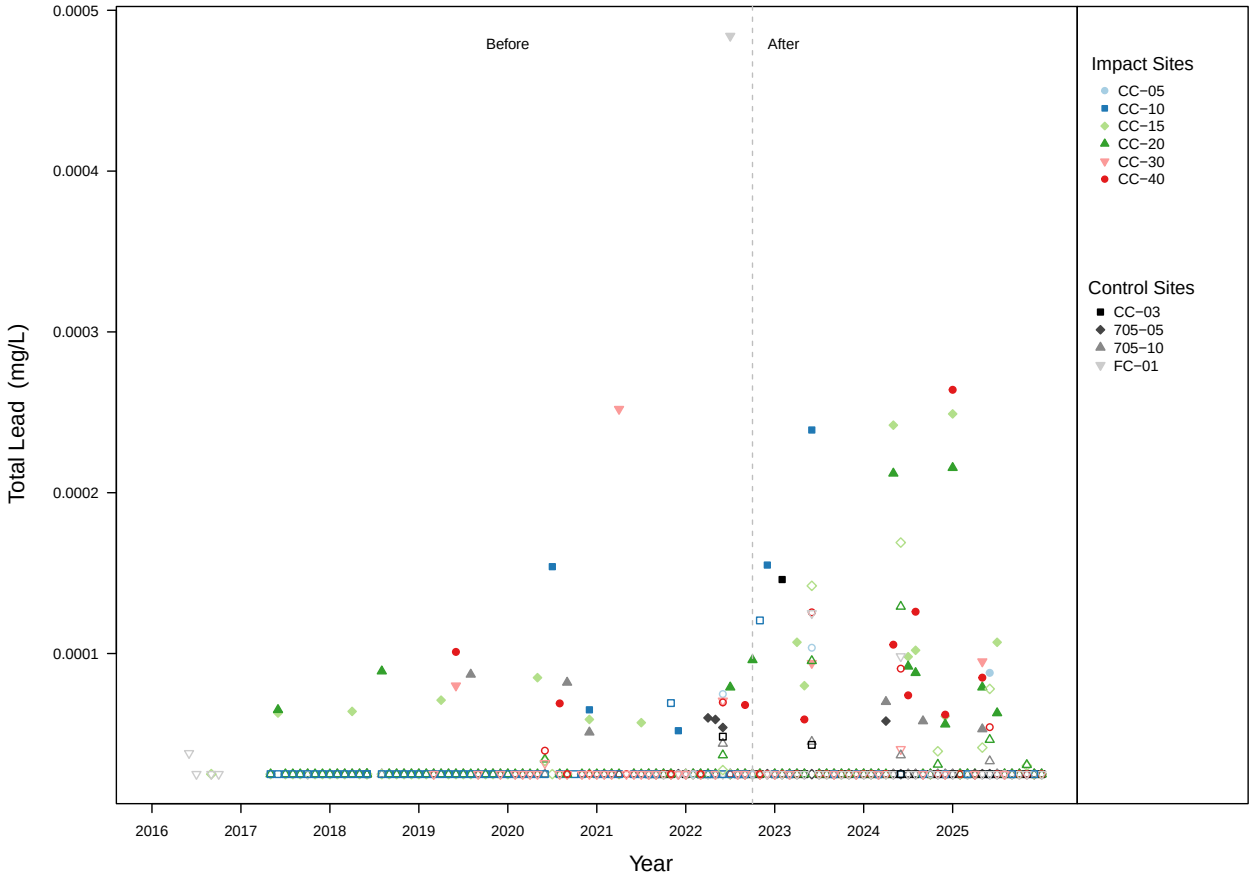
1 Chedakuz Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

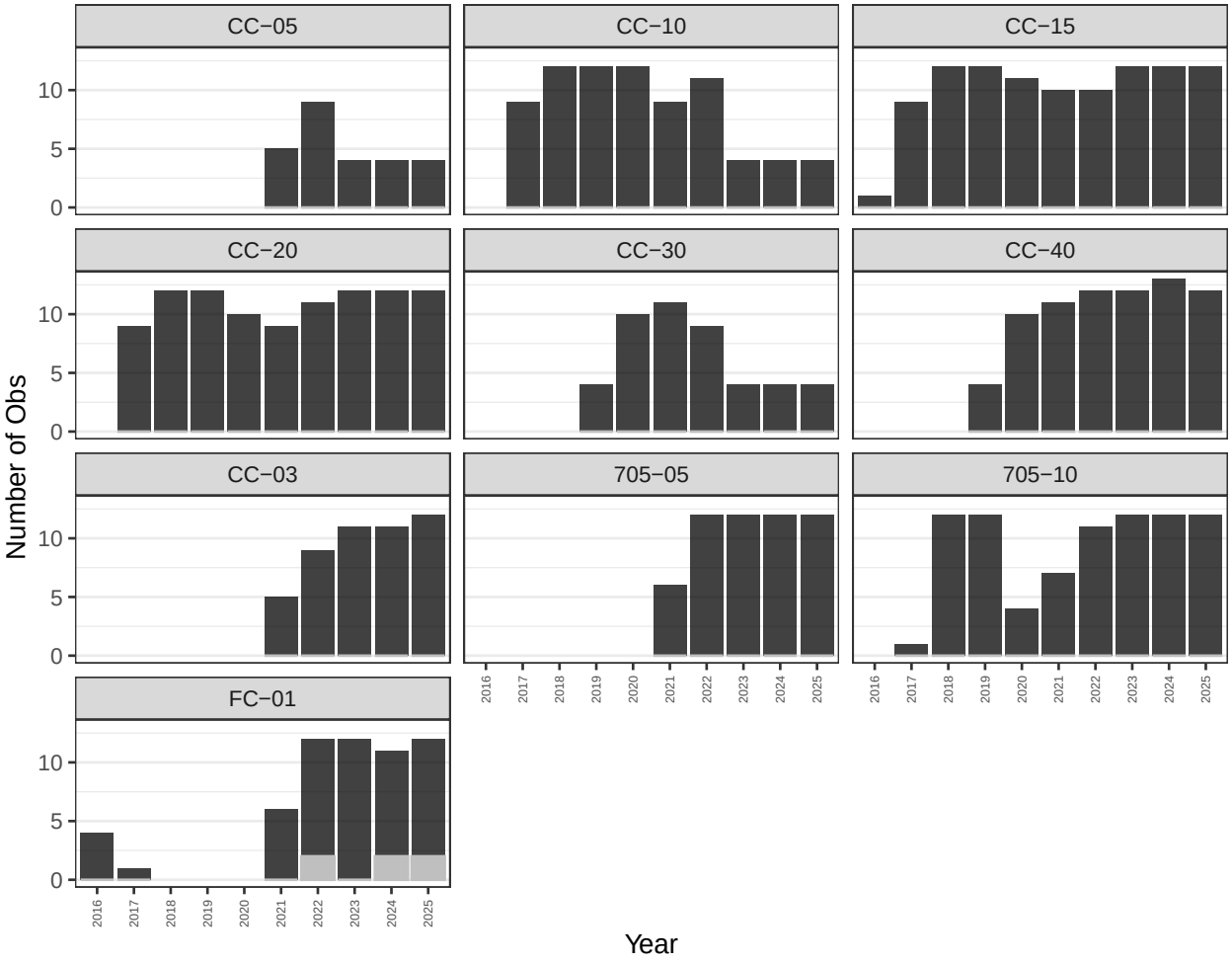
Variable	Total Lead
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.3.14 Total Manganese

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

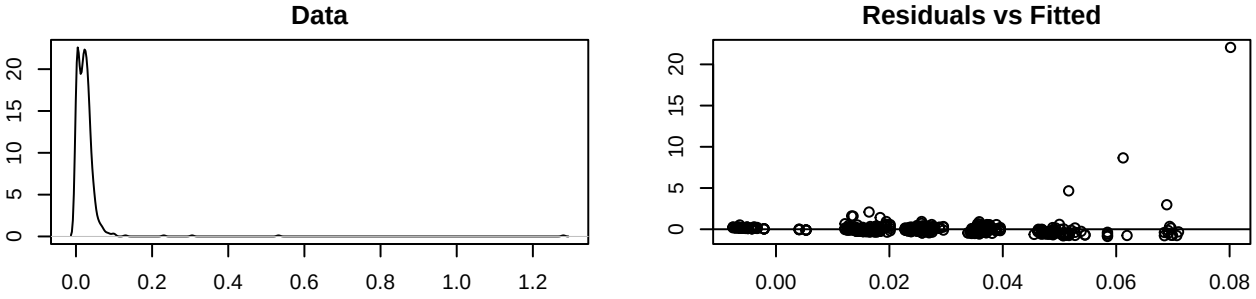
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.0427	0.00
Chedakuz Creek	CC-05	after	14	0.0172	0.00
Chedakuz Creek	CC-10	before	62	0.0087	0.00
Chedakuz Creek	CC-10	after	15	0.0163	0.00
Chedakuz Creek	CC-15	before	63	0.0213	0.00
Chedakuz Creek	CC-15	after	38	0.0260	0.00
Chedakuz Creek	CC-20	before	61	0.0241	0.00
Chedakuz Creek	CC-20	after	38	0.0261	0.00
Chedakuz Creek	CC-30	before	30	0.0339	0.00
Chedakuz Creek	CC-30	after	16	0.0385	0.00
Chedakuz Creek	CC-40	before	34	0.0332	0.00
Chedakuz Creek	CC-40	after	40	0.0364	0.00
Chedakuz Creek	CC-03	before	12	0.0505	0.00
Chedakuz Creek	CC-03	after	36	0.0221	0.00
Creek 705 (Control)	705-05	before	15	0.0111	0.00
Creek 705 (Control)	705-05	after	39	0.0113	0.00
Creek 705 (Control)	705-10	before	45	0.0039	0.00
Creek 705 (Control)	705-10	after	38	0.0033	0.00
Fawnie Creek (Control)	FC-01	before	20	0.0003	5.00
Fawnie Creek (Control)	FC-01	after	38	0.0003	13.16

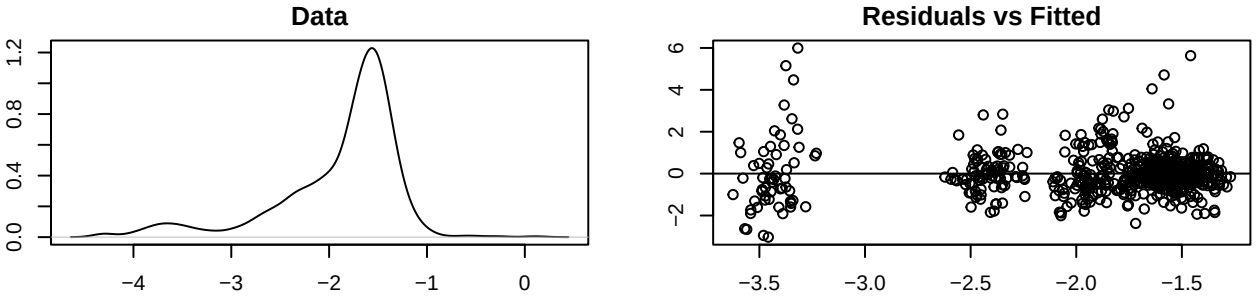
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-03	2021	12	control	before	1.280	0.0802	22.054	Y
Chedakuz Creek	CC-05	2021	12	impact	before	0.532	0.0612	8.653	Y
Chedakuz Creek	CC-05	2022	1	impact	before	0.305	0.0516	4.657	Y

Outliers on log scale:

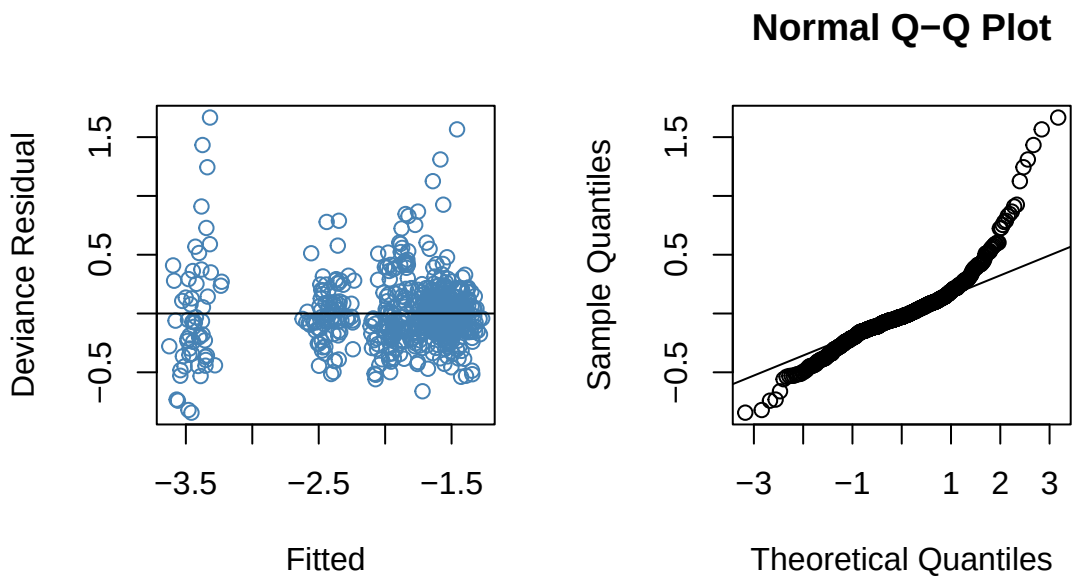
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Fawnie Creek (Control)	FC-01	2022	6	control	before	-1.6517	-3.318	5.993	Y
Chedakuz Creek	CC-03	2021	12	control	before	0.1072	-1.459	5.631	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-1.9418	-3.375	5.153	Y
Chedakuz Creek	CC-05	2021	12	impact	before	-0.2741	-1.584	4.711	Y
Fawnie Creek (Control)	FC-01	2024	5	control	after	-2.0945	-3.338	4.473	Y
Chedakuz Creek	CC-05	2022	1	impact	before	-0.5157	-1.641	4.047	Y
Chedakuz Creek	CC-03	2022	2	control	before	-0.6372	-1.563	3.328	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.4724	-3.383	3.273	Y
Creek 705 (Control)	705-05	2025	11	control	after	-0.8861	-1.753	3.117	Y
Creek 705 (Control)	705-05	2025	10	control	after	-1.0000	-1.846	3.043	Y
Fawnie Creek (Control)	FC-01	2022	3	control	before	-4.3010	-3.458	-3.032	N

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.30141	0.30141	1	8.005	3.898	0.0837	
period	0.09634	0.09634	1	11.884	1.246	0.2860	
class:period	0.71842	0.71842	1	621.001	9.292	0.0024	0.00413

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
666	0.3043	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

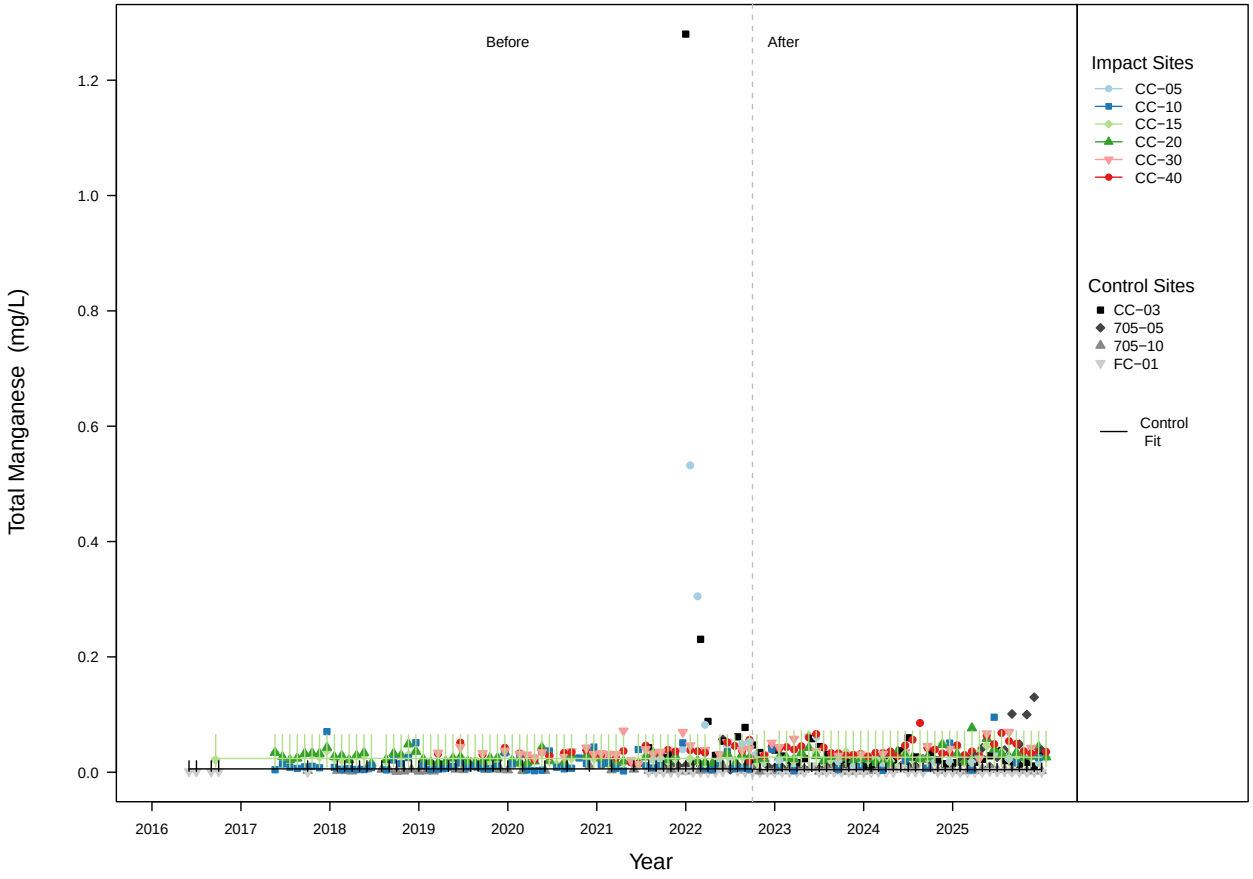
Impact vs.	Estimate	Significance
control sites	0.1483	significant

Conclusion:

The change in Total Manganese concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 0.0041) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

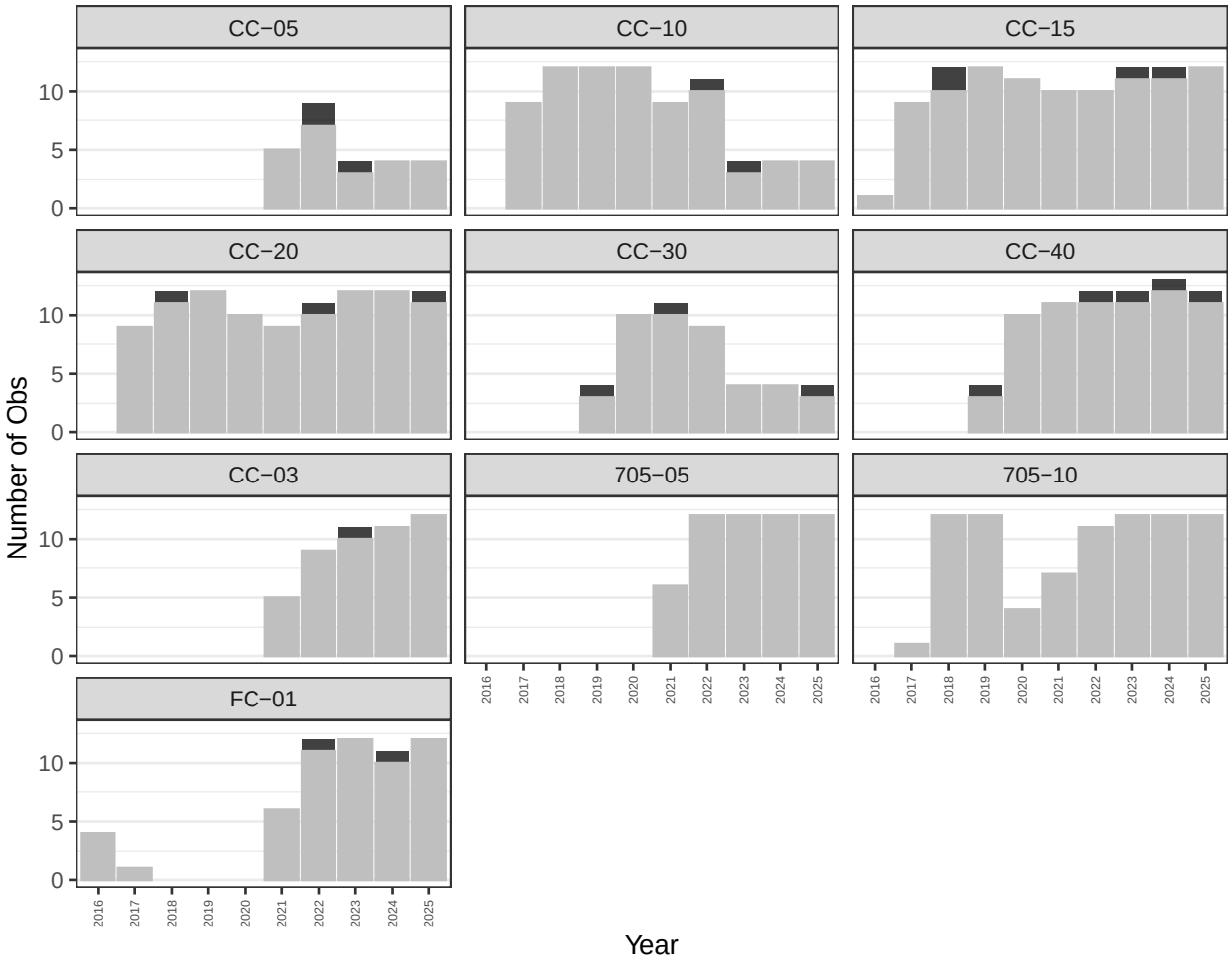
Final Summary Table

Variable	Total Manganese
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.15 Total Nickel

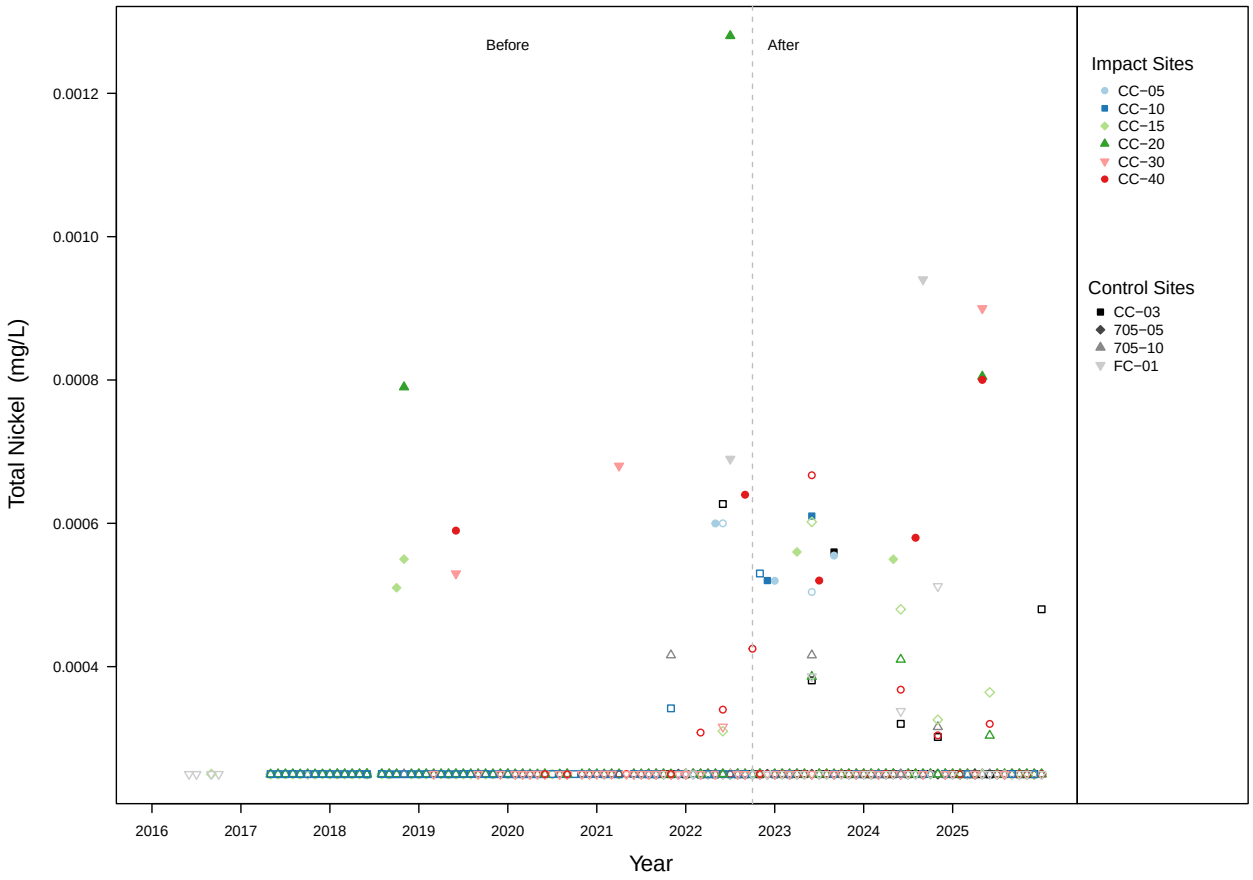
1 Chedakuz Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

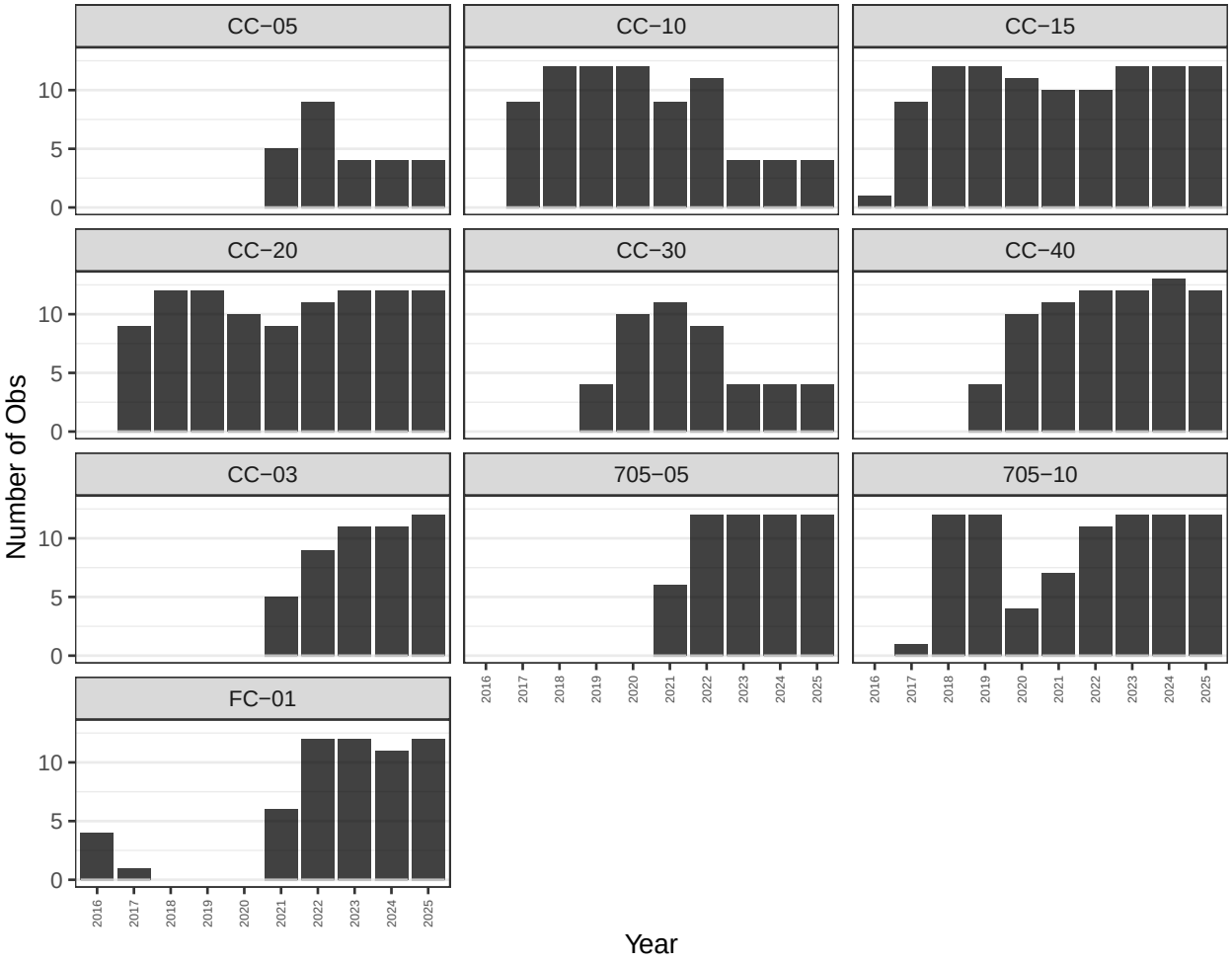
Variable	Total Nickel
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

E-2.3.16 Total Uranium

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

None

1.2 Sample Sizes for Modelling

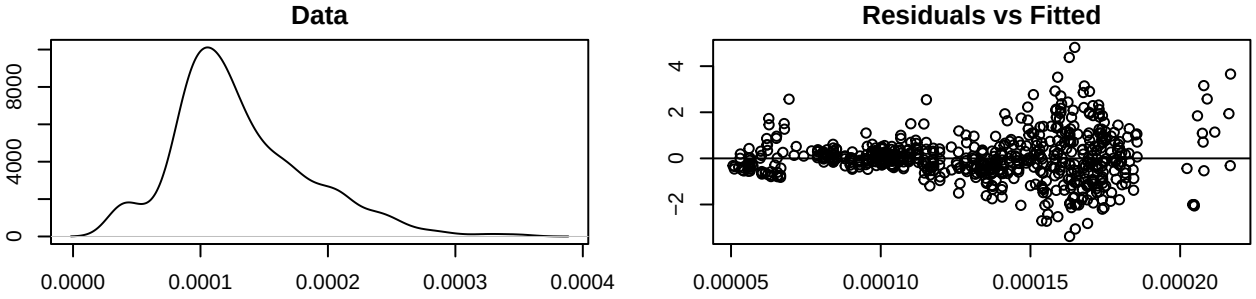
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.0002	0
Chedakuz Creek	CC-05	after	14	0.0002	0
Chedakuz Creek	CC-10	before	62	0.0001	0
Chedakuz Creek	CC-10	after	15	0.0001	0
Chedakuz Creek	CC-15	before	63	0.0001	0
Chedakuz Creek	CC-15	after	38	0.0001	0
Chedakuz Creek	CC-20	before	61	0.0001	0
Chedakuz Creek	CC-20	after	38	0.0001	0
Chedakuz Creek	CC-30	before	30	0.0001	0
Chedakuz Creek	CC-30	after	16	0.0002	0
Chedakuz Creek	CC-40	before	34	0.0001	0
Chedakuz Creek	CC-40	after	40	0.0002	0
Chedakuz Creek	CC-03	before	12	0.0001	0
Chedakuz Creek	CC-03	after	36	0.0002	0
Creek 705 (Control)	705-05	before	15	0.0002	0
Creek 705 (Control)	705-05	after	39	0.0001	0
Creek 705 (Control)	705-10	before	45	0.0002	0
Creek 705 (Control)	705-10	after	38	0.0001	0
Fawnie Creek (Control)	FC-01	before	20	0.0000	0
Fawnie Creek (Control)	FC-01	after	38	0.0001	0

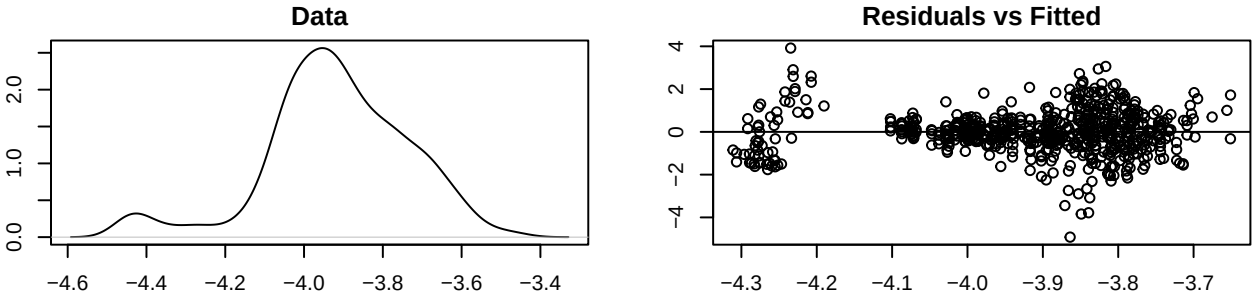
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-03	2024	1	control	after	0.0003	0.0002	4.813	Y
Chedakuz Creek	CC-03	2023	12	control	after	0.0003	0.0002	4.378	Y
Chedakuz Creek	CC-05	2024	2	impact	after	0.0004	0.0002	3.657	Y
Chedakuz Creek	CC-03	2023	10	control	after	0.0003	0.0002	3.521	Y
Chedakuz Creek	CC-03	2022	7	control	before	0.0000	0.0002	-3.386	Y
Chedakuz Creek	CC-05	2023	10	impact	after	0.0003	0.0002	3.156	Y
Chedakuz Creek	CC-03	2024	2	control	after	0.0003	0.0002	3.142	Y
Chedakuz Creek	CC-03	2022	5	control	before	0.0001	0.0002	-3.061	Y

Outliers on log scale:

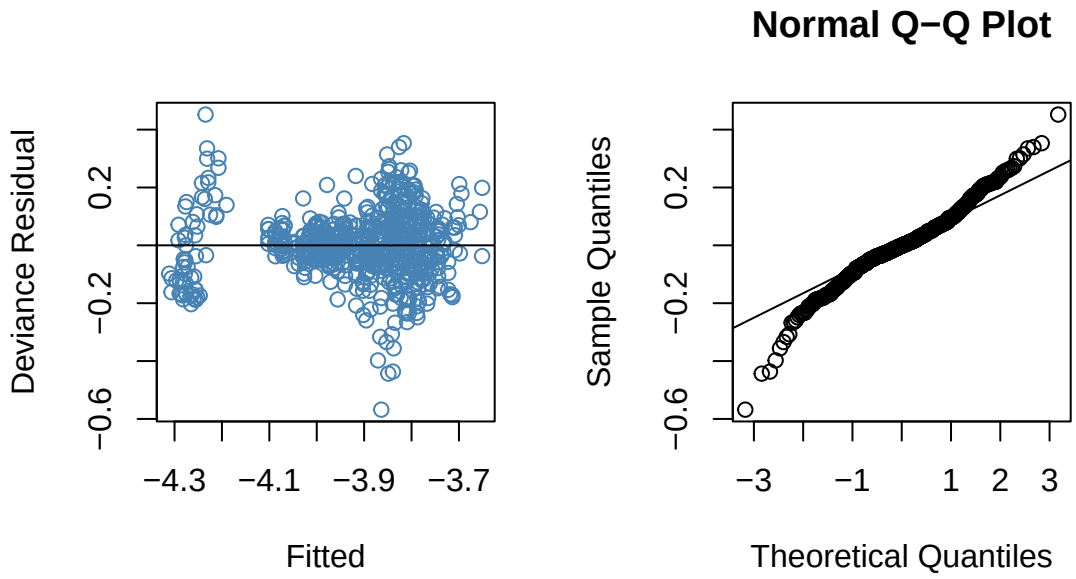
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-03	2022	7	control	before	-4.432	-3.864	-4.922	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-3.783	-4.235	3.918	Y
Chedakuz Creek	CC-03	2022	5	control	before	-4.292	-3.849	-3.843	Y
Creek 705 (Control)	705-05	2025	10	control	after	-4.276	-3.839	-3.782	Y
Chedakuz Creek	CC-03	2025	5	control	after	-4.268	-3.871	-3.446	Y
Chedakuz Creek	CC-05	2022	7	impact	before	-4.194	-3.838	-3.086	Y
Chedakuz Creek	CC-03	2024	1	control	after	-3.463	-3.816	3.060	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.002049	0.002049	1	8.009	0.1539	0.705	
period	0.221890	0.221890	1	10.509	16.6656	0.00199	
class:period	0.523451	0.523451	1	580.553	39.3150	<0.001	4.33e-09

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
666	0.0509	17%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

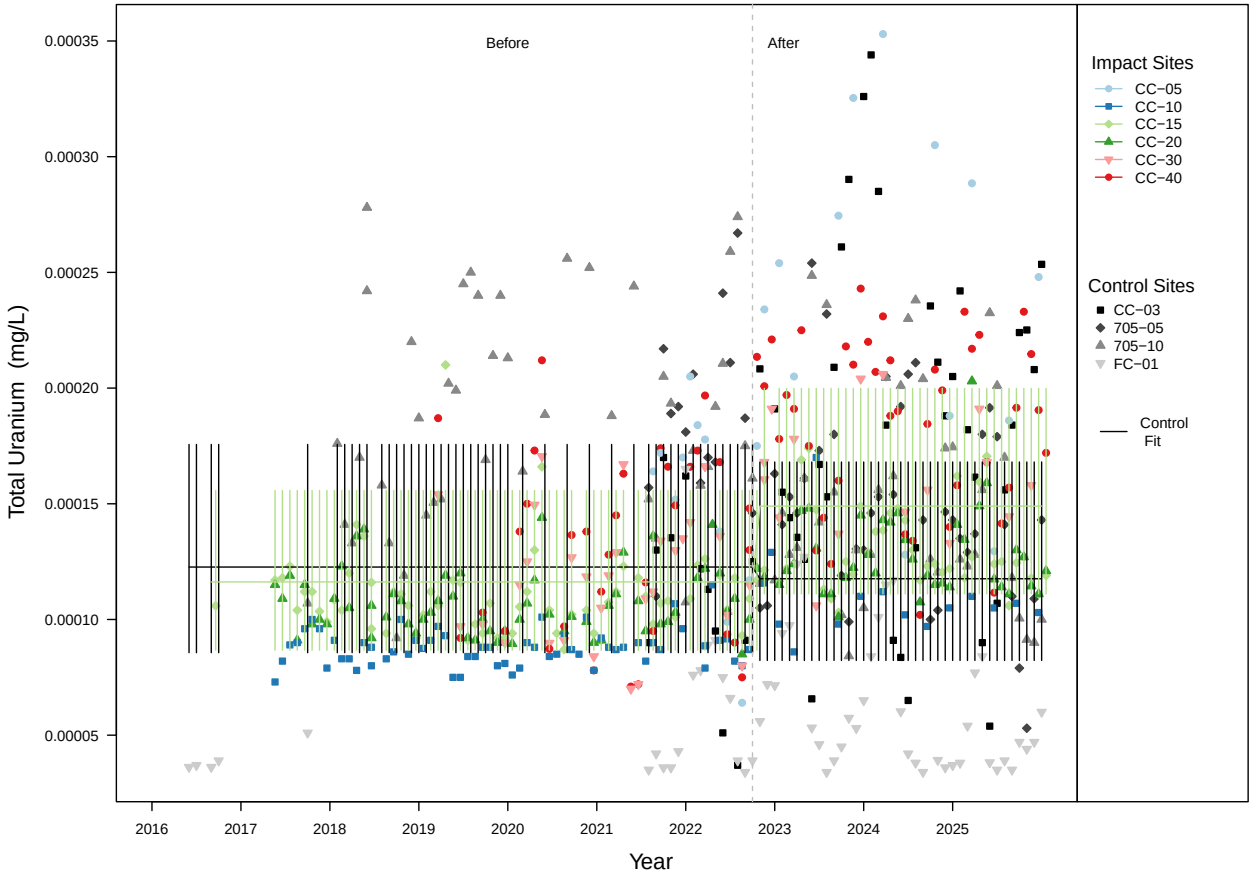
Impact vs.	Estimate	Significance
control sites	0.1261	significant

Conclusion:

The change in Total Uranium concentrations at the impact sites from *before* to *after* was significantly (*adjusted p =* 4.33×10^{-9}) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

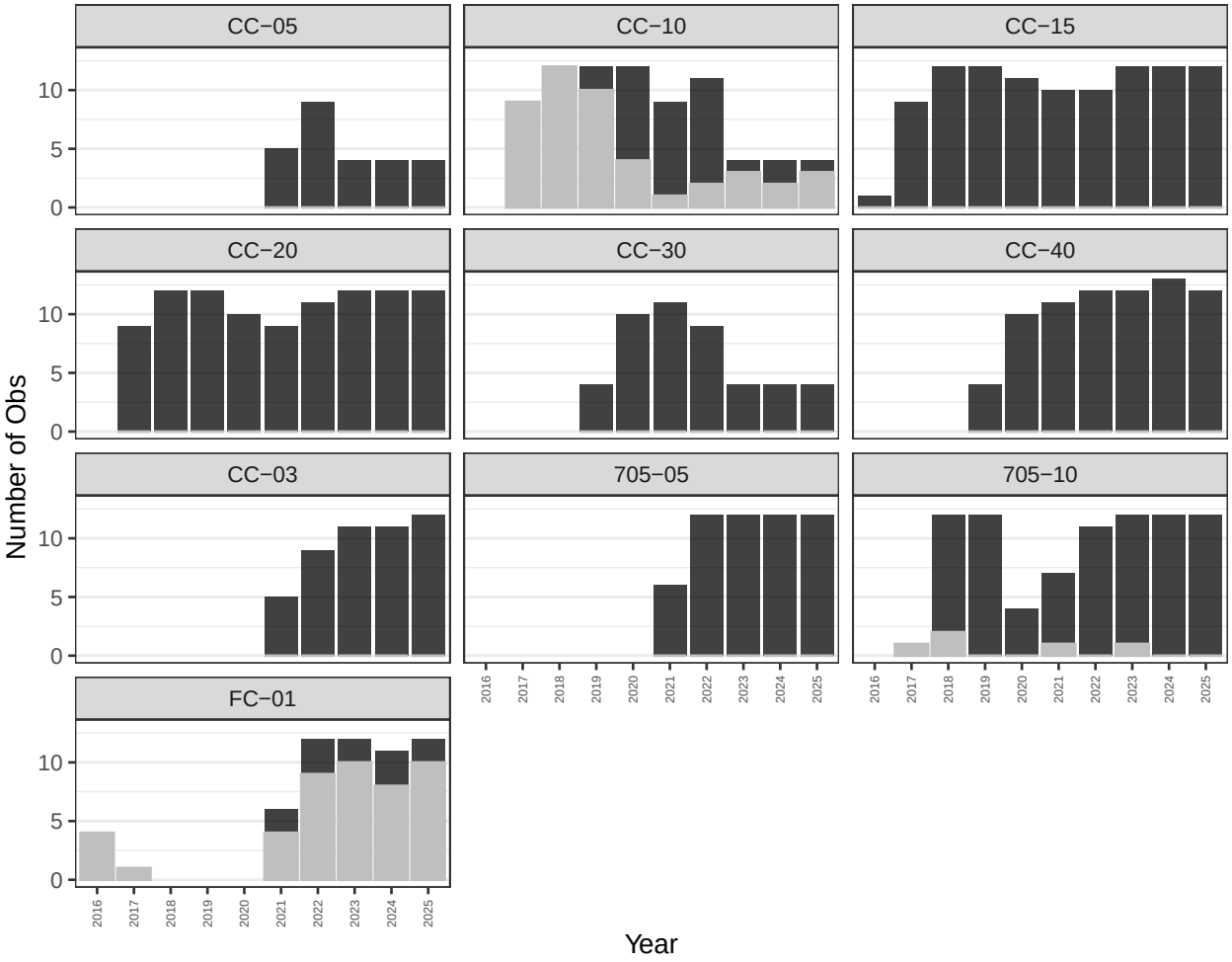
Variable	Total Uranium
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.17 Dissolved Iron

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Chedakuz Creek	CC-10	2017	impact	before	9
Chedakuz Creek	CC-10	2018	impact	before	12
Chedakuz Creek	CC-10	2019	impact	before	12
Chedakuz Creek	CC-10	2023	impact	after	4
Chedakuz Creek	CC-10	2025	impact	after	4
Creek 705 (Control)	705-10	2017	control	before	1
Fawnie Creek (Control)	FC-01	2016	control	before	4

(Continued on Next Page...)

(continued)

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2017	control	before	1
Fawnie Creek (Control)	FC-01	2021	control	before	6
Fawnie Creek (Control)	FC-01	2022	control	before	12
Fawnie Creek (Control)	FC-01	2022	control	after	12
Fawnie Creek (Control)	FC-01	2023	control	after	12
Fawnie Creek (Control)	FC-01	2024	control	after	11
Fawnie Creek (Control)	FC-01	2025	control	after	12

1.2 Sample Sizes for Modelling

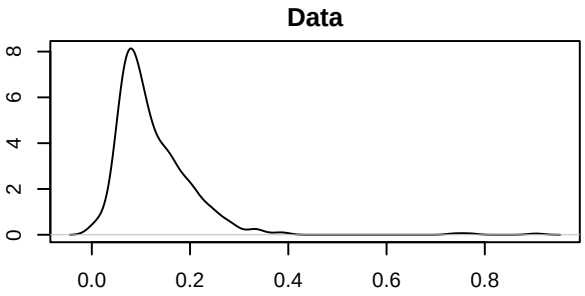
The remaining sample sizes per site and period are summarised in the table below.

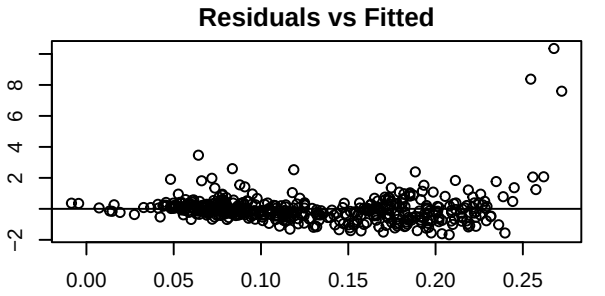
Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.1245	0.00
Chedakuz Creek	CC-05	after	14	0.0795	0.00
Chedakuz Creek	CC-10	before	12	0.0125	33.33
Chedakuz Creek	CC-15	before	63	0.0770	0.00
Chedakuz Creek	CC-15	after	38	0.0895	0.00
Chedakuz Creek	CC-20	before	61	0.0760	0.00
Chedakuz Creek	CC-20	after	38	0.0963	0.00
Chedakuz Creek	CC-30	before	30	0.1620	0.00
Chedakuz Creek	CC-30	after	16	0.2080	0.00
Chedakuz Creek	CC-40	before	34	0.1710	0.00
Chedakuz Creek	CC-40	after	40	0.1980	0.00
Chedakuz Creek	CC-03	before	12	0.1121	0.00
Chedakuz Creek	CC-03	after	36	0.0790	0.00
Creek 705 (Control)	705-05	before	15	0.1480	0.00
Creek 705 (Control)	705-05	after	39	0.1590	0.00
Creek 705 (Control)	705-10	before	4	0.1065	0.00

1.3 Initial Model Fit

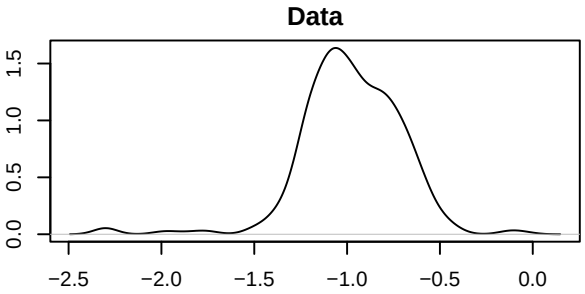
Initially a model was fit to all sites to assess the need for transformations.

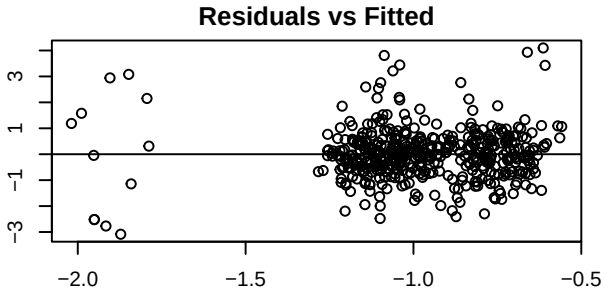
Natural Scale Model





Log−10 Transformed Model





Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2025	9	control	after	0.904	0.2678	10.354	Y
Creek 705 (Control)	705-05	2025	8	control	after	0.769	0.2545	8.373	Y
Creek 705 (Control)	705-05	2025	10	control	after	0.739	0.2723	7.596	Y
Chedakuz Creek	CC-03	2021	12	control	before	0.277	0.0642	3.464	Y

Outliers on log scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Creek 705 (Control)	705-05	2025	9	control	after	-0.0438	-0.6135	4.098	Y
Creek 705 (Control)	705-05	2025	8	control	after	-0.1141	-0.6607	3.932	Y
Chedakuz Creek	CC-03	2021	12	control	before	-0.5575	-1.0870	3.809	Y
Chedakuz Creek	CC-20	2025	2	impact	after	-0.5622	-1.0407	3.442	Y
Creek 705 (Control)	705-05	2025	10	control	after	-0.1314	-0.6077	3.427	Y
Chedakuz Creek	CC-05	2022	1	impact	before	-0.6144	-1.0610	3.213	Y
Chedakuz Creek	CC-10	2020	4	impact	before	-2.3010	-1.8721	-3.086	N

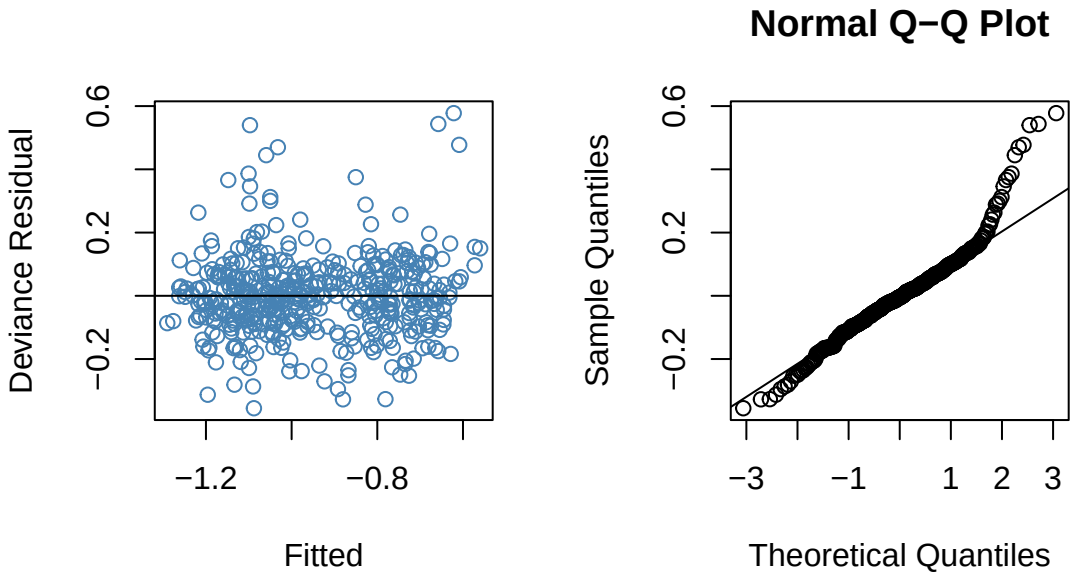
Chedakuz Creek	CC-10	2020	11	impact	before	-1.4202	-1.8483	3.079	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.000107	0.000107	1	6.096	0.0063	0.9390	
period	0.0168397	0.0168397	1	47.243	0.9833	0.3260	
class:period	0.0628086	0.0628086	1	437.298	3.6675	0.0561	0.0731

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
464	0.0056	5%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

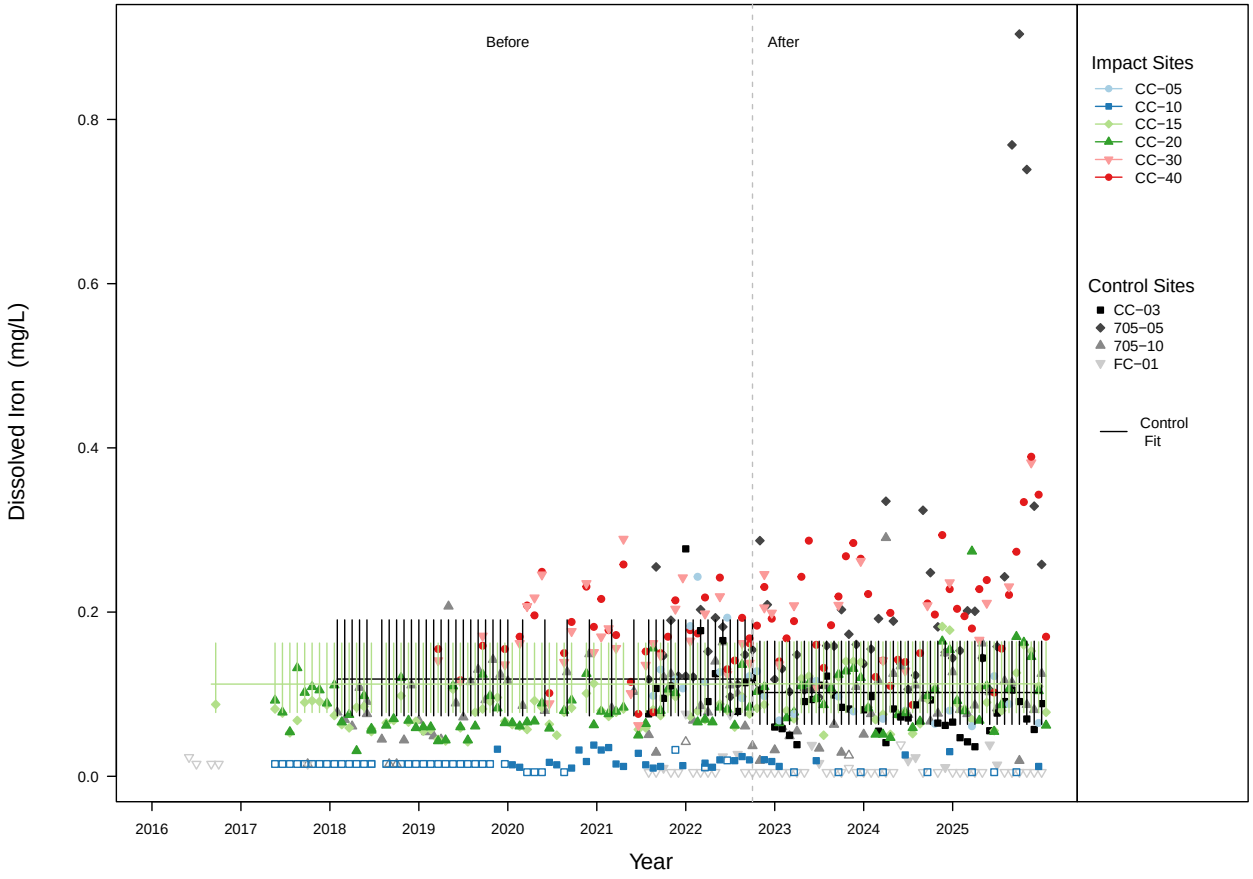
Impact vs.	Estimate	Significance
control sites	0.0661	not significant

Conclusion:

The change in Dissolved Iron concentrations at the impact sites from *before* to *after* was not significantly (*adjusted p =* 0.0731) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

Final Summary Table

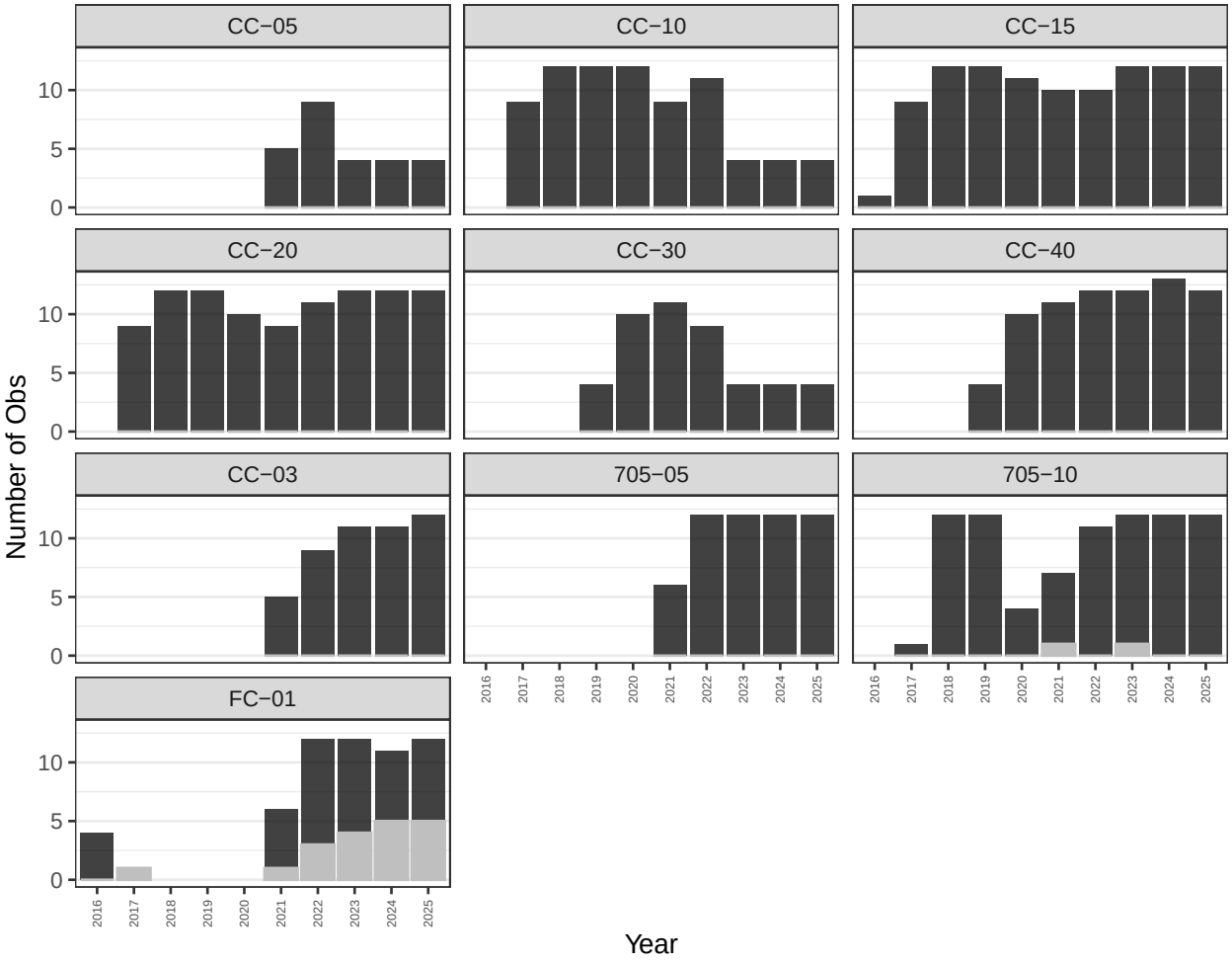
Variable	Dissolved Iron
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	FC-01, CC-10
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	No

E-2.3.18 Dissolved Manganese

1 Chedakuz Creek

1.1 Censored Data

The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Observations at or below the analytical detection limit were considered censored. Data were excluded from the analysis if greater than 70% of observations from a site were censored or if greater than 50% of observations in a site's sampling year were censored. If more than 10% of observations from a site in a sampling year were censored, data were flagged to caution interpretation of results. The following observations were excluded:

Watershed	Site	Year	Class	Period	#Obs Removed
Fawnie Creek (Control)	FC-01	2017	control	before	1

1.2 Sample Sizes for Modelling

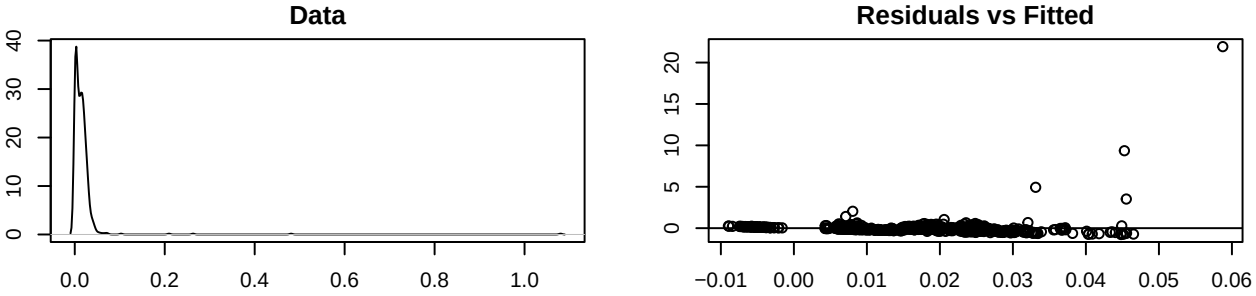
The remaining sample sizes per site and period are summarised in the table below.

Watershed	Site	Period	N	Median	% Censored
Chedakuz Creek	CC-05	before	12	0.0124	0.000
Chedakuz Creek	CC-05	after	14	0.0066	0.000
Chedakuz Creek	CC-10	before	62	0.0033	0.000
Chedakuz Creek	CC-10	after	15	0.0033	0.000
Chedakuz Creek	CC-15	before	63	0.0138	0.000
Chedakuz Creek	CC-15	after	38	0.0186	0.000
Chedakuz Creek	CC-20	before	61	0.0165	0.000
Chedakuz Creek	CC-20	after	38	0.0198	0.000
Chedakuz Creek	CC-30	before	30	0.0229	0.000
Chedakuz Creek	CC-30	after	16	0.0282	0.000
Chedakuz Creek	CC-40	before	34	0.0211	0.000
Chedakuz Creek	CC-40	after	40	0.0282	0.000
Chedakuz Creek	CC-03	before	12	0.0186	0.000
Chedakuz Creek	CC-03	after	36	0.0097	0.000
Creek 705 (Control)	705-05	before	15	0.0071	0.000
Creek 705 (Control)	705-05	after	39	0.0091	0.000
Creek 705 (Control)	705-10	before	45	0.0020	2.222
Creek 705 (Control)	705-10	after	38	0.0019	2.632
Fawnie Creek (Control)	FC-01	before	19	0.0002	15.790
Fawnie Creek (Control)	FC-01	after	38	0.0001	39.474

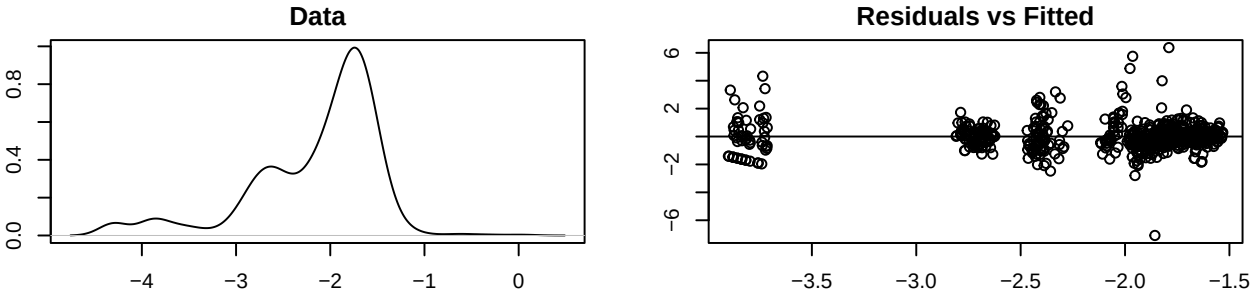
1.3 Initial Model Fit

Initially a model was fit to all sites to assess the need for transformations.

Natural Scale Model



Log−10 Transformed Model



Outliers

The following is a summary of outliers identified (if any) using preliminary regression models. All data points were plotted in the summary figures. The analysis needs to be interpreted with care and in conjunction with graphical displays if large outliers are present.

Outliers on natural scale:

Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-03	2021	12	control	before	1.0800	0.0587	21.921	Y
Chedakuz Creek	CC-05	2021	12	impact	before	0.4810	0.0453	9.353	Y
Chedakuz Creek	CC-05	2022	1	impact	before	0.2630	0.0331	4.934	Y
Chedakuz Creek	CC-03	2022	2	control	before	0.2094	0.0455	3.518	Y

Outliers on log scale:

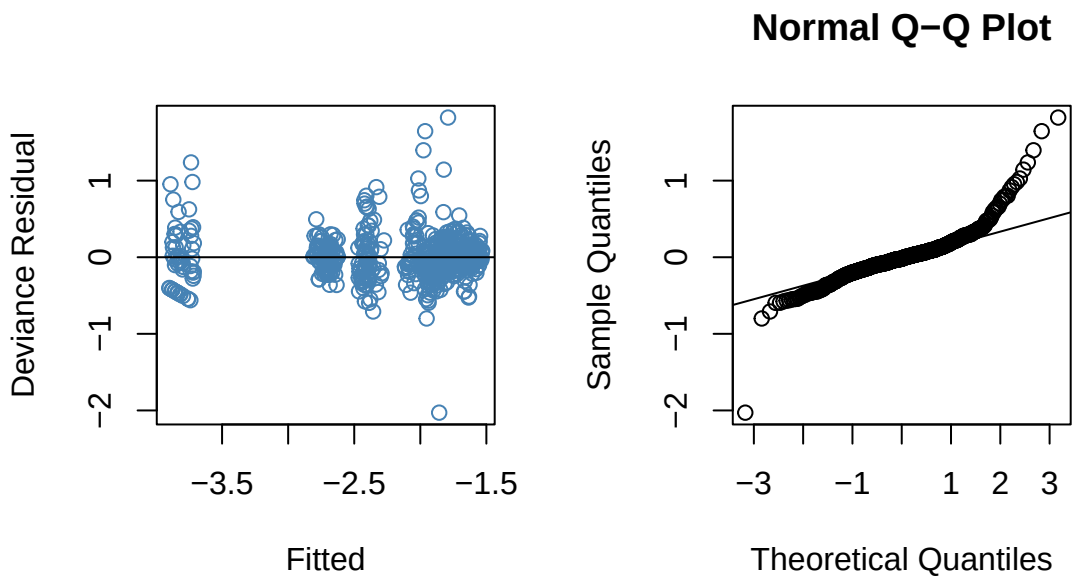
Watershed	Site	Year	Month	Class	Period	Value	Fitted	Std. Resid	Detected
Chedakuz Creek	CC-20	2018	3	impact	before	-3.8861	-1.857	-7.090	Y
Chedakuz Creek	CC-03	2021	12	control	before	0.0334	-1.790	6.371	Y
Chedakuz Creek	CC-05	2021	12	impact	before	-0.3179	-1.963	5.750	Y
Chedakuz Creek	CC-05	2022	1	impact	before	-0.5800	-1.976	4.879	Y
Fawnie Creek (Control)	FC-01	2022	6	control	before	-2.4976	-3.735	4.324	Y
Chedakuz Creek	CC-03	2022	2	control	before	-0.6790	-1.822	3.995	Y
Creek 705 (Control)	705-05	2025	10	control	after	-0.9872	-2.015	3.592	Y
Fawnie Creek (Control)	FC-01	2021	12	control	before	-2.7423	-3.724	3.431	Y
Fawnie Creek (Control)	FC-01	2023	5	control	after	-2.9378	-3.890	3.329	Y
Chedakuz Creek	CC-10	2024	11	impact	after	-1.4179	-2.333	3.197	Y
Creek 705 (Control)	705-05	2025	8	control	after	-1.1385	-2.010	3.047	Y

Based on examination of the residuals, the log-10 transformed data were selected for analysis. No outliers were removed prior to analysis.

1.4 Before-After Control-Impact Linear Modeling

A models was fit to compare impact sites with control sites.

Plot of Standardized Residuals and Fitted Values



Results of the ANOVA test on the fixed effects of the model:

	Sum Sq.	Mean Sq.	NumDF	DenDF	F value	p	p adjusted
class	0.31956	0.31956	1	8.004	3.9015	0.0836	
period	0.01354	0.01354	1	13.763	0.1653	0.691	
class:period	0.94826	0.94826	1	633.129	11.5772	<0.001	0.00139

Results of the observed power calculation for the between-effect test on the fixed effects for repeated-measures ANOVA analysis at a significance level of 0.05:

Sample Size	Effect Size (f2)	Expected Power	Power Test
665	0.3109	100%	Repeated-Measures ANOVA

Summary of BACI contrasts for relative difference between changes from the *before* to *after* in impact sites (CC-05, CC-10, CC-15, CC-20, CC-30, CC-40) and control sites (CC-03, 705-05, 705-10, FC-01), with p value adjusted for multiple comparisons:

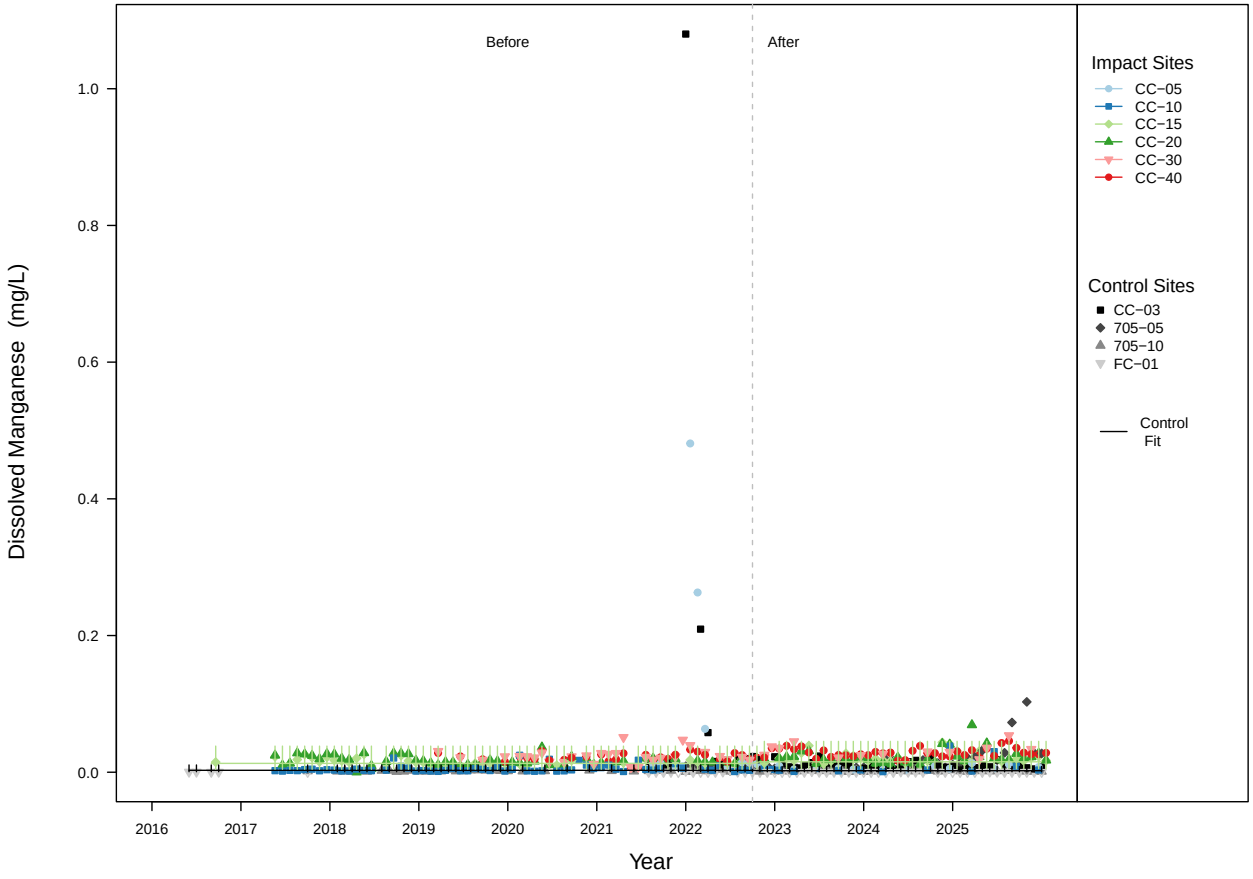
Impact vs.	Estimate	Significance
control sites	0.171	significant

Conclusion:

The change in Dissolved Manganese concentrations at the impact sites from *before* to *after* was significantly (*adjusted p* = 0.0014) different from the change at the control sites, according to the test on the BACI term (*class:period*).

1.5 Model Summary

The overall performance of the model is shown in the plot below. All the observations are plotted along with the model estimates. The model fitted values and 95% confidence intervals are indicated as lines and errors.



Note: Open symbols represent cases where the results were below the sample detection limit. Model fitted values are based on site class and period. Error bars indicate 95% confidence intervals. The positions of data along the x-axis are adjusted for legibility. Modelled log-transformed values were converted back to natural scale.

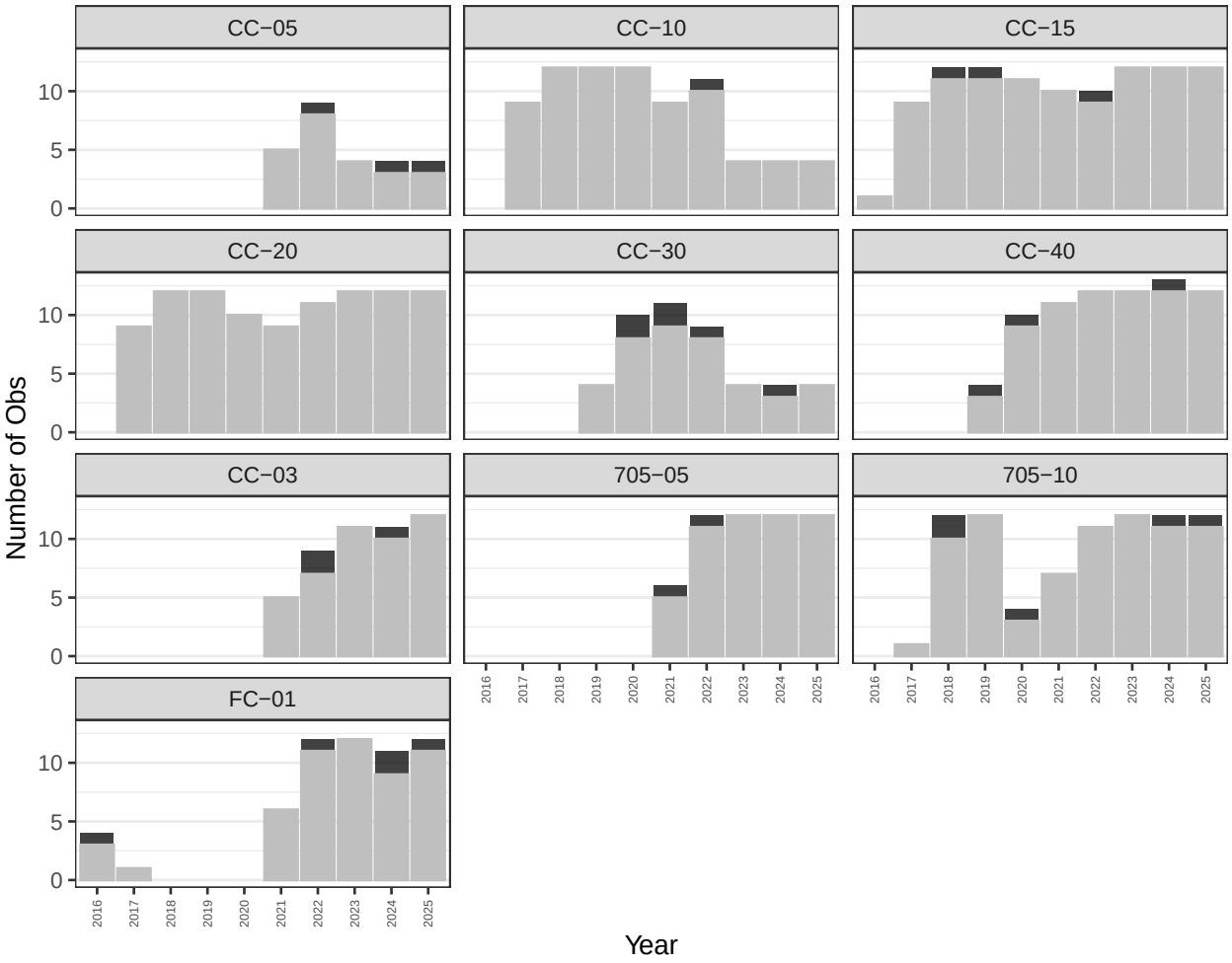
Final Summary Table

Variable	Dissolved Manganese
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	None
Data Transformation	Log-10 transformed
Model Type	Linear Mixed Effects Regression
Is BACI significant	Yes

E-2.3.19 Dissolved Zinc

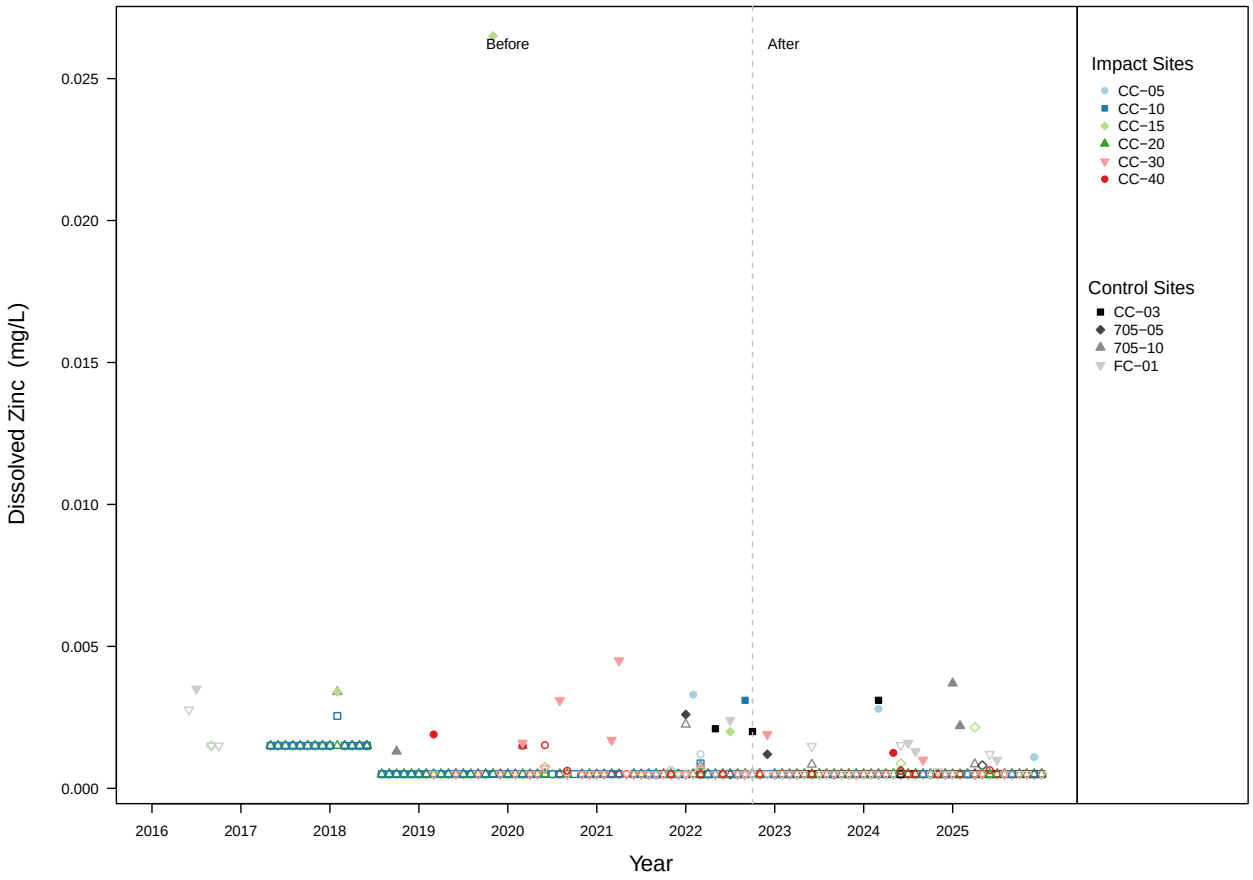
1 Chedakuz Creek

1.1 Censored Data The following charts indicate the number of measurements taken in each year from each stream that were below the detection limit (light gray) or above the detection limit (dark gray).



Conclusion:

Statistical analyses were not conducted due to censoring or availability of observations. Below is a summary figure of all observations in the dataset.



Note: Open symbols represent cases where the results were below the sample detection limit.

Final Summary Table

Variable	Dissolved Zinc
Watershed	Chedakuz Creek
Waterbody	Stream
Streams Removed	All Excluded
Data Transformation	N/A
Model Type	N/A
Benchmark	None
Significant BACI term	N/A

Appendix E-3 Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality

Appendix E-3A: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Appendix E-3B: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Appendix E-3C: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661-10 in Creek 661

Appendix E-3D: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661-20 in Creek 661

Appendix E-3A: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Parameter	Environmental Assessment Predicted Concentration[1]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.54	0.56	0.53	0.5	0.49	0.45	0.5	0.46	0.49	0.52	0.54	0.55
Fluoride	0.0699	0.0716	0.088	0.0864	0.0656	0.0657	0.0743	0.0738	0.0773	0.0665	0.0669	0.0688
Sulphate	18.73	18.8	29.99	20.05	9.51	12.42	19.81	24.12	25.43	18.93	19.2	18.37
Nutrients												
Ammonia-N	0.23	0.23	0.24	0.17	0.35	0.58	0.38	0.2	0.21	0.24	0.24	0.23
Nitrate-N	0.050	0.034	0.2	0.19	2.68	4.47	2.59	1.02	0.77	0.68	0.61	0.49
Nitrite-N	0.0026	0.0028	0.0025	0.0025	0.0027	0.0025	0.0025	0.0026	0.0027	0.0024	0.0024	0.0037
Total phosphorous	0.022	0.0221	0.0664	0.0568	0.0418	0.0512	0.0629	0.069	0.0717	0.0223	0.0212	0.0218
Ortho-phosphorus	0.0063	0.0061	0.052	0.0404	0.0299	0.036	0.047	0.0563	0.0643	0.0187	0.0062	0.0057
Cyanides												
Total cyanide	0.0034	0.0034	0.0033	0.0031	0.0044	0.0031	0.0034	0.0032	0.0033	0.0034	0.0034	0.0034
Cyanide, weak acid dissociable	0.002	0.0014	0.0016	0.0021	0.0018	0.0021	0.0025	0.0018	0.0016	0.0014	0.0014	0.0012
Total Metals												
Aluminum	0.051	0.0514	0.0434	0.0615	0.15	0.0945	0.0795	0.059	0.0526	0.0493	0.0506	0.0604
Antimony	0.000068	0.000068	0.00058	0.0005	0.00057	0.0004	0.00048	0.00052	0.00055	0.000098	0.000072	0.000068
Arsenic	0.00052	0.00051	0.00067	0.0021	0.00056	0.00051	0.00055	0.00058	0.00057	0.00053	0.00053	0.00051
Barium	0.0076	0.0074	0.009	0.0142	0.0067	0.0067	0.0078	0.0083	0.0084	0.0072	0.0073	0.0077
Beryllium	0.00005	0.00005	0.00005	0.000063	0.000058	0.000058	0.000054	0.000051	0.000051	0.000057	0.000055	0.000051
Boron	0.0016	0.0016	0.0027	0.0114	0.0024	0.0019	0.0021	0.0024	0.0025	0.0021	0.0015	0.0015
Cadmium	0.00001	0.00001	0.0000095	0.000012	0.000013	0.000011	0.00001	0.0000099	0.00001	0.00001	0.00001	0.000014
Chromium	0.00019	0.00019	0.00019	0.00024	0.00024	0.00022	0.00027	0.00019	0.00023	0.00023	0.00024	0.00021
Cobalt	0.00026	0.00026	0.00026	0.0003	0.00016	0.00015	0.00015	0.00019	0.00023	0.00026	0.00027	0.00025
Copper	0.00047	0.00047	0.00048	0.00053	0.00061	0.00056	0.00052	0.00044	0.00043	0.00044	0.00045	0.00048
Iron	0.0846	0.0855	0.0808	0.0832	0.18	0.13	0.12	0.12	0.11	0.11	0.12	0.13
Lead	0.000074	0.000076	0.000073	0.00051	0.00035	0.00032	0.00018	0.00011	0.00013	0.0003	0.00022	0.000088
Lithium	0.00055	0.00055	0.0032	0.0023	0.0015	0.0021	0.0031	0.0036	0.0034	0.00065	0.00058	0.00055
Manganese	0.0689	0.0688	0.0632	0.048	0.0324	0.0306	0.0427	0.0554	0.0649	0.068	0.0699	0.0682
Mercury	0.0000033	0.0000033	0.000004	0.0000037	0.0000043	0.0000033	0.0000036	0.0000035	0.0000034	0.0000033	0.0000033	0.0000034
Molybdenum	0.00079	0.00079	0.0021	0.0017	0.0006	0.00063	0.00099	0.0013	0.0015	0.00077	0.00077	0.00077
Nickel	0.00028	0.00028	0.00029	0.00048	0.00041	0.00039	0.00035	0.00032	0.00029	0.00035	0.00034	0.00029
Selenium	0.00028	0.00028	0.00028	0.00022	0.00024	0.00026	0.0003	0.00029	0.00028	0.00028	0.00029	0.00028
Silver	0.000025	0.000025	0.000025	0.000028	0.000029	0.000028	0.000026	0.000025	0.000025	0.000028	0.000027	0.000025
Strontium	0.1	0.1	0.13	0.12	0.0866	0.0879	0.11	0.12	0.13	0.0966	0.0968	0.098
Thallium	0.000025	0.000025	0.000025	0.000027	0.000026	0.000027	0.000026	0.000025	0.000025	0.000026	0.000026	0.000025
Uranium	0.00019	0.00018	0.00019	0.00021	0.00015	0.00017	0.00016	0.00014	0.00017	0.00016	0.00016	0.00016
Vanadium	0.00024	0.00023	0.00033	0.0011	0.00078	0.00071	0.00066	0.00053	0.00045	0.00069	0.00052	0.00034
Zinc	0.0058	0.0063	0.0056	0.0045	0.0033	0.0031	0.0038	0.0052	0.0051	0.0057	0.0061	0.0059
Dissolved Metals												
Aluminum	0.0219	0.0219	0.0195	0.0261	0.0715	0.0568	0.0426	0.0317	0.0325	0.0238	0.0225	0.0214
Cadmium	0.0000089	0.0000089	0.0000085	0.000011	0.000011	0.0000099	0.0000092	0.0000088	0.0000094	0.0000097	0.0000095	0.0000094
Copper	0.00031	0.00031	0.00031	0.00047	0.00048	0.00041	0.00036	0.00031	0.00029	0.00029	0.00031	0.00031
Iron	0.0378	0.0381	0.0359	0.0443	0.0885	0.0834	0.0715	0.0761	0.0633	0.072	0.0694	0.0515
Manganese	0.18	0.19	0.18	0.12	0.0508	0.0589	0.13	0.17	0.2	0.2	0.21	0.19
Zinc	0.0053	0.0059	0.0052	0.0042	0.003	0.0028	0.0035	0.0046	0.0047	0.0053	0.0055	0.0052

Appendix E-3A: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-15 in Davidson Creek

Parameter	Observed Mean Concentration[2]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.42	0.34	0.37	0.84	0.99	0.88	1.05	1.03	0.85	0.64	0.69	0.64
Fluoride	0.047	0.046	0.047	0.042	0.028	0.033	0.039	0.040	0.041	0.045	0.041	0.041
Sulphate	3.17	3.23	3.34	3.29	2.60	2.10	4.65	3.23	4.07	3.13	3.31	3.49
Nutrients												
Ammonia-N	0.0025	0.0036	0.0025	0.0025	0.0035	0.0037	0.0081	0.0036	0.0072	0.0039	0.0032	0.0057
Nitrate-N	0.0610	0.0608	0.0549	0.0466	0.0679	0.0383	0.0154	0.0025	0.0025	0.0033	0.0370	0.0669
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total phosphorous	0.009	0.008	0.013	0.014	0.032	0.021	0.015	0.011	0.007	0.007	0.009	0.012
Ortho-phosphorus	0.005	0.005	0.005	0.003	0.003	0.002	0.001	0.002	0.001	0.001	0.004	0.003
Cyanides												
Total cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, weak acid dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0875	0.0300	0.3293	0.3308	0.5457	0.6857	0.1817	0.1338	0.0441	0.0763	0.1322	0.1879
Antimony	0.00005	0.00005	0.00005	0.00005	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00058	0.00056	0.00081	0.00073	0.00086	0.00139	0.00087	0.00095	0.00072	0.00065	0.00064	0.00071
Barium	0.00902	0.00971	0.01178	0.01179	0.01078	0.01019	0.01023	0.01001	0.01005	0.00954	0.00898	0.01032
Beryllium	0.000010	0.000010	0.000018	0.000017	0.000036	0.000033	0.000012	0.000010	0.000010	0.000010	0.000010	0.000015
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000043	0.0000044	0.0000131	0.0000153	0.0000093	0.0000054	0.0000030	0.0000036	0.0000030	0.0000058
Chromium	0.00025	0.00025	0.00038	0.00038	0.00050	0.00042	0.00025	0.00025	0.00025	0.00025	0.00025	0.00046
Cobalt	0.00005	0.00005	0.00010	0.00011	0.00015	0.00016	0.00008	0.00021	0.00061	0.00023	0.00023	0.00034
Copper	0.00025	0.00025	0.00047	0.00052	0.00092	0.00087	0.00044	0.00035	0.00025	0.00025	0.00025	0.00043
Iron	0.074	0.036	0.272	0.279	0.447	0.406	0.169	0.143	0.066	0.096	0.135	0.189
Lead	0.000025	0.000025	0.000172	0.000174	0.000254	0.000488	0.000085	0.000061	0.000025	0.000056	0.000086	0.000123
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00454	0.00376	0.00813	0.01071	0.02460	0.01627	0.01923	0.00916	0.00683	0.00692	0.00728	0.01575
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000085	0.0000037	0.0000034	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000838	0.000875	0.000880	0.000754	0.000379	0.000571	0.000655	0.000777	0.000828	0.000809	0.000709	0.000758
Nickel	0.00025	0.00025	0.00034	0.00035	0.00048	0.00048	0.00025	0.00025	0.00025	0.00025	0.00025	0.00034
Selenium	0.000068	0.000049	0.000054	0.000037	0.000068	0.000062	0.000060	0.000062	0.000039	0.000032	0.000033	0.000056
Silver	0.000005	0.000005	0.000005	0.000005	0.000015	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.1007	0.1125	0.1041	0.0984	0.0493	0.0560	0.0812	0.0865	0.0988	0.0982	0.0868	0.0982
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000007
Uranium	0.000244	0.000291	0.000302	0.000235	0.000187	0.000169	0.000137	0.000135	0.000158	0.000181	0.000166	0.000217
Vanadium	0.00035	0.00025	0.00084	0.00101	0.00120	0.00112	0.00078	0.00069	0.00046	0.00051	0.00045	0.00070
Zinc	0.0015	0.0015	0.0015	0.0021	0.0015	0.0049	0.0015	0.0015	0.0015	0.0015	0.0015	0.0024
Dissolved Metals												
Aluminum	0.0186	0.0100	0.0207	0.0266	0.1743	0.2292	0.0569	0.0507	0.0195	0.0221	0.0317	0.0232
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000062	0.0000053	0.0000047	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00013	0.00010	0.00014	0.00018	0.00065	0.00059	0.00040	0.00034	0.00024	0.00022	0.00023	0.00015
Iron	0.023	0.013	0.022	0.030	0.130	0.082	0.052	0.066	0.035	0.040	0.048	0.030
Manganese	0.00296	0.00228	0.00197	0.00259	0.00433	0.00381	0.00561	0.00348	0.00291	0.00364	0.00371	0.00265
Zinc	0.0005	0.0005	0.0005	0.0005	0.0009	0.0009	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:

Concentrations in mg/L.

Concentrations below the detection limit were replaced with half the detection limit.

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[1] 95th percentile concentration predicted in environmental assessment at WQ26 in Construction and Operations phases (ERM 2016b).

[2] Mean monthly concentration October 2022 to December 2025, Construction and Operations.

Appendix E-3B: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Parameter	Environmental Assessment Predicted Concentration[1]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.51	0.53	0.49	0.48	0.51	0.45	0.5	0.4	0.44	0.48	0.5	0.53
Fluoride	0.0675	0.0704	0.0846	0.0843	0.0647	0.0638	0.0728	0.0674	0.0737	0.0634	0.0638	0.0666
Sulphate	16.36	16.49	25.79	17.36	8.53	11.62	18.04	21.65	21.97	16.14	16.36	15.99
Nutrients												
Ammonia-N	0.2	0.2	0.2	0.14	0.31	0.53	0.33	0.17	0.17	0.2	0.2	0.2
Nitrate-N	0.0495	0.0329	0.17	0.15	2.31	4.09	2.24	0.87	0.64	0.55	0.49	0.41
Nitrite-N	0.0028	0.003	0.0024	0.0033	0.0027	0.0024	0.0025	0.0025	0.0025	0.0022	0.0022	0.0042
Total phosphorous	0.0208	0.0201	0.0591	0.0505	0.0403	0.14	0.0591	0.0615	0.0625	0.0193	0.019	0.0202
Ortho-phosphorus	0.006	0.0055	0.044	0.0345	0.0272	0.0342	0.0426	0.0499	0.0553	0.0235	0.0065	0.0053
Cyanides												
Total cyanide	0.0033	0.0033	0.0032	0.003	0.0045	0.0032	0.0032	0.0031	0.0032	0.0032	0.0033	0.0033
Cyanide, weak acid dissociable	0.0021	0.0016	0.0019	0.0022	0.0019	0.0022	0.0025	0.0019	0.0017	0.0017	0.0017	0.0015
Total Metals												
Aluminum	0.0483	0.0476	0.0393	0.055	0.23	0.13	0.0939	0.0634	0.0482	0.0441	0.0464	0.0638
Antimony	0.000061	0.000062	0.00049	0.00043	0.00052	0.00038	0.00042	0.00046	0.00048	0.000077	0.000063	0.000061
Arsenic	0.00049	0.00049	0.00062	0.0014	0.00057	0.0005	0.00055	0.00058	0.00056	0.00052	0.00051	0.00051
Barium	0.0081	0.008	0.0091	0.0124	0.0071	0.0067	0.0077	0.0082	0.0084	0.0074	0.0075	0.0081
Beryllium	0.00005	0.00005	0.00005	0.000059	0.000057	0.000057	0.000053	0.000051	0.000051	0.000055	0.000053	0.000051
Boron	0.0014	0.0014	0.0023	0.0076	0.0022	0.002	0.002	0.0022	0.0022	0.0022	0.0014	0.0014
Cadmium	0.00001	0.000017	0.0000094	0.000015	0.000014	0.000013	0.0000098	0.0000095	0.00001	0.0000096	0.0000094	0.000016
Chromium	0.00018	0.00022	0.00019	0.00022	0.00031	0.00025	0.00028	0.00019	0.00021	0.00021	0.00022	0.00021
Cobalt	0.00023	0.00022	0.00023	0.00023	0.00017	0.00014	0.00014	0.00017	0.0002	0.00022	0.00023	0.00023
Copper	0.00043	0.00047	0.00044	0.00045	0.00066	0.00056	0.0005	0.0004	0.00039	0.00036	0.0004	0.00045
Iron	0.0973	0.0942	0.0852	0.11	0.26	0.16	0.13	0.14	0.12	0.13	0.14	0.15
Lead	0.000065	0.000071	0.000066	0.0004	0.00033	0.00031	0.00015	0.00011	0.00011	0.00022	0.00016	0.000078
Lithium	0.00054	0.00054	0.0028	0.002	0.0014	0.002	0.0029	0.0032	0.0029	0.0006	0.00056	0.00054
Manganese	0.064	0.0623	0.056	0.0426	0.0325	0.0299	0.0401	0.0498	0.0568	0.0602	0.0623	0.0623
Mercury	0.0000033	0.0000033	0.0000039	0.0000037	0.0000048	0.0000033	0.0000036	0.0000035	0.0000034	0.0000033	0.0000033	0.0000034
Molybdenum	0.00077	0.0008	0.0019	0.0016	0.00055	0.00059	0.00093	0.0012	0.0014	0.00075	0.00074	0.00076
Nickel	0.00025	0.00027	0.00028	0.0004	0.00046	0.00039	0.00034	0.00033	0.00027	0.00027	0.00029	0.00028
Selenium	0.00028	0.00028	0.00028	0.00022	0.00024	0.00026	0.0003	0.00029	0.00028	0.00029	0.00029	0.00029
Silver	0.000025	0.000025	0.000025	0.000027	0.000029	0.000028	0.000026	0.000025	0.000025	0.000027	0.000026	0.000025
Strontium	0.1	0.1	0.13	0.11	0.0798	0.0841	0.1	0.11	0.12	0.0948	0.0947	0.0973
Thallium	0.000025	0.000025	0.000025	0.000026	0.000026	0.000026	0.000026	0.000025	0.000025	0.000026	0.000026	0.000025
Uranium	0.0002	0.00019	0.00022	0.00022	0.00016	0.00017	0.00015	0.00014	0.00017	0.00016	0.00016	0.00017
Vanadium	0.00022	0.00022	0.00029	0.00077	0.00088	0.0007	0.00066	0.00054	0.00043	0.00055	0.00041	0.00034
Zinc	0.0067	0.0102	0.0055	0.0036	0.0034	0.0057	0.0037	0.0048	0.0043	0.0049	0.006	0.0059
Dissolved Metals												
Aluminum	0.019	0.019	0.0168	0.0231	0.0894	0.0723	0.0462	0.0306	0.029	0.0207	0.0195	0.0189
Cadmium	0.0000096	0.0000094	0.0000084	0.000015	0.000012	0.000012	0.000009	0.0000086	0.0000096	0.000009	0.0000088	0.0000095
Copper	0.00028	0.00035	0.00028	0.0004	0.0005	0.0012	0.00037	0.0003	0.00028	0.00024	0.00026	0.00029
Iron	0.0415	0.0417	0.0408	0.0709	0.0966	0.0855	0.074	0.0845	0.0769	0.0854	0.0815	0.0583
Manganese	0.16	0.16	0.15	0.0781	0.042	0.0544	0.12	0.14	0.16	0.17	0.18	0.16
Zinc	0.0054	0.0075	0.0051	0.0033	0.003	0.0054	0.0034	0.0039	0.004	0.0046	0.0048	0.0051

Appendix E-3B: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for DC-20 in Davidson Creek

Parameter	Observed Mean Concentration[2]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.45	0.39	0.80	0.91	0.91	0.69	1.15	1.01	1.30	0.67	0.56	0.78
Fluoride	0.046	0.046	0.047	0.046	0.033	0.034	0.040	0.041	0.040	0.044	0.044	0.043
Sulphate	3.11	3.13	3.35	2.96	2.37	2.00	3.66	2.68	3.11	2.68	3.04	3.50
Nutrients												
Ammonia-N	0.0040	0.0076	0.0050	0.0044	0.0042	0.0033	0.0052	0.0060	0.0089	0.0048	0.0046	0.0069
Nitrate-N	0.0553	0.0421	0.0552	0.0343	0.0285	0.0034	0.0056	0.0025	0.0025	0.0025	0.0071	0.0411
Nitrite-N	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005	0.0005	0.0005	0.0005	0.0005
Total phosphorous	0.014	0.012	0.027	0.030	0.020	0.016	0.018	0.016	0.016	0.011	0.011	0.017
Ortho-phosphorus	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.005	0.005	0.004	0.004	0.003
Cyanides												
Total cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, weak acid dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0853	0.1833	0.7654	1.2297	0.4654	0.4050	0.4214	0.1226	0.1428	0.0590	0.0525	0.3501
Antimony	0.00010	0.00005	0.00008	0.00007	0.00006	0.00006	0.00005	0.00005	0.00005	0.00005	0.00005	0.00007
Arsenic	0.00059	0.00059	0.00110	0.00099	0.00078	0.00098	0.00094	0.00107	0.00094	0.00071	0.00061	0.00088
Barium	0.01044	0.01104	0.01580	0.01780	0.00918	0.00900	0.01060	0.01027	0.01058	0.00936	0.00958	0.01159
Beryllium	0.000010	0.000010	0.000035	0.000030	0.000030	0.000024	0.000019	0.000010	0.000010	0.000010	0.000010	0.000022
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000061	0.0000054	0.0000102	0.0000108	0.0000069	0.0000069	0.0000075	0.0000048	0.0000041	0.0000043	0.0000046	0.0000065
Chromium	0.00025	0.00025	0.00068	0.00136	0.00046	0.00033	0.00040	0.00025	0.00025	0.00025	0.00025	0.00044
Cobalt	0.00007	0.00009	0.00025	0.00025	0.00013	0.00012	0.00013	0.00023	0.00046	0.00019	0.00026	0.00036
Copper	0.00035	0.00036	0.00101	0.00098	0.00087	0.01737	0.00065	0.00040	0.00034	0.00027	0.00025	0.00060
Iron	0.335	0.355	0.878	0.818	0.418	0.373	0.441	0.449	0.454	0.367	0.371	0.530
Lead	0.000047	0.000081	0.000450	0.000317	0.000192	0.000218	0.000154	0.000051	0.000046	0.000038	0.000037	0.000286
Lithium	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.03457	0.03023	0.04300	0.05030	0.01975	0.01820	0.02293	0.03090	0.02168	0.02939	0.03705	0.03996
Mercury	0.0000030	0.0000030	0.0000046	0.0000030	0.0000053	0.0000030	0.0000037	0.0000033	0.0000030	0.0000030	0.0000030	0.0000036
Molybdenum	0.000789	0.000825	0.000813	0.000689	0.000401	0.000494	0.000607	0.000759	0.000782	0.000752	0.000729	0.000683
Nickel	0.00025	0.00025	0.00067	0.00057	0.00045	0.00175	0.00039	0.00030	0.00025	0.00027	0.00025	0.00044
Selenium	0.000065	0.000035	0.000082	0.000064	0.000053	0.000052	0.000050	0.000051	0.000039	0.000042	0.000025	0.000049
Silver	0.000005	0.000005	0.000011	0.000009	0.000009	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008
Strontium	0.1031	0.1077	0.1009	0.0866	0.0482	0.0546	0.0726	0.0873	0.0975	0.0956	0.1018	0.0923
Thallium	0.000005	0.000005	0.000011	0.000011	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008
Uranium	0.000255	0.000304	0.000299	0.000256	0.000155	0.000140	0.000119	0.000135	0.000130	0.000164	0.000204	0.000189
Vanadium	0.00059	0.00065	0.00163	0.00212	0.00118	0.00097	0.00104	0.00091	0.00075	0.00061	0.00047	0.00083
Zinc	0.0062	0.0015	0.0037	0.0039	0.0021	0.0019	0.0023	0.0015	0.0015	0.0015	0.0015	0.0029
Dissolved Metals												
Aluminum	0.0120	0.0092	0.0338	0.0292	0.1176	0.1717	0.1283	0.0341	0.0485	0.0166	0.0191	0.0553
Cadmium	0.0000057	0.0000038	0.0000039	0.0000030	0.0000035	0.0000043	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000039
Copper	0.00039	0.00030	0.00035	0.00032	0.00061	0.00057	0.00048	0.00033	0.00031	0.00027	0.00020	0.00030
Iron	0.111	0.106	0.107	0.111	0.116	0.169	0.167	0.272	0.287	0.241	0.236	0.164
Manganese	0.02423	0.02297	0.02207	0.02350	0.00821	0.01197	0.01273	0.01718	0.01713	0.02191	0.03268	0.02953
Zinc	0.0040	0.0051	0.0046	0.0011	0.0012	0.0009	0.0005	0.0005	0.0005	0.0006	0.0005	0.0007

Notes:

Concentrations in mg/L.

Concentrations below the detection limit were replaced with half the detection limit.

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[1] 95th percentile concentration predicted in environmental assessment at WQ7 in Construction and Operations phases (ERM 2016b).

[2] Mean monthly concentration October 2022 to December 2025, Construction and Operations.

Appendix E-3C: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661-10 in Creek 661

Parameter	Environmental Assessment Predicted Concentration[1]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.5	0.61	0.57	0.46	0.6	0.38	0.59	0.44	0.47	0.52	0.7	0.69
Fluoride	0.0693	0.0748	0.075	0.075	0.0573	0.0468	0.0671	0.0288	0.061	0.0676	0.0595	0.0689
Sulphate	37.93	40.41	44.72	38.98	7.42	6.81	17.04	36.34	43.63	46.09	60.33	39.75
Nutrients												
Ammonia-N	0.54	0.57	0.64	0.55	0.095	0.14	0.25	0.54	0.63	0.66	0.88	0.54
Nitrate-N	0.0529	0.0459	0.0399	0.0308	0.0122	0.019	0.0137	0.0029	0.0085	0.0138	0.0378	0.0669
Nitrite-N	0.0036	0.005	0.0018	0.0023	0.0034	0.0016	0.0016	0.0016	0.0017	0.0017	0.0017	0.0114
Total phosphorous	0.0439	0.0545	0.0453	0.0616	0.0391	0.0407	0.0244	0.0328	0.0458	0.0396	0.0435	0.03
Ortho-phosphorus	0.0189	0.0202	0.0193	0.0154	0.0069	0.0031	0.0046	0.0108	0.0279	0.026	0.022	0.0169
Cyanides												
Total cyanide	0.004	0.0041	0.0043	0.0041	0.0055	0.0035	0.0032	0.004	0.0043	0.0044	0.005	0.004
Cyanide, weak acid dissociable	0.0027	0.0027	0.0027	0.0027	0.0025	0.0025	0.0026	0.0027	0.0027	0.0027	0.0028	0.0027
Total Metals												
Aluminum	0.0544	0.0913	0.0471	0.0908	0.27	0.17	0.11	0.0786	0.0737	0.0468	0.052	0.0538
Antimony	0.00012	0.00013	0.00015	0.00025	0.00019	0.00014	0.00011	0.00012	0.00014	0.00014	0.00018	0.00014
Arsenic	0.0012	0.0012	0.0012	0.0017	0.0006	0.00048	0.00068	0.00093	0.0011	0.001	0.0012	0.00085
Barium	0.0056	0.0059	0.0054	0.0082	0.0048	0.0042	0.0046	0.0053	0.0056	0.0053	0.006	0.0065
Beryllium	0.00005	0.00005	0.00005	0.00008	0.000074	0.000065	0.000058	0.000055	0.000059	0.000062	0.00006	0.000052
Boron	0.0023	0.0014	0.0023	0.0037	0.0013	0.0011	0.00076	0.003	0.0011	0.0045	0.0026	0.0023
Cadmium	0.000033	0.000022	0.00002	0.000024	0.000019	0.00001	0.000009	0.0000085	0.000013	0.0000098	0.000023	0.000027
Chromium	0.00083	0.001	0.00095	0.001	0.00065	0.0005	0.00057	0.00042	0.0012	0.00073	0.00087	0.00053
Cobalt	0.00054	0.00061	0.00066	0.00063	0.00042	0.00029	0.00029	0.00057	0.00066	0.00068	0.0009	0.00056
Copper	0.0035	0.0003	0.00017	0.00065	0.00093	0.00056	0.00049	0.00024	0.00027	0.00023	0.00038	0.00028
Iron	0.13	0.19	0.12	0.21	0.27	0.14	0.13	0.16	0.14	0.11	0.13	0.17
Lead	0.00042	0.00011	0.000082	0.0011	0.00088	0.00055	0.0003	0.0002	0.00033	0.00043	0.00044	0.00016
Lithium	0.00073	0.00051	0.0005	0.0008	0.00074	0.00065	0.00058	0.00055	0.00059	0.00062	0.0006	0.00052
Manganese	0.12	0.14	0.15	0.13	0.029	0.0239	0.0572	0.12	0.14	0.15	0.2	0.14
Mercury	0.0000033	0.0000033	0.0000033	0.0000033	0.0000051	0.000003	0.0000033	0.0000033	0.0000033	0.0000056	0.0000034	0.0000033
Molybdenum	0.0013	0.0014	0.0014	0.0013	0.00057	0.0005	0.00065	0.0011	0.0013	0.0013	0.0016	0.0013
Nickel	0.00019	0.00021	0.0002	0.0007	0.00068	0.00094	0.00032	0.00028	0.00028	0.00026	0.00032	0.00024
Selenium	0.0003	0.0003	0.0003	0.00022	0.00022	0.00021	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Silver	0.000025	0.000025	0.000025	0.000036	0.000034	0.00003	0.000028	0.000027	0.000028	0.000029	0.000029	0.000026
Strontium	0.1	0.1	0.11	0.0988	0.0395	0.0395	0.0596	0.0882	0.0955	0.0987	0.11	0.11
Thallium	0.000025	0.000025	0.000025	0.00003	0.000029	0.000027	0.000026	0.000026	0.000026	0.000027	0.000027	0.000025
Uranium	0.00028	0.0003	0.00029	0.0003	0.0002	0.00016	0.00014	0.00023	0.00026	0.00026	0.0003	0.00023
Vanadium	0.0015	0.0017	0.0015	0.0035	0.0025	0.0014	0.0015	0.0013	0.0018	0.0018	0.0016	0.00073
Zinc	0.0157	0.0122	0.0134	0.0102	0.005	0.0036	0.0051	0.0099	0.0108	0.0121	0.0169	0.0098
Dissolved Metals												
Aluminum	0.0339	0.0285	0.0278	0.0467	0.18	0.14	0.0812	0.0447	0.027	0.0303	0.0386	0.0361
Cadmium	0.00002	0.000017	0.000016	0.000021	0.000016	0.00001	0.000009	0.0000085	0.0000091	0.0000097	0.000019	0.000021
Copper	0.00021	0.0002	0.00017	0.00065	0.00087	0.00053	0.00036	0.00023	0.00027	0.00022	0.00034	0.00028
Iron	0.0685	0.0578	0.0543	0.0895	0.15	0.1	0.0915	0.0827	0.0741	0.0719	0.0785	0.1
Manganese	0.12	0.12	0.14	0.12	0.0224	0.021	0.0548	0.12	0.14	0.14	0.19	0.13
Zinc	0.0139	0.0119	0.0123	0.0102	0.0049	0.0035	0.0051	0.0099	0.0108	0.0121	0.0164	0.0095

Appendix E-3C: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661-10 in Creek 661

Parameter	Observed Mean Concentration[2]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.41	0.67	0.42	0.80	0.38	0.25	0.37	0.43	0.52	0.78	0.75	0.61
Fluoride	0.043	0.051	0.054	0.043	0.034	0.038	0.043	0.047	0.047	0.046	0.046	0.042
Sulphate	2.38	2.79	2.37	3.97	2.06	1.28	1.72	1.05	1.26	1.93	2.38	2.71
Nutrients												
Ammonia-N	0.0078	0.0143	0.0059	0.0053	0.0065	0.0052	0.0099	0.0141	0.0112	0.0066	0.0063	0.0111
Nitrate-N	0.0570	0.0919	0.0741	0.0468	0.0136	0.0025	0.0061	0.0261	0.0134	0.0039	0.0132	0.0594
Nitrite-N	0.0006	0.0010	0.0005	0.0005	0.0005	0.0005	0.0008	0.0009	0.0012	0.0006	0.0005	0.0009
Total phosphorous	0.021	0.027	0.025	0.035	0.027	0.026	0.034	0.059	0.044	0.025	0.022	0.020
Ortho-phosphorus	0.012	0.013	0.014	0.011	0.004	0.008	0.015	0.037	0.021	0.010	0.011	0.009
Cyanides												
Total cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, weak acid dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0621	0.0843	0.1712	0.4341	0.3443	0.1577	0.1347	0.1464	0.0986	0.0923	0.0661	0.0769
Antimony	0.00005	0.00008	0.00007	0.00008	0.00006	0.00009	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00084	0.00100	0.00101	0.00114	0.00082	0.00100	0.00168	0.00292	0.00222	0.00124	0.00095	0.00082
Barium	0.00539	0.00590	0.00610	0.00765	0.00514	0.00481	0.00609	0.00712	0.00658	0.00556	0.00482	0.00542
Beryllium	0.000010	0.000010	0.000010	0.000024	0.000026	0.000019	0.000020	0.000029	0.000021	0.000013	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000134	0.0000215	0.0000169	0.0000219	0.0000204	0.0000211	0.0000328	0.0000477	0.0000367	0.0000197	0.0000128	0.0000152
Chromium	0.00037	0.00048	0.00037	0.00059	0.00044	0.00032	0.00061	0.00086	0.00072	0.00039	0.00025	0.00025
Cobalt	0.00005	0.00010	0.00011	0.00015	0.00009	0.00005	0.00008	0.00015	0.00016	0.00010	0.00007	0.00010
Copper	0.00025	0.00046	0.00037	0.00071	0.00076	0.00062	0.00067	0.00080	0.00071	0.00037	0.00031	0.00041
Iron	0.167	0.267	0.255	0.431	0.307	0.227	0.378	0.847	0.671	0.356	0.265	0.223
Lead	0.000025	0.000057	0.000113	0.000235	0.000142	0.000054	0.000038	0.000054	0.000025	0.000049	0.000025	0.000032
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01498	0.02406	0.01912	0.02088	0.01615	0.01104	0.01733	0.02247	0.03908	0.02642	0.01889	0.02074
Mercury	0.0000030	0.0000030	0.0000030	0.0000041	0.0000059	0.0000036	0.0000030	0.0000059	0.0000040	0.0000030	0.0000030	0.0000030
Molybdenum	0.000592	0.000613	0.000641	0.000451	0.000250	0.000362	0.000557	0.000856	0.000796	0.000610	0.000517	0.000518
Nickel	0.00025	0.00025	0.00025	0.00038	0.00029	0.00025	0.00035	0.00063	0.00053	0.00027	0.00025	0.00025
Selenium	0.000037	0.000043	0.000025	0.000063	0.000051	0.000056	0.000103	0.000136	0.000092	0.000054	0.000033	0.000035
Silver	0.000005	0.000007	0.000005	0.000014	0.000014	0.000005	0.000011	0.000014	0.000010	0.000006	0.000005	0.000005
Strontium	0.0699	0.0678	0.0695	0.0563	0.0325	0.0418	0.0566	0.0709	0.0710	0.0650	0.0619	0.0665
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000101	0.000119	0.000116	0.000131	0.000131	0.000118	0.000147	0.000200	0.000147	0.000111	0.000096	0.000084
Vanadium	0.00089	0.00101	0.00107	0.00152	0.00121	0.00116	0.00135	0.00182	0.00141	0.00100	0.00080	0.00081
Zinc	0.0027	0.0051	0.0031	0.0051	0.0048	0.0051	0.0062	0.0067	0.0055	0.0035	0.0025	0.0029
Dissolved Metals												
Aluminum	0.0261	0.0301	0.0282	0.0982	0.1564	0.0920	0.0865	0.1022	0.0742	0.0485	0.0465	0.0380
Cadmium	0.0000101	0.0000158	0.0000071	0.0000116	0.0000111	0.0000160	0.0000234	0.0000383	0.0000312	0.0000148	0.0000106	0.0000134
Copper	0.00015	0.00036	0.00015	0.00039	0.00064	0.00058	0.00064	0.00077	0.00062	0.00036	0.00026	0.00034
Iron	0.097	0.126	0.078	0.143	0.139	0.138	0.275	0.709	0.477	0.221	0.165	0.134
Manganese	0.01069	0.01542	0.00981	0.00889	0.00622	0.00529	0.00862	0.01290	0.01712	0.01114	0.01034	0.01317
Zinc	0.0025	0.0047	0.0023	0.0026	0.0033	0.0038	0.0059	0.0063	0.0051	0.0029	0.0025	0.0029

Notes:

Concentrations in mg/L.

Concentrations below the detection limit were replaced with half the detection limit.

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[1] 95th percentile concentration predicted in environmental assessment at WQ5_US in Construction and Operations phases (ERM 2016b).

[2] Mean monthly concentration October 2022 to December 2025, Construction and Operations.

Appendix E-3D: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661-20 in Creek 661

Parameter	Environmental Assessment Predicted Concentration[1]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.39	0.4	0.39	0.35	0.54	0.33	0.44	0.11	0.17	0.33	0.37	0.39
Fluoride	0.0561	0.0567	0.0566	0.0588	0.0548	0.0439	0.0596	0.0231	0.0482	0.0507	0.0549	0.0566
Sulphate	9.89	10.84	10.29	6.82	3.05	2.79	3.94	4.98	6.09	7.26	8.17	9.09
Nutrients												
Ammonia-N	0.14	0.15	0.14	0.091	0.0366	0.0568	0.0676	0.0793	0.0883	0.1	0.11	0.12
Nitrate-N	0.0684	0.0688	0.0684	0.0651	0.0157	0.0169	0.0122	0.0028	0.004	0.019	0.0649	0.0689
Nitrite-N	0.0018	0.0019	0.0015	0.0017	0.0033	0.0016	0.0015	0.0015	0.0015	0.0015	0.0015	0.0031
Total phosphorous	0.0124	0.0136	0.0122	0.021	0.0221	0.0234	0.0156	0.0162	0.02	0.019	0.0173	0.0116
Ortho-phosphorus	0.0147	0.0148	0.0147	0.0142	0.0053	0.0023	0.0027	0.0039	0.0184	0.0184	0.0159	0.0145
Cyanides												
Total cyanide	0.0029	0.0029	0.0029	0.0027	0.0055	0.0035	0.0027	0.0027	0.0027	0.0028	0.0028	0.0028
Cyanide, weak acid dissociable	0.0025	0.0026	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0901	0.0917	0.0906	0.0919	0.3	0.19	0.13	0.0756	0.0603	0.0543	0.0869	0.0888
Antimony	0.000072	0.000075	0.000073	0.000095	0.000089	0.000068	0.000051	0.000039	0.00004	0.000045	0.000066	0.00007
Arsenic	0.00067	0.00068	0.00067	0.00089	0.00045	0.00039	0.00051	0.00053	0.00048	0.00052	0.00072	0.00064
Barium	0.0062	0.0062	0.0062	0.0065	0.0042	0.0035	0.004	0.0039	0.0047	0.0045	0.0061	0.0062
Beryllium	0.00005	0.00005	0.00005	0.000056	0.00006	0.000056	0.000053	0.000052	0.000053	0.000053	0.000053	0.00005
Boron	0.0027	0.0028	0.0028	0.0029	0.00088	0.00075	0.00057	0.0016	0.0006	0.0038	0.0027	0.0027
Cadmium	0.000053	0.000053	0.000053	0.00005	0.000016	0.0000088	0.0000081	0.0000078	0.000009	0.0000081	0.00005	0.000052
Chromium	0.00037	0.0004	0.00038	0.0005	0.0004	0.00035	0.00042	0.00023	0.00048	0.00031	0.00044	0.00034
Cobalt	0.00017	0.00019	0.00018	0.00017	0.00022	0.00012	0.000081	0.000093	0.0001	0.00012	0.00015	0.00016
Copper	0.00089	0.00047	0.00047	0.00052	0.00077	0.00043	0.00046	0.00023	0.00022	0.00016	0.00045	0.00046
Iron	0.22	0.22	0.22	0.22	0.24	0.13	0.13	0.13	0.13	0.12	0.21	0.21
Lead	0.00026	0.00023	0.00023	0.00042	0.0004	0.00023	0.00014	0.000084	0.00011	0.00013	0.00029	0.00022
Lithium	0.00053	0.0005	0.0005	0.00056	0.0006	0.00056	0.00053	0.00052	0.00053	0.00053	0.00053	0.0005
Manganese	0.0961	0.1	0.0976	0.0829	0.0175	0.0116	0.0167	0.0205	0.0223	0.0245	0.0867	0.0928
Mercury	0.0000026	0.0000026	0.0000026	0.0000027	0.0000052	0.000003	0.0000032	0.0000033	0.0000033	0.0000038	0.0000027	0.0000026
Molybdenum	0.00033	0.00033	0.00033	0.0004	0.00028	0.00023	0.00027	0.00032	0.00045	0.00038	0.00034	0.00033
Nickel	0.00027	0.00028	0.00027	0.00035	0.00042	0.00052	0.00025	0.00018	0.00015	0.00014	0.00026	0.00027
Selenium	0.0003	0.0003	0.0003	0.00029	0.00022	0.00021	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Silver	0.000025	0.000025	0.000025	0.000027	0.000029	0.000027	0.000026	0.000026	0.000026	0.000026	0.000026	0.000025
Strontium	0.0563	0.0563	0.0565	0.0571	0.028	0.0296	0.0398	0.0463	0.057	0.0564	0.0569	0.0577
Thallium	0.000025	0.000025	0.000025	0.000026	0.000027	0.000026	0.000026	0.000025	0.000025	0.000026	0.000026	0.000025
Uranium	0.000081	0.000084	0.000083	0.00011	0.00013	0.00011	0.000075	0.000073	0.000087	0.000076	0.000086	0.000078
Vanadium	0.00036	0.00038	0.00035	0.00093	0.0012	0.00066	0.00079	0.00063	0.00072	0.00069	0.00059	0.0003
Zinc	0.009	0.0092	0.009	0.0077	0.0034	0.0022	0.0022	0.003	0.0024	0.0029	0.0082	0.0085
Dissolved Metals												
Aluminum	0.0744	0.0755	0.075	0.0716	0.21	0.17	0.1	0.0596	0.0371	0.0421	0.0716	0.0731
Cadmium	0.000038	0.000039	0.000039	0.000037	0.000012	0.0000086	0.0000081	0.0000078	0.000008	0.0000081	0.000036	0.000038
Copper	0.00046	0.00047	0.00047	0.00052	0.00071	0.00041	0.00032	0.00023	0.00022	0.000098	0.00044	0.00046
Iron	0.13	0.13	0.13	0.13	0.14	0.0972	0.0985	0.0909	0.0996	0.0951	0.13	0.13
Manganese	0.0356	0.0387	0.0368	0.0255	0.0089	0.0092	0.015	0.019	0.0211	0.0237	0.03	0.0333
Zinc	0.0065	0.0067	0.0065	0.0055	0.0031	0.0021	0.0022	0.003	0.0024	0.0029	0.0059	0.0061

Appendix E-3D: Environmental Assessment Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality for 661-20 in Creek 661

Parameter	Observed Mean Concentration[2]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.25	0.25	0.25	0.39	0.50	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Fluoride	0.056	0.060	0.068	0.059	0.047	0.051	0.058	0.063	0.067	0.058	0.059	0.060
Sulphate	2.48	2.84	2.62	3.50	2.76	1.37	1.49	1.78	2.23	1.61	2.51	2.31
Nutrients												
Ammonia-N	0.0074	0.0037	0.0025	0.0118	0.0056	0.0025	0.0058	0.0123	0.0168	0.0025	0.0025	0.0093
Nitrate-N	0.0783	0.0660	0.0517	0.0310	0.1574	0.0025	0.0025	0.0064	0.0025	0.0025	0.0135	0.0454
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0010	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total phosphorous	0.029	0.028	0.024	0.052	0.049	0.027	0.028	0.029	0.027	0.024	0.026	0.027
Ortho-phosphorus	0.023	0.023	0.023	0.032	0.008	0.016	0.016	0.020	0.025	0.017	0.018	0.017
Cyanides												
Total cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, weak acid dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0228	0.0234	0.0228	0.1590	0.3698	0.2170	0.0684	0.0305	0.0157	0.0163	0.0356	0.0234
Antimony	0.00005	0.00005	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00093	0.00092	0.00087	0.00089	0.00118	0.00120	0.00118	0.00114	0.00118	0.00104	0.00094	0.00084
Barium	0.00701	0.00699	0.00670	0.00737	0.00887	0.00899	0.00778	0.00772	0.00829	0.00674	0.00711	0.00728
Beryllium	0.000010	0.000010	0.000010	0.000010	0.000023	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000030	0.0000063	0.0000165	0.0000104	0.0000040	0.0000030	0.0000030	0.0000030	0.0000045	0.0000030
Chromium	0.00025	0.00025	0.00025	0.00025	0.00074	0.00064	0.00025	0.00025	0.00025	0.00025	0.00028	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00005	0.00020	0.00012	0.00005	0.00005	0.00005	0.00005	0.00006	0.00005
Copper	0.00025	0.00025	0.00025	0.00038	0.00086	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Iron	0.185	0.141	0.128	0.236	0.585	0.408	0.207	0.128	0.081	0.149	0.169	0.131
Lead	0.000025	0.000025	0.000025	0.000025	0.000154	0.000114	0.000025	0.000025	0.000025	0.000025	0.000033	0.000025
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00713	0.00659	0.00570	0.00811	0.04385	0.03330	0.01077	0.00691	0.00843	0.00708	0.01191	0.00924
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000057	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000928	0.000990	0.000968	0.000896	0.000707	0.000933	0.000930	0.001190	0.001210	0.000950	0.000967	0.000964
Nickel	0.00025	0.00025	0.00025	0.00025	0.00056	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000094	0.000072	0.000073	0.000061	0.000081	0.000101	0.000068	0.000068	0.000058	0.000056	0.000064	0.000060
Silver	0.000005	0.000005	0.000005	0.000005	0.000011	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.0971	0.1005	0.0941	0.0879	0.0662	0.0936	0.0939	0.1100	0.1150	0.1030	0.0976	0.1020
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000347	0.000403	0.000311	0.000308	0.000244	0.000327	0.000277	0.000352	0.000417	0.000271	0.000326	0.000348
Vanadium	0.00082	0.00076	0.00068	0.00097	0.00193	0.00160	0.00111	0.00089	0.00081	0.00070	0.00070	0.00065
Zinc	0.0015	0.0015	0.0015	0.0015	0.0030	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Dissolved Metals												
Aluminum	0.0101	0.0093	0.0081	0.0617	0.0881	0.0194	0.0374	0.0147	0.0062	0.0099	0.0091	0.0063
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000043	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00010	0.00010	0.00010	0.00035	0.00058	0.00031	0.00031	0.00023	0.00010	0.00010	0.00014	0.00010
Iron	0.127	0.088	0.086	0.127	0.163	0.110	0.149	0.116	0.057	0.109	0.087	0.083
Manganese	0.00402	0.00385	0.00289	0.00416	0.00748	0.00525	0.00547	0.00412	0.00551	0.00431	0.00385	0.00472
Zinc	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:

Concentrations in mg/L.

Concentrations below the detection limit were replaced with half the detection limit.

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[1] 95th percentile concentration predicted in environmental assessment at WQ5_DS in Construction and Operations phases (ERM 2016b).

[2] Mean monthly concentration October 2022 to December 2025, Construction and Operations.

Appendix E-4 2022 Model Predictions and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Surface Water Quality

Appendix E-4A: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-05 in Davidson Creek

Appendix E-4B: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-10 in Davidson Creek

Appendix E-4C: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-15 in Davidson Creek

Appendix E-4D: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-20 in Davidson Creek

Appendix E-4E: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–05 in Creek 661

Appendix E-4F: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–10 in Creek 661

Appendix E-4G: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–20 in Creek 661

Appendix E-4H: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for CC-10 in Chedakuz Creek

Appendix E-4I: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for CC-15 in Chedakuz Creek

Appendix E-4J: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for CC-20 in Chedakuz Creek

Appendix E-4A: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-05 in Davidson Creek

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.98	0.79	0.67	0.56	0.53	0.82	0.78	0.88	1.11	1.04	1.05	1.02
Fluoride	0.281	0.222	0.230	0.199	0.169	0.268	0.273	0.367	0.448	0.359	0.312	0.276
Sulphate	75.74	69.07	59.42	43.81	30.46	69.87	77.75	100.21	123.40	107.34	91.71	69.75
Nutrients												
Ammonia-N	0.39	0.36	0.40	0.29	0.36	0.21	0.19	0.22	0.31	0.42	0.44	0.37
Nitrate-N	1.9	1.6	1.6	1.2	1.5	1.5	1.3	1.8	1.9	2.2	2.3	2.1
Nitrite-N	0.014	0.013	0.013	0.0098	0.014	0.012	0.0090	0.011	0.016	0.018	0.019	0.016
Total Phosphorous	0.034	0.035	0.036	0.038	0.027	0.024	0.025	0.030	0.036	0.034	0.038	0.035
Ortho-Phosphorus	0.034	0.030	0.030	0.032	0.023	0.016	0.016	0.016	0.019	0.021	0.029	0.028
Cyanides												
Total Cyanide	0.0031	0.0030	0.0031	0.0034	0.0032	0.0033	0.0032	0.0029	0.0034	0.0034	0.0031	0.0032
Cyanide, Weak Acid Dissociable	0.0031	0.0030	0.0031	0.0034	0.0032	0.0033	0.0032	0.0029	0.0034	0.0034	0.0031	0.0032
Total Metals												
Aluminum	0.0998	0.0817	0.0793	0.0716	0.1824	0.3310	0.3259	0.2337	0.1921	0.1934	0.1430	0.1152
Antimony	0.00678	0.00653	0.00646	0.00538	0.00329	0.00296	0.00258	0.00418	0.00550	0.00705	0.00695	0.00587
Arsenic	0.00186	0.00169	0.00164	0.00143	0.00127	0.00091	0.00108	0.00127	0.00142	0.00147	0.00146	0.00141
Barium	0.00894	0.00875	0.00849	0.00855	0.00908	0.00963	0.00808	0.00775	0.00966	0.00945	0.00916	0.00830
Beryllium	0.000084	0.000082	0.000087	0.000078	0.000065	0.000076	0.000071	0.000068	0.000071	0.000077	0.000077	0.000092
Boron	0.025	0.025	0.024	0.022	0.016	0.013	0.012	0.017	0.020	0.022	0.024	0.026
Cadmium	0.0000543	0.0000503	0.0000484	0.0000422	0.0000271	0.0000266	0.0000282	0.0000322	0.0000404	0.0000489	0.0000505	0.0000537
Chromium	0.00095	0.00085	0.00084	0.00068	0.00062	0.00046	0.00051	0.00056	0.00067	0.00067	0.00068	0.00068
Cobalt	0.00076	0.00074	0.00068	0.00058	0.00035	0.00033	0.00028	0.00044	0.00055	0.00064	0.00063	0.00062
Copper	0.00052	0.00051	0.00048	0.00045	0.00046	0.00073	0.00069	0.00054	0.00047	0.00045	0.00045	0.00053
Iron	0.109	0.106	0.103	0.094	0.145	0.239	0.233	0.178	0.145	0.154	0.132	0.115
Lead	0.000183	0.000174	0.000181	0.000141	0.000166	0.000148	0.000129	0.000131	0.000168	0.000199	0.000213	0.000195
Lithium	0.0207	0.0177	0.0156	0.0112	0.0075	0.0200	0.0247	0.0276	0.0369	0.0323	0.0264	0.0197
Manganese	0.08918	0.07444	0.06390	0.06140	0.04607	0.10417	0.09985	0.11244	0.18930	0.14343	0.12864	0.11337
Mercury	0.0000139	0.0000141	0.0000149	0.0000135	0.0000089	0.0000098	0.0000107	0.0000109	0.0000118	0.0000139	0.0000138	0.0000152
Molybdenum	0.002451	0.002672	0.002630	0.002364	0.001539	0.001283	0.001083	0.001182	0.001664	0.002034	0.002037	0.002214
Nickel	0.00095	0.00090	0.00091	0.00078	0.00050	0.00060	0.00053	0.00074	0.00088	0.00098	0.00089	0.00083
Selenium	0.000152	0.000162	0.000184	0.000183	0.000113	0.000118	0.000095	0.000102	0.000127	0.000153	0.000157	0.000182
Silver	0.000029	0.000024	0.000023	0.000021	0.000022	0.000029	0.000029	0.000025	0.000027	0.000026	0.000028	0.000027
Strontium	0.1673	0.1506	0.1415	0.1215	0.1023	0.1538	0.1479	0.1865	0.2302	0.2091	0.1788	0.1506
Thallium	0.000069	0.000056	0.000053	0.000041	0.000038	0.000046	0.000038	0.000038	0.000062	0.000064	0.000071	0.000067
Uranium	0.000261	0.000273	0.000309	0.000301	0.000281	0.000308	0.000243	0.000209	0.000237	0.000273	0.000255	0.000311
Vanadium	0.00621	0.00526	0.00473	0.00348	0.00228	0.00611	0.00727	0.00828	0.01090	0.00945	0.00768	0.00583
Zinc	0.0046	0.0042	0.0039	0.0036	0.0026	0.0032	0.0034	0.0033	0.0038	0.0037	0.0040	0.0042
Dissolved Metals												
Aluminum	0.0395	0.0259	0.0207	0.0216	0.1298	0.1440	0.1010	0.1020	0.0531	0.0926	0.1100	0.0703
Cadmium	0.0000546	0.0000509	0.0000487	0.0000427	0.0000267	0.0000240	0.0000281	0.0000320	0.0000408	0.0000484	0.0000505	0.0000532
Copper	0.00052	0.00049	0.00046	0.00041	0.00044	0.00069	0.00068	0.00053	0.00046	0.00045	0.00045	0.00053
Iron	0.085	0.082	0.078	0.071	0.085	0.137	0.139	0.109	0.103	0.106	0.091	0.091
Manganese	0.08803	0.07356	0.06259	0.06013	0.04482	0.10044	0.09394	0.10917	0.18757	0.14156	0.12706	0.11275
Zinc	0.0041	0.0036	0.0032	0.0030	0.0022	0.0029	0.0030	0.0028	0.0034	0.0033	0.0035	0.0038

Appendix E-4A: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-05 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.47	0.44	0.64	0.98	0.94	0.91	1.27	1.22	1.19	0.79	0.76	0.72
Fluoride	0.041	0.045	0.045	0.040	0.025	0.028	0.037	0.037	0.036	0.038	0.038	0.038
Sulphate	3.44	3.57	3.56	3.78	2.41	1.93	6.11	3.83	3.14	3.27	3.71	4.14
Nutrients												
Ammonia-N	0.0025	0.0025	0.0025	0.0035	0.0042	0.0037	0.0072	0.0087	0.0055	0.0044	0.0064	0.0067
Nitrate-N	0.0810	0.0734	0.0516	0.0741	0.0638	0.0285	0.0310	0.0059	0.0133	0.0243	0.0504	0.0909
Nitrite-N	0.0005	0.0005	0.0007	0.0007	0.0005	0.0008	0.0006	0.0005	0.0007	0.0008	0.0007	0.0005
Total Phosphorous	0.013	0.020	0.025	0.022	0.034	0.021	0.019	0.018	0.009	0.013	0.013	0.011
Ortho-Phosphorus	0.006	0.005	0.007	0.004	0.004	0.002	0.002	0.003	0.001	0.002	0.003	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0033	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.1427	0.4892	0.9760	0.6885	0.6481	0.6057	0.3803	0.3783	0.1135	0.3206	0.2008	0.1626
Antimony	0.00005	0.00007	0.00008	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00005	0.00005
Arsenic	0.00062	0.00089	0.00116	0.00096	0.00100	0.00115	0.00117	0.00141	0.00093	0.00099	0.00071	0.00064
Barium	0.00937	0.01347	0.01705	0.01365	0.01051	0.00807	0.01170	0.01039	0.00935	0.01044	0.00906	0.00878
Beryllium	0.000010	0.000027	0.000037	0.000031	0.000041	0.000033	0.000022	0.000022	0.000010	0.000018	0.000014	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000034	0.0000067	0.0000115	0.0000096	0.0000128	0.0000155	0.0000181	0.0000164	0.0000071	0.0000110	0.0000065	0.0000056
Chromium	0.00030	0.00054	0.00082	0.00061	0.00050	0.00032	0.00036	0.00025	0.00025	0.00041	0.00031	0.00037
Cobalt	0.00005	0.00020	0.00031	0.00022	0.00017	0.00014	0.00016	0.00041	0.00026	0.00036	0.00047	0.00061
Copper	0.00029	0.00079	0.00106	0.00089	0.00097	0.00074	0.00070	0.00076	0.00025	0.00057	0.00035	0.00025
Iron	0.126	0.473	0.787	0.549	0.480	0.329	0.274	0.312	0.122	0.300	0.203	0.146
Lead	0.000066	0.000299	0.000490	0.000350	0.000302	0.000311	0.000242	0.000213	0.000068	0.000229	0.000124	0.000079
Lithium	0.0005	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01013	0.01570	0.02429	0.01990	0.02203	0.02078	0.02877	0.02372	0.02509	0.01674	0.01239	0.00945
Mercury	0.0000030	0.0000040	0.0000041	0.0000037	0.0000075	0.0000039	0.0000030	0.0000039	0.0000030	0.0000032	0.0000042	0.0000030
Molybdenum	0.000868	0.000948	0.001002	0.000825	0.000307	0.000424	0.000637	0.001431	0.000774	0.000784	0.000686	0.000736
Nickel	0.00025	0.00053	0.00070	0.00053	0.00057	0.00032	0.00025	0.00039	0.00025	0.00038	0.00025	0.00025
Selenium	0.000089	0.000079	0.000106	0.000090	0.000044	0.000046	0.000061	0.000077	0.000042	0.000058	0.000066	0.000079
Silver	0.000005	0.000008	0.000010	0.000008	0.000013	0.000008	0.000005	0.000005	0.000005	0.000007	0.000005	0.000005
Strontium	0.0960	0.1014	0.1059	0.0883	0.0386	0.0452	0.0799	0.0743	0.0821	0.0858	0.0796	0.0868
Thallium	0.000005	0.000009	0.000014	0.000009	0.000008	0.000007	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005
Uranium	0.000331	0.000358	0.000429	0.000293	0.000178	0.000188	0.000178	0.000214	0.000173	0.000239	0.000219	0.000238
Vanadium	0.00050	0.00105	0.00174	0.00136	0.00123	0.00097	0.00086	0.00099	0.00049	0.00083	0.00056	0.00054
Zinc	0.0015	0.0030	0.0039	0.0031	0.0029	0.0040	0.0032	0.0033	0.0015	0.0026	0.0021	0.0020
Dissolved Metals												
Aluminum	0.0231	0.0169	0.0243	0.0711	0.1889	0.2312	0.1116	0.1111	0.0264	0.0466	0.0447	0.0390
Cadmium	0.0000030	0.0000030	0.0000030	0.0000044	0.0000118	0.0000085	0.0000086	0.0000064	0.0000038	0.0000061	0.0000036	0.0000030
Copper	0.00014	0.00028	0.00016	0.00027	0.00290	0.00054	0.00053	0.00046	0.00029	0.00028	0.00025	0.00022
Iron	0.029	0.024	0.024	0.050	0.108	0.077	0.075	0.106	0.048	0.069	0.062	0.047
Manganese	0.00274	0.00253	0.00375	0.00555	0.00736	0.00935	0.01469	0.01107	0.01777	0.00924	0.00762	0.00471
Zinc	0.0005	0.0021	0.0005	0.0005	0.0018	0.0011	0.0011	0.0008	0.0009	0.0009	0.0011	0.0010

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ28 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4B: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-10 in Davidson Creek

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.98	0.79	0.67	0.55	0.53	0.81	0.78	0.88	1.11	1.04	1.05	1.01
Fluoride	0.281	0.221	0.230	0.188	0.168	0.268	0.273	0.366	0.447	0.359	0.312	0.276
Sulphate	75.59	68.94	59.05	43.77	30.40	69.82	77.55	100.05	123.26	107.20	91.59	69.62
Nutrients												
Ammonia-N	0.39	0.36	0.39	0.29	0.36	0.21	0.19	0.20	0.31	0.42	0.44	0.37
Nitrate-N	1.9	1.6	1.6	1.1	1.5	1.5	1.3	1.8	1.9	2.2	2.3	2.1
Nitrite-N	0.014	0.013	0.013	0.0097	0.014	0.012	0.0090	0.011	0.016	0.018	0.019	0.016
Total Phosphorous	0.031	0.031	0.032	0.035	0.027	0.024	0.024	0.028	0.034	0.031	0.035	0.031
Ortho-Phosphorus	0.032	0.028	0.029	0.031	0.023	0.016	0.015	0.015	0.018	0.020	0.027	0.026
Cyanides												
Total Cyanide	0.0031	0.0030	0.0031	0.0033	0.0032	0.0033	0.0032	0.0029	0.0034	0.0033	0.0031	0.0032
Cyanide, Weak Acid Dissociable	0.0031	0.0030	0.0031	0.0033	0.0032	0.0033	0.0032	0.0029	0.0034	0.0033	0.0031	0.0032
Total Metals												
Aluminum	0.0940	0.0739	0.0710	0.0699	0.1832	0.3302	0.3254	0.2334	0.1761	0.1851	0.1379	0.1085
Antimony	0.00677	0.00652	0.00642	0.00538	0.00328	0.00296	0.00258	0.00417	0.00549	0.00704	0.00694	0.00585
Arsenic	0.00169	0.00153	0.00148	0.00137	0.00127	0.00090	0.00103	0.00121	0.00134	0.00142	0.00137	0.00129
Barium	0.00892	0.00873	0.00847	0.00839	0.00908	0.00963	0.00807	0.00774	0.00965	0.00931	0.00903	0.00828
Beryllium	0.000083	0.000081	0.000087	0.000078	0.000065	0.000076	0.000071	0.000068	0.000071	0.000077	0.000077	0.000092
Boron	0.024	0.022	0.022	0.021	0.016	0.013	0.012	0.016	0.020	0.022	0.024	0.024
Cadmium	0.0000542	0.0000502	0.0000481	0.0000421	0.0000271	0.0000265	0.0000281	0.0000322	0.0000403	0.0000488	0.0000504	0.0000536
Chromium	0.00086	0.00077	0.00075	0.00065	0.00062	0.00046	0.00049	0.00053	0.00062	0.00064	0.00064	0.00062
Cobalt	0.00076	0.00073	0.00068	0.00058	0.00035	0.00033	0.00028	0.00044	0.00055	0.00063	0.00063	0.00062
Copper	0.00052	0.00051	0.00048	0.00045	0.00046	0.00073	0.00069	0.00054	0.00047	0.00045	0.00045	0.00053
Iron	0.109	0.106	0.103	0.091	0.146	0.239	0.233	0.178	0.139	0.150	0.129	0.115
Lead	0.000182	0.000173	0.000181	0.000135	0.000165	0.000148	0.000128	0.000123	0.000168	0.000198	0.000213	0.000194
Lithium	0.0206	0.0177	0.0155	0.0112	0.0075	0.0200	0.0246	0.0276	0.0368	0.0323	0.0264	0.0197
Manganese	0.08900	0.07430	0.05921	0.05977	0.04583	0.10414	0.09887	0.11218	0.18909	0.14324	0.12847	0.09879
Mercury	0.0000139	0.0000141	0.0000148	0.0000135	0.0000089	0.0000098	0.0000107	0.0000109	0.0000117	0.0000139	0.0000137	0.0000152
Molybdenum	0.002447	0.002666	0.002616	0.002361	0.001538	0.001280	0.001081	0.001180	0.001662	0.002031	0.002034	0.002210
Nickel	0.00095	0.00090	0.00091	0.00078	0.00050	0.00060	0.00053	0.00074	0.00087	0.00098	0.00089	0.00083
Selenium	0.000152	0.000162	0.000183	0.000183	0.000113	0.000118	0.000095	0.000102	0.000127	0.000153	0.000157	0.000181
Silver	0.000029	0.000024	0.000023	0.000020	0.000022	0.000029	0.000028	0.000025	0.000027	0.000026	0.000028	0.000027
Strontium	0.1669	0.1503	0.1412	0.1214	0.1020	0.1538	0.1476	0.1862	0.2299	0.2088	0.1785	0.1503
Thallium	0.000069	0.000056	0.000053	0.000039	0.000038	0.000046	0.000038	0.000037	0.000062	0.000064	0.000071	0.000067
Uranium	0.000261	0.000273	0.000308	0.000300	0.000281	0.000307	0.000242	0.000209	0.000237	0.000273	0.000255	0.000311
Vanadium	0.00620	0.00525	0.00470	0.00347	0.00228	0.00611	0.00726	0.00827	0.01088	0.00944	0.00767	0.00582
Zinc	0.0045	0.0042	0.0038	0.0036	0.0026	0.0032	0.0034	0.0033	0.0038	0.0037	0.0040	0.0042
Dissolved Metals												
Aluminum	0.0372	0.0244	0.0182	0.0216	0.1302	0.1380	0.0994	0.0985	0.0531	0.0877	0.1056	0.0644
Cadmium	0.0000545	0.0000508	0.0000484	0.0000426	0.0000267	0.0000239	0.0000280	0.0000319	0.0000407	0.0000484	0.0000504	0.0000531
Copper	0.00052	0.00049	0.00046	0.00041	0.00044	0.00069	0.00068	0.00053	0.00046	0.00045	0.00045	0.00053
Iron	0.085	0.082	0.078	0.070	0.085	0.136	0.139	0.109	0.100	0.105	0.089	0.091
Manganese	0.08785	0.07341	0.05779	0.05856	0.04450	0.10042	0.09318	0.10892	0.18736	0.14137	0.12689	0.09812
Zinc	0.0041	0.0036	0.0031	0.0030	0.0022	0.0029	0.0029	0.0028	0.0034	0.0033	0.0035	0.0038

Appendix E-4B: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-10 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.47	0.37	0.49	0.98	1.09	0.93	1.23	1.14	1.17	0.75	0.73	0.72
Fluoride	0.040	0.042	0.043	0.040	0.024	0.030	0.035	0.036	0.037	0.038	0.036	0.038
Sulphate	3.44	3.64	3.61	3.86	2.61	2.09	6.00	3.76	5.38	3.33	4.08	4.30
Nutrients												
Ammonia-N	0.0025	0.0034	0.0025	0.0025	0.0040	0.0145	0.0078	0.0078	0.0210	0.0081	0.0049	0.0056
Nitrate-N	0.0813	0.0813	0.0551	0.0681	0.0903	0.0453	0.0297	0.0106	0.0189	0.0265	0.0763	0.0914
Nitrite-N	0.0005	0.0005	0.0007	0.0005	0.0005	0.0011	0.0005	0.0005	0.0008	0.0009	0.0005	0.0005
Total Phosphorous	0.009	0.010	0.018	0.020	0.032	0.020	0.018	0.014	0.008	0.011	0.010	0.010
Ortho-Phosphorus	0.005	0.006	0.006	0.003	0.006	0.002	0.002	0.002	0.002	0.002	0.003	0.004
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0926	0.0575	0.6066	0.7099	0.5547	0.6892	0.2707	0.2642	0.1091	0.3057	0.2038	0.1461
Antimony	0.00005	0.00005	0.00007	0.00007	0.00005	0.00008	0.00005	0.00005	0.00005	0.00007	0.00005	0.00005
Arsenic	0.00053	0.00054	0.00098	0.00094	0.00079	0.00134	0.00098	0.00116	0.00082	0.00085	0.00066	0.00061
Barium	0.00871	0.00945	0.01424	0.01395	0.01037	0.00979	0.01130	0.01073	0.00973	0.01035	0.00899	0.00893
Beryllium	0.000010	0.000010	0.000030	0.000025	0.000036	0.000034	0.000010	0.000016	0.000010	0.000021	0.000013	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000065	0.0000079	0.0000121	0.0000208	0.0000132	0.0000102	0.0000057	0.0000066	0.0000060	0.0000038
Chromium	0.00025	0.00025	0.00058	0.00065	0.00038	0.00052	0.00043	0.00025	0.00025	0.00039	0.00025	0.00035
Cobalt	0.00005	0.00005	0.00018	0.00021	0.00013	0.00017	0.00013	0.00036	0.00103	0.00033	0.00054	0.00062
Copper	0.00025	0.00025	0.00076	0.00087	0.00089	0.00102	0.00062	0.00052	0.00025	0.00042	0.00033	0.00025
Iron	0.072	0.048	0.523	0.535	0.393	0.410	0.193	0.250	0.105	0.252	0.178	0.124
Lead	0.000034	0.000025	0.000331	0.000335	0.000196	0.000416	0.000144	0.000116	0.000036	0.000202	0.000101	0.000073
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00381	0.00258	0.01465	0.01611	0.01965	0.01947	0.01953	0.01539	0.01056	0.01063	0.00889	0.00619
Mercury	0.0000030	0.0000030	0.0000037	0.0000038	0.0000092	0.0000037	0.0000030	0.0000030	0.0000030	0.0000030	0.0000038	0.0000030
Molybdenum	0.000994	0.000939	0.000944	0.000855	0.000287	0.000455	0.000624	0.001204	0.000817	0.000764	0.000689	0.000745
Nickel	0.00025	0.00025	0.00052	0.00051	0.00047	0.00051	0.00025	0.00025	0.00025	0.00033	0.00025	0.00025
Selenium	0.000051	0.000068	0.000075	0.000074	0.000048	0.000046	0.000071	0.000070	0.000065	0.000057	0.000053	0.000072
Silver	0.000005	0.000005	0.000007	0.000009	0.000018	0.000009	0.000005	0.000005	0.000005	0.000008	0.000005	0.000005
Strontium	0.0927	0.1043	0.1020	0.0924	0.0423	0.0481	0.0821	0.0804	0.0937	0.0829	0.0817	0.0888
Thallium	0.000005	0.000005	0.000009	0.000009	0.000006	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000291	0.000360	0.000387	0.000299	0.000154	0.000177	0.000160	0.000185	0.000197	0.000233	0.000190	0.000233
Vanadium	0.00025	0.00029	0.00125	0.00134	0.00104	0.00116	0.00075	0.00082	0.00039	0.00079	0.00049	0.00046
Zinc	0.0015	0.0015	0.0027	0.0029	0.0021	0.0050	0.0021	0.0015	0.0015	0.0028	0.0015	0.0015
Dissolved Metals												
Aluminum	0.0234	0.0232	0.0242	0.0375	0.2095	0.1938	0.0828	0.0804	0.0243	0.0353	0.0356	0.0387
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000084	0.0000115	0.0000055	0.0000046	0.0000039	0.0000030	0.0000030	0.0000030
Copper	0.00014	0.00010	0.00017	0.00020	0.00065	0.00059	0.00045	0.00039	0.00025	0.00026	0.00025	0.00023
Iron	0.025	0.021	0.024	0.029	0.134	0.077	0.061	0.094	0.037	0.058	0.049	0.042
Manganese	0.00216	0.00148	0.00163	0.00253	0.00614	0.00657	0.00771	0.00568	0.00525	0.00432	0.00424	0.00278
Zinc	0.0005	0.0005	0.0005	0.0005	0.0009	0.0013	0.0005	0.0005	0.0008	0.0007	0.0007	0.0007

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ27 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.

Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4C: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-15 in Davidson Creek

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.78	0.65	0.56	0.49	0.52	0.77	0.69	0.76	0.90	0.88	0.90	0.80
Fluoride	0.221	0.179	0.185	0.167	0.161	0.253	0.238	0.299	0.349	0.306	0.259	0.216
Sulphate	58.37	54.22	44.31	35.67	28.38	65.44	65.35	80.97	97.82	86.81	72.45	50.58
Nutrients												
Ammonia-N	0.28	0.28	0.30	0.25	0.33	0.20	0.16	0.17	0.26	0.35	0.36	0.29
Nitrate-N	1.4	1.3	1.2	1.0	1.4	1.3	1.1	1.4	1.6	1.9	2.0	1.6
Nitrite-N	0.011	0.010	0.010	0.0083	0.013	0.011	0.0078	0.009	0.013	0.015	0.016	0.012
Total Phosphorous	0.025	0.026	0.027	0.030	0.026	0.023	0.022	0.025	0.030	0.029	0.029	0.026
Ortho-Phosphorus	0.028	0.024	0.027	0.028	0.022	0.016	0.014	0.014	0.016	0.018	0.025	0.024
Cyanides												
Total Cyanide	0.0029	0.0029	0.0029	0.0031	0.0031	0.0032	0.0031	0.0028	0.0032	0.0032	0.0030	0.0029
Cyanide, Weak Acid Dissociable	0.0029	0.0029	0.0028	0.0031	0.0031	0.0032	0.0031	0.0028	0.0032	0.0032	0.0030	0.0029
Total Metals												
Aluminum	0.0773	0.0622	0.0597	0.0650	0.1886	0.3128	0.2807	0.1908	0.1470	0.1699	0.1268	0.0922
Antimony	0.00496	0.00490	0.00458	0.00425	0.00303	0.00285	0.00220	0.00350	0.00452	0.00578	0.00589	0.00447
Arsenic	0.00146	0.00133	0.00128	0.00128	0.00123	0.00089	0.00100	0.00113	0.00124	0.00133	0.00123	0.00115
Barium	0.00857	0.00849	0.00827	0.00833	0.00881	0.00936	0.00799	0.00769	0.00928	0.00909	0.00853	0.00773
Beryllium	0.000077	0.000075	0.000079	0.000075	0.000065	0.000075	0.000069	0.000066	0.000068	0.000073	0.000073	0.000080
Boron	0.019	0.019	0.019	0.019	0.016	0.013	0.011	0.014	0.017	0.020	0.020	0.019
Cadmium	0.0000403	0.0000394	0.0000358	0.0000348	0.0000263	0.0000247	0.0000248	0.0000277	0.0000341	0.0000418	0.0000440	0.0000382
Chromium	0.00072	0.00064	0.00062	0.00059	0.00060	0.00045	0.00044	0.00047	0.00054	0.00059	0.00057	0.00053
Cobalt	0.00057	0.00055	0.00053	0.00048	0.00033	0.00031	0.00025	0.00037	0.00045	0.00050	0.00053	0.00048
Copper	0.00045	0.00044	0.00042	0.00041	0.00049	0.00071	0.00063	0.00049	0.00043	0.00048	0.00043	0.00044
Iron	0.092	0.089	0.080	0.086	0.152	0.227	0.204	0.156	0.123	0.147	0.122	0.102
Lead	0.000146	0.000141	0.000143	0.000123	0.000161	0.000140	0.000112	0.000105	0.000144	0.000170	0.000182	0.000152
Lithium	0.0155	0.0133	0.0112	0.0094	0.0070	0.0190	0.0207	0.0224	0.0293	0.0252	0.0208	0.0145
Manganese	0.06585	0.05816	0.04845	0.05184	0.04462	0.09921	0.08373	0.09219	0.15119	0.11747	0.10535	0.08095
Mercury	0.0000107	0.0000113	0.0000113	0.0000112	0.0000090	0.0000094	0.0000094	0.0000095	0.0000101	0.0000117	0.0000121	0.0000111
Molybdenum	0.001973	0.002177	0.002138	0.002011	0.001456	0.001194	0.001026	0.001112	0.001483	0.001764	0.001817	0.001707
Nickel	0.00077	0.00075	0.00074	0.00070	0.00049	0.00059	0.00051	0.00065	0.00077	0.00083	0.00079	0.00069
Selenium	0.000128	0.000140	0.000147	0.000161	0.000107	0.000112	0.000092	0.000096	0.000109	0.000128	0.000144	0.000140
Silver	0.000022	0.000019	0.000019	0.000017	0.000021	0.000027	0.000025	0.000022	0.000023	0.000023	0.000024	0.000022
Strontium	0.1426	0.1326	0.1292	0.1152	0.0949	0.1490	0.1373	0.1633	0.1986	0.1786	0.1515	0.1246
Thallium	0.000052	0.000042	0.000042	0.000036	0.000037	0.000044	0.000033	0.000033	0.000051	0.000055	0.000058	0.000052
Uranium	0.000234	0.000253	0.000287	0.000282	0.000274	0.000294	0.000223	0.000197	0.000219	0.000240	0.000231	0.000248
Vanadium	0.00463	0.00399	0.00346	0.00296	0.00218	0.00583	0.00618	0.00677	0.00872	0.00734	0.00617	0.00457
Zinc	0.0037	0.0038	0.0032	0.0031	0.0026	0.0031	0.0031	0.0030	0.0033	0.0034	0.0037	0.0035
Dissolved Metals												
Aluminum	0.0262	0.0139	0.0106	0.0212	0.1316	0.1257	0.0770	0.0680	0.0349	0.0727	0.0775	0.0474
Cadmium	0.0000405	0.0000398	0.0000360	0.0000351	0.0000256	0.0000223	0.0000244	0.0000272	0.0000344	0.0000414	0.0000437	0.0000378
Copper	0.00045	0.00042	0.00040	0.00039	0.00045	0.00066	0.00062	0.00048	0.00043	0.00041	0.00043	0.00044
Iron	0.070	0.067	0.060	0.065	0.086	0.130	0.124	0.097	0.091	0.101	0.083	0.078
Manganese	0.06467	0.05729	0.04709	0.05060	0.04288	0.09544	0.07919	0.08897	0.14938	0.11549	0.10371	0.07988
Zinc	0.0032	0.0032	0.0026	0.0027	0.0022	0.0028	0.0027	0.0025	0.0030	0.0030	0.0030	0.0031

Appendix E-4C: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-15 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.42	0.34	0.37	0.84	0.99	0.88	1.05	1.03	0.85	0.64	0.69	0.64
Fluoride	0.047	0.046	0.047	0.042	0.028	0.033	0.039	0.040	0.041	0.045	0.041	0.041
Sulphate	3.17	3.23	3.34	3.29	2.60	2.10	4.65	3.23	4.07	3.13	3.31	3.49
Nutrients												
Ammonia-N	0.0025	0.0036	0.0025	0.0025	0.0035	0.0037	0.0081	0.0036	0.0072	0.0039	0.0032	0.0057
Nitrate-N	0.0610	0.0608	0.0549	0.0466	0.0679	0.0383	0.0154	0.0025	0.0025	0.0033	0.0370	0.0669
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Phosphorous	0.009	0.008	0.013	0.014	0.032	0.021	0.015	0.011	0.007	0.007	0.009	0.012
Ortho-Phosphorus	0.005	0.005	0.005	0.003	0.003	0.002	0.001	0.002	0.001	0.001	0.004	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0875	0.0300	0.3293	0.3308	0.5457	0.6857	0.1817	0.1338	0.0441	0.0763	0.1322	0.1879
Antimony	0.00005	0.00005	0.00005	0.00005	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00058	0.00056	0.00081	0.00073	0.00086	0.00139	0.00087	0.00095	0.00072	0.00065	0.00064	0.00071
Barium	0.00902	0.00971	0.01178	0.01179	0.01078	0.01019	0.01023	0.01001	0.01005	0.00954	0.00898	0.01032
Beryllium	0.000010	0.000010	0.000018	0.000017	0.000036	0.000033	0.000012	0.000010	0.000010	0.000010	0.000010	0.000015
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000043	0.0000044	0.0000131	0.0000153	0.0000093	0.0000054	0.0000030	0.0000036	0.0000030	0.0000058
Chromium	0.00025	0.00025	0.00038	0.00038	0.00050	0.00042	0.00025	0.00025	0.00025	0.00025	0.00025	0.00046
Cobalt	0.00005	0.00005	0.00010	0.00011	0.00015	0.00016	0.00008	0.00021	0.00061	0.00023	0.00023	0.00034
Copper	0.00025	0.00025	0.00047	0.00052	0.00092	0.00087	0.00044	0.00035	0.00025	0.00025	0.00025	0.00043
Iron	0.074	0.036	0.272	0.279	0.447	0.406	0.169	0.143	0.066	0.096	0.135	0.189
Lead	0.000025	0.000025	0.000172	0.000174	0.000254	0.000488	0.000085	0.000061	0.000025	0.000056	0.000086	0.000123
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00454	0.00376	0.00813	0.01071	0.02460	0.01627	0.01923	0.00916	0.00683	0.00692	0.00728	0.01575
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000085	0.0000037	0.0000034	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000838	0.000875	0.000880	0.000754	0.000379	0.000571	0.000655	0.000777	0.000828	0.000809	0.000709	0.000758
Nickel	0.00025	0.00025	0.00034	0.00035	0.00048	0.00048	0.00025	0.00025	0.00025	0.00025	0.00025	0.00034
Selenium	0.000068	0.000049	0.000054	0.000037	0.000068	0.000062	0.000060	0.000062	0.000039	0.000032	0.000033	0.000056
Silver	0.000005	0.000005	0.000005	0.000005	0.000015	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.1007	0.1125	0.1041	0.0984	0.0493	0.0560	0.0812	0.0865	0.0988	0.0982	0.0868	0.0982
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008	0.000005	0.000005	0.000005	0.000005	0.000005	0.000007
Uranium	0.000244	0.000291	0.000302	0.000235	0.000187	0.000169	0.000137	0.000135	0.000158	0.000181	0.000166	0.000217
Vanadium	0.00035	0.00025	0.00084	0.00101	0.00120	0.00112	0.00078	0.00069	0.00046	0.00051	0.00045	0.00070
Zinc	0.0015	0.0015	0.0015	0.0021	0.0015	0.0049	0.0015	0.0015	0.0015	0.0015	0.0015	0.0024
Dissolved Metals												
Aluminum	0.0186	0.0100	0.0207	0.0266	0.1743	0.2292	0.0569	0.0507	0.0195	0.0221	0.0317	0.0232
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000062	0.0000053	0.0000047	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00013	0.00010	0.00014	0.00018	0.00065	0.00059	0.00040	0.00034	0.00024	0.00022	0.00023	0.00015
Iron	0.023	0.013	0.022	0.030	0.130	0.082	0.052	0.066	0.035	0.040	0.048	0.030
Manganese	0.00296	0.00228	0.00197	0.00259	0.00433	0.00381	0.00561	0.00348	0.00291	0.00364	0.00371	0.00265
Zinc	0.0005	0.0005	0.0005	0.0005	0.0009	0.0009	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ26 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4D: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-20 in Davidson Creek

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.68	0.56	0.49	0.45	0.47	0.74	0.63	0.69	0.78	0.81	0.79	0.66
Fluoride	0.188	0.154	0.159	0.141	0.140	0.239	0.212	0.255	0.291	0.269	0.225	0.183
Sulphate	47.60	44.99	35.09	29.79	26.20	61.40	55.46	68.69	79.63	73.67	60.93	40.78
Nutrients												
Ammonia-N	0.23	0.23	0.24	0.21	0.28	0.19	0.14	0.14	0.22	0.30	0.31	0.24
Nitrate-N	1.1	1.1	1.0	0.8	1.2	1.2	1.0	1.2	1.3	1.7	1.7	1.2
Nitrite-N	0.009	0.009	0.008	0.0070	0.011	0.010	0.0069	0.007	0.011	0.013	0.014	0.010
Total Phosphorous	0.022	0.023	0.024	0.026	0.026	0.022	0.020	0.023	0.027	0.027	0.026	0.023
Ortho-Phosphorus	0.025	0.021	0.025	0.025	0.021	0.015	0.013	0.014	0.015	0.017	0.022	0.020
Cyanides												
Total Cyanide	0.0028	0.0028	0.0028	0.0030	0.0030	0.0032	0.0030	0.0028	0.0031	0.0032	0.0029	0.0028
Cyanide, Weak Acid Dissociable	0.0028	0.0028	0.0028	0.0030	0.0030	0.0032	0.0030	0.0028	0.0031	0.0032	0.0029	0.0028
Total Metals												
Aluminum	0.0679	0.0563	0.0528	0.0593	0.2113	0.3028	0.2483	0.1644	0.1275	0.1490	0.1180	0.0817
Antimony	0.00388	0.00388	0.00342	0.00350	0.00269	0.00271	0.00189	0.00294	0.00383	0.00483	0.00510	0.00368
Arsenic	0.00130	0.00118	0.00111	0.00114	0.00120	0.00087	0.00094	0.00105	0.00114	0.00126	0.00111	0.00103
Barium	0.00841	0.00849	0.00834	0.00840	0.00885	0.00917	0.00788	0.00776	0.00911	0.00888	0.00827	0.00776
Beryllium	0.000071	0.000070	0.000068	0.000066	0.000063	0.000074	0.000066	0.000063	0.000065	0.000069	0.000070	0.000072
Boron	0.017	0.017	0.016	0.016	0.015	0.012	0.010	0.013	0.015	0.018	0.018	0.016
Cadmium	0.0000320	0.0000336	0.0000277	0.0000289	0.0000252	0.0000234	0.0000223	0.0000238	0.0000292	0.0000366	0.0000387	0.0000320
Chromium	0.00064	0.00056	0.00053	0.00055	0.00060	0.00044	0.00041	0.00043	0.00048	0.00056	0.00052	0.00048
Cobalt	0.00046	0.00043	0.00042	0.00038	0.00031	0.00030	0.00022	0.00032	0.00039	0.00043	0.00047	0.00040
Copper	0.00040	0.00039	0.00037	0.00037	0.00056	0.00071	0.00061	0.00046	0.00040	0.00044	0.00041	0.00039
Iron	0.097	0.096	0.088	0.118	0.188	0.225	0.193	0.157	0.129	0.147	0.126	0.109
Lead	0.000127	0.000120	0.000121	0.000108	0.000159	0.000134	0.000100	0.000094	0.000126	0.000149	0.000161	0.000127
Lithium	0.0126	0.0104	0.0086	0.0076	0.0066	0.0180	0.0175	0.0193	0.0239	0.0216	0.0174	0.0116
Manganese	0.05544	0.05002	0.04335	0.04463	0.04388	0.09472	0.07436	0.08119	0.12518	0.10241	0.09046	0.07095
Mercury	0.0000089	0.0000097	0.0000090	0.0000090	0.0000090	0.0000090	0.0000086	0.0000084	0.0000089	0.0000105	0.0000107	0.0000089
Molybdenum	0.001703	0.001841	0.001847	0.001716	0.001337	0.001112	0.000930	0.001037	0.001352	0.001585	0.001642	0.001490
Nickel	0.00065	0.00066	0.00060	0.00057	0.00051	0.00057	0.00048	0.00058	0.00069	0.00071	0.00072	0.00060
Selenium	0.000113	0.000124	0.000124	0.000131	0.000103	0.000108	0.000090	0.000090	0.000098	0.000122	0.000134	0.000119
Silver	0.000019	0.000016	0.000016	0.000017	0.000020	0.000026	0.000022	0.000019	0.000020	0.000021	0.000020	0.000020
Strontium	0.1302	0.1238	0.1185	0.1081	0.0899	0.1437	0.1260	0.1483	0.1780	0.1608	0.1371	0.1131
Thallium	0.000042	0.000034	0.000035	0.000032	0.000033	0.000042	0.000029	0.000028	0.000043	0.000048	0.000049	0.000044
Uranium	0.000217	0.000241	0.000276	0.000256	0.000265	0.000283	0.000207	0.000184	0.000203	0.000213	0.000211	0.000224
Vanadium	0.00377	0.00313	0.00270	0.00239	0.00212	0.00556	0.00534	0.00588	0.00717	0.00631	0.00523	0.00374
Zinc	0.0032	0.0032	0.0028	0.0028	0.0025	0.0030	0.0029	0.0027	0.0030	0.0032	0.0034	0.0032
Dissolved Metals												
Aluminum	0.0167	0.0124	0.0088	0.0207	0.1329	0.1247	0.0730	0.0628	0.0233	0.0536	0.0709	0.0380
Cadmium	0.0000322	0.0000312	0.0000280	0.0000289	0.0000239	0.0000211	0.0000219	0.0000231	0.0000296	0.0000363	0.0000381	0.0000317
Copper	0.00040	0.00038	0.00036	0.00034	0.00047	0.00065	0.00060	0.00045	0.00040	0.00039	0.00041	0.00039
Iron	0.070	0.068	0.060	0.075	0.088	0.127	0.120	0.099	0.095	0.101	0.086	0.078
Manganese	0.05433	0.04907	0.04155	0.04321	0.04139	0.09077	0.06994	0.07809	0.12310	0.10021	0.08859	0.06954
Zinc	0.0029	0.0028	0.0023	0.0023	0.0021	0.0027	0.0025	0.0022	0.0026	0.0027	0.0027	0.0027

Appendix E-4D: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for DC-20 in Davidson Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.45	0.39	0.80	0.91	0.91	0.69	1.15	1.01	1.30	0.67	0.56	0.78
Fluoride	0.046	0.046	0.047	0.046	0.033	0.034	0.040	0.041	0.040	0.044	0.044	0.043
Sulphate	3.11	3.13	3.35	2.96	2.37	2.00	3.66	2.68	3.11	2.68	3.04	3.50
Nutrients												
Ammonia-N	0.0040	0.0076	0.0050	0.0044	0.0042	0.0033	0.0052	0.0060	0.0089	0.0048	0.0046	0.0069
Nitrate-N	0.0553	0.0421	0.0552	0.0343	0.0285	0.0034	0.0056	0.0025	0.0025	0.0025	0.0071	0.0411
Nitrite-N	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005	0.0005	0.0005	0.0005	0.0005
Total Phosphorous	0.014	0.012	0.027	0.030	0.020	0.016	0.018	0.016	0.016	0.011	0.011	0.017
Ortho-Phosphorus	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.005	0.005	0.004	0.004	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0853	0.1833	0.7654	1.2297	0.4654	0.4050	0.4214	0.1226	0.1428	0.0590	0.0525	0.3501
Antimony	0.00010	0.00005	0.00008	0.00007	0.00006	0.00006	0.00005	0.00005	0.00005	0.00005	0.00005	0.00007
Arsenic	0.00059	0.00059	0.00110	0.00099	0.00078	0.00098	0.00094	0.00107	0.00094	0.00071	0.00061	0.00088
Barium	0.01044	0.01104	0.01580	0.01780	0.00918	0.00900	0.01060	0.01027	0.01058	0.00936	0.00958	0.01159
Beryllium	0.000010	0.000010	0.000035	0.000030	0.000030	0.000024	0.000019	0.000010	0.000010	0.000010	0.000010	0.000022
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000061	0.0000054	0.0000102	0.0000108	0.0000069	0.0000069	0.0000075	0.0000048	0.0000041	0.0000043	0.0000046	0.0000065
Chromium	0.00025	0.00025	0.00068	0.00136	0.00046	0.00033	0.00040	0.00025	0.00025	0.00025	0.00025	0.00044
Cobalt	0.00007	0.00009	0.00025	0.00025	0.00013	0.00012	0.00013	0.00023	0.00046	0.00019	0.00026	0.00036
Copper	0.00035	0.00036	0.00101	0.00098	0.00087	0.01737	0.00065	0.00040	0.00034	0.00027	0.00025	0.00060
Iron	0.335	0.355	0.878	0.818	0.418	0.373	0.441	0.449	0.454	0.367	0.371	0.530
Lead	0.000047	0.000081	0.000450	0.000317	0.000192	0.000218	0.000154	0.000051	0.000046	0.000038	0.000037	0.000286
Lithium	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.03457	0.03023	0.04300	0.05030	0.01975	0.01820	0.02293	0.03090	0.02168	0.02939	0.03705	0.03996
Mercury	0.0000030	0.0000030	0.0000046	0.0000030	0.0000053	0.0000030	0.0000037	0.0000033	0.0000030	0.0000030	0.0000030	0.0000036
Molybdenum	0.000789	0.000825	0.000813	0.000689	0.000401	0.000494	0.000607	0.000759	0.000782	0.000752	0.000729	0.000683
Nickel	0.00025	0.00025	0.00067	0.00057	0.00045	0.00175	0.00039	0.00030	0.00025	0.00027	0.00025	0.00044
Selenium	0.000065	0.000035	0.000082	0.000064	0.000053	0.000052	0.000050	0.000051	0.000039	0.000042	0.000025	0.000049
Silver	0.000005	0.000005	0.000011	0.000009	0.000009	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008
Strontium	0.1031	0.1077	0.1009	0.0866	0.0482	0.0546	0.0726	0.0873	0.0975	0.0956	0.1018	0.0923
Thallium	0.000005	0.000005	0.000011	0.000011	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000008
Uranium	0.000255	0.000304	0.000299	0.000256	0.000155	0.000140	0.000119	0.000135	0.000130	0.000164	0.000204	0.000189
Vanadium	0.00059	0.00065	0.00163	0.00212	0.00118	0.00097	0.00104	0.00091	0.00075	0.00061	0.00047	0.00083
Zinc	0.0062	0.0015	0.0037	0.0039	0.0021	0.0019	0.0023	0.0015	0.0015	0.0015	0.0015	0.0029
Dissolved Metals												
Aluminum	0.0120	0.0092	0.0338	0.0292	0.1176	0.1717	0.1283	0.0341	0.0485	0.0166	0.0191	0.0553
Cadmium	0.0000057	0.0000038	0.0000039	0.0000030	0.0000035	0.0000043	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000039
Copper	0.00039	0.00030	0.00035	0.00032	0.00061	0.00057	0.00048	0.00033	0.00031	0.00027	0.00020	0.00030
Iron	0.111	0.106	0.107	0.111	0.116	0.169	0.167	0.272	0.287	0.241	0.236	0.164
Manganese	0.02423	0.02297	0.02207	0.02350	0.00821	0.01197	0.01273	0.01718	0.01713	0.02191	0.03268	0.02953
Zinc	0.0040	0.0051	0.0046	0.0011	0.0012	0.0009	0.0005	0.0005	0.0005	0.0006	0.0005	0.0007

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ7 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4E: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–05 in Creek 661

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.42	0.27	0.32	0.37	0.29	0.27	0.33	0.28	0.22	0.27	0.28	0.32
Fluoride	0.070	0.061	0.061	0.063	0.055	0.066	0.059	0.048	0.053	0.053	0.054	0.076
Sulphate	3.38	3.35	3.05	3.01	3.90	3.00	2.13	2.41	2.34	3.04	3.45	4.70
Nutrients												
Ammonia-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate-N	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nitrite-N	0.002	0.001	0.002	0.0039	0.002	0.003	0.0023	0.001	0.002	0.002	0.002	0.002
Total Phosphorous	0.019	0.020	0.023	0.023	0.026	0.015	0.005	0.022	0.022	0.010	0.019	0.019
Ortho-Phosphorus	0.006	0.004	0.008	0.012	0.009	0.004	0.005	0.004	0.002	0.003	0.003	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0566	0.0418	0.0881	0.1347	0.2629	0.2045	0.0827	0.0656	0.0556	0.0734	0.0761	0.0704
Antimony	0.00035	0.00034	0.00034	0.00039	0.00061	0.00061	0.00042	0.00042	0.00037	0.00039	0.00044	0.00034
Arsenic	0.00066	0.00119	0.00123	0.00134	0.00123	0.00107	0.00088	0.00120	0.00082	0.00084	0.00103	0.00069
Barium	0.00718	0.00484	0.00628	0.00776	0.00474	0.00359	0.00419	0.00463	0.00522	0.00414	0.00441	0.00546
Beryllium	0.000065	0.000065	0.000065	0.000069	0.000078	0.000079	0.000070	0.000069	0.000068	0.000068	0.000070	0.000066
Boron	0.002	0.006	0.005	0.005	0.008	0.004	0.003	0.007	0.002	0.007	0.005	0.003
Cadmium	0.0001103	0.0000140	0.0000144	0.0000152	0.0000312	0.0000208	0.0000166	0.0000178	0.0000155	0.0000158	0.0000228	0.0000264
Chromium	0.00015	0.00030	0.00029	0.00027	0.00047	0.00015	0.00019	0.00032	0.00023	0.00015	0.00034	0.00015
Cobalt	0.00011	0.00010	0.00010	0.00010	0.00014	0.00013	0.00009	0.00011	0.00009	0.00009	0.00010	0.00009
Copper	0.00054	0.00029	0.00046	0.00064	0.00069	0.00033	0.00050	0.00037	0.00035	0.00025	0.00041	0.00044
Iron	0.371	0.171	0.170	0.169	0.223	0.112	0.103	0.193	0.208	0.121	0.166	0.185
Lead	0.000354	0.000034	0.000153	0.000274	0.000096	0.000042	0.000037	0.000036	0.000035	0.000036	0.000037	0.000076
Lithium	0.0011	0.0011	0.0011	0.0012	0.0015	0.0016	0.0013	0.0012	0.0012	0.0012	0.0013	0.0011
Manganese	0.02738	0.02009	0.01946	0.02002	0.02515	0.01776	0.01427	0.01868	0.01322	0.01336	0.02064	0.02196
Mercury	0.0000037	0.0000037	0.0000037	0.0000040	0.0000088	0.0000049	0.0000041	0.0000040	0.0000039	0.0000040	0.0000063	0.0000045
Molybdenum	0.000371	0.000796	0.000556	0.000349	0.000516	0.000450	0.000388	0.000595	0.000520	0.000392	0.000431	0.000393
Nickel	0.00029	0.00032	0.00036	0.00041	0.00039	0.00034	0.00031	0.00034	0.00025	0.00019	0.00035	0.00028
Selenium	0.000312	0.000041	0.000054	0.000070	0.000085	0.000322	0.000194	0.000074	0.000111	0.000315	0.000206	0.000190
Silver	0.000026	0.000007	0.000017	0.000027	0.000022	0.000027	0.000027	0.000007	0.000027	0.000027	0.000021	0.000026
Strontium	0.0725	0.0673	0.0576	0.0487	0.0321	0.0313	0.0405	0.0472	0.0591	0.0453	0.0494	0.0609
Thallium	0.000030	0.000011	0.000021	0.000032	0.000016	0.000035	0.000032	0.000012	0.000031	0.000031	0.000022	0.000031
Uranium	0.000067	0.000096	0.000087	0.000080	0.000141	0.000118	0.000079	0.000102	0.000077	0.000070	0.000084	0.000056
Vanadium	0.00037	0.00098	0.00062	0.00029	0.00117	0.00056	0.00070	0.00094	0.00050	0.00041	0.00065	0.00059
Zinc	0.0280	0.0018	0.0024	0.0030	0.0050	0.0020	0.0019	0.0036	0.0020	0.0029	0.0021	0.0012
Dissolved Metals												
Aluminum	0.0467	0.0317	0.0749	0.1183	0.1687	0.1915	0.0753	0.0539	0.0427	0.0575	0.0618	0.2196
Cadmium	0.0000631	0.0000093	0.0000120	0.0000152	0.0000238	0.0000208	0.0000166	0.0000166	0.0000155	0.0000158	0.0000193	0.0000148
Copper	0.00054	0.00029	0.00046	0.00064	0.00064	0.00033	0.00038	0.00030	0.00035	0.00010	0.00028	0.00044
Iron	0.178	0.129	0.144	0.159	0.129	0.091	0.101	0.151	0.107	0.104	0.119	0.112
Manganese	0.02482	0.01637	0.01659	0.01802	0.01790	0.01583	0.01290	0.01464	0.01271	0.01252	0.01448	0.01542
Zinc	0.0127	0.0039	0.0034	0.0030	0.0039	0.0020	0.0019	0.0024	0.0020	0.0019	0.0024	0.0006

Appendix E-4E: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–05 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.25	0.25	0.25	0.44	0.49	0.25	0.25	0.25	0.25	0.84	0.33	0.25
Fluoride	0.058	0.061	0.059	0.048	0.038	0.048	0.056	0.054	0.058	0.059	0.053	0.058
Sulphate	1.35	1.31	1.33	1.62	1.25	0.85	0.93	0.87	1.08	1.56	1.22	1.30
Nutrients												
Ammonia-N	0.0025	0.0036	0.0025	0.0035	0.0049	0.0076	0.0031	0.0025	0.0025	0.0041	0.0036	0.0106
Nitrate-N	0.0579	0.0598	0.0553	0.0406	0.0191	0.0025	0.0025	0.0093	0.0083	0.0088	0.0392	0.0552
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005	0.0015	0.0005	0.0005
Total Phosphorous	0.051	0.053	0.061	0.066	0.045	0.041	0.046	0.050	0.051	0.051	0.062	0.056
Ortho-Phosphorus	0.039	0.040	0.040	0.033	0.019	0.024	0.030	0.036	0.038	0.038	0.036	0.039
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0964	0.0882	0.7138	0.5690	0.6067	0.2963	0.1134	0.0657	0.0390	0.0769	0.8980	0.2007
Antimony	0.00005	0.00005	0.00009	0.00008	0.00009	0.00007	0.00005	0.00005	0.00005	0.00005	0.00008	0.00005
Arsenic	0.00129	0.00134	0.00164	0.00143	0.00111	0.00119	0.00128	0.00153	0.00149	0.00138	0.00173	0.00134
Barium	0.00544	0.00549	0.01031	0.00889	0.00866	0.00676	0.00587	0.00594	0.00536	0.00513	0.01164	0.00609
Beryllium	0.000010	0.000010	0.000029	0.000028	0.000035	0.000018	0.000010	0.000010	0.000010	0.000010	0.000037	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000080	0.0000116	0.0000099	0.0000063	0.0000051	0.0000030	0.0000030	0.0000030	0.0000086	0.0000064
Chromium	0.00092	0.00101	0.00134	0.00126	0.00106	0.00091	0.00084	0.00081	0.00078	0.00080	0.00140	0.00105
Cobalt	0.00005	0.00005	0.00021	0.00017	0.00016	0.00011	0.00005	0.00005	0.00005	0.00005	0.00028	0.00006
Copper	0.00025	0.00025	0.00085	0.00069	0.00094	0.00052	0.00025	0.00025	0.00025	0.00025	0.00090	0.00025
Iron	0.165	0.167	0.655	0.611	0.569	0.319	0.212	0.179	0.161	0.185	0.857	0.266
Lead	0.000039	0.000043	0.000390	0.000378	0.000261	0.000129	0.000049	0.000025	0.000025	0.000042	0.000467	0.000096
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005
Manganese	0.00943	0.01216	0.01933	0.02433	0.01747	0.01397	0.01304	0.01243	0.01293	0.01209	0.02706	0.01310
Mercury	0.0000030	0.0000030	0.0000030	0.0000048	0.0000046	0.0000038	0.0000030	0.0000030	0.0000030	0.0000030	0.0000055	0.0000030
Molybdenum	0.000878	0.000921	0.000898	0.000657	0.000446	0.000602	0.000725	0.000902	0.000900	0.000831	0.000797	0.000881
Nickel	0.00025	0.00025	0.00053	0.00044	0.00040	0.00025	0.00025	0.00025	0.00025	0.00025	0.00079	0.00025
Selenium	0.000085	0.000094	0.000104	0.000107	0.000061	0.000083	0.000075	0.000058	0.000072	0.000079	0.000072	0.000081
Silver	0.000005	0.000015	0.000008	0.000011	0.000010	0.000005	0.000005	0.000005	0.000005	0.000005	0.000010	0.000005
Strontium	0.0852	0.0861	0.0840	0.0672	0.0552	0.0643	0.0749	0.0883	0.0876	0.0851	0.0800	0.0854
Thallium	0.000005	0.000005	0.000008	0.000008	0.000007	0.000005	0.000005	0.000005	0.000005	0.000005	0.000013	0.000005
Uranium	0.000198	0.000246	0.000244	0.000225	0.000184	0.000161	0.000173	0.000213	0.000233	0.000199	0.000218	0.000218
Vanadium	0.00188	0.00218	0.00294	0.00262	0.00237	0.00211	0.00191	0.00197	0.00188	0.00189	0.00297	0.00222
Zinc	0.0015	0.0015	0.0028	0.0031	0.0025	0.0015	0.0021	0.0015	0.0015	0.0015	0.0036	0.0015
Dissolved Metals												
Aluminum	0.0161	0.0130	0.0337	0.0305	0.1213	0.0601	0.0307	0.0202	0.0128	0.0118	0.0294	0.0223
Cadmium	0.0000030	0.0000042	0.0000030	0.0000030	0.0000037	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000044
Copper	0.00010	0.00010	0.00010	0.00021	0.00051	0.00037	0.00027	0.00010	0.00010	0.00010	0.00013	0.00010
Iron	0.050	0.042	0.046	0.087	0.125	0.103	0.098	0.098	0.076	0.077	0.069	0.059
Manganese	0.00542	0.00510	0.00399	0.00352	0.00464	0.00530	0.00603	0.00830	0.00956	0.00747	0.00565	0.00604
Zinc	0.0006	0.0007	0.0005	0.0005	0.0005	0.0005	0.0011	0.0018	0.0016	0.0007	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ26 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4F: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–10 in Creek 661

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.42	0.27	0.32	0.37	0.27	0.25	0.32	0.27	0.22	0.27	0.27	0.32
Fluoride	0.073	0.064	0.063	0.060	0.045	0.056	0.056	0.047	0.052	0.053	0.053	0.078
Sulphate	3.66	3.63	3.34	2.63	2.65	1.71	1.71	2.20	2.27	2.98	3.25	4.90
Nutrients												
Ammonia-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate-N	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nitrite-N	0.002	0.001	0.003	0.0038	0.001	0.002	0.0021	0.001	0.002	0.002	0.002	0.002
Total Phosphorous	0.019	0.020	0.023	0.023	0.026	0.015	0.005	0.022	0.022	0.010	0.019	0.019
Ortho-Phosphorus	0.006	0.004	0.008	0.012	0.009	0.004	0.005	0.004	0.002	0.003	0.003	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0565	0.0418	0.0881	0.1349	0.2637	0.2053	0.0830	0.0656	0.0555	0.0736	0.0761	0.0703
Antimony	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00074	0.00126	0.00130	0.00124	0.00091	0.00074	0.00077	0.00114	0.00080	0.00082	0.00098	0.00074
Barium	0.00723	0.00490	0.00634	0.00768	0.00449	0.00330	0.00409	0.00458	0.00521	0.00413	0.00436	0.00550
Beryllium	0.000068	0.000068	0.000069	0.000064	0.000065	0.000066	0.000066	0.000067	0.000067	0.000068	0.000068	0.000068
Boron	0.002	0.007	0.006	0.004	0.006	0.002	0.002	0.007	0.002	0.007	0.005	0.003
Cadmium	0.0001114	0.0000154	0.0000158	0.0000140	0.0000252	0.0000146	0.0000146	0.0000168	0.0000151	0.0000155	0.0000222	0.0000273
Chromium	0.00015	0.00030	0.00029	0.00027	0.00047	0.00015	0.00019	0.00032	0.00023	0.00015	0.00034	0.00015
Cobalt	0.00012	0.00011	0.00011	0.00009	0.00010	0.00009	0.00007	0.00010	0.00008	0.00009	0.00010	0.00010
Copper	0.00054	0.00030	0.00047	0.00063	0.00066	0.00029	0.00049	0.00037	0.00034	0.00025	0.00040	0.00045
Iron	0.370	0.170	0.170	0.170	0.223	0.112	0.104	0.193	0.208	0.121	0.166	0.185
Lead	0.000354	0.000036	0.000155	0.000272	0.000089	0.000034	0.000034	0.000035	0.000035	0.000035	0.000036	0.000077
Lithium	0.0012	0.0012	0.0012	0.0010	0.0010	0.0011	0.0011	0.0011	0.0011	0.0012	0.0012	0.0012
Manganese	0.02870	0.02142	0.02083	0.01818	0.01928	0.01160	0.01224	0.01767	0.01287	0.01308	0.01971	0.02294
Mercury	0.0000040	0.0000040	0.0000040	0.0000037	0.0000078	0.0000038	0.0000038	0.0000038	0.0000039	0.0000039	0.0000061	0.0000047
Molybdenum	0.000408	0.000832	0.000593	0.000299	0.000354	0.000282	0.000333	0.000568	0.000510	0.000385	0.000405	0.000420
Nickel	0.00030	0.00034	0.00037	0.00039	0.00032	0.00027	0.00028	0.00033	0.00025	0.00019	0.00034	0.00029
Selenium	0.000315	0.000045	0.000058	0.000066	0.000071	0.000313	0.000190	0.000071	0.000110	0.000314	0.000204	0.000192
Silver	0.000027	0.000007	0.000017	0.000026	0.000020	0.000026	0.000026	0.000007	0.000026	0.000027	0.000021	0.000027
Strontium	0.0732	0.0681	0.0584	0.0476	0.0284	0.0275	0.0393	0.0466	0.0589	0.0452	0.0489	0.0615
Thallium	0.000031	0.000012	0.000022	0.000030	0.000010	0.000031	0.000031	0.000011	0.000031	0.000031	0.000022	0.000031
Uranium	0.000070	0.000099	0.000090	0.000076	0.000128	0.000103	0.000074	0.000100	0.000077	0.000070	0.000081	0.000058
Vanadium	0.00040	0.00101	0.00065	0.00024	0.00103	0.00041	0.00065	0.00092	0.00049	0.00040	0.00062	0.00061
Zinc	0.0280	0.0019	0.0024	0.0029	0.0048	0.0017	0.0018	0.0035	0.0019	0.0028	0.0020	0.0012
Dissolved Metals												
Aluminum	0.0466	0.0317	0.0748	0.1185	0.1692	0.1922	0.0755	0.0539	0.0427	0.0577	0.0618	0.2193
Cadmium	0.0000643	0.0000107	0.0000134	0.0000140	0.0000176	0.0000146	0.0000146	0.0000156	0.0000151	0.0000155	0.0000187	0.0000158
Copper	0.00054	0.00030	0.00047	0.00063	0.00061	0.00029	0.00037	0.00029	0.00034	0.00010	0.00027	0.00045
Iron	0.177	0.129	0.144	0.159	0.129	0.092	0.101	0.151	0.107	0.104	0.119	0.111
Manganese	0.02615	0.01772	0.01798	0.01617	0.01187	0.00963	0.01087	0.01361	0.01236	0.01225	0.01353	0.01641
Zinc	0.0128	0.0039	0.0035	0.0029	0.0036	0.0017	0.0018	0.0023	0.0019	0.0019	0.0023	0.0007

Appendix E-4F: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–10 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.41	0.67	0.42	0.80	0.38	0.25	0.37	0.43	0.52	0.78	0.75	0.61
Fluoride	0.043	0.051	0.054	0.043	0.034	0.038	0.043	0.047	0.047	0.046	0.046	0.042
Sulphate	2.38	2.79	2.37	3.97	2.06	1.28	1.72	1.05	1.26	1.93	2.38	2.71
Nutrients												
Ammonia-N	0.0078	0.0143	0.0059	0.0053	0.0065	0.0052	0.0099	0.0141	0.0112	0.0066	0.0063	0.0111
Nitrate-N	0.0570	0.0919	0.0741	0.0468	0.0136	0.0025	0.0061	0.0261	0.0134	0.0039	0.0132	0.0594
Nitrite-N	0.0006	0.0010	0.0005	0.0005	0.0005	0.0005	0.0008	0.0009	0.0012	0.0006	0.0005	0.0009
Total Phosphorous	0.021	0.027	0.025	0.035	0.027	0.026	0.034	0.059	0.044	0.025	0.022	0.020
Ortho-Phosphorus	0.012	0.013	0.014	0.011	0.004	0.008	0.015	0.037	0.021	0.010	0.011	0.009
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0621	0.0843	0.1712	0.4341	0.3443	0.1577	0.1347	0.1464	0.0986	0.0923	0.0661	0.0769
Antimony	0.00005	0.00008	0.00007	0.00008	0.00006	0.00009	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00084	0.00100	0.00101	0.00114	0.00082	0.00100	0.00168	0.00292	0.00222	0.00124	0.00095	0.00082
Barium	0.00539	0.00590	0.00610	0.00765	0.00514	0.00481	0.00609	0.00712	0.00658	0.00556	0.00482	0.00542
Beryllium	0.000010	0.000010	0.000010	0.000024	0.000026	0.000019	0.000020	0.000029	0.000021	0.000013	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000134	0.0000215	0.0000169	0.0000219	0.0000204	0.0000211	0.0000328	0.0000477	0.0000367	0.0000197	0.0000128	0.0000152
Chromium	0.00037	0.00048	0.00037	0.00059	0.00044	0.00032	0.00061	0.00086	0.00072	0.00039	0.00025	0.00025
Cobalt	0.00005	0.00010	0.00011	0.00015	0.00009	0.00005	0.00008	0.00015	0.00016	0.00010	0.00007	0.00010
Copper	0.00025	0.00046	0.00037	0.00071	0.00076	0.00062	0.00067	0.00080	0.00071	0.00037	0.00031	0.00041
Iron	0.167	0.267	0.255	0.431	0.307	0.227	0.378	0.847	0.671	0.356	0.265	0.223
Lead	0.000025	0.000057	0.000113	0.000235	0.000142	0.000054	0.000038	0.000054	0.000025	0.000049	0.000025	0.000032
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01498	0.02406	0.01912	0.02088	0.01615	0.01104	0.01733	0.02247	0.03908	0.02642	0.01889	0.02074
Mercury	0.0000030	0.0000030	0.0000030	0.0000041	0.0000059	0.0000036	0.0000030	0.0000059	0.0000040	0.0000030	0.0000030	0.0000030
Molybdenum	0.000592	0.000613	0.000641	0.000451	0.000250	0.000362	0.000557	0.000856	0.000796	0.000610	0.000517	0.000518
Nickel	0.00025	0.00025	0.00025	0.00038	0.00029	0.00025	0.00035	0.00063	0.00053	0.00027	0.00025	0.00025
Selenium	0.000037	0.000043	0.000025	0.000063	0.000051	0.000056	0.000103	0.000136	0.000092	0.000054	0.000033	0.000035
Silver	0.000005	0.000007	0.000005	0.000014	0.000014	0.000005	0.000011	0.000014	0.000010	0.000006	0.000005	0.000005
Strontium	0.0699	0.0678	0.0695	0.0563	0.0325	0.0418	0.0566	0.0709	0.0710	0.0650	0.0619	0.0665
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000101	0.000119	0.000116	0.000131	0.000131	0.000118	0.000147	0.000200	0.000147	0.000111	0.000096	0.000084
Vanadium	0.00089	0.00101	0.00107	0.00152	0.00121	0.00116	0.00135	0.00182	0.00141	0.00100	0.00080	0.00081
Zinc	0.0027	0.0051	0.0031	0.0051	0.0048	0.0051	0.0062	0.0067	0.0055	0.0035	0.0025	0.0029
Dissolved Metals												
Aluminum	0.0261	0.0301	0.0282	0.0982	0.1564	0.0920	0.0865	0.1022	0.0742	0.0485	0.0465	0.0380
Cadmium	0.0000101	0.0000158	0.0000071	0.0000116	0.0000111	0.0000160	0.0000234	0.0000383	0.0000312	0.0000148	0.0000106	0.0000134
Copper	0.00015	0.00036	0.00015	0.00039	0.00064	0.00058	0.00064	0.00077	0.00062	0.00036	0.00026	0.00034
Iron	0.097	0.126	0.078	0.143	0.139	0.138	0.275	0.709	0.477	0.221	0.165	0.134
Manganese	0.01069	0.01542	0.00981	0.00889	0.00622	0.00529	0.00862	0.01290	0.01712	0.01114	0.01034	0.01317
Zinc	0.0025	0.0047	0.0023	0.0026	0.0033	0.0038	0.0059	0.0063	0.0051	0.0029	0.0025	0.0029

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ26 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4G: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–20 in Creek 661

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.41	0.26	0.31	0.36	0.26	0.24	0.31	0.26	0.21	0.26	0.26	0.31
Fluoride	0.064	0.055	0.054	0.054	0.039	0.049	0.048	0.038	0.044	0.044	0.044	0.069
Sulphate	2.51	2.50	2.15	1.77	1.78	0.74	0.70	1.13	1.18	1.83	2.07	3.74
Nutrients												
Ammonia-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate-N	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nitrite-N	0.002	0.001	0.002	0.0034	0.001	0.002	0.0017	0.001	0.002	0.002	0.001	0.002
Total Phosphorous	0.019	0.020	0.023	0.023	0.026	0.015	0.005	0.022	0.022	0.010	0.019	0.019
Ortho-Phosphorus	0.006	0.004	0.008	0.012	0.009	0.004	0.005	0.004	0.002	0.003	0.003	0.003
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0568	0.0420	0.0886	0.1353	0.2643	0.2061	0.0833	0.0659	0.0558	0.0738	0.0765	0.0708
Antimony	0.00016	0.00016	0.00015	0.00013	0.00015	0.00013	0.00012	0.00015	0.00013	0.00013	0.00014	0.00013
Arsenic	0.00043	0.00097	0.00100	0.00102	0.00068	0.00049	0.00052	0.00087	0.00052	0.00052	0.00067	0.00043
Barium	0.00701	0.00465	0.00609	0.00752	0.00429	0.00307	0.00386	0.00434	0.00497	0.00386	0.00410	0.00525
Beryllium	0.000056	0.000056	0.000055	0.000055	0.000055	0.000055	0.000055	0.000055	0.000055	0.000055	0.000055	0.000055
Boron	0.001	0.006	0.004	0.003	0.006	0.001	0.001	0.006	0.001	0.006	0.004	0.002
Cadmium	0.0001070	0.0000098	0.0000099	0.0000096	0.0000210	0.0000097	0.0000097	0.0000116	0.0000098	0.0000099	0.0000165	0.0000217
Chromium	0.00015	0.00030	0.00029	0.00027	0.00047	0.00015	0.00019	0.00032	0.00023	0.00015	0.00034	0.00015
Cobalt	0.00008	0.00007	0.00006	0.00006	0.00007	0.00006	0.00004	0.00007	0.00005	0.00005	0.00006	0.00006
Copper	0.00051	0.00027	0.00044	0.00061	0.00064	0.00026	0.00046	0.00034	0.00031	0.00021	0.00037	0.00041
Iron	0.373	0.171	0.171	0.170	0.224	0.113	0.104	0.195	0.209	0.122	0.167	0.186
Lead	0.000351	0.000028	0.000149	0.000269	0.000084	0.000028	0.000028	0.000028	0.000028	0.000028	0.000028	0.000070
Lithium	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Manganese	0.02330	0.01604	0.01514	0.01411	0.01515	0.00698	0.00745	0.01259	0.00765	0.00751	0.01408	0.01733
Mercury	0.0000030	0.0000030	0.0000029	0.0000029	0.0000071	0.0000029	0.0000029	0.0000029	0.0000029	0.0000029	0.0000051	0.0000037
Molybdenum	0.000257	0.000690	0.000440	0.000187	0.000241	0.000157	0.000204	0.000432	0.000371	0.000235	0.000251	0.000266
Nickel	0.00024	0.00028	0.00031	0.00034	0.00028	0.00022	0.00023	0.00028	0.00019	0.00013	0.00028	0.00022
Selenium	0.000305	0.000031	0.000044	0.000056	0.000061	0.000304	0.000180	0.000059	0.000098	0.000304	0.000192	0.000180
Silver	0.000025	0.000006	0.000016	0.000025	0.000019	0.000025	0.000025	0.000006	0.000025	0.000025	0.000020	0.000025
Strontium	0.0702	0.0651	0.0551	0.0451	0.0257	0.0245	0.0363	0.0435	0.0559	0.0418	0.0455	0.0582
Thallium	0.000027	0.000007	0.000017	0.000027	0.000007	0.000027	0.000027	0.000007	0.000027	0.000027	0.000017	0.000027
Uranium	0.000056	0.000086	0.000076	0.000066	0.000118	0.000092	0.000062	0.000087	0.000064	0.000056	0.000067	0.000044
Vanadium	0.00026	0.00088	0.00051	0.00014	0.00093	0.00029	0.00053	0.00080	0.00036	0.00026	0.00048	0.00047
Zinc	0.0281	0.0016	0.0022	0.0027	0.0046	0.0015	0.0016	0.0033	0.0017	0.0026	0.0018	0.0009
Dissolved Metals												
Aluminum	0.0469	0.0318	0.0753	0.1188	0.1696	0.1930	0.0758	0.0542	0.0429	0.0578	0.0621	0.2207
Cadmium	0.0000592	0.0000051	0.0000075	0.0000096	0.0000133	0.0000097	0.0000097	0.0000104	0.0000098	0.0000099	0.0000129	0.0000100
Copper	0.00051	0.00027	0.00044	0.00061	0.00059	0.00026	0.00034	0.00026	0.00031	0.00007	0.00024	0.00041
Iron	0.178	0.130	0.145	0.160	0.130	0.092	0.101	0.152	0.108	0.105	0.120	0.112
Manganese	0.02071	0.01229	0.01225	0.01209	0.00767	0.00498	0.00606	0.00849	0.00713	0.00667	0.00782	0.01072
Zinc	0.0127	0.0037	0.0032	0.0027	0.0035	0.0015	0.0016	0.0021	0.0017	0.0016	0.0021	0.0004

Appendix E-4G: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for 661–20 in Creek 661

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.25	0.25	0.25	0.39	0.50	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Fluoride	0.056	0.060	0.068	0.059	0.047	0.051	0.058	0.063	0.067	0.058	0.059	0.060
Sulphate	2.48	2.84	2.62	3.50	2.76	1.37	1.49	1.78	2.23	1.61	2.51	2.31
Nutrients												
Ammonia-N	0.0074	0.0037	0.0025	0.0118	0.0056	0.0025	0.0058	0.0123	0.0168	0.0025	0.0025	0.0093
Nitrate-N	0.0783	0.0660	0.0517	0.0310	0.1574	0.0025	0.0025	0.0064	0.0025	0.0025	0.0135	0.0454
Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0010	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Phosphorous	0.029	0.028	0.024	0.052	0.049	0.027	0.028	0.029	0.027	0.024	0.026	0.027
Ortho-Phosphorus	0.023	0.023	0.023	0.032	0.008	0.016	0.016	0.020	0.025	0.017	0.018	0.017
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0228	0.0234	0.0228	0.1590	0.3698	0.2170	0.0684	0.0305	0.0157	0.0163	0.0356	0.0234
Antimony	0.00005	0.00005	0.00005	0.00009	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00093	0.00092	0.00087	0.00089	0.00118	0.00120	0.00118	0.00114	0.00118	0.00104	0.00094	0.00084
Barium	0.00701	0.00699	0.00670	0.00737	0.00887	0.00899	0.00778	0.00772	0.00829	0.00674	0.00711	0.00728
Beryllium	0.000010	0.000010	0.000010	0.000010	0.000023	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000030	0.0000063	0.0000165	0.0000104	0.0000040	0.0000030	0.0000030	0.0000030	0.0000045	0.0000030
Chromium	0.00025	0.00025	0.00025	0.00025	0.00074	0.00064	0.00025	0.00025	0.00025	0.00025	0.00028	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00005	0.00020	0.00012	0.00005	0.00005	0.00005	0.00005	0.00006	0.00005
Copper	0.00025	0.00025	0.00025	0.00038	0.00086	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Iron	0.185	0.141	0.128	0.236	0.585	0.408	0.207	0.128	0.081	0.149	0.169	0.131
Lead	0.000025	0.000025	0.000025	0.000025	0.000154	0.000114	0.000025	0.000025	0.000025	0.000025	0.000033	0.000025
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.00713	0.00659	0.00570	0.00811	0.04385	0.03330	0.01077	0.00691	0.00843	0.00708	0.01191	0.00924
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000057	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000928	0.000990	0.000968	0.000896	0.000707	0.000933	0.000930	0.001190	0.001210	0.000950	0.000967	0.000964
Nickel	0.00025	0.00025	0.00025	0.00025	0.00056	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000094	0.000072	0.000073	0.000061	0.000081	0.000101	0.000068	0.000068	0.000058	0.000056	0.000064	0.000060
Silver	0.000005	0.000005	0.000005	0.000005	0.000011	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.0971	0.1005	0.0941	0.0879	0.0662	0.0936	0.0939	0.1100	0.1150	0.1030	0.0976	0.1020
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000347	0.000403	0.000311	0.000308	0.000244	0.000327	0.000277	0.000352	0.000417	0.000271	0.000326	0.000348
Vanadium	0.00082	0.00076	0.00068	0.00097	0.00193	0.00160	0.00111	0.00089	0.00081	0.00070	0.00070	0.00065
Zinc	0.0015	0.0015	0.0015	0.0015	0.0030	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Dissolved Metals												
Aluminum	0.0101	0.0093	0.0081	0.0617	0.0881	0.0194	0.0374	0.0147	0.0062	0.0099	0.0091	0.0063
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000043	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00010	0.00010	0.00010	0.00035	0.00058	0.00031	0.00031	0.00023	0.00010	0.00010	0.00014	0.00010
Iron	0.127	0.088	0.086	0.127	0.163	0.110	0.149	0.116	0.057	0.109	0.087	0.083
Manganese	0.00402	0.00385	0.00289	0.00416	0.00748	0.00525	0.00547	0.00412	0.00551	0.00431	0.00385	0.00472
Zinc	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ26 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.

Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4H: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for CC-10 in Chedakuz Creek

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.29	0.29	0.29	0.29	0.29	0.29	0.40	0.33	0.31	0.30	0.30	0.29
Fluoride	0.062	0.060	0.065	0.062	0.062	0.061	0.060	0.059	0.060	0.064	0.061	0.066
Sulphate	4.07	4.03	4.16	3.65	3.79	3.59	3.44	3.63	3.54	3.74	3.70	3.88
Nutrients												
Ammonia-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate-N	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Nitrite-N	0.001	0.003	0.001	0.0012	0.002	0.001	0.0014	0.001	0.001	0.001	0.002	0.002
Total Phosphorous	0.031	0.032	0.030	0.029	0.027	0.027	0.024	0.022	0.021	0.021	0.033	0.031
Ortho-Phosphorus	0.016	0.013	0.019	0.018	0.014	0.010	0.009	0.009	0.008	0.008	0.012	0.016
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0459	0.0433	0.0417	0.0398	0.0525	0.0682	0.0669	0.0587	0.0546	0.0524	0.0500	0.0480
Antimony	0.00007	0.00007	0.00007	0.00006	0.00007	0.00007	0.00007	0.00006	0.00006	0.00006	0.00006	0.00007
Arsenic	0.00062	0.00057	0.00057	0.00057	0.00063	0.00061	0.00058	0.00057	0.00057	0.00056	0.00059	0.00062
Barium	0.00630	0.00605	0.00584	0.00573	0.00588	0.00582	0.00565	0.00558	0.00609	0.00629	0.00599	0.00567
Beryllium	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051	0.000051
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000061	0.0000071	0.0000075	0.0000071	0.0000073	0.0000075	0.0000068	0.0000062	0.0000060	0.0000059	0.0000058	0.0000061
Chromium	0.00015	0.00015	0.00015	0.00015	0.00016	0.00020	0.00018	0.00016	0.00016	0.00016	0.00015	0.00016
Cobalt	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Copper	0.00029	0.00030	0.00029	0.00029	0.00034	0.00034	0.00031	0.00031	0.00031	0.00030	0.00030	0.00030
Iron	0.067	0.069	0.069	0.068	0.077	0.086	0.077	0.069	0.068	0.069	0.067	0.069
Lead	0.000039	0.000041	0.000041	0.000041	0.000073	0.000056	0.000048	0.000044	0.000042	0.000042	0.000040	0.000039
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01750	0.01645	0.01570	0.01442	0.01600	0.01507	0.01347	0.01289	0.01239	0.01226	0.05130	0.01848
Mercury	0.0000029	0.0000029	0.0000029	0.0000029	0.0000028	0.0000034	0.0000030	0.0000029	0.0000029	0.0000029	0.0000029	0.0000029
Molybdenum	0.000552	0.000590	0.000560	0.000521	0.000520	0.000519	0.000500	0.000529	0.000559	0.000555	0.000530	0.000545
Nickel	0.00025	0.00025	0.00025	0.00025	0.00026	0.00026	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000094	0.000098	0.000095	0.000094	0.000089	0.000076	0.000084	0.000088	0.000085	0.000085	0.000096	0.000097
Silver	0.000012	0.000012	0.000025	0.000015	0.000014	0.000015	0.000014	0.000013	0.000012	0.000012	0.000012	0.000012
Strontium	0.1060	0.1060	0.1020	0.0927	0.0985	0.0934	0.0911	0.0926	0.0969	0.0960	0.0957	0.1070
Thallium	0.000011	0.000011	0.000011	0.000015	0.000013	0.000015	0.000013	0.000011	0.000011	0.000011	0.000011	0.000011
Uranium	0.000090	0.000090	0.000090	0.000086	0.000085	0.000089	0.000088	0.000089	0.000090	0.000086	0.000090	0.000087
Vanadium	0.00031	0.00031	0.00031	0.00031	0.00030	0.00039	0.00033	0.00032	0.00033	0.00032	0.00031	0.00031
Zinc	0.0018	0.0022	0.0021	0.0021	0.0021	0.0023	0.0020	0.0019	0.0019	0.0019	0.0019	0.0019
Dissolved Metals												
Aluminum	0.0333	0.0323	0.0319	0.0307	0.0410	0.0434	0.0459	0.0404	0.0385	0.0372	0.0345	0.0326
Cadmium	0.0000068	0.0000073	0.0000072	0.0000069	0.0000075	0.0000079	0.0000075	0.0000074	0.0000071	0.0000069	0.0000069	0.0000068
Copper	0.00031	0.00031	0.00031	0.00030	0.00035	0.00035	0.00040	0.00034	0.00032	0.00032	0.00031	0.00031
Iron	0.044	0.044	0.044	0.044	0.056	0.051	0.046	0.042	0.043	0.043	0.043	0.045
Manganese	0.00445	0.00458	0.00459	0.00456	0.00531	0.00457	0.00496	0.00437	0.00440	0.00470	0.00453	0.00444
Zinc	0.0014	0.0013	0.0013	0.0015	0.0015	0.0018	0.0015	0.0014	0.0013	0.0013	0.0013	0.0012

Appendix E-4H: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for CC-10 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	-	0.25	-	-	0.25	-	-	0.25	-	0.25	0.25	0.25
Fluoride	-	0.060	-	-	0.061	-	-	0.055	-	0.056	0.059	0.064
Sulphate	-	3.87	-	-	3.74	-	-	3.54	-	3.21	3.63	4.17
Nutrients												
Ammonia-N	-	0.0048	-	-	0.0142	-	-	0.0060	-	0.0099	0.0886	0.0077
Nitrate-N	-	0.0928	-	-	0.0332	-	-	0.0025	-	0.0048	0.0344	0.0725
Nitrite-N	-	0.0010	-	-	0.0010	-	-	0.0005	-	0.0005	0.0007	0.0013
Total Phosphorous	-	0.027	-	-	0.046	-	-	0.011	-	0.068	0.077	0.026
Ortho-Phosphorus	-	0.016	-	-	0.006	-	-	0.001	-	0.002	0.006	0.013
Cyanides												
Total Cyanide	-	0.0025	-	-	0.0025	-	-	0.0025	-	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	-	0.0025	-	-	0.0025	-	-	0.0025	-	0.0025	0.0025	0.0025
Total Metals												
Aluminum	-	0.0015	-	-	0.1135	-	-	0.0057	-	0.2575	0.0693	0.0042
Antimony	-	0.00005	-	-	0.00005	-	-	0.00005	-	0.00005	0.00005	0.00005
Arsenic	-	0.00060	-	-	0.00062	-	-	0.00057	-	0.00064	0.00066	0.00056
Barium	-	0.00599	-	-	0.00724	-	-	0.00560	-	0.00963	0.00762	0.00609
Beryllium	-	0.000010	-	-	0.000010	-	-	0.000010	-	0.000021	0.000010	0.000010
Boron	-	0.005	-	-	0.005	-	-	0.005	-	0.005	0.005	0.005
Cadmium	-	0.0000030	-	-	0.0000042	-	-	0.0000030	-	0.0000068	0.0000035	0.0000030
Chromium	-	0.00025	-	-	0.00025	-	-	0.00025	-	0.00060	0.00033	0.00025
Cobalt	-	0.00005	-	-	0.00008	-	-	0.00005	-	0.00014	0.00007	0.00005
Copper	-	0.00025	-	-	0.00050	-	-	0.00025	-	0.00065	0.00046	0.00025
Iron	-	0.008	-	-	0.166	-	-	0.013	-	0.345	0.118	0.027
Lead	-	0.000025	-	-	0.000096	-	-	0.000025	-	0.000145	0.000058	0.000025
Lithium	-	0.0005	-	-	0.0005	-	-	0.0005	-	0.0005	0.0005	0.0005
Manganese	-	0.00324	-	-	0.04793	-	-	0.00940	-	0.03350	0.03143	0.00830
Mercury	-	0.0000030	-	-	0.0000030	-	-	0.0000030	-	0.0000037	0.0000030	0.0000030
Molybdenum	-	0.000647	-	-	0.000589	-	-	0.000609	-	0.000606	0.000615	0.000637
Nickel	-	0.00025	-	-	0.00037	-	-	0.00025	-	0.00060	0.00032	0.00025
Selenium	-	0.000077	-	-	0.000063	-	-	0.000070	-	0.000083	0.000069	0.000066
Silver	-	0.000005	-	-	0.000005	-	-	0.000005	-	0.000005	0.000005	0.000005
Strontium	-	0.1100	-	-	0.0990	-	-	0.0985	-	0.0990	0.1036	0.1080
Thallium	-	0.000005	-	-	0.000005	-	-	0.000005	-	0.000005	0.000005	0.000005
Uranium	-	0.000103	-	-	0.000126	-	-	0.000101	-	0.000120	0.000112	0.000098
Vanadium	-	0.00025	-	-	0.00059	-	-	0.00025	-	0.00119	0.00048	0.00025
Zinc	-	0.0015	-	-	0.0015	-	-	0.0015	-	0.0023	0.0015	0.0015
Dissolved Metals												
Aluminum	-	0.0005	-	-	0.0048	-	-	0.0019	-	0.0032	0.0016	0.0015
Cadmium	-	0.0000030	-	-	0.0000030	-	-	0.0000030	-	0.0000030	0.0000030	0.0000030
Copper	-	0.00028	-	-	0.00028	-	-	0.00029	-	0.00036	0.00030	0.00032
Iron	-	0.005	-	-	0.017	-	-	0.005	-	0.019	0.016	0.012
Manganese	-	0.00124	-	-	0.01643	-	-	0.00472	-	0.00597	0.01215	0.00286
Zinc	-	0.0005	-	-	0.0005	-	-	0.0005	-	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).
"-" indicates samples not collected for that month.
Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.
[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ8 in the water quality prediction model v.13e (Lorax 2022).
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4l: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for CC-15 in Chedakuz Creek

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.35	0.33	0.31	0.34	0.31	0.36	0.42	0.38	0.39	0.48	0.39	0.33
Fluoride	0.090	0.081	0.079	0.091	0.076	0.090	0.085	0.100	0.109	0.129	0.094	0.083
Sulphate	13.82	14.97	8.21	12.29	7.04	13.27	13.03	17.44	19.55	23.42	15.58	9.47
Nutrients												
Ammonia-N	0.08	0.05	0.04	0.07	0.05	0.04	0.03	0.03	0.06	0.09	0.06	0.04
Nitrate-N	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.4	0.5	0.4	0.2
Nitrite-N	0.003	0.003	0.002	0.0028	0.003	0.003	0.0018	0.002	0.004	0.005	0.004	0.003
Total Phosphorous	0.029	0.028	0.034	0.032	0.026	0.024	0.021	0.020	0.020	0.022	0.030	0.029
Ortho-Phosphorus	0.018	0.014	0.017	0.020	0.014	0.010	0.009	0.010	0.009	0.011	0.012	0.016
Cyanides												
Total Cyanide	0.0026	0.0026	0.0025	0.0026	0.0026	0.0026	0.0026	0.0025	0.0026	0.0027	0.0026	0.0026
Cyanide, Weak Acid Dissociable	0.0026	0.0026	0.0025	0.0026	0.0026	0.0026	0.0026	0.0025	0.0026	0.0027	0.0026	0.0026
Total Metals												
Aluminum	0.0420	0.0328	0.0449	0.0521	0.0938	0.0949	0.0841	0.0696	0.0588	0.0588	0.0567	0.0422
Antimony	0.00077	0.00100	0.00048	0.00122	0.00034	0.00056	0.00031	0.00056	0.00083	0.00131	0.00107	0.00063
Arsenic	0.00078	0.00074	0.00065	0.00085	0.00073	0.00065	0.00062	0.00068	0.00073	0.00084	0.00071	0.00067
Barium	0.00687	0.00713	0.00706	0.00687	0.00662	0.00663	0.00623	0.00630	0.00703	0.00738	0.00667	0.00644
Beryllium	0.000054	0.000055	0.000053	0.000054	0.000053	0.000054	0.000052	0.000053	0.000053	0.000054	0.000054	0.000054
Boron	0.007	0.007	0.006	0.008	0.007	0.006	0.006	0.007	0.008	0.010	0.008	0.006
Cadmium	0.0000091	0.0000114	0.0000097	0.0000137	0.0000079	0.0000092	0.0000082	0.0000080	0.0000100	0.0000135	0.0000118	0.0000092
Chromium	0.00027	0.00025	0.00023	0.00033	0.00026	0.00024	0.00021	0.00021	0.00023	0.00031	0.00026	0.00022
Cobalt	0.00014	0.00015	0.00010	0.00017	0.00012	0.00009	0.00008	0.00009	0.00013	0.00018	0.00013	0.00010
Copper	0.00029	0.00029	0.00029	0.00034	0.00041	0.00037	0.00039	0.00032	0.00031	0.00032	0.00030	0.00029
Iron	0.092	0.101	0.132	0.116	0.110	0.108	0.096	0.100	0.114	0.114	0.110	0.088
Lead	0.000052	0.000046	0.000043	0.000055	0.000065	0.000056	0.000044	0.000044	0.000055	0.000064	0.000054	0.000044
Lithium	0.0031	0.0032	0.0016	0.0027	0.0011	0.0035	0.0036	0.0045	0.0054	0.0068	0.0040	0.0022
Manganese	0.02832	0.02380	0.02011	0.02651	0.02274	0.02802	0.02551	0.02674	0.03721	0.03760	0.05323	0.02464
Mercury	0.0000039	0.0000043	0.0000034	0.0000047	0.0000037	0.0000040	0.0000036	0.0000037	0.0000039	0.0000045	0.0000043	0.0000038
Molybdenum	0.000868	0.000950	0.000768	0.000914	0.000747	0.000628	0.000573	0.000632	0.000764	0.000783	0.000758	0.000711
Nickel	0.00032	0.00034	0.00029	0.00035	0.00031	0.00031	0.00029	0.00031	0.00034	0.00040	0.00035	0.00031
Selenium	0.000091	0.000092	0.000137	0.000103	0.000084	0.000084	0.000082	0.000082	0.000079	0.000093	0.000088	0.000089
Silver	0.000010	0.000009	0.000021	0.000015	0.000014	0.000017	0.000013	0.000012	0.000011	0.000014	0.000012	0.000013
Strontium	0.1086	0.1096	0.1053	0.0947	0.0948	0.1018	0.0950	0.1043	0.1146	0.1118	0.1041	0.1069
Thallium	0.000014	0.000012	0.000015	0.000020	0.000014	0.000018	0.000013	0.000012	0.000018	0.000022	0.000017	0.000016
Uranium	0.000123	0.000141	0.000136	0.000151	0.000138	0.000127	0.000103	0.000109	0.000123	0.000128	0.000119	0.000115
Vanadium	0.00104	0.00103	0.00065	0.00105	0.00076	0.00119	0.00128	0.00151	0.00180	0.00217	0.00131	0.00080
Zinc	0.0019	0.0021	0.0020	0.0022	0.0020	0.0021	0.0019	0.0019	0.0021	0.0022	0.0020	0.0018
Dissolved Metals												
Aluminum	0.0044	0.0037	0.0029	0.0180	0.0553	0.0390	0.0290	0.0147	0.0162	0.0142	0.0208	0.0083
Cadmium	0.0000096	0.0000109	0.0000089	0.0000136	0.0000086	0.0000095	0.0000091	0.0000087	0.0000106	0.0000145	0.0000123	0.0000098
Copper	0.00030	0.00034	0.00029	0.00030	0.00038	0.00036	0.00040	0.00033	0.00032	0.00033	0.00031	0.00031
Iron	0.054	0.054	0.061	0.057	0.064	0.061	0.059	0.061	0.068	0.069	0.060	0.056
Manganese	0.02428	0.01941	0.01394	0.02115	0.01248	0.02019	0.01814	0.01976	0.03199	0.03259	0.02402	0.01736
Zinc	0.0015	0.0014	0.0015	0.0017	0.0016	0.0017	0.0014	0.0013	0.0014	0.0016	0.0014	0.0011

Appendix E-4I: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for CC-15 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.25	0.25	0.35	0.58	0.52	0.35	0.45	0.36	0.47	0.43	0.34	0.48
Fluoride	0.059	0.060	0.059	0.056	0.049	0.049	0.052	0.054	0.053	0.055	0.053	0.054
Sulphate	3.95	4.08	4.11	3.86	4.06	3.57	3.95	3.12	3.25	3.59	3.79	4.17
Nutrients												
Ammonia-N	0.0136	0.0108	0.0148	0.0227	0.0085	0.0069	0.0072	0.0091	0.0080	0.0393	0.0505	0.0169
Nitrate-N	0.0814	0.0851	0.0657	0.0278	0.0132	0.0030	0.0025	0.0034	0.0063	0.0063	0.0306	0.0676
Nitrite-N	0.0016	0.0014	0.0005	0.0005	0.0007	0.0005	0.0005	0.0005	0.0005	0.0007	0.0009	0.0013
Total Phosphorous	0.022	0.022	0.025	0.042	0.029	0.029	0.016	0.017	0.020	0.028	0.028	0.024
Ortho-Phosphorus	0.011	0.011	0.010	0.017	0.002	0.001	0.001	0.002	0.002	0.002	0.006	0.010
Cyanides												
Total Cyanide	0.0036	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0287	0.0119	0.1037	0.2847	0.3046	0.1688	0.1205	0.0554	0.0563	0.0501	0.0671	0.1209
Antimony	0.00005	0.00005	0.00009	0.00005	0.00006	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Arsenic	0.00062	0.00062	0.00069	0.00080	0.00080	0.00077	0.00077	0.00093	0.00073	0.00072	0.00069	0.00066
Barium	0.00788	0.00764	0.00868	0.01070	0.01017	0.00860	0.00857	0.00825	0.00892	0.00853	0.00859	0.00839
Beryllium	0.000010	0.000010	0.000010	0.000014	0.000014	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000042	0.0000048	0.0000053	0.0000047	0.0000030	0.0000043	0.0000039	0.0000034	0.0000030	0.0000041
Chromium	0.00025	0.00025	0.00025	0.00025	0.00040	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00013	0.00014	0.00006	0.00005	0.00008	0.00013	0.00008	0.00007	0.00010
Copper	0.00025	0.00025	0.00067	0.00073	0.00073	0.00062	0.00039	0.00036	0.00025	0.00029	0.00033	0.00036
Iron	0.136	0.111	0.229	0.420	0.399	0.225	0.206	0.216	0.249	0.244	0.248	0.224
Lead	0.000025	0.000025	0.000052	0.000121	0.000134	0.000063	0.000051	0.000025	0.000025	0.000031	0.000034	0.000081
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.02170	0.01907	0.02958	0.04825	0.03848	0.02365	0.02250	0.02790	0.02529	0.03201	0.03140	0.02850
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000034	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000725	0.000707	0.000705	0.000743	0.000633	0.000634	0.000671	0.000727	0.000760	0.000716	0.000700	0.000647
Nickel	0.00025	0.00025	0.00035	0.00035	0.00049	0.00025	0.00025	0.00025	0.00025	0.00027	0.00025	0.00025
Selenium	0.000068	0.000078	0.000066	0.000080	0.000071	0.000062	0.000061	0.000069	0.000074	0.000059	0.000058	0.000046
Silver	0.000005	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Strontium	0.1090	0.1078	0.1067	0.0968	0.0834	0.0902	0.0966	0.1009	0.1050	0.1037	0.1058	0.1025
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000126	0.000130	0.000158	0.000164	0.000139	0.000121	0.000111	0.000117	0.000125	0.000119	0.000128	0.000132
Vanadium	0.00037	0.00025	0.00075	0.00105	0.00111	0.00077	0.00056	0.00070	0.00060	0.00054	0.00042	0.00042
Zinc	0.0015	0.0015	0.0027	0.0015	0.0019	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Dissolved Metals												
Aluminum	0.0029	0.0022	0.0042	0.0154	0.0388	0.0265	0.0284	0.0113	0.0102	0.0087	0.0165	0.0096
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00030	0.00029	0.00036	0.00036	0.00051	0.00035	0.00038	0.00033	0.00032	0.00034	0.00030	0.00032
Iron	0.077	0.072	0.093	0.095	0.077	0.055	0.091	0.114	0.145	0.141	0.131	0.080
Manganese	0.01903	0.01757	0.02512	0.03337	0.01642	0.01210	0.01443	0.02002	0.01962	0.02712	0.02653	0.02118
Zinc	0.0005	0.0005	0.0011	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ9 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-4J: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for Cc-20 in Chedakuz Creek

Parameter	Predicted Concentration[a]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.34	0.33	0.31	0.34	0.30	0.36	0.41	0.37	0.39	0.47	0.38	0.33
Fluoride	0.088	0.080	0.078	0.090	0.076	0.089	0.084	0.099	0.108	0.127	0.092	0.082
Sulphate	13.33	14.33	8.08	12.01	6.97	13.02	12.76	16.93	19.14	22.90	15.07	9.27
Nutrients												
Ammonia-N	0.07	0.04	0.04	0.07	0.05	0.03	0.03	0.03	0.06	0.08	0.06	0.04
Nitrate-N	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.4	0.5	0.4	0.2
Nitrite-N	0.003	0.003	0.002	0.0027	0.003	0.003	0.0018	0.002	0.004	0.004	0.004	0.003
Total Phosphorous	0.029	0.028	0.033	0.031	0.026	0.024	0.021	0.020	0.020	0.022	0.029	0.028
Ortho-Phosphorus	0.018	0.014	0.016	0.019	0.014	0.010	0.009	0.010	0.009	0.011	0.012	0.016
Cyanides												
Total Cyanide	0.0026	0.0026	0.0025	0.0026	0.0026	0.0026	0.0026	0.0025	0.0026	0.0027	0.0026	0.0026
Cyanide, Weak Acid Dissociable	0.0026	0.0026	0.0025	0.0026	0.0026	0.0026	0.0026	0.0025	0.0026	0.0027	0.0026	0.0026
Total Metals												
Aluminum	0.0425	0.0324	0.0444	0.0524	0.0945	0.0942	0.0831	0.0685	0.0577	0.0578	0.0559	0.0415
Antimony	0.00073	0.00094	0.00047	0.00118	0.00033	0.00053	0.00031	0.00054	0.00081	0.00127	0.00102	0.00060
Arsenic	0.00077	0.00073	0.00065	0.00084	0.00073	0.00065	0.00062	0.00068	0.00073	0.00083	0.00071	0.00067
Barium	0.00690	0.00711	0.00709	0.00696	0.00663	0.00663	0.00625	0.00633	0.00705	0.00739	0.00672	0.00647
Beryllium	0.000054	0.000055	0.000052	0.000054	0.000053	0.000054	0.000052	0.000053	0.000053	0.000054	0.000054	0.000054
Boron	0.007	0.007	0.006	0.008	0.007	0.006	0.006	0.007	0.008	0.009	0.008	0.006
Cadmium	0.0000088	0.0000109	0.0000094	0.0000133	0.0000078	0.0000090	0.0000081	0.0000078	0.0000097	0.0000133	0.0000113	0.0000090
Chromium	0.00026	0.00024	0.00023	0.00033	0.00026	0.00024	0.00021	0.00021	0.00023	0.00031	0.00025	0.00021
Cobalt	0.00014	0.00015	0.00009	0.00017	0.00011	0.00009	0.00008	0.00009	0.00013	0.00018	0.00012	0.00010
Copper	0.00029	0.00029	0.00029	0.00034	0.00041	0.00037	0.00039	0.00033	0.00031	0.00032	0.00030	0.00029
Iron	0.100	0.104	0.134	0.118	0.112	0.108	0.096	0.101	0.118	0.119	0.115	0.090
Lead	0.000051	0.000045	0.000042	0.000055	0.000065	0.000055	0.000044	0.000044	0.000054	0.000062	0.000053	0.000044
Lithium	0.0030	0.0030	0.0016	0.0027	0.0011	0.0034	0.0035	0.0044	0.0053	0.0067	0.0039	0.0022
Manganese	0.02833	0.02351	0.02026	0.02689	0.02272	0.02777	0.02540	0.02684	0.03707	0.03756	0.05270	0.02464
Mercury	0.0000038	0.0000041	0.0000034	0.0000046	0.0000037	0.0000039	0.0000035	0.0000037	0.0000038	0.0000045	0.0000042	0.0000038
Molybdenum	0.000849	0.000929	0.000764	0.000907	0.000743	0.000624	0.000574	0.000632	0.000760	0.000778	0.000748	0.000707
Nickel	0.00032	0.00034	0.00029	0.00035	0.00031	0.00031	0.00028	0.00031	0.00033	0.00039	0.00034	0.00030
Selenium	0.000091	0.000091	0.000133	0.000101	0.000084	0.000084	0.000082	0.000081	0.000079	0.000093	0.000087	0.000088
Silver	0.000010	0.000009	0.000020	0.000015	0.000014	0.000017	0.000013	0.000011	0.000011	0.000014	0.000012	0.000013
Strontium	0.1086	0.1094	0.1052	0.0947	0.0945	0.1012	0.0948	0.1041	0.1142	0.1113	0.1038	0.1067
Thallium	0.000014	0.000012	0.000015	0.000020	0.000014	0.000018	0.000012	0.000012	0.000017	0.000021	0.000017	0.000016
Uranium	0.000123	0.000138	0.000135	0.000151	0.000137	0.000126	0.000103	0.000109	0.000122	0.000127	0.000118	0.000114
Vanadium	0.00101	0.00098	0.00064	0.00104	0.00076	0.00117	0.00126	0.00149	0.00176	0.00211	0.00126	0.00078
Zinc	0.0019	0.0020	0.0020	0.0022	0.0020	0.0021	0.0019	0.0019	0.0020	0.0021	0.0020	0.0018
Dissolved Metals												
Aluminum	0.0043	0.0036	0.0027	0.0179	0.0551	0.0375	0.0260	0.0146	0.0070	0.0119	0.0204	0.0083
Cadmium	0.0000093	0.0000103	0.0000087	0.0000132	0.0000085	0.0000093	0.0000089	0.0000085	0.0000103	0.0000141	0.0000118	0.0000095
Copper	0.00030	0.00033	0.00029	0.00030	0.00038	0.00036	0.00039	0.00033	0.00032	0.00033	0.00030	0.00031
Iron	0.055	0.055	0.061	0.057	0.065	0.061	0.059	0.062	0.071	0.070	0.062	0.057
Manganese	0.02407	0.01918	0.01401	0.02132	0.01244	0.01994	0.01805	0.01992	0.03184	0.03240	0.02417	0.01748
Zinc	0.0015	0.0014	0.0015	0.0017	0.0016	0.0017	0.0013	0.0013	0.0014	0.0015	0.0014	0.0011

Appendix E-4J: 2022 Model Predicted Surface Water Quality and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Water Quality for Cc-20 in Chedakuz Creek

Parameter	Observed Mean Concentration[b]											
	January	February	March	April	May	June	July	August	September	October	November	December
Dissolved Anions												
Chloride	0.25	0.36	0.25	0.58	0.46	0.35	0.41	0.35	0.46	0.41	0.34	0.46
Fluoride	0.059	0.069	0.056	0.053	0.049	0.052	0.052	0.055	0.053	0.054	0.054	0.053
Sulphate	4.09	4.92	4.18	4.44	4.01	3.80	3.86	3.09	3.15	3.47	3.70	4.17
Nutrients												
Ammonia-N	0.0106	0.0103	0.0083	0.0089	0.0080	0.0085	0.0082	0.0076	0.0072	0.0378	0.0479	0.0158
Nitrate-N	0.0816	0.0889	0.0461	0.0367	0.0111	0.0025	0.0025	0.0025	0.0025	0.0055	0.0298	0.0655
Nitrite-N	0.0006	0.0009	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0006	0.0011	0.0008
Total Phosphorous	0.021	0.020	0.026	0.027	0.029	0.018	0.017	0.017	0.017	0.023	0.024	0.021
Ortho-Phosphorus	0.009	0.010	0.008	0.009	0.002	0.001	0.001	0.002	0.002	0.002	0.005	0.009
Cyanides												
Total Cyanide	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0042	0.0025	0.0025	0.0037	0.0025	0.0025
Cyanide, Weak Acid Dissociable	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Metals												
Aluminum	0.0150	0.0420	0.0602	0.2592	0.2353	0.1293	0.1174	0.0414	0.0345	0.0399	0.0555	0.0978
Antimony	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00006
Arsenic	0.00058	0.00073	0.00065	0.00084	0.00073	0.00075	0.00077	0.00080	0.00073	0.00068	0.00066	0.00068
Barium	0.00773	0.00989	0.00776	0.01029	0.00927	0.00817	0.00864	0.00770	0.00861	0.00835	0.00863	0.00825
Beryllium	0.000017	0.000010	0.000010	0.000013	0.000012	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Boron	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Cadmium	0.0000030	0.0000030	0.0000030	0.0000039	0.0000048	0.0000033	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000033
Chromium	0.00025	0.00025	0.00025	0.00025	0.00029	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Cobalt	0.00005	0.00005	0.00005	0.00011	0.00010	0.00005	0.00005	0.00008	0.00012	0.00007	0.00007	0.00009
Copper	0.00025	0.00025	0.00025	0.00067	0.00058	0.00043	0.00037	0.00025	0.00025	0.00027	0.00025	0.00033
Iron	0.115	0.215	0.163	0.391	0.314	0.187	0.212	0.220	0.227	0.232	0.236	0.203
Lead	0.000025	0.000025	0.000025	0.000105	0.000092	0.000054	0.000046	0.000025	0.000025	0.000028	0.000033	0.000073
Lithium	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Manganese	0.01988	0.03900	0.02470	0.04588	0.03337	0.02520	0.02570	0.02960	0.02330	0.03146	0.03603	0.02646
Mercury	0.0000030	0.0000030	0.0000030	0.0000030	0.0000033	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum	0.000673	0.000840	0.000697	0.000678	0.000614	0.000628	0.000731	0.001005	0.000761	0.000712	0.000684	0.000658
Nickel	0.00025	0.00025	0.00025	0.00044	0.00037	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Selenium	0.000066	0.000079	0.000037	0.000068	0.000071	0.000080	0.000064	0.000055	0.000055	0.000049	0.000065	0.000051
Silver	0.000005	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005	0.000011	0.000005	0.000005	0.000005	0.000005
Strontium	0.1087	0.1316	0.1060	0.0935	0.0822	0.0905	0.0989	0.1004	0.1077	0.1046	0.1090	0.1031
Thallium	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Uranium	0.000125	0.000157	0.000146	0.000151	0.000127	0.000118	0.000110	0.000117	0.000120	0.000117	0.000126	0.000126
Vanadium	0.00025	0.00025	0.00041	0.00100	0.00090	0.00072	0.00066	0.00062	0.00051	0.00045	0.00041	0.00037
Zinc	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Dissolved Metals												
Aluminum	0.0022	0.0035	0.0046	0.0192	0.0351	0.0287	0.0288	0.0107	0.0093	0.0072	0.0125	0.0108
Cadmium	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000030	0.0000040	0.0000030	0.0000030	0.0000030	0.0000030
Copper	0.00032	0.00035	0.00032	0.00038	0.00047	0.00036	0.00039	0.00036	0.00034	0.00036	0.00035	0.00033
Iron	0.067	0.134	0.075	0.099	0.076	0.071	0.093	0.131	0.141	0.138	0.121	0.076
Manganese	0.01715	0.03527	0.02173	0.03178	0.01647	0.01537	0.01620	0.02293	0.01842	0.02690	0.02823	0.01980
Zinc	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Notes:
Concentrations in mg/L (unless otherwise noted).

Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases at WQ13 in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly concentration October 2022 to December 2025, Construction and Operations.
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-5 Surface Water Quality Nutrient Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Appendix E-5: Surface Water Quality Nutrient Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Site	Total Phosphorus Baseline Upper Limit of Trophic Range (mg/L)[a]	Nutrient Baseline Benchmark[a]											
		January	February	March	April	May	June	July	August	September	October	November	December
DC-05	Ammonia-N	0.0060	0.0030	0.0030	0.0030	0.0124	0.0030	0.0115	0.0068	0.0261	0.0030	0.0047	0.0074
	Nitrate-N	0.0437	0.0398	0.0505	0.0235	0.0030	0.0030	0.0041	0.1442	0.0030	0.0030	0.0073	0.0183
	Nitrite-N	0.0006	0.0006	0.0011	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
	Total Phosphorous	0.010	0.031	0.016	0.020	0.035	0.020	0.010	0.010	0.010	0.010	0.018	0.010
DC-15	Ammonia-N	0.0030	0.0030	0.0053	0.0068	0.0085	0.0091	0.0030	0.0063	0.0075	0.0089	0.0058	0.0059
	Nitrate-N	0.0431	0.0426	0.0716	0.0248	0.0040	0.0030	0.0030	0.0030	0.0030	0.0030	0.0091	0.0305
	Nitrite-N	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
	Total Phosphorous	0.010	0.032	0.010	0.020	0.035	0.020	0.010	0.010	0.010	0.034	0.010	0.010
661-05	Ammonia-N	0.0030	0.0104	0.0030	0.0030	0.0094	0.0095	0.0191	0.0118	0.0080	0.0030	0.0164	0.0173
	Nitrate-N	0.0670	0.0768	0.0587	0.0230	0.0267	0.0030	0.0067	0.0332	0.0221	0.0275	0.0343	0.0559
	Nitrite-N	0.0006	0.0016	0.0006	0.0006	0.0006	0.0006	0.0006	0.0013	0.0006	0.0006	0.0006	0.0006
	Total Phosphorous	0.066	0.070	0.067	0.057	0.074	0.035	0.068	0.100	0.073	0.066	0.071	0.070
661-10	Ammonia-N	0.0137	0.0160	0.0071	0.0030	0.0071	0.0065	0.0063	0.0084	0.0030	0.0030	0.0171	0.0127
	Nitrate-N	0.0446	0.0712	0.0395	0.0301	0.0627	0.0030	0.0068	0.0216	0.0120	0.0077	0.0135	0.0414
	Nitrite-N	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0015	0.0006	0.0006	0.0011	0.0006
	Total Phosphorous	0.035	0.056	0.031	0.020	0.056	0.035	0.035	0.057	0.035	0.035	0.035	0.032

Appendix E-5: Surface Water Quality Nutrient Baseline Benchmarks and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Site	Total Phosphorus Baseline Upper Limit of Trophic Range (mg/L)[a]	Observed Mean Concentration[b]											
		January	February	March	April	May	June	July	August	September	October	November	December
DC-05	Ammonia-N	0.0025	0.0025	0.0025	0.0035	0.0042	0.0037	0.0072	0.0087	0.0055	0.0044	0.0064	0.0067
	Nitrate-N	0.0810	0.0734	0.0516	0.0741	0.0638	0.0285	0.0310	0.0059	0.0133	0.0243	0.0504	0.0909
	Nitrite-N	0.0005	0.0005	0.0007	0.0007	0.0005	0.0008	0.0006	0.0005	0.0007	0.0008	0.0007	0.0005
	Total Phosphorous	0.013	0.020	0.025	0.022	0.034	0.021	0.019	0.018	0.009	0.013	0.013	0.011
DC-15	Ammonia-N	0.0025	0.0036	0.0025	0.0025	0.0035	0.0037	0.0081	0.0036	0.0072	0.0039	0.0032	0.0057
	Nitrate-N	0.0610	0.0608	0.0549	0.0466	0.0679	0.0383	0.0154	0.0025	0.0025	0.0033	0.0370	0.0669
	Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
	Total Phosphorous	0.009	0.008	0.013	0.014	0.032	0.021	0.015	0.011	0.007	0.007	0.009	0.012
661-05	Ammonia-N	0.0025	0.0036	0.0025	0.0035	0.0049	0.0076	0.0031	0.0025	0.0025	0.0041	0.0036	0.0106
	Nitrate-N	0.0579	0.0598	0.0553	0.0406	0.0191	0.0025	0.0025	0.0093	0.0083	0.0088	0.0392	0.0552
	Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005	0.0015	0.0005	0.0005
	Total Phosphorous	0.051	0.053	0.061	0.066	0.045	0.041	0.046	0.050	0.051	0.051	0.062	0.056
661-10	Ammonia-N	0.0078	0.0143	0.0059	0.0053	0.0065	0.0052	0.0099	0.0141	0.0112	0.0066	0.0063	0.0111
	Nitrate-N	0.0570	0.0919	0.0741	0.0468	0.0136	0.0025	0.0061	0.0261	0.0134	0.0039	0.0132	0.0594
	Nitrite-N	0.0006	0.0010	0.0005	0.0005	0.0005	0.0005	0.0008	0.0009	0.0012	0.0006	0.0005	0.0009
	Total Phosphorous	0.021	0.027	0.025	0.035	0.027	0.026	0.034	0.059	0.044	0.025	0.022	0.020

Notes:
Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] 95th percentile concentration + 20% for Total Ammonia-N, Nitrate-N, and Nitrite-N measured in baseline studies between 2016 and September 30, 2022; the lower of the monthly mean Total Phosphorus + 50% or the upper limit of the baseline tropic range for Total Phosphorus.

[b] Mean monthly "after" period concentration from October 2022 to December 2025 (Construction and Operations).
Values below detection limit were replaced with half the detection limit for calculations.

Appendix E-6 Surface Water Quality Nutrient Predicted Concentrations and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Appendix E-6: Surface Water Quality Nutrient Predicted Concentrations and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Site	Total Phosphorus Baseline Upper Limit of Trophic Range (mg/L)[a]	Predicted Concentration[a]											
		January	February	March	April	May	June	July	August	September	October	November	December
DC-05	Ammonia-N	0.39	0.36	0.40	0.29	0.36	0.21	0.19	0.22	0.31	0.42	0.44	0.37
	Nitrate-N	1.9	1.6	1.6	1.2	1.5	1.5	1.3	1.8	1.9	2.2	2.3	2.1
	Nitrite-N	0.014	0.013	0.013	0.0098	0.014	0.012	0.0090	0.011	0.016	0.018	0.019	0.016
	Total Phosphorous	0.034	0.035	0.036	0.038	0.027	0.024	0.025	0.030	0.036	0.034	0.038	0.035
DC-15	Ammonia-N	0.28	0.28	0.30	0.25	0.33	0.20	0.16	0.17	0.26	0.35	0.36	0.29
	Nitrate-N	1.4	1.3	1.2	1.0	1.4	1.3	1.1	1.4	1.6	1.9	2.0	1.6
	Nitrite-N	0.011	0.010	0.010	0.0083	0.013	0.011	0.0078	0.009	0.013	0.015	0.016	0.012
	Total Phosphorous	0.025	0.026	0.027	0.030	0.026	0.023	0.022	0.025	0.030	0.029	0.029	0.026
661-05	Ammonia-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Nitrate-N	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Nitrite-N	0.002	0.001	0.002	0.0039	0.002	0.003	0.0023	0.001	0.002	0.002	0.002	0.002
	Total Phosphorous	0.019	0.020	0.023	0.023	0.026	0.015	0.005	0.022	0.022	0.010	0.019	0.019
661-10	Ammonia-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Nitrate-N	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Nitrite-N	0.002	0.001	0.003	0.0038	0.001	0.002	0.0021	0.001	0.002	0.002	0.002	0.002
	Total Phosphorous	0.019	0.020	0.023	0.023	0.026	0.015	0.005	0.022	0.022	0.010	0.019	0.019

Appendix E-6: Surface Water Quality Nutrient Predicted Concentrations and Comparison of Mean Construction and Operations (October 2022 to December 2025) Monthly Concentrations for Davidson Creek and Creek 661 Near-Field Sites

Site	Total Phosphorus Baseline Upper Limit of Trophic Range (mg/L)[a]	Observed Mean Concentration[b]											
		January	February	March	April	May	June	July	August	September	October	November	December
DC-05	Ammonia-N	0.0025	0.0025	0.0025	0.0035	0.0042	0.0037	0.0072	0.0087	0.0055	0.0044	0.0064	0.0067
	Nitrate-N	0.0810	0.0734	0.0516	0.0741	0.0638	0.0285	0.0310	0.0059	0.0133	0.0243	0.0504	0.0909
	Nitrite-N	0.0005	0.0005	0.0007	0.0007	0.0005	0.0008	0.0006	0.0005	0.0007	0.0008	0.0007	0.0005
	Total Phosphorous	0.013	0.020	0.025	0.022	0.034	0.021	0.019	0.018	0.009	0.013	0.013	0.011
DC-15	Ammonia-N	0.0025	0.0036	0.0025	0.0025	0.0035	0.0037	0.0081	0.0036	0.0072	0.0039	0.0032	0.0057
	Nitrate-N	0.0610	0.0608	0.0549	0.0466	0.0679	0.0383	0.0154	0.0025	0.0025	0.0033	0.0370	0.0669
	Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0008	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
	Total Phosphorous	0.009	0.008	0.013	0.014	0.032	0.021	0.015	0.011	0.007	0.007	0.009	0.012
661-05	Ammonia-N	0.0025	0.0036	0.0025	0.0035	0.0049	0.0076	0.0031	0.0025	0.0025	0.0041	0.0036	0.0106
	Nitrate-N	0.0579	0.0598	0.0553	0.0406	0.0191	0.0025	0.0025	0.0093	0.0083	0.0088	0.0392	0.0552
	Nitrite-N	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0007	0.0005	0.0015	0.0005	0.0005
	Total Phosphorous	0.051	0.053	0.061	0.066	0.045	0.041	0.046	0.050	0.051	0.051	0.062	0.056
661-10	Ammonia-N	0.0078	0.0143	0.0059	0.0053	0.0065	0.0052	0.0099	0.0141	0.0112	0.0066	0.0063	0.0111
	Nitrate-N	0.0570	0.0919	0.0741	0.0468	0.0136	0.0025	0.0061	0.0261	0.0134	0.0039	0.0132	0.0594
	Nitrite-N	0.0006	0.0010	0.0005	0.0005	0.0005	0.0005	0.0008	0.0009	0.0012	0.0006	0.0005	0.0009
	Total Phosphorous	0.021	0.027	0.025	0.035	0.027	0.026	0.034	0.059	0.044	0.025	0.022	0.020

Notes:
Shaded cells indicate the mean monthly concentration is greater than the predicted concentration for that month.

[a] Maximum monthly base case (95th percentile) predicted concentration predicted in base case in Construction and Operations phases in the water quality prediction model v.13e (Lorax 2022).

[b] Mean monthly "after" period concentration from October 2022 to December 2025 (Construction and Operations).

Values below detection limit were replaced with half the detection limit for calculations.

Appendix F Water Level Data

Appendix F-1: Monitoring Well Groundwater Elevation

Appendix F-2: Standpipe Groundwater Elevation

Appendix F-3: Vibrating Wire Piezometer Elevation

Appendix F-4: Changes in Groundwater Levels Summary Tables

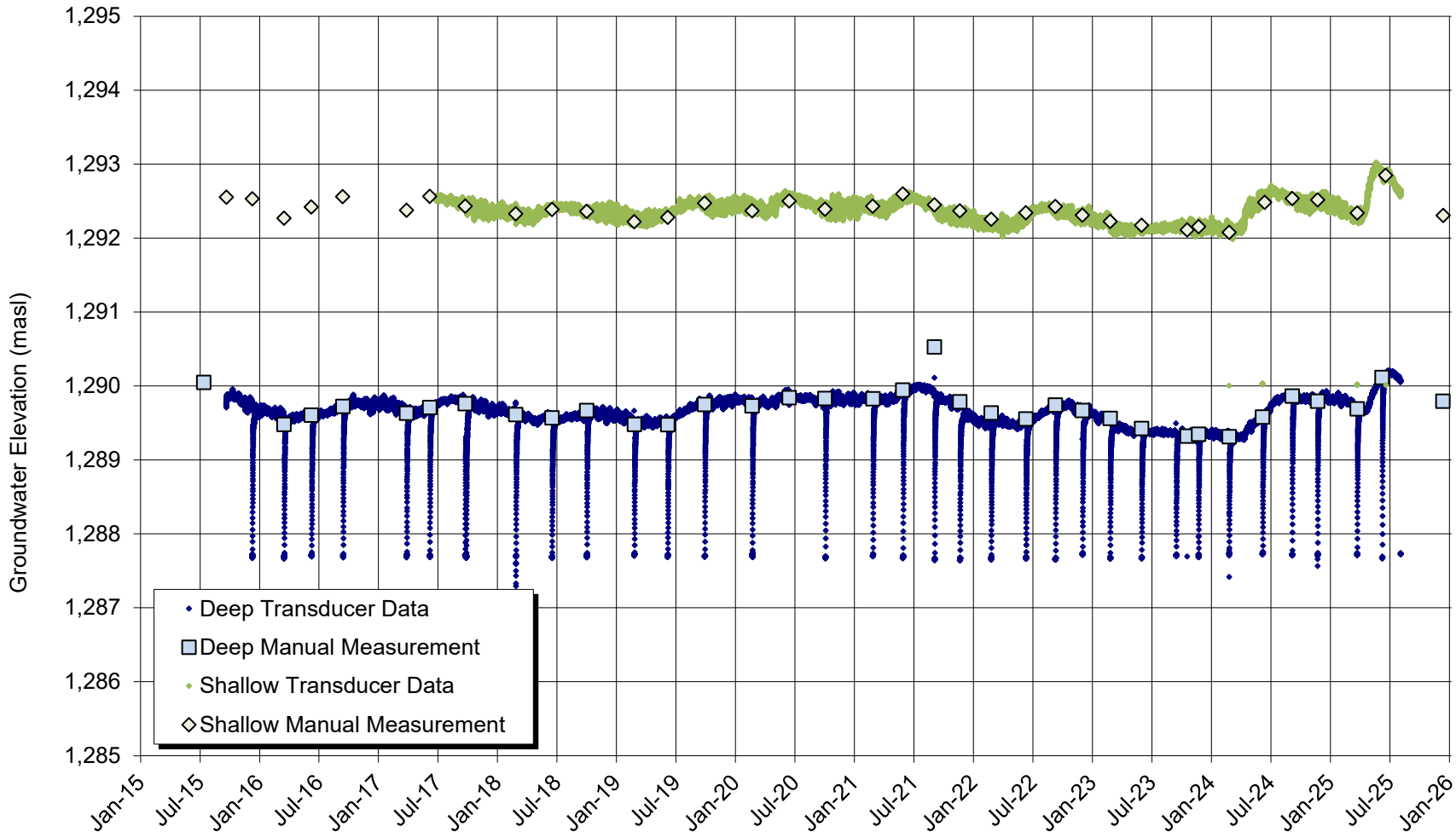
Appendix F-5: TSF Embankment Drainage, IECD Pumpback, and Open Pit Dewatering

Appendix F-6: Electrical Conductivity Survey

Appendix F-7: Groundwater Seep Survey Report

Appendix F-1 Monitoring Well Groundwater Elevation

(Figures A1.1 to A1.19, as originally issued in *Blackwater Gold Mine – 2025 Annual Report – Hydrogeology* [KP 2026b])



NOTES:

1. GROUND ELEVATION AT MW12-01D IS 1301.8 masl AND MW12-01S IS 1301.8 masl BASED ON 2013 SURVEY.
2. MW12-01D SCREENED INTERVAL IS FROM 36.6 TO 39.6 mbgs. MW12-01S SCREENED INTERVAL IS FROM 9.1 TO 12.2 mbgs.
3. MW12-01S WAS DRY IN APRIL 2014 AND WATER LEVELS WERE NOT MEASURED AT THE SITE AGAIN UNITL SEPTEMBER, 2015.
4. A PRESSURE TRANSDUCER WAS INSTALLED IN MW12-01D JULY, 2015 AND IN MW12-01S IN JUNE, 2017.
5. SUSPECT SEPTEMBER, 2024 MANUAL WATER LEVEL MEASUREMENT AT MW12-01D ADJUSTED 2 m TO MATCH PRESSURE TRANSDUCER DATA.
6. COMMUNICATION ERRORS WERE ENCOUNTERED AT BOTH PRESSURE TRANSDUCERS DURING THE DECEMBER 20, 2025 SITE VISIT AND WERE UNABLE TO BE DOWNLOADED.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW12-01D/S
GROUNDWATER ELEVATION

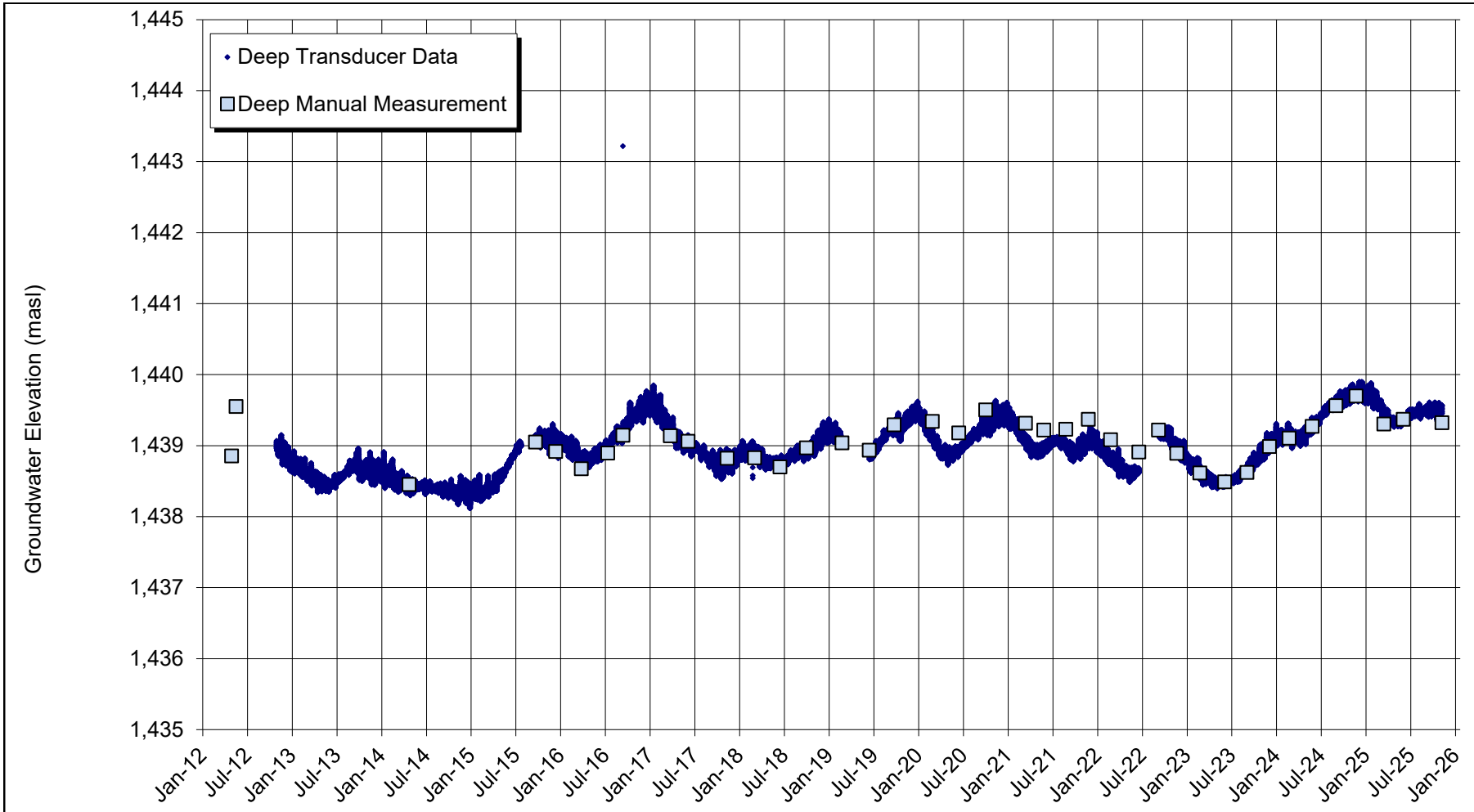
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.1

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-03D IS 1464.8 masl AND MW12-03S IS 1465.0 masl BASED ON 2013 SURVEY.
2. MW12-03D SCREENED FROM 33.5 TO 36.6 mbgs. MW12-03D SCREENED FROM 15.9 TO 21.9 mbgs.
3. MW12-03S HAS BEEN DRY SINCE INSTALLATION.
4. MW12-03D TRANSDUCER MEMORY FULL JULY, 2015. DATA DOWNLOADED AND TRANSDUCER RESTARTED SEPTEMBER, 2015.
5. THE PRESSURE TRANSDUCER COULD NOT BE DOWNLOADED IN FEBRUARY, 2019 AND WAS REPLACED. NO DATA IS AVAILABLE FROM FEBRUARY 28 TO JUNE 21, 2019.
6. THE PRESSURE TRANSDUCER MALFUNCTIONED IN JUNE, 2022 AND WAS RESET IN SEPTEMBER, 2022, NO DATA WAS COLLECTED DURING THAT PERIOD.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'25	ISSUED WITH REPORT	EB	JDZ

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MW12-03D
GROUNDWATER ELEVATION

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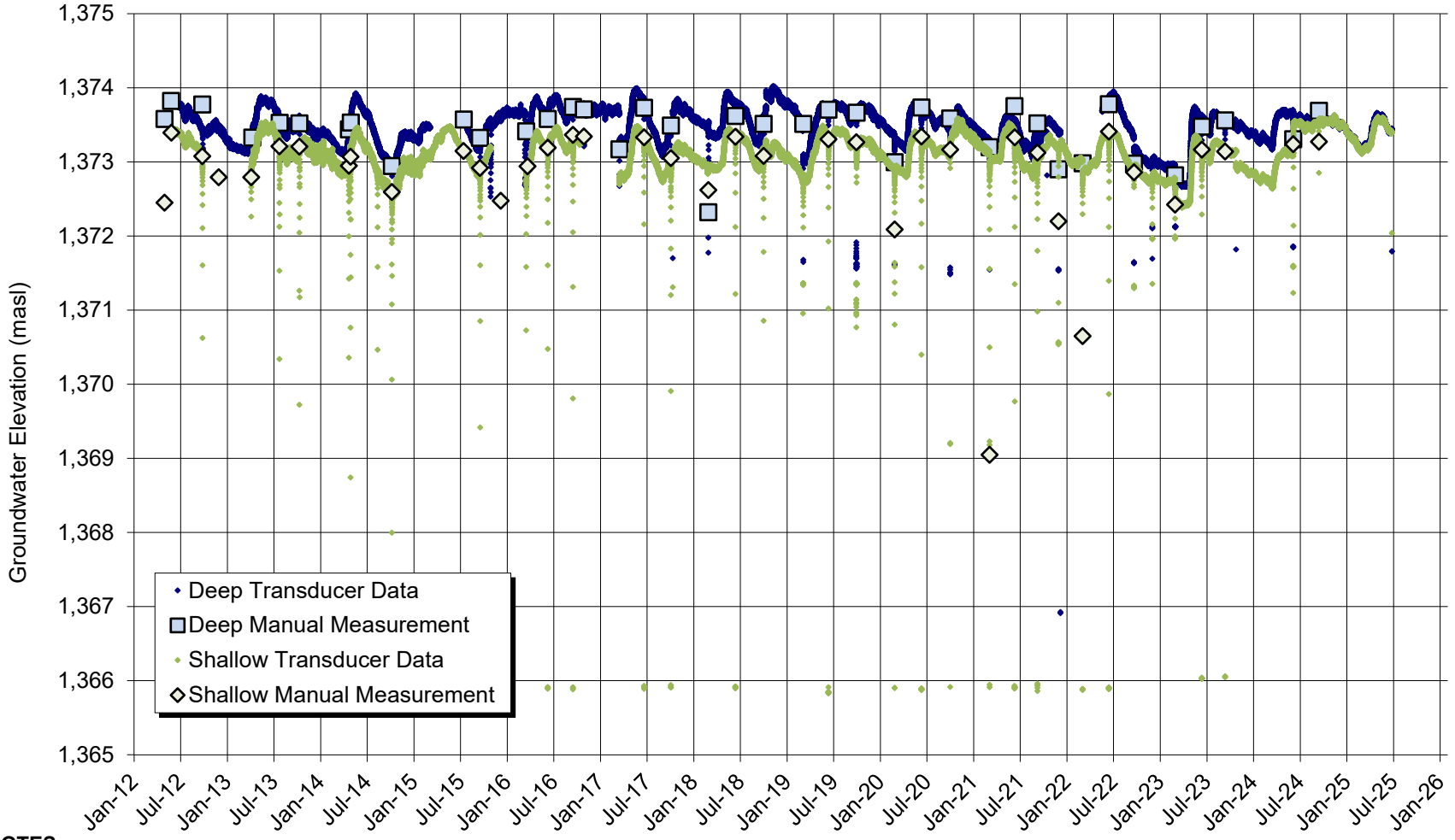
P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.2

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-05D IS 1373.5 masl AND MW12-05S IS 1373.3 masl BASED ON 2013 SURVEY.
2. MW12-05D SCREENED FROM 23.2 TO 26.2 mbgs. MW12-05S SCREENED FROM 7.6 TO 10.7 mbgs.
3. MW12-05D TRANSDUCER MEMORY FILLED MARCH, 2015. DATA DOWNLOADED AND TRANSDUCER RESTARTED IN JULY, 2015.
4. A MARGO PLUG WAS INSTALLED IN MW12-05S BETWEEN SPETEMBER, 2012 AND APRIL, 2013.
5. MARGO PLUGS INSTALLED IN MW12-05S&D BETWEEN OCTOBER, 2015 AND MARCH, 2016, AND FROM OCTOBER, 2016 TO MARCH, 2017. TRANSDUCERS WERE REMOVED DURING THESE PERIODS.
6. WELL BUSTER PLUGS WERE INSTALLED IN MW12-05D/S DURING THE WINTER MONTHS OF 2017 ONWARDS; THE TRANSDUCERS REMAINED IN THE WELLS WHEN THE PLUG WERE INSTALLED. MEASURED WATER LEVELS ARE DEPRESSED WHEN THE PLUG WAS REMOVED EACH VISIT.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

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BLACKWATER GOLD MINE

MW12-05D/S
GROUNDWATER ELEVATION

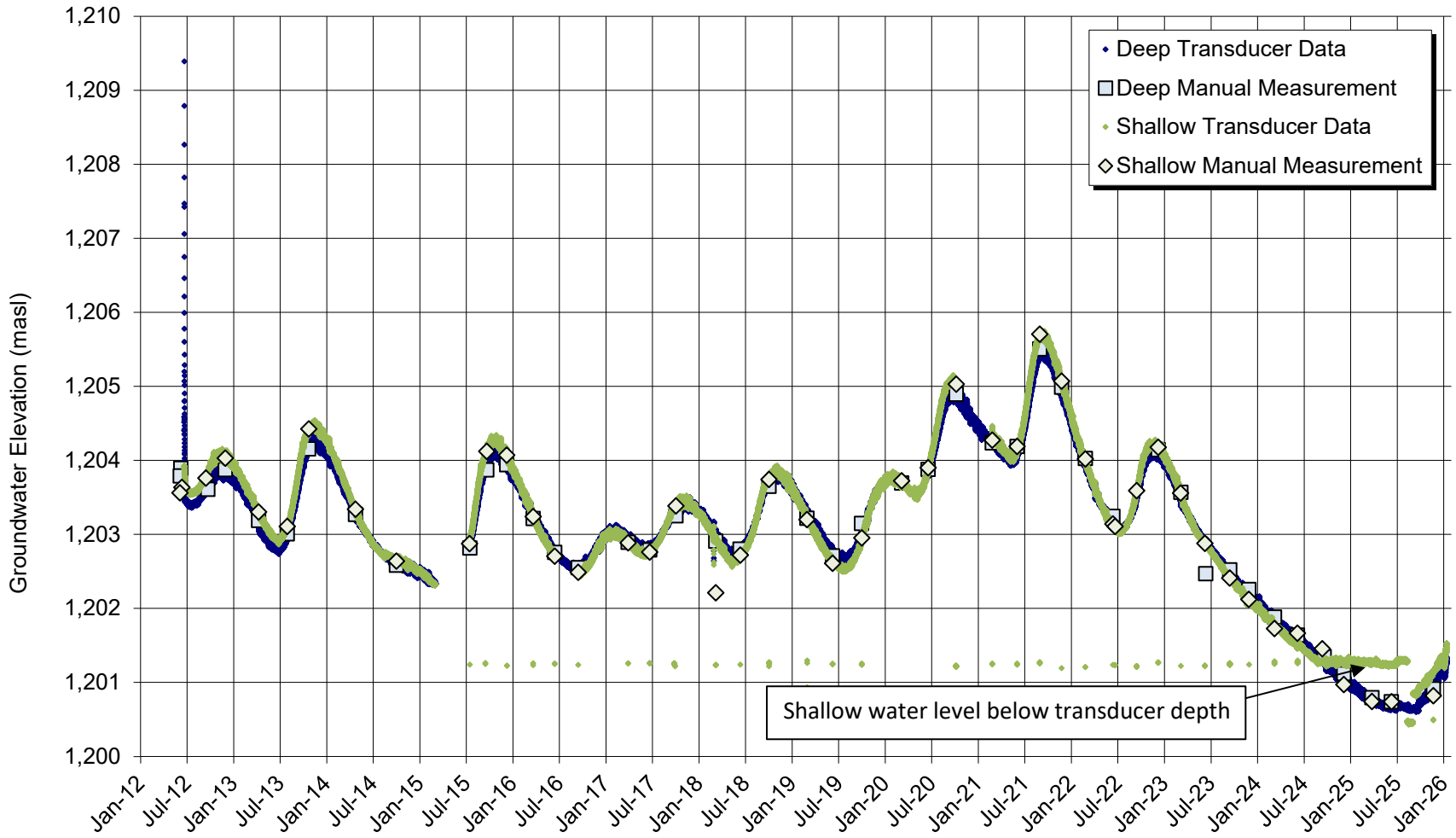
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.3

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-07D IS 1221.2 masl AND MW12-07S IS 1221.2 masl BASED ON 2013 SURVEY.
2. MW12-07D SCREENED FROM 35.4 TO 38.6 mbgs. MW12-07S SCREENED FROM 19.8 TO 22.9 mbgs.
3. MW12-07D AND MW12-07S TRANSDUCER MEMORIES FILLED MARCH, 2015. DATA DOWNLOADED AND TRANSDUCERS RESTARTED IN JULY 2015.
4. THE PRESSURE TRANSDUCER DATA FOR MW12-07D FROM OCTOBER, 2019 - MARCH, 2020 IS UNAVAILABLE DUE TO LOGGER COMMUNICATION ISSUES.
5. WATER LEVEL IN SHALLOW WELL HAS DROPPED BELOW TRANSDUCER AUGUST 6, 2024.
6. THE PRESSURE TRANSDUCER IN MW12-07S WAS LOWERED BY APPROXIMATELY 1 m ON AUGUST 11, 2025 AND IS NOW BELOW WATER.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

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MW12-07D/S
GROUNDWATER ELEVATION

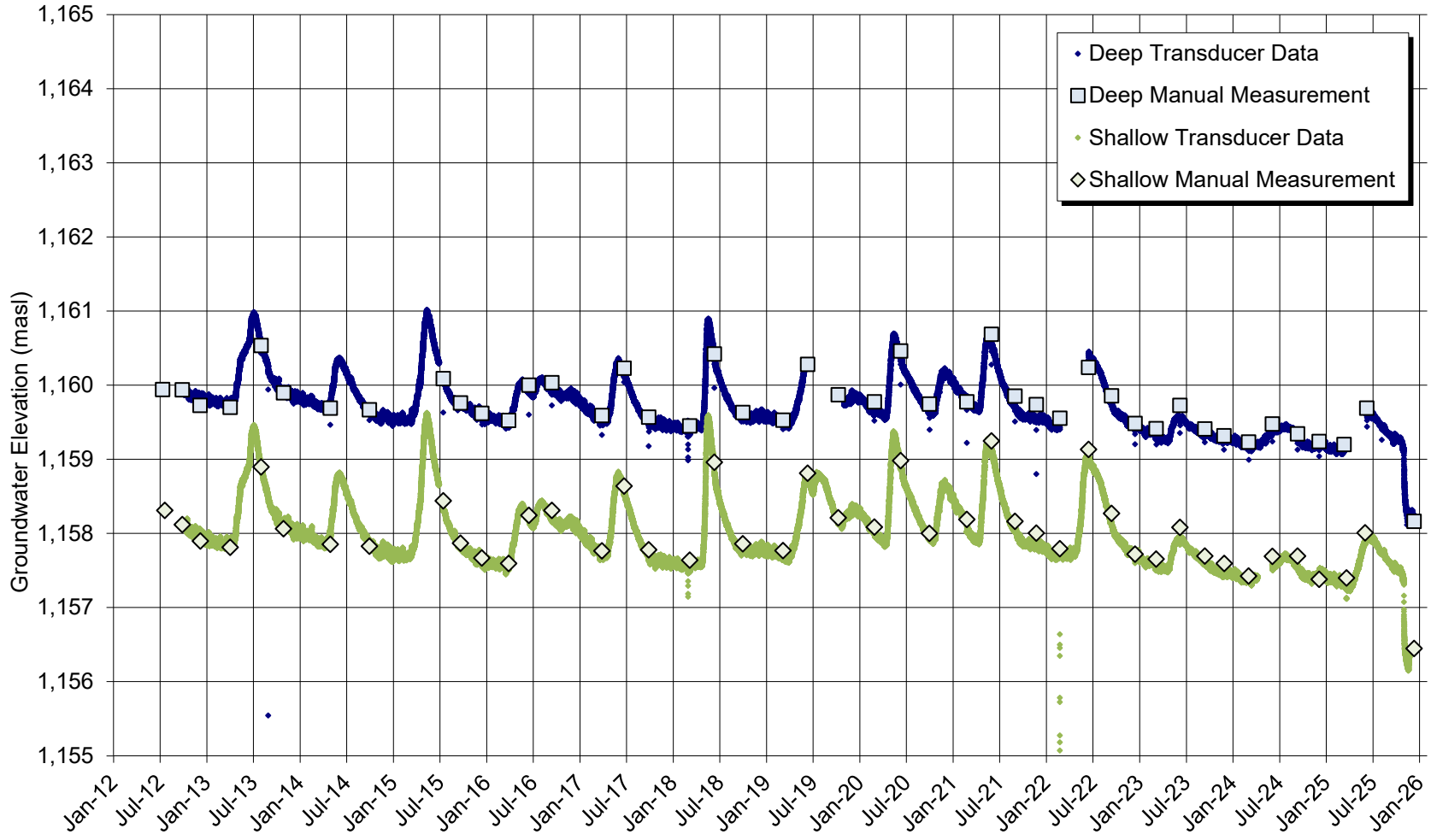
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.4

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-08D IS 1169.7 masl AND MW12-08S IS 1169.7 masl BASED ON 2013 SURVEY.
2. MW12-08D SCREENED FROM 32.6 TO 35.6 mbgs. MW12-08S SCREENED INTERVAL 16.2 TO 19.3 mbgs.
3. MW12-08D AND MW12-08S TRANSDUCER MEMORIES FILLED JUN,E 2015. DATA DOWNLOADED AND TRANSDUCERS RESTARTED IN JULY, 2015.
4. TRANSDUCER IN MW12-08D FAILED TO COMMUNICATE IN OCTOBER, 2019 AND WAS REPLACED WITH A NEW TRANSDUCER. NO DATA AVAILABLE JUNE TO OCTOBER, 2019.
5. MW12-08S TRANSDUCER MALFUNCTION APRIL 7, 2024. TRANSDUCER REPLACED JUNE 4, 2024.
6. MW12-08S DECEMBER, 2024 MANUAL MEASUREMENT SUSPECT. VALUE ADJUSTED BY 0.4 m BASED ON TRANSDUCER DATA.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

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MW12-08D/S
GROUNDWATER ELEVATION

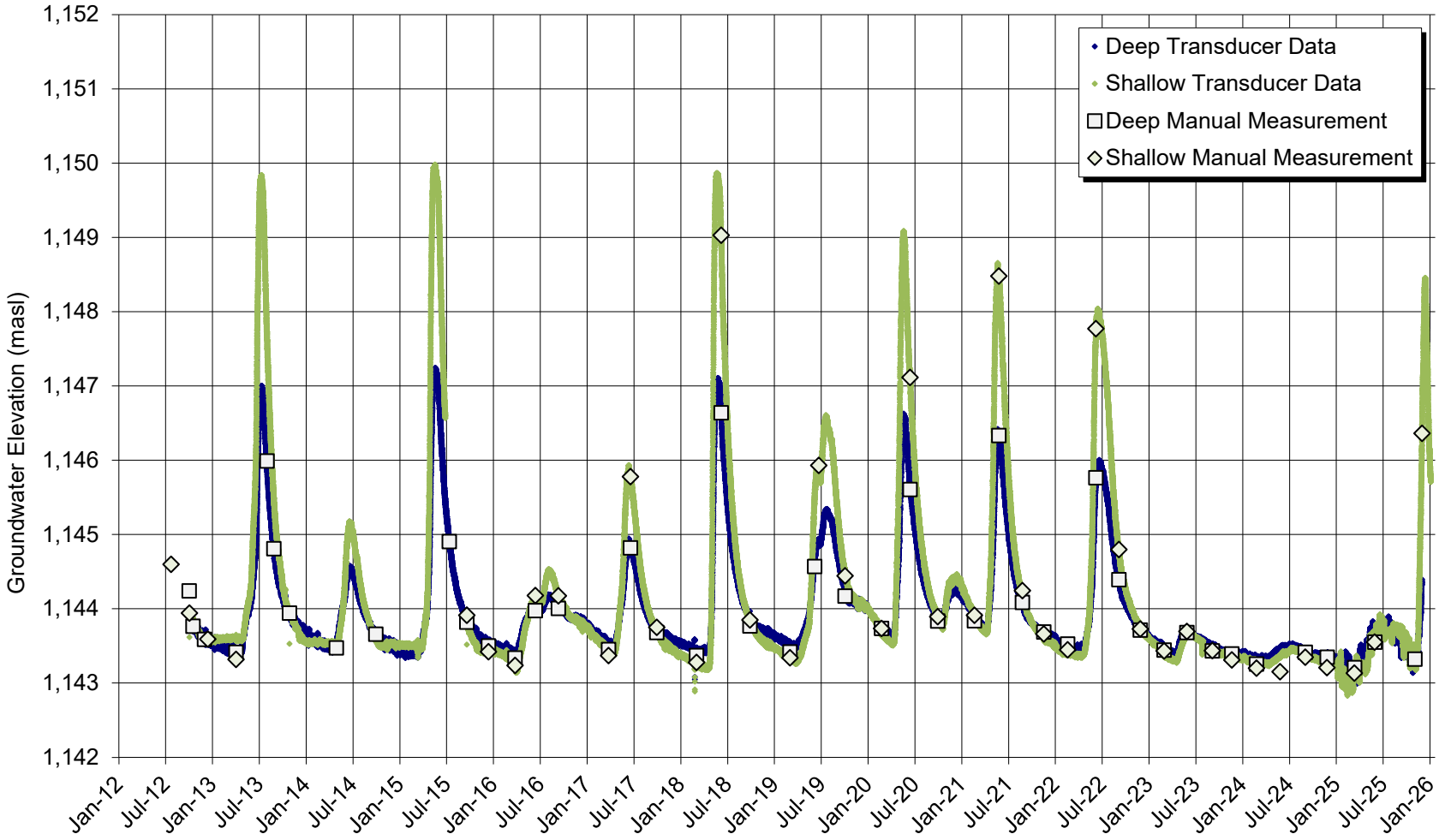
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.5

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-09D IS 1154.8 masl AND 1155.1 masl AT MW12-09S BASED ON 2013 SURVEY.
2. MW12-09D SCREENED FROM 30.5 TO 33.6 mbgs. MW12-09S SCREENED FROM 11.9 TO 15 mbgs.
3. WATER LEVEL AT MW12-09S DROPS BELOW THE TRANSDUCER IN 2013, 2014, AND 2015 WINTER MONTHS AS INDICATED BY A STRAIGHT LINE IN THE PLOTTED DATA SERIES. THE TRANSDUCER WAS LOWERED IN DECEMBER, 2015.
4. MW12-09S TRANSDUCER MEMORY FULL JUNE, 2015. DATA DOWNLOADED AND TRANSDUCER RESTARTED IN SEPTEMBER, 2015.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW12-09D/S
GROUNDWATER ELEVATION

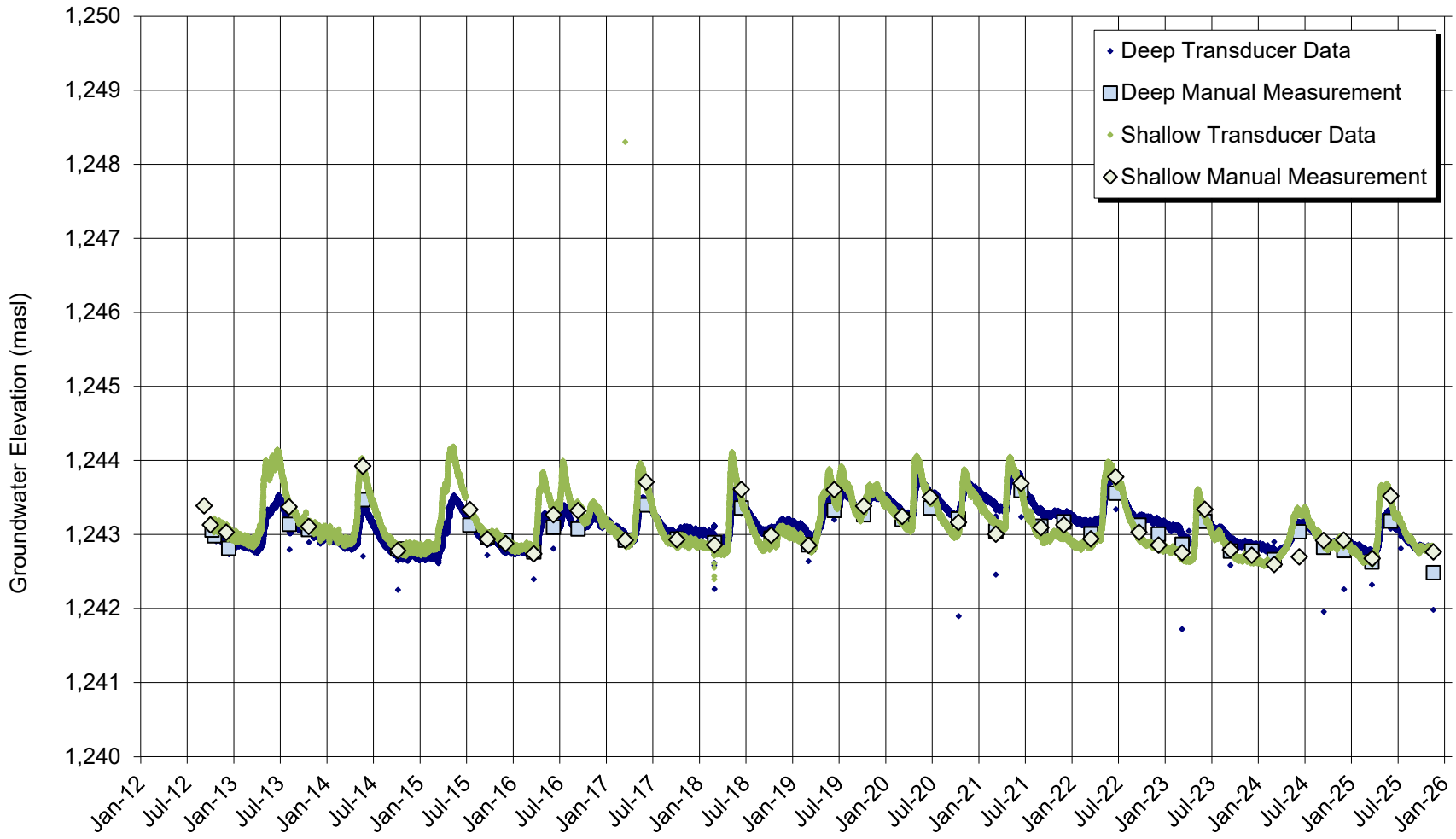
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.6

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-12D IS 1244.4 masl AND MW12-12S IS 1244.4 masl BASED ON 2013 SURVEY.
2. MW12-12D SCREENED FROM 31.2 TO 34.2 mbgs. MW12-12S SCREENED FROM 11.2 TO 14.2 mbgs.
3. MW12-12S AND MW12-12D TRANSDUCER MEMORIES FILLED JUNE AND JULY, 2015. DATA DOWNLOADED AND TRANSDUCERS RESTARTED IN JULY, 2015.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW12-12D/S
GROUNDWATER ELEVATION

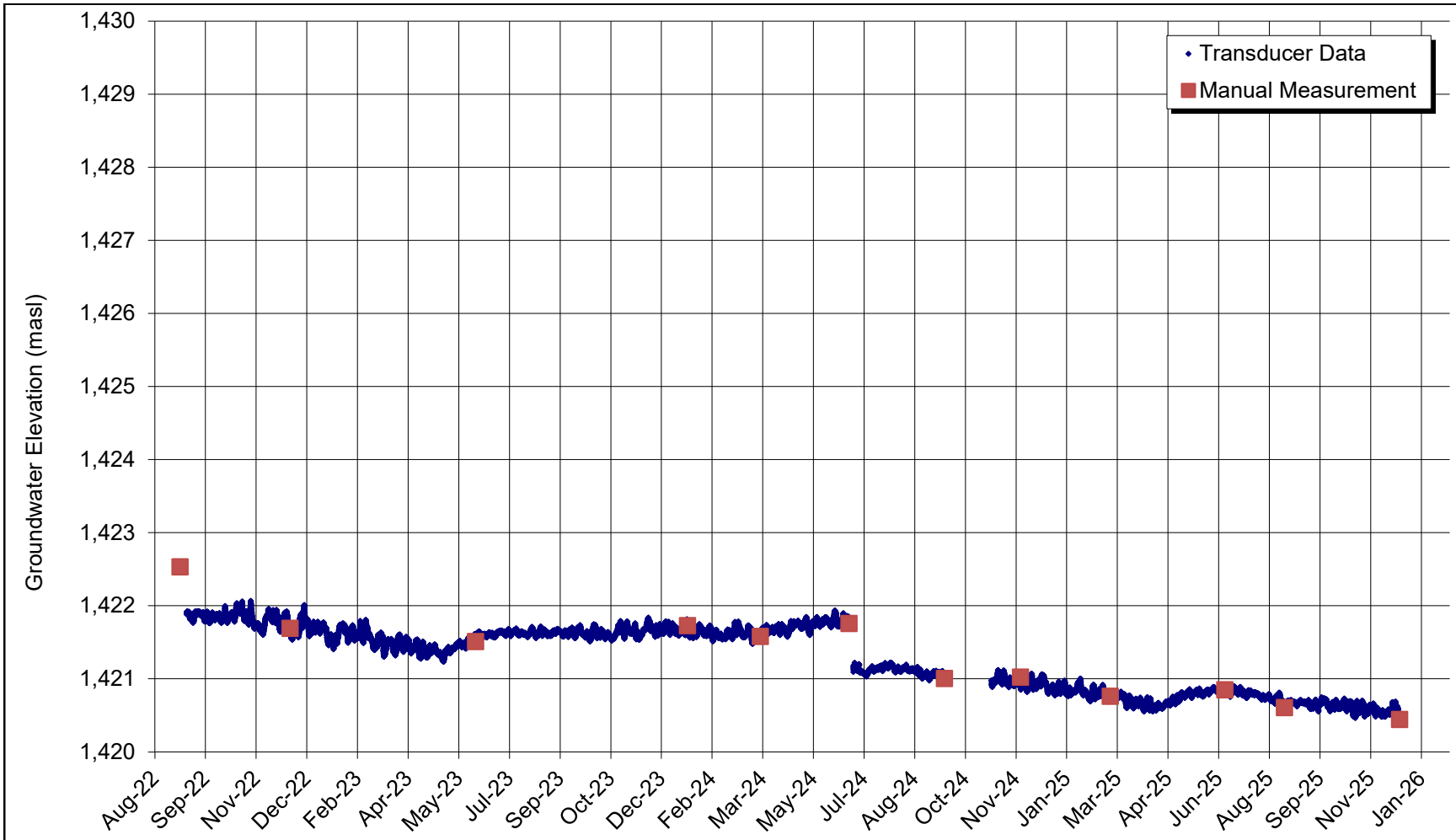
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.7

REV 0



NOTES:

1. GROUND ELEVATION IS 1456.3 masl BASED ON FIELD SURVEY.
2. SCREENED INTERVAL IS FROM 61.42 TO 64.42 mbgs.
3. THE DECREASE IN WATER LEVEL AFTER JUNE 17, 2024 CORRESPONDS TO REMOVAL OF SEDIMENT FROM THE BOTTOM OF THE WELL DURING WELL DEVELOPMENT ACTIVITIES.
4. WELL DEVELOPMENT TUBING BECAME IN THE WELL ON SEPTEMBER 19, 2024, PREVENTING REINSTALLATION OF THE PRESSURE TRANSDUCER. THE DEVICE WAS REINSTALLED ON NOVEMBER 4, 2024 WHEN THE TUBING WAS REMOVED.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

GT13-44
GROUNDWATER ELEVATION

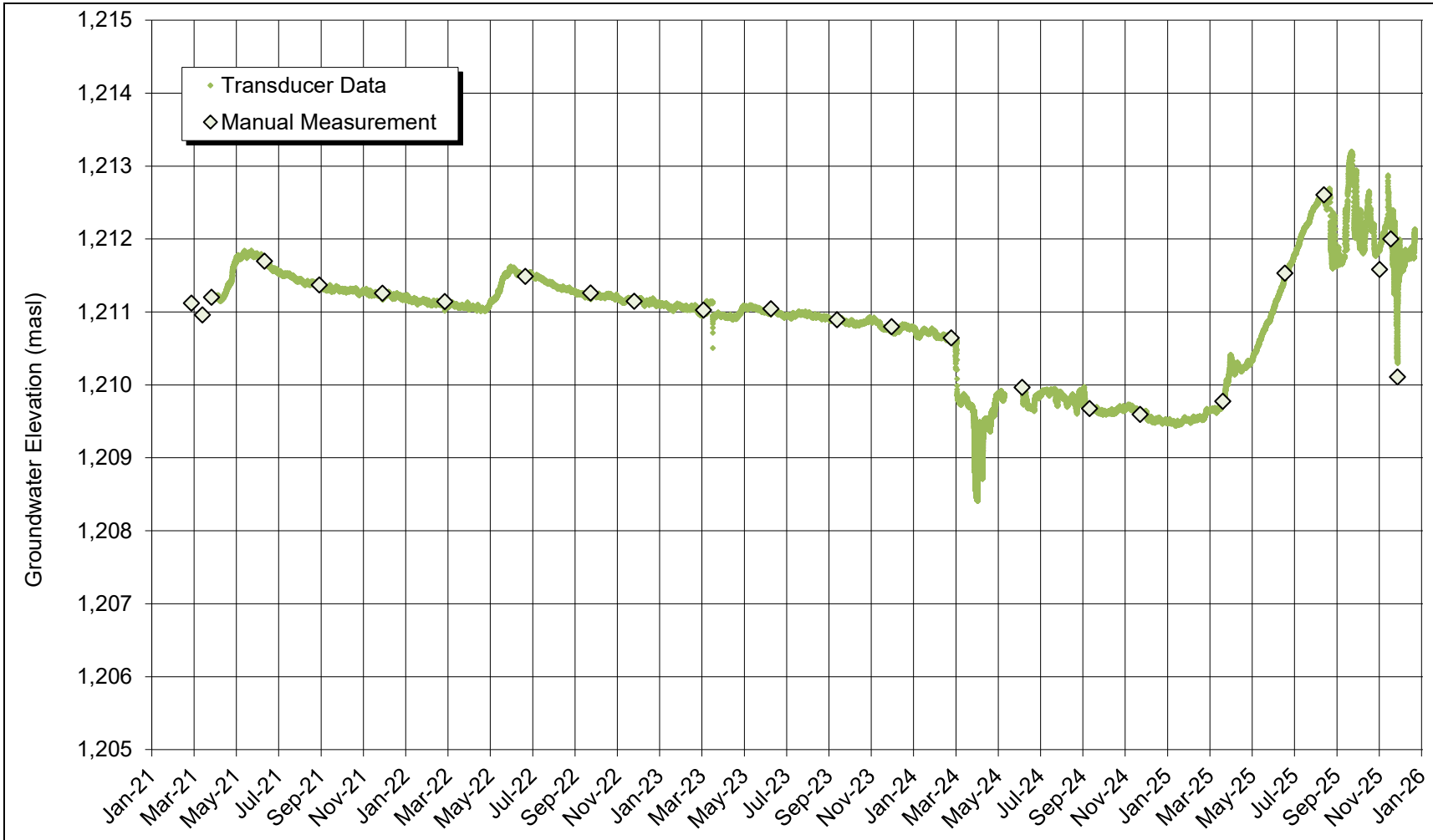
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 2

FIGURE F1.8

REV 0



NOTES:

1. GROUND ELEVATION IS 1214 masl BASED ON 2021 SURVEY BY AVISON MANAGEMENT SERVICES.
2. SCREENED INTERVAL IS FROM 22.17 TO 27.94 mbgs.
3. TRANSDUCER DATA MISSING FROM MAY 16 TO JUNE 11, 2024.
4. WATER LEVELS ARE INFLUENCED BY DRILLING AND DEVELOPMENT OF PUMPING WELLS PW24-01 AND PW24-02 ON MARCH 7 AND MARCH 9, 2024, RESPECTIVELY.
5. WATER LEVELS ARE INFLUENCED BY PUMPING TESTS COMPLETED AT PUMPING WELLS PW24-01 AND PW24-02 DURING THE PERIOD OF APRIL 4 TO APRIL 15, 2024.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

GT20-04
GROUNDWATER ELEVATION

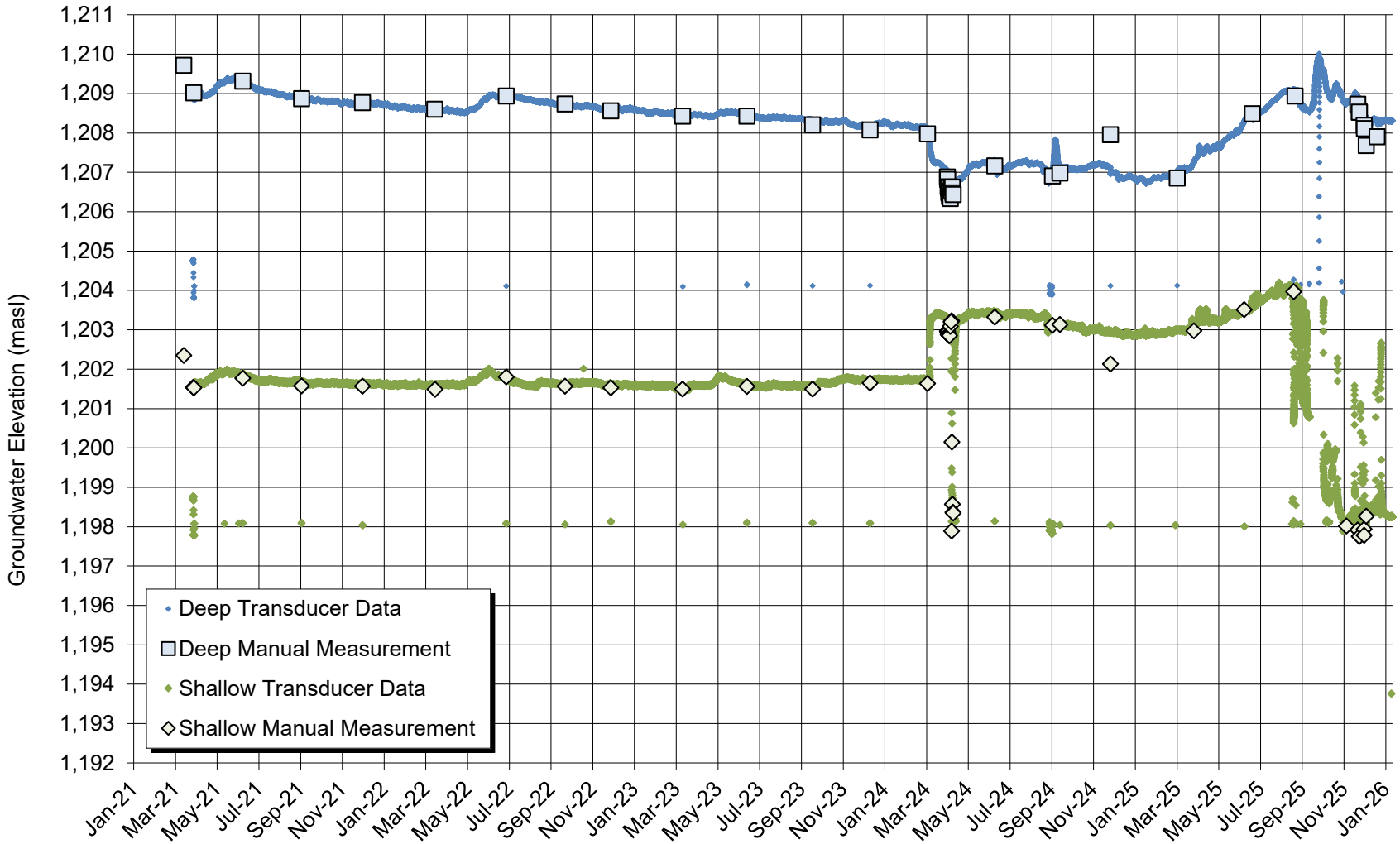
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.9

REV 0



NOTES:

1. GROUND ELEVATION IS 1212 masl BASED 2021 SURVEY BY AVISON MANAGEMENT SERVICES.
2. GT21-03D SCREENED INTERVAL IS FROM 46.76 TO 49.84 mbgs.
3. GT21-03S SCREENED INTERVAL IS FROM 16.64 TO 19.78 mbgs.
4. WATER LEVELS ARE INFLUENCED BY DRILLING AND DEVELOPMENT OF PUMPING WELLS PW24-01 AND PW24-02 ON MARCH 7 AND MARCH 9, 2024, RESPECTIVELY.
5. WATER LEVELS ARE INFLUENCED BY PUMPING TESTS COMPLETED AT PUMPING WELLS PW24-01 AND PW24-02 DURING THE PERIOD OF APRIL 4 TO APRIL 15, 2024.
6. PRESSURE TRANSDUCER INSTALLED IN GT21-03S WAS STOPPED ON SEPTEMBER 15, 2025 AND NOT RESTARTED UNTIL OCTOBER 5, 2025. NO WATER LEVEL DATA EXISTS FOR THIS PERIOD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED FOR INFORMATION	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

GT21-03D/S
GROUNDWATER ELEVATION

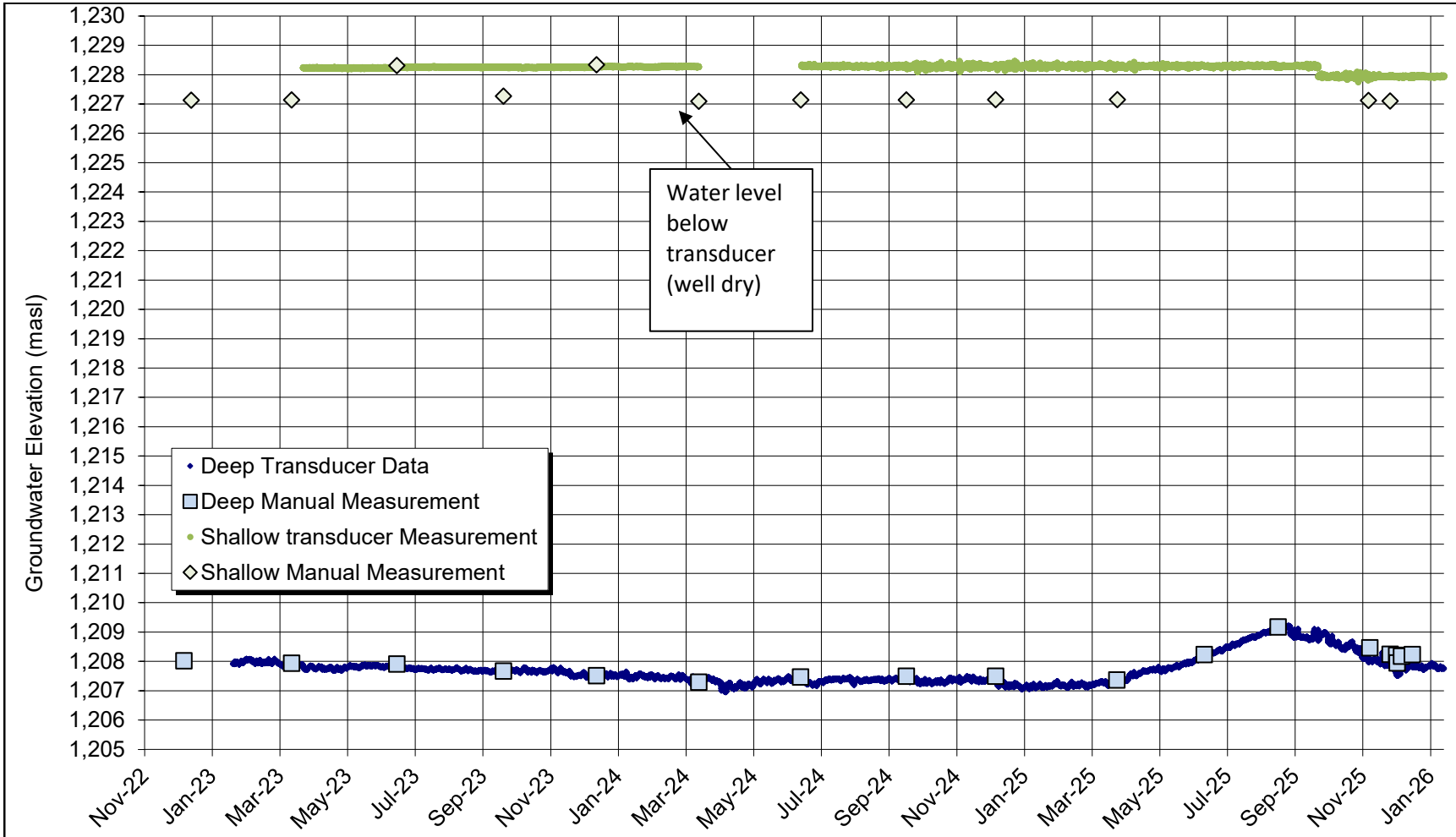
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.10

REV 0



NOTES:

1. GROUND ELEVATION AT MW22-02D IS 1243.9 masl and 1243.7 masl MW22-02S IS BASED ON 2022 SURVEY PERFORMED BY BW GOLD LTD.
2. MW22-02D IS SCREENED FROM 43 TO 46 mbgs. MW22-02S IS SCREENED FROM 13.8 TO 15.3 mbgs.
3. MW22-02S IS DRY.
4. THE PRESSURE TRANSDUCER INSTALLED IN MW22-02S WAS REMOVED FROM MARCH 14 TO JUNE 14, 2024 DURING PUMPING TESTING. PRESSURE TRANSDUCER WATER LEVELS ARE UNAVAILABLE FOR THIS TIME PERIOD.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	24FEB'26	ISSUED WITH REPORT	ZC	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW22-02D/S
GROUNDWATER ELEVATION

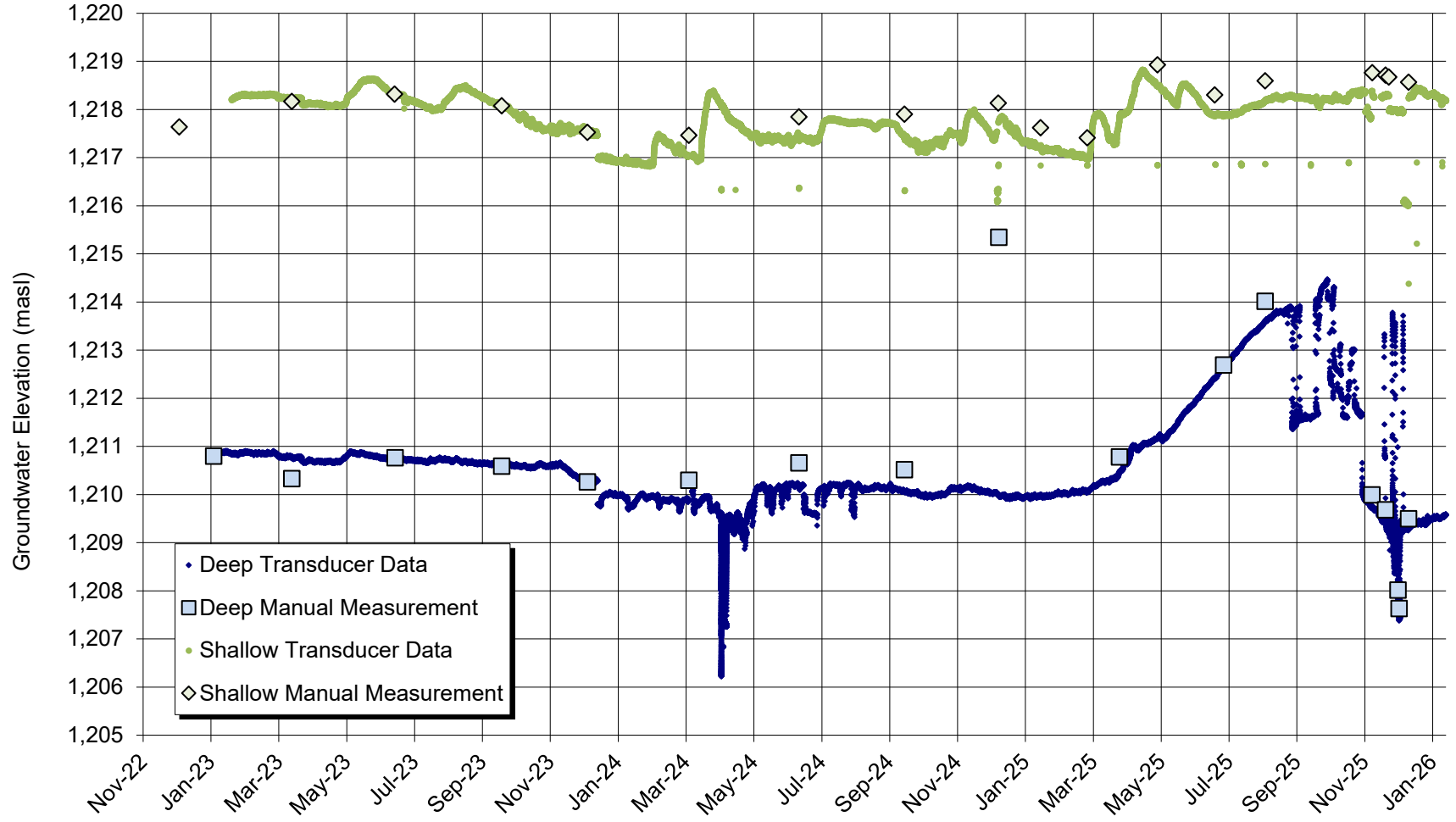
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.11

REV 0



NOTES:

1. GROUND ELEVATION AT BOTH MW22-03D AND MW22-03S IS 1228.8 masl BASED ON 2023 SURVEY PERFORMED BY BW GOLD LTD.
2. MW22-03D IS SCREENED FROM 31.2 TO 34.1 mbgs. MW22-03S IS SCREENED FROM 10.6 TO 12.1 mbgs.
3. MANUAL WATER LEVEL AND DEPTH TO BOTTOM MEASUREMENTS AT MW22-03S IN DEC 2024 ARE BOTH 3.5 m LOWER THAN EXPECTED, LIKELY DUE TO READING ERROR. ADJUSTMENTS ARE APPLIED AND PLOTTED.
4. WATER LEVEL LOW RECORDED APRIL 7, 2024 AT MW22-03D INFLUENCED BY PUMPING TEST ACTIVITY AT PW24-01.
5. ERRONEOUS MW22-03D MANUAL WATER LEVEL MEASUREMENT WAS RECORDED DECEMBER 9, 2024.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	24FEB'26	ISSUED WITH REPORT	ZC	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW22-03D/S
GROUNDWATER ELEVATION

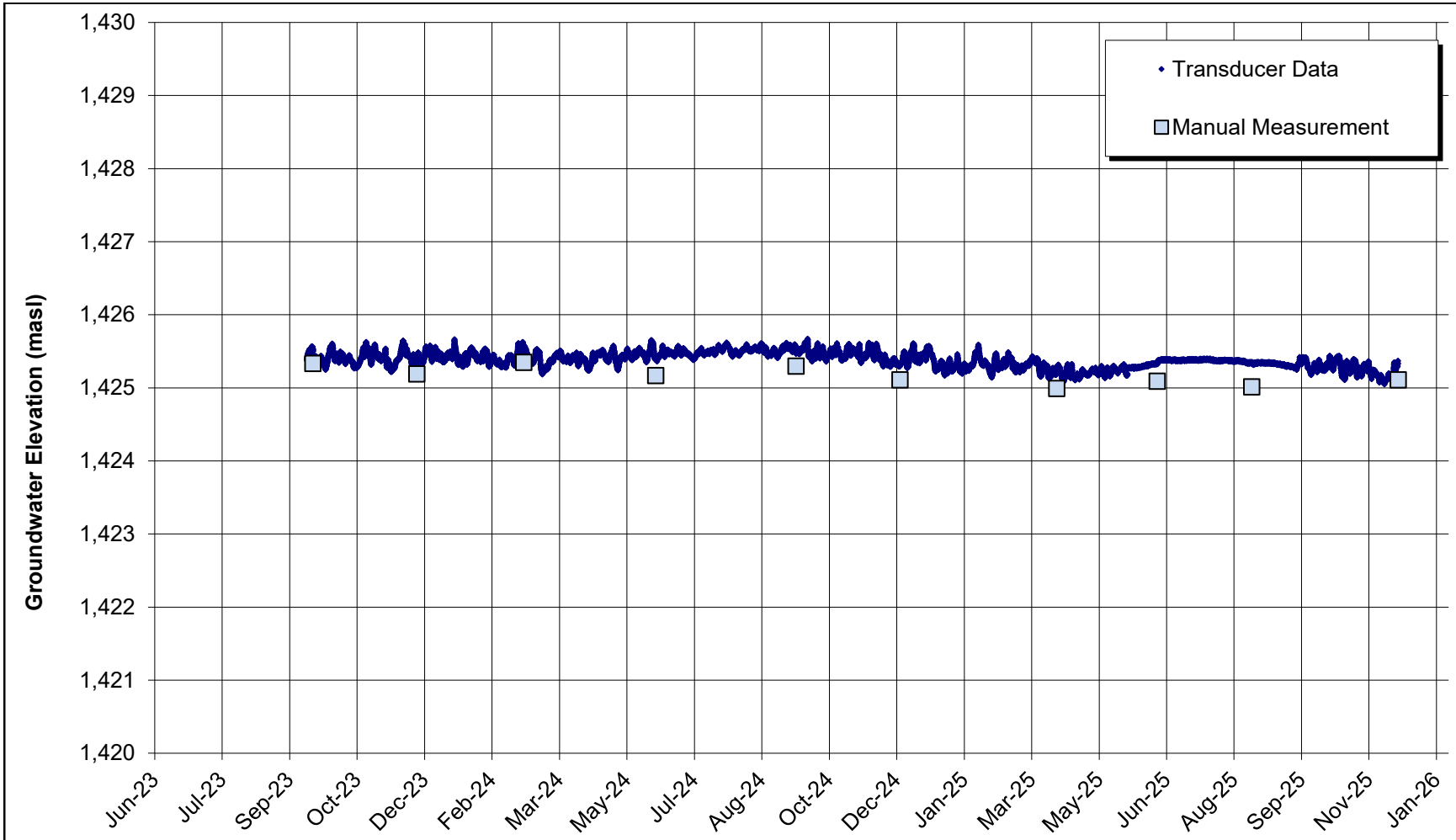
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.12

REV 0



NOTES:

1. GROUND ELEVATION AT MW23-01 IS 1468.4 masl BASED ON 2023 SURVEY PERFORMED BY BW GOLD LTD.
2. MW23-01 IS SCREENED FROM 50.2 TO 53.2 mbgs.
3. WATER LEVEL DATA IS NOT INFLUENCED BY CHANGES IN BAROMETRIC PRESSURE AND HAS NOT BEEN COMPENSATED BY CHANGES IN BAROMETRIC PRESSURE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW23-01
GROUNDWATER ELEVATION

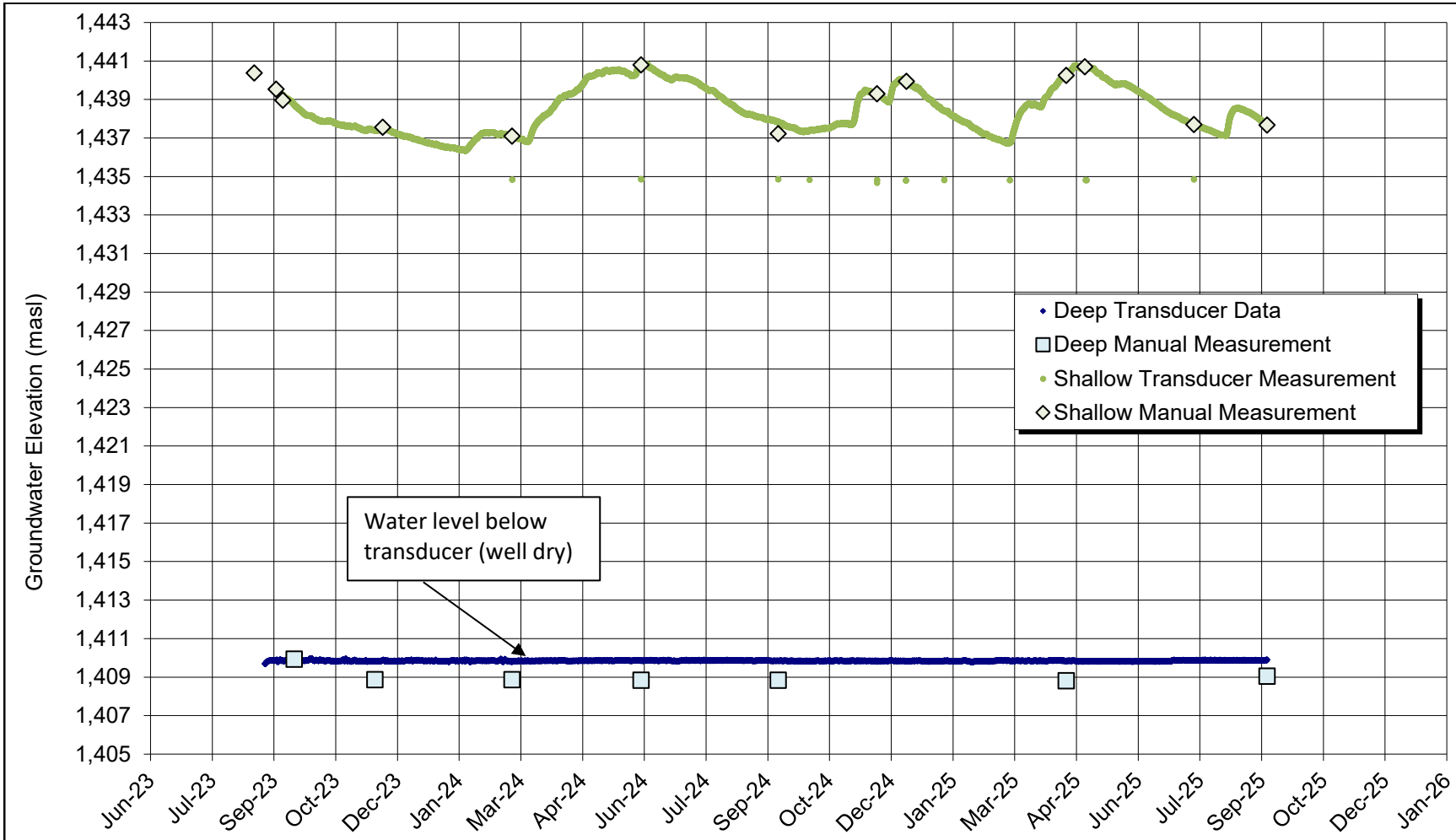
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.13

REV 0



NOTES:

1. GROUND ELEVATION AT MW23-02D 1443.3 masl AND MW23-02S 1442.8 masl BASED ON 2023 SURVEY PERFORMED BY BW GOLD LTD.
2. MW23-02D IS SCREENED FROM 30.3 TO 33.4 mbgs. MW23-02S IS SCREENED FROM 7.9 TO 9.4 mbgs.
3. MONITORING WELL MW23-02D IS DRY.
4. MONITORING WELLS MW23-02D/S DECOMMISSIONED SEPTEMBER 6, 2025. DATA NO LONGER BEING COLLECTED FROM THESE WELLS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW23-02D/S
GROUNDWATER ELEVATION

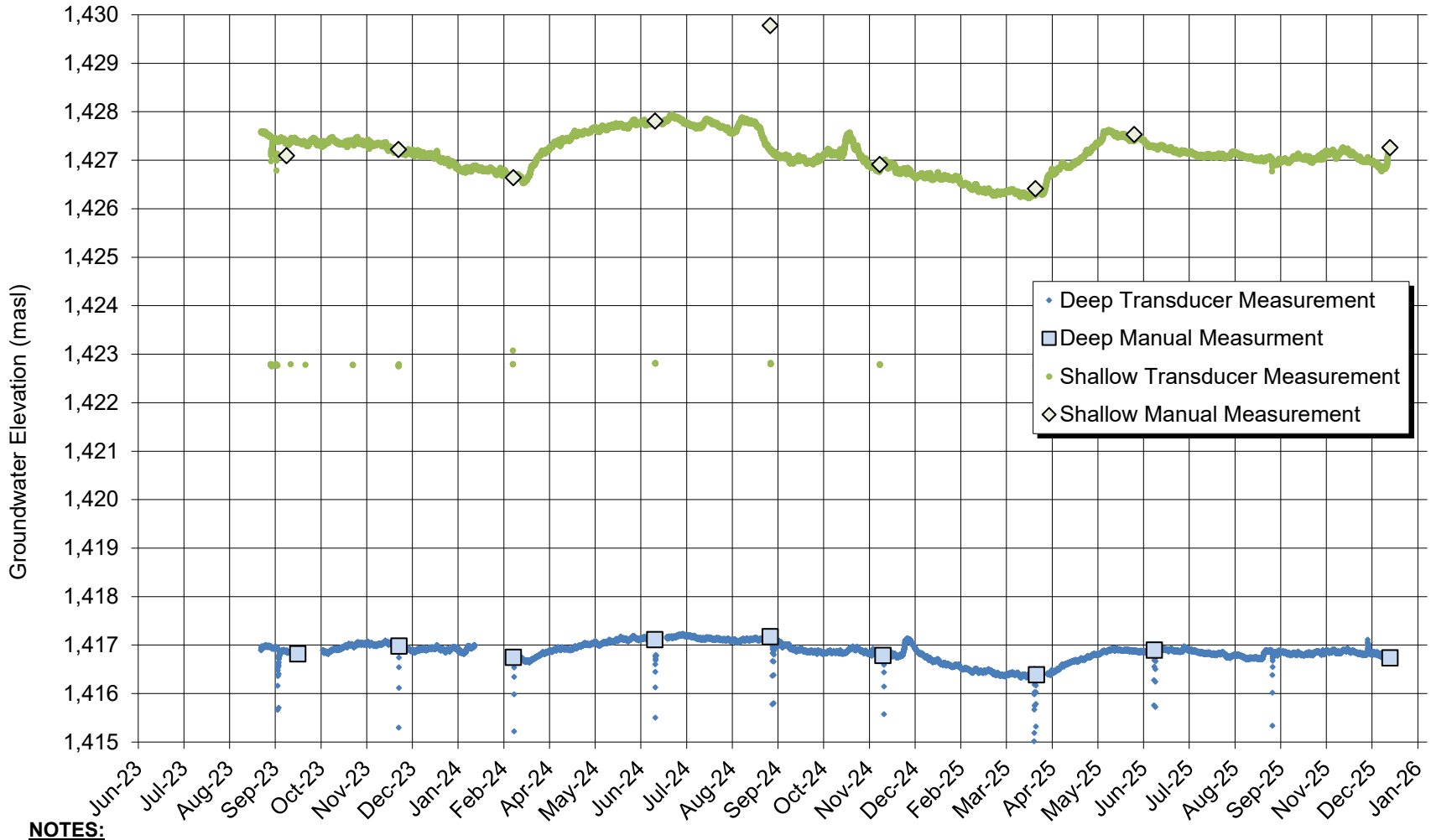
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.14

REV 0



NOTES:

1. GROUND ELEVATION AT MW23-03D 1430.5 masl AND MW23-03S 1430.4 masl BASED ON 2023 SURVEY PERFORMED BY BW GOLD LTD.
2. MW23-03D IS SCREENED FROM 32.0 TO 35.0 mbgs. MW23-03S IS SCREENED FROM 5.2 TO 8.3 mbgs.
3. THE MW23-03D PRESSURE TRANSDUCER WAS REMOVED FROM THE WELL BETWEEN SEPTEMBER 19, 2023 AND OCTOBER 16, 2023. DATA WAS NOT RECORDED DURING THAT PERIOD.
3. THE MW23-03D PRESSURE TRANSDUCER WAS REMOVED FROM THE WELL DURING WELL DEVELOPMENT ACTIVITIES COMPLETED ON FEBRUARY 6, 2024. THE DEVICE WAS RE-INSTALLED DURING THE MARCH 6, 2024 SITE VISIT- NO DATA WAS COLLECTED DURING THIS PERIOD.
4. MANUAL WATER LEVEL MEASUREMENT AT MW23-03D IN DECEMBER 2024 WAS 1 m OFF FROM EXPECTED. MEASUREMENT CORRECTED PRIOR TO PLOTTING.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW23-03D/S
GROUNDWATER ELEVATION

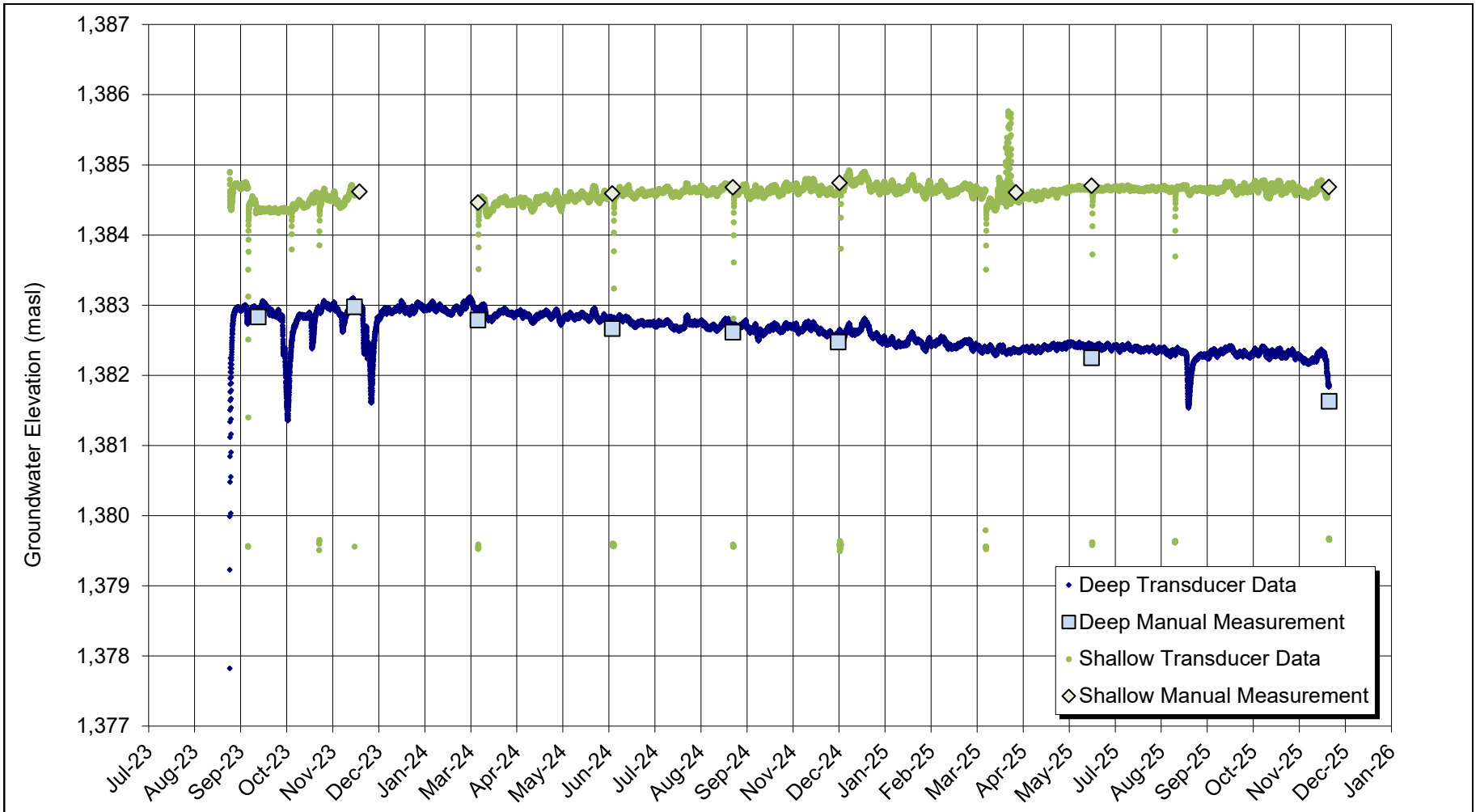
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.15

REV 0



NOTES:

1. GROUND ELEVATION AT MW23-04D IS 1395.4 masl AND MW23-04S IS 1395.4 masl BASED ON 2023 SURVEY PERFORMED BY BW GOLD LTD.
2. MW23-04D IS SCREENED FROM 32.5 TO 35.6 mbgs. MW23-04S IS SCREENED FROM 14.5 TO 17.5 mbgs.
3. THE MW23-04S PRESSURE TRANSDUCER WAS NOT IN THE WELL DURING THE PERIOD OF DECEMBER 4, 2023 AND MARCH 5, 2024, DATA WAS NOT COLLECTED DURING THAT PERIOD.
4. WATER LEVEL LOWS ON OCTOBER 14, 2023 AND DECEMBER 17, 2023 INFLUENCED BY WATER SUPPLY WELL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW23-04D/S
GROUNDWATER ELEVATION

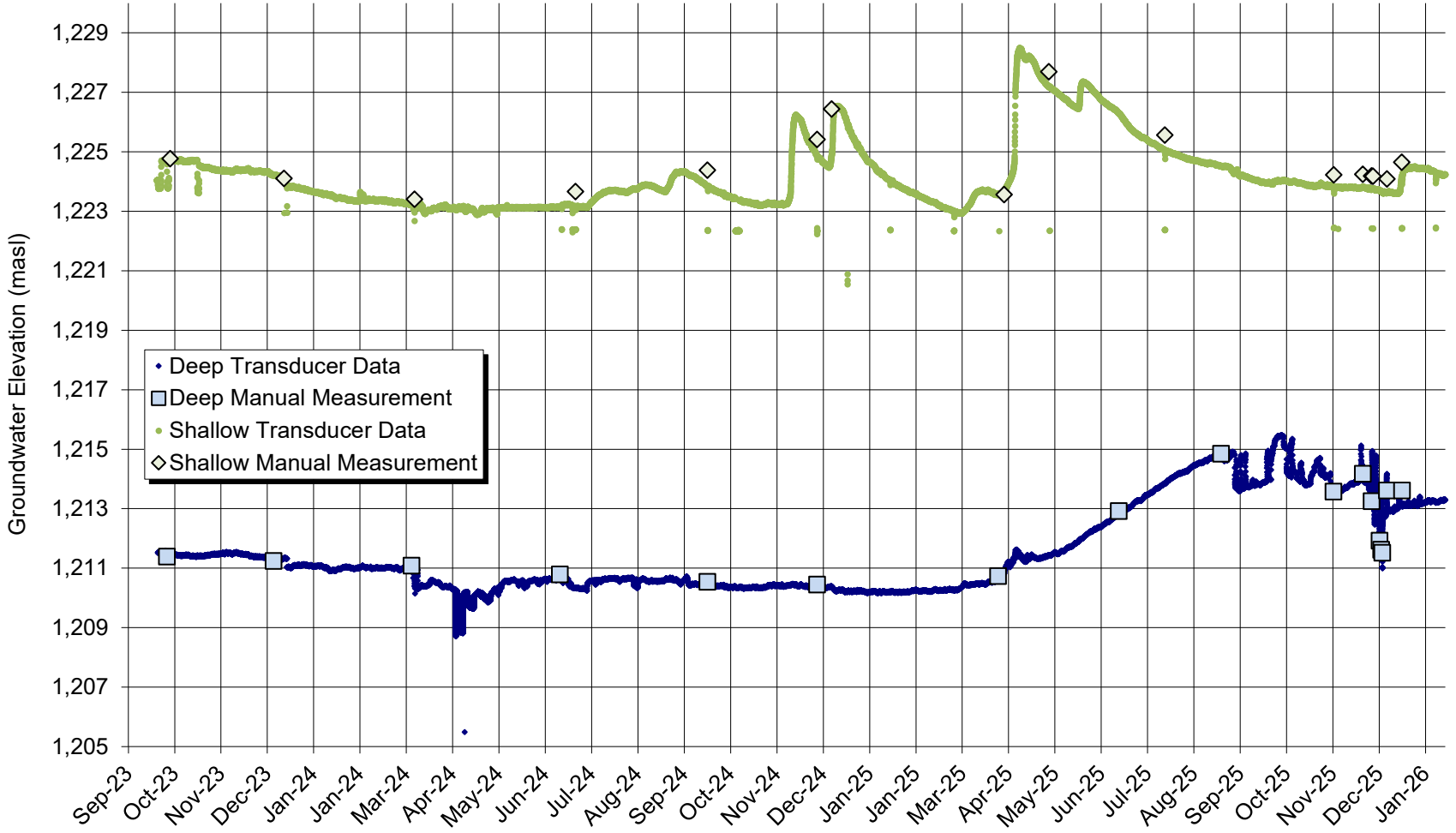
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.16

REV 0



NOTES:

1. GROUND ELEVATION AT MW23-05D 1231.0 masl AND MW23-05S 1231.2 masl BASED ON 2023 SURVEY PERFORMED BY BW GOLD LTD.
2. MW23-05D IS SCREENED FROM 32.5 TO 35.5 mbgs. MW23-05S IS SCREENED FROM 5.95 TO 9.00 mbgs.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	24FEB'26	ISSUED WITH REPORT	ZC	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW23-05D/S
GROUNDWATER ELEVATION

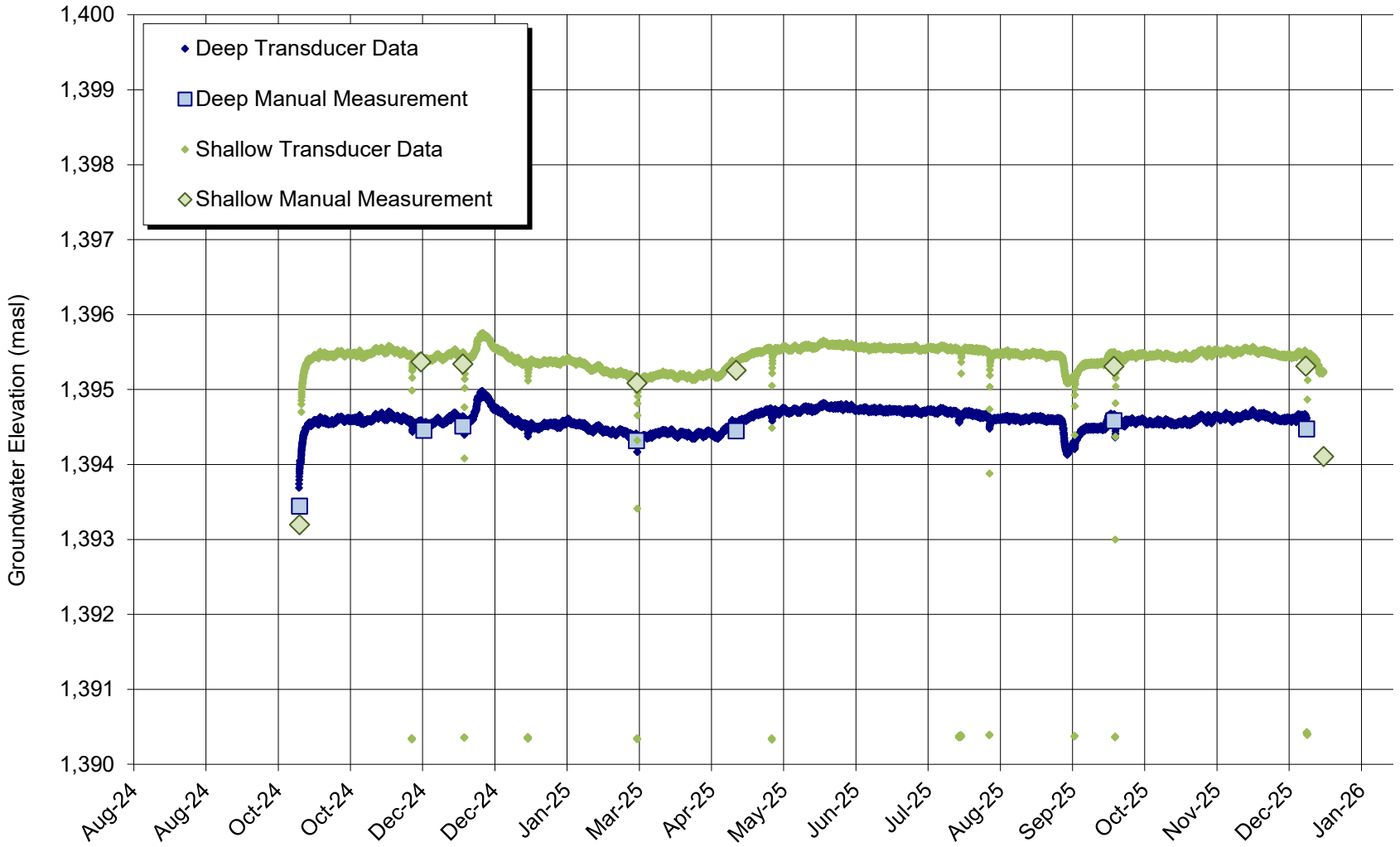
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.17

REV 0



NOTES:

1. GROUND ELEVATION AT MW24-01D(A) IS 1,396.2 masl, AND AT MW24-01S IS 1,397.5 masl BASED ON SURVEY PERFORMED BY BW GOLD.
2. MW24-01D(A) IS SCREENED FROM 15.7 TO 20.8 mbgs. MW24-01S IS SCREENED FROM 8 TO 11.5 mbgs.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW24-01D(A)/S
GROUNDWATER ELEVATION

Knight Piésold CONSULTING

P/A NO. VA101-457/62

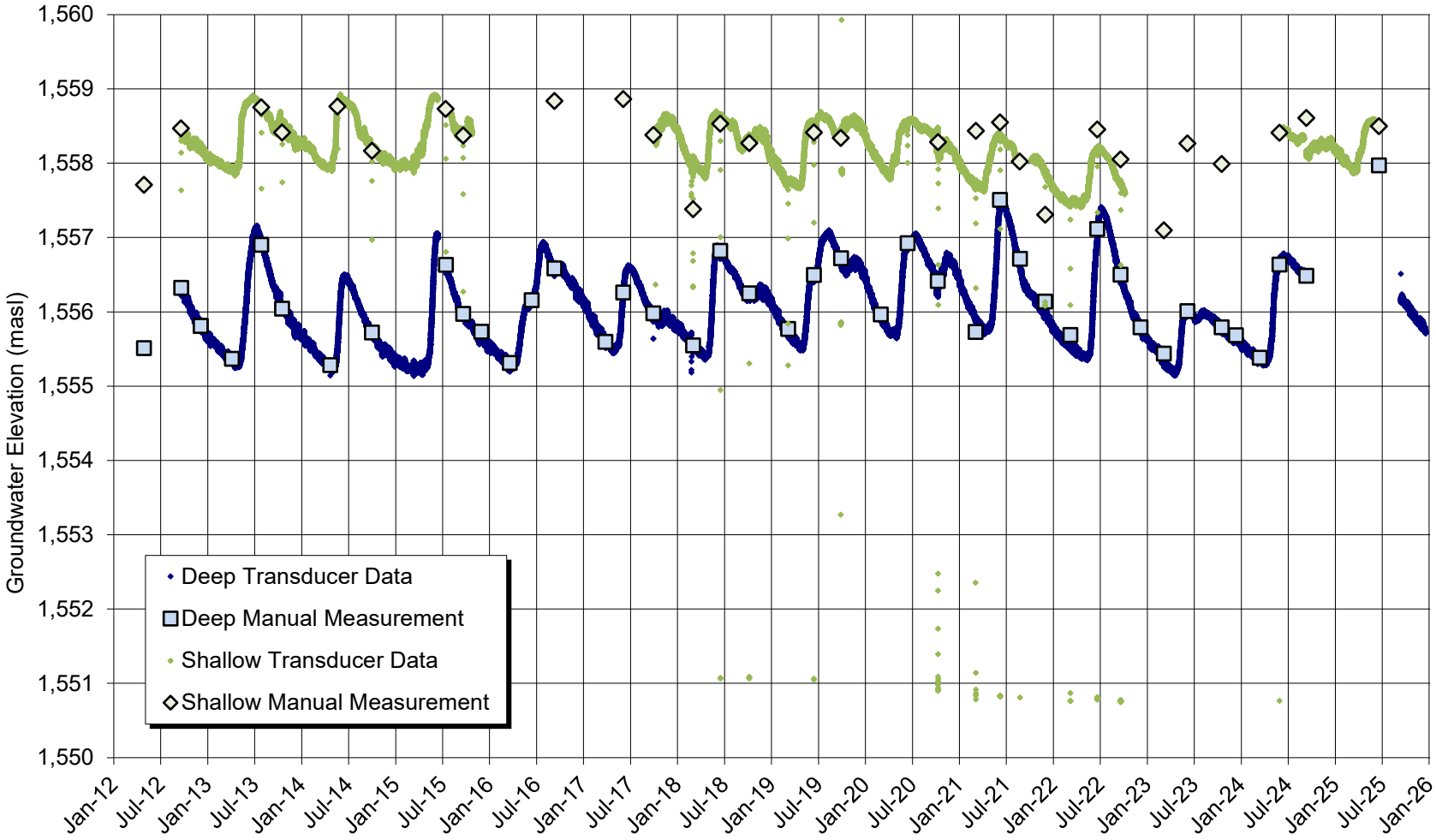
REF. NO. 2

FIGURE F1.18

REV 0

Appendix F-2 Standpipe Groundwater Elevation

(Figures A2.1 to A2.13, as originally issued in *Blackwater Gold Mine – 2025 Annual Report – Hydrogeology* [KP 2026b])



NOTES:

1. GROUND ELEVATION AT MW12-04D IS 1558.0 masl AND MW12-04S IS 1558.3 masl BASED ON 2013 SURVEY.
2. MW12-04D SCREENED FROM 33.4 TO 36.4 mbgs. MW12-04S SCREENED FROM 10.5 TO 13.6 mbgs.
3. MW12-04D AND MW12-04S TRANSDUCER MEMORIES FILLED JUNE, 2015. DATA DOWNLOADED AND TRANSDUCERS RESTARTED IN JULY, 2015.
4. MW12-04S PRESSURE TRANSDUCER REMOVED FROM WELL IN OCTOBER, 2015 TO INSTALL MARGO PLUG. TRANSDUCER REINSTALLED IN JUNE, 2016 BUT MALFUNCTIONED. NEW TRANSDUCER INSTALLED IN JUNE, 2017.
5. A WELL BUSTER WAS INSTALLED DURING THE WINTER MONTHS FROM 2017 ONWARD; THE TRANSDUCER REMAINED IN THE WELL WHEN THE PLUG WAS INSTALLED.
6. MW12-04S WELL REMAINED PLUGGED DURING SITE MARCH, 2020, 2021, AND 2022 SITE VISITS AND NO MANUAL MEASUREMENTS WERE COMPLETED.
7. MW12-04S PRESSURE TRANSDUCER MALFUNCTION IN OCTOBER, 2022. THE DEVICE WAS REPLACED JUNE 6, 2024.
8. SUSPECT MANUAL MEASUREMENT ON JUNE 6, 2024 AT MW12-04S HAS BEEN ADJUSTED TO MATCH PRESSURE TRANSDUCER DATA.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW12-04D/S
GROUNDWATER ELEVATION

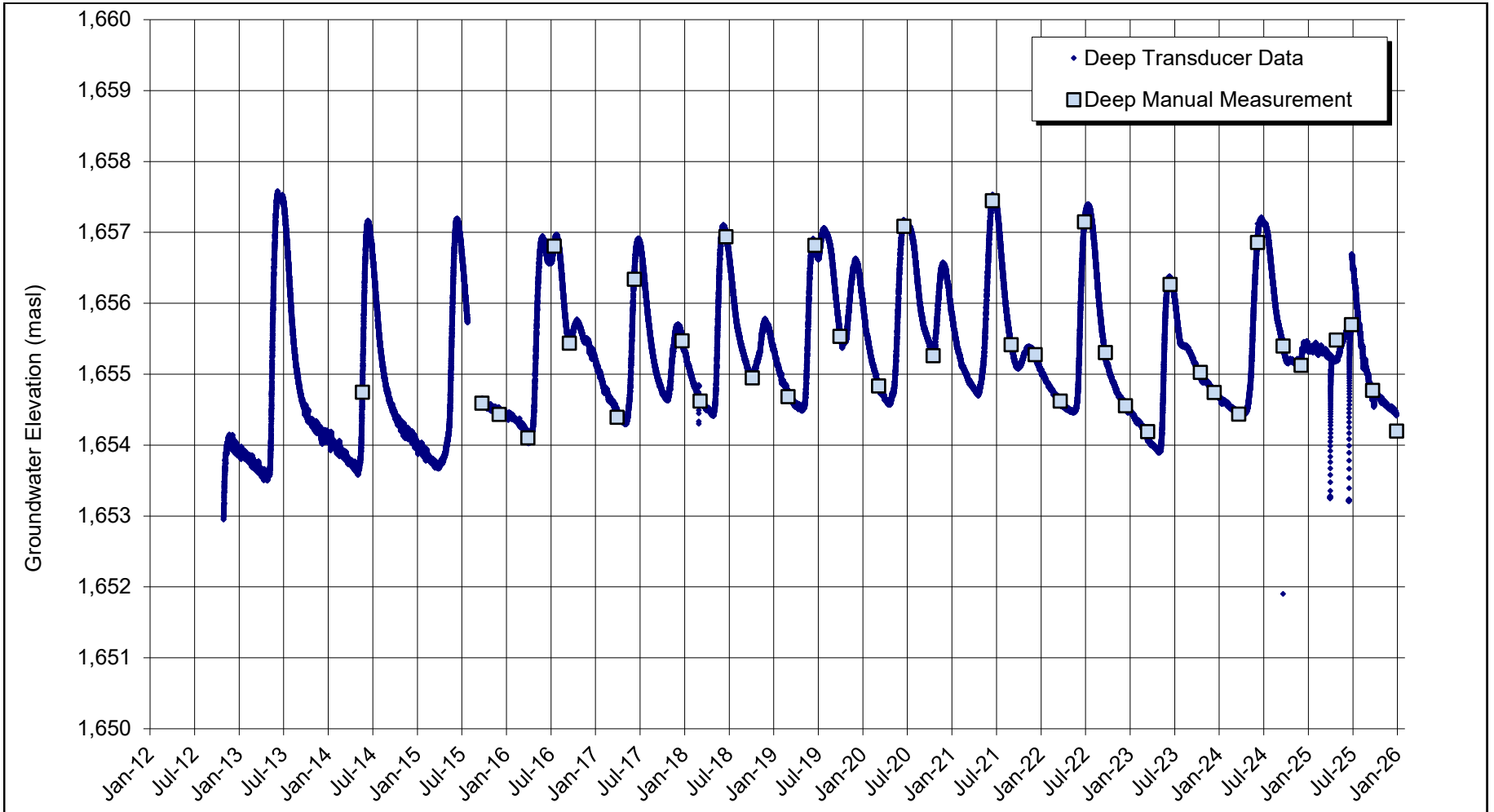
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F2.1

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-10D IS 1664.8 masl AND MW12-10S IS 1665.0 masl BASED ON 2013 SURVEY.
2. MW12-10D SCREENED FROM 36.3 TO 39.3 mbgs. MW12-10S SCREENED FROM 4.5 TO 6.0 mbgs.
3. MW12-10S HAS BEEN DRY SINCE INSTALLATION.
4. MW12-10D TRANSDUCER MEMORY FILLED JULY, 2015. DATA DOWNLOADED AND TRANSDUCER RESTARTED IN SEPTEMBER, 2015.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW12-10D/S
GROUNDWATER ELEVATION

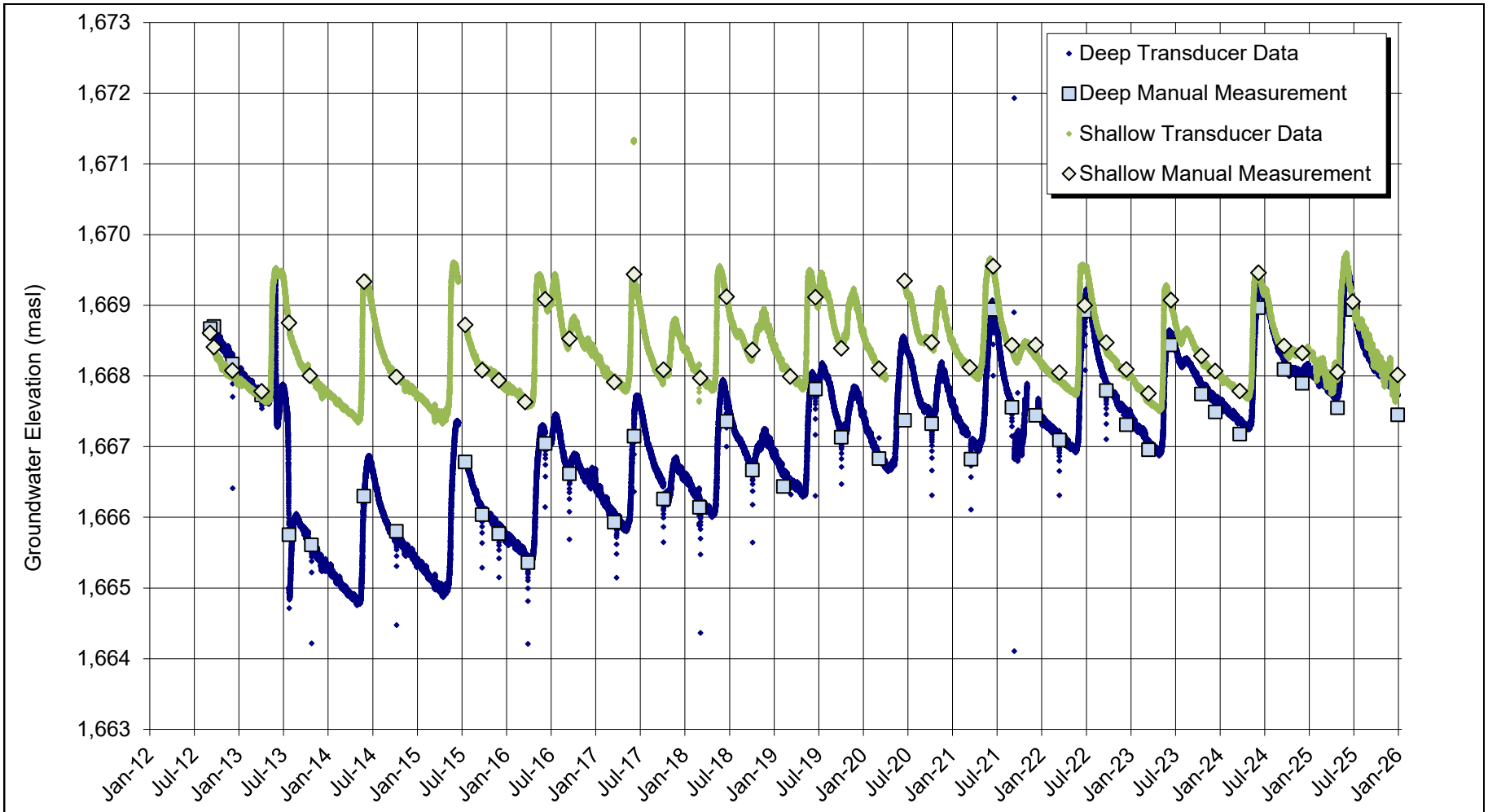
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F2.2

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-11D IS 1676.3 masl AND MW12-11S 1676.1 masl BASED ON 2013 SURVEY.
2. MW12-11D SCREENED FROM 40.3 TO 43.4 mbgs. MW12-11S SCREENED FROM 15.9 TO 18.9 mbgs.
3. MW12-11D AND MW12-11S TRANSDUCER MEMORIES FILLED JUNE 2015. DATA DOWNLOADED AND TRANSDUCERS RESTARTED IN JULY 2015.
4. THE MW12-11S TRANSDUCER MALFUNCTIONED IN APRIL 2020 AND STOPPED RECORDING, THE TRANSDUCER WAS REPLACED IN JUNE 2020.
5. THE MW12-11D PRESSURE TRANSDUCER MALFUNCTIONED IN NOVEMBER 2021 AND STOPPED RECORDING, THE TRANSDUCER WAS REPLACED IN DECEMBER 2021.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW12-11D/S
GROUNDWATER ELEVATION

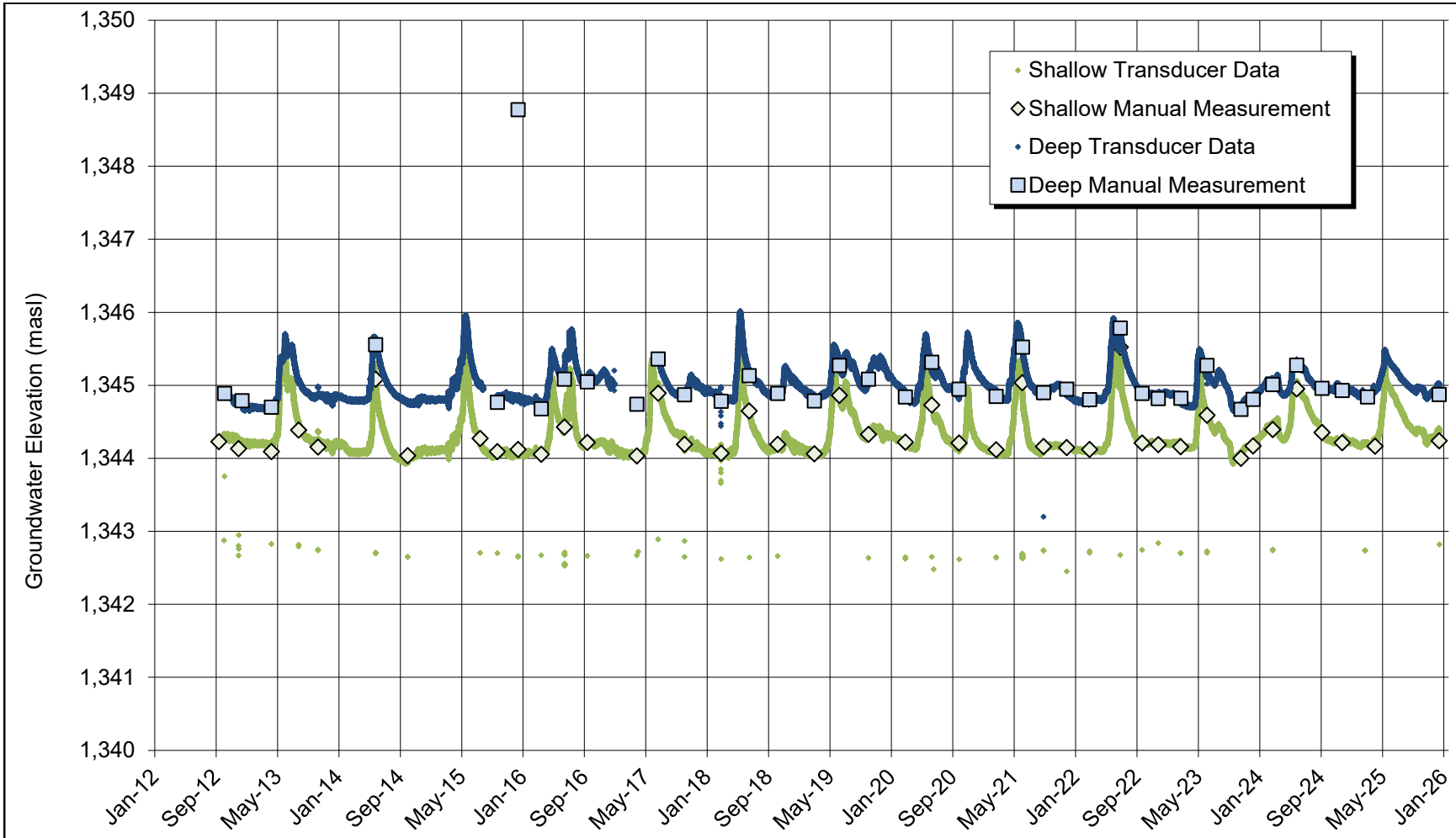
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F1.3

REV 0



NOTES:

1. GROUND ELEVATION AT MW12-13D 1352.7 masl AND MW12-13S IS 1352.9 masl BASED ON 2013 SURVEY.
2. MW12-13D IS SCREENED FROM 35.8 TO 38.9 mbgs. MW12-13S SCREENED FROM 10 TO 13.1 mbgs.
3. MW12-13S AND MW12-13D TRANSDUCER MEMORIES FILLED JUNE AND JULY 2015. DATA DOWNLOADED AND TRANSDUCERS RESTARTED IN JULY AND SEPTEMBER, 2015.
4. THE MANUAL MEASUREMENT AT MW12-13D RECORDED ON DECEMBER 15, 2015 DOES NOT MATCH THE TRANSDUCER DATA OR TYPICAL VALUES AND IS INTERPRETED TO BE AN ERROR .
5. THE BATTERY OF THE PRESSURE TRANSDUCER IN MW12-13D DIED IN DECEMBER, 2016. THE PRESSURE TRANSDUCER WAS REPLACED IN JUNE, 2017.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

MW12-13D/S
GROUNDWATER ELEVATION

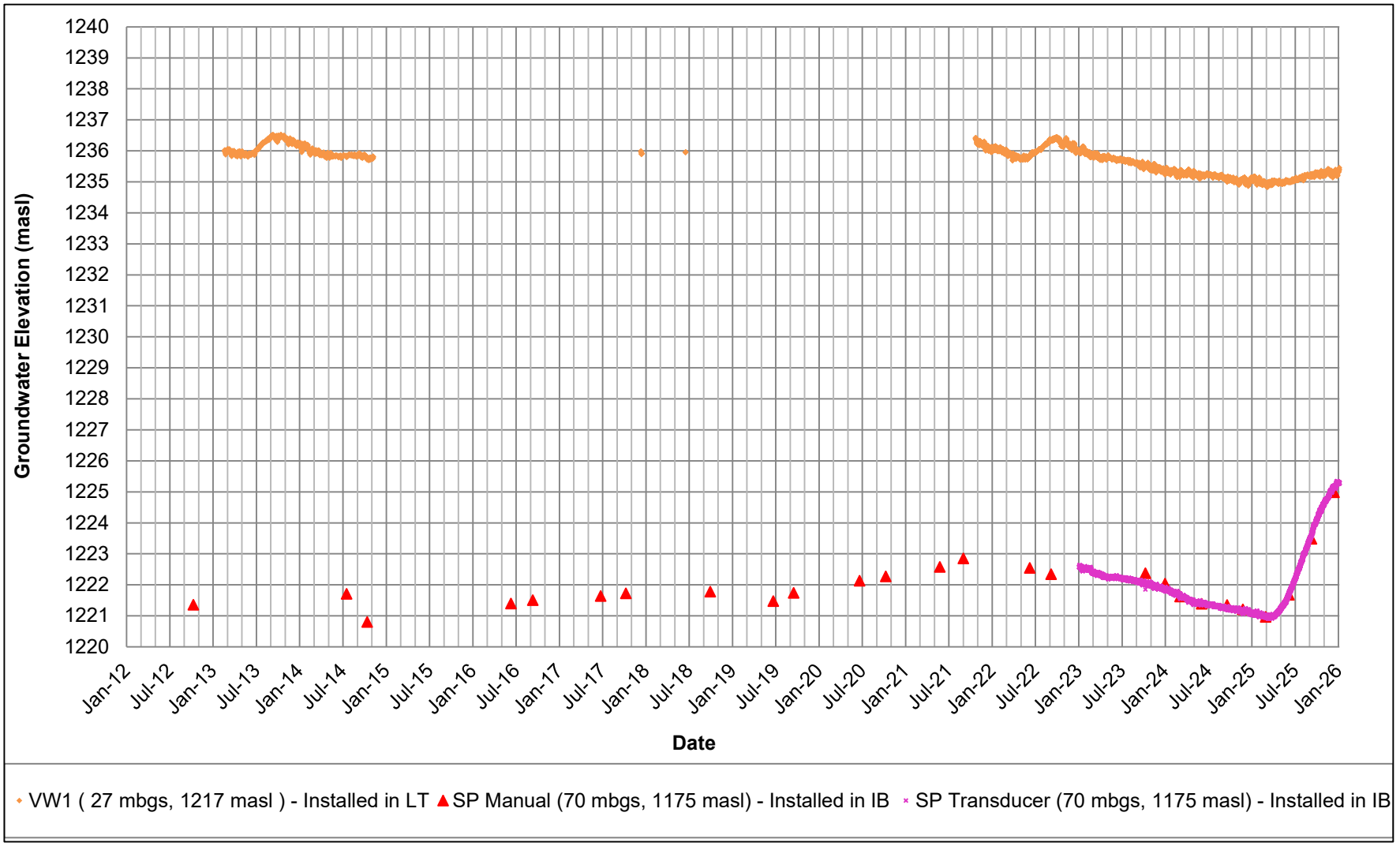
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F2.4

REV 0



NOTES:

1. GROUND ELEVATION IS 1245 METERS ABOVE SEA LEVEL.
2. SENSOR DEPTHS SHOWN IN THE LEGEND ARE VERTICAL DEPTHS BELOW GROUND SURFACE.
3. STANDPIPE PIEZOMETER (SP) MID-POINT OF SCREEN SHOWN IN LEGEND.
4. DATA LOGGER STOPPED RECORDING DATA IN NOVEMBER 2014, THE DATALOGGER BATTERIES WERE REPLACED IN DECEMBER 2017. DATA LOGGER RECORDED DATA FOR SIX DAYS THEN STOPPED. BATTERIES WERE REPLACED AGAIN IN DECEMBER 2018 AND DATA WAS DOWNLOADED. ONLY FOUR DAYS OF DATA WERE RECORDED FROM DECEMBER 2017 TO DECEMBER 2018. DATA LOGGER IS CONSIDERED FAULTY.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
0	16JAN'25	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

PIEZOMETER DATA
GT12-01
ELEVATION (masl)

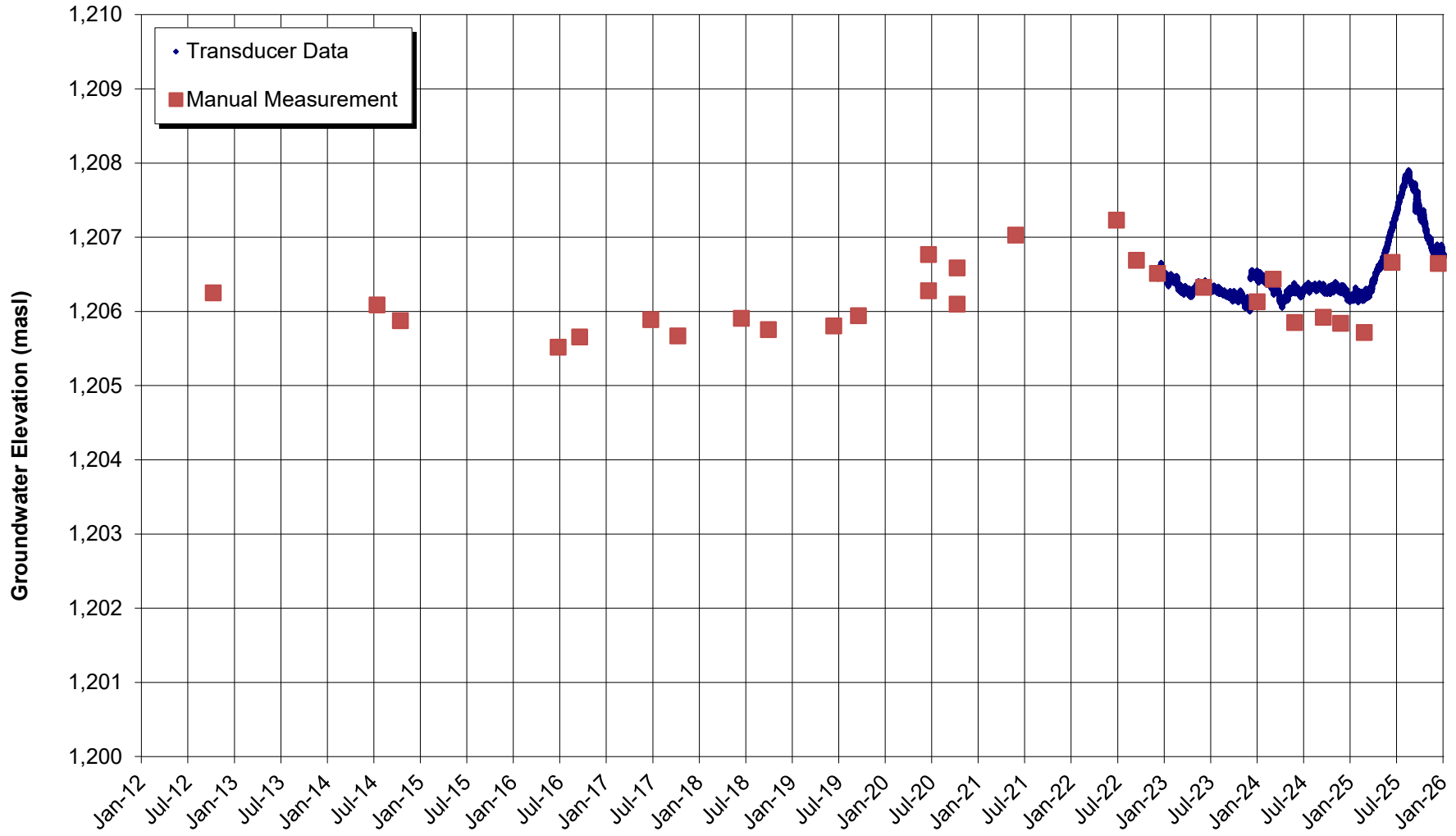
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 2

FIGURE F2.5

REV 0



NOTES:

1. GROUND ELEVATION IS 1239 masl BASED ON ALLNORTH 2012 SURVEY.
2. SCREENED INTERVAL IS FROM 106.7 TO 109.7 mbgs.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

GT12-09
GROUNDWATER ELEVATION

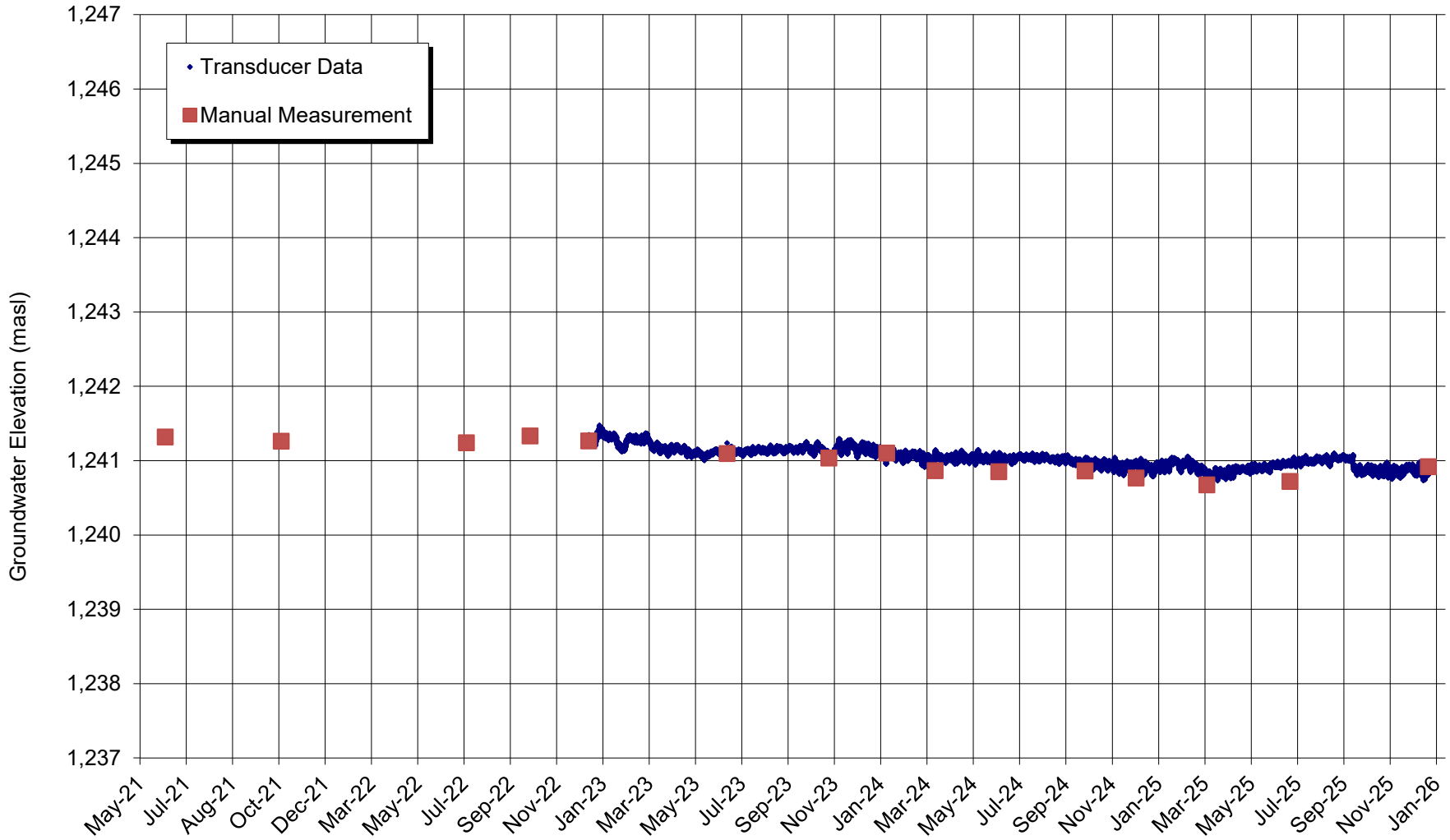
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F2.6

REV 0



NOTES:

1. GROUND ELEVATION IS 1258 masl BASED ON ALLNORTH 2012 SURVEY
2. SCREENED INTERVAL IS FROM 28.3 TO 31.4 mbgs.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

GT12-10
GROUNDWATER ELEVATION

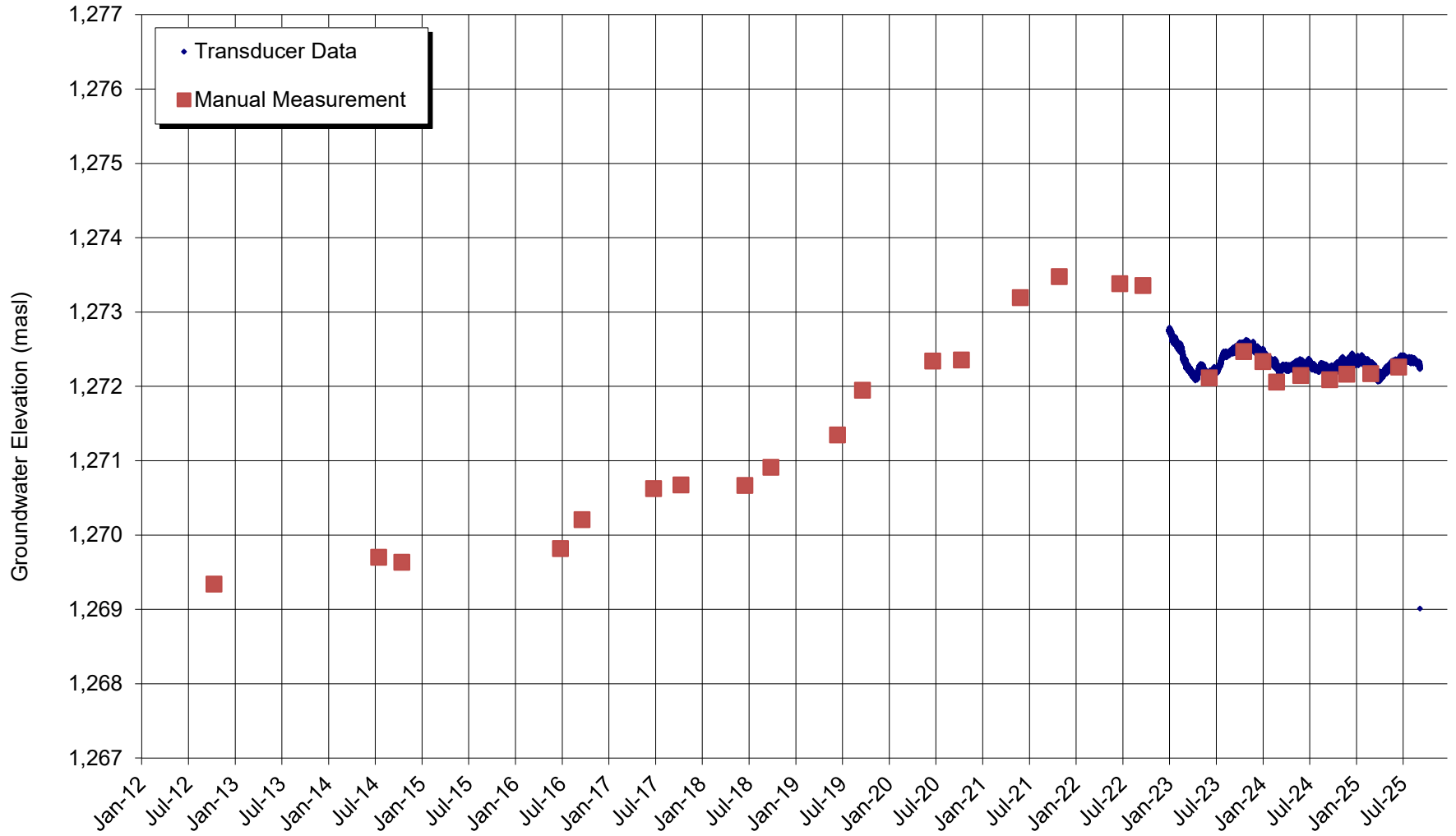
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 2

FIGURE F2.7

REV 0



NOTES:

1. GROUND ELEVATION IS 1282 masl BASED ON ALLNORTH 2012 SURVEY
2. SCREENED INTERVAL IS FROM 11.6 TO 14.6 mbgs.
3. THIS WELL HAS BEEN DESTROYED AND IS NO LONGER SAMPLED.

BW GOLD LTD.

BLACKWATER GOLD MINE

GT12-11
GROUNDWATER ELEVATION

Knight Piésold CONSULTING

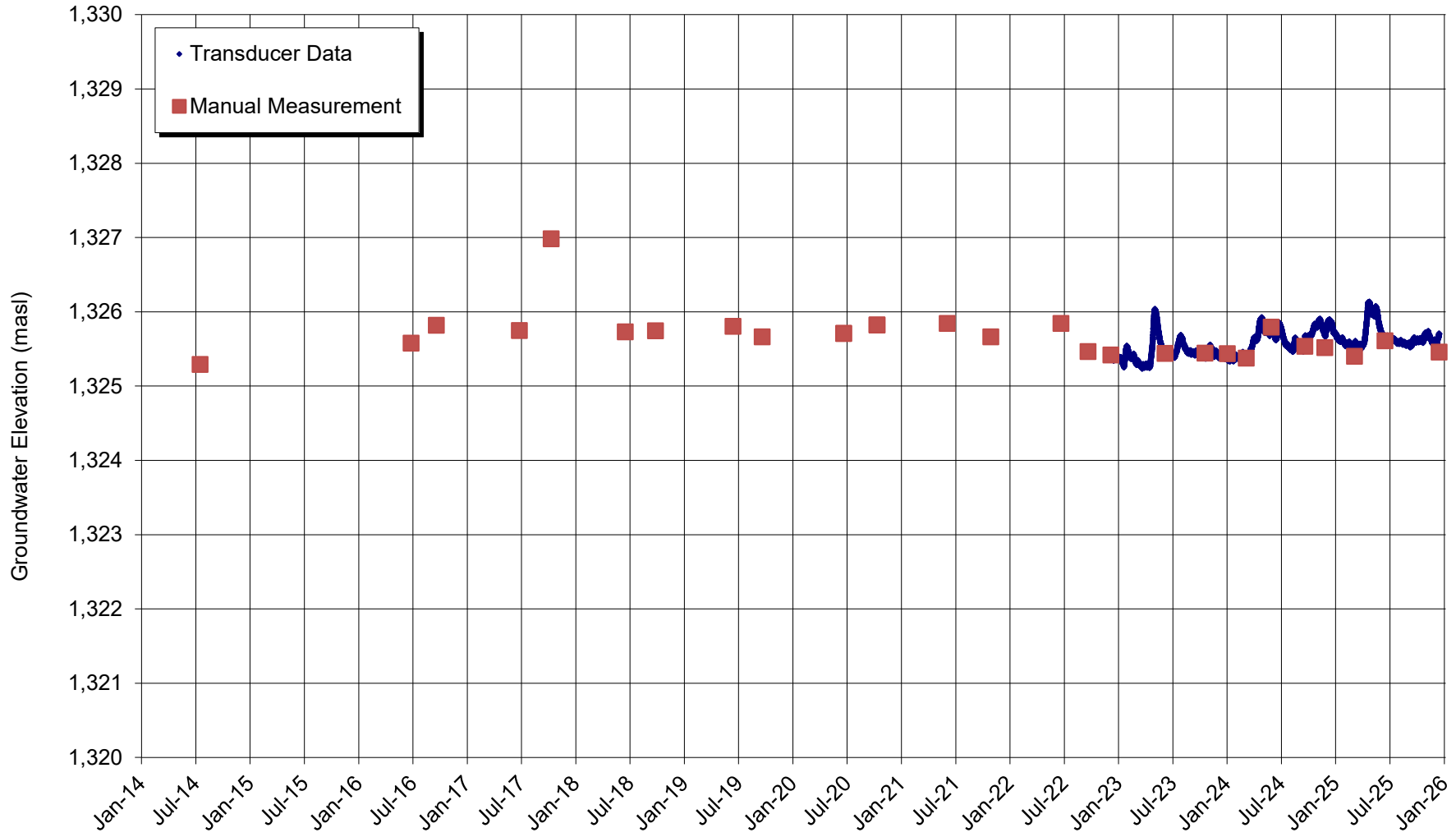
P/A NO. VA101-00457/62

REF. NO 2

FIGURE F2.8

REV 0

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ



NOTES:
1. GROUND ELEVATION IS 1332 masl BASED ON ALLNORTH 2013 SURVEY
2. SCREENED INTERVAL IS FROM 7.0 TO 10.1 mbgs.

BW GOLD LTD.

BLACKWATER GOLD MINE

GT13-19
GROUNDWATER ELEVATION

Knight Piésold CONSULTING

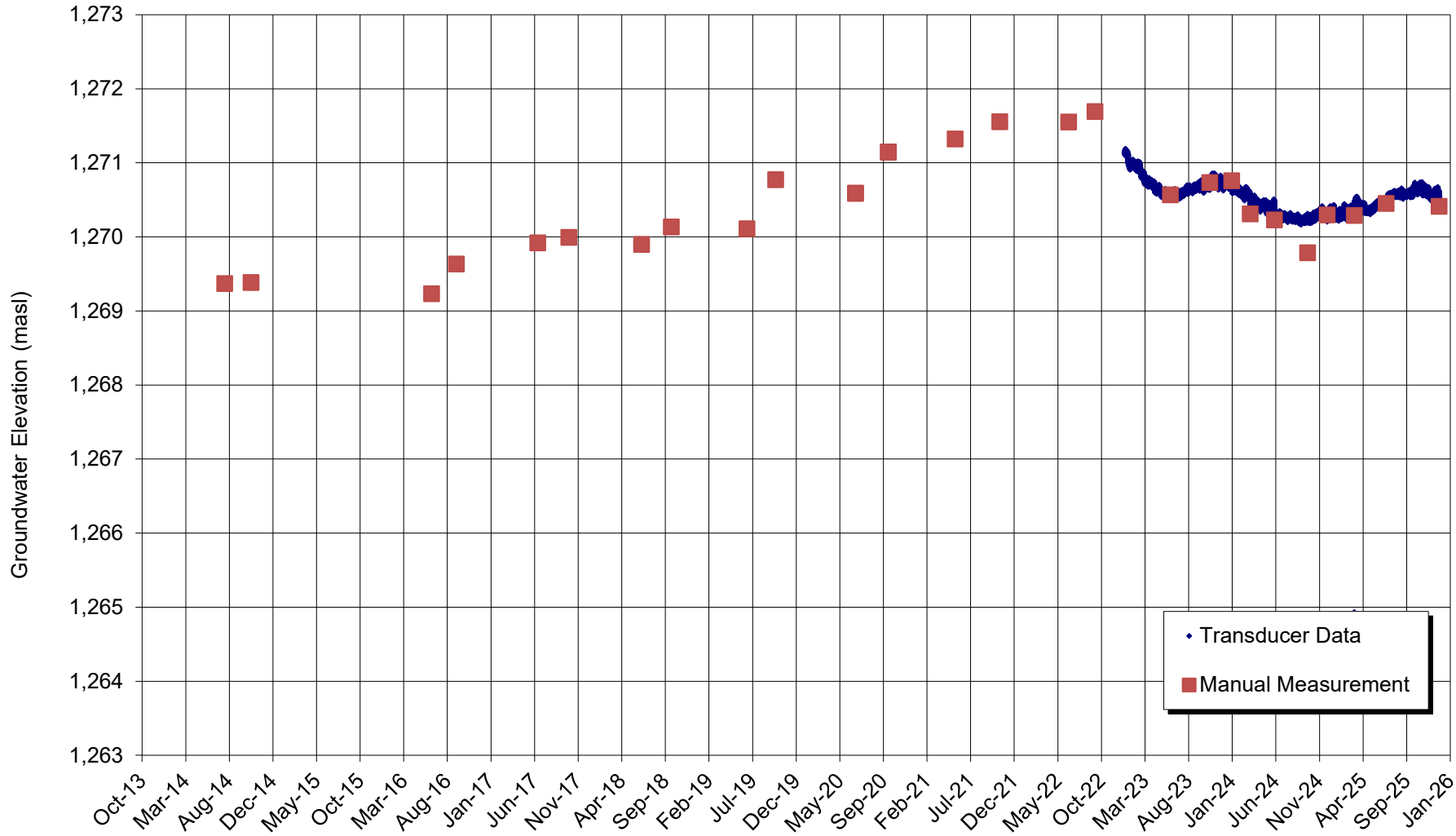
P/A NO. VA101-00457/62

REF. NO. 2

FIGURE F2.9

REV 0

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ



NOTES:

1. GROUND ELEVATION IS 1275 masl BASED ON ALLNORTH 2013 SURVEY
2. SCREENED INTERVAL IS FROM 35.1 TO 32.2 mbgs.

BW GOLD LTD.

BLACKWATER GOLD MINE

GT13-20
GROUNDWATER ELEVATION

Knight Piésold CONSULTING

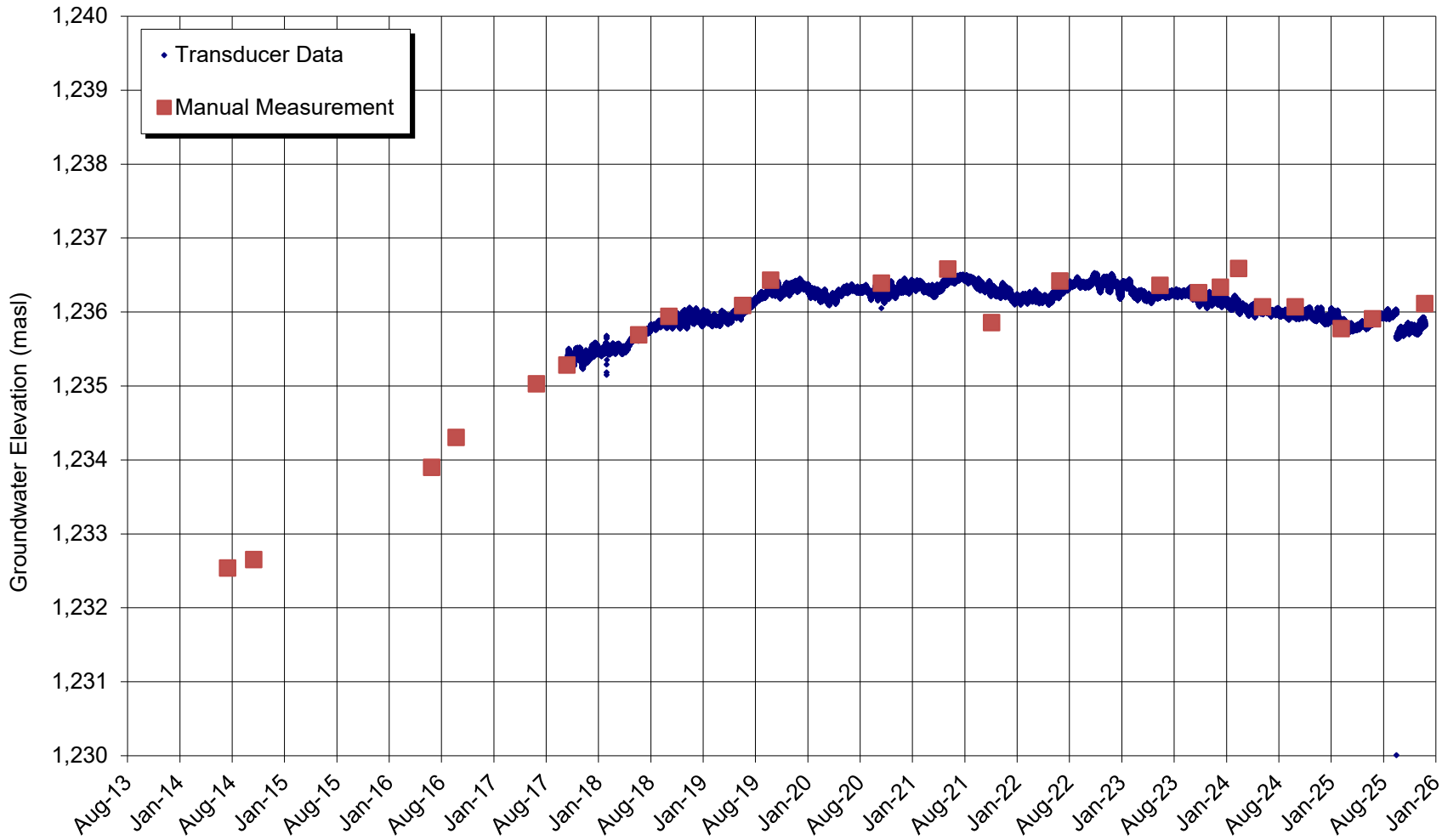
P/A NO. VA101-00457/62

REF. NO. 2

FIGURE F2.10

REV 0

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ



NOTES:
1. GROUND ELEVATION IS 1259.4 masl BASED ON 2013 SURVEY.
2. SCREENED INTERVAL IS FROM 69.2 TO 72.1 mbgs.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

GT13-21
GROUNDWATER ELEVATION

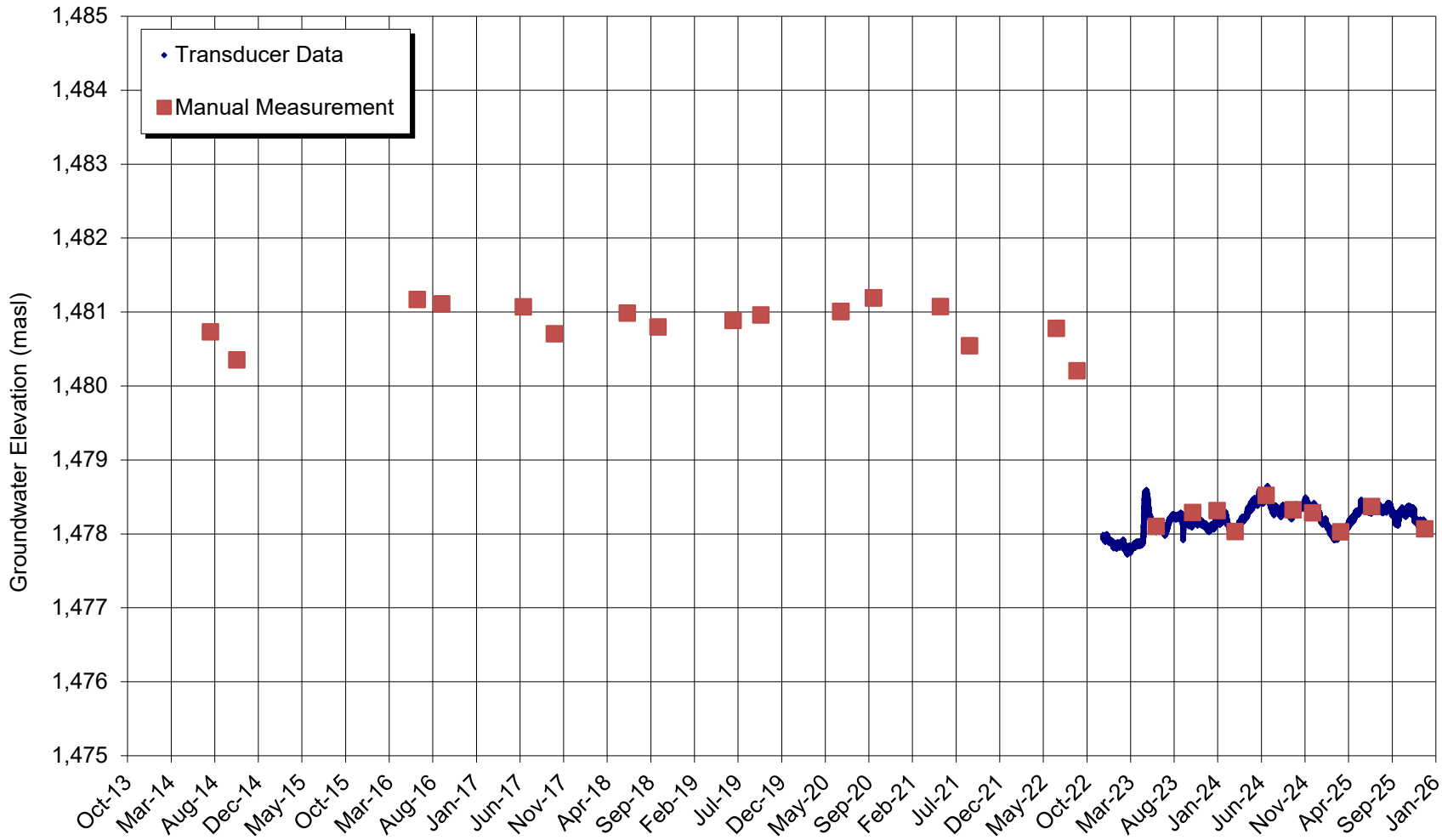
Knight Piésold CONSULTING

P/A NO. VA101-457/62

REF. NO. 2

FIGURE F2.11

REV 0



NOTES:
1. GROUND ELEVATION IS 1482 masl BASED ON ALLNORTH 2013 SURVEY
2. SCREENED INTERVAL IS FROM 25.3 TO 28.4 mbgs.

BW GOLD LTD.

BLACKWATER GOLD MINE

GT13-25
GROUNDWATER ELEVATION

Knight Piésold CONSULTING

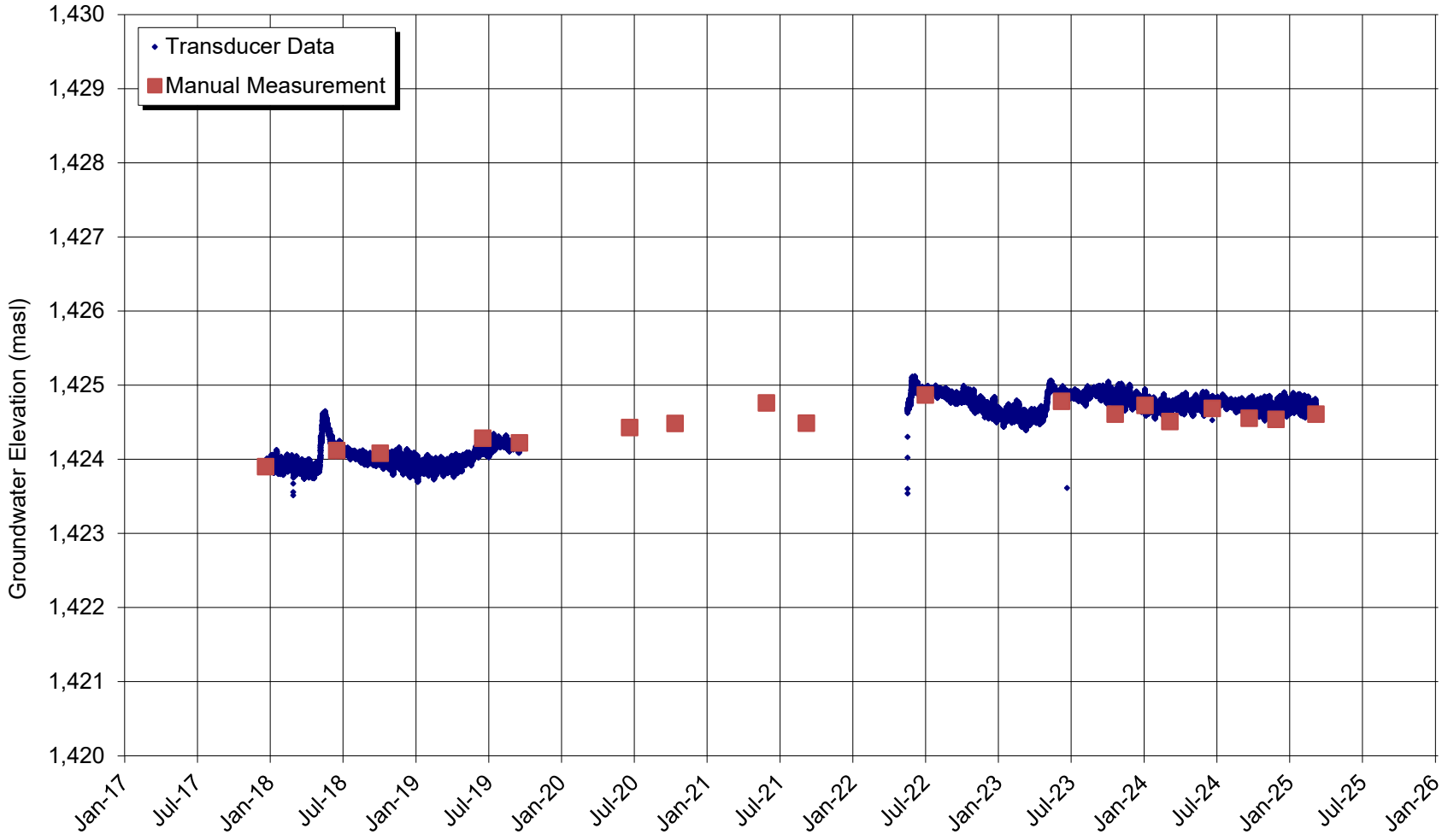
P/A NO. VA101-457/62

REF. # 2

FIGURE F2.12

REV 0

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ



NOTES:

1. GROUND ELEVATION IS 1461.1 masl SURVEY SOURCE IS UNKNOWN.
2. SCREENED INTERVAL IS FROM 35.3 TO 38.4 mbgs.
3. A PRESSURE TRANSDUCER WAS INSTALLED IN DECEMBER 2017. THE DEVICE WAS REMOVED IN DECEMBER, 2019 AND WAS RE-INSTALLED IN MAY, 2022.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	16JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

DK/MW-05
GROUNDWATER ELEVATION

Knight Piésold CONSULTING

P/A NO. VA101-00457/62

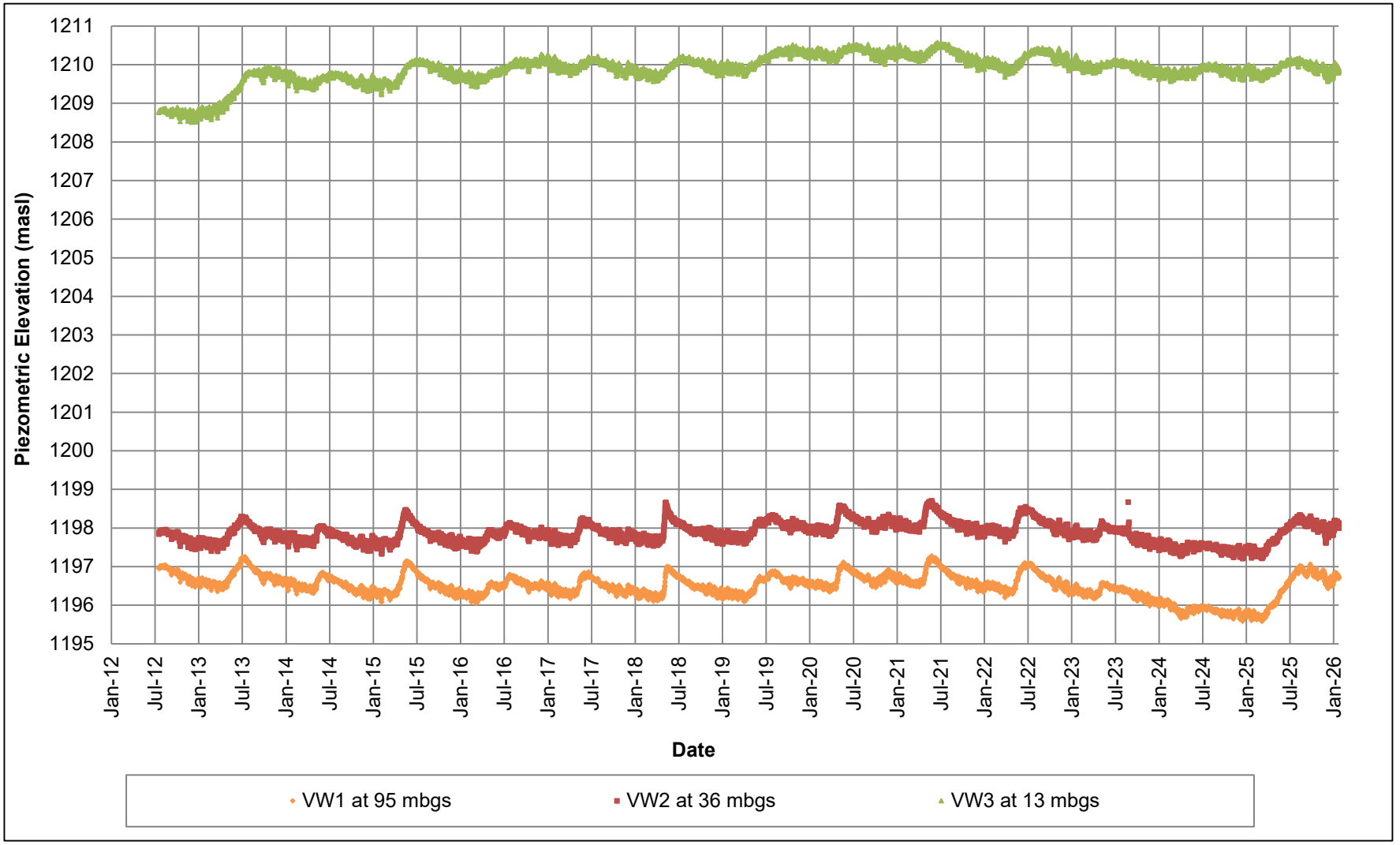
REF. NO. 2

FIGURE F2.13

REV 0

Appendix F-3 Vibrating Wire Piezometer Elevation

(Figures A3.1 to A3.3, as originally issued in *Blackwater Gold Mine – 2025 Annual Report – Hydrogeology* [KP 2026b])



NOTES:

1. SENSOR DEPTHS SHOWN IN THE LEGEND ARE VERTICAL DEPTHS BELOW GROUND SURFACE.
2. GROUND ELEVATION IS 1218 METERS ABOVE SEA LEVEL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	17JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

PIEZOMETER DATA
GT12-02
ELEVATION (masl)

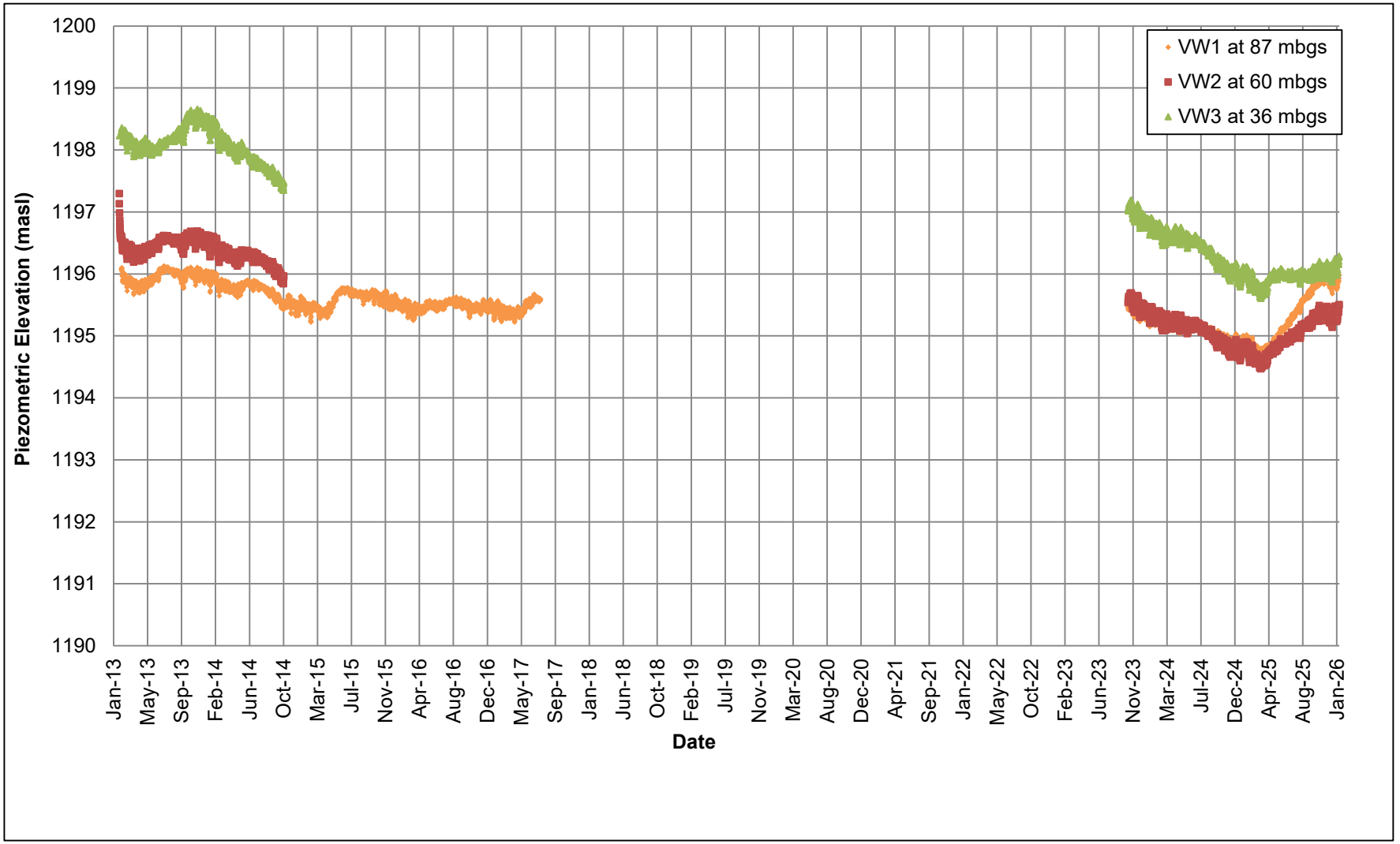
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 2

FIGURE F3.1

REV 0



NOTES:

1. SENSOR DEPTHS SHOWN IN THE LEGEND ARE VERTICAL DEPTHS BELOW GROUND SURFACE.
2. GROUND ELEVATION IS 1223 METERS ABOVE SEA LEVEL.
3. SENSORS VW2 AND VW3 BEGAN MALFUNCTIONING IN OCTOBER 2014, AND SENSOR VW3 BEGAN MALFUNCTIONING IN JUNE 2017. DATA WAS NOT RECORCED FROM WHEN MALFUNCTIONS BEGAN UNTIL A NEW DATA LOGGER WAS INSTALLED IN OCTOBER 2023.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	17JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

PIEZOMETER DATA
GT13-02
ELEVATION (masl)

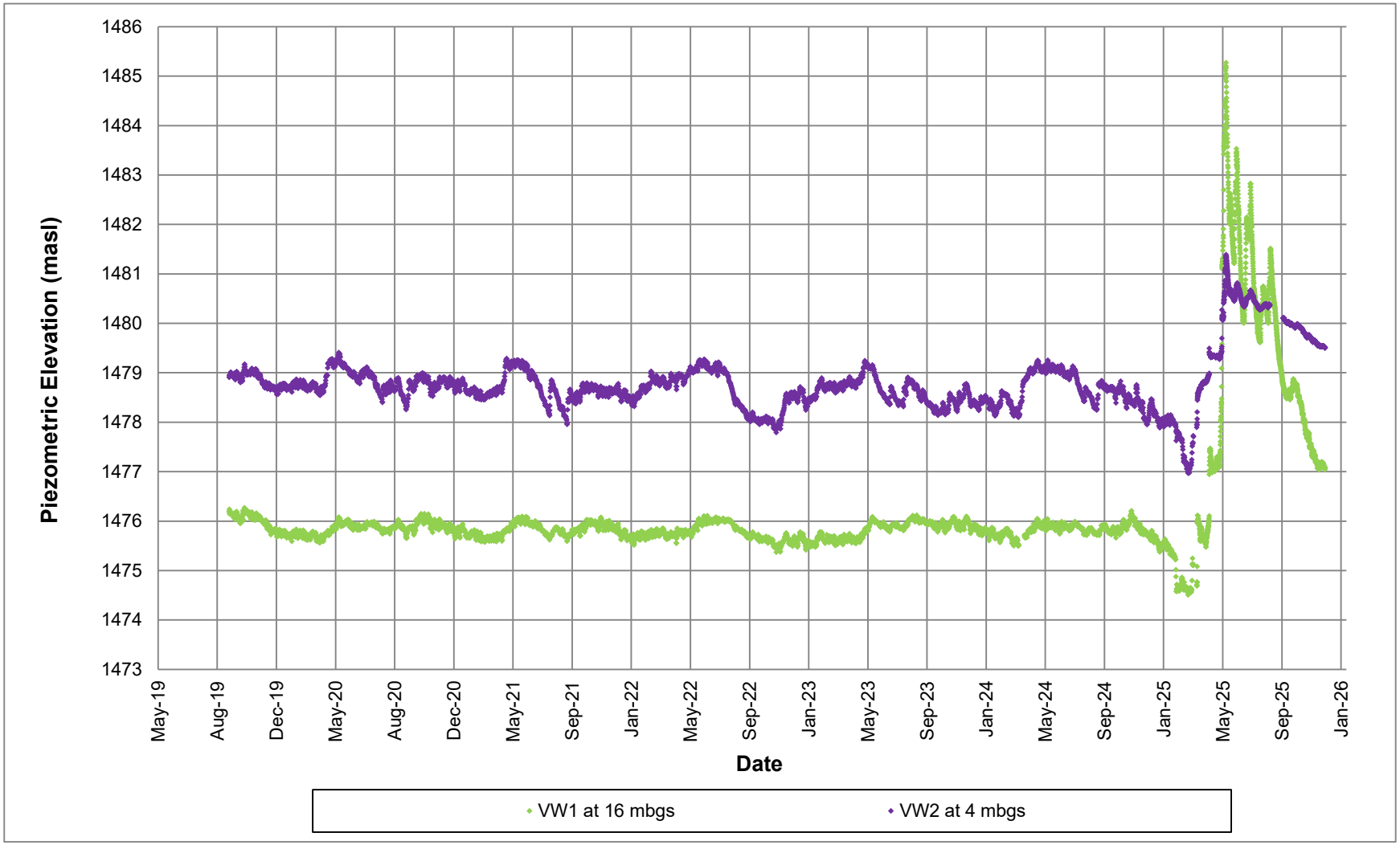
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO. 2

FIGURE F3.2

REV 0



NOTES:

1. GROUND ELEVATION IS 1479 m ABOVE SEA LEVEL.
2. SENSOR ELEVATIONS SHOWN IN LEGEND ARE VERTICAL DEPTHS BELOW GROUND SURFACE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	17JAN'26	ISSUED WITH REPORT	EB	JDZ

BW GOLD LTD.

BLACKWATER GOLD MINE

PIEZOMETER DATA
GT19-04
ELEVATION (masl)

Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF. NO 2

FIGURE F3.3

REV 0

Appendix F-4 Changes in Groundwater Levels Summary Tables

Knight Piésold CONSULTING

TABLE F-4.1

BW GOLD LTD.
BLACKWATER GOLD MINE

FOLLOW-UP PROGRAM CONDITION 3.15 - 2025 ANNUAL REPORT
025 CHANGES IN GROUNDWATER LEVELS AT MONITORING WELL

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Drillhole ID	Location Monitored	Typical Background Seasonal Fluctuation	2025 Operational Influence		Notes
			Groundwater Level Increase	Groundwater Level Decrease	
		(m)	(m)	(m)	
Monitoring Wells Located Between TSF C and the IECD					
GT20-04	TSF C	<1	3	1	Water level increase attributed to impoundment of water and tailings in TSF C. Water level decrease attributed to operation of seepage interception wells.
GT21-03S		<1	1	6	As above.
MW22-02D		<1	2	1	As above.
MW22-02S		-	-	-	
MW22-03D		<1	4	4	Water level increase attributed to impoundment of water and tailings in TSF C. Water level decrease attributed to operation of seepage interception wells.
MW22-03S		1	-	-	
MW23-05D		<1	5	2	Water level increase attributed to impoundment of water and tailings in TSF C. Water level decrease attributed to operation of seepage interception wells.
MW23-05S		2	-	-	
Monitoring Wells Located Between TSF D and the ECD / Seepage Collection Trenches					
MW12-07D	TSF D	1	-	-	
MW12-07S		1	-	-	
Monitoring Wells Located at the FWR and Downgradient					
MW12-08D	TSF and ECD	2	-	1	Water level decrease attributed to water management activities in the FWR construction footprint.
MW12-08S		2	-	1	As above.
MW12-09D		<1 to 3	-	-	2025 water level increase observed outside of typical freshet response. Continued monitoring to assess response to be completed.
MW12-09S		<1 to 6	-	-	As above.
Monitoring Wells Located at the Saddle Dam and Spillway					
MW12-12D	TSF	<1	-	-	
MW12-12S		1	-	-	
Monitoring Wells Downgradient of Stockpiles Area					
MW23-03D	LGO	1	-	-	
MW23-03S		2	-	-	
MW24-01D(A)		<1	-	1	Water level decrease attributed to operation of water supply well.
MW24-01S		<1	-	1	As above.
MW25-01		INSUF.	-	-	
MW25-02D		INSUF.	-	-	
MW25-02S		INSUF.	-	-	
MW23-04D	LWS	1	-	1	Water level decrease attributed to operation of water supply well.
MW23-04S		1	-	1	As above.
Monitoring Wells Downgradient of Deposit Area					
MW12-03D	Open Pit	<1	-	-	
GT13-44		<1	-	-	
Monitoring Wells Downgradient of Plant Site Area					
MW23-01	Plant Site	<1	-	-	
MW23-02D	Former Plant Site RIBs	Dry	-	-	Location was decommissioned on September 6, 2025, for construction of the Plant Site Metals Water Treatment Pond.
MW23-02S		2	-	-	Location was decommissioned on September 6, 2025, for construction of the Plant Site Metals Water Treatment Pond.
Background Monitoring Wells					
MW12-01D	-	<1	-	-	
MW12-05D	-	<1	-	-	
MW12-05S	-	<1	-	-	
MW12-13S	-	1	-	-	

\\KPL\VA-Prj$\1\01\00457\62\A\Correspondence\3- Transmittals\VA26-00869 - Condition 3.15 Groundwater Components\Appendices\Appendix F-4 Water Level Change Summary\[Tables F-4.1 and 2 - Water Level Change Sum

NOTES:
1. TSF = TAILINGS STORAGE FACILITY; ECD = ENVIRONMENTAL CONTROL DAM; FWR = FRESH WATER RESERVOIR; LWS = LOWER WASTE STOCKPILE; WMP = WATER MANAGEMENT POND; RIBs = RAPID INFIL
2. FLUCTUATIONS REPRESENT THE UPPER RANGE OF SEASONAL FLUCTUATIONS OBSERVED IN THE HISTORICAL RECORD.
3." INSUF." = INSUFFICIENT DATA RECORD AVAILABLE TO ASSESS SEASONALITY.
4. '-' = NO OPERATIONAL INFLUENCE

REV	DATE	DESCRIPTION	PREPD	RVWD
A	11JMAR26	ISSUED WITH REPORT VA101-457/62-2	EB	JDZ

Knight Piésold CONSULTING

TABLE F-4.2

BW GOLD LTD.
BLACKWATER GOLD MINE

FOLLOW-UP PROGRAM CONDITION 3.15 - 2025 ANNUAL REPORT
ANGES IN GROUNDWATER LEVELS AT WATER LEVEL MONITORING LO

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Drillhole ID	Installation [1] Type	Typical Background Seasonal Fluctuation	2025 Operational Influence		Notes
			Groundwater Level Increase	Groundwater Level Decrease	
		(m)	(m)	(m)	
Water Level Monitoring Locations in the TSF Area					
GT21-03D	SP	<1	2	<1	Water level increase attributed to impoundment of water and tailings in TSF C. Water level decrease attributed to operation of seepage interception wells.
GT12-01	SP	1.5	4	-	Water level increase attributed to impoundment of water and tailings in TSF C.
	VWP	1	-	-	
GT12-02	VWP	2	-	-	
GT13-02	VWP	1	-	-	
GT12-09	SP	<1	2	1	Water level increase attributed to impoundment of water and tailings in TSF C. Water level decrease attributed to operation of seepage interception wells.
GT12-10	SP	<1	-	-	
GT12-11	SP	<1	-	-	
GT13-19	SP	1.5	-	-	
GT13-20	SP	2	-	-	
GT13-21	SP	<1	-	-	
Water Level Monitoring Locations in the Open Pit Area					
MW12-04D	SP	1.5	-	-	
MW12-04S	SP	1	-	-	Well plug installed.
MW12-10D	SP	2	-	-	
MW12-11D	SP	1.5	-	-	
MW12-11S	SP	1	-	-	
GT13-25	SP	<1	-	-	
GT19-04	VWP	<1	9	-	Water level increase attributed to stockpiling of LGO material.
DK/MW-05	SP	1	-	-	
Background Water Level Monitoring Locations					
MW12-01S	SP	<1	-	-	
MW12-13D	SP	1	-	-	

\\KPL\VA-Prj$\1\01\00457\62\A\Correspondence\3- Transmittals\VA26-00869 - Condition 3.15 Groundwater Components\Appendices\Appendix F-4 Water Level Change Summary\[Tables F-4.1 an

NOTES:

1. SP = STANDPIPE PIEZOMETER; VWP = VIBRATING WIRE PIEZOMETER.
2. "-" = NO OPERATIONAL INFLUENCE

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	11JMAR'26	ISSUED WITH REPORT VA101-457/62-2	EB	JDZ

Appendix F-5 TSF Embankment Drainage, IECD Pumpback, and Open Pit Dewatering Flow Rates

Knight Piésold CONSULTING

TABLE F-5.1

BW GOLD LTD,
BLACKWATER MINE

FOLLOW-UP PROGRAM CONDITION 3.15 - 2025 ANNUAL REPORT
TSF C FOUNDATION DRAIN FLOW RATES FROM ROUTINE INSPECTION REPORTS

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Routine Inspection Date	Measured Embankment Drain Flow Rate (m^3/hr)		Total Flow Rate (m^3/hr)	Total Flow Rate (L/s)	Notes
	Central Foundation Drain	East Foundation Drain			
7-Jan-25	Snow Covered	-	-	-	Flow rates not recorded during inspection.
21-Jan-25	Snow Covered	0.05	-	-	
4-Feb-25	No seepage	> 0	-	-	
13-Feb-25	No seepage	> 0	-	-	Flow rates not recorded during inspection.
22-Feb-25	-	0.05	0.05	0.01	
2-Mar-25	No seepage	0.05	0.05	0.01	
9-Mar-25	No seepage	0.05	0.05	0.01	
15-Mar-25	-	-	-	-	Flow rates not recorded during inspection.
23-Mar-25	-	-	-	-	Flow rates not recorded during inspection.
28-Mar-25	-	-	-	-	Flow rates not recorded during inspection.
12-Apr-25	-	0.001	0.001	0.0003	
19-Apr-25	-	-	-	-	Flow rates not recorded during inspection.
26-Apr-25	-	-	-	-	Flow rates not recorded during inspection.
5-May-25	-	-	-	-	Flow rates not recorded during inspection.
12-May-25	-	-	-	-	Flow rates not recorded during inspection.
20-May-25	-	-	-	-	Flow rates not recorded during inspection.
26-May-25	-	-	-	-	Flow rates not recorded during inspection.
10-Jun-25	6.1	1	7.1	2.0	
22-Jun-25	9.1	1.7	10.8	3.0	
30-Jun-25	9.1	2.9	12	3.3	
6-Jul-25	-	-	-		Flow rates not recorded during inspection.
13-Jul-25	-	-	-		Flow rates not recorded during inspection.
19-Jul-25	15.9	2.9	18.8	5.2	
26-Jul-25	15.9	2.9	18.8	5.2	
9-Aug-25	-	-	-		Flow rates not recorded during inspection.
16-Aug-25	15.9	2.9	18.8	5.2	
14-Sep-25	15.9	2.9	18.8	5.2	
20-Sep-25	15.9	2.9	18.8	5.2	
12-Oct-25	15.9	2.9	18.8	5.2	
20-Oct-25	15.9	2.9	18.8	5.2	
31-Oct-25	15.9	2.9	18.8	5.2	
11-Nov-25	15.9	2.9	18.8	5.2	
28-Nov-25	16.0	3.0	19.0	5.3	

\\KPL\VA-Prj$\1\01\00457\62\A\Correspondence\3- Transmittals\VA26-00869 - Condition 3.15 Groundwater Components\Appendices\Appendix F-5 - Water Quanti

NOTES:

1. FLOW RATES ESTIMATES USING A WEIR INSTALLED AT THE OUTLET OF EACH DRAIN.
2. FLOW RATES ESTIMATED BY BW GOLD DURING ROUTINE INSPECTIONS.
2. THE WEST FOUNDATION DRAIN OUTLET WAS OBSERVED AS DRY THROUGHOUT 2025.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	11MAR'26	ISSUED WITH REPORT VA101-457/62-5	ZC	JDZ

Knight Piésold CONSULTING

TABLE F-5.2

BW GOLD LTD.
BLACKWATER MINE

FOLLOW-UP PROGRAM CONDITION 3.15 - 2025 ANNUAL REPORT
MONTHLY AVERAGE IECD PUMPBACK RATES

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Month	Monthly Average Pump Back Rate [1]	Monthly Average Pump Back Rate [1]	Predicted Pump Back Rate[2,3]			Notes
			Minimum	Maximum	Average	
	(m^3/hr)	(L/s)	(L/s)			
January	-	-	3	4	4	
February	-	-	4	4	4	
March	-	-	4	11	4	
April	-	-	5	53	29	
May	-	-	7	75	30	
June	-	-	7	41	8	
July	-	-	7	38	8	
August	140	39	7	29	8	Flow meter readings available from August 11 onward.
September	161	45	8	20	9	
October	168	47	8	30	18	
November	198	55	9	12	11	
December	277	77	9	11	10	

\\KPL\VA-Prj$\1\01\00457\62\A\Correspondence\3- Transmittals\VA26-00869 - Condition 3.15 Groundwater Components\Appendices\Appendix F-5 - Water Quantity Monitoring Data\[Tables F-5.2 and 3

NOTES:
1. FLOW METER READINGS COMPLETED DAILY BY BW GOLD.
2. PREDICTED PUMPBACK RATE OBTAINED FROM LIFE OF MINE WATER BALANCE MODEL (KP, 2021c).
3. MINIMUM AND MAXIMUM PREDICTIONS CORRESPOND TO VARIABLE CLIMATE MODEL SCENARIOS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	23MAR'26	ISSUED WITH TRANSMITTAL VA26-00869	EB	JDZ

Knight Piésold CONSULTING

TABLE F-5.3

BW GOLD LTD.
BLACKWATER MINE

FOLLOW-UP PROGRAM CONDITION 3.15 - 2025 ANNUAL REPORT
MONTHLY AVERAGE OPEN PIT PUMPING RATES

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Month	Measured Monthly Average Pumping Rate (L/s)	Predicted Dewatering Rate [3] (L/s)	Notes
January	-	20	Flows not recorded.
February	13	20	Flow tracking commenced February 17.
March	27	20	
April	27	20	
May	26	20	
June	25	20	
July	21	20	
August	16	20	
September	14	20	
October	24	20	
November	30	20	Operation of pumping well PW25-02 commenced.
December	38	20	Operation of pumping well PW25-03 commenced.

\\KPL\VA-Prj$\1\01\00457\62\A\Correspondence\3- Transmittals\VA26-00869 - Condition 3.15 Groundwater Components\Appendice

NOTES:
1. FLOW METER READINGS COMPLETED DAILY BY BW GOLD.
2. OPEN PIT DEWATERING COMPLETED USING PUMPING WELLS PW13-1, PW25-02, AND PW25-03.
3. PREDICTED DEWATERING RATE OBTAINED FROM LIFE OF MINE WATER BALANCE MODEL REPORT (KP,

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	23MAR'26	ISSUED WITH TRANSMITTAL VA26-00869	EB	JDZ

Appendix F-6 Electrical Conductivity Survey

(Table B1, Figure B1, and Appendix B, as originally issued in *Blackwater Gold Mine – 2025 Annual Report – Hydrogeology* [KP 2026b])

Knight Piésold CONSULTING

TABLE F6-1

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 ANNUAL REPORT - HYDROGEOLOGY
SEEP TRACKING TABLE

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Seep Survey ID [1]	Easting (m)	Northing (m)	Date	Surface Stream Flow (m^3/s)	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductivity (mS/cm)	Conductivity (mS/cm)	pH	NTU	Notes
Flow 1	372,320	5,893,306	26-Jun-24	0.03	5.7	10.4	0.018	0.011	6.8	0	Location is co-located with surface quality sampling location 704-01.
			22-Oct-24	0.003	1.1	11.6	0.030	0.016	7.9	0	
			9-Jul-25	0.030	5.6	12.5	0.022	0.014	7.4	<5	
Flow 2	373,106	5,893,991	26-Jun-24	-	-	-	-	-	-	-	No visible stream present (water underground)
			22-Oct-24	-	-	-	-	-	-	-	No visible stream present (water underground)
			9-Jul-25	-	-	-	-	-	-	-	No visible stream present (water underground)
Flow 3	373,641	5,894,160	26-Jun-24	-	10.6	10.1	0.034	0.025	6.4	26	Low/No flow - wetland
			22-Oct-24	-	0.9	10.9	0.039	0.021	7.7	3	Low/No flow - wetland
			9-Jul-25	-	-	-	-	-	-	-	Low/No flow - wetland
Flow 4	374,183	5,894,396	26-Jun-24	0.31	8.3	9.9	0.019	0.013	6.4	4	
			22-Oct-24	0.12	0.2	12.2	0.038	0.020	7.6	6	
			9-Jul-25	0.05	6.9	12.4	0.028	0.019	7.4	<5	
Flow 5	374,546	5,894,611	26-Jun-24	0.20	8.5	10.0	0.021	0.014	7.0	4	
			22-Oct-24	0.11	0.1	12.3	0.039	0.020	7.5	33	
			9-Jul-25	0.07	6.6	12.6	0.029	0.019	7.5	<5	
Flow 6	374,636	5,894,724	26-Jun-24	0.20	8.6	9.9	0.022	0.015	6.9	4	
			22-Oct-24	0.11	0.1	12.1	0.039	0.021	7.4	47	
			9-Jul-25	0.07	6.2	12.7	0.034	0.022	7.4	<5	
Flow 7	375,073	5,895,177	26-Jun-24	0.22	8.3	10.0	0.022	0.015	7.2	3	Location is co-located with surface quality sampling location 704-03.
			22-Oct-24	0.10	0.0	11.5	0.045	0.023	7.6	40	
			9-Jul-25	0.08	8.0	12.1	0.034	0.023	7.5	<5	

\\KPL\VA-Prj$\1\01\00457\62\A\Report\2 - Annual Groundwater Report\Draft\Appendices\App B - Seep Survey\Appendix B1 - Mine Area Creek EC Survey\[Table B1 - Seep Summary Table.xlsx]Table B1 - Seep Tracking

NOTES:

1. LOCATIONS FLOW 1 THOURGH FLOW 7 ARE ORDERED IN DECREASING DISTANCE ALONG MINE AREA CREEK.
2. COORDINATE GRID IS NAD83 ZONE 10U. MEASURED USING HANDHELD GPS.
3. STREAMFLOW ESTIMATED BY FIELD CREW USING APPROXIMATED STREAMFLOW VELOCITY AND CHANNEL DIMENSIONS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	10MAR'26	ISSUED WITH REPORT VA101-457/62-2	EB	JDZ

SAVED: M:\10\100457\62\AA\acad\FIGS\B08, 3/10/2026 1:22:36 PM, PPETKOVIC PRINTED: 3/10/2026 1:23:49 PM, FIG B1, PPETKOVIC ACAD VERSION: 25.0S (LMS TECH)
XREF FILES) Topo 5m Contours, Fresh Water Reservoir, Hydro, Interim Environmental Control Dam, Polishing Pond, Central Diversion System - Temporary Channels, Stage 1 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year -1 to 1, Central Diversion System - Collection Channels (Years -1 to 1), Central Diversion Water Transfer Pond, Site C Embankment - YEAR -1, Central Diversion System - Temporary Channels, Stage 1 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year -1 to 1, Central Diversion System - Collection Channels (Years -1 to 1), Central Diversion System - North Diversion Channel (Years -1 to 1), Central Diversion System - North Diversion Channel (Years +1 to 5), Central Diversion System - Collection Channels (Years +1 to 5), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +1, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +1 to 5, Central Diversion System - Collection Channels (Years +1 to 5), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +5, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +5 to 10, Central Diversion System - Collection Channels (Years +5 to 10), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +10, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +10 to 15, Central Diversion System - Collection Channels (Years +10 to 15), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +15, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +15 to 20, Central Diversion System - Collection Channels (Years +15 to 20), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +20, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +20 to 25, Central Diversion System - Collection Channels (Years +20 to 25), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +25, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +25 to 30, Central Diversion System - Collection Channels (Years +25 to 30), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +30, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +30 to 35, Central Diversion System - Collection Channels (Years +30 to 35), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +35, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +35 to 40, Central Diversion System - Collection Channels (Years +35 to 40), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +40, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +40 to 45, Central Diversion System - Collection Channels (Years +40 to 45), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +45, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +45 to 50, Central Diversion System - Collection Channels (Years +45 to 50), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +50, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +50 to 55, Central Diversion System - Collection Channels (Years +50 to 55), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +55, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +55 to 60, Central Diversion System - Collection Channels (Years +55 to 60), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +60, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +60 to 65, Central Diversion System - Collection Channels (Years +60 to 65), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +65, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +65 to 70, Central Diversion System - Collection Channels (Years +65 to 70), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +70, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +70 to 75, Central Diversion System - Collection Channels (Years +70 to 75), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +75, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +75 to 80, Central Diversion System - Collection Channels (Years +75 to 80), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +80, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +80 to 85, Central Diversion System - Collection Channels (Years +80 to 85), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +85, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +85 to 90, Central Diversion System - Collection Channels (Years +85 to 90), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +90, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +90 to 95, Central Diversion System - Collection Channels (Years +90 to 95), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +95, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +95 to 100, Central Diversion System - Collection Channels (Years +95 to 100), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +100, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +100 to 105, Central Diversion System - Collection Channels (Years +100 to 105), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +105, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +105 to 110, Central Diversion System - Collection Channels (Years +105 to 110), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +110, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +110 to 115, Central Diversion System - Collection Channels (Years +110 to 115), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +115, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +115 to 120, Central Diversion System - Collection Channels (Years +115 to 120), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +120, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +120 to 125, Central Diversion System - Collection Channels (Years +120 to 125), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +125, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +125 to 130, Central Diversion System - Collection Channels (Years +125 to 130), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +130, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +130 to 135, Central Diversion System - Collection Channels (Years +130 to 135), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +135, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +135 to 140, Central Diversion System - Collection Channels (Years +135 to 140), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +140, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +140 to 145, Central Diversion System - Collection Channels (Years +140 to 145), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +145, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +145 to 150, Central Diversion System - Collection Channels (Years +145 to 150), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +150, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +150 to 155, Central Diversion System - Collection Channels (Years +150 to 155), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +155, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +155 to 160, Central Diversion System - Collection Channels (Years +155 to 160), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +160, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +160 to 165, Central Diversion System - Collection Channels (Years +160 to 165), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +165, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +165 to 170, Central Diversion System - Collection Channels (Years +165 to 170), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +170, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +170 to 175, Central Diversion System - Collection Channels (Years +170 to 175), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +175, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +175 to 180, Central Diversion System - Collection Channels (Years +175 to 180), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +180, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +180 to 185, Central Diversion System - Collection Channels (Years +180 to 185), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +185, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +185 to 190, Central Diversion System - Collection Channels (Years +185 to 190), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +190, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +190 to 195, Central Diversion System - Collection Channels (Years +190 to 195), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +195, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +195 to 200, Central Diversion System - Collection Channels (Years +195 to 200), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +200, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +200 to 205, Central Diversion System - Collection Channels (Years +200 to 205), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +205, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +205 to 210, Central Diversion System - Collection Channels (Years +205 to 210), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +210, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +210 to 215, Central Diversion System - Collection Channels (Years +210 to 215), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +215, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +215 to 220, Central Diversion System - Collection Channels (Years +215 to 220), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +220, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +220 to 225, Central Diversion System - Collection Channels (Years +220 to 225), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +225, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +225 to 230, Central Diversion System - Collection Channels (Years +225 to 230), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +230, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +230 to 235, Central Diversion System - Collection Channels (Years +230 to 235), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +235, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +235 to 240, Central Diversion System - Collection Channels (Years +235 to 240), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +240, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +240 to 245, Central Diversion System - Collection Channels (Years +240 to 245), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +245, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +245 to 250, Central Diversion System - Collection Channels (Years +245 to 250), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +250, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +250 to 255, Central Diversion System - Collection Channels (Years +250 to 255), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +255, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +255 to 260, Central Diversion System - Collection Channels (Years +255 to 260), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +260, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +260 to 265, Central Diversion System - Collection Channels (Years +260 to 265), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +265, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +265 to 270, Central Diversion System - Collection Channels (Years +265 to 270), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +270, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +270 to 275, Central Diversion System - Collection Channels (Years +270 to 275), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +275, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +275 to 280, Central Diversion System - Collection Channels (Years +275 to 280), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +280, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +280 to 285, Central Diversion System - Collection Channels (Years +280 to 285), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +285, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +285 to 290, Central Diversion System - Collection Channels (Years +285 to 290), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +290, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +290 to 295, Central Diversion System - Collection Channels (Years +290 to 295), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +295, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +295 to 300, Central Diversion System - Collection Channels (Years +295 to 300), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +300, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +300 to 305, Central Diversion System - Collection Channels (Years +300 to 305), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +305, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +305 to 310, Central Diversion System - Collection Channels (Years +305 to 310), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +310, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +310 to 315, Central Diversion System - Collection Channels (Years +310 to 315), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +315, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +315 to 320, Central Diversion System - Collection Channels (Years +315 to 320), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +320, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +320 to 325, Central Diversion System - Collection Channels (Years +320 to 325), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +325, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +325 to 330, Central Diversion System - Collection Channels (Years +325 to 330), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +330, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +330 to 335, Central Diversion System - Collection Channels (Years +330 to 335), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +335, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +335 to 340, Central Diversion System - Collection Channels (Years +335 to 340), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +340, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +340 to 345, Central Diversion System - Collection Channels (Years +340 to 345), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +345, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +345 to 350, Central Diversion System - Collection Channels (Years +345 to 350), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +350, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +350 to 355, Central Diversion System - Collection Channels (Years +350 to 355), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +355, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +355 to 360, Central Diversion System - Collection Channels (Years +355 to 360), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +360, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +360 to 365, Central Diversion System - Collection Channels (Years +360 to 365), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +365, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +365 to 370, Central Diversion System - Collection Channels (Years +365 to 370), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +370, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +370 to 375, Central Diversion System - Collection Channels (Years +370 to 375), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +375, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +375 to 380, Central Diversion System - Collection Channels (Years +375 to 380), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +380, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +380 to 385, Central Diversion System - Collection Channels (Years +380 to 385), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +385, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +385 to 390, Central Diversion System - Collection Channels (Years +385 to 390), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +390, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +390 to 395, Central Diversion System - Collection Channels (Years +390 to 395), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +395, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +395 to 400, Central Diversion System - Collection Channels (Years +395 to 400), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +400, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +400 to 405, Central Diversion System - Collection Channels (Years +400 to 405), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +405, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +405 to 410, Central Diversion System - Collection Channels (Years +405 to 410), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +410, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +410 to 415, Central Diversion System - Collection Channels (Years +410 to 415), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +415, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - Year +415 to 420, Central Diversion System - Collection Channels (Years +415 to 420), Central Diversion Water Transfer Pond, Site C Embankment - YEAR +420, Central Diversion System - Temporary Channels, Stage 2 diversion berm - Spillway EL. 1230, YR+1 Mine Objects, Existing Roads & Trails, 2022, Low-grade ore stockpile water management - 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APPENDIX F6
ELECTRICAL CONDUCTIVITY SURVEY PHOTOS

Figure F6.1 FLOW 1 – Upstream

Figure F6.2 FLOW 1 – Downstream

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Figure F6.3 FLOW 2 – Upstream

Figure F6.4 FLOW 2 – Downstream

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Figure F6.5 FLOW 4 – Upstream

Figure F6.6 FLOW 4 – Downstream

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Figure F6.7 FLOW 5 – Upstream

Figure F6.8 FLOW 5 – Downstream

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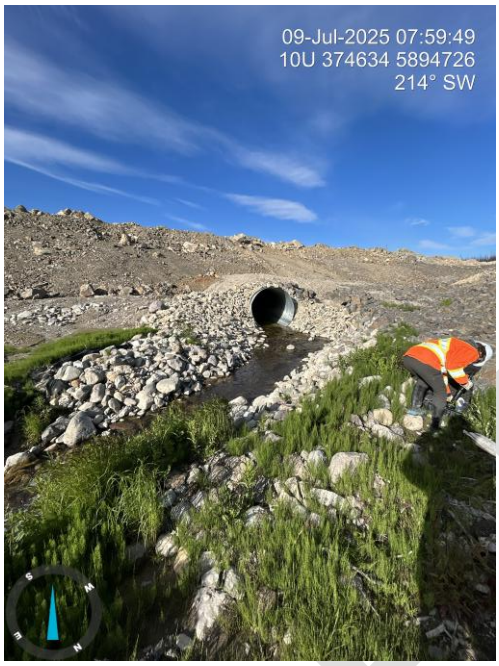

Figure F6.9 FLOW 6 – Upstream

Figure F6.10 FLOW 6 – Downstream

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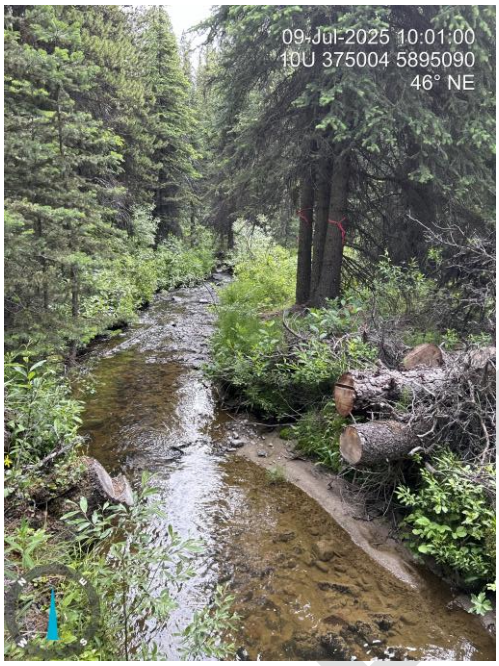

Figure F6.11 FLOW 7– Upstream

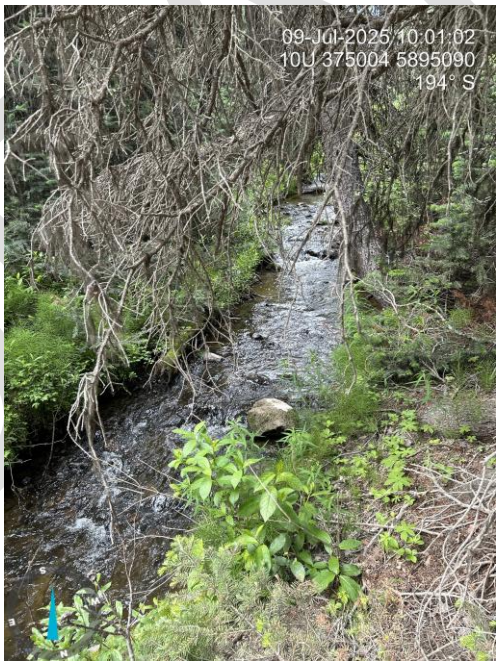

Figure F6.12 FLOW 7 – Downstream

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Appendix F-7 Groundwater Seep Survey Report

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Management System Certified By: bsi ISO 9001 Quality Management Systems CERTIFIED FS 64925 ISO 14001 Environmental Management CERTIFIED EMS 550121 ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 550122

March 10, 2026

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Mr. Mark Warbanski
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Dear Mark,

RE: Blackwater Mine – 2025 Groundwater Seep Survey Summary

1.0 INTRODUCTION

The Blackwater Mine (the Mine) is an operating gold-silver mine located approximately 112 km southwest of Vanderhoof in central British Columbia (BC). The deposit is being developed with open pit mining methods by BW Gold Ltd. (BW Gold), a wholly owned subsidiary of Artemis Gold Ltd. Groundwater level and quality data are collected by BW Gold, under the technical oversight of Knight Piésold Ltd. (KP). A groundwater seep survey was completed from August 30 to September 1, 2025 by KP and BW Gold site staff. Results of the survey are described in this memorandum.

The survey supports compliance with Condition C.4.(b)(vi) in the *Mines Act* Permit (M-246), which specifies that an annual sampling survey of seeps is conducted downgradient of the Open Pit and TSF and along the drainage contributing to the Water Management Pond (i.e., Mine Area Creek). Requirements of the groundwater seep survey were originally specified in Section 7.3.4 of the Mine Site Water and Discharge Monitoring and Management Plan (MSDP; BW Gold, 2022) version D.1 included as Appendix 9-E of the Joint Mines Act Application. Subsequently, a Groundwater Monitoring Plan (GMP; KP, 2025a) was developed to meet Condition 4.7 of the *Environmental Management Act Effluent* Permit (PE-110652) and now provides the current framework for groundwater and seep monitoring at the Mine.

2.0 FIELD DATA COLLECTION

2.1 OVERVIEW

The 2025 groundwater seep survey was led by a KP staff member with support from a BW Gold staff. The survey involved walking and driving around the Mine area to identify seep locations. At each seep location the following information was collected, when feasible:

- Photographs
- GPS coordinates and elevation
- Seep type: seep, ponded seeping water, creek/stream crossing, step pool, evidence of seep, and wetland
- Approximate dimensions
- Approximate flow rate
- In-situ water quality parameters: pH, specific conductivity, electrical conductivity, temperature, oxygen-reduction potential, dissolved oxygen, and turbidity

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Water quality samples were collected and submitted for analysis of general chemistry, total metals, dissolved metals, total organic carbon (TOC), and dissolved organic carbon (DOC) from select locations.

3.0 SEEP SURVEY

3.1 OVERVIEW

The seep survey was conducted during a dry period in late summer to more easily identify surface water features that are attributed to groundwater discharge and not attributed to rainfall or snowmelt. The survey was focused in the areas of the Open Pit, Mine Area Creek (MAC), and the TSF. The seeps were named by area and seep survey objective.

Survey locations are shown on Figure 1. Observed seep characteristics are summarized in Table 1. In-situ water quality parameters were collected using a YSI ProDSS Portable Digital Sampling System and are summarized in Table 2. Photographs of seep locations are provided in Appendix A. A discussion of observations in each area of the survey are summarized in the following sections.

3.2 OPEN PIT AREA

Indications of localized groundwater seeps were found in the areas downslope of deposit (i.e. the headwaters for Creek 661 and headwaters of the former Davidson Creek. Water quality samples and in-situ water quality measurements were collected at two locations.

Localized groundwater seeps were observed on the northeast periphery of the deposit within roadside ditches. One set of in-situ water quality parameters was collected from this area, however the ponded seep was not deep enough to collect a water quality sample. There was no visible flow into the ponded area

Localized seeps were observed ponded in culvert and flowing from a cut block into ditch (survey location: OP04_SEEP001).

Historic exploration drillholes north of the deposit were visited to assess the presence of flowing conditions. No flowing conditions were observed at drillholes BW0470 (survey location OP03_SEEP002) and BWMET25 (survey location OP03_SEEP003); however, water was found in the exploration holes. Wet ground was found around drillhole BW0915 (survey location OP03_SEEP001). Flowing conditions were not present at drillhole BW0610. Drillholes BW0633, BW0903, BW0936, and BW0411, were visited during the survey but were capped closed.

3.3 MINE AREA CREEK AREA

The segment of MAC downslope of the Low-Grade Ore (LGO) Stockpile and proposed Lower Waste Stockpile was surveyed for the presence of groundwater seeps, with focused efforts in the areas located immediately downslope of the collection pond footprints for both facilities. The LGO Stockpile and LGO Collection Pond were constructed at the time of the survey; construction of the Lower Waste Stockpile and associated Collection Pond had not yet begun.

Damp ground conditions were observed along the downslope extent of the LGO footprint, indicating a shallow water table in the area, consistent with the previous understanding of groundwater conditions. Wetlands present along the Mine Area Creek are anticipated to be the result of groundwater discharge along the base of the hillslopes. Groundwater seeps were noted in several locations along the banks of MAC. A water quality sample and in-situ water quality measurements were both collected at a location adjacent to the LGO Stockpile (survey location MAC01_MACSEEP).

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Two groundwater seeps were identified in a wetland area located along the mapped glaciofluvial channel located along the northeast extent of the ultimate LGO Stockpile footprint (survey locations: MAC02_SEEP001 and MAC02_SEEP002). A water quality sample was not able to be collected at these locations because MAC02_SEEP001 was not deep enough nor was it flowing and MAC02_SEEP002 was dry.

3.4 TSF AREA

The seep survey in the TSF area was focused in the vicinities of the existing Interim Environmental Control Dam (IEDC), proposed North Seepage Interception Trench, Creek 661, and the proposed Fresh Water Reservoir (FWR).

Immediately downgradient of the IECD, a ponded groundwater seep (survey location TSF01_SEEP001) was identified. A water quality sample and in-situ measurements were collected at this location. Ground conditions northeast of the IECD were damp, consistent with a shallow water table adjacent to the former Davidson Creek drainage.

No water was observed in the sumps or ditches around the area of the proposed North Seepage Interception Trench. The area investigated appeared dry at the time of the survey.

Indications of groundwater seeps were noted in the ditches, drainage crossings, and sumps in the drainage of Creek 661.

Downslope of the FWR, damp soils were observed along the periphery of the former Davidson Creek. Within the FWR footprint, groundwater was observed seeping from a slope and flowing into the former Davidson Creek (survey location FWR_SEEP). A water quality sample and in-situ measurements were collected at this location.

4.0 SEEP WATER QUALITY

Water quality samples were collected at five locations as indicted in Table 2, and included at least one sample from each of the main surveyed areas.

Sample QAQC

A QA/QC evaluation was conducted to assess the repeatability and reliability of the analytical sample results. The sample results were compared against specific data quality objectives (DQO), such as method detection limits (MDL) and the relative percent difference (RPD) between samples. The DQO criteria are described in more detail in the annual groundwater report (KP, 2026). No samples were found to exceed the DQO of +/- 10% ion charge imbalance and the difference between total and dissolved concentrations is less than 20% RPD. No blank or duplicate samples were collected during the seep sampling campaign.

Sample Results

Seep sample analytical results are provided in Appendix Table B1.1. In situ field parameters for each sample are summarized in Table 2. The seep water quality sample results generally have neutral pH, are classified as soft to medium hard with total dissolved solids (TDS) ranging from 46 mg/L at the MAC-Seep to 152 mg/L at the IECD-Seep.

Seep sample results are presented on a piper diagram on Figurer 2 to assist in characterizing the water types of the seep samples. A piper diagram is a trilinear plot of the major ions that contribute to water chemistry, providing a visual depiction of the similarities and differences in the water sampled from each

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seep. All seep samples are classified as calcium bicarbonate type, according to the piper plot. The two samples from the Open Pit area (East Slope Seep and WQ4 Seep) plot with slightly higher proportions of sulphate that samples collected in the MAC and TSF areas. Water types of groundwater identified in the baseline groundwater report (KP, 2021) for these key areas also identified groundwater with a higher proportion of sulphate in the Open Pit area and a higher proportion of bicarbonate in the TSF area and areas downstream near the IECD and proposed FWR.

Seep sample water quality results were screened against the following British Columbia water quality guidelines and standards for the protection of aquatic life:

- BC Ministry of Environment Approved and Working Water Quality Guidelines (WQG):
  - Freshwater Aquatic Life – Short-Term Acute (WQG-STA)
  - Freshwater Aquatic Life – Long-Term Chronic (WQG-LTC)
- Contaminated Sites Regulations (CSR) – Freshwater Aquatic Life (CSR-AL)

The water quality guidelines and standards are listed in Appendix Table B1.2. The WQG-LTC is based on the average of five samples collected over a 30-day period. The seep survey results are a single sample, and true exceedances of this guideline cannot be assessed based on these results; however, these guidelines have been referenced as an indicator of potential water quality concerns.

Some seep sample results were reported at concentrations exceeding the BC WQGs and/or CSR-AL, including:

- Open Pit Area:
  - East Slope Seep (OP01_EastSlopeSeep): WQG-LTC exceedances for total phosphorus (nutrient) and dissolved cadmium, copper, and zinc.
  - WQ4-Seep (OP01_WQ4Seep): WQC-STA and CSR-AL exceedances for dissolved and total zinc.
- Mine Area Creek:
  - MAC-Seep (MAC01_MACSEEP): WQG-LTC exceedances for total phosphorus (nutrient) and total aluminum.
- TSF Area:
  - IECD-Seep (TSF01_SEEP01): WQG-LTC exceedances for total phosphorus (nutrient); dissolved cobalt; total aluminum, arsenic, manganese. WQC-STA exceedance of total iron.
  - FWR-Seep (FWR_SEEP): WQG-LTC exceedances of total phosphorus (nutrient), total aluminum, arsenic, and manganese. WQC-STA exceedance of total iron and manganese.

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5.0 CLOSURE

We trust that this letter meets your current needs and expectations. Please contact the undersigned if you have any questions or comments.

Yours truly,
Knight Piésold Ltd.

Prepared:

Kelly Graves, Ph.D., EIT
Project Engineer

Reviewed:

Jordan Zak, M.Sc., P.Geo.
Senior Scientist

Approval that this document adheres to the Knight Piésold Quality System:

Attachments:

Table 1 Rev A	Seep Characteristics
Table 2 Rev A	Seep Field Parameters
Figure 1 Rev A	2025 Groundwater Seep Survey Locations
Figure 2 Rev A	Seep Water Quality Piper Plot
Appendix A	Photos
Appendix B	Water Quality

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TABLE 1

BLACKWATER GOLD LTD.
BLACKWATER MINE

2025 GROUNDWATER SEEP SURVEY
SEEP CHARACTERISTICS

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2025 Seep Survey Location	Type	Location[7]			Flow	Water Quality Data Collected[8,9]	Notes
	(S[1], S/P[2], CX[3], SP[4], E[5], W[6])	Easting	Northing	Elevation	(L/sec)	(Y/N)	
OP01_SUMP001	S/P	376,012	5,893,867	1,467	-	N	Topographic low with ponded water
OP01_WETLAND001	W	376,084	5,893,779	1,462	-	N	Wetland with wet and dry areas indicating diffuse groundwater discharge
OP01_EastSlopeSeep	S/P	376,041	5,893,730	1,468	-	Y (YSI/WQ)	Ponded seep where water quality sample and YSI measurement, East Slope Seep, was collected.
OP01_SUMP002	S/P	375,994	5,893,719	1,472	-	N	Pond - approximately 10 m by 10 m
OP01_SEEP001	S/P	375,873	5,893,719	1,524	-	N	Seep from slope directly south of construction camp
OP01_WQ4	CX	375,902	5,893,893	1,462	5-10	Y (YSI/WQ)	Water quality sample and YSI measurement, WQ4 Seep, was collected in creek downstream of culvert under Construction Camp Access Road.
OP02_SEEP001	S/P	375,867	5,893,386	1,524	Trickle	Y (YSI)	50 m long roadside ditch with intermittent water. Very slow moving water/standing water. YSI measurement, OP02_SEEP001, was collected
OP02_SEEP002	S/P	375,919	5,893,372	1,525	-	N	Ponded water on one side of the road with evidence of damp ground on the other.
OP02_SEEP003	S/P	375,954	5,893,343	1,522	-	N	Ponded water on either side of the road.
OP02_SEEP004	S/P	376,130	5,893,390	1,507	-	N	Culvert with ponded water on one side of road, dry on the other side of road.
OP03_SEEP001	Exploration Hole	375,148	5,893,498	1,516	-	N	Capped exploration hole BW0915. Indication of damp ground.
OP03_SEEP002	Exploration Hole	375,198	5,893,495	1,517	-	Y (YSI)	Exploration hole BW0470. Lowered YSI into hole to collect measurement. YSI measurement, OP03_SEEP002, was collected.
OP03_SEEP003	Exploration Hole	375,293	5,893,497	1,517	-	N	Exploration hole BWMET25. Lowered YSI into hole to collect measurement. Unable to collect YSI measurements due to fouled water.
OP03_SEEP004	S/P	375,430	5,893,388	1,534	-	N	Roadside ditch with ponded water.
OP04_SEEP001	S	376,295	5,893,388	1,499	-	N	Seep occurring from bank on north side of road, ponded by culvert and flowing through culvert
OP04_SEEP002	E	376,230	5,893,469	1,493	-	N	Exploration hole with damp ground, evidence of seep
OP04_SEEP003	E	376,255	5,893,515	1,488	-	N	Evidence of ephemeral seep under rocks on ground (cavity under rocks).
MAC01_SEEP001	CX	374,021	5,893,989	1,434	-	N	Mine Area Creek flowing
MAC01_MACSEEP	CX	374,026	5,894,140	1,428	-	Y (YSI/WQ)	Location in Mine Area Creek where water was flowing. Water quality sample and YSI measurement, MAC SEEP, collected.
MAC01_SEEP002	E	374,150	5,894,330	1,420	-	N	Water evident at western toe (downslope of) of stockpile collection pond.~ 30 long, contained.
MAC01_SEEP003	S	374,169	5,894,379	1,417	-	N	Barely flowing seep into MAC
MAC01_SEEP004	E	374,299	5,894,500	1,414	-	N	Area of diffuse groundwater discharge
MAC01_SEEP005	S/P	374,312	5,894,498	1,416	-	N	Ponded, stagnant
MAC01_SEEP006	S/P	374,313	5,894,517	1,412	-	N	Ponded, stagnant
MAC01_SEEP007	E	374,338	5,894,502	1,409	-	N	Evidence of diffuse groundwater discharge
MAC01_SEEP008	E	374,448	5,894,568	1,406	-	N	Evidence of diffuse groundwater discharge
MAC01_SEEP009	S/P	374,511	5,894,578	1,403	-	N	Ponded, stagnant water, area of diffuse groundwater discharge
MAC01_SEEP010	E	374,518	5,894,580	1,401	-	N	Evidence of an ephemeral stream
MAC01_SEEP011	S/P	374,536	5,894,578	1,403	-	N	Ponded, stagnant water, area of diffuse groundwater discharge
MAC01_SEEP012	E	374,548	5,894,580	1,403	-	N	Evidence of diffuse groundwater discharge
MAC01_SEEP013	E	374,554	5,894,570	1,405	-	N	Evidence of diffuse groundwater discharge
MAC01_SEEP014	E	374,663	5,894,672	1,419	-	N	Ponded seep on road
MAC01_SEEP015	E	374,529	5,894,541	1,407	-	N	Evidence of diffuse groundwater discharge
MAC01_SEEP016	E	374,535	5,894,527	1,407	-	N	Groundwater discharge beside road
MAC01_SEEP017	S/P	374,370	5,894,419	1,414	-	N	Seep noted at the toe of the LGO Stockpile Collection Pond
MAC01_SEEP018	S/P	374,336	5,894,425	1,414	-	N	Sump at the toe of the LGO Collection Pond. Inflows originate from the Collection Pond drain outlet.
MAC02_SEEP001	S/P	374,246	5,894,987	1,414	-	N	Ponded seep on side of road
MAC02_SEEP002	E	374,359	5,894,908	1,417	-	N	Evidence of area where water ponds - dry wetland
MAC02_SEEP003	E	374,414	5,895,017	1,419	-	N	Area of damp ground - excavation < 1 m
TSF01_SEEP001	S/P	376,362	5,897,975	1,207	-	Y (YSI/WQ)	Ponded water downstream of IECD. Water quality sample and YSI measurements were collected. Sample IECD SEEP.
TSF01_SEEP002	W	376,389	5,897,943	1,202	-	N	Wetland with diffuse groundwater discharge
TSF01_SEEP003	CX	376,350	5,898,002	1,206	-	N	Flowing creek
TSF01_SEEP004	S/P	376,323	5,898,025	1,206	-	N	Excavation < 1 m
TSF02_SEEP001	E	376,353	5,899,795	1,209	-	N	Excavation < 1 m, 10 m by 5 m, evidence of water at times of the year
TSF02_SEEP002	E	376,382	5,899,793	1,207	-	N	Excavation < 1 m, 3 m by 5 m, with evidence of water at times of the year
TSF02_SEEP003	CX	376,589	5,900,076	1,189	-	N	Dry culvert
TSF02_SEEP004	CX	376,801	5,899,750	1,193	-	N	No evidence of a stream in this area where it was marked on maps
TSF03_SEEP001	S/P	377,444	5,897,883	1,246	-	N	Ponded water on top of stockpile seep
TSF03_SEEP002	E	377,368	5,898,215	1,216	-	N	Evidence of groundwater discharge at some time during the year. Possibly a wetland
TSF04_SEEP001	S/P	376,554	5,895,521	1,357	-	N	Ponded water

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TABLE 1

BLACKWATER GOLD LTD.
BLACKWATER MINE

2025 GROUNDWATER SEEP SURVEY
SEEP CHARACTERISTICS

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2025 Seep Survey Location	Type	Location[7]			Flow	Water Quality Data Collected[8,9]	Notes
	(S[1], S/P[2], CX[3], SP[4], E[5], W[6])	Easting	Northing	Elevation	(L/sec)	(Y/N)	
TSF04_SEEP002	S/P	376,604	5,895,594	1,352	-	N	Ponded water
TSF04_SEEP003	S/P	377,070	5,895,436	1,324	-	N	Ponded water in ditch on side of road leading to culvert
TSF04_SEEP004	S/P	377,786	5,895,409	1,297	-	N	Ponded water beside and on road
TSF04_SEEP005	E	377,614	5,894,988	1,331	-	N	Water in truck tire ruts in road with no evident source
TSF04_SEEP006	S/P	377,737	5,894,975	1,315	-	N	Ponded water on either side of culvert
TSF04_SEEP007	E	377,695	5,895,068	1,320	-	N	Groundwater discharge coming out of slope at multiple locations, some ponding at lowest elevation
TSF04_SEEP008	S/P	377,765	5,894,982	1,311	-	N	Ponded water in excavation < 0.5 m, 5 m by 3 m
TSF04_SEEP009	CX	377,779	5,894,988	1,312	-	N	Creek crossing
TSF04_SEEP010	E	378,254	5,895,703	1,273	-	N	Evidence of water in culvert at some times of the year
TSF04_SEEP011	S/P	378,280	5,895,747	1,268	-	N	Excavated sump containing ponded water, <0.5 m, 2 m by 3 m.
TSF04_SEEP012	E	378,284	5,895,673	1,269	-	N	Dry sump excavation with evidence of water at some time during the year
TSF04_SEEP013	CX	378,303	5,895,668	1,271	-	N	Stream crossing with flowing water
TSF04_SEEP014	S/P	378,319	5,895,656	1,266	-	N	Excavated sump with water, 2 m by 2 m
TSF04_SEEP015	CX	378,336	5,895,648	1,266	-	N	Stream crossing with flowing water
TSF04_SEEP016	E	378,356	5,895,642	1,268	-	N	Excavated sump with evidence of water at times of the year, < 0.5 m, 1 m by 1 m.
TSF04_SEEP017	S/P	378,365	5,895,641	1,268	-	N	Ponded water on side of road
TSF04_SEEP018	S/P	378,548	5,895,675	1,267	-	N	Ponded water along road and at culvert
TSF04_SEEP019	E	378,980	5,895,609	1,271	-	N	Evidence of flow through culvert by operations camp during parts of the year
TSF04_SEEP020	S/P	378,464	5,895,974	1,253	-	N	Large area of diffuse groundwater discharge
TSF04_SEEP021	W	378,623	5,896,327	1,244	-	N	Evidence of wetland
TSF04_SEEP022	CX	378,626	5,896,310	1,245	-	N	Stream
TSF04_SEEP023	W	378,364	5,896,162	1,252	-	N	Area of known wetland, dry at time visited
FWRDS01_SEEP001	CX	378,205	5,899,336	1,152	-	N	Former Davidson Creek at DC-10
FWRDS01_SEEP002	E	378,136	5,899,143	1,157	-	N	Evidence of groundwater discharge
FWRUS01_SEEP001	S	377,777	5,899,137	1,176	-	N	Groundwater seep from side of slope
FWRUS01_SEEP002	S	377,772	5,899,082	1,170	-	N	Groundwater seep from side of slope
FWR_SEEP	S	377,796	5,899,075	1,165	Trickle	Y (YSI/WQ)	Location where water quality and YSI sample, FWR Seep, was collected

\\KPL\VA-Prj$\1\01\00457\46\A\Correspondence\VA25-02303 - 2025 Groundwater Seep Survey Results\Tables & Figures\[Table1.xlsx]Table 1 - Seep Characteristics

NOTES:

1. SEEP (S): WATER VISUALLY CONFIRMED TO BE SEEPING FROM THE GROUND AND FLOWING DOWNSTREAM.
2. PONDED SEEPING WATER (S/P): A POND WITH NO VISIBLE INFLOW BUT SOURCE EXPECTED TO BE SEEPING FROM GROUND.
3. CREEK / STREAM CROSSING (CX): CREEK OR STREAM CROSSING, SOURCE OF WATER NOT CONFIRMED DURING SURVEY.
4. STEP POOL (SP): STILL OR VERY SLOWLY MOVING WATER CONFINED TO A SERIES OF POOLS.
5. EVIDENCE OF SEEP (E): MARKINGS ON GROUND INDICATE SURFACE FLOW / SEEP PRESENT DURING SOME TIMES OF THE YEAR, BUT NOT CURRENTLY PRESENT.
6. WETLAND (W): A WETLAND AREA REPRESENTING A ZONE OF DIFFUSE GROUNDWATER DISCHARGE.
7. EASTING AND NORTHING COORDINATES ARE FOR UTM ZONE 10U.
8. WQ: WATER QUALITY SAMPLES.
9. YSI:YSI ProDSS PORTABLE DIGITAL SAMPLING SYSTEM IN-SITU WATER QUALITY PARAMETERS.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	10MAR'26	ISSUED FOR INFORMATION	KEG	JDZ

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TABLE 2

BLACKWATER GOLD LTD.
BLACKWATER MINE

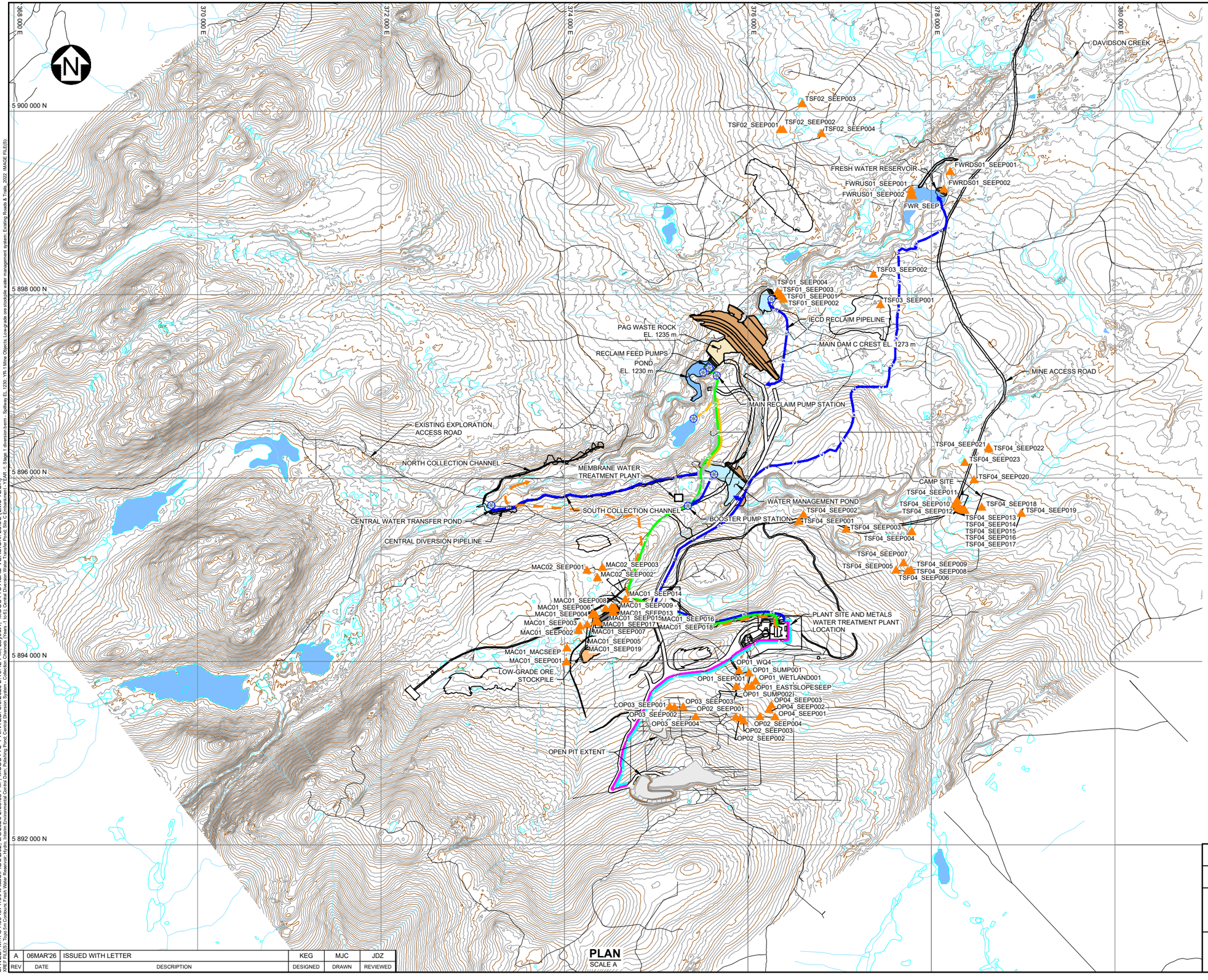
2025 GROUNDWATER SEEP SURVEY
2025 SEEP SURVEY FIELD PARAMETERS

Print Mar/10/26 14:51:14

Location ID	Area	Date and Time	Water Quality Sample Collected	In Situ Water Quality Field Parameters								Notes (instrument maintenance, sample collection issues, etc.)
				pH	Specific Conductivity	Electrical Conductivity	Temperature	Redox	Dissolved Oxygen		Turbidity	
			(Y / N)	(-)	(µS/cm)	(µS/cm)	(°C)	(mV)	(mg/L)	(%)	(NTU)	
East Slope Seep	Open Pit	8/30/2025 10:26	Y	7.0	103	87	15.5	118	6.4	62	18	Collected at OP01_EastSlopeSeep
WQ4 Seep	Open Pit	8/30/2025 11:27	Y	7.3	178	135	12.2	176	10.5	98	1	Collected at OP01_WQ4Seep
OP02_SEEP001	Open Pit	8/30/2025 9:19	N	7.4	211	167	14.2	207	11.0	107	5	Collected at OP02_SEEP001
MAC Seep	Mine Area Creek	8/30/2025 13:48	Y	7.2	31	27	17.8	186	9.9	104	8	Collected at MAC01_MACSEEP
IECD Seep	TSF	8/31/2025 7:36	Y	7.2	214	160	11.8	272	5.3	0.5	21	Collected at TSF01_SEEP01
FWR Seep	Fresh Water Reservoir	9/1/2025 8:58	Y	6.8	234	165	9.5	120	2.5	22	73	Collected at FWR_SEEP

\\KPL\VA-Prj$\1\01\00457\46\A\Correspondence\VA25-02303 - 2025 Groundwater Seep Survey Results\Tables & Figures\[Table2.xlsx]Table 2 - WQ Parameters

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	10MAR'26	ISSUED WITH REPORT VA101-00457/46-VA25-02303	KEG	JZ



LEGEND:

- MINE WATER
- FRESH WATER
- EMBANKMENT FILL
- PAG WASTE ROCK
- PUMP STATION
- SEEP
- EXISTING ACCESS TRAIL
- SEEPAGE / WATER SUPPLY PIPELINE
- WATER DIVERSION PIPELINE
- OPEN PIT PERIMETER WELL DEWATERING PIPELINE
- OPEN PIT SUMP DEWATERING PIPELINE
- TSF C RECLAIM PIPELINE
- TEMPORARY DEWATERING SYSTEM PIPELINE
- CONCEPTUAL WATER MANAGEMENT PIPELINE
- TAILINGS PIPELINE
- TAILINGS DISCHARGE SPIGOT

NOTES:

1. COORDINATE GRID IS UTM NAD83 ZONE 10U.
2. NATURAL GROUND CONTOUR INTERVAL IS 5 METRES AND STOCKPILE CONTOUR INTERVAL IS 10 METRES.
3. MODIFY ELEVATIONS ARE IN METRES, UNLESS NOTED OTHERWISE.
4. GROUND WATER QUALITY AND WATER LEVEL DATA ARE COLLECTED AT EXISTING MONITORING WELLS.

SCALE A: 400 200 0 400 800 1200 1600 2000 m

PLAN
SCALE A

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
A	06MAR'26	ISSUED WITH LETTER	KEG	MJC	JDZ

BW GOLD LTD.

BLACKWATER GOLD PROJECT

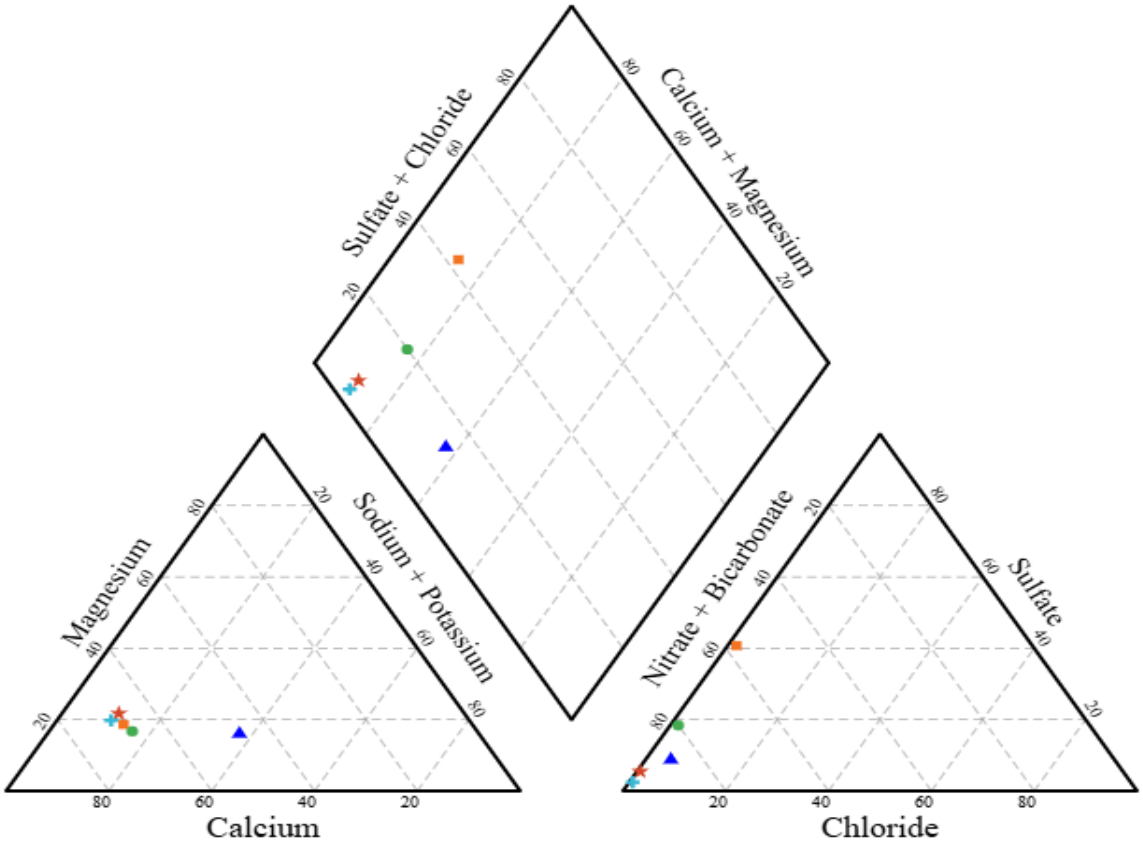
2025 SEEP LOCATIONS

Knight Piésold CONSULTING

P/A NO. VA101-457/46 | REF NO. VA25-02303

FIGURE 1 | REV A

SAVED: M:\10\100457\46\AAcad\FIGS\B02 3/6/2026 2:39:58 PM MCOUTTS PRINTED: 3/6/2026 2:40:42 PM, Layout1 MCOUTTS ACAD VERSION: 25.0S (LMS TECH)
XREF FILES(*): Topo 5m Contours Fresh Water Reservoir Hydro Isteen Environmental Control Dam Polishing Pond Central Diversion System Collection Channels (Years -1 to 0) Central Diversion Water Transfer Pond Site C Embankment -1 YEAR -1 Stage 1 diversion berm – Spillway EL 1230 YR-1 Mine Objects Lowgrade ore stockpile water management system Existing Roads & Trails 2022 IMAGE FILE(S)



Legend
- East Slope Seep
- WQ4-Seep
- MAC-Seep
- IECD-Seep
- FWR-Seep

NOTES:

1. PIPER DATA ARE PLOTTED IN %meq/L.

BLACKWATER GOLD LTD.

BLACKWATER MINE

SEEP WATER QUALITY PIPER PLOT

Knight Piésold CONSULTING

P/A NO. VA101-00457/46

REF. NO. VA25-02303

FIGURE 2

REV A

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	09MAR'26	ISSUED WITH REPORT	EB	CAS

APPENDIX A

Photos

(Pages A-1 to A-39)

DRAFT

PHOTO 1 - FWRDS01_SEEP001

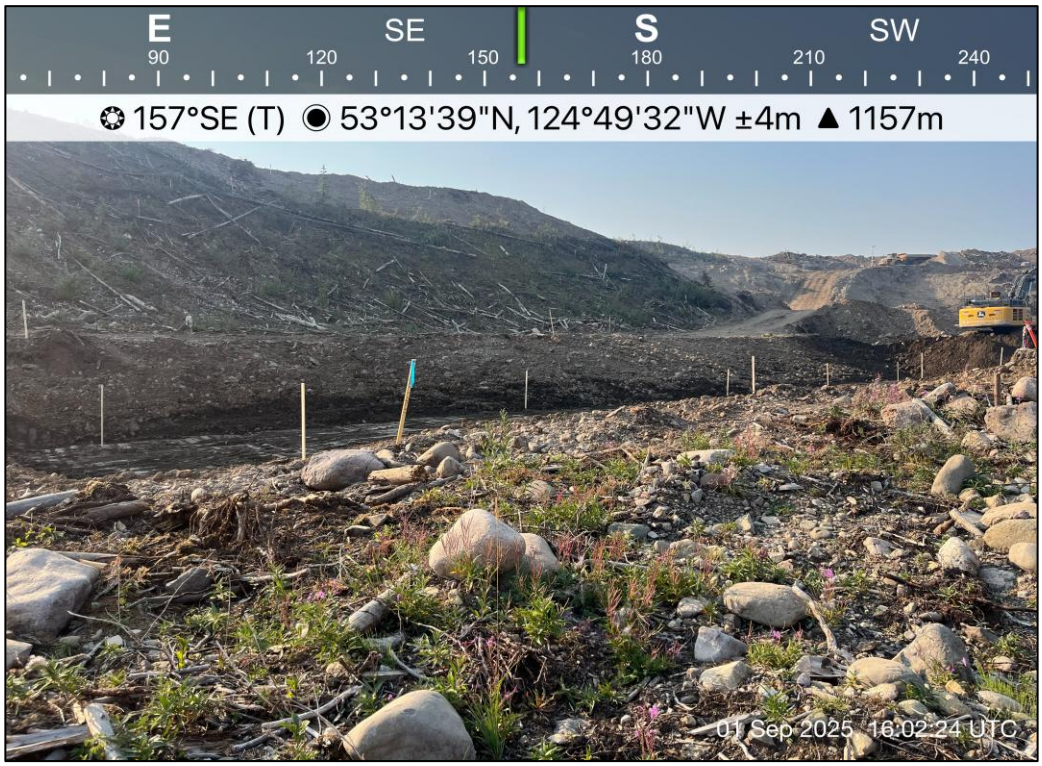


PHOTO 2 - FWRDS01_SEEP002

BLACKWATER MINE

VA101-00457/46

PHOTO 3 - FWRUS01_SEEP001

PHOTO 4 - FWRUS01_SEEP002

BLACKWATER MINE

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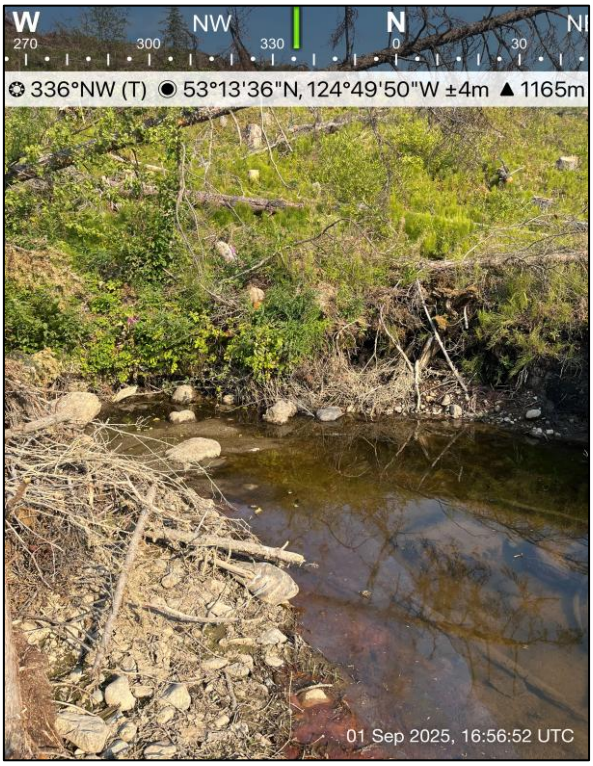

PHOTO 5 - FWR_SEEP

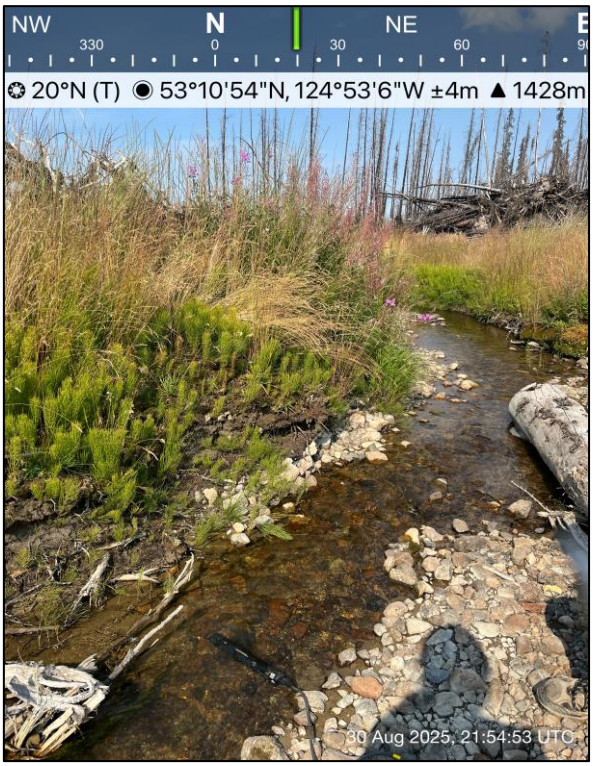

PHOTO 6 - MAC01_MACSEEP

BLACKWATER MINE

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PHOTO 7 - MAC01_SEEP001

PHOTO 8 - MAC01_ SEEP002

BLACKWATER MINE

VA101-00457/46

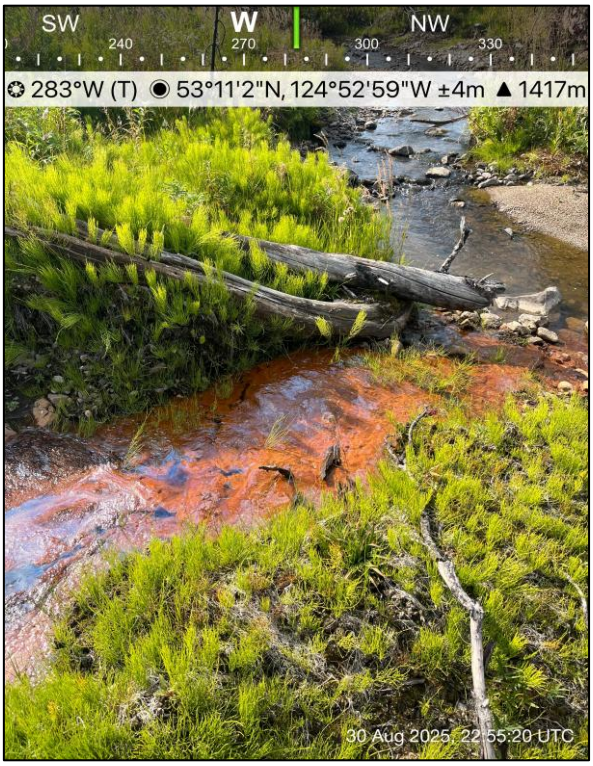

PHOTO 9 - MAC01_SEEP003

PHOTO 10 - MAC01_SEEP004

BLACKWATER MINE

VA101-00457/46

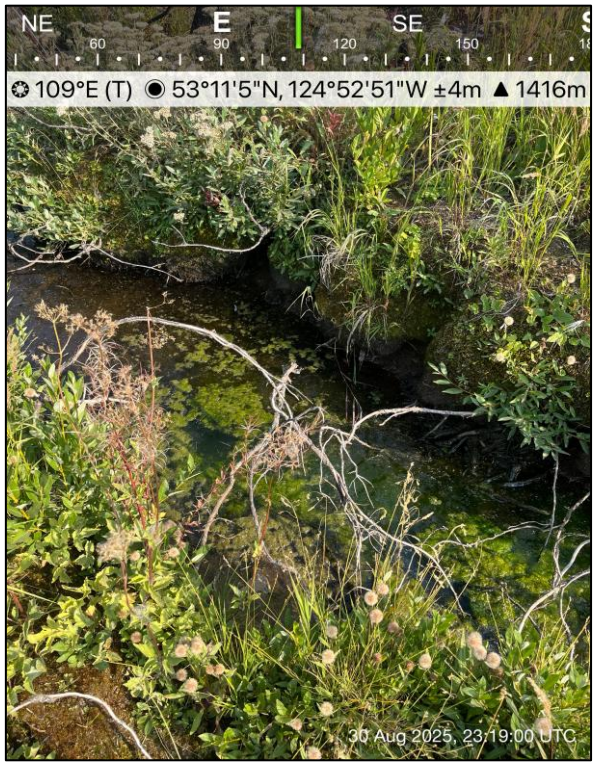

PHOTO 11 - MAC01_SEEP005

PHOTO 12 - MAC01_SEEP006

BLACKWATER MINE

VA101-00457/46

PHOTO 13 - MAC01_SEEP007

PHOTO 14 - MAC01_SEEP008

PHOTO 15 - MAC01_SEEP009

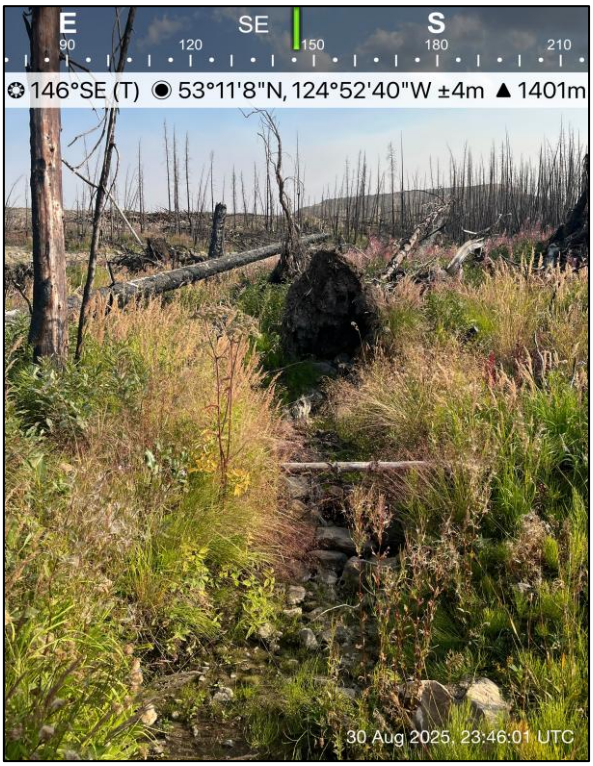

PHOTO 16 - MAC01_SEEP010

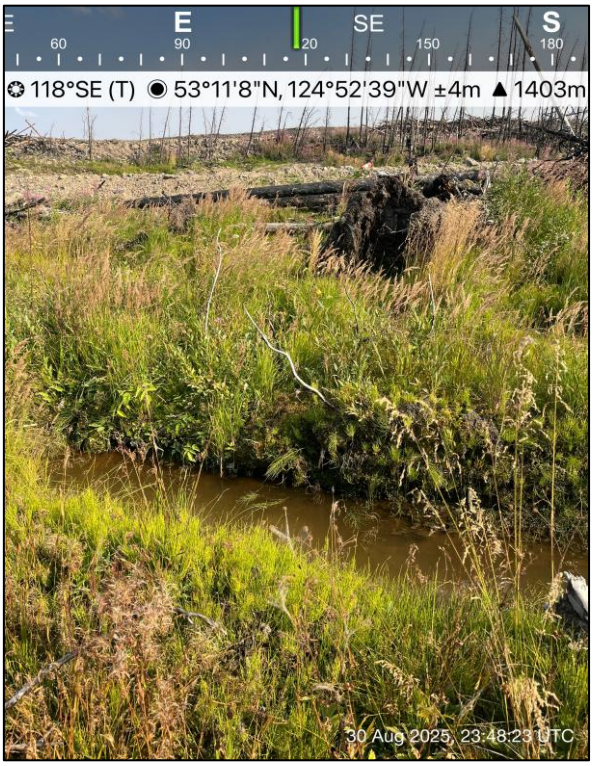

PHOTO 17 - MAC01_SEEP011

PHOTO 18 - MAC01_SEEP012

BLACKWATER MINE

VA101-00457/46

PHOTO 19 - MAC01_SEEP013

PHOTO 20 - MAC01_SEEP014

BLACKWATER MINE

VA101-00457/46

PHOTO 21 - MAC01_SEEP015

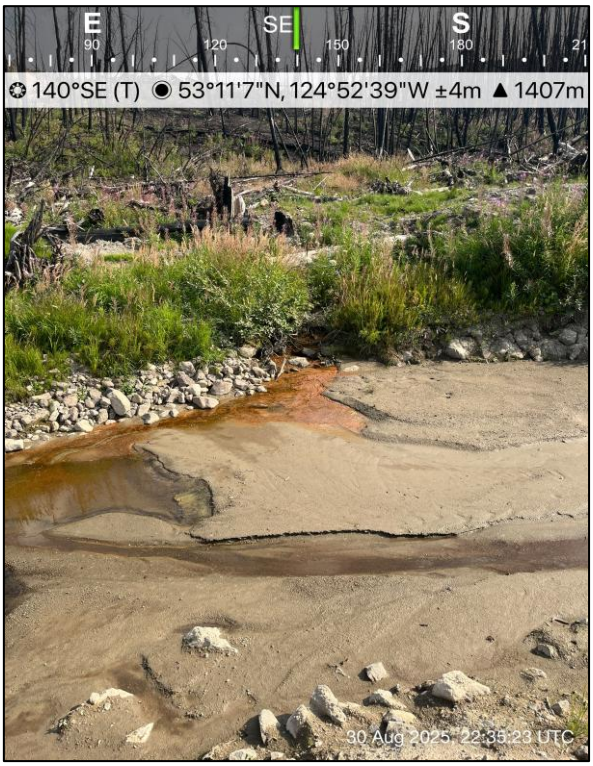

PHOTO 22 - MAC01_SEEP016

PHOTO 23 - MAC01_SEEP017

PHOTO 24 - MAC01_SEEP018

BLACKWATER MINE

VA101-00457/46

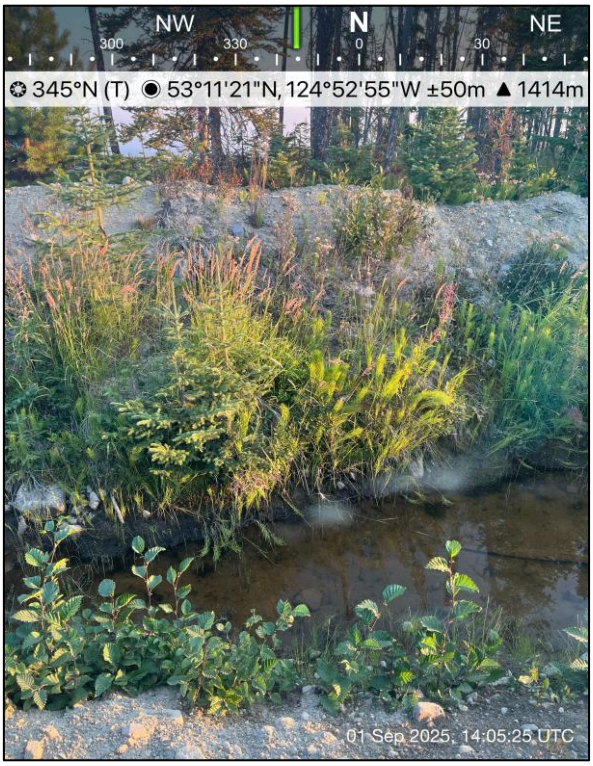

PHOTO 25 - MAC02_SEEP001

PHOTO 26 - MAC02_SEEP002

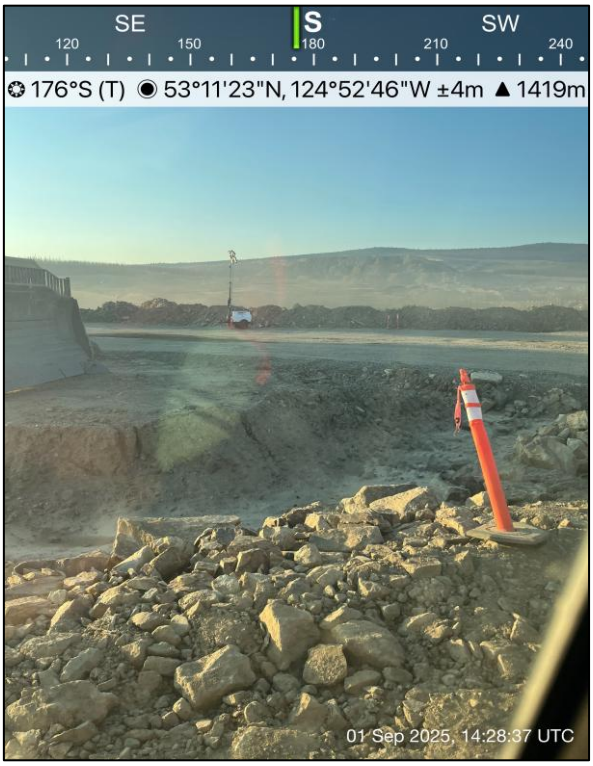

PHOTO 27 - MAC02_SEEP003

PHOTO 28 - OP01_EASTSLOPESEEP

BLACKWATER MINE

VA101-00457/46

PHOTO 29 - OP01_SEEP001

PHOTO 30 - OP01_SUMP001

PHOTO 31 - OP01_SUMP002

PHOTO 32 - OP01_WETLAND001

BLACKWATER MINE

VA101-00457/46

PHOTO 33 - OP01_WQ4

PHOTO 34 - OP02_SEEP001

BLACKWATER MINE

VA101-00457/46

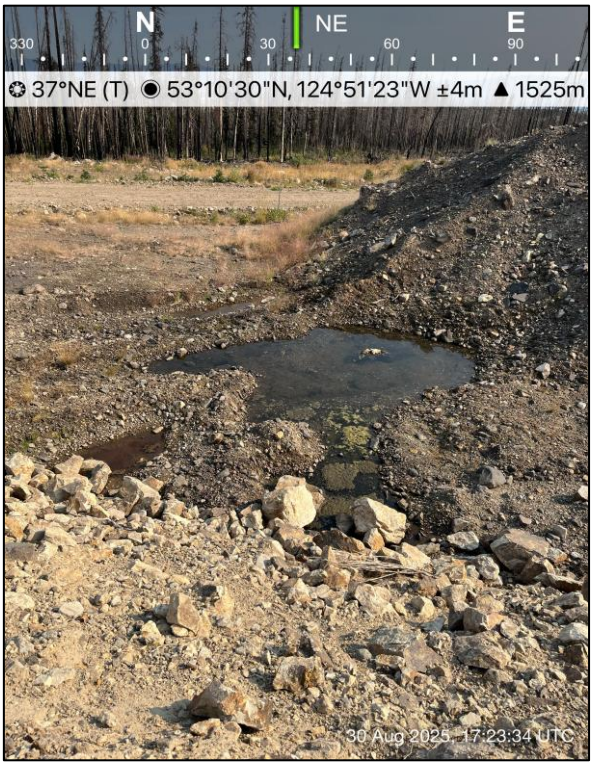

PHOTO 35 - OP02_SEEP002

PHOTO 36 - OP02_SEEP003

BLACKWATER MINE

VA101-00457/46

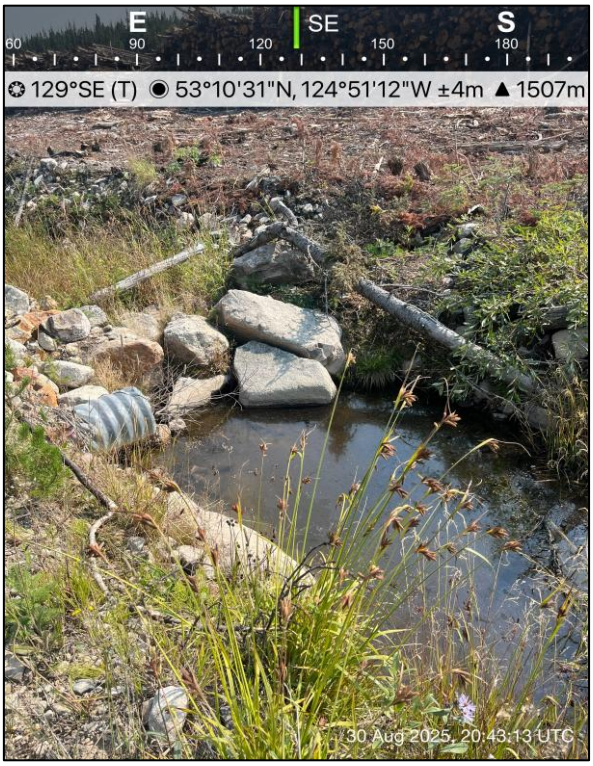

PHOTO 37 - OP02_SEEP004

PHOTO 38 - OP03_SEEP001

BLACKWATER MINE

VA101-00457/46

PHOTO 39 - OP03_SEEP002

PHOTO 40 - OP03_SEEP003

BLACKWATER MINE

VA101-00457/46

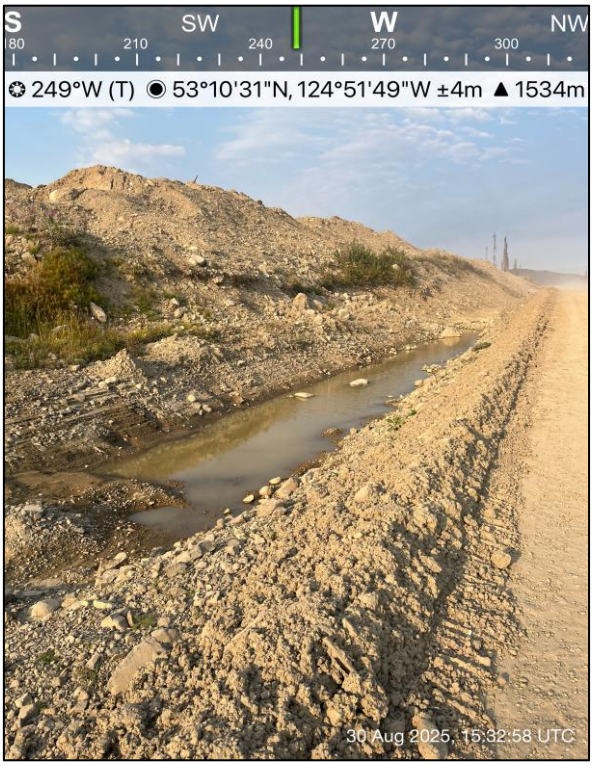

PHOTO 41 - OP03_SEEP004

PHOTO 42 - OP04_SEEP001

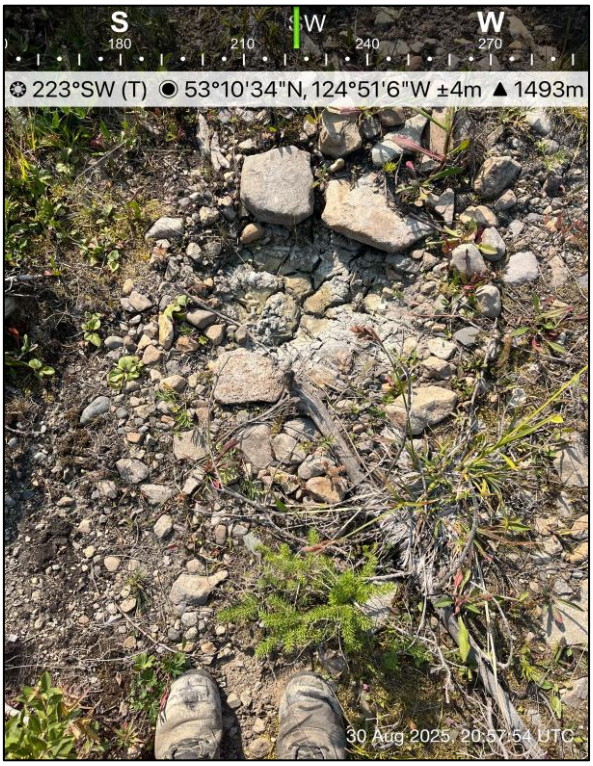

PHOTO 43 - OP04_SEEP002

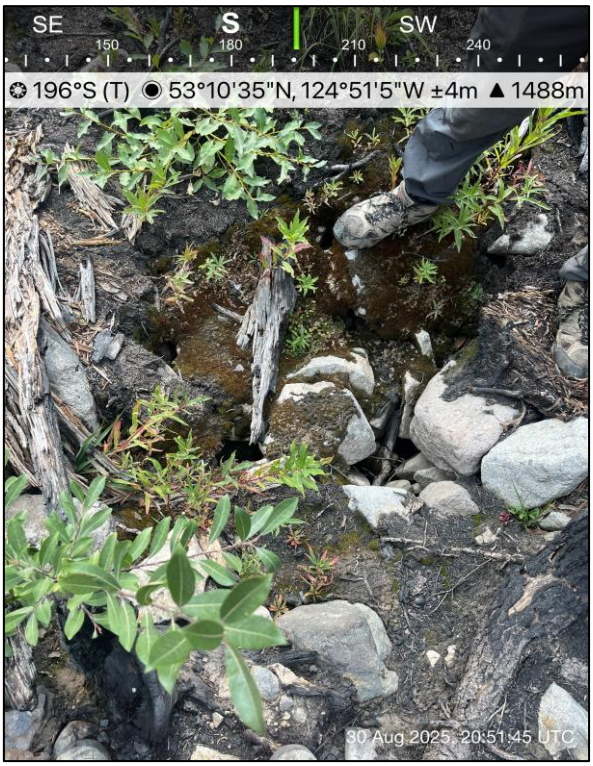

PHOTO 44 - OP04_SEEP003

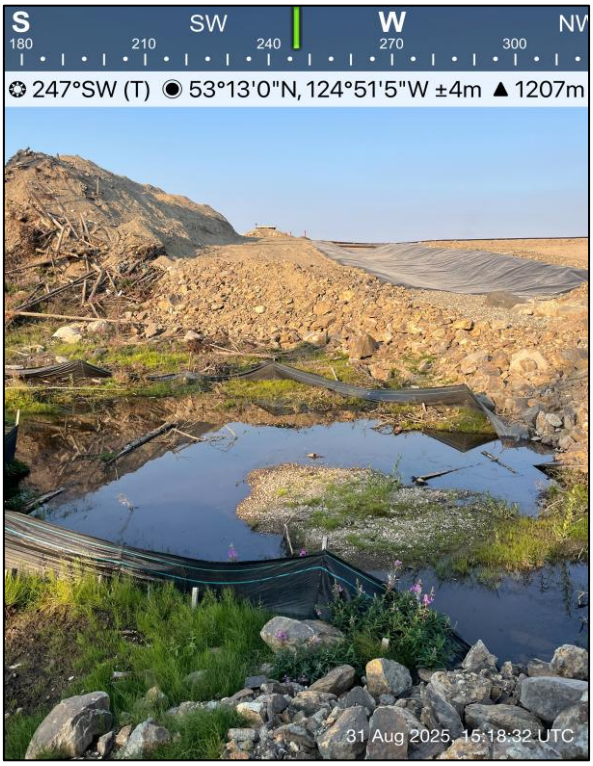

PHOTO 45 - TSF01_SEEP001

PHOTO 46 - TSF01_SEEP002

BLACKWATER MINE

VA101-00457/46

PHOTO 47 - TSF01_SEEP003

PHOTO 48 - TSF01_SEEP004

BLACKWATER MINE

VA101-00457/46

PHOTO 49 - TSF02_SEEP001

PHOTO 50 - TSF02_SEEP002

BLACKWATER MINE

VA101-00457/46

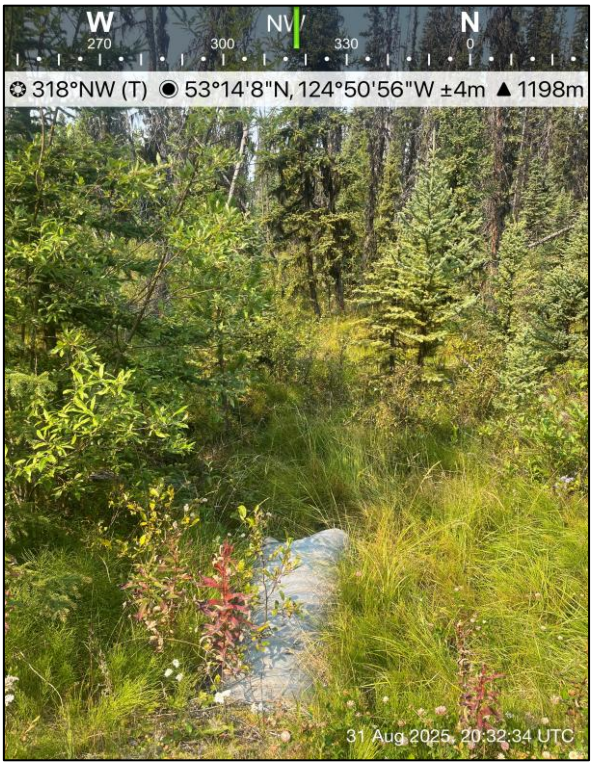

PHOTO 51 - TSF02_SEEP003

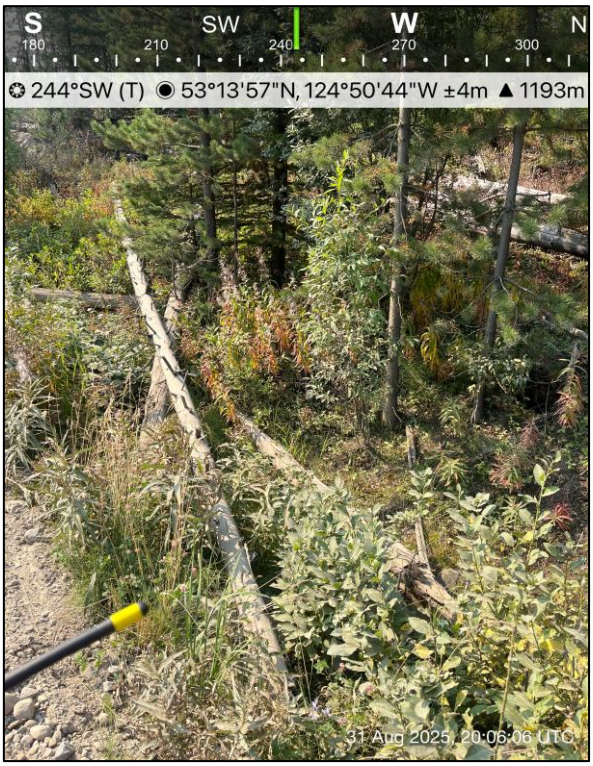

PHOTO 52 - TSF02_SEEP004

BLACKWATER MINE

VA101-00457/46

PHOTO 53 - TSF03_SEEP001

PHOTO 54 - TSF03_SEEP002

PHOTO 55 - TSF04_SEEP001

PHOTO 56 - TSF04_SEEP002

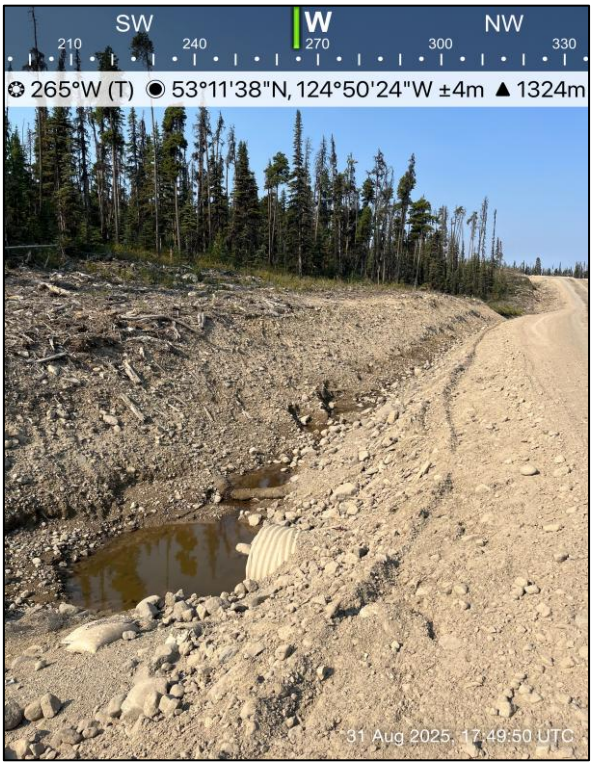

PHOTO 57 - TSF04_SEEP003

PHOTO 58 - TSF04_SEEP004

BLACKWATER MINE

VA101-00457/46

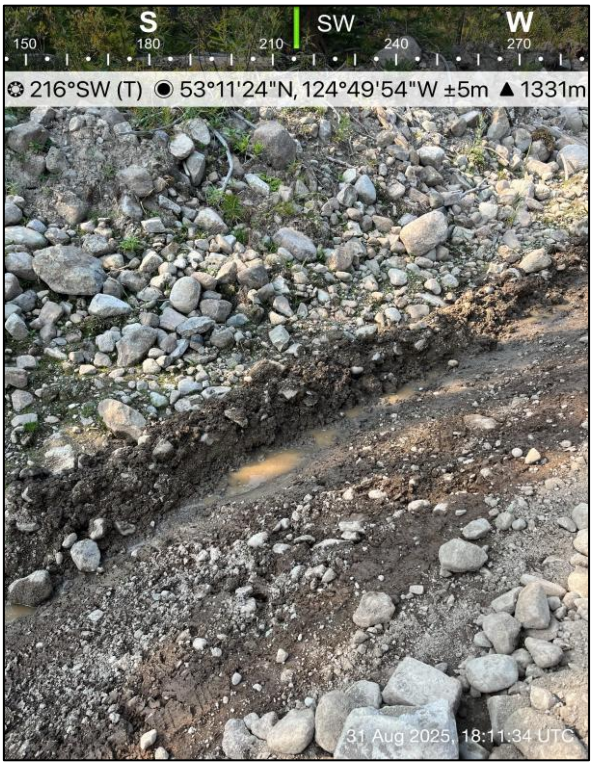

PHOTO 59 - TSF04_SEEP005

PHOTO 60 - TSF04_SEEP006

BLACKWATER MINE

VA101-00457/46

PHOTO 61 - TSF04_SEEP007

PHOTO 62 - TSF04_SEEP008

BLACKWATER MINE

VA101-00457/46

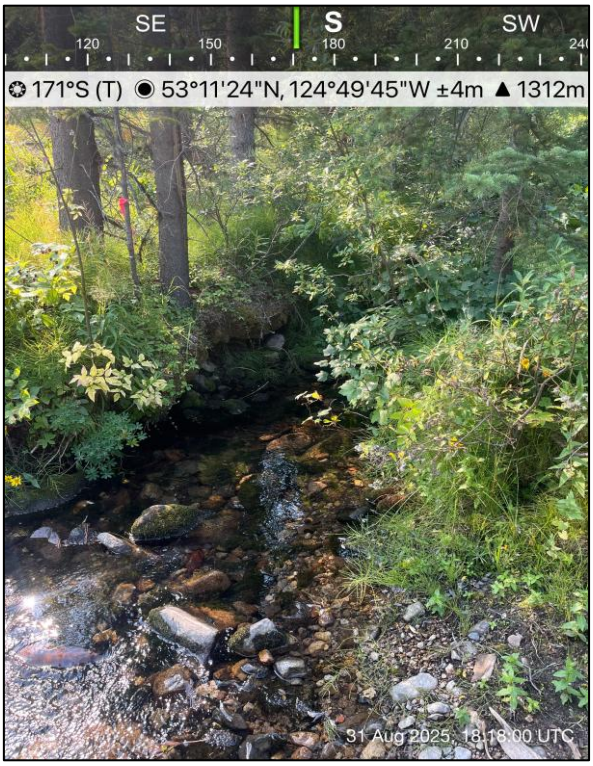

PHOTO 63 - TSF04_SEEP009

PHOTO 64 - TSF04_SEEP010

BLACKWATER MINE

VA101-00457/46

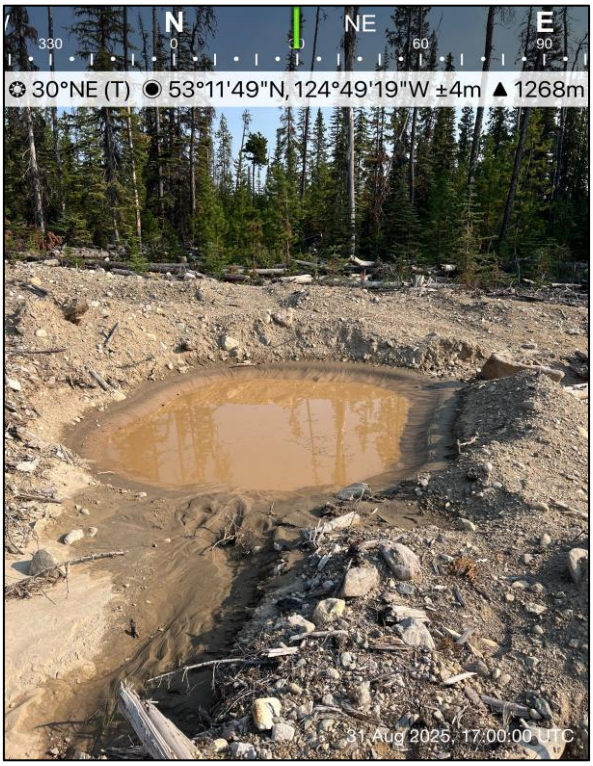

PHOTO 65 - TSF04_SEEP011

PHOTO 66 - TSF04_SEEP012

BLACKWATER MINE

VA101-00457/46

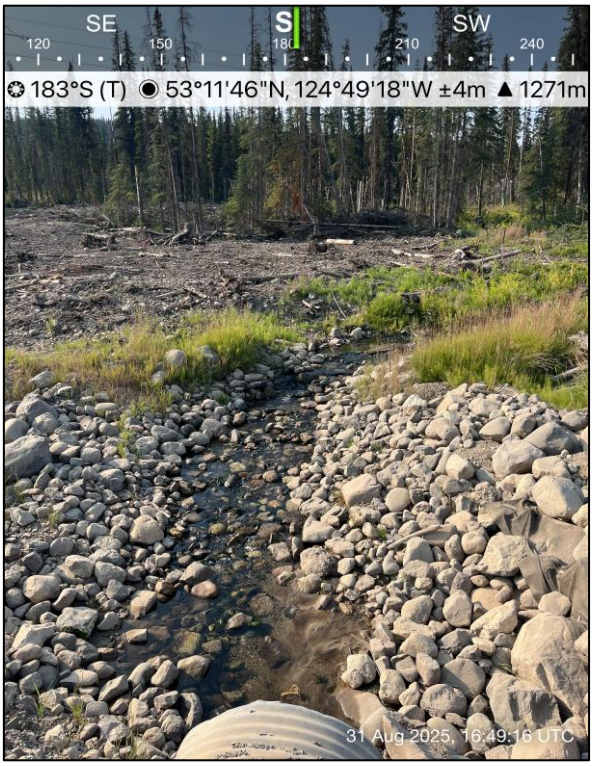

PHOTO 67 - TSF04_SEEP013

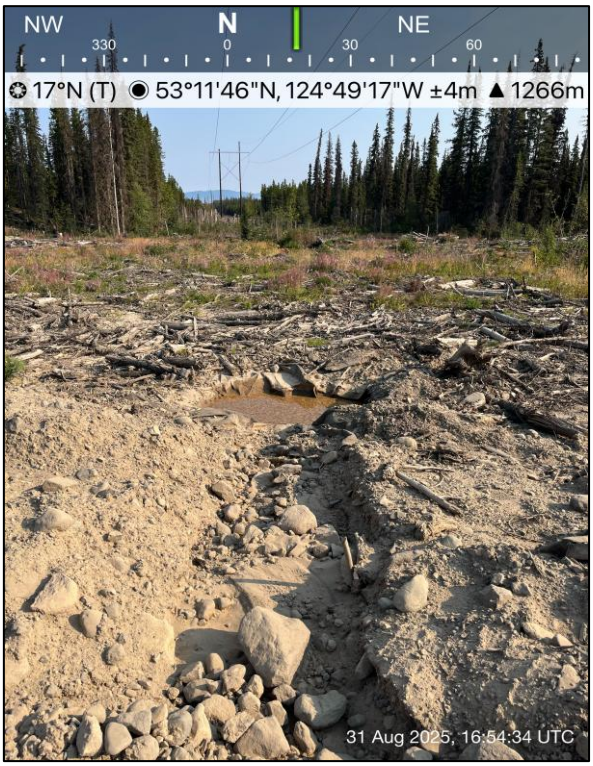

PHOTO 68 - TSF04_SEEP014

BLACKWATER MINE

VA101-00457/46

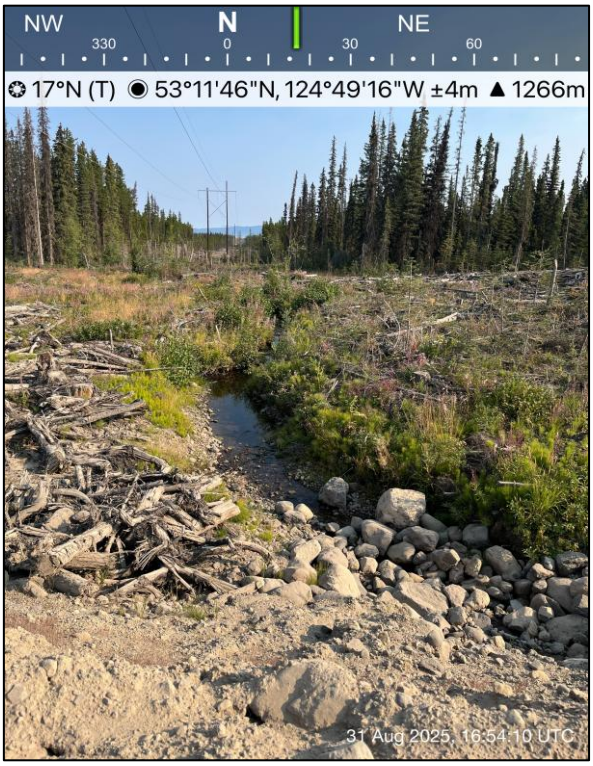

PHOTO 69 - TSF04_SEEP015

PHOTO 70 - TSF04_SEEP016

BLACKWATER MINE

VA101-00457/46

PHOTO 71 - TSF04_SEEP017

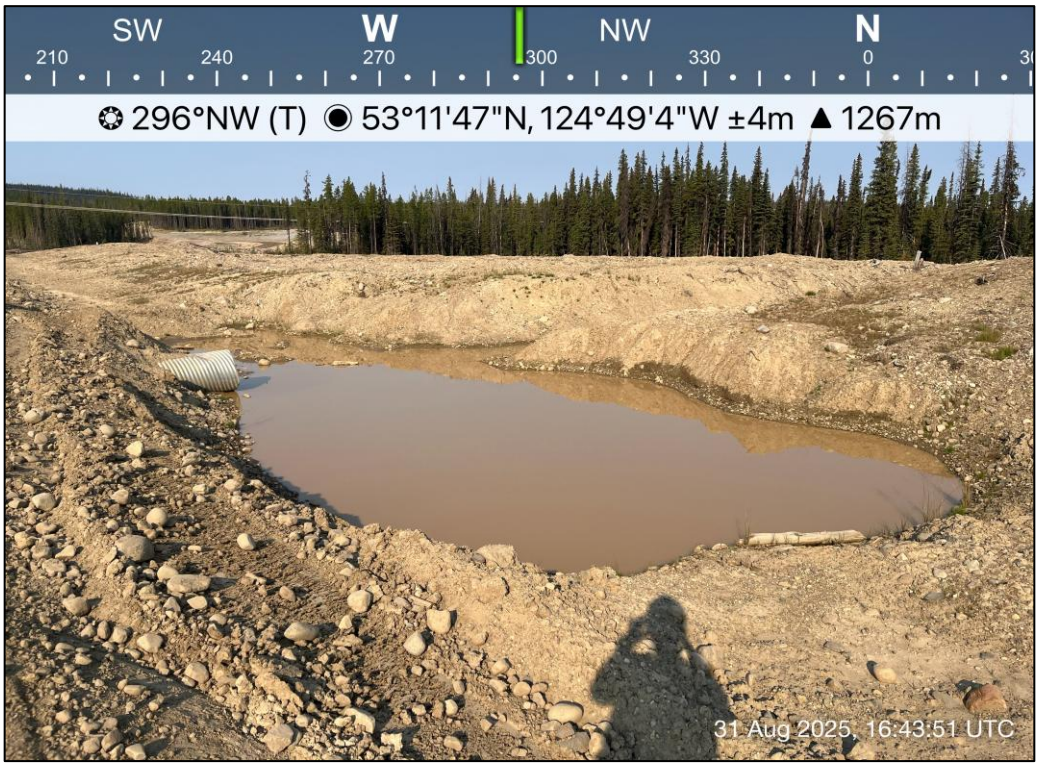

PHOTO 72 - TSF04_SEEP018

BLACKWATER MINE

VA101-00457/46

PHOTO 73 - TSF04_SEEP019

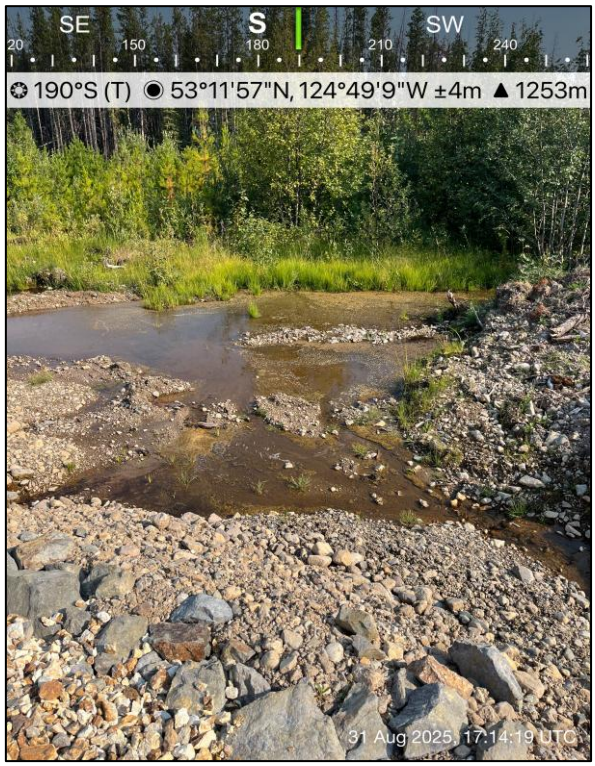

PHOTO 74 - TSF04_SEEP020

BLACKWATER MINE

VA101-00457/46

PHOTO 75 - TSF04_SEEP021

PHOTO 76 - TSF04_SEEP022

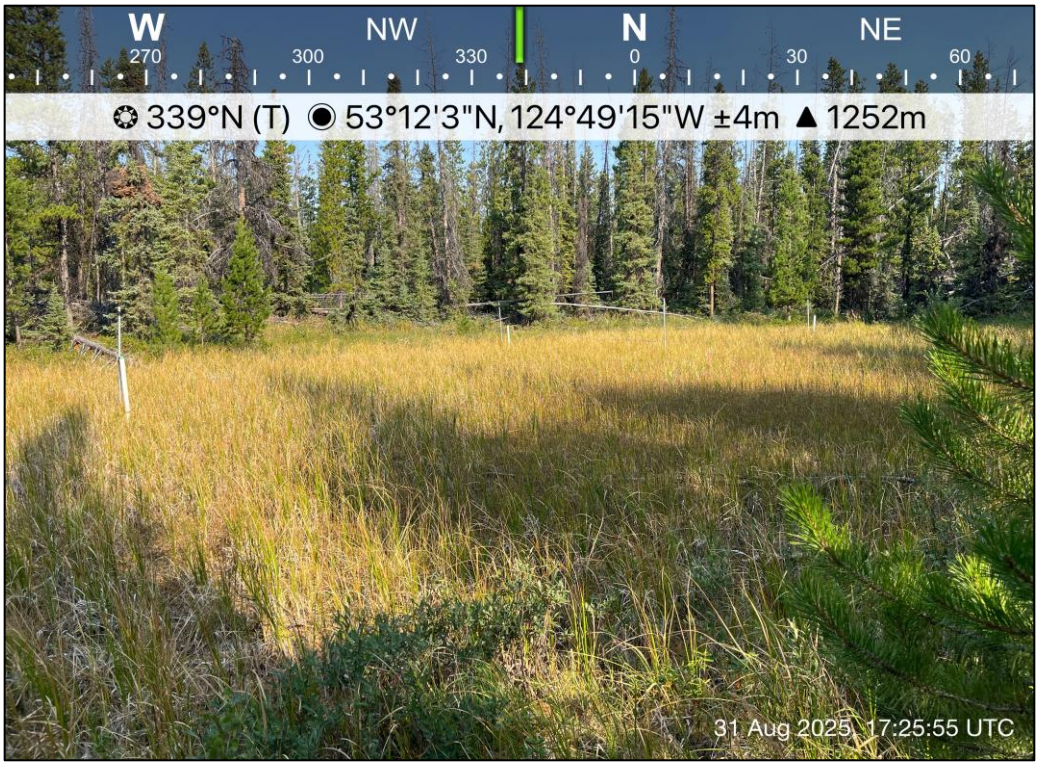

PHOTO 77 - TSF04_SEEP023

BLACKWATER MINE

VA101-00457/46

APPENDIX B

Water Quality

(Tables B1.1 to B1.2)

DRAFT

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TABLE B1.1

BLACKWATER GOLD LTD.
BLACKWATER MINE

2025 GROUNDWATER SEEP SURVEY
WATER QUALITY RESULTS

Print Mar/10/26 14:59:23

Site ID	MDL	East Slope Seep	WQ4-Seep	MAC-Seep	IECD-Seep	FWR-Seep
Date/Time Sampled	**mg/L**	**8/30/2025**	**8/30/2025**	**8/30/2025**	**8/31/2025**	**9/1/2025**
In Situ Parameters						
Conductivity (In Situ) µS/cm	...	87	135	27	160	165
Oxygen Dissolved (In Situ %) %	...	64	98.1	104.4	49	22
Oxygen Dissolved (In Situ)	...	6.37	10.5	9.92	5.3	2.5
pH (In Situ) pH	...	6.95	7.31	7.2	7.15	6.75
Redox Potential (In Situ) mV	...	117.8	175.5	185.7	272.4	119.6
Salinity (In Situ) ppt	...	0.35	0.08	0.01	0.1	0.11
Specific Conductivity (In Situ) µS/cm	...	102.6	178	31.3	214	234
Temperature (In Situ) °C	...	15.5	12.2	17.8	11.8	9.5
Total Dissolved Solids (In Situ)	...	67	116	20	139	152
Turbidity (In Situ) NTU	...	18.34	1.31	7.79	21.22	73.15
Physical Tests						
Acidity to pH 8.3 (as CaCO3)	2	2.1	< 2	2.1	< 2	< 2
Alkalinity (Total as CaCO3)	1	39.2	47.9	12.2	107	101
Hardness as CaCO3 (Dissolved)	0.6	40.9	71.6	10.2	97.8	90.4
Hardness as CaCO3 (Total)	0.6	40	70.9	10.1	100	91.6
pH pH	0.1	7.43	7.68	7.26	7.6	7.56
Specific Conductivity µS/cm	2	97.2	174	30.5	211	192
Total Dissolved Solids	1 to 2	78	121	46	152	139
Total Suspended Solids	3	< 3	< 3	4.7	18.5	11.5
Turbidity NTU	0.1	3.1	0.66	6.56	17.6	1.93
Dissolved Anions						
Bromide (Dissolved)	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chloride (Dissolved)	0.5	0.54	1.02	< 0.5	< 0.5	< 0.5
Fluoride (Dissolved)	0.02	0.047	0.047	< 0.02	0.054	0.06
Sulphate (Dissolved)	0.3	8.64	32.6	1.2	5.99	2.46
Nutrients						
Ammonia (Total)	0.005	0.026	0.0097	0.0056	< 0.005	0.0278
Nitrate (as N)	0.005	< 0.005	0.0486	0.0678	0.0388	< 0.005
Nitrite (as N)	0.001	< 0.001	0.0012	< 0.001	0.0011	< 0.001
Nitrogen Kjeldahl (Total)	0.05	0.308	0.148	0.156	0.532	0.188
Orthophosphate (Dissolved)	0.001	< 0.001	< 0.001	0.0103	< 0.001	0.0308
Phosphorus (Nutrient) Total	0.002	0.0199	0.0061	0.0286	0.0827	0.0724
Cyanide						
Cyanide (SAD)	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide (WAD)	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Thiocyanate (SCN)	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dissolved Metals						
Aluminum (Dissolved)	0.001	0.004	0.0113	0.0545	0.0036	0.0048
Antimony (Dissolved)	0.0001	0.00015	0.00015	< 0.0001	< 0.0001	< 0.0001
Arsenic (Dissolved)	0.0001	0.00114	0.00153	0.001	0.0021	0.00274
Barium (Dissolved)	0.0001	0.00364	0.00686	0.00267	0.00877	0.00802
Beryllium (Dissolved)	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth (Dissolved)	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Boron (Dissolved)	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium (Dissolved)	0.000005	0.000133	0.000067	0.000022	0.000018	0.000003
Calcium (Dissolved)	0.05	13.1	22.5	3.05	29.6	28.2
Chromium (Dissolved) (VI)	0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt (Dissolved)	0.0001	< 0.0001	< 0.0001	< 0.0001	0.00169	< 0.0001
Copper (Dissolved)	0.0002	0.00127	0.00035	0.0005	0.0003	< 0.0002
Iron (Dissolved)	0.01	< 0.01	0.014	0.033	0.046	0.146
Lead (Dissolved)	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Lithium (Dissolved)	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium (Dissolved)	0.1	1.98	3.75	0.637	5.8	4.85
Manganese (Dissolved)	0.0001	0.143	0.147	0.00363	0.0863	0.00566
Mercury (Dissolved)	0.000005	0.000003	0.000003	0.000003	0.000003	0.000003
Molybdenum (Dissolved)	0.00005	0.000395	0.000498	0.000448	0.00338	0.00396
Nickel (Dissolved)	0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus (Metal) Dissolved	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Potassium (Dissolved)	0.1	1.19	0.844	0.522	1.16	1.22
Selenium (Dissolved)	0.00005	< 0.00005	< 0.00005	< 0.00005	0.0002	0.000115
Silicon (Dissolved)	0.05	3.07	4.84	6.4	6.85	8.17
Silver (Dissolved)	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Sodium (Dissolved)	0.05	2.92	4.65	2.5	4.9	4.18
Strontium (Dissolved)	0.0002	0.0858	0.147	0.0298	0.178	0.163
Sulfur (Dissolved)	0.5	3.06	11.2	< 0.5	2.21	0.62
Thallium (Dissolved)	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Tin (Dissolved)	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium (Dissolved)	0.0003	< 0.0003	< 0.0003	0.00083	< 0.0003	< 0.0003
Uranium (Dissolved)	0.00001	0.000027	0.000054	0.000096	0.000297	0.000629
Vanadium (Dissolved)	0.0005	< 0.0005	< 0.0005	0.00062	< 0.0005	0.00096
Zinc (Dissolved)	0.001	0.0122	**0.405**	0.0023	< 0.001	< 0.001
Total Metals						
Aluminum (Total)	0.003	0.128	0.061	0.492	0.664	0.232
Antimony (Total)	0.0001	0.00021	0.00017	0.0001	< 0.0001	0.0001
Arsenic (Total)	0.0001	0.00165	0.0019	0.00133	0.00692	0.0052
Barium (Total)	0.0001	0.00634	0.00729	0.00613	0.0248	0.0248
Beryllium (Total)	0.00002	< 0.00002	< 0.00002	0.000041	0.000031	< 0.00002
Bismuth (Total)	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Boron (Total)	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium (Total)	0.000005	0.000221	0.000122	0.000038	0.000112	0.000036
Calcium (Total)	0.05	12.8	22.3	2.93	30.3	28.2
Chromium (Total)	0.0005	< 0.0005	< 0.0005	< 0.0005	0.00095	0.00096
Cobalt (Total)	0.0001	0.00017	< 0.0001	0.00014	0.00256	0.00105
Copper (Total)	0.0005	0.00167	0.00058	0.00087	0.00128	0.00059
Iron (Total)	0.01	0.205	0.078	0.319	1.81	1.16
Lead (Total)	0.00005	0.000439	0.000204	0.000349	0.000527	0.000206
Lithium (Total)	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium (Total)	0.1	1.96	3.7	0.67	5.98	5.14
Manganese (Total)	0.0001	0.624	0.149	0.0233	1.31	1.95
Mercury (Total)	0.000005	0.000003	0.000003	0.000003	0.000003	0.000003
Molybdenum (Total)	0.00005	0.000425	0.000508	0.000442	0.00359	0.00501
Nickel (Total)	0.0005	< 0.0005	< 0.0005	< 0.0005	0.00099	0.00085
Phosphorus (Metal) Total	0.05	< 0.05	< 0.05	< 0.05	0.084	0.122
Potassium (Total)	0.1	1.14	0.822	0.586	1.26	1.26
Selenium (Total)	0.00005	< 0.00005	< 0.00005	< 0.00005	0.00026	0.000139
Silicon (Total)	0.1	3.08	4.78	6.98	8.07	8.42
Silver (Total)	0.00001	0.00002	< 0.00001	0.00001	0.000014	< 0.00001
Sodium (Total)	0.05	2.85	4.58	2.48	4.85	4.2
Strontium (Total)	0.0002	0.0847	0.141	0.0286	0.17	0.167
Sulfur (Total)	0.5	3.11	11.5	< 0.5	2.36	0.83
Thallium (Total)	0.00001	< 0.00001	< 0.00001	< 0.00001	0.000012	< 0.00001
Tin (Total)	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium (Total)	0.0003 to 0.0036	< 0.0018	0.00143	0.013	0.0186	0.0082
Uranium (Total)	0.00001	0.000041	0.000058	0.000143	0.000347	0.000785
Vanadium (Total)	0.0005	< 0.0005	< 0.0005	0.00118	0.00228	0.00254
Zinc (Total)	0.003	0.0198	**0.401**	0.0069	0.006	0.003
Organics						
Carbon Organic (Dissolved)	0.5	5.31	4.43	4.7	6.43	4.49
Carbon Organic (Total)	0.5	6.05	4.77	5.26	8.12	7.92

\\KPL\VA-Prj$\1\01\00457\46\A\Correspondence\VA25-02303 - 2025 Groundwater Seep Survey Results\Appendices\Appendix B - Water Quality Data\[Appendix B - Tables B1.1 & B1.2.xlsx]Table B1.1

NOTES:

1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.
2. SAMPLES THAT EXCEED THE BC LONG-TERM CHRONIC WATER QUALITY GUIDELINES ARE COLORED BLUE.
4. SAMPLES THAT EXCEED THE BC SHORT-TERM ACUTE WATER QUALITY GUIDELINES ARE SHADED RED.
5. SAMPLES THAT EXCEED THE CONTAMINATED SITE REGULATIONS FOR AQUATIC LIFE (FRESHWATER) ARE SHOWN **BOLDED**
6. SAMPLES MEASURED BELOW DETECTION LIMIT ARE PRESENTED AS "< MDL".
7. THE Cu GUIDELINE IS CALCULATED USING THE COPPER BIOLIGAND MODEL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	10MAR'26	ISSUED FOR INFORMATION	EB	CAS

Knight Piésold CONSULTING

TABLE B1.2

BLACKWATER GOLD LTD.
BLACKWATER MINE

2025 GROUNDWATER SEEP SURVEY
WATER QUALITY GUIDELINES AND STANDARDS

Print Mar/10/26 14:59:23

Analytes	BC Freshwater Aquatic Life - Approved[1]		BC Water Quality Guidelines - Working[2]	EMA Contaminated Sites Regulation[3]
	Long-Term Chronic	Short-Term Acute	Long-Term Chronic	Aquatic Life
Physical Tests				
Alkalinity (Total as $CaCO_3$)			<10 highly sensitive to acidic input >20 low sensitivitv to acidic input	
pH	6.5 to 9	6.5 to 9		
Anions				
Chloride	150	600		1500
Fluoride		0.4 @ hardness < 10 0.01*((92.57*log(hardness))-51.73) @ hardness = 10 - 385		2 @ hardness < 50 3 @ hardness ≥ 50
Sulfate	128 @ hardness ≤ 30 218 @ hardness = 31-75 309 @ hardness = 76-180 429 @ hardness = 181-250 Site specific @ hardness > 250			1,280 @ hardness ≤ 30 2,180 @ hardness = 31-75 3,090 @ hardness = 76-180 4,290 @ hardness > 180
Sulfide				0.02
Nutrients				
Ammonia (Total)	0.102 to 2.09 (pH & temperature dependent; lookup table)	0.681 to 28.7 (pH & temperature dependent; lookup table)		1.31 @ pH 8 ≥ 8.5 3.70 @ pH 8.0 - < 8.5 11.3 @ pH 7.5 - < 8.0 18.5 @ pH 7.0 - < 7.5 18.4 @ pH < 7.0
Nitrate (as N)	3	32.8		400
Nitrate (Soluble)				
Nitrite (as N)	0.02 @ Cl < 2 0.04 @ Cl = 2 - < 4 0.06 @ Cl = 4 - < 6 0.08 @ Cl = 6 - < 8 0.1 @ Cl = 8 - < 10 0.2 @ Cl ≥ 10	0.06 @ Cl < 2 0.12 @ Cl = 2 - < 4 0.18 @ Cl = 4 - < 6 0.24 @ Cl = 6 - < 8 0.3 @ Cl = 8 - < 10 0.6 @ Cl ≥ 10		0.2 @ Cl < 2 0.4 @ Cl = 2 - < 4 0.6 @ Cl = 4 - < 6 0.8 @ Cl = 6 - < 8 1.0 @ Cl = 8 - < 10 2.0 @ Cl ≥ 10
Nitrate + Nitrite (as N)				400
Phosphorus Total [6]	0.015 (lakes only)			
Cyanide				
Cyanide (WAD)	0.005	0.01		
Cyanide (Free)				0.05
Metals [7]				
Aluminum	$((e^{(0.645\ ln[DOC]]+2.295\ \ ln[hardness]]+[1.995\ pH]+[-0.284}$ $(ln[hardness]\ \ pH]]-9.898)})/3)/1000$ Total Al:			
Antimony	Total Sb: 0.074	Total Sb: 0.025		0.09
Arsenic	Total As: 0.005			0.05
Barium			1	10
Beryllium			0.00013	0.0015
Boron	Total B: 1.2			12
Cadmium	Dissolved Cd: e^(0.736 * ln(hardness) - 4.943) /1000 @ hardness = 3.4 - 285	Dissolved Cd: e^(1.03 * ln(hardness)-5.274) /1000 @ hardness = 7 - 455		0.0005 @ hardness < 30 0.0015 @ hardness = 30 - < 90 0.0025 @ hardness = 90 - < 150 0.0035 @ hardness = 150 - < 210 0.004 @ hardness ≥ 210
Chromium III			0.0089	0.09
Chromium VI			0.001	0.01
Cobalt	Dissolved Co: 0.001*exp(0.414*ln(hardness)-1.887)/2			0.04
Copper	Dissolved Cu: Use Biotic Ligand Model	Dissolved Cu: Use Biotic Ligand Model		0.02 @ hardness < 50 0.03 @ hardness = 50 - < 75 0.04 @ hardness = 75 - < 100 0.05 @ hardness = 100 - < 125 0.06 @ hardness = 125 - < 150 0.07 @ hardness = 150 - < 175 0.08 @ hardness = 175 - < 200 0.09 @ hardness ≥ 200
Iron		Dissolved Fe: 0.35 Total Fe: 1		
Lead	Dissolved Pb: exp(0.514*[ln(DOC)] + 0.214*[ln(hardness)] + 0. 4354)			0.04 @ hardness < 50 0.05 @ hardness = 50 - < 100 0.06 @ hardness = 100 - < 200 0.11 @ hardness = 200 - < 300 0.16 @ hardness ≥ 300
Lithium				
Manganese	Total Mn: ≤ 0.0044*[hardness]+0.605 at hardness 37 – 450 mg/L	Total Mn: 0.01102 * hardness + 0.54 @ hardness 25 - ≤259		
Mercury	Total Hg: 0.00002 When MeHg ≤ 0.5% of total Hg			0.00025
Molybdenum	Total Mo: 7.6	Total Mo: 46		10
Nickel	Dissolved Ni: Use Biotic Ligand Model	Dissolved Ni: Use Biotic Ligand Model	0.025 at hardness ≤60 mg/L $(e^{(0.76[ln(hardness)]+1.06)})/1000$ at hardness >60 mg/L to < 180 mg/L 0.15 at hardness ≥180 mg/L	0.25 @ hardness < 60 0.65 @ hardness = 60 - < 120 1.10 @ hardness = 120 - < 180 1.50 @ hardness ≥ 180
Selenium	Total Se: 0.002			0.02
Silver	Total Ag: 0.00012			0.0005 @ hardness ≤ 100 0.015 @ hardness > 100
Sodium				
Strontium				
Thallium			0.0008	0.003
Tin				
Titanium				1
Tungsten				
Uranium			0.0085	0.085
Vanadium				
Zinc	Dissolved Zn: $(e^{(0.947[ln(hardness]\ -\ 0.815[pH]\ +}$ $0.398[ln(DOC)]\ +\ 4.625)})/1000$	Dissolved Zn: $(e^{(0.833[ln(hardness)]\ +}$ $0.240[ln(DOC\ )]\ +\ 0.526)})/1000$		0.075 @ hardnessH < 90 0.15 @ hardness = 90 - < 100 0.90 @ hardness = 100 - < 200 1.65 @ hardness = 200 - < 300 2.40 @ hardness = 300 - < 400

\\KPL\VA-Prj$\1\01\00457\46\A\Correspondence\VA25-02303 - 2025 Groundwater Seep Survey Results\Appendices\Appendix B - Water Quality Data\[Appendix B - Tables B1.1 & B1.2.xlsx]Table B1.2

NOTES:

1. BC MINISTRY OF WATER, LAND AND RESOURCE STEWARDSHIP, 2025. BRITISH COLUMBIA APPROVED WATER QUALITY GUIDELINES: AQUATIC LIFE, WILDLIFE & AGRICULTURE - GUIDELINE SUMMARY. WATER QUALITY GUIDELINE SERIES, WQG-20.
2. BC MINISTRY OF WATER, LAND AND RESOURCE STEWARDSHIP, 2025. WORKING WATER QUALITY GUIDELINES: AQUATIC LIFE, WILDLIFE & AGRICULTURE. WATER QUALTIY GUIDELINE SERIES, WQG-08-01. PROVINCE OF BC, VICTORIA BC.
3. ENVIRONMENTAL MANAGEMENT ACT, CONTAMINATED SITES REGULATION, GENERIC NUMERICAL WATER STANDARDS, SCHEDULE 3.2, COLUMN 3 (2025).
4. HARDNESS WITHIN A FORMULA INDICATES THE GUIDELINE IS DEPENDENT ON HARDNESS AS $CaCO_3$ (DISSOLVED).
5. pH WITHIN A FORMULA INDICATES THE STANDARD IS DEPENDENT ON pH (*in situ*).
6. Cl WITHIN A FORMULA INDICATES THE STANDARD IS DEPENDENT ON CHLORIDE.
7. NUTRIENT PHOSPHORUS GUIDELINE DOES NOT APPLY TO GROUNDWATER.
8. GUIDELINES APPLY TO BOTH DISSOLVED AND TOTAL METALS UNLESS SPECIFIED OTHERWISE.
9. DOC WITHIN A FORMULA INDICATES THE GUIDELINE IN DEPENDENT ON DISSOLVED ORGANIC CARBON.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	10MAR26	ISSUED FOR INFORMATION	EB	CAS

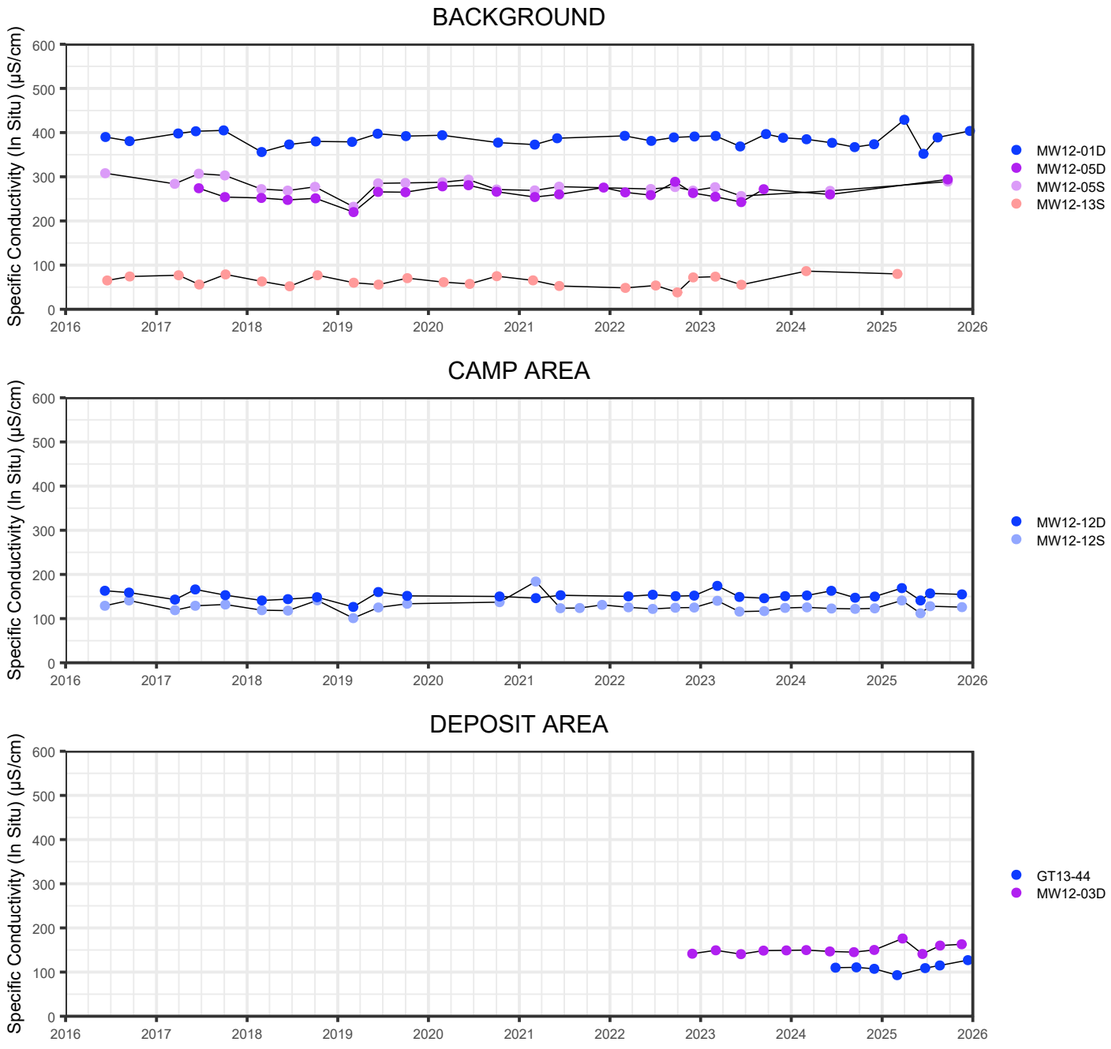
Appendix G Time Series Water Quality Plots

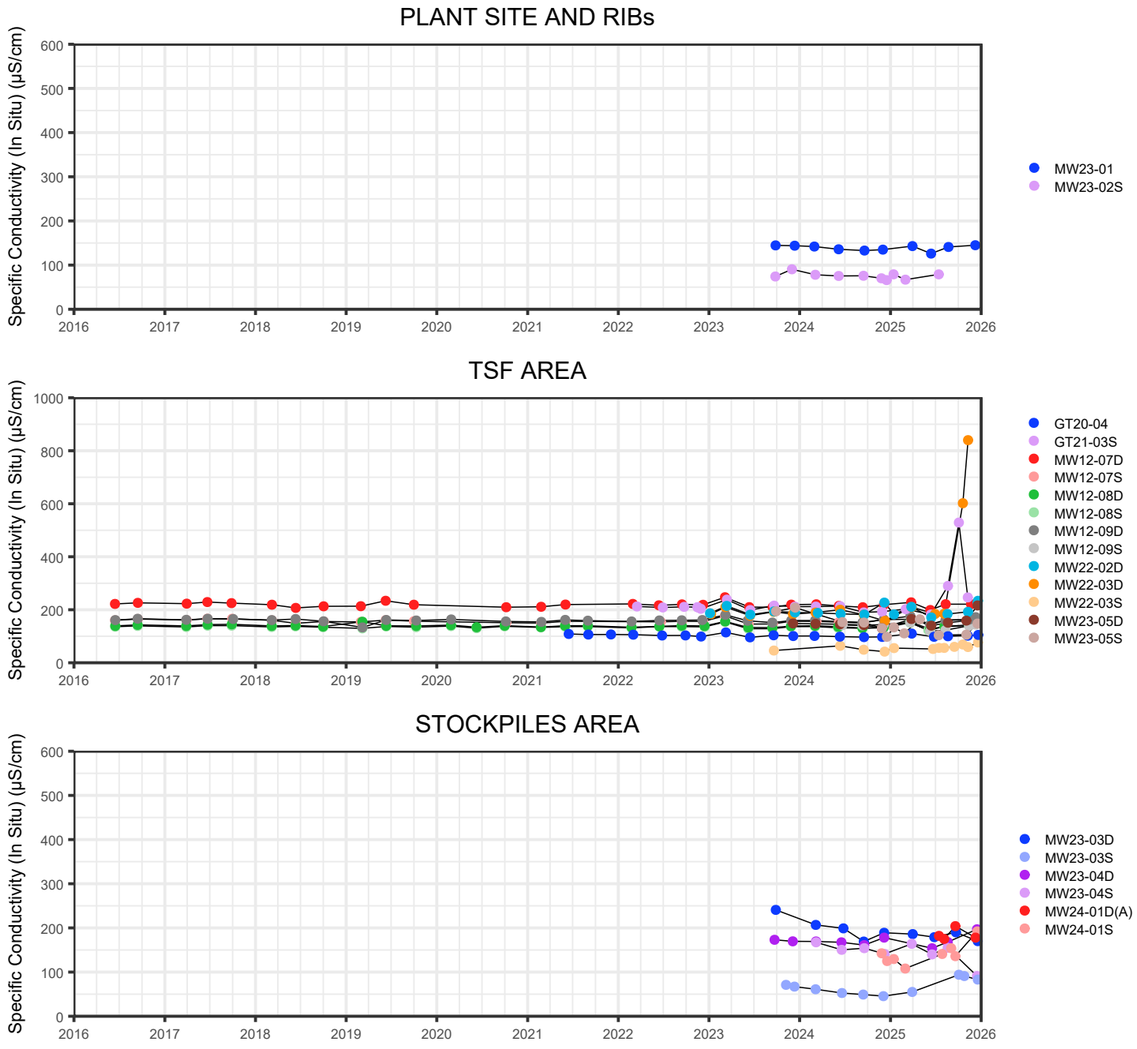
Appendix G-1: Groundwater Quality Time Series Plots

Appendix G-2: Mean Annual Groundwater Quality Results

Appendix G-1 Groundwater Quality Time Series Plots

(Figures F.1 to F.45, as originally issued in *Blackwater Gold Mine – 2025 Annual Report – Hydrogeology* [KP 2026b])





NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

SPECIFIC CONDUCTIVITY (IN SITU) AT GROUNDWATER MONITORING WELLS

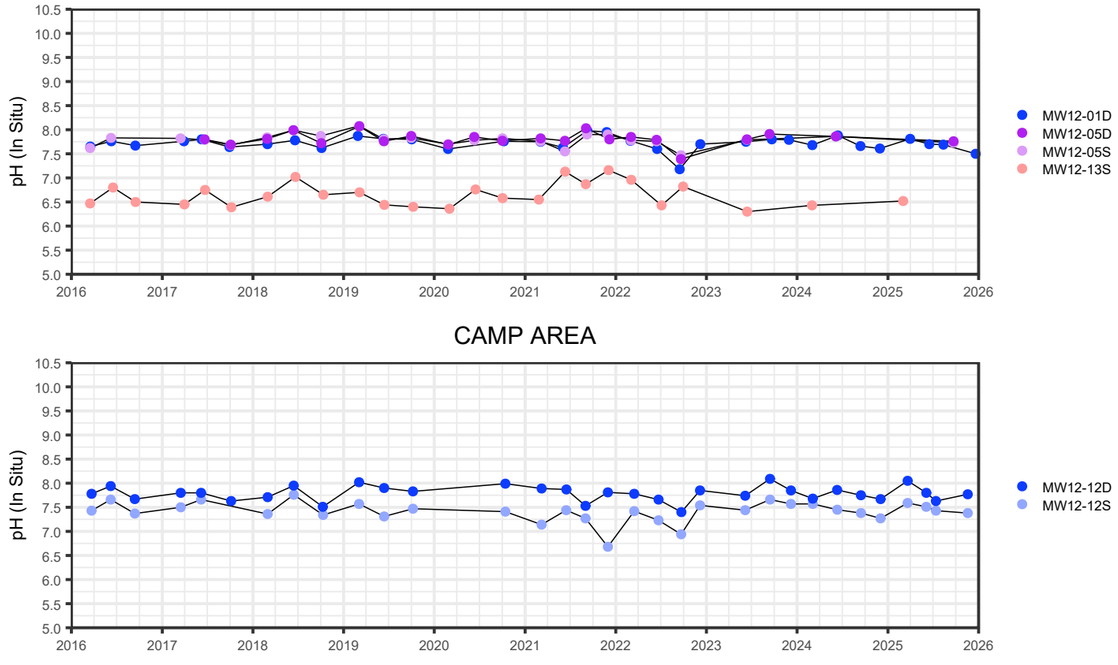
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

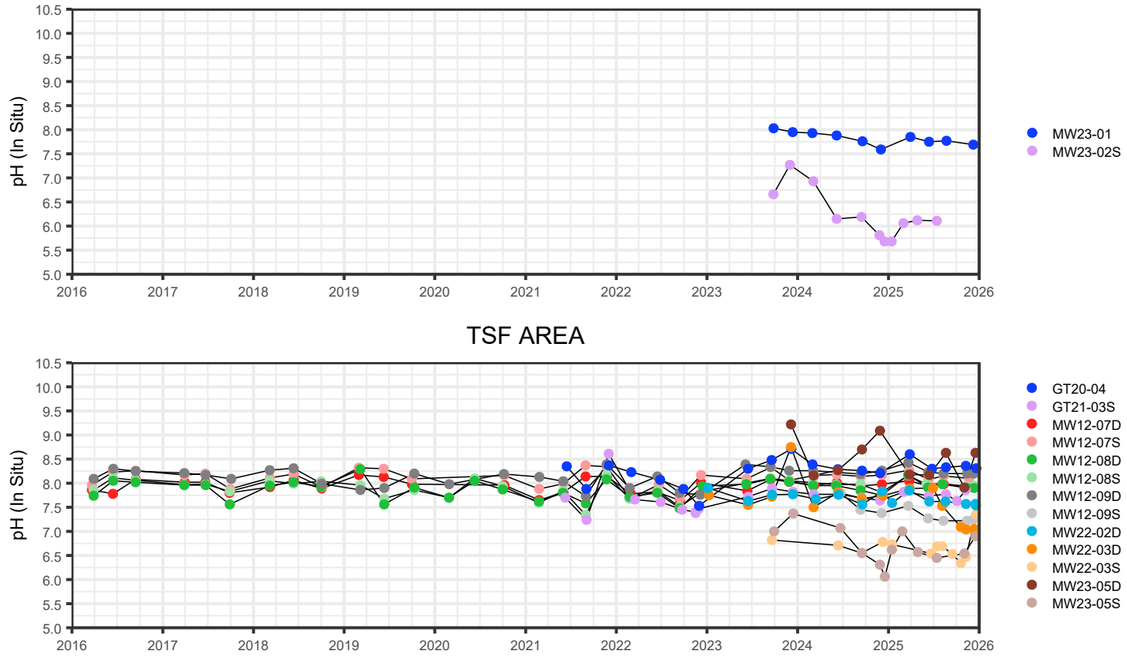
FIGURE G.1

Rev A

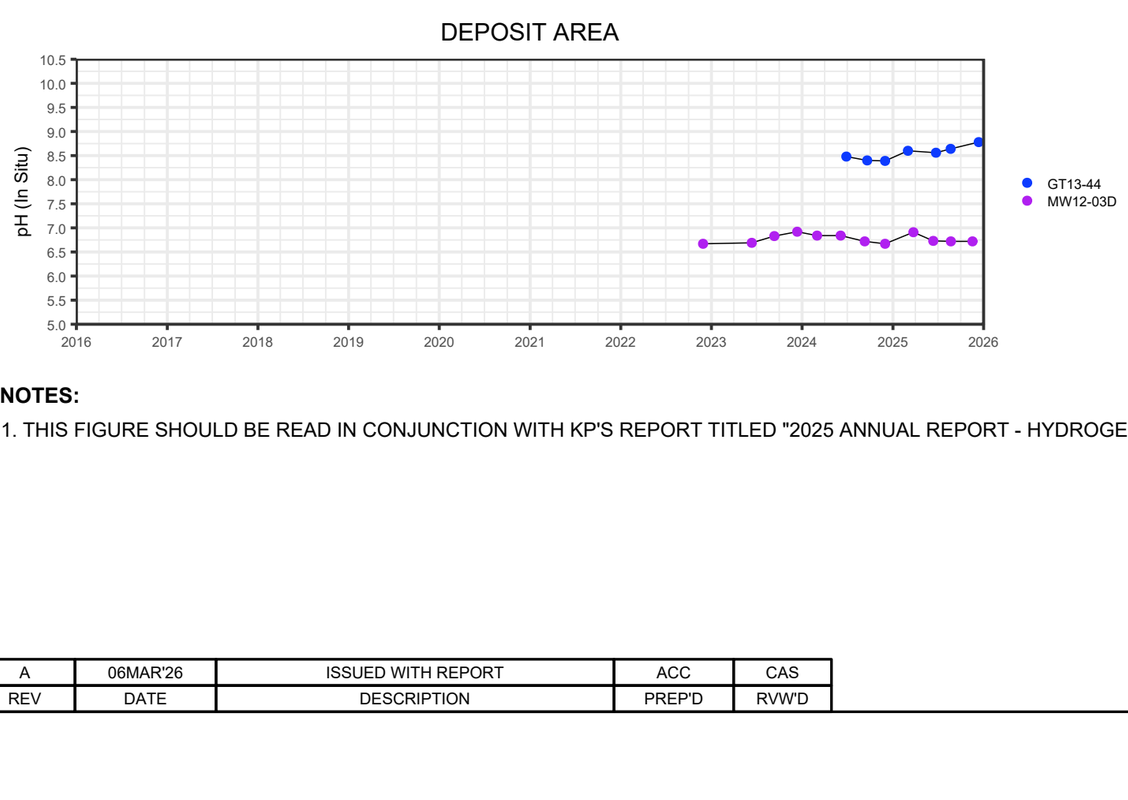
BACKGROUND



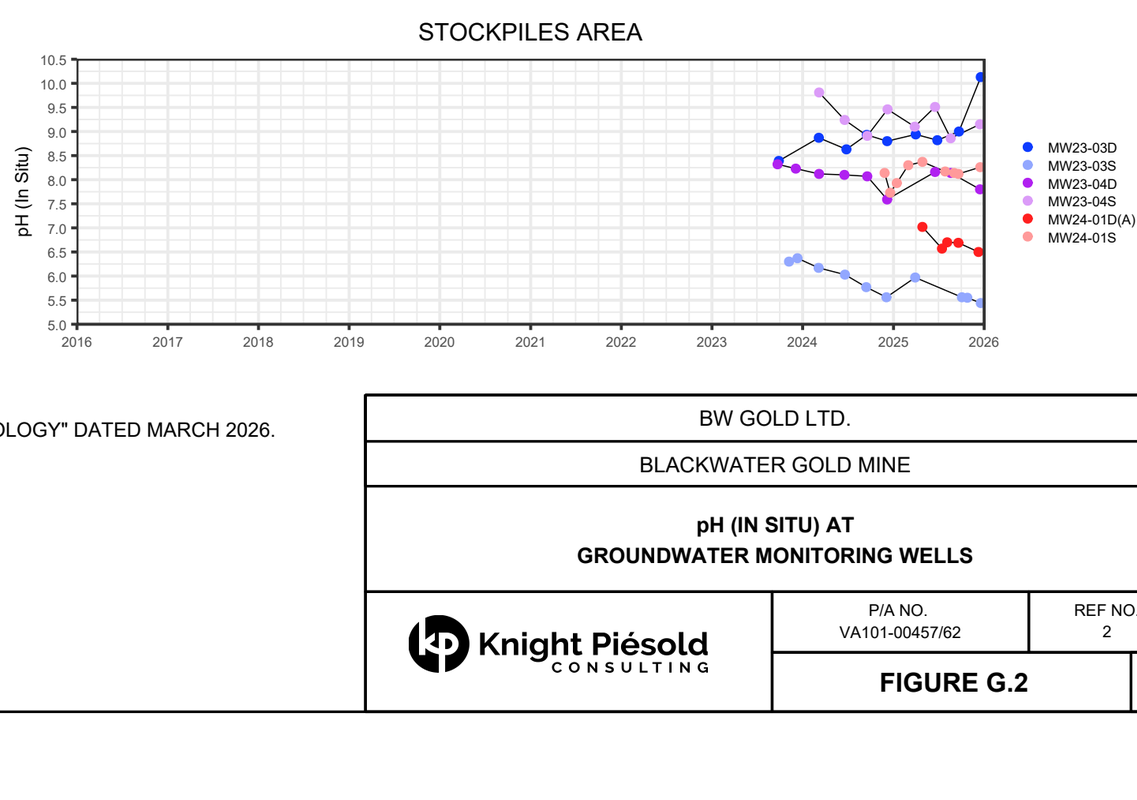
PLANT SITE AND RIBs



CAMP AREA



TSF AREA



DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

pH (IN SITU) AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

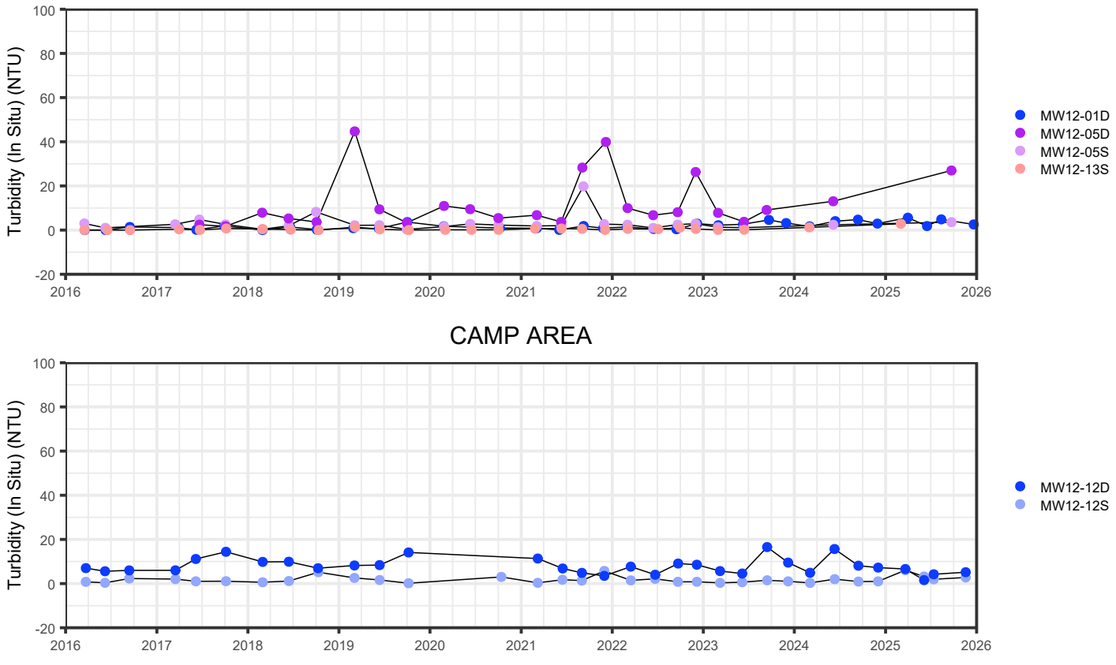
P/A NO. VA101-00457/62

REF NO. 2

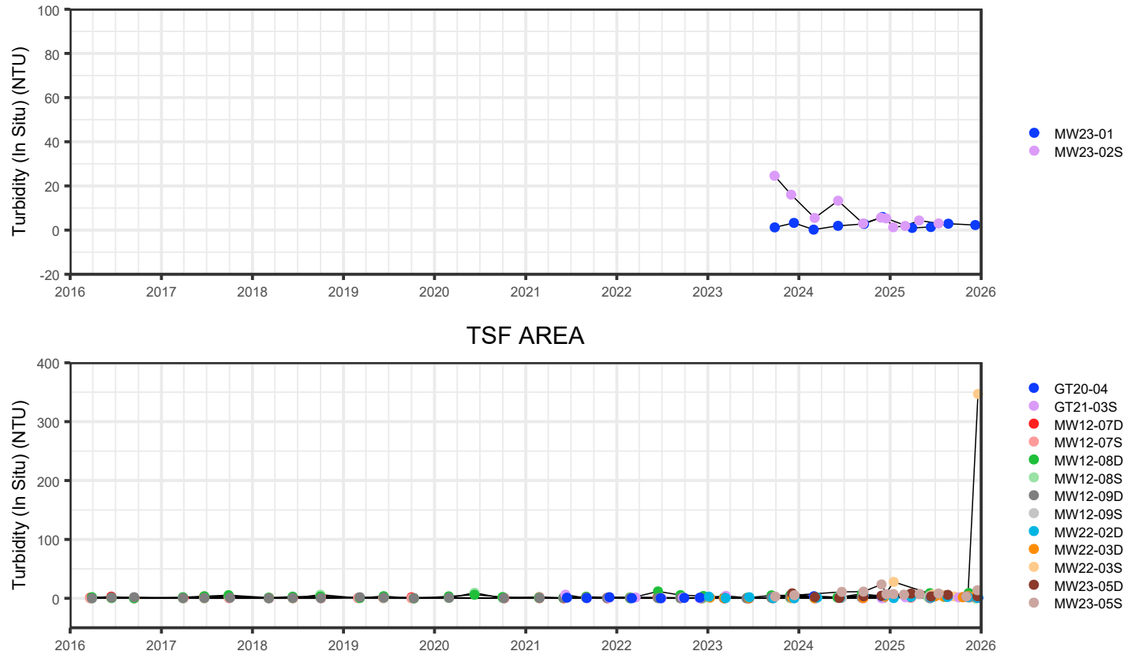
FIGURE G.2

Rev A

BACKGROUND



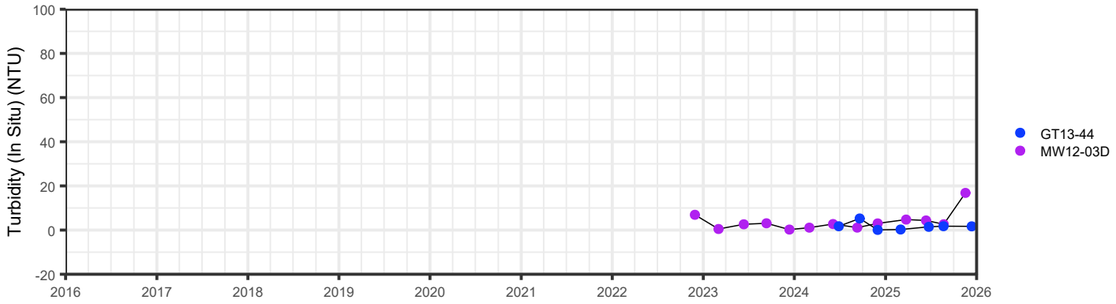
PLANT SITE AND RIBs



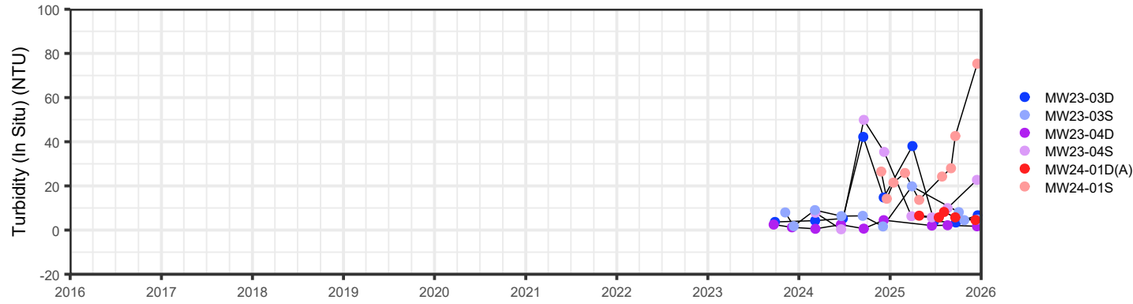
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

TURBIDITY (IN SITU) CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

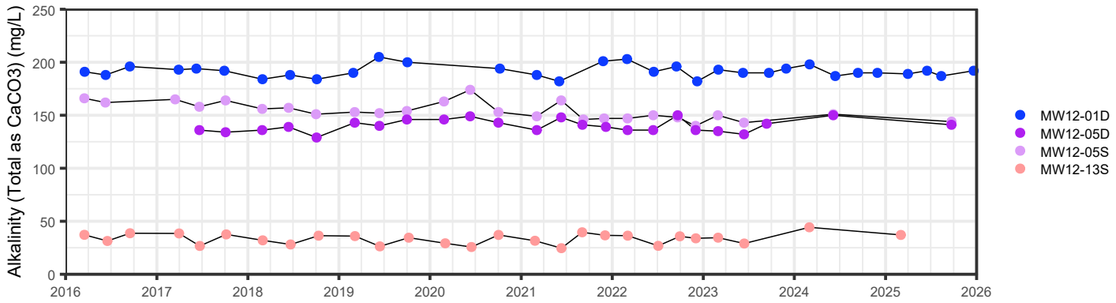
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

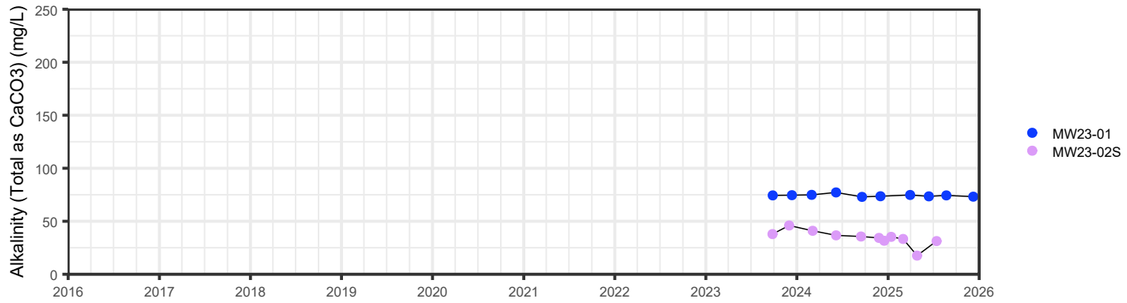
FIGURE G.3

Rev A

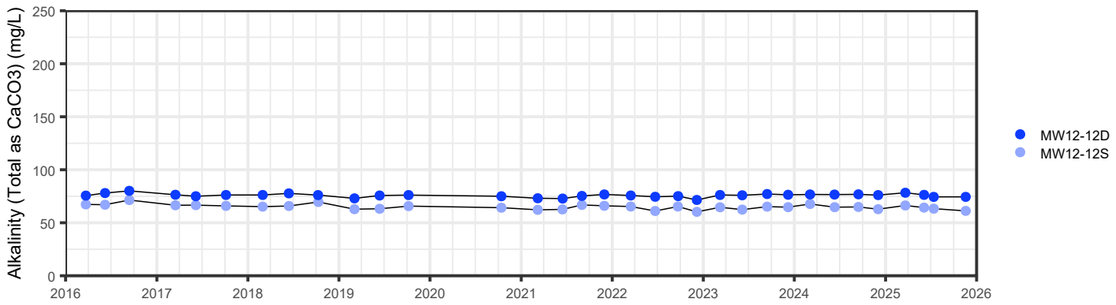
BACKGROUND



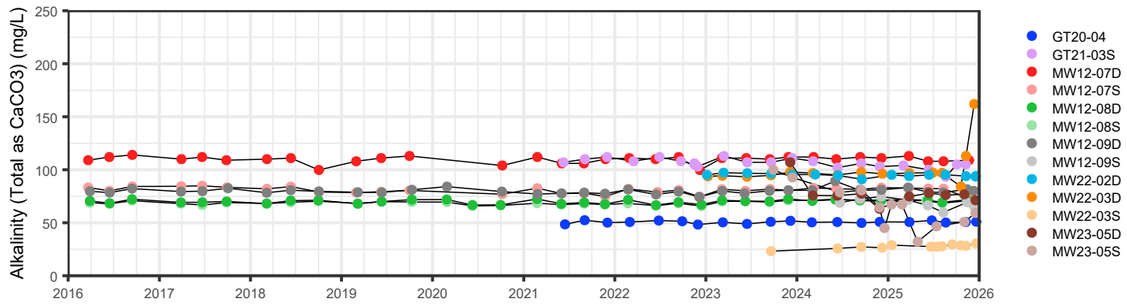
PLANT SITE AND RIBs



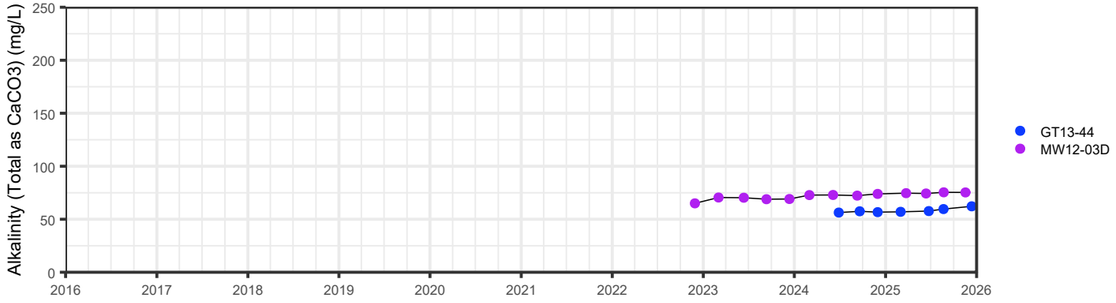
CAMP AREA



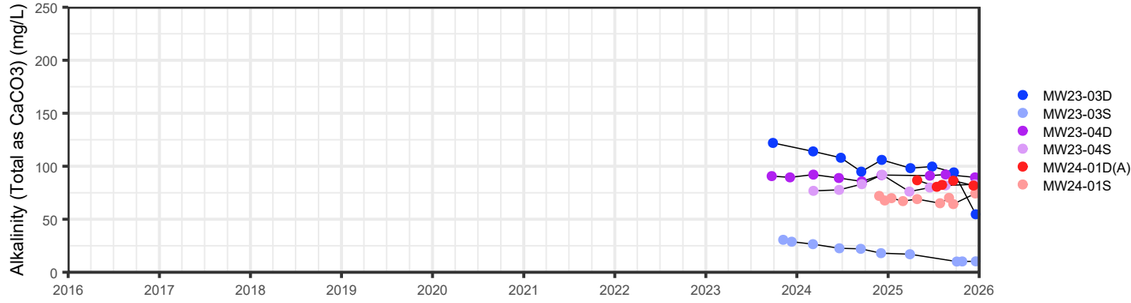
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

ALKALINITY (TOTAL AS CaCO3) CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

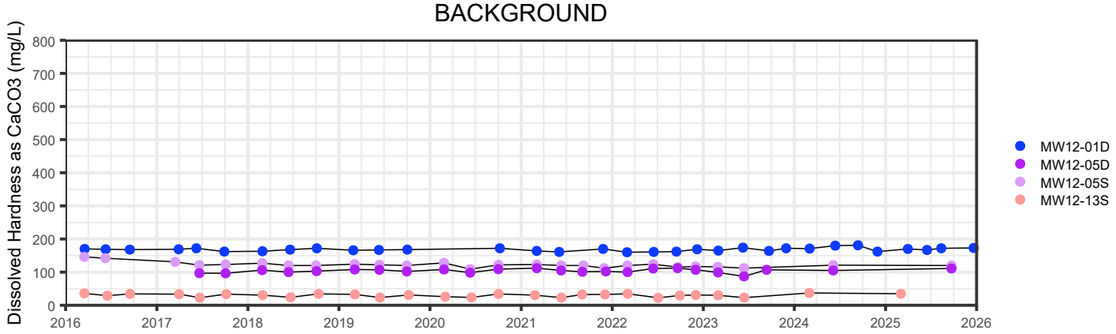
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

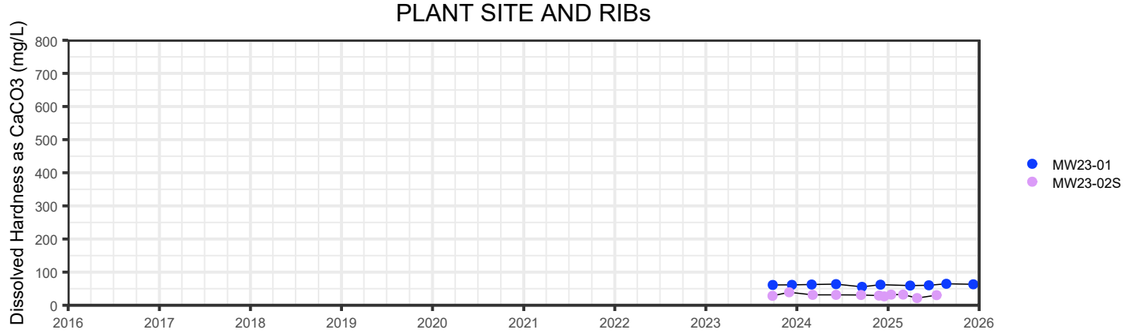
FIGURE G.4

Rev A

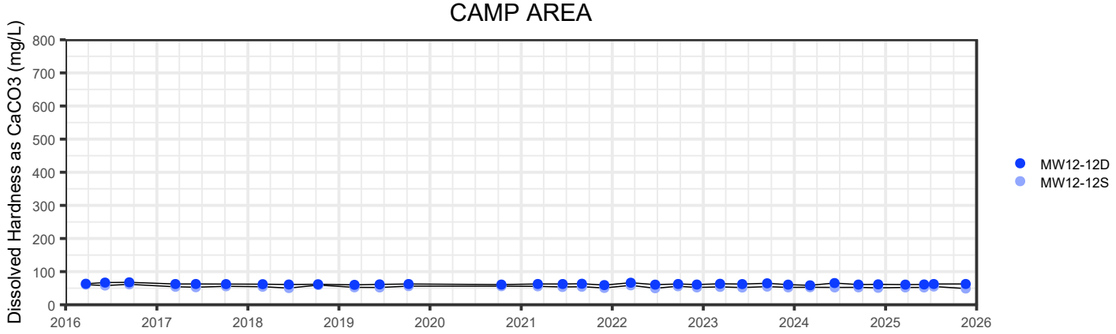
BACKGROUND



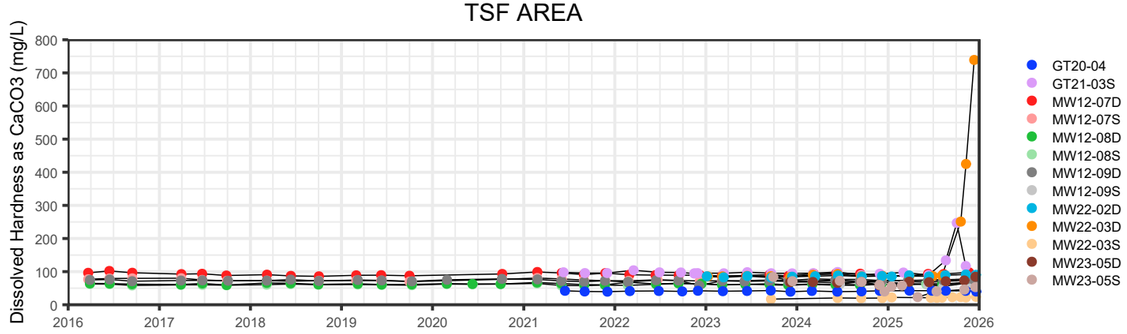
PLANT SITE AND RIBs



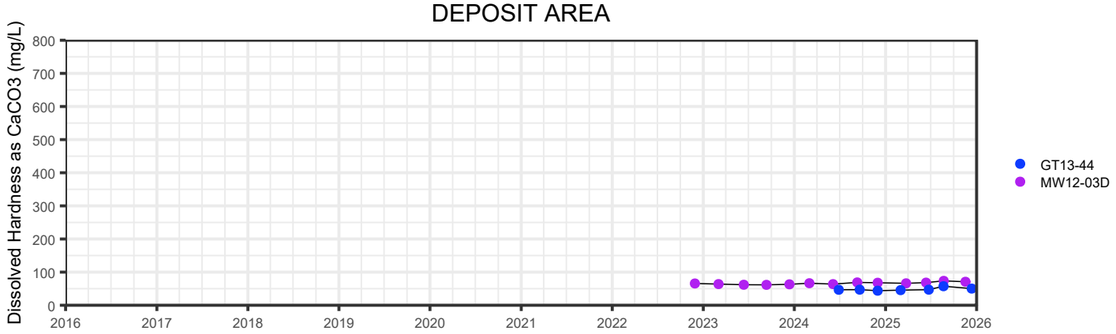
CAMP AREA



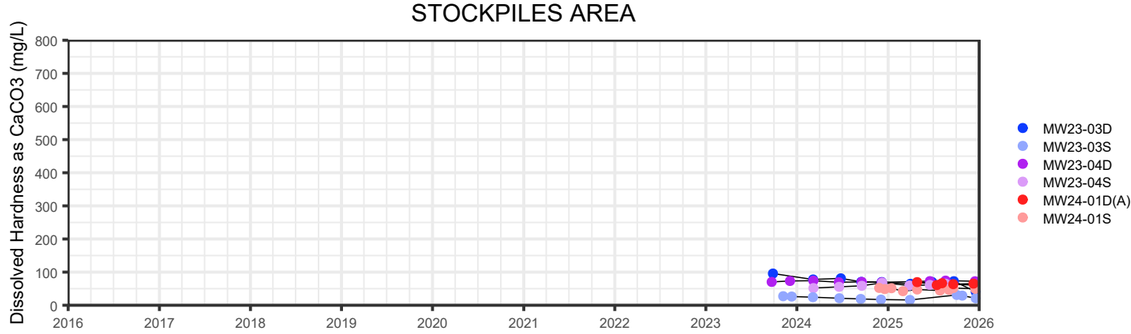
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

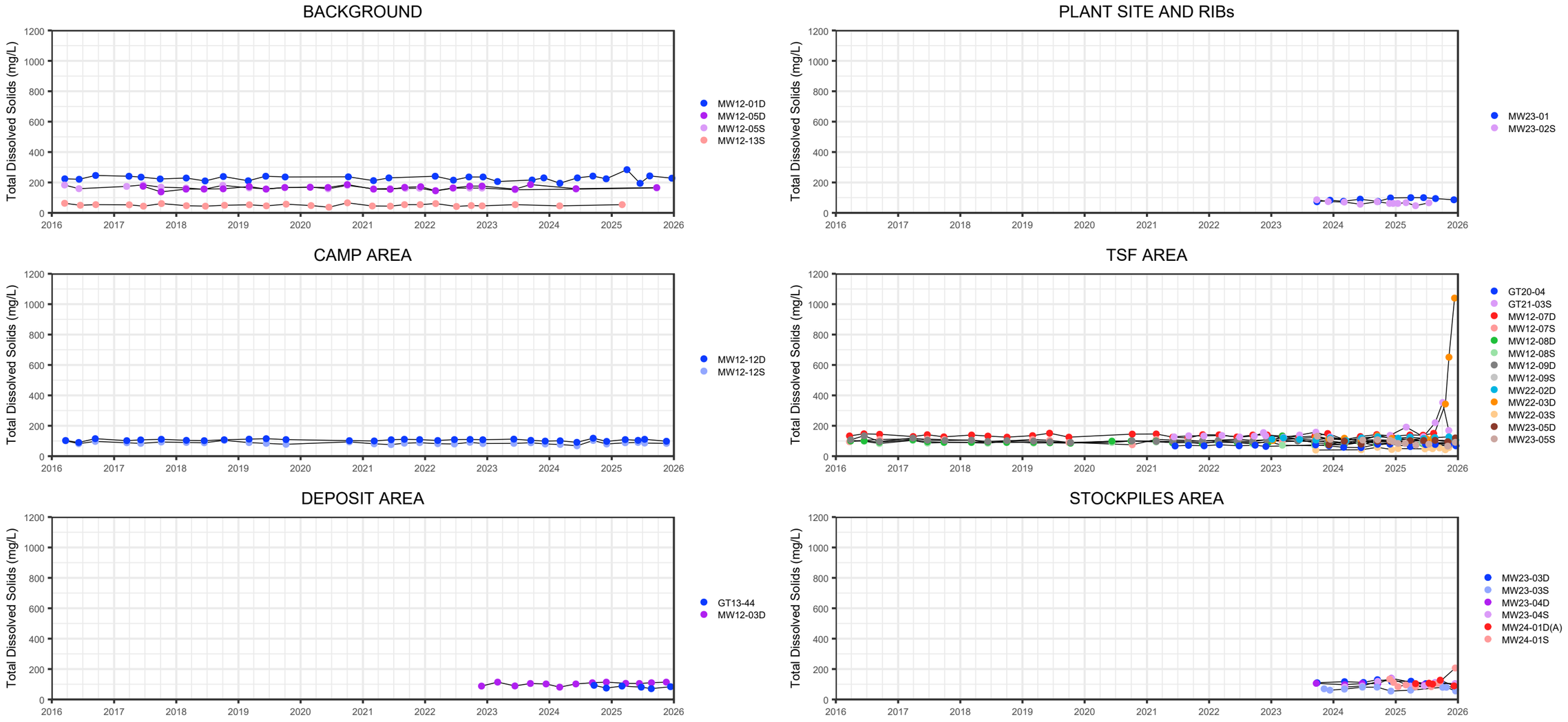
DISSOLVED HARDNESS AS CaCO3 CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

FIGURE G.5

Rev A



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

TOTAL DISSOLVED SOLIDS AT GROUNDWATER MONITORING WELLS

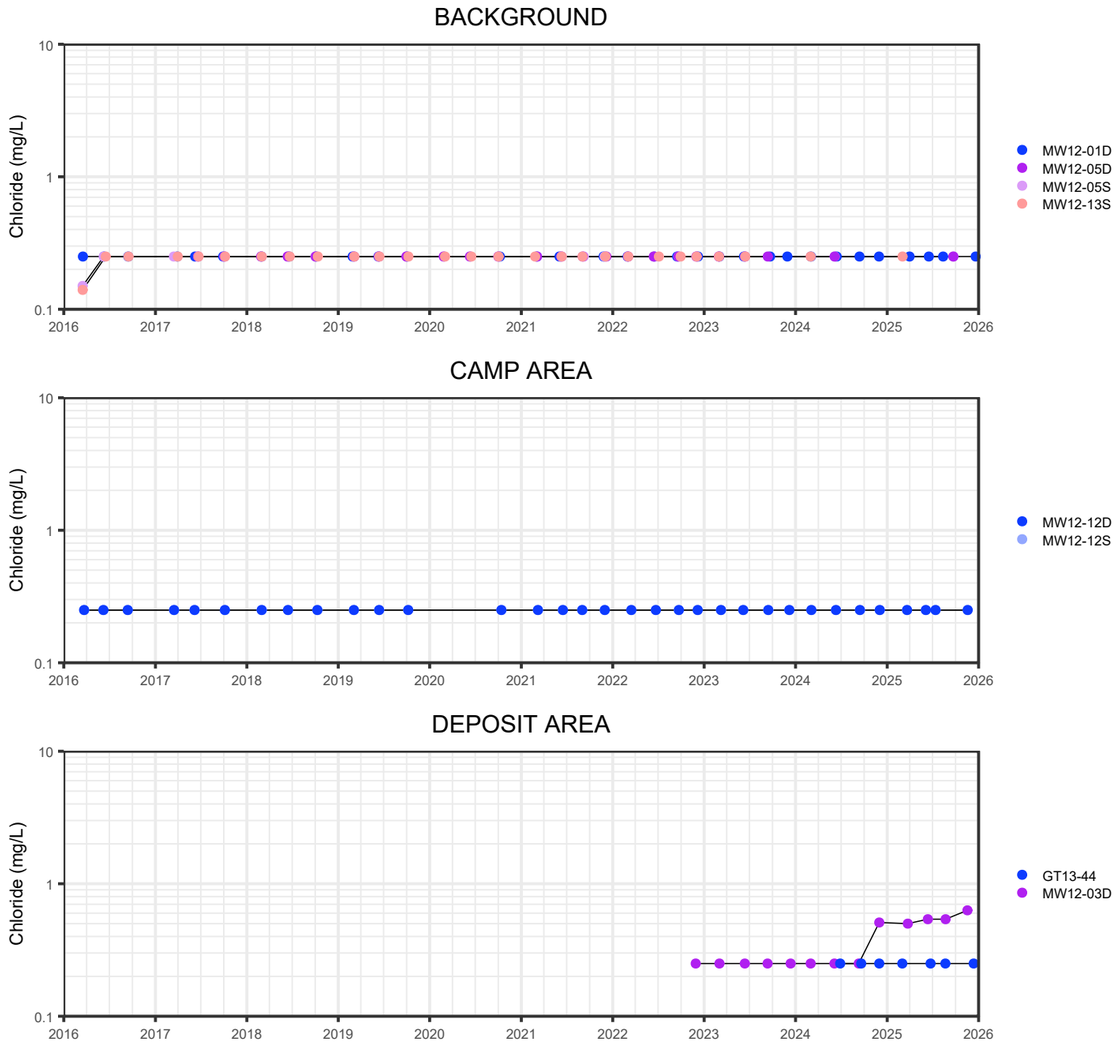
Knight Piésold CONSULTING

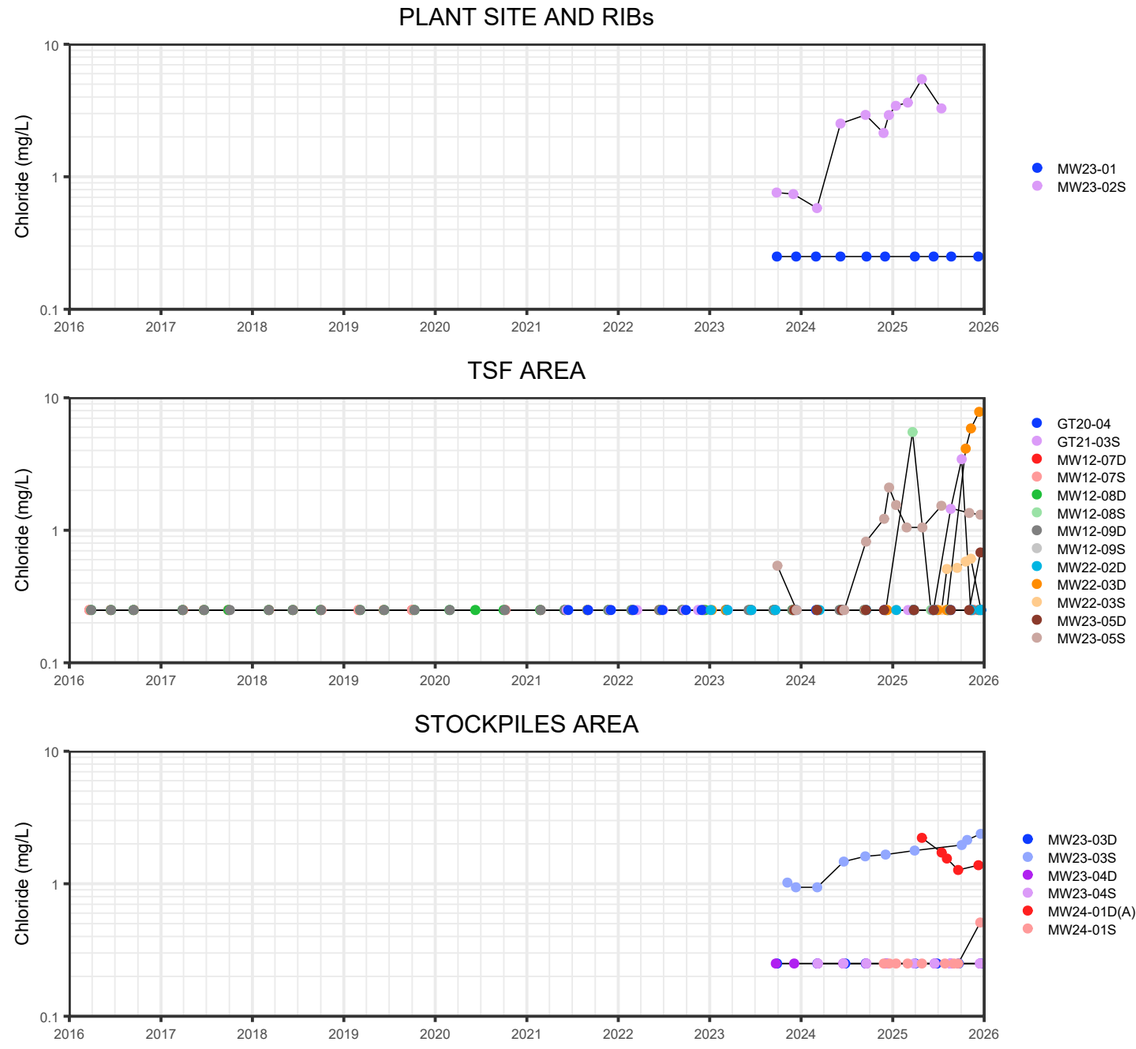
P/A NO. VA101-00457/62

REF NO. 2

FIGURE G.6

Rev A





NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (CHLORIDE: 1500 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

CHLORIDE CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

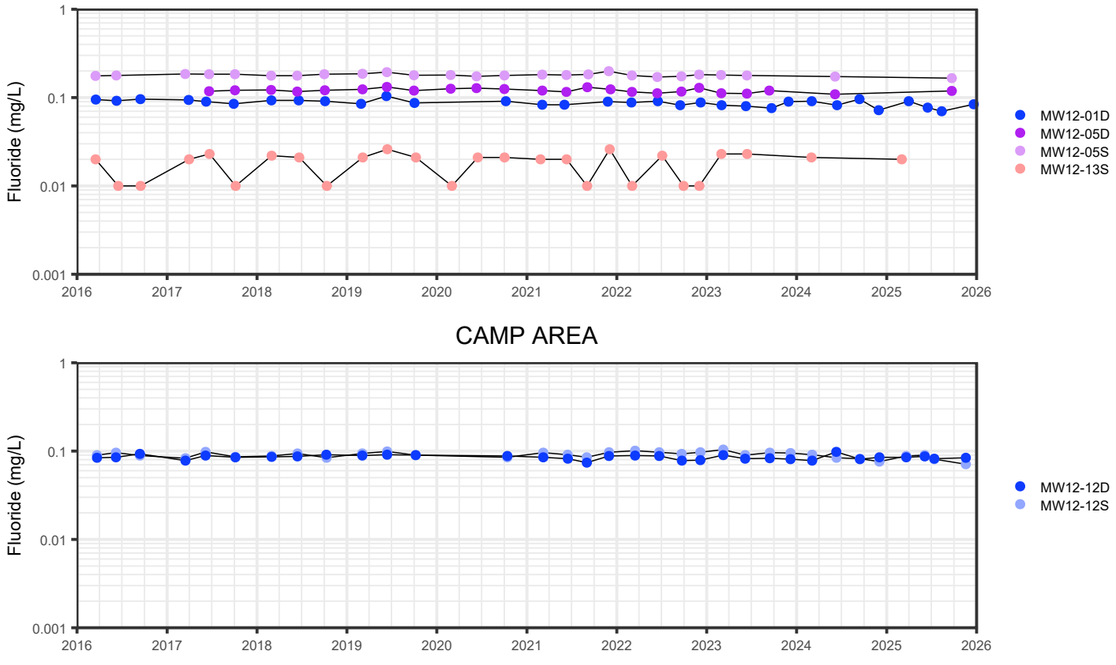
P/A NO. VA101-00457/62

REF NO. 2

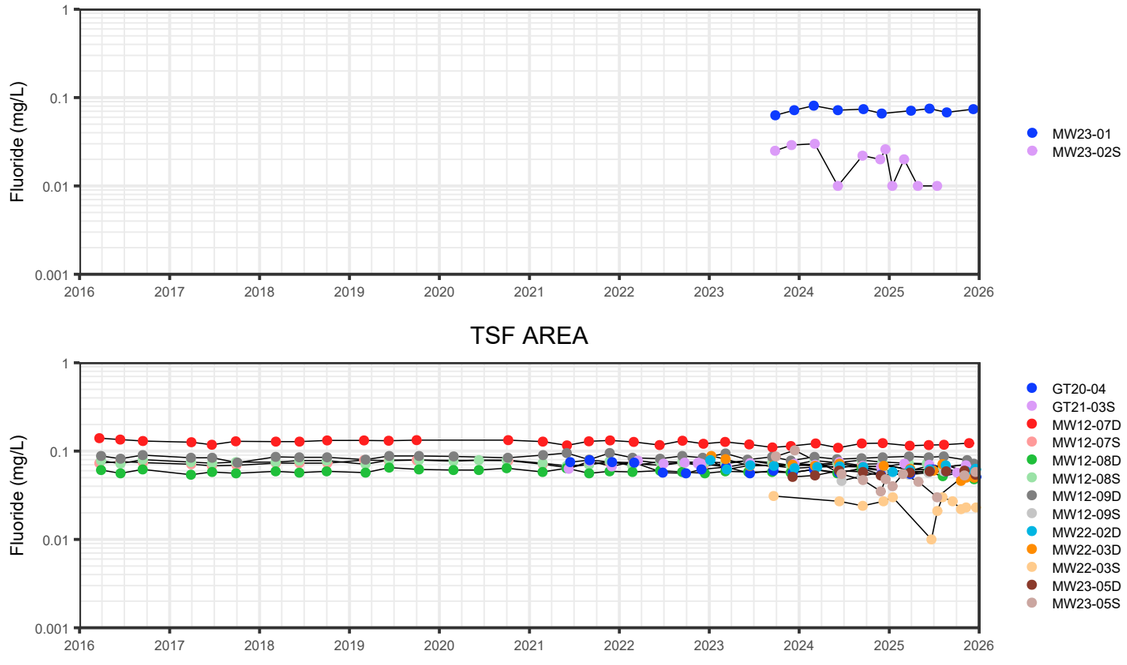
FIGURE G.7

Rev A

BACKGROUND



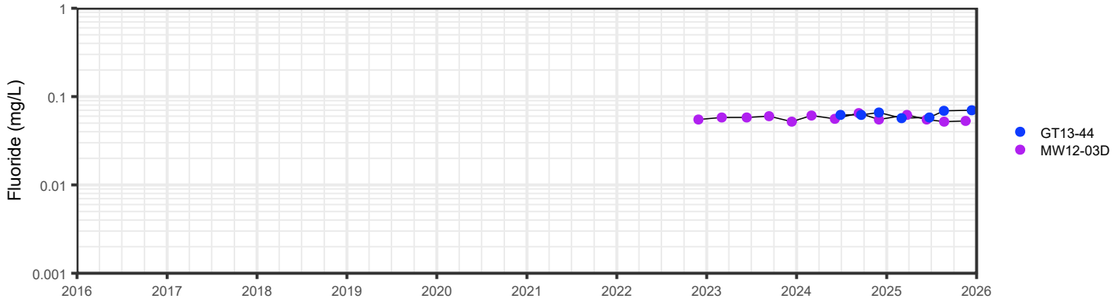
PLANT SITE AND RIBs



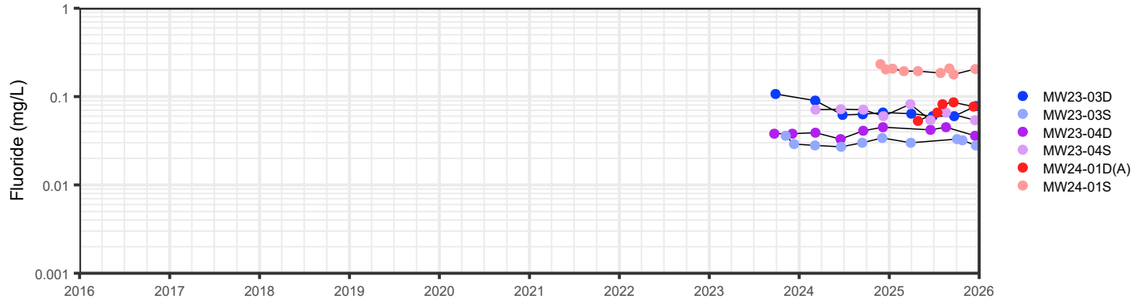
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (FLUORIDE: 2-3 mg/L).
5. THE CSR STANDARD IS HARDNESS DEPENDENT AND IS NOT SHOWN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

FLUORIDE CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

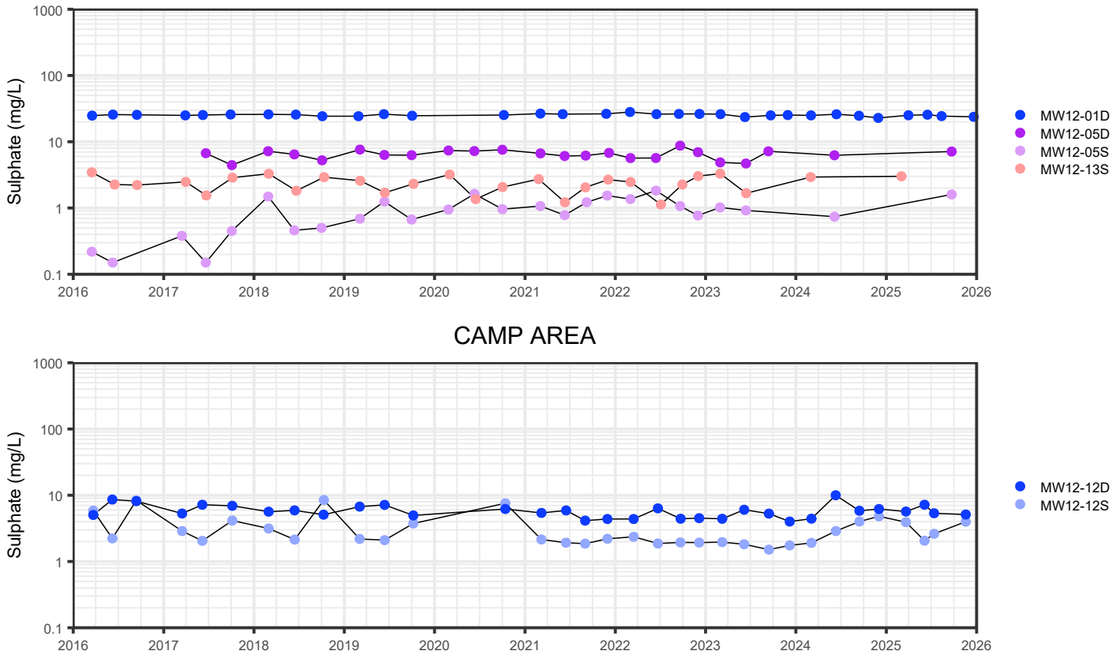
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

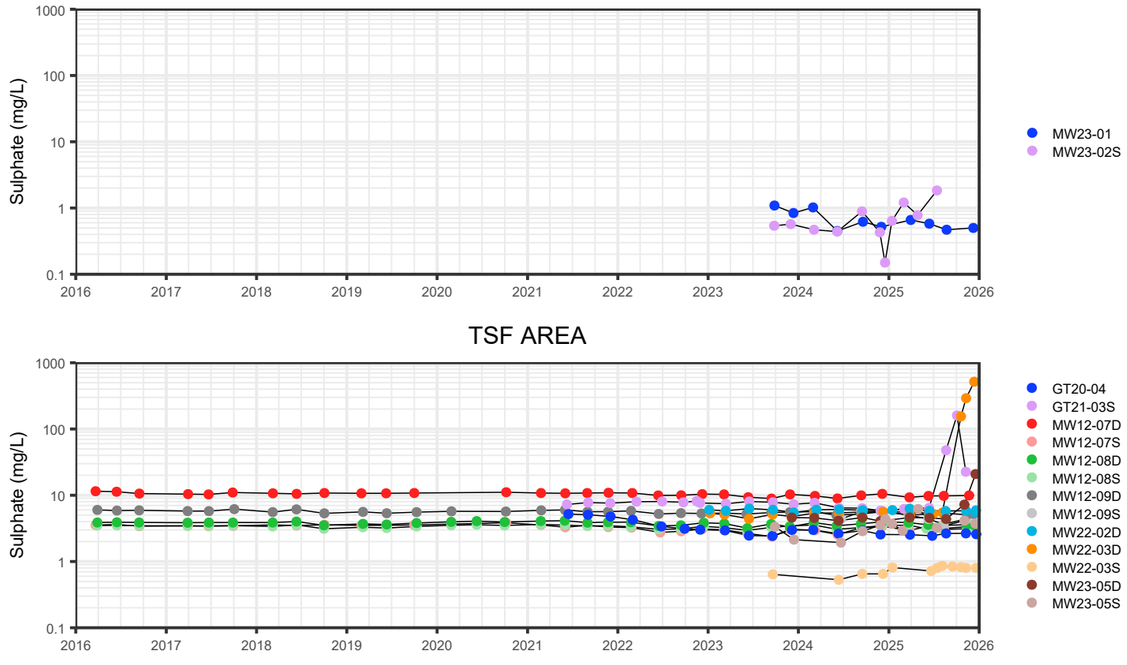
FIGURE G.8

Rev A

BACKGROUND



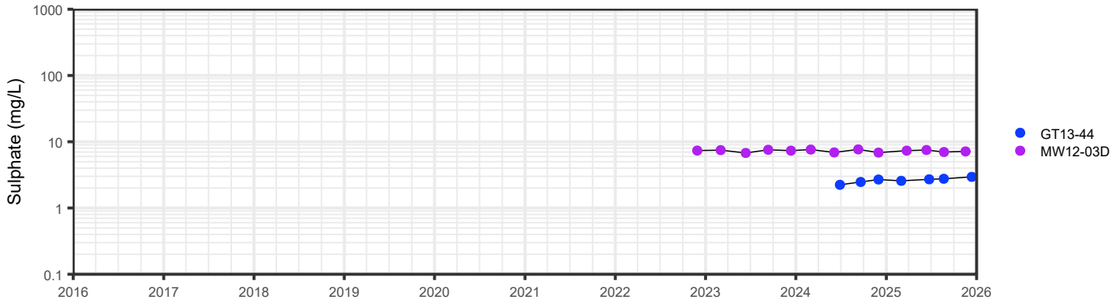
PLANT SITE AND RIBs



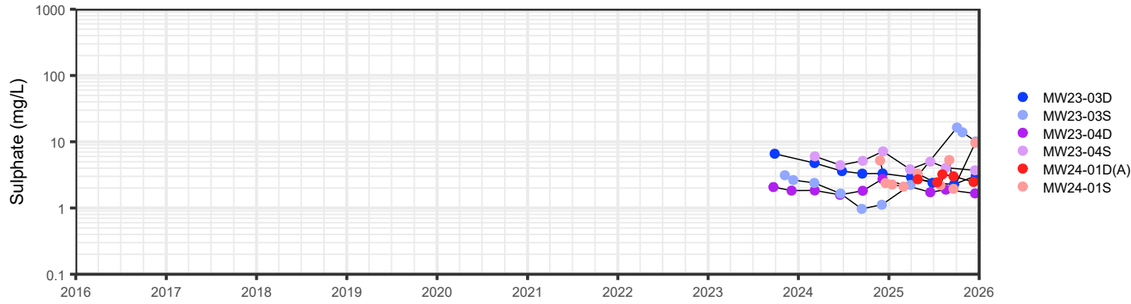
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

SULPHATE CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

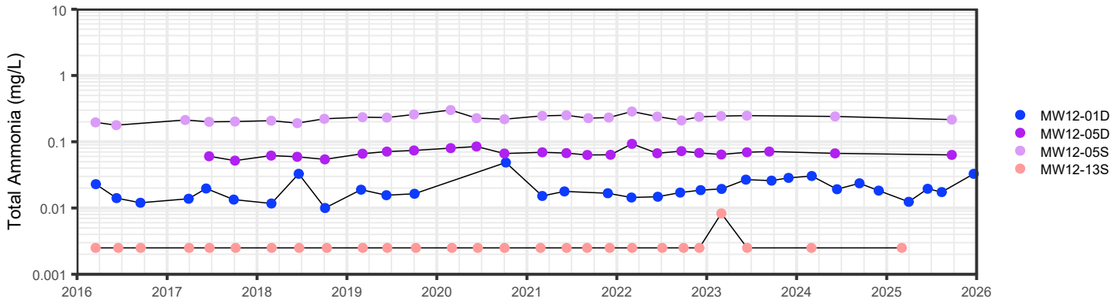
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

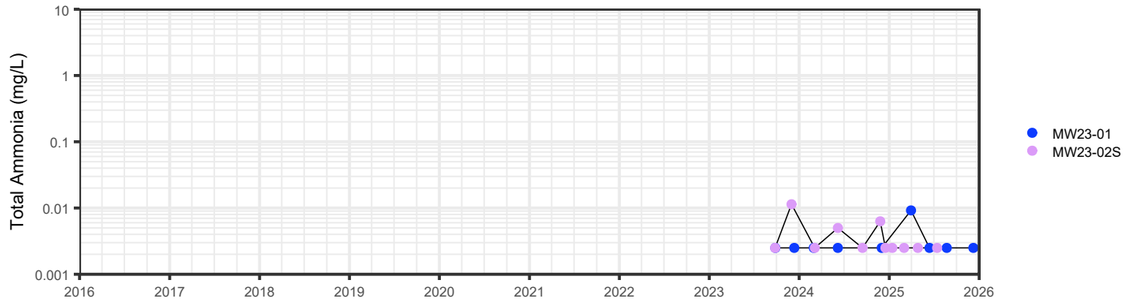
FIGURE G.9

Rev A

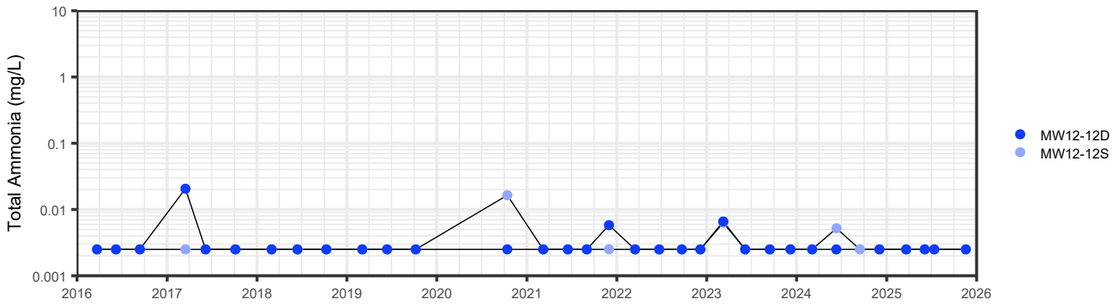
BACKGROUND



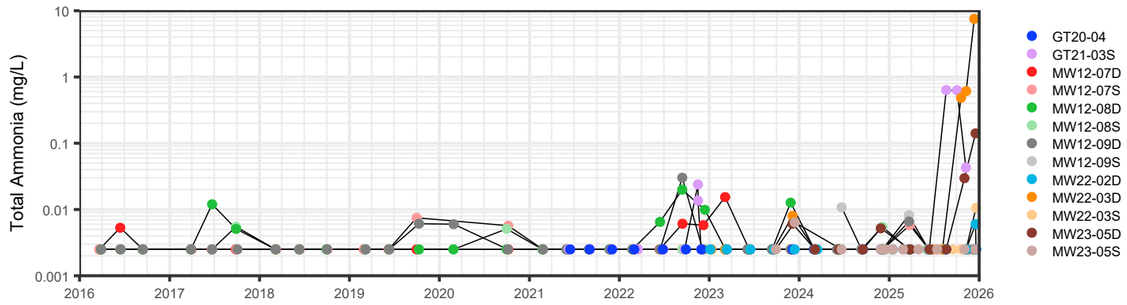
PLANT SITE AND RIBs



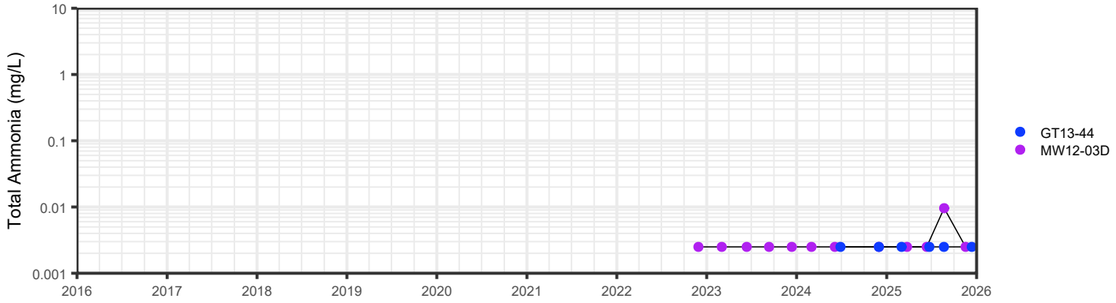
CAMP AREA



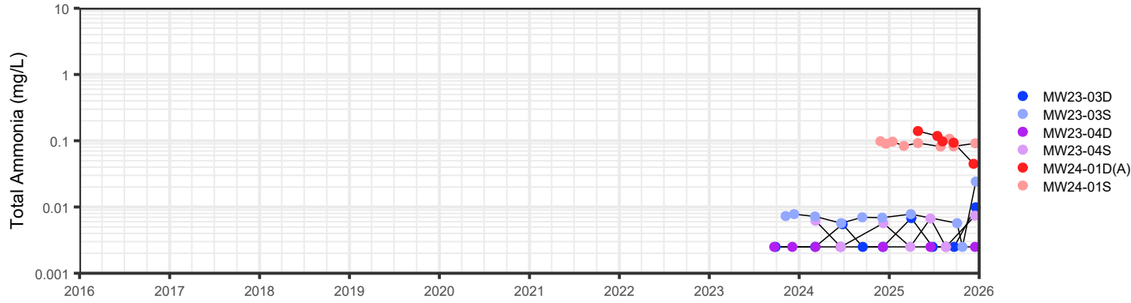
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (TOTAL AMMONIA: 1.31-18.5 mg/L).
5. THE CSR STANDARD IS pH DEPENDENT AND IS NOT SHOWN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

TOTAL AMMONIA CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

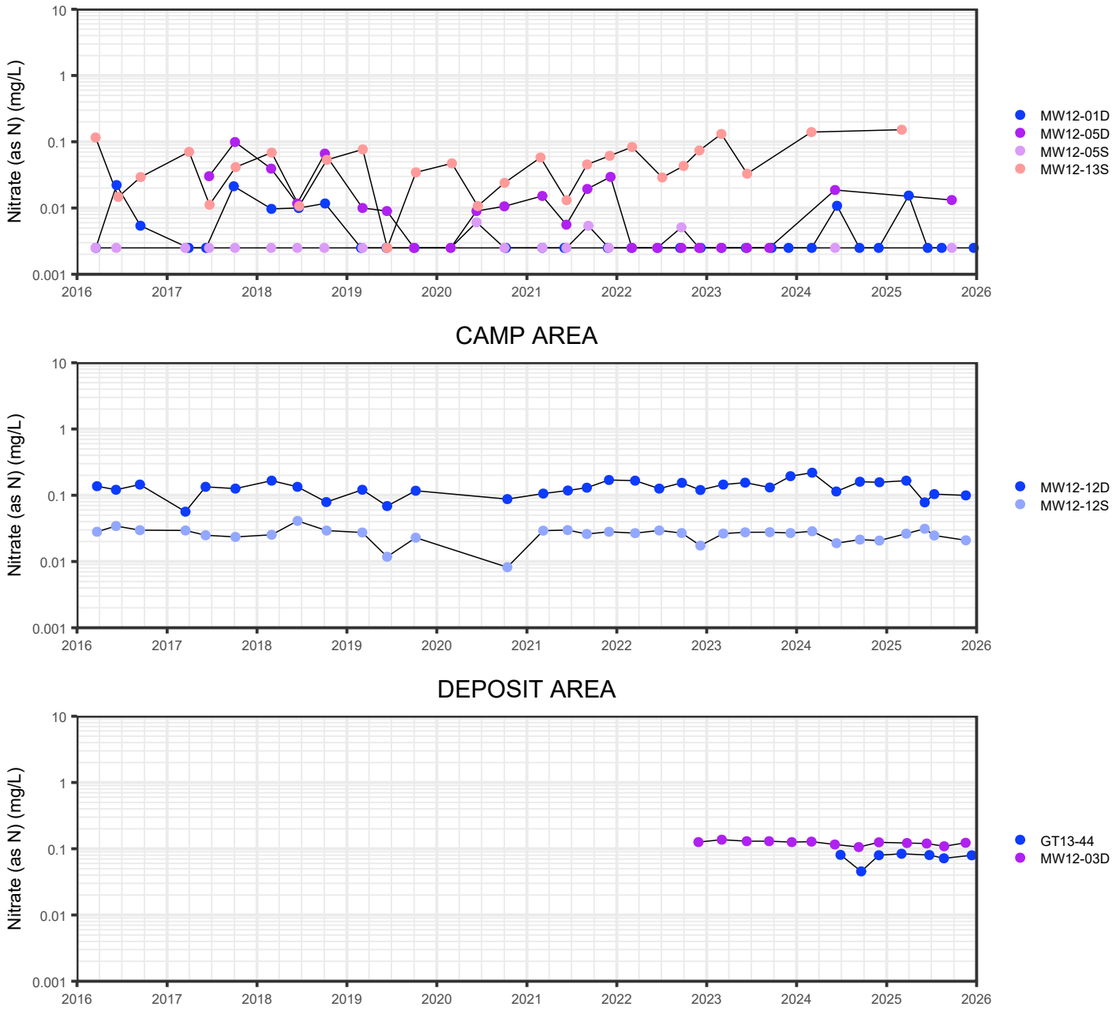
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

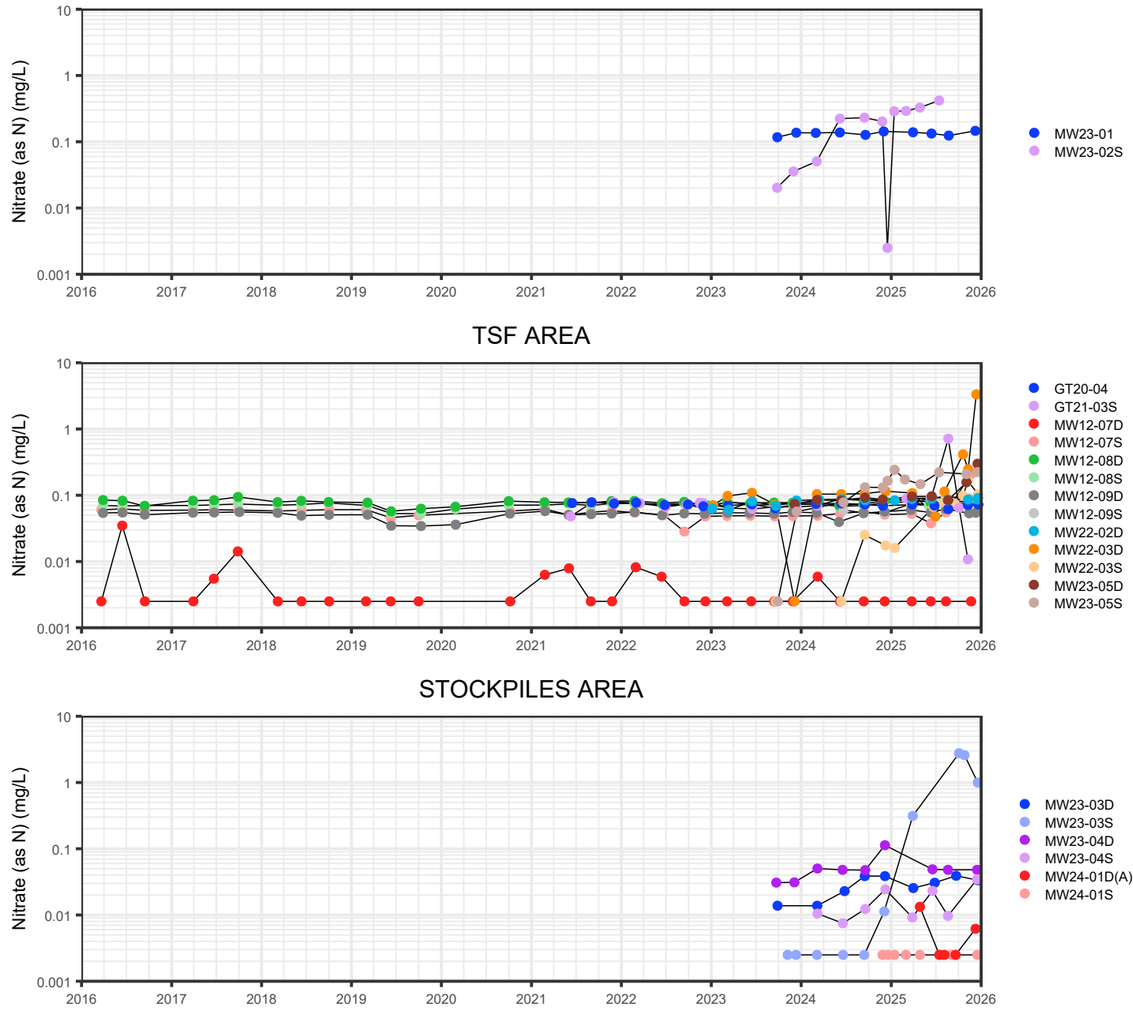
FIGURE G.10

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (NITRATE: 400 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

NITRATE (AS N) CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

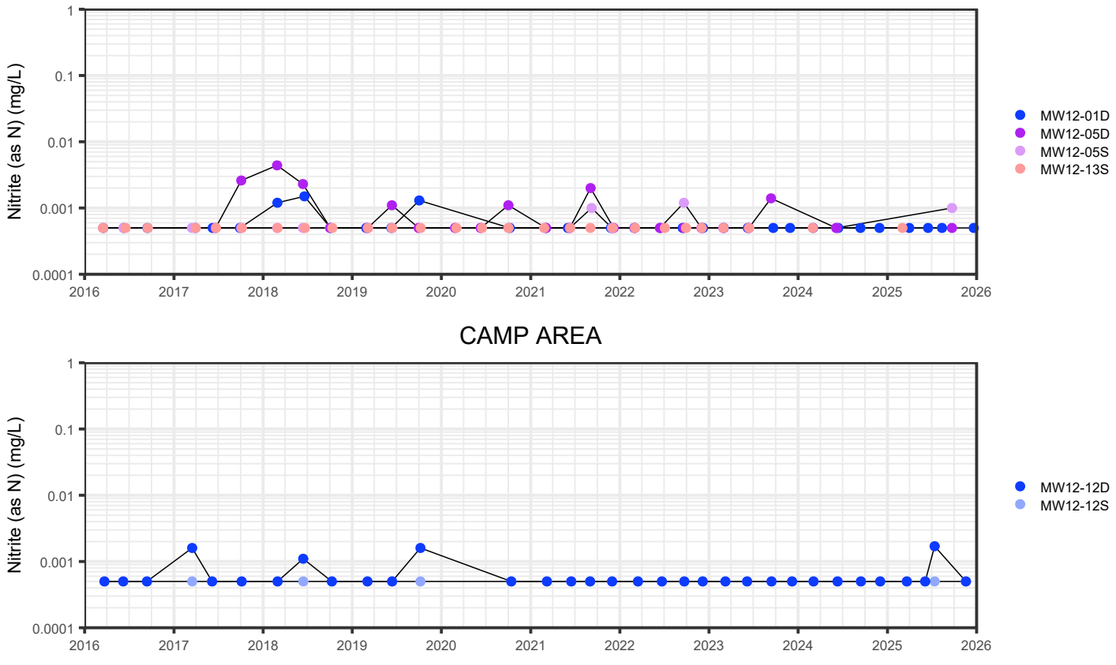
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

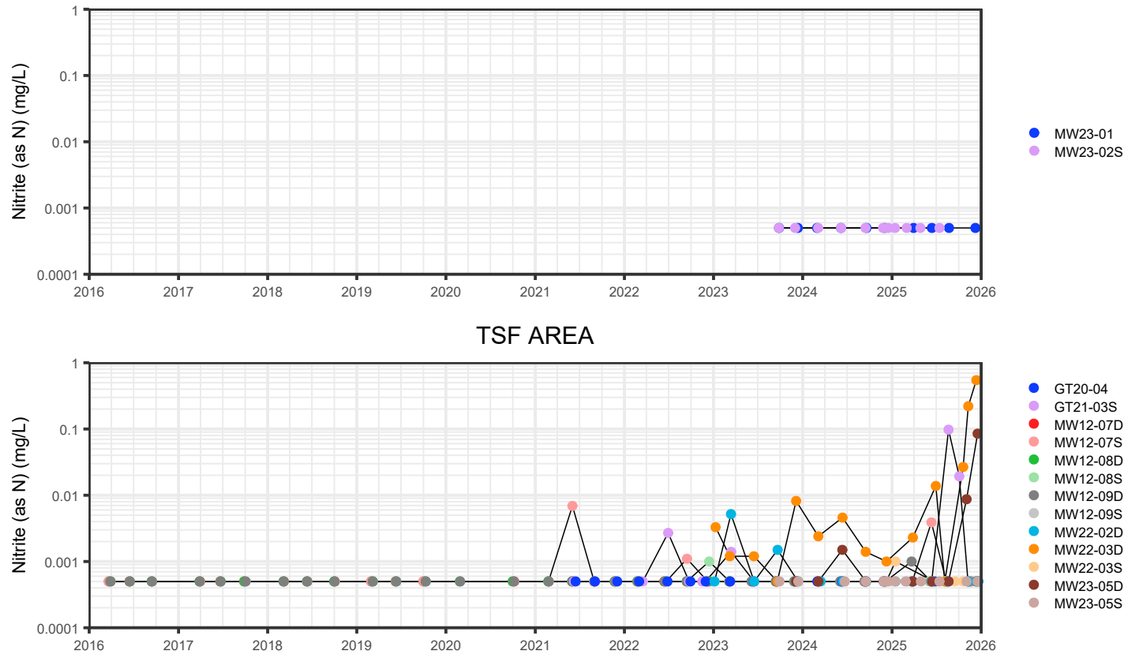
FIGURE G.11

Rev A

BACKGROUND



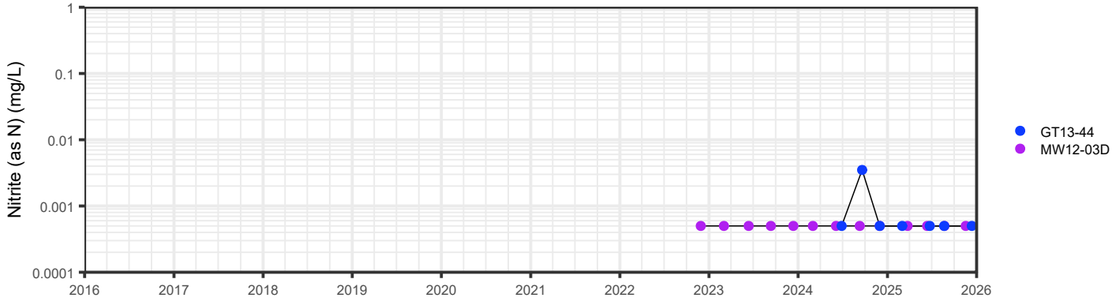
PLANT SITE AND RIBs



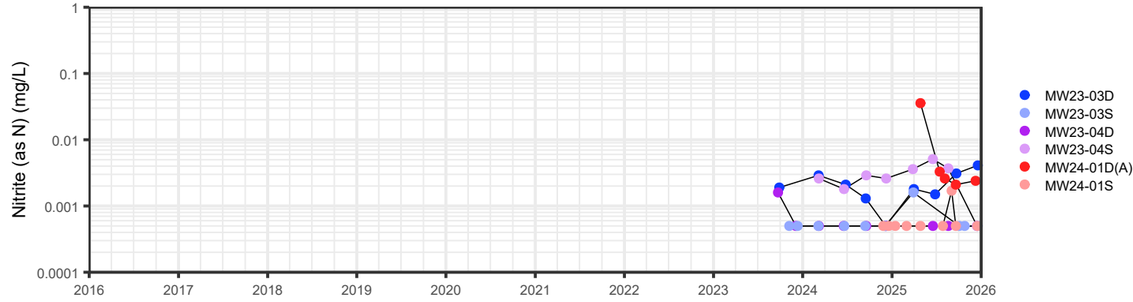
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (NITRITE: 0.2-2 mg/L).
5. THE CSR STANDARD IS CHLORIDE DEPENDENT AND IS NOT SHOWN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

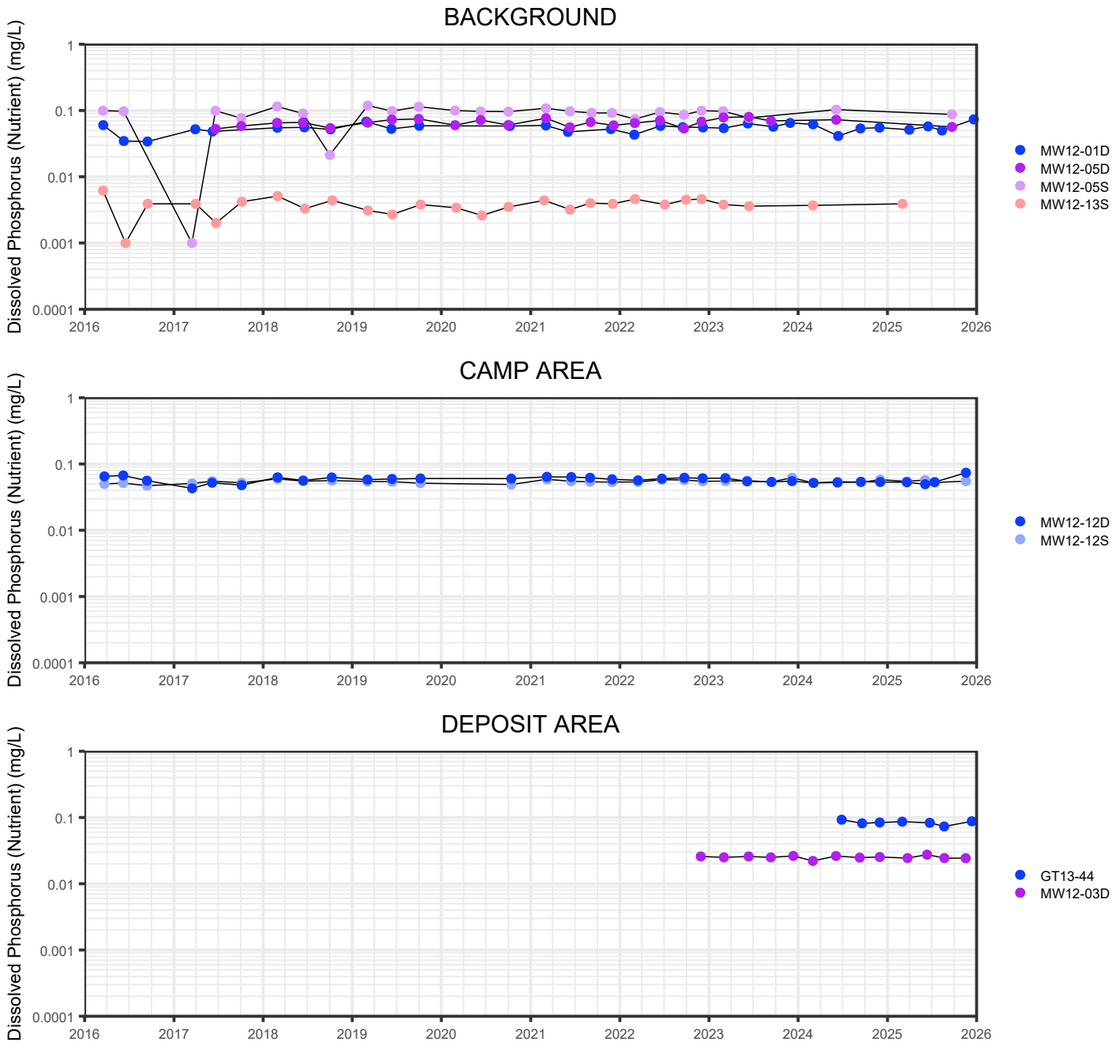
NITRITE (AS N) CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

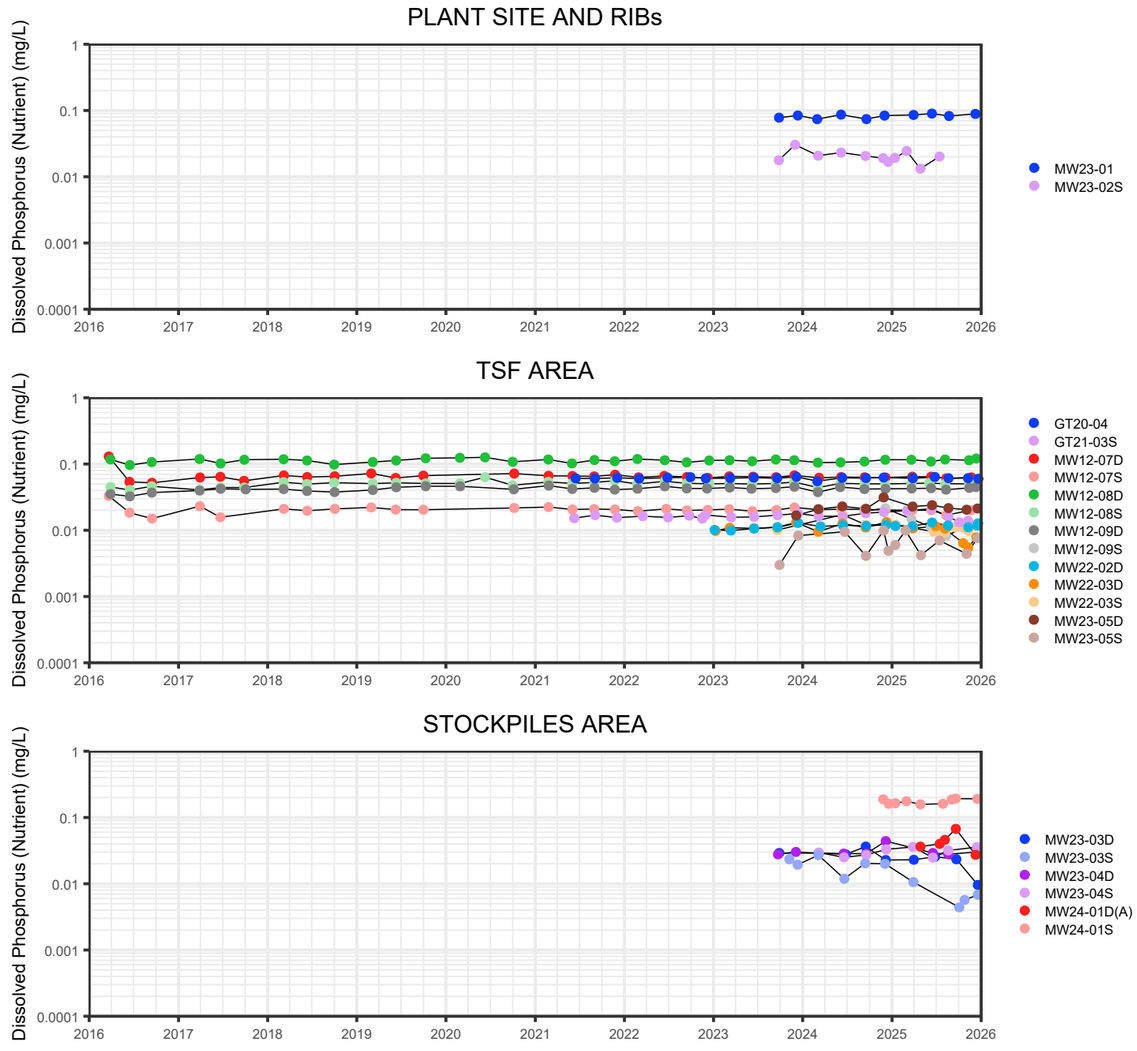
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

FIGURE G.12

Rev A





NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED PHOSPHORUS (NUTRIENT) CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

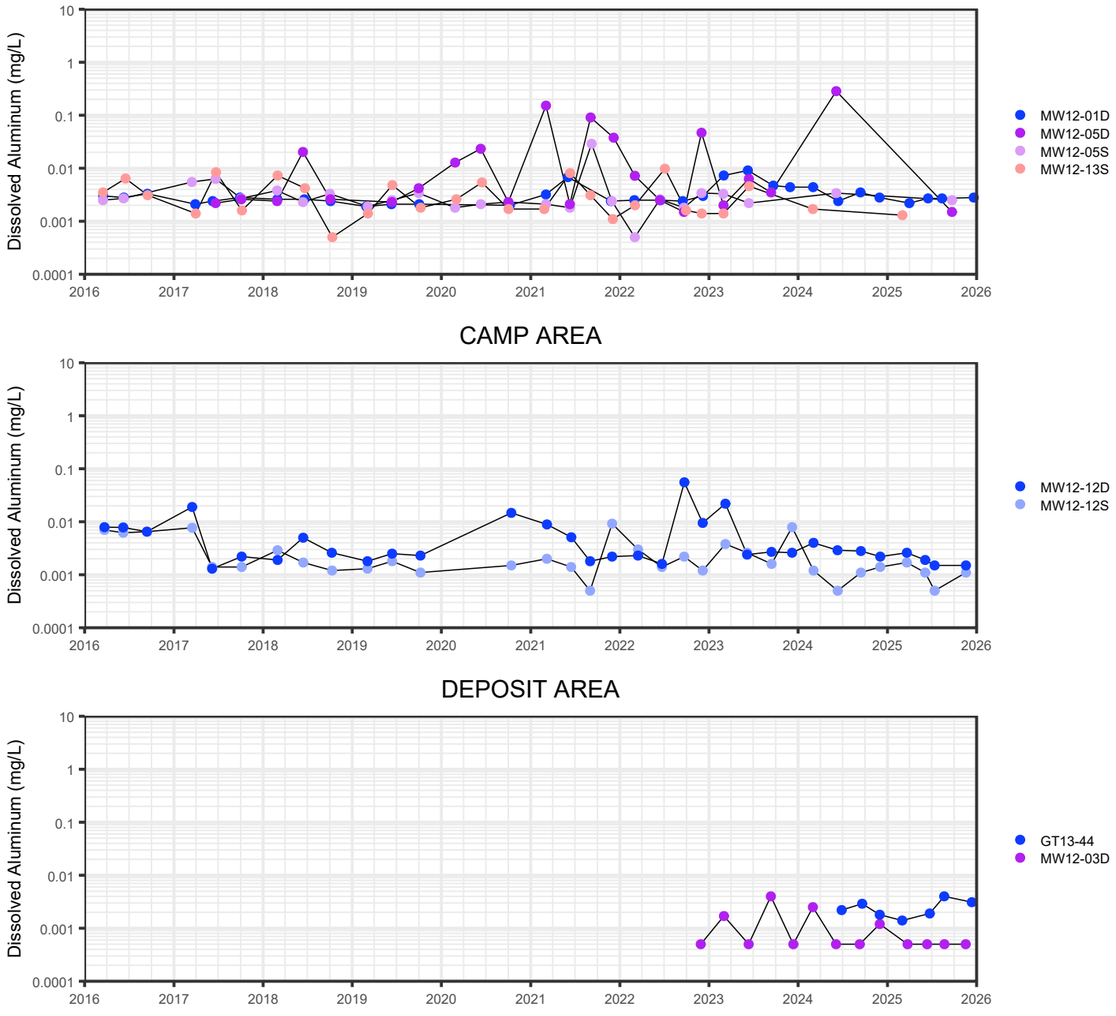
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

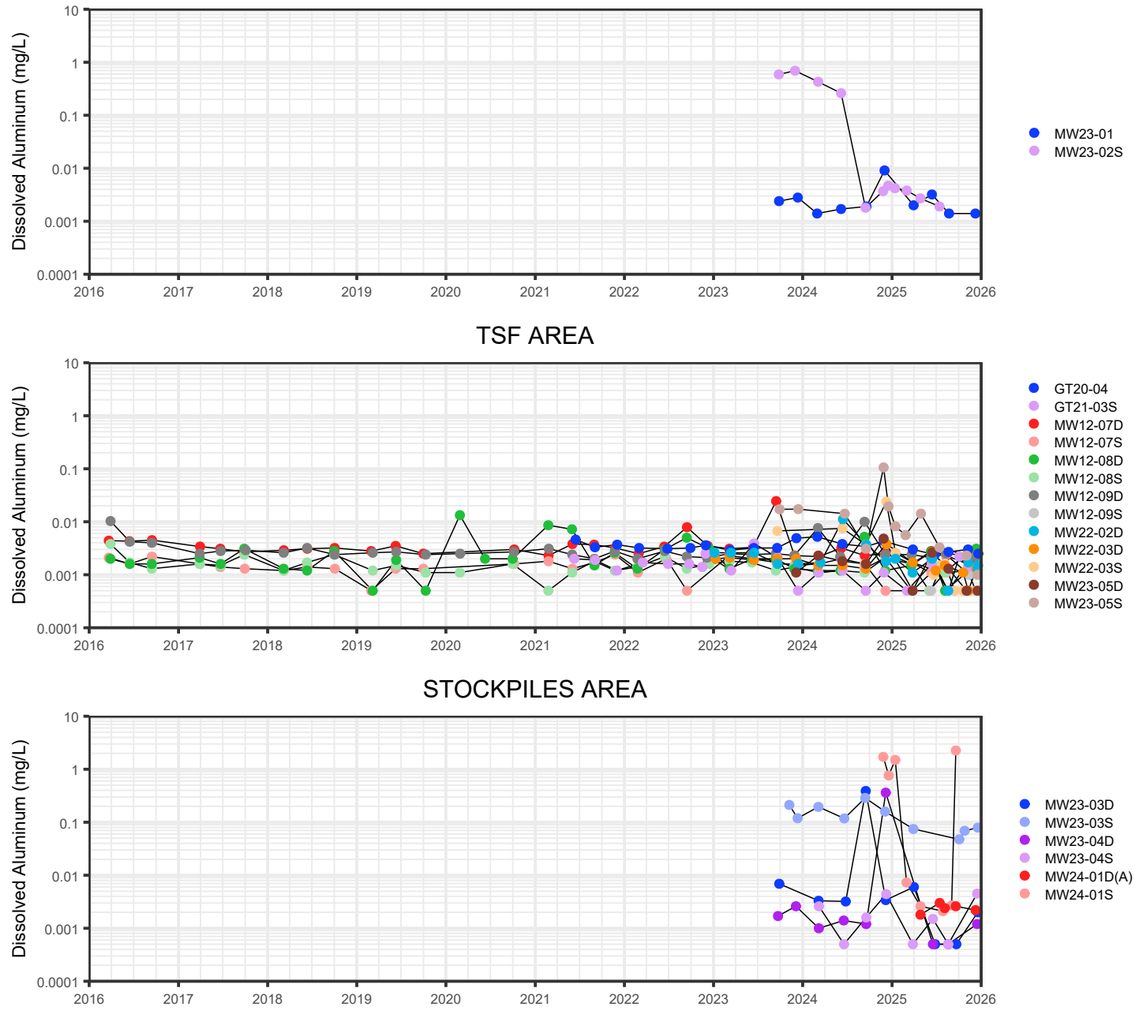
FIGURE G.13

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. CONCENTRATIONS AT MW12-05D MAY BE INFLUENCED BY THE WELL PLUG INSTALLED AND ARE FLAGGED FOR FURTHER REVIEW.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED ALUMINUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

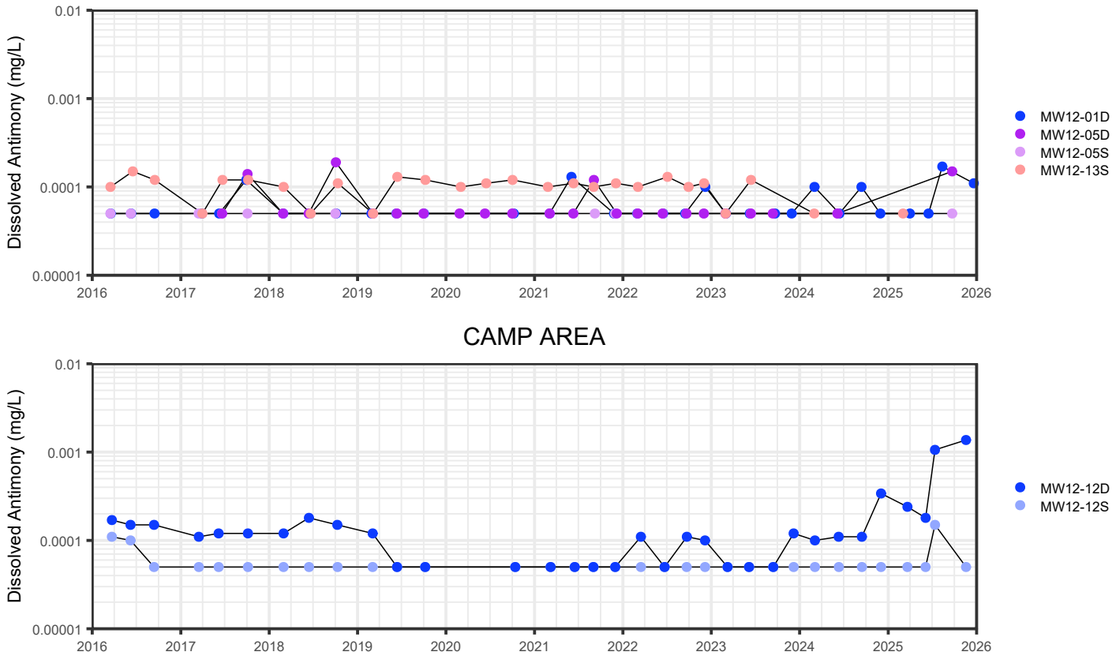
P/A NO. VA101-00457/62

REF NO. 2

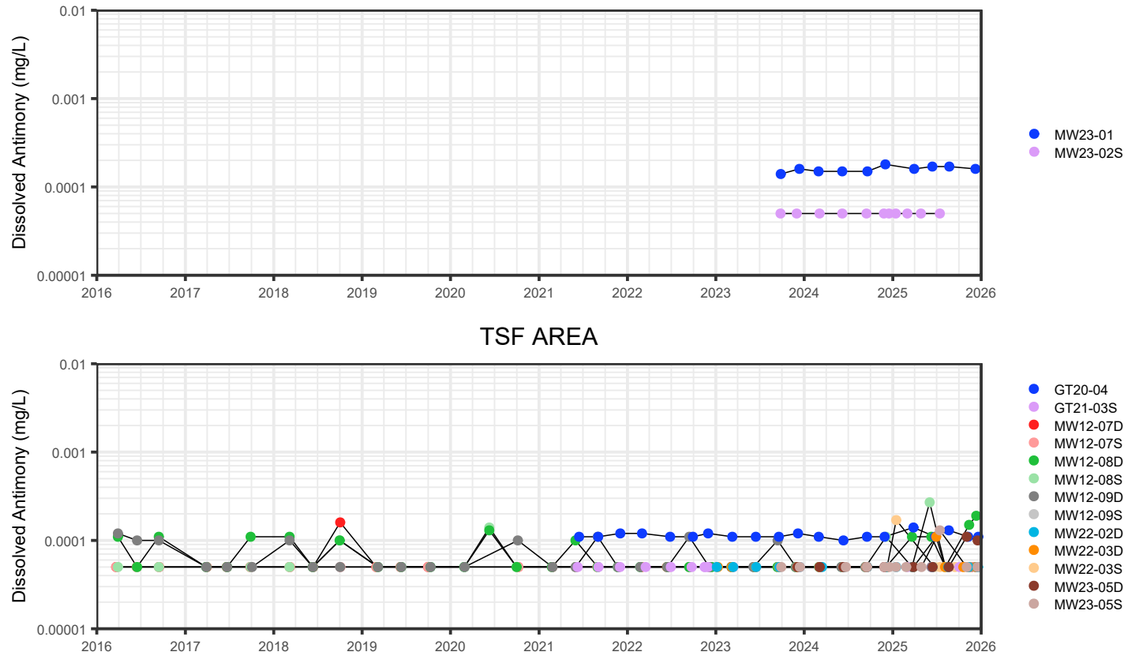
FIGURE G.14

Rev A

BACKGROUND



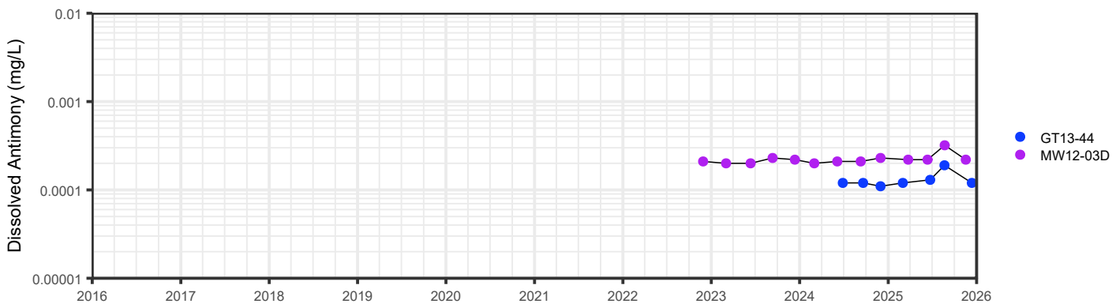
PLANT SITE AND RIBs



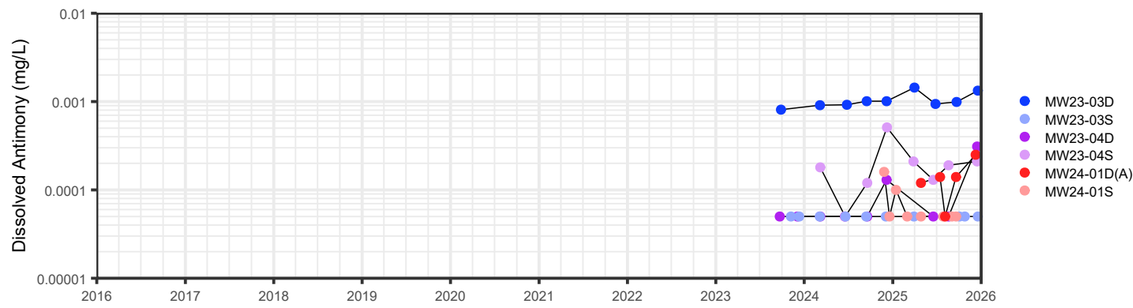
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (ANTIMONY: 0.09 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED ANTIMONY CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

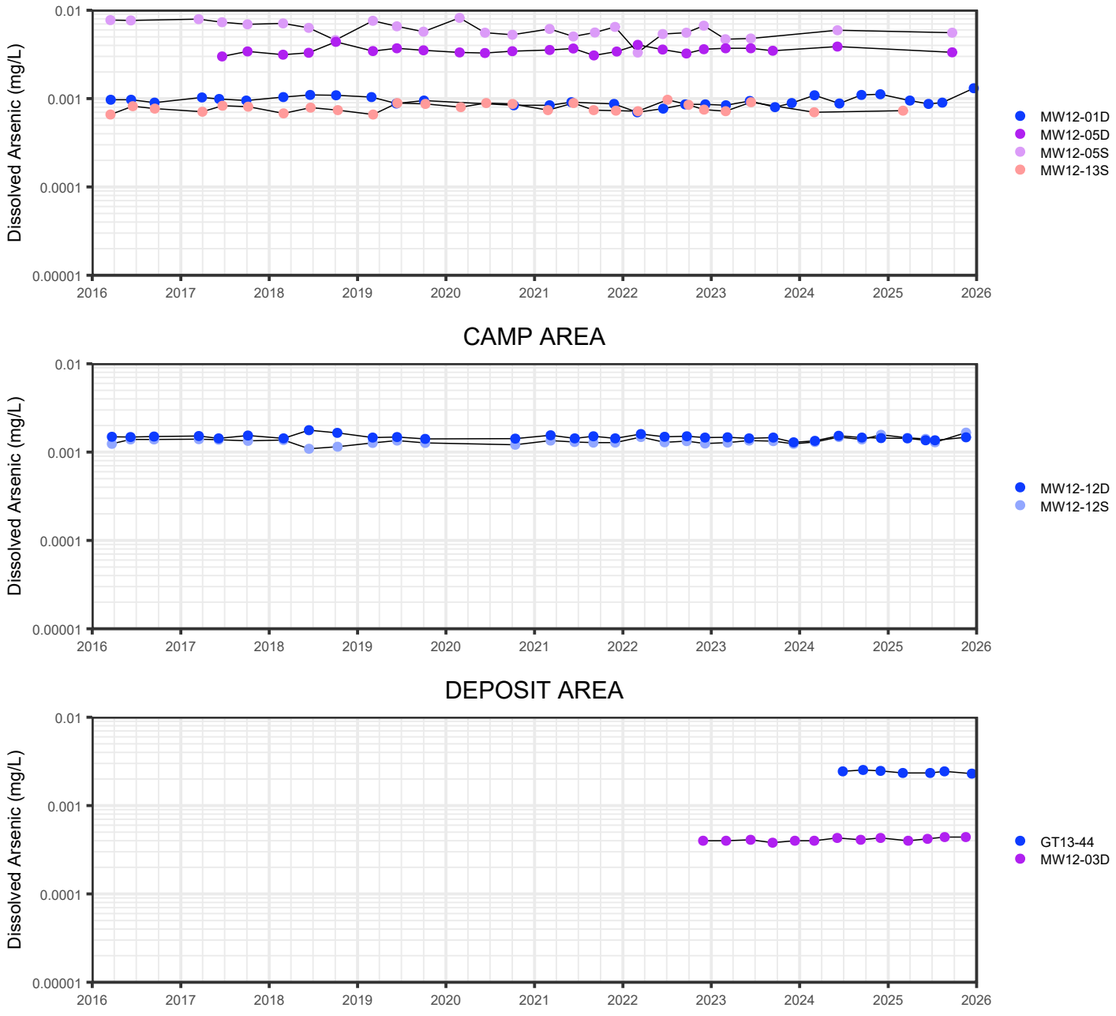
P/A NO. VA101-00457/62

REF NO. 2

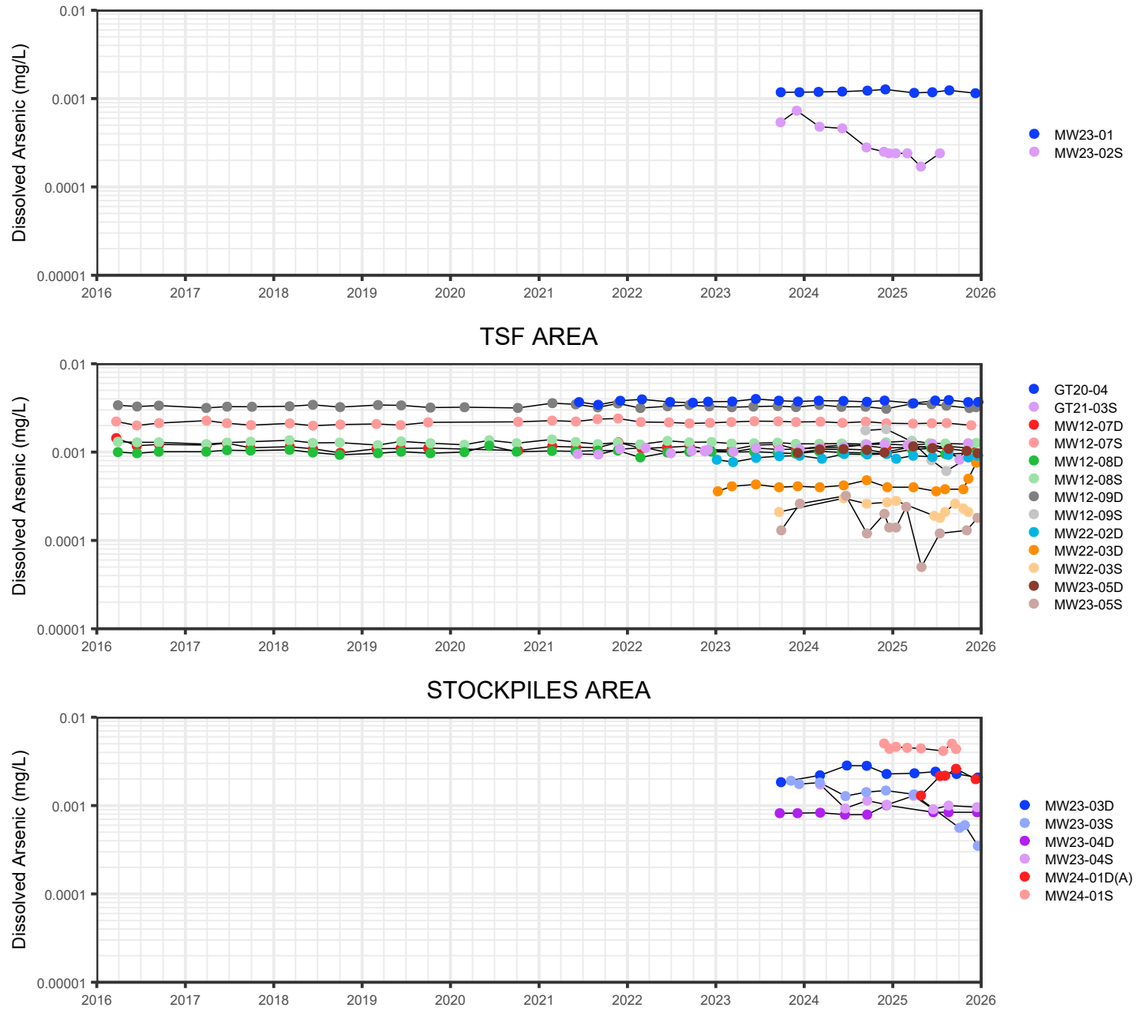
FIGURE G.15

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (ARSENIC: 0.05 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED ARSENIC CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

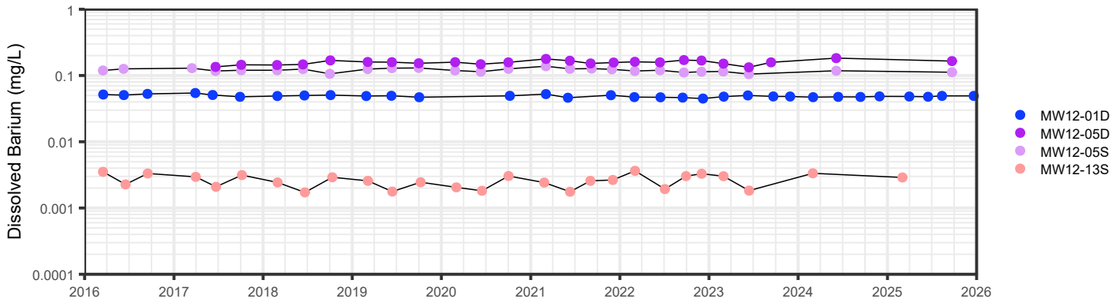
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

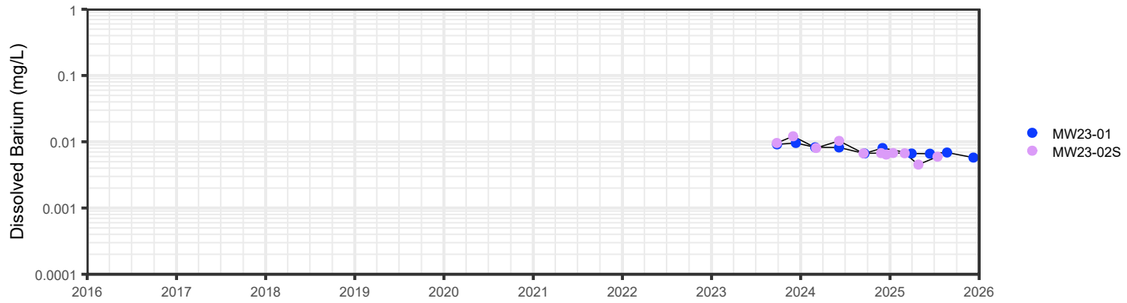
FIGURE G.16

Rev A

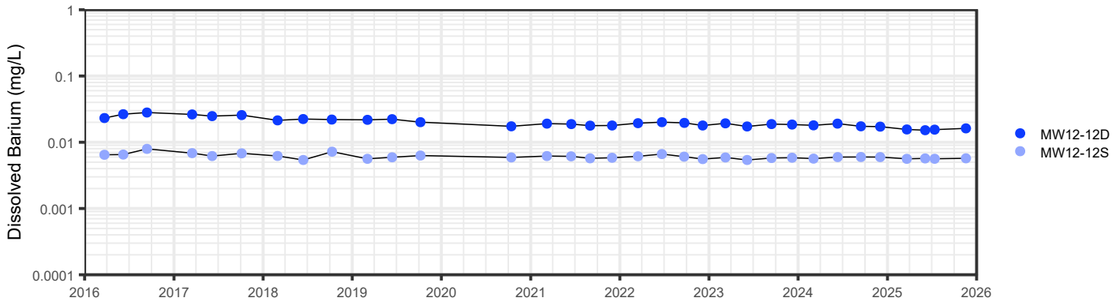
BACKGROUND



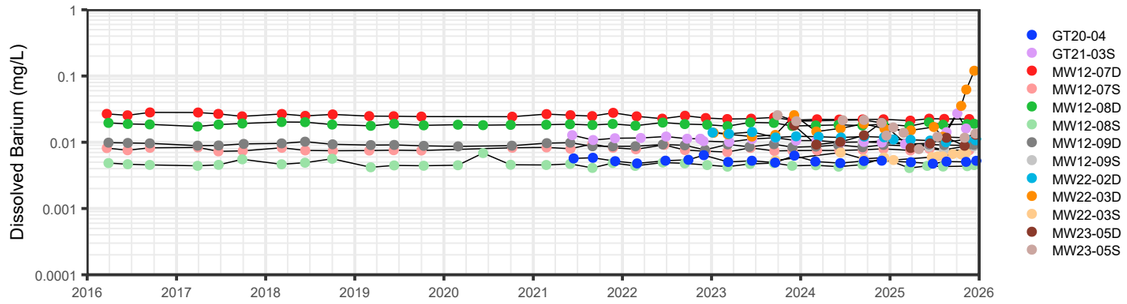
PLANT SITE AND RIBs



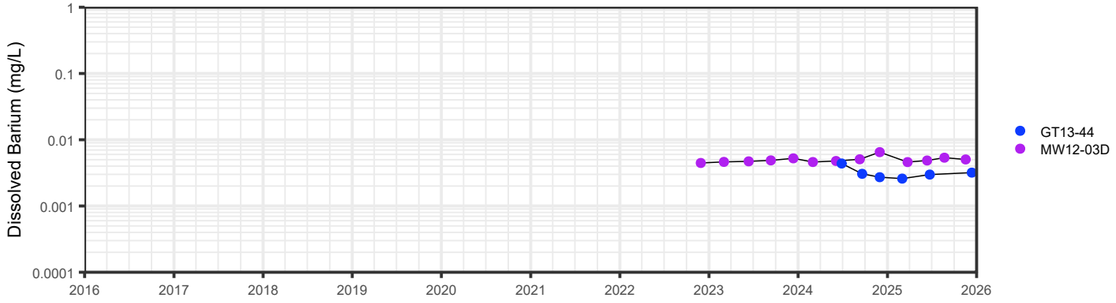
CAMP AREA



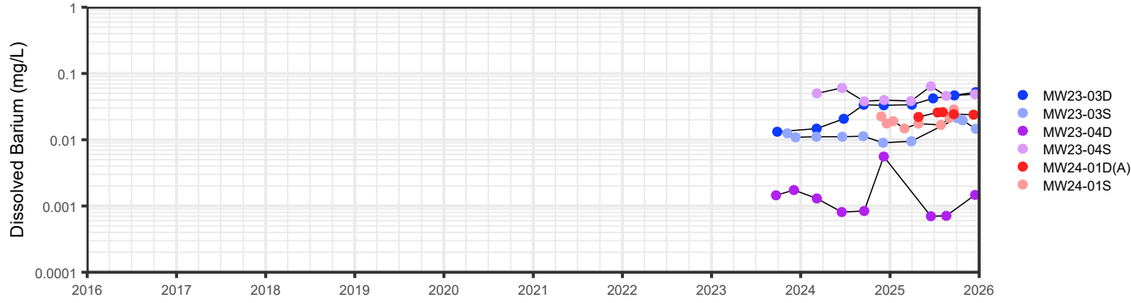
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (BARIUM: 10 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED BARIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

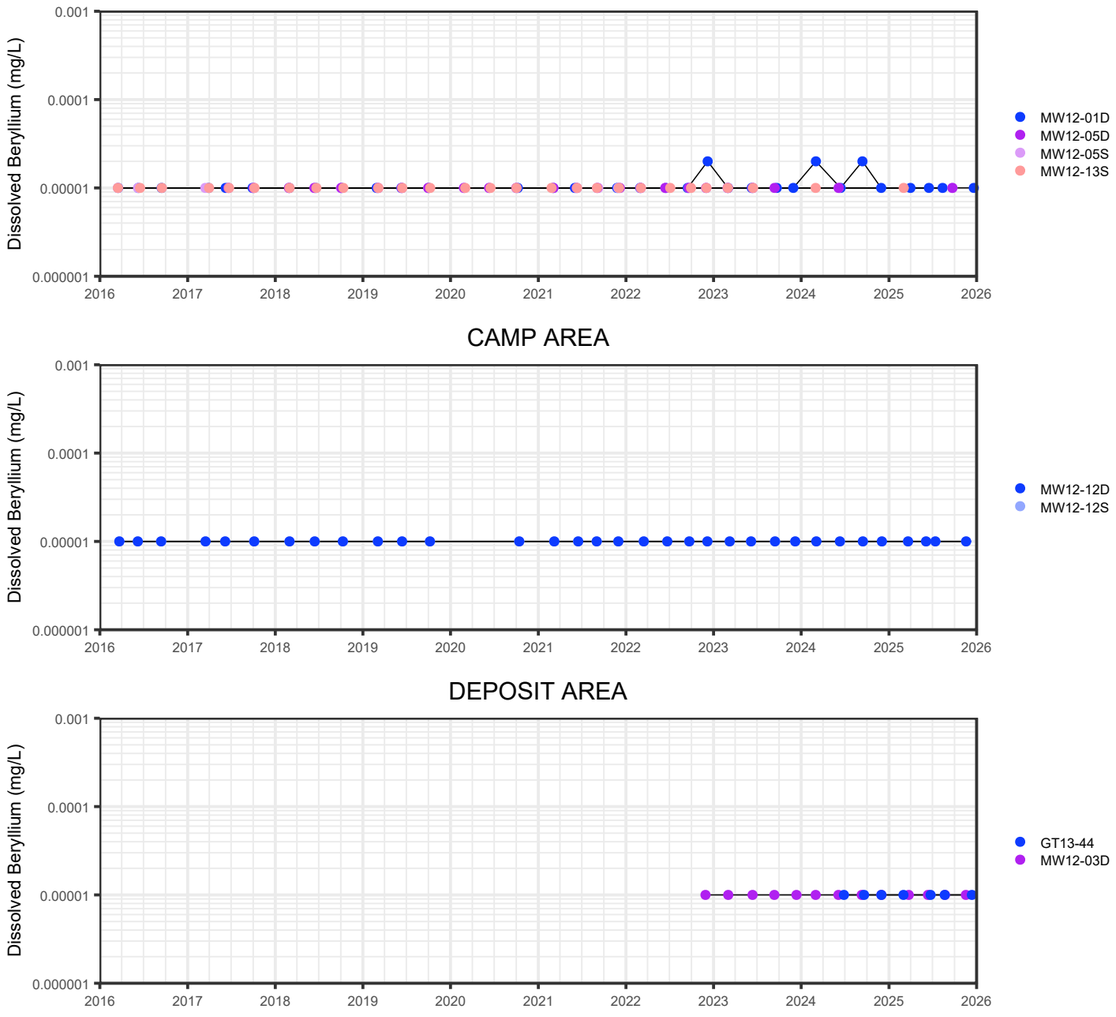
P/A NO. VA101-00457/62

REF NO. 2

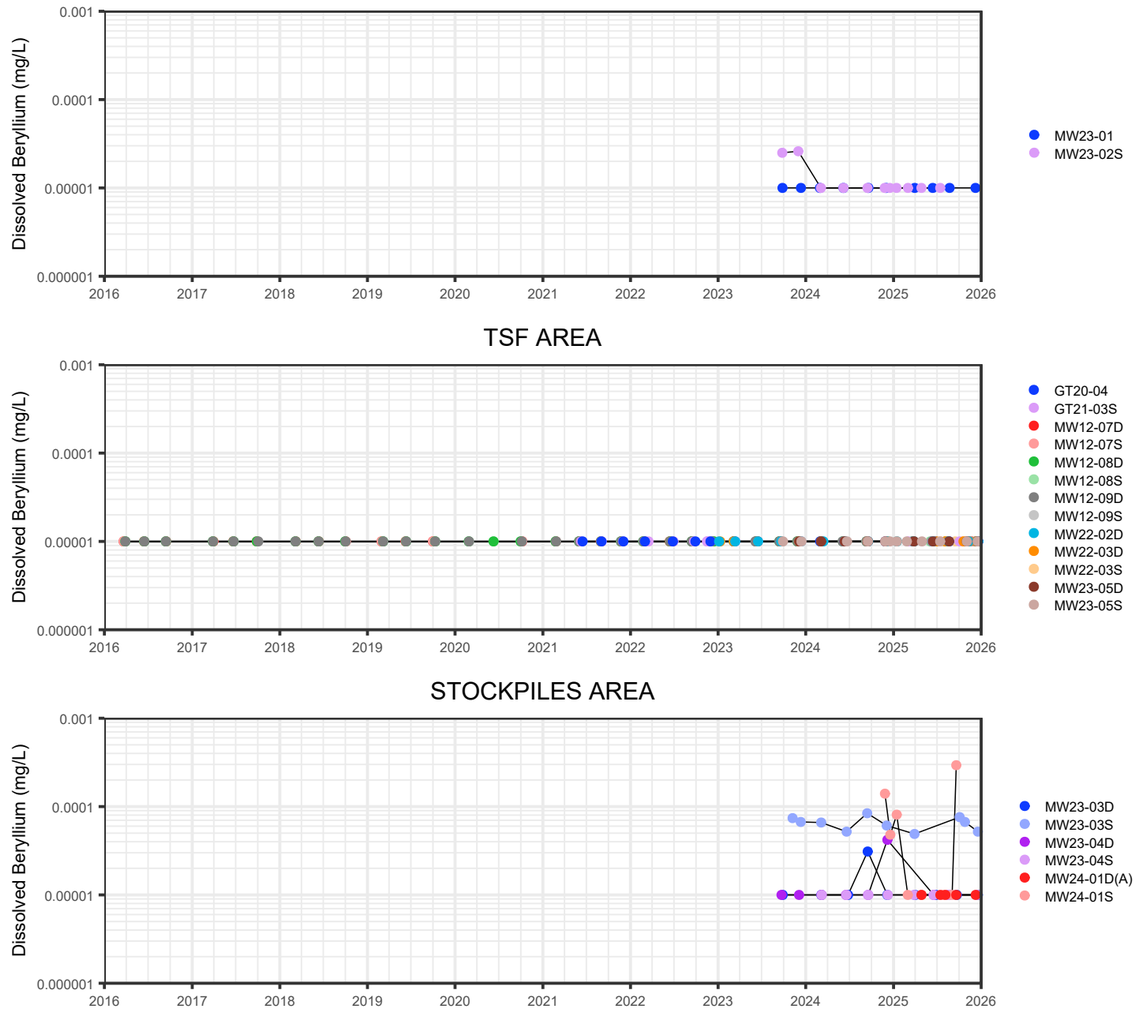
FIGURE G.17

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (BERYLLIUM: 0.0015 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED BERYLLIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

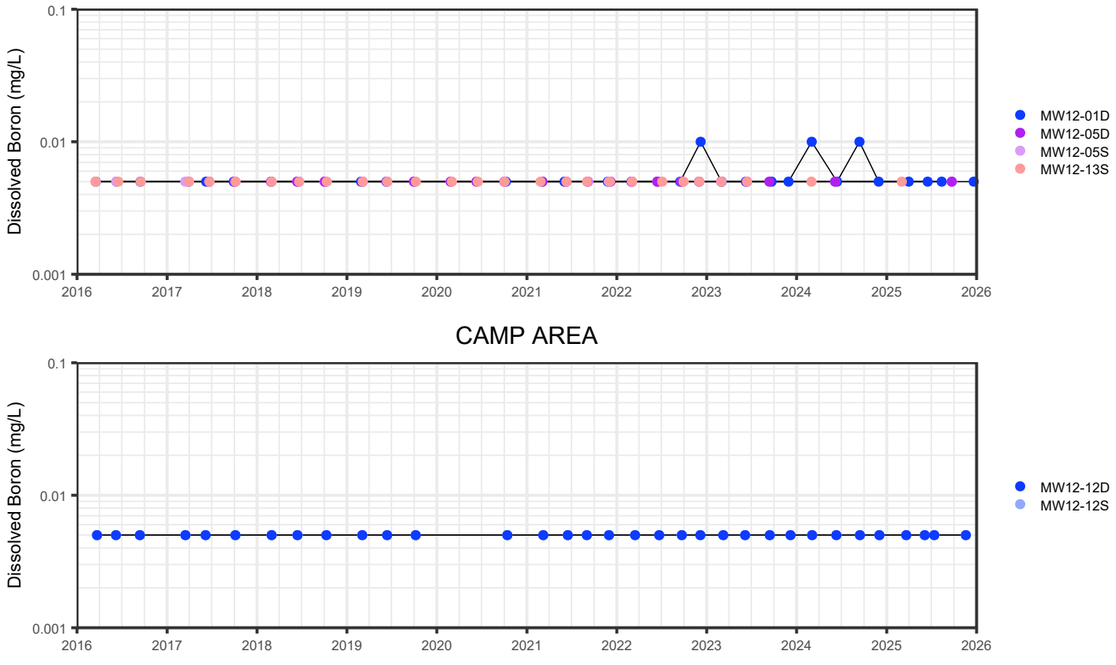
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

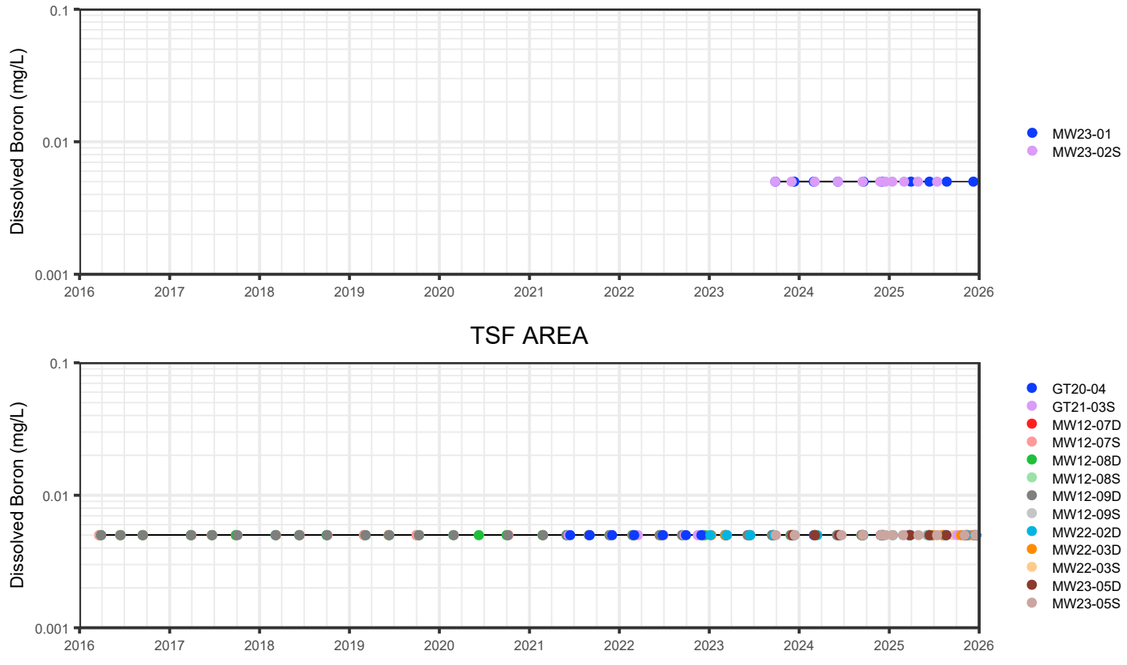
FIGURE G.18

Rev A

BACKGROUND



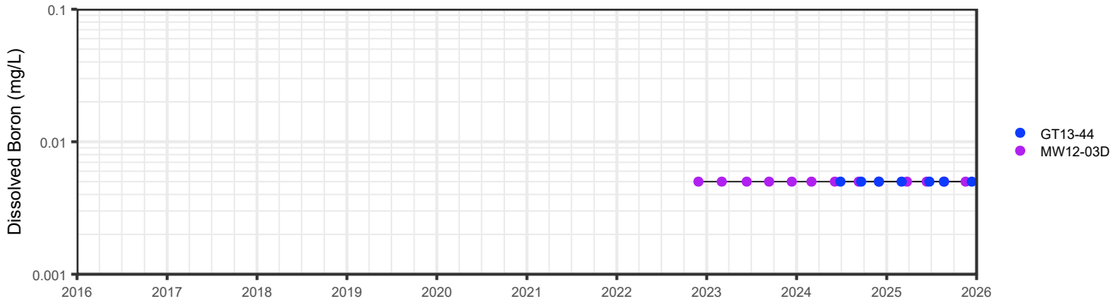
PLANT SITE AND RIBs



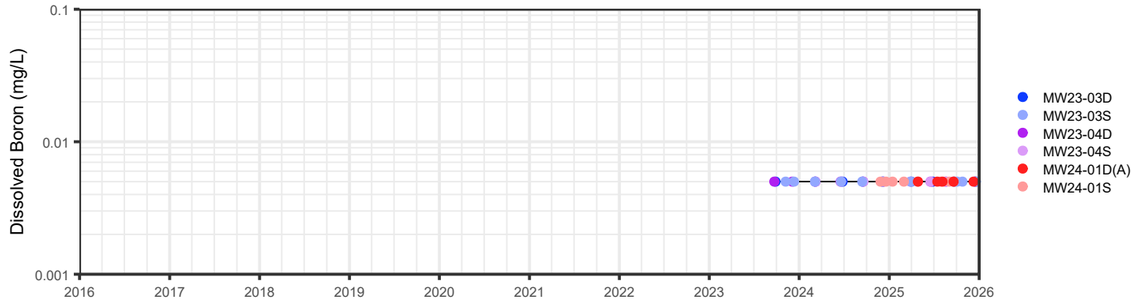
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (BORON: 12 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED BORON CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

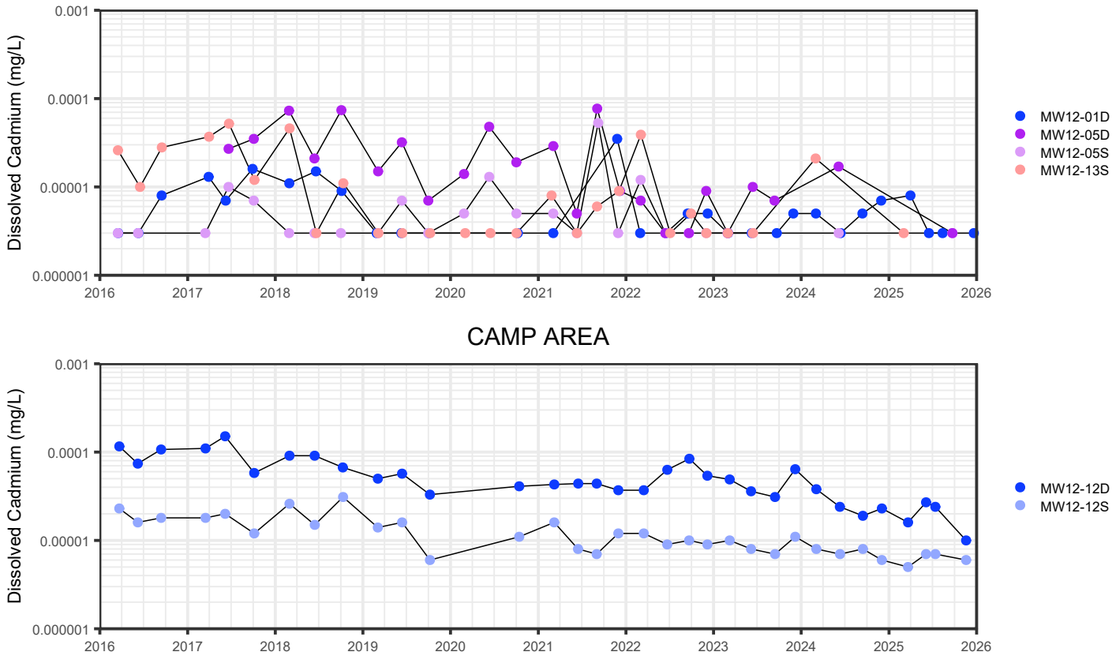
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

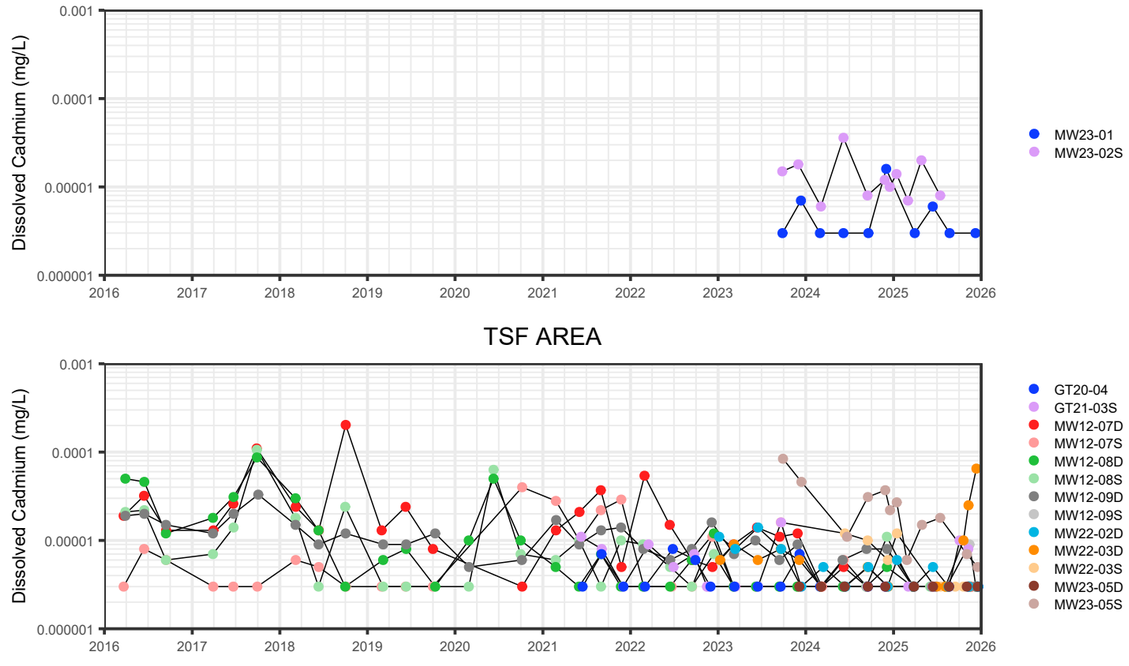
FIGURE G.19

Rev A

BACKGROUND



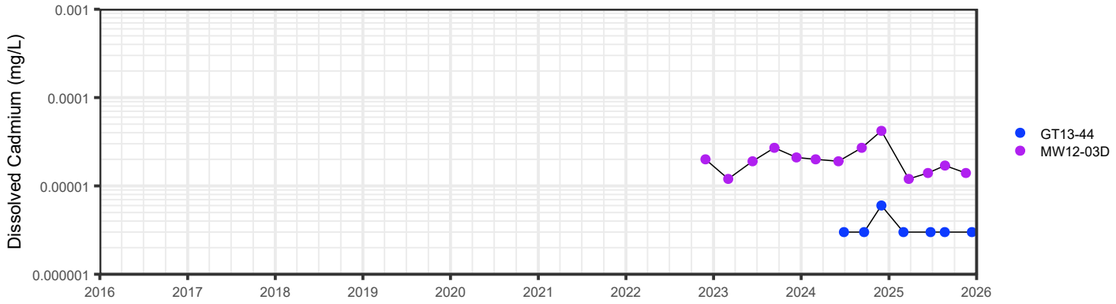
PLANT SITE AND RIBs



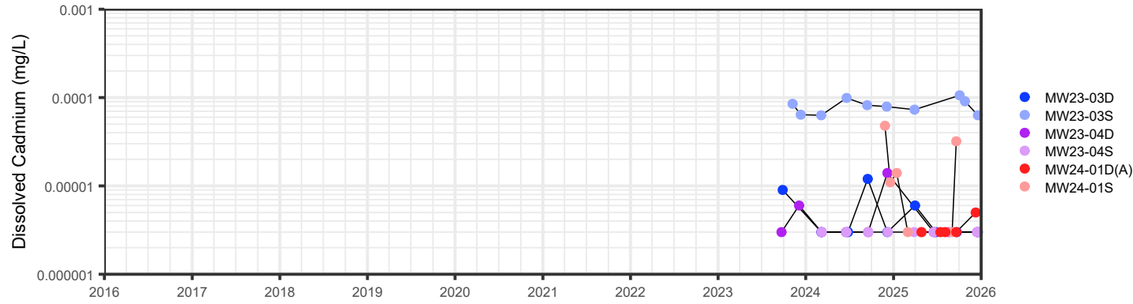
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (CADMIUM: 0.0005-0.004 mg/L).
5. THE CSR STANDARD IS HARDNESS DEPENDENT AND IS NOT SHOWN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED CADMIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

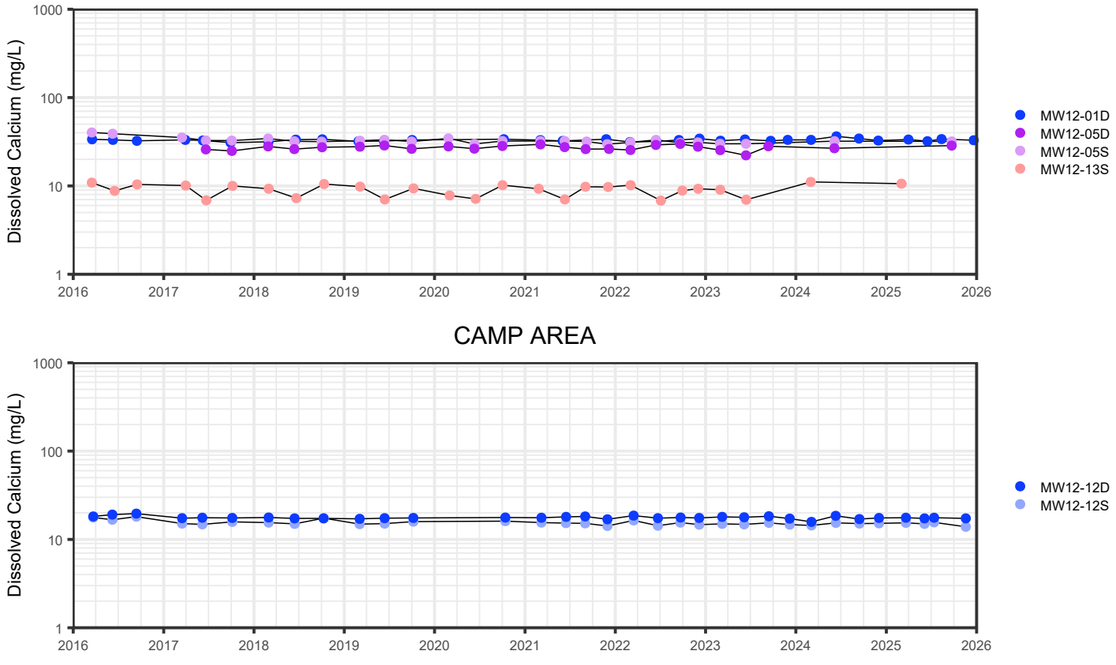
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

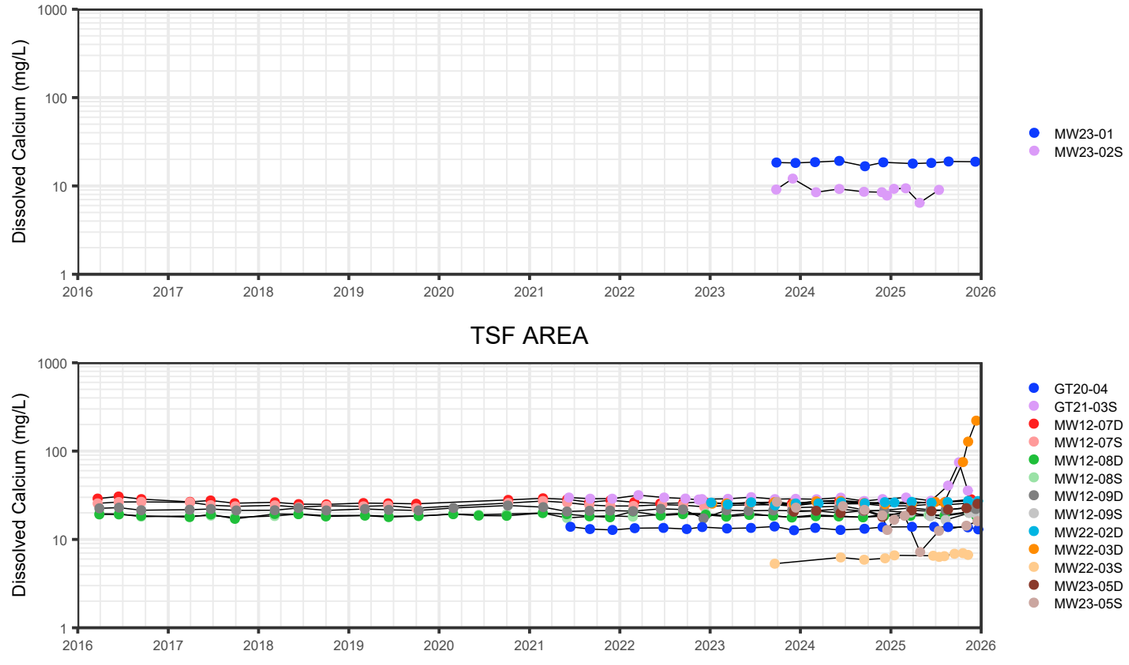
FIGURE G.20

Rev A

BACKGROUND



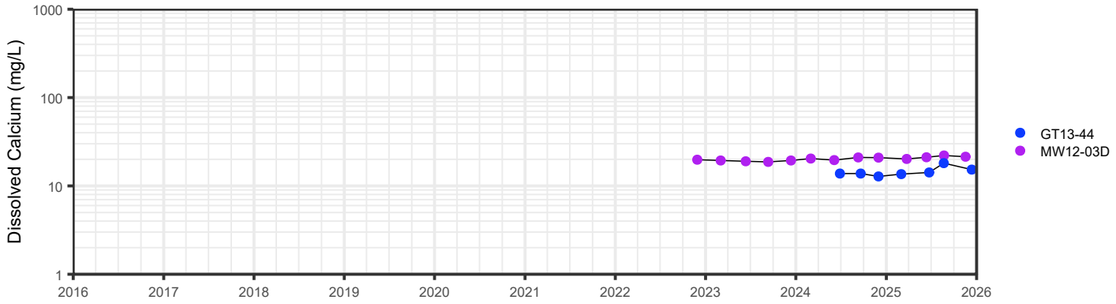
PLANT SITE AND RIBs



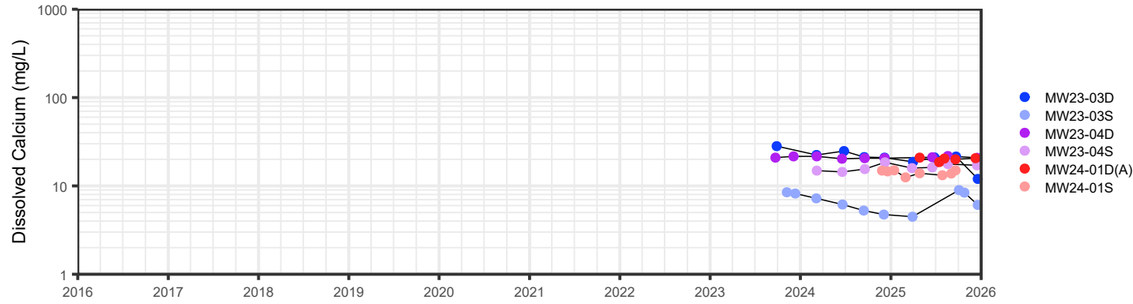
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

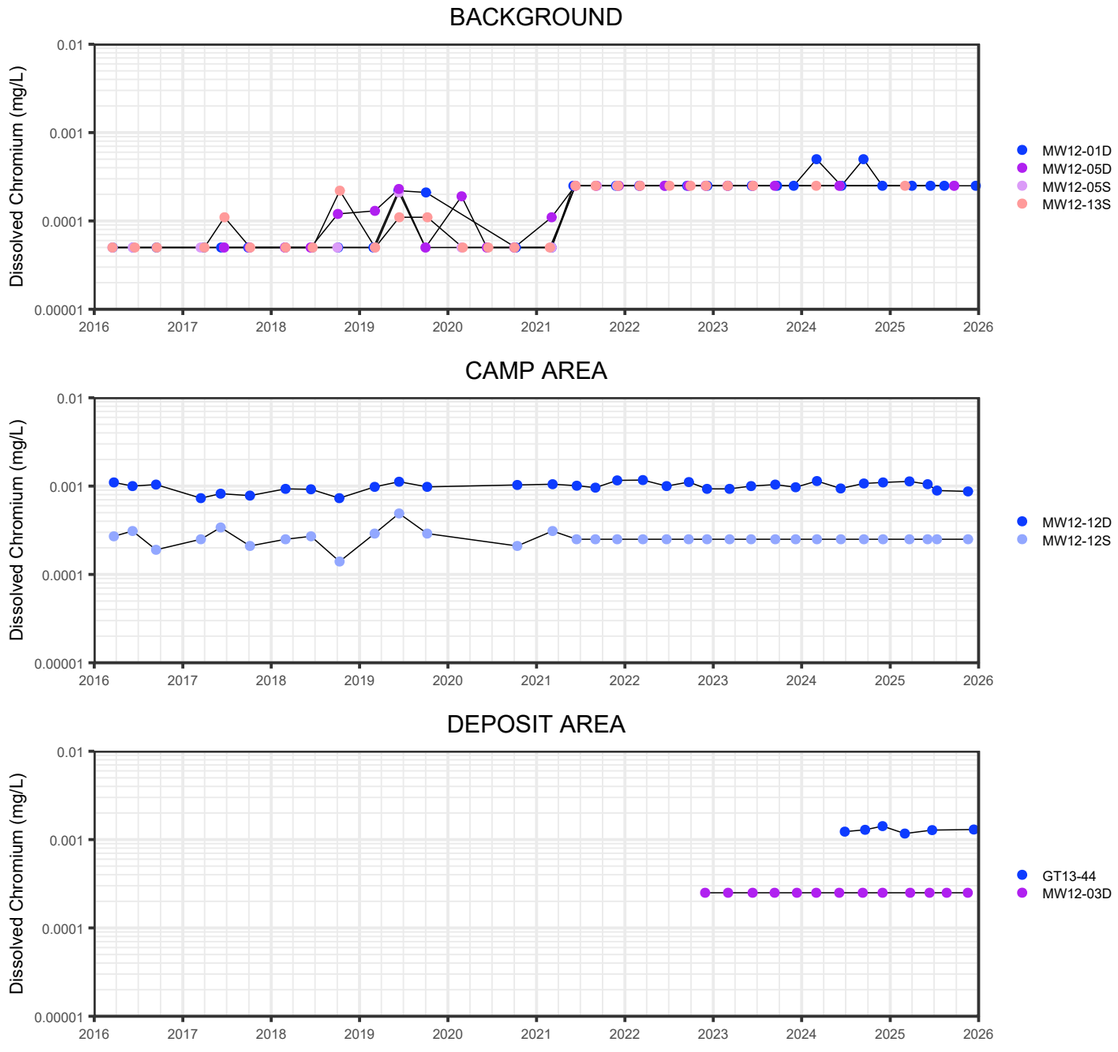
DISSOLVED CALCIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

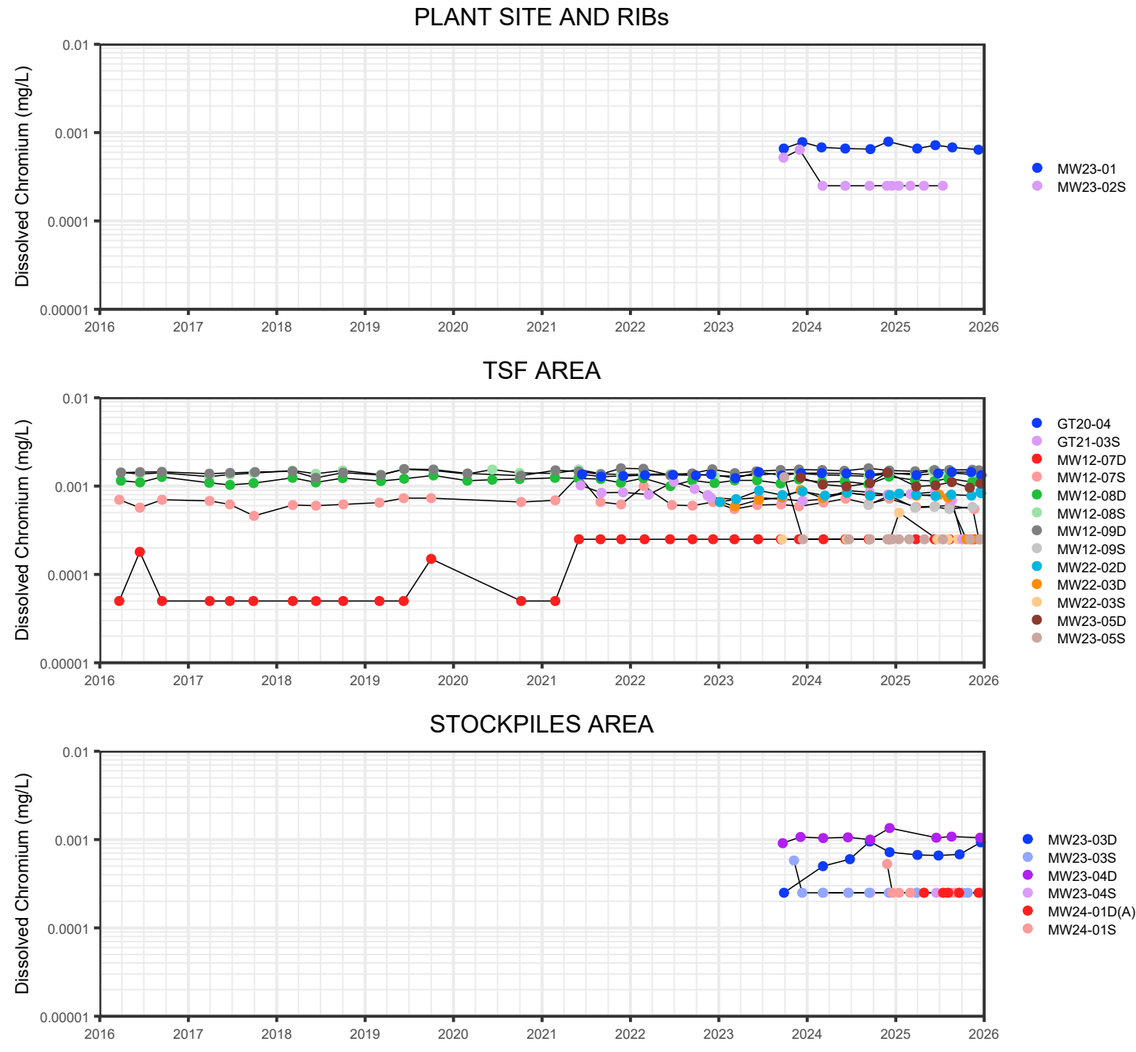
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

FIGURE G.21

Rev A





NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS. CHROMIUM STANDARD FOR HEXAVALENT CHROMIUM (Cr VI) IS 0.1 mg/L. CSR STANDARD FOR CHROMIUM III IS 0.09 mg/L.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED CHROMIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

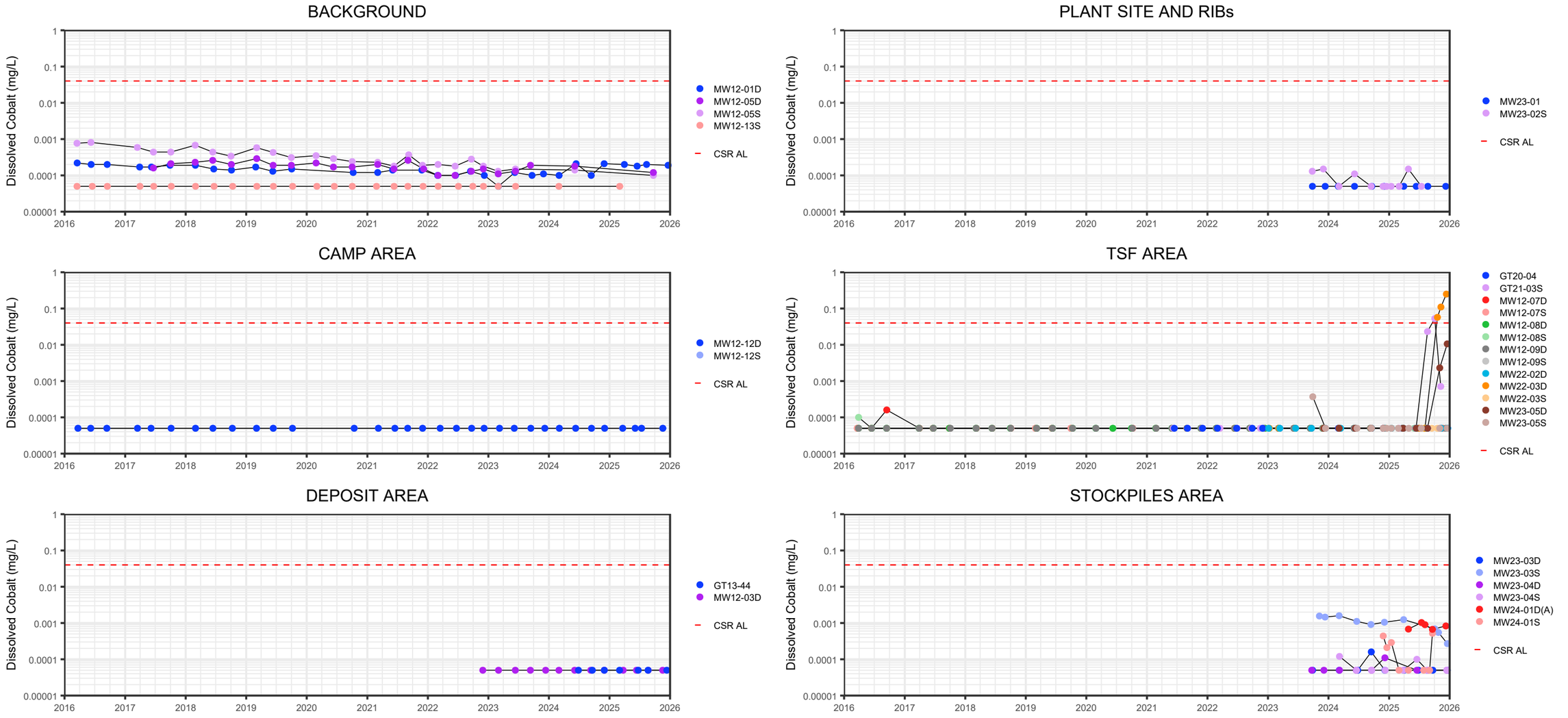
Knight Piésold CONSULTING

P/A NO. VA101-00457/62

REF NO. 2

FIGURE G.22

Rev A



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (COBALT: 0.04 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED COBALT CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

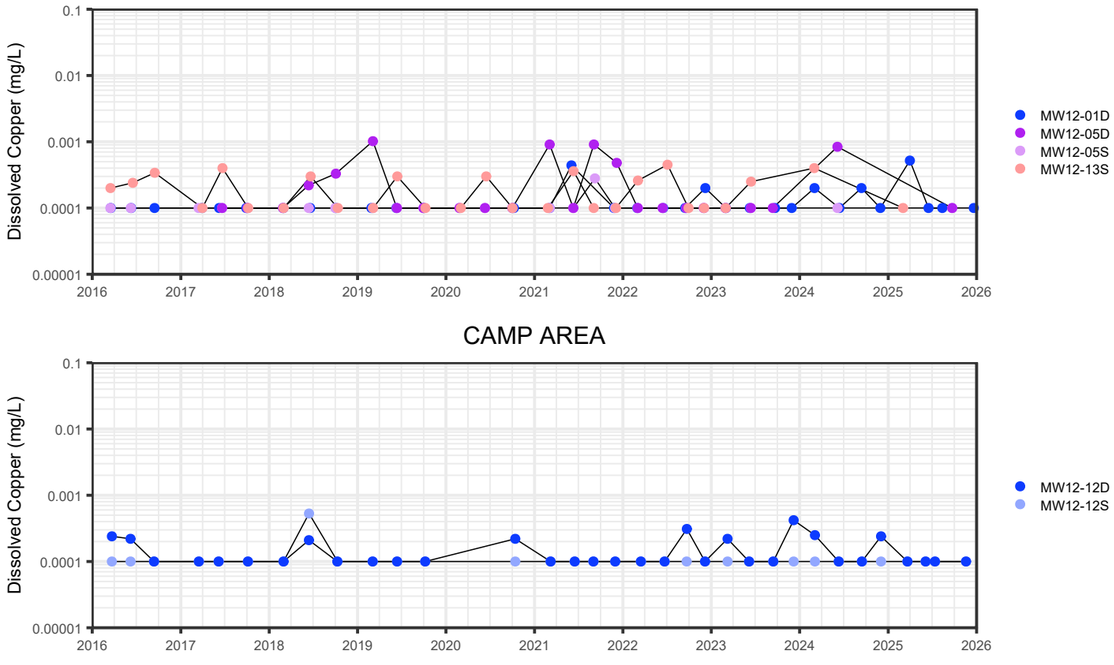
P/A NO. VA101-00457/62

REF NO. 2

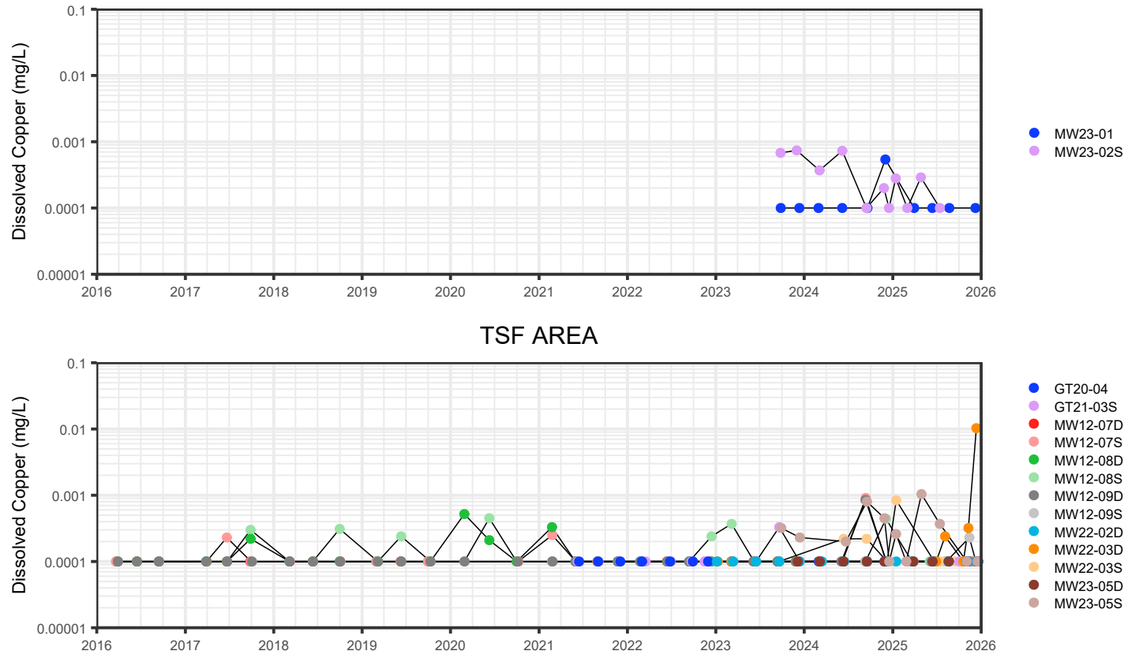
FIGURE G.23

Rev A

BACKGROUND



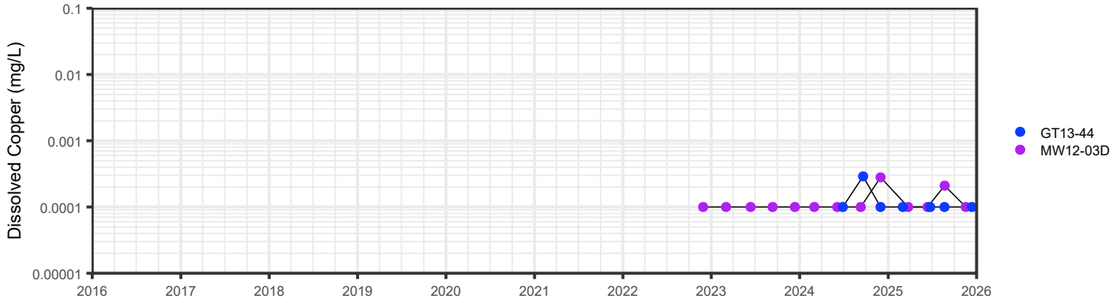
PLANT SITE AND RIBs



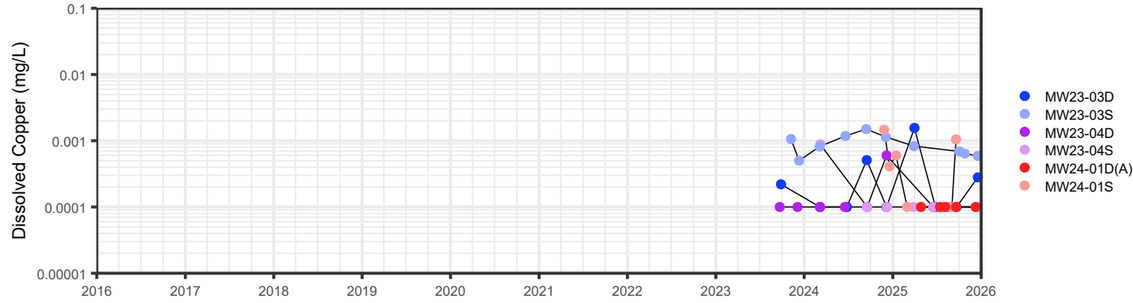
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (COPPER: 0.02-0.09 mg/L).
5. THE CSR STANDARD IS HARDNESS DEPENDENT AND IS NOT SHOWN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED COPPER CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

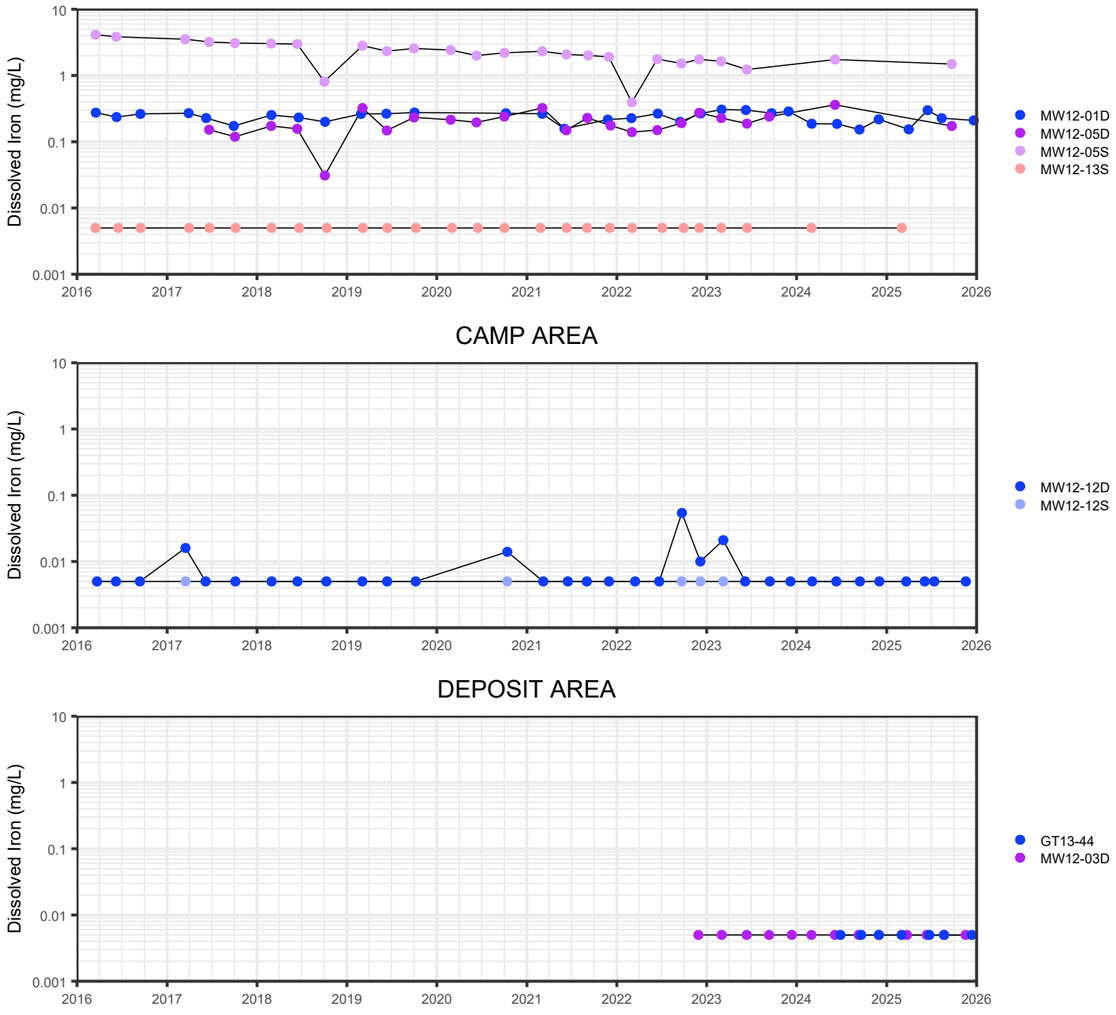
P/A NO. VA101-00457/62

REF NO. 2

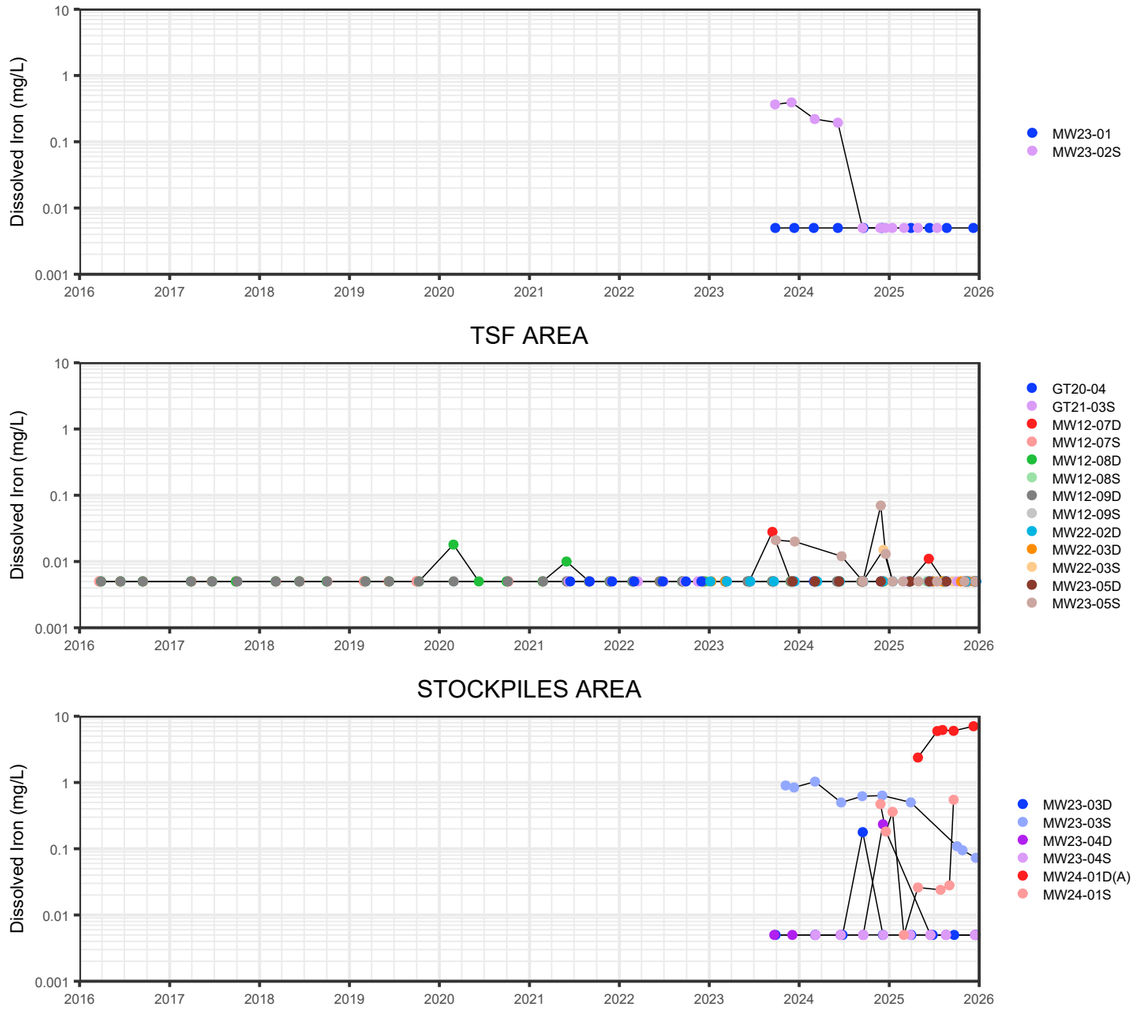
FIGURE G.24

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED IRON CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

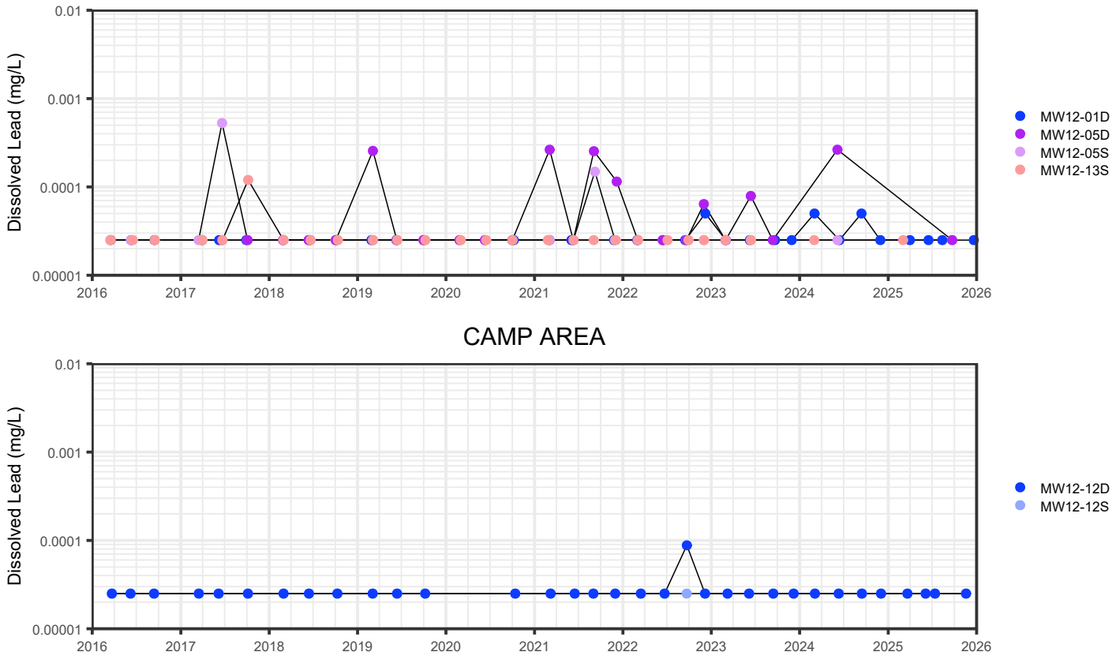
P/A NO. VA101-00457/62

REF NO. 2

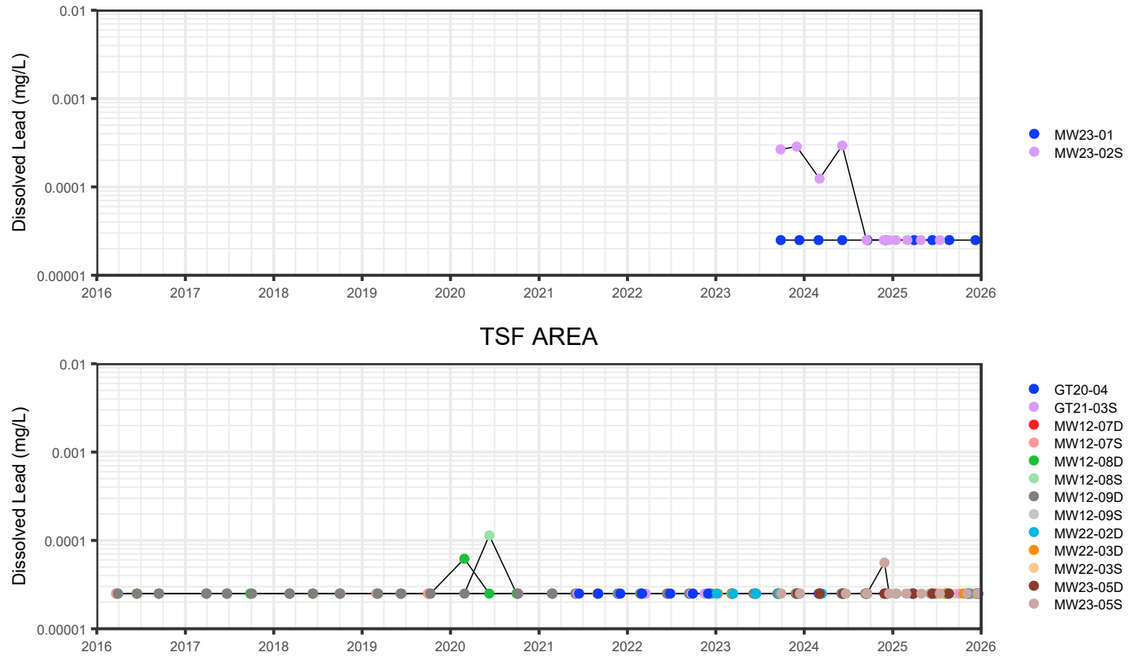
FIGURE G.25

Rev A

BACKGROUND



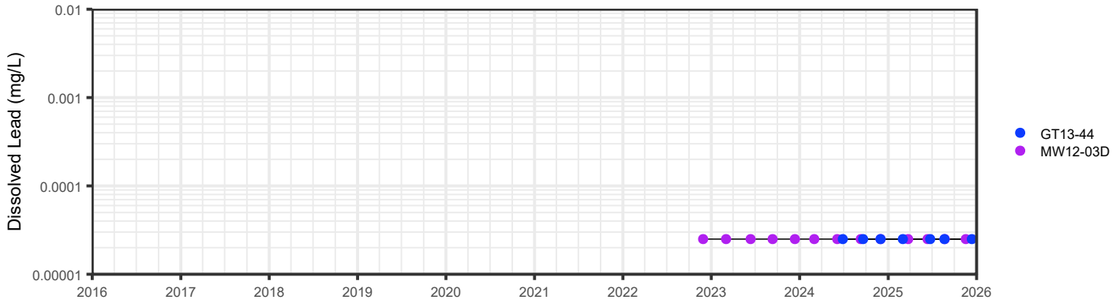
PLANT SITE AND RIBs



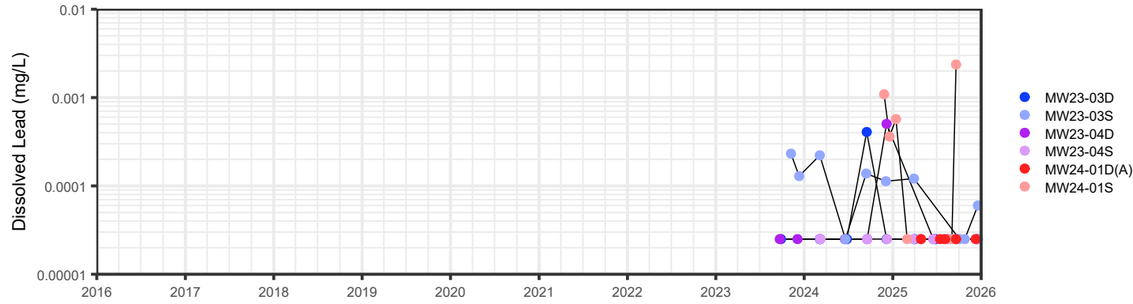
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (LEAD: 0.04-0.16 mg/L).
5. THE CSR STANDARD IS HARDNESS DEPENDENT AND IS NOT SHOWN.
6. CONCENTRATIONS AT MW12-05D MAY BE INFLUENCED BY THE WELL PLUG INSTALLED AND ARE FLAGGED FOR FURTHER REVIEW.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED LEAD CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

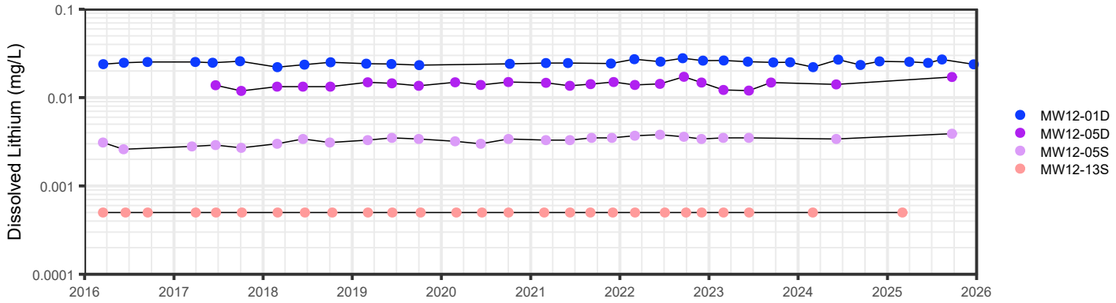
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

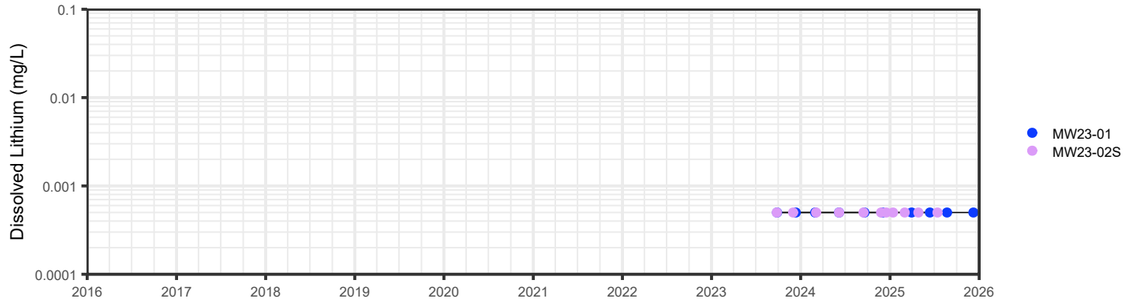
FIGURE G.26

Rev A

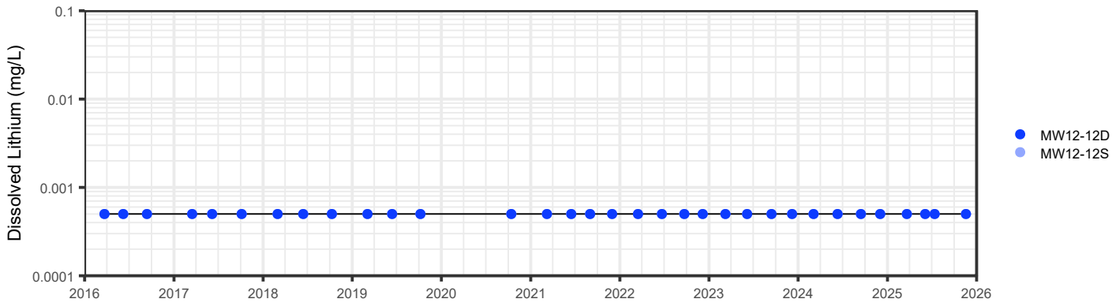
BACKGROUND



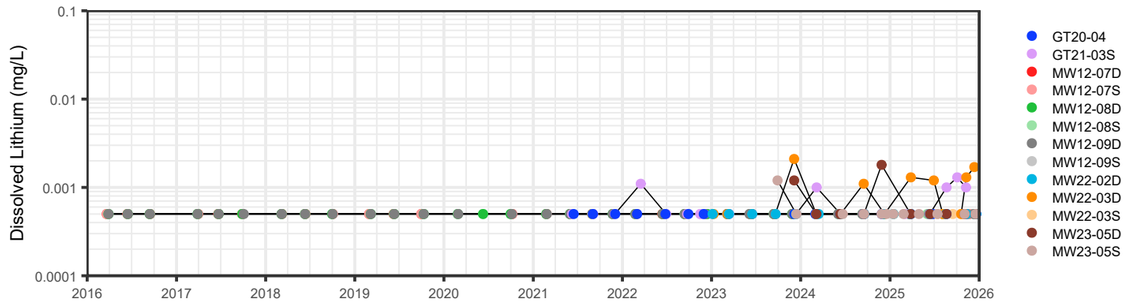
PLANT SITE AND RIBs



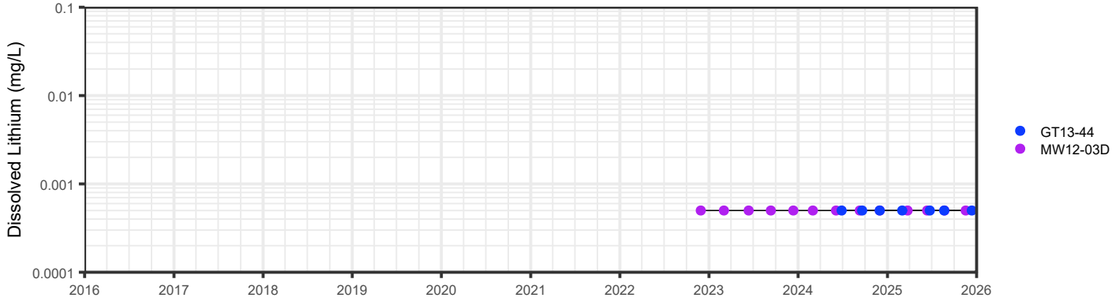
CAMP AREA



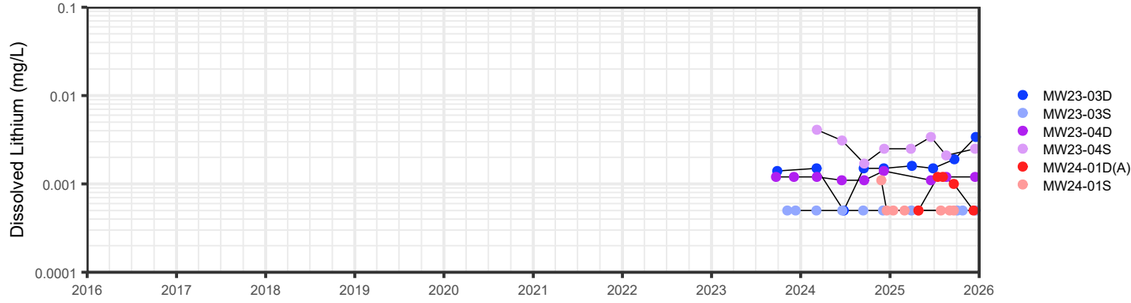
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED LITHIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

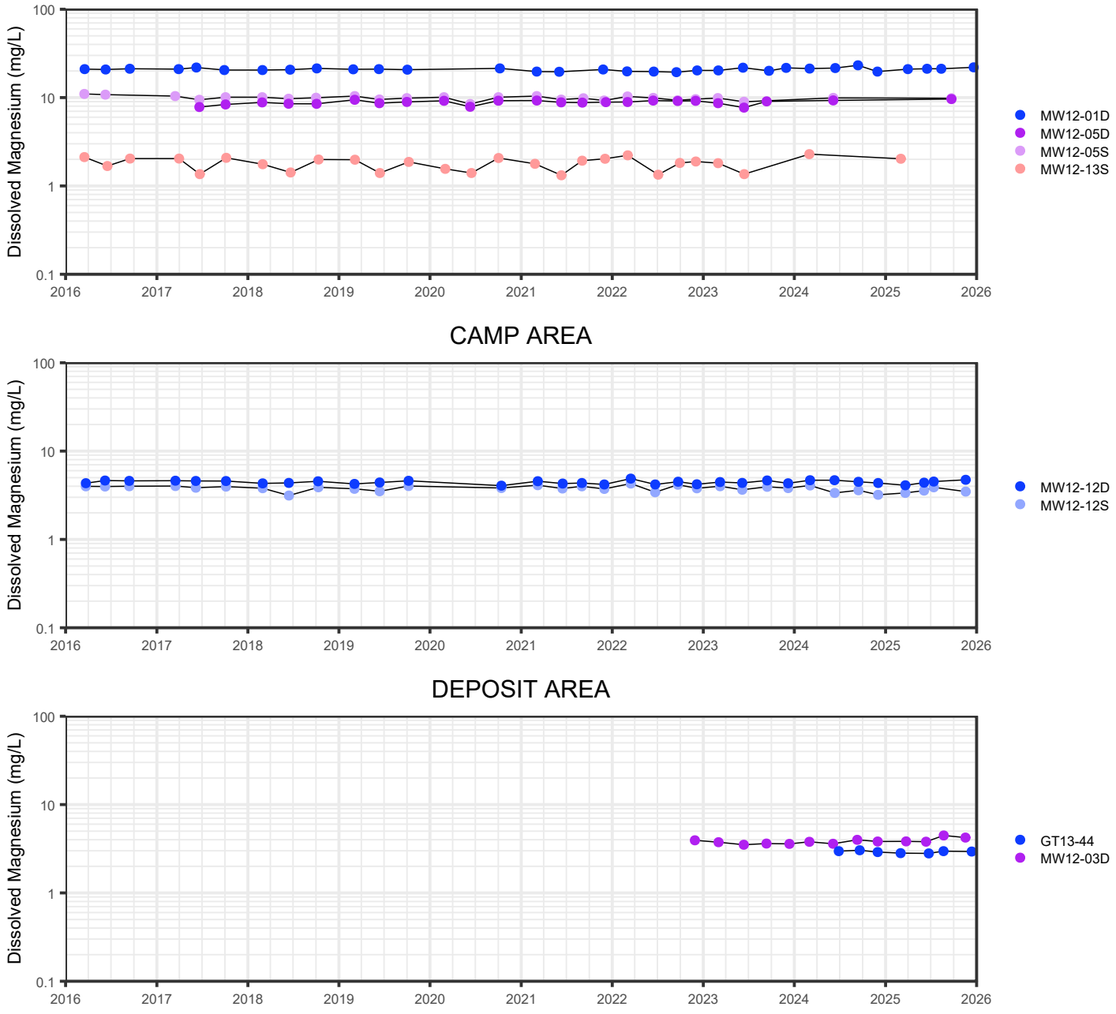
P/A NO. VA101-00457/62

REF NO. 2

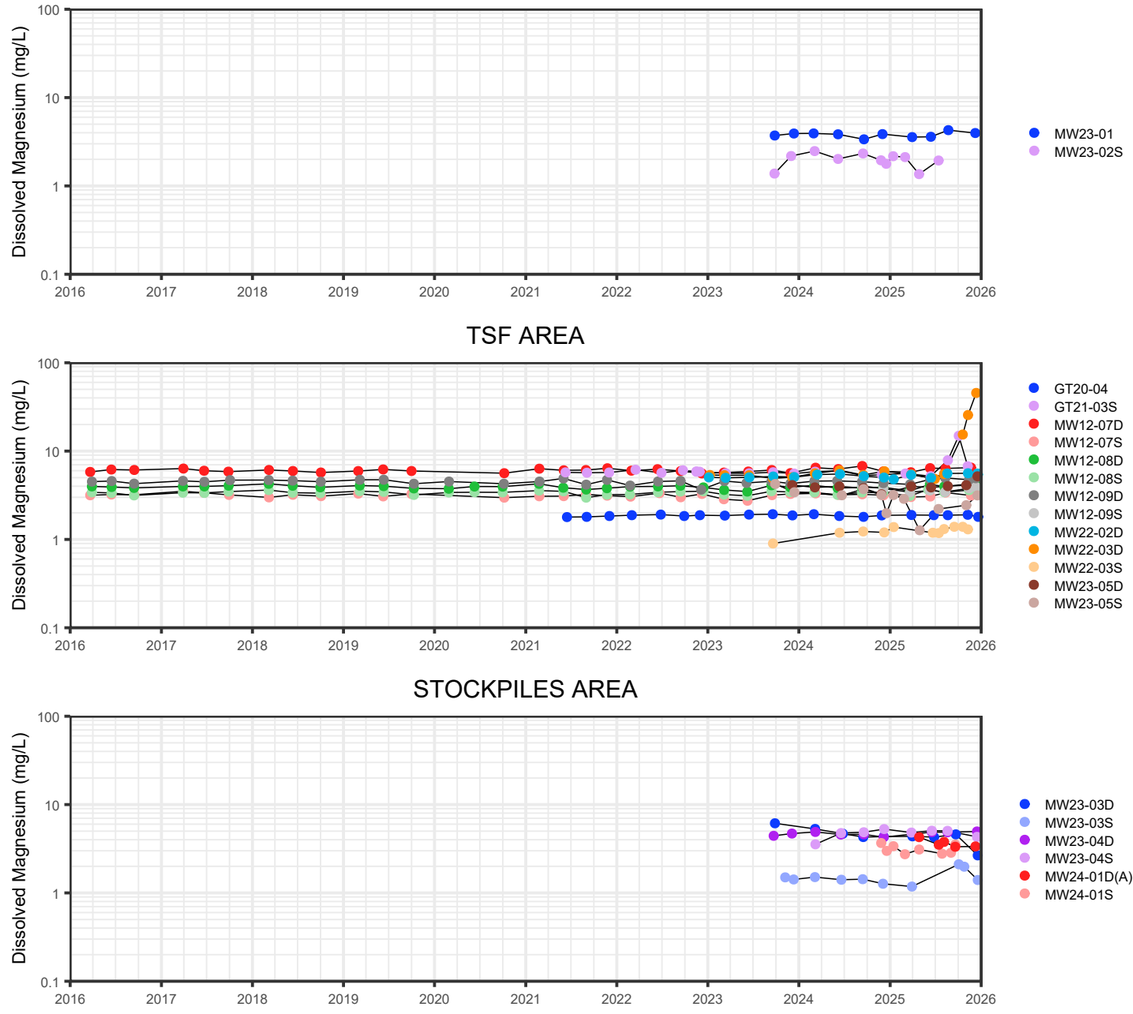
FIGURE G.27

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED MAGNESIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

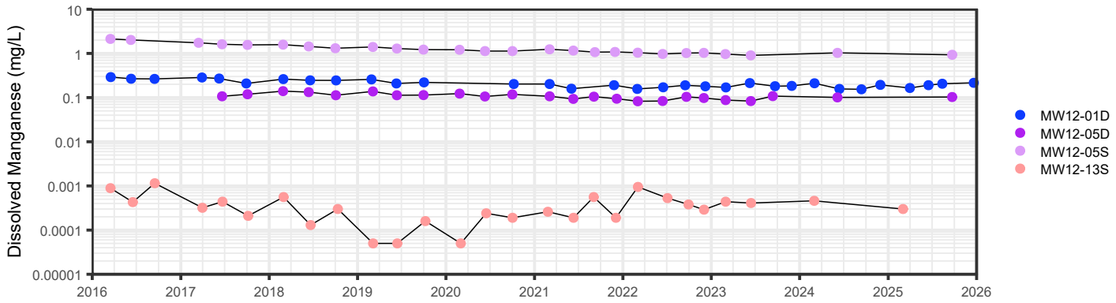
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

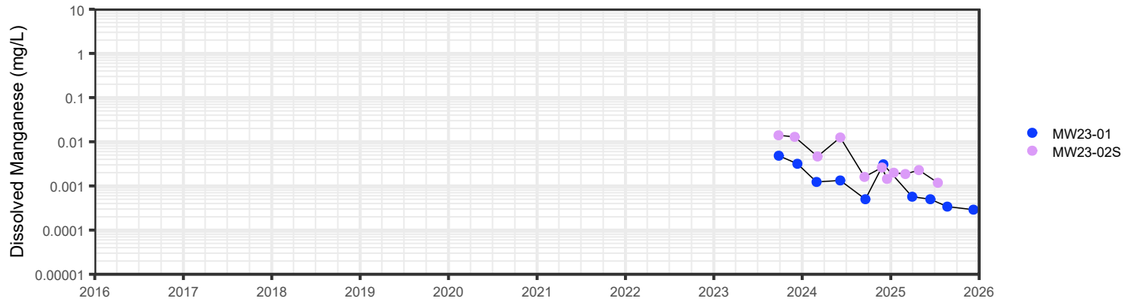
FIGURE G.28

Rev A

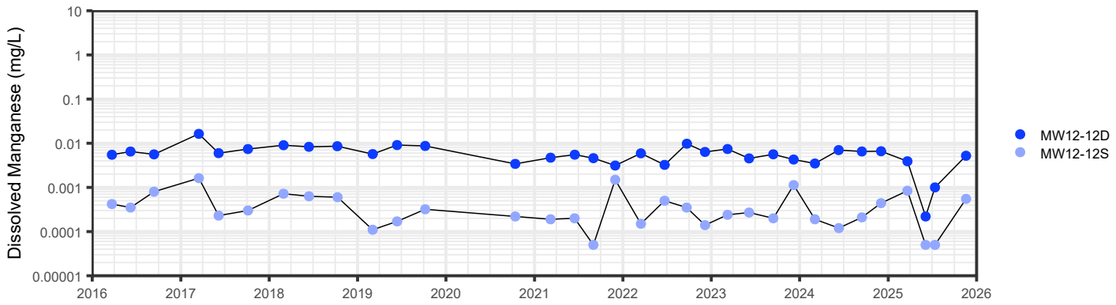
BACKGROUND



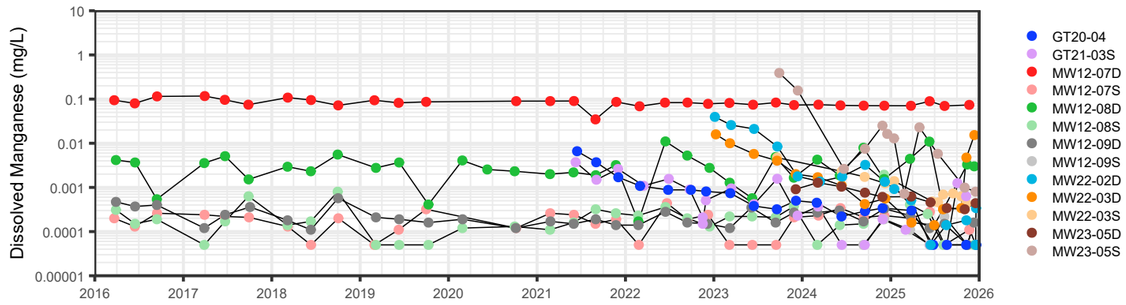
PLANT SITE AND RIBs



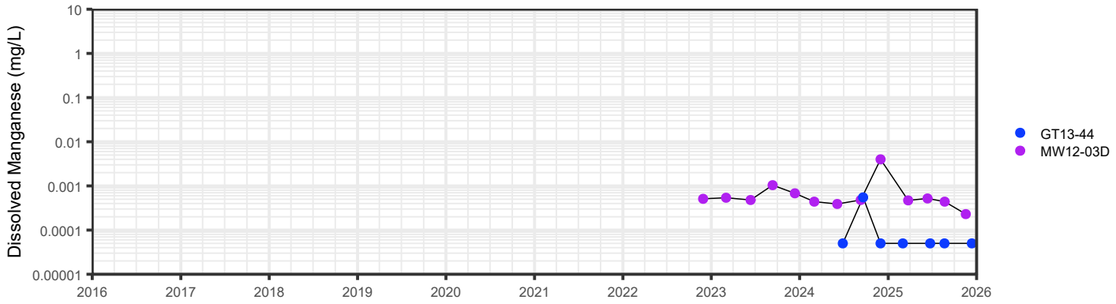
CAMP AREA



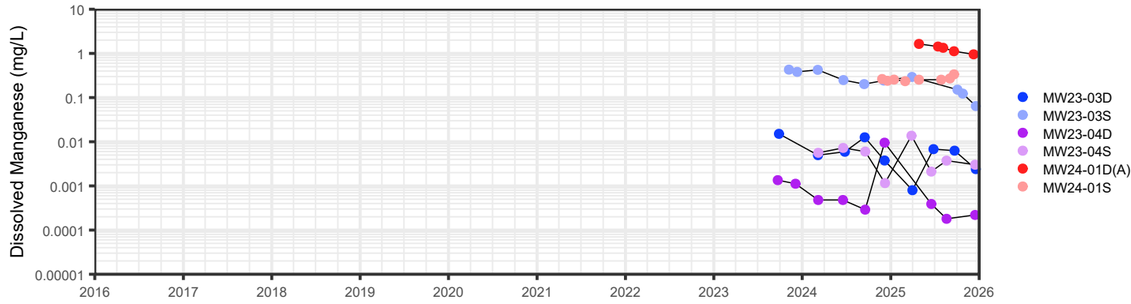
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED MANGANESE CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

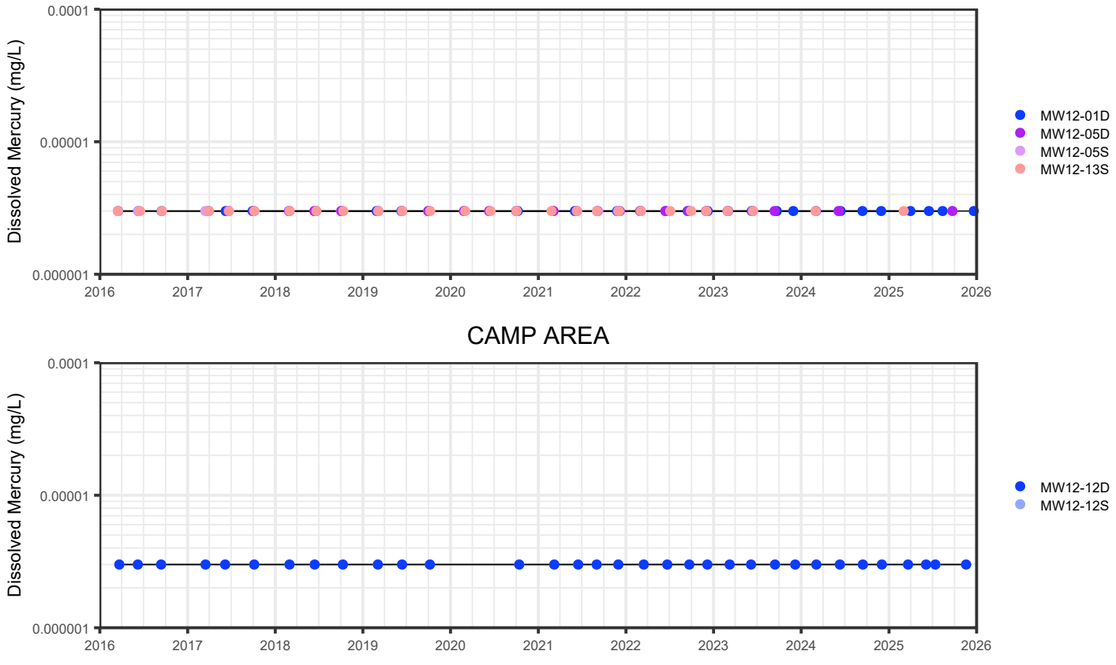
P/A NO. VA101-00457/62

REF NO. 2

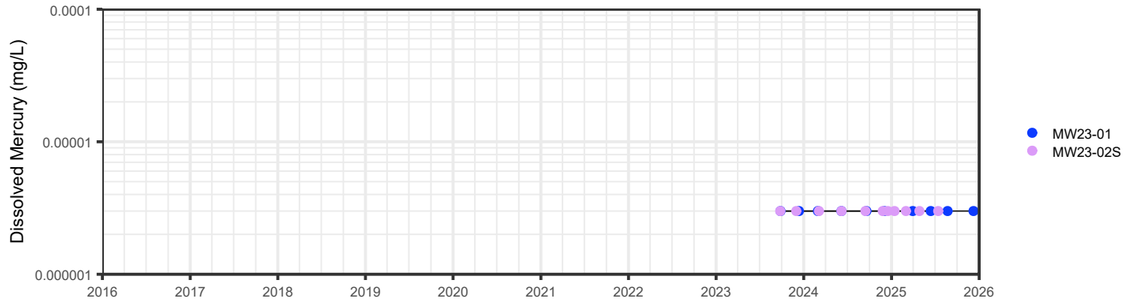
FIGURE G.29

Rev A

BACKGROUND

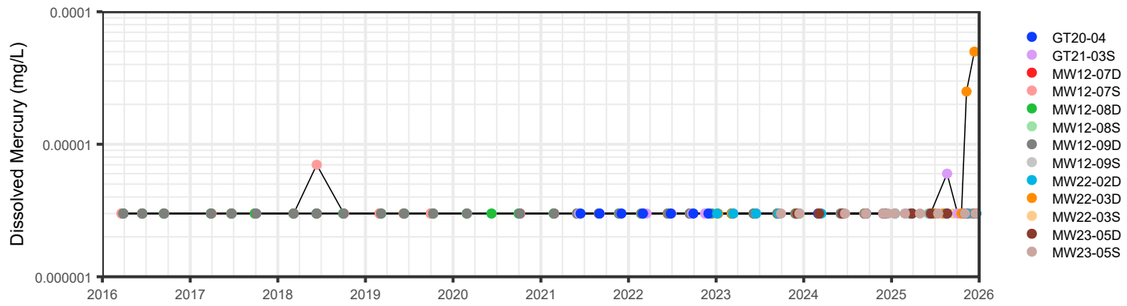


PLANT SITE AND RIBs

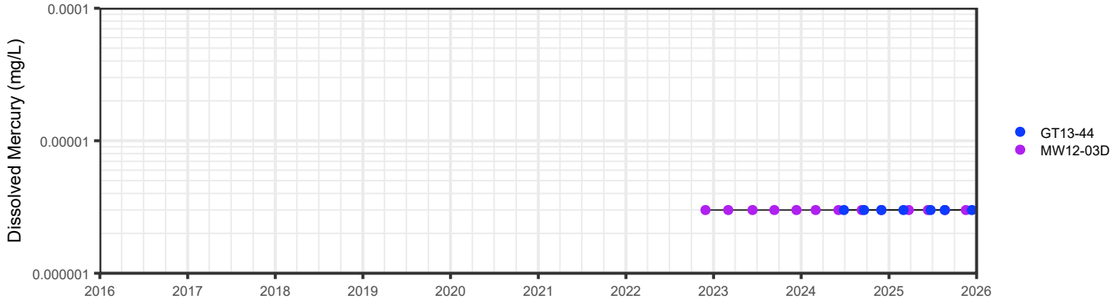


CAMP AREA

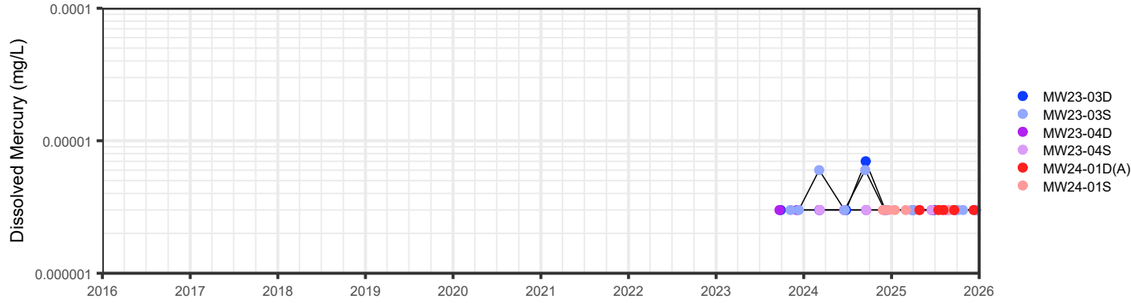
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (MERCURY: 0.00025 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED MERCURY CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

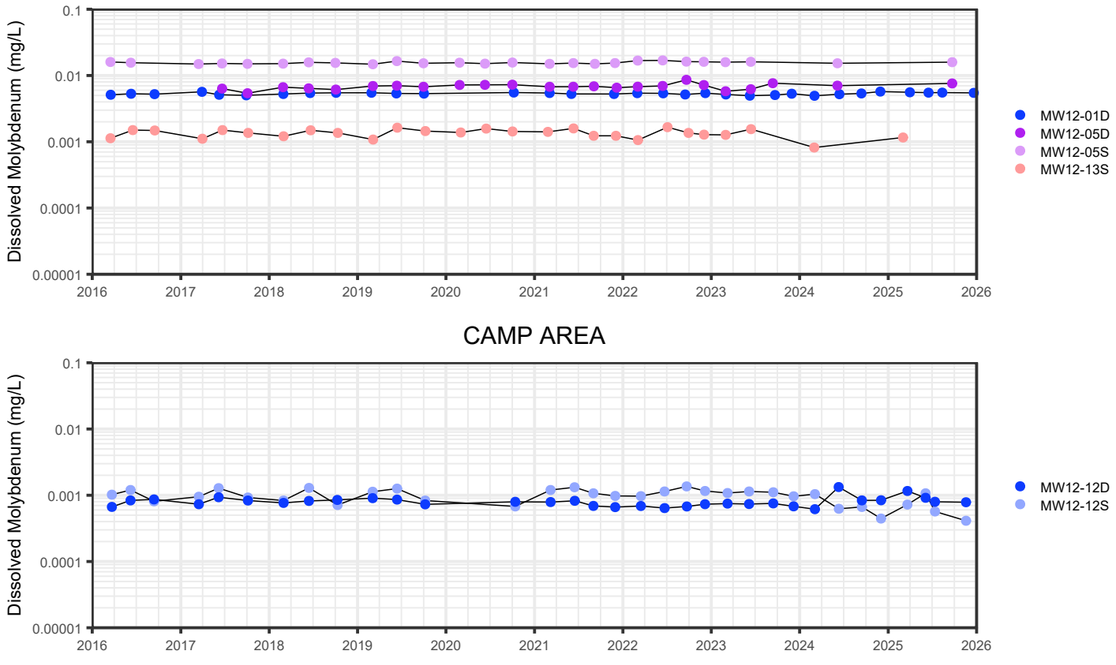
P/A NO. VA101-00457/62

REF NO. 2

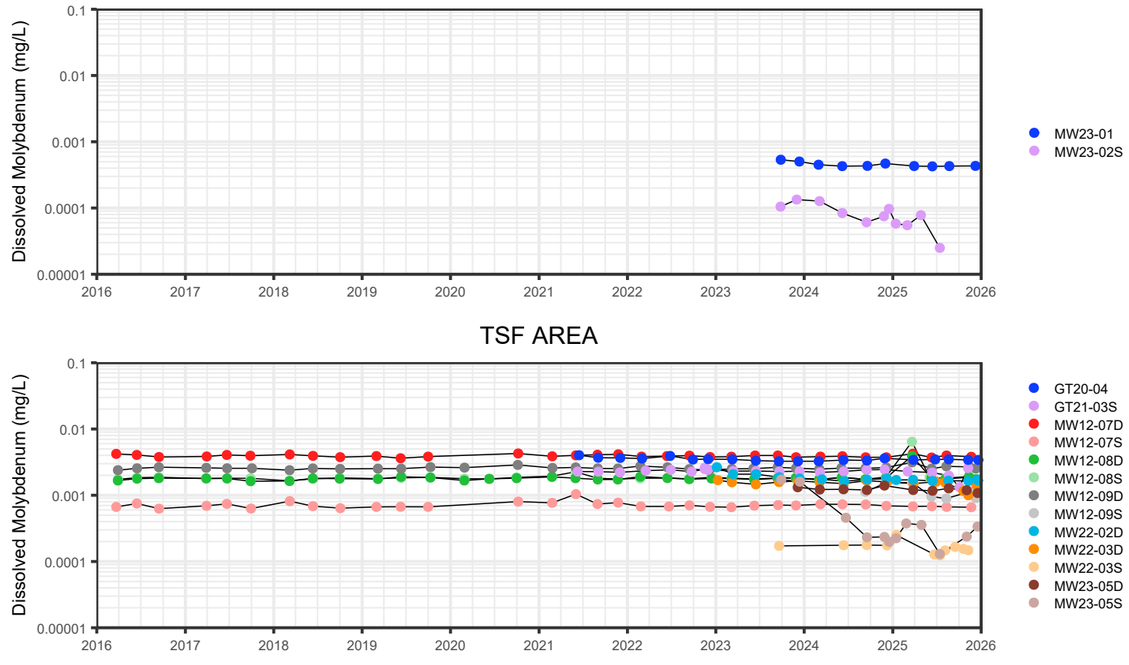
FIGURE G.30

Rev A

BACKGROUND



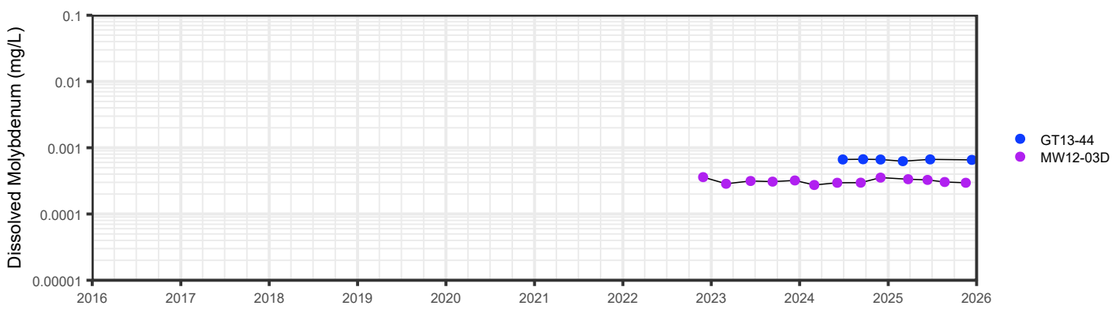
PLANT SITE AND RIBs



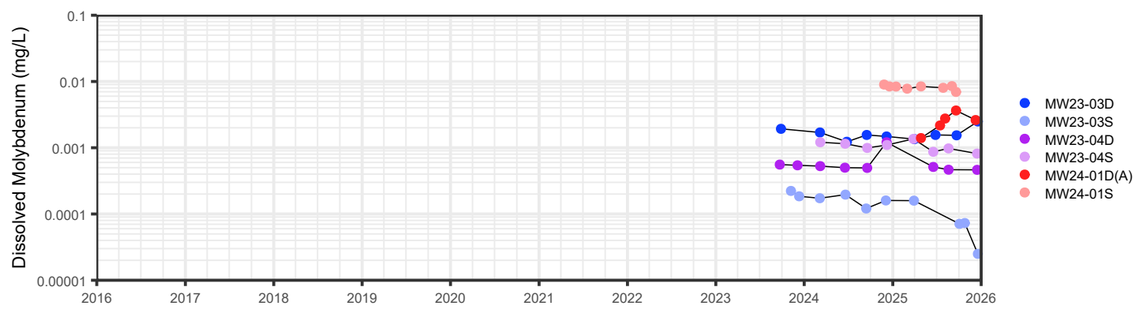
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (MOLYBDENUM: 10 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED MOLYBDENUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

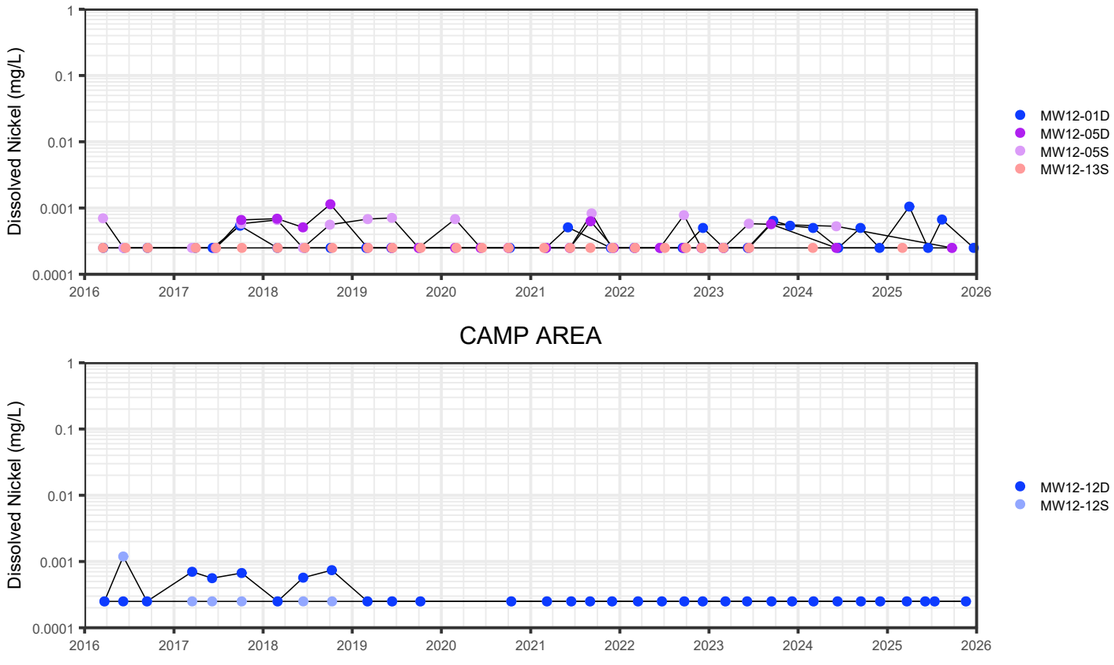
P/A NO. VA101-00457/62

REF NO. 2

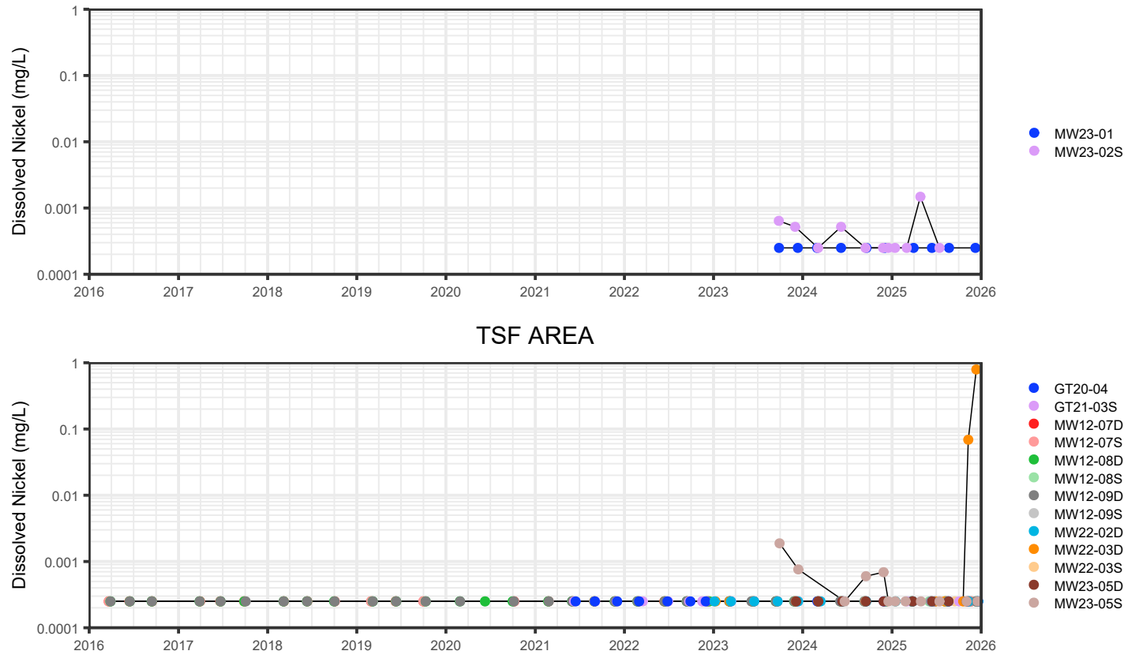
FIGURE G.31

Rev A

BACKGROUND



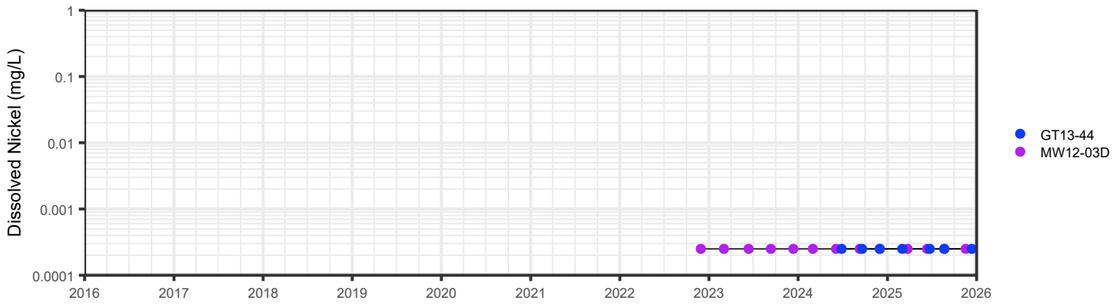
PLANT SITE AND RIBs



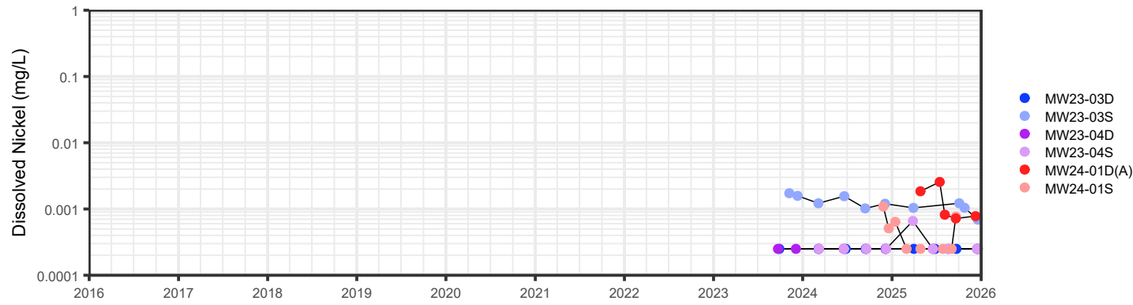
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (NICKEL: 0.25-2.50 mg/L).
5. THE CSR STANDARD IS HARDNESS DEPENDENT AND IS NOT SHOWN.
6. CONCENTRATIONS AT MW12-05D MAY BE INFLUENCED BY THE WELL PLUG INSTALLED AND ARE FLAGGED FOR FURTHER REVIEW.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

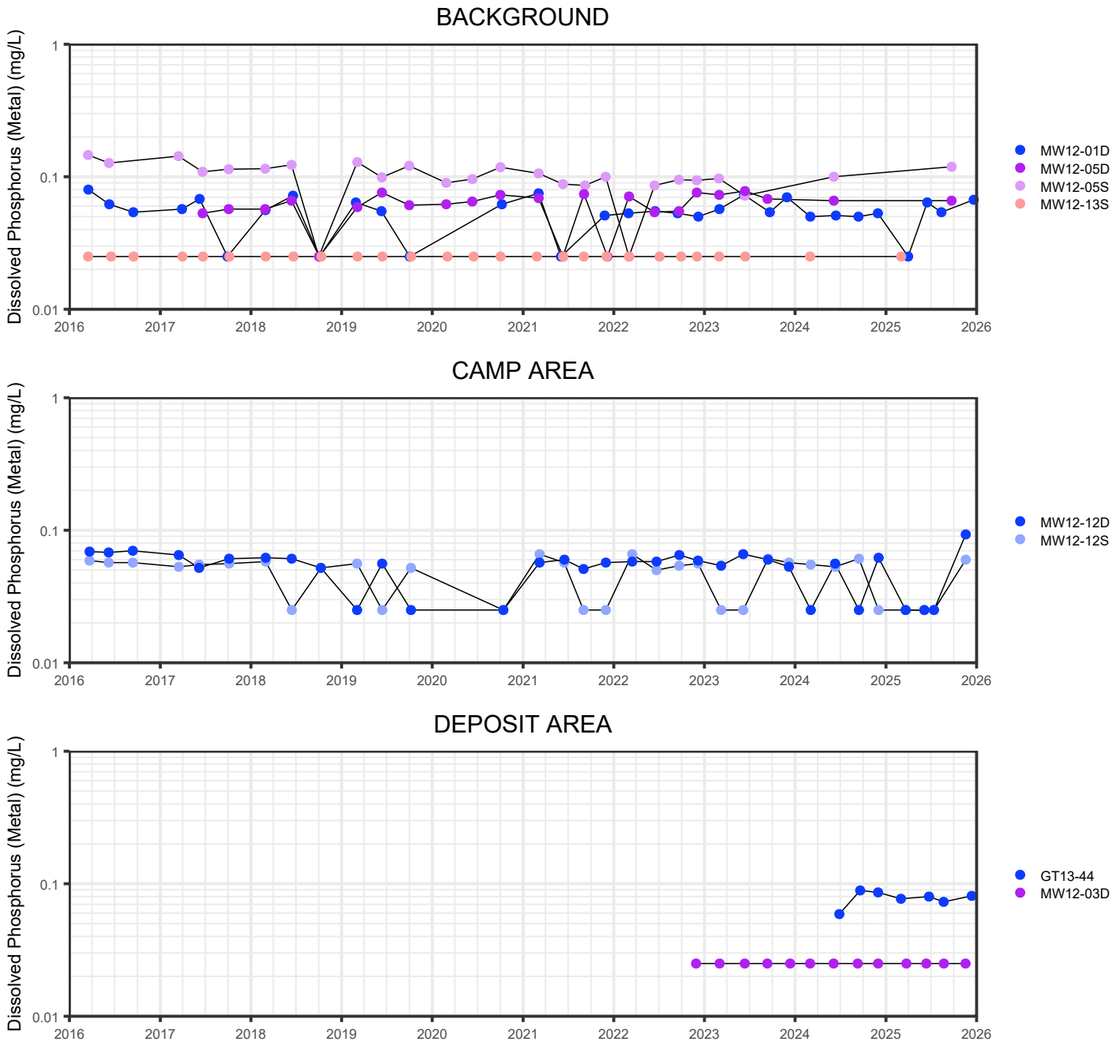
DISSOLVED NICKEL CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

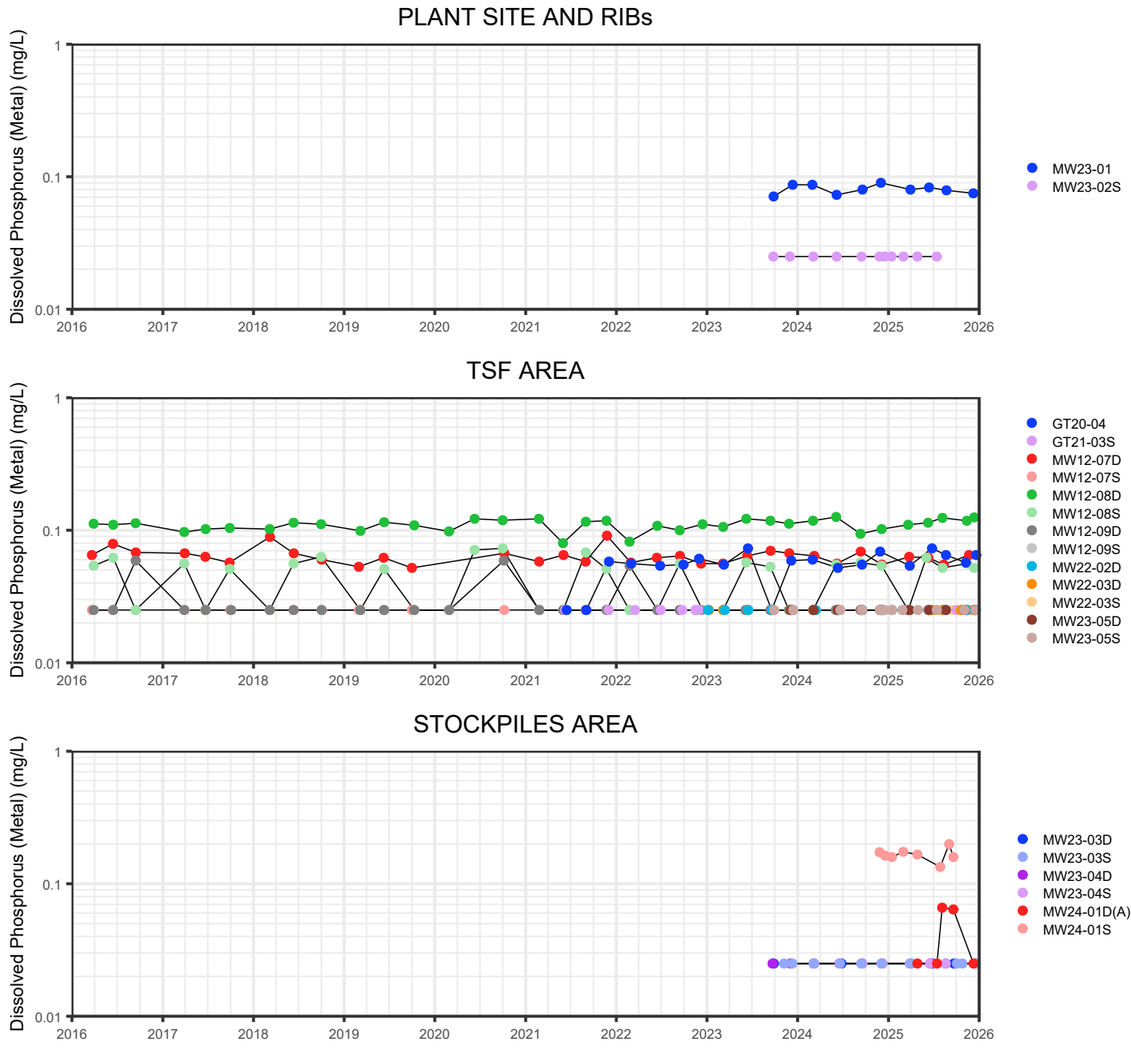
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

FIGURE G.32

Rev A





NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED PHOSPHORUS (METAL) CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

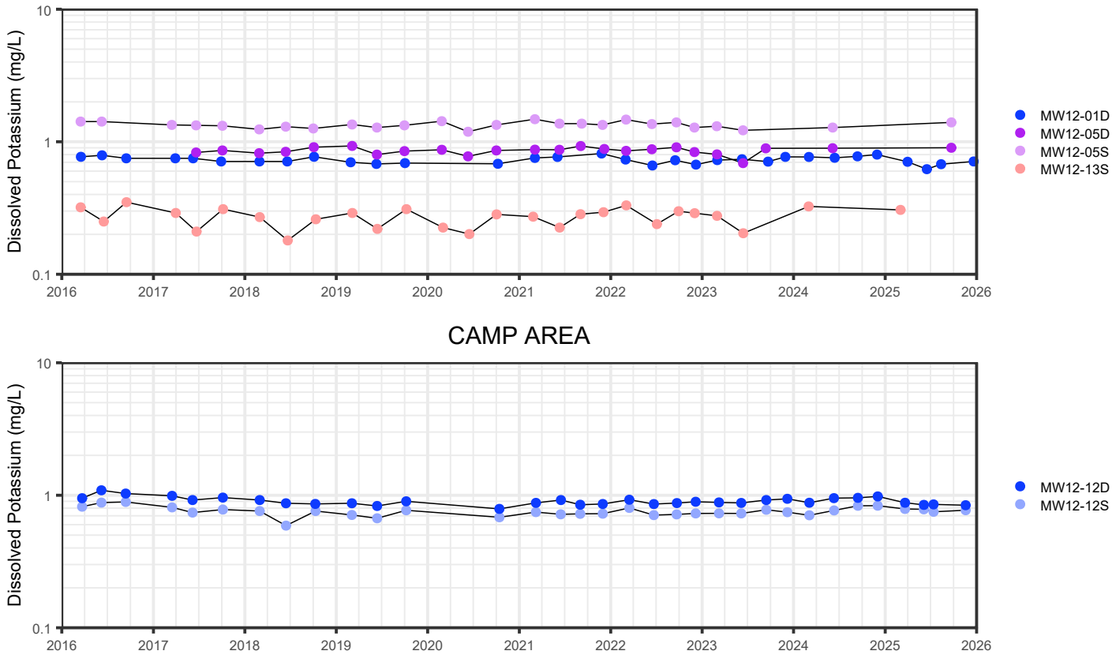
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

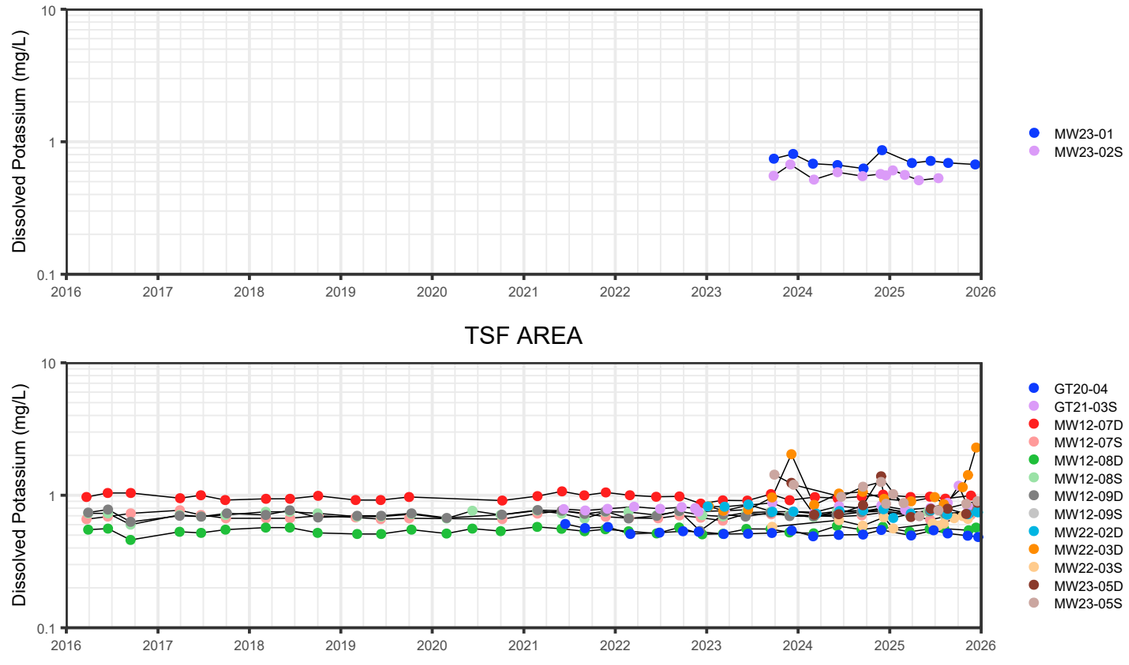
FIGURE G.33

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED POTASSIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

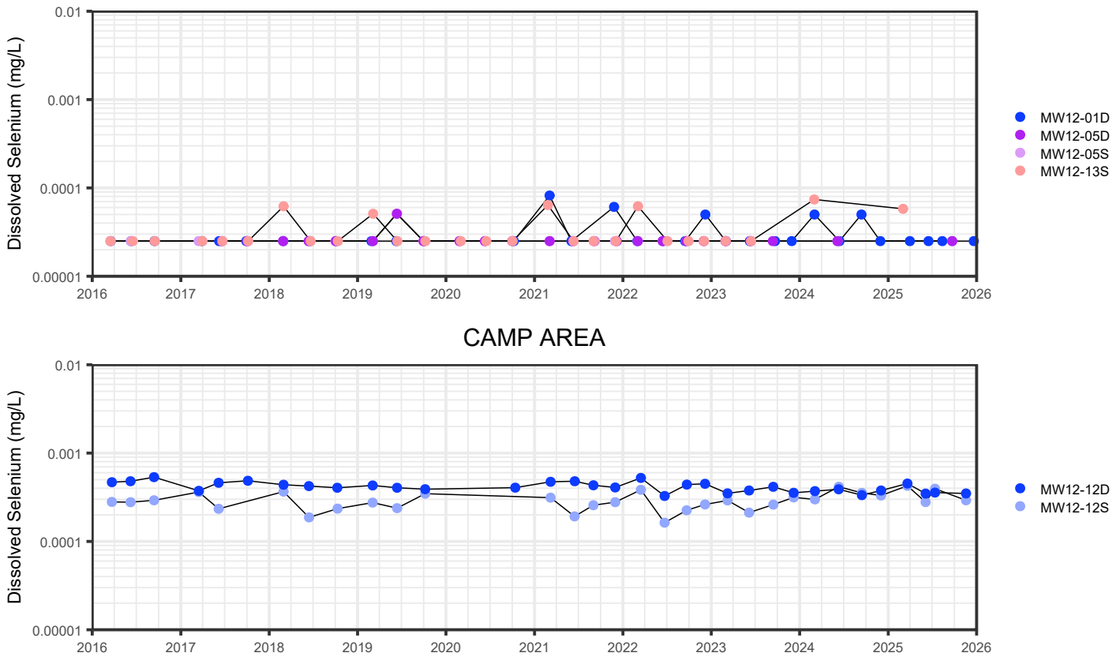
P/A NO. VA101-00457/62

REF NO. 2

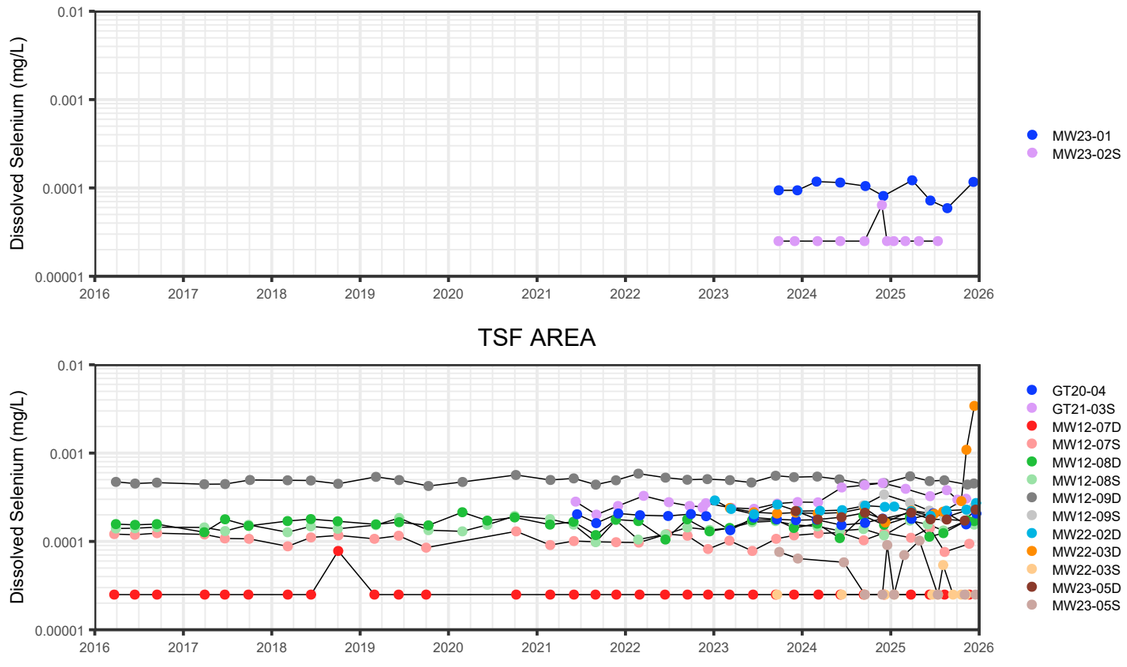
FIGURE G.34

Rev A

BACKGROUND



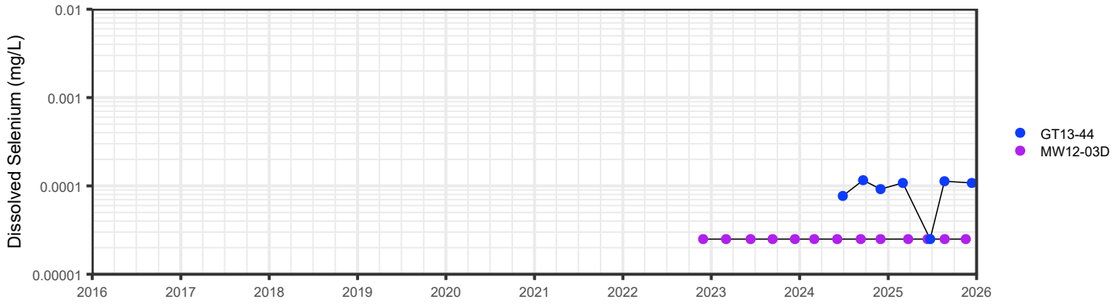
PLANT SITE AND RIBs



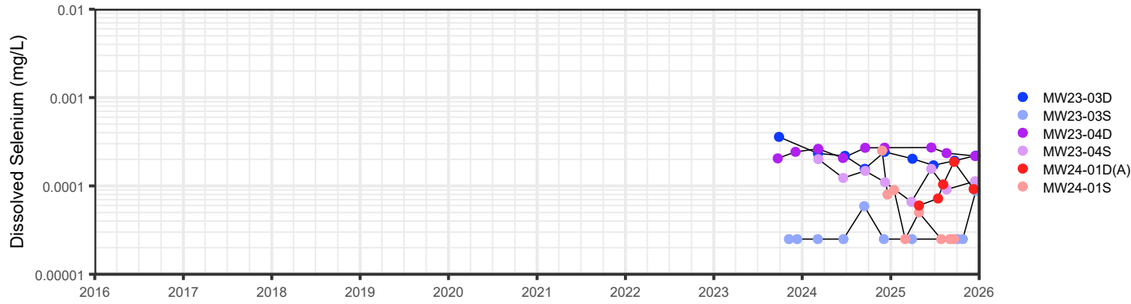
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (SELENIUM: 0.02 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED SELENIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

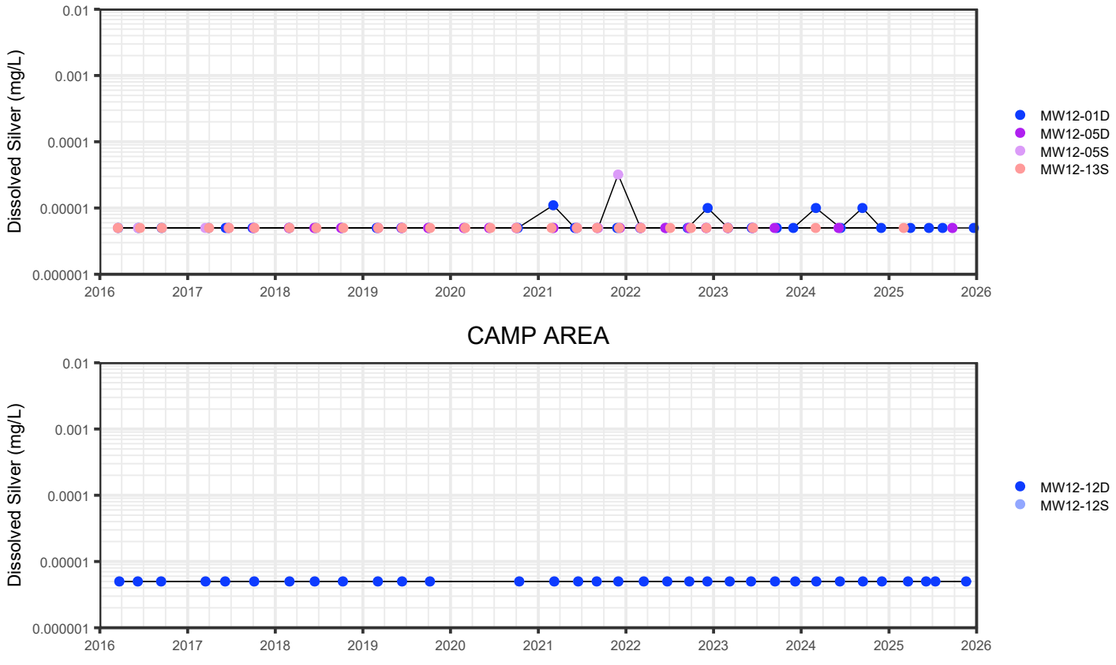
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

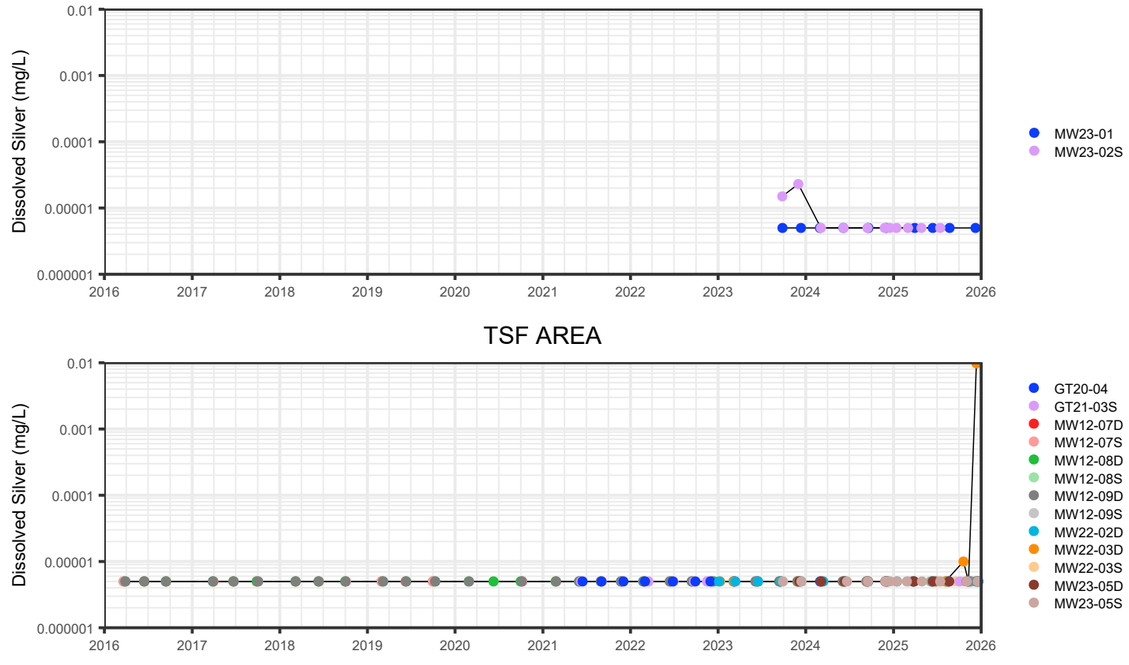
FIGURE G.35

Rev A

BACKGROUND



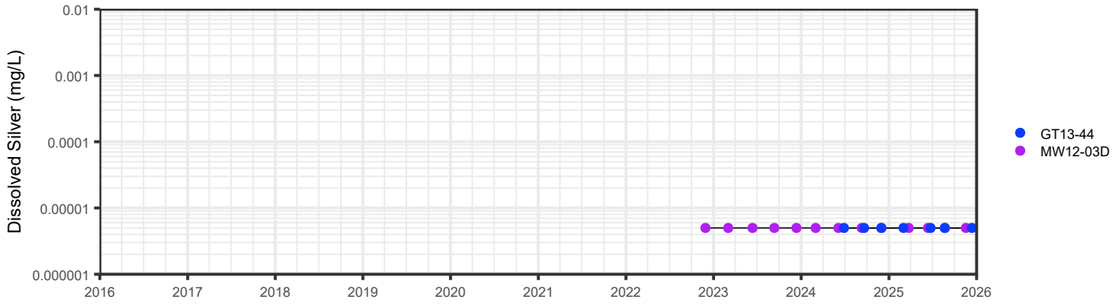
PLANT SITE AND RIBs



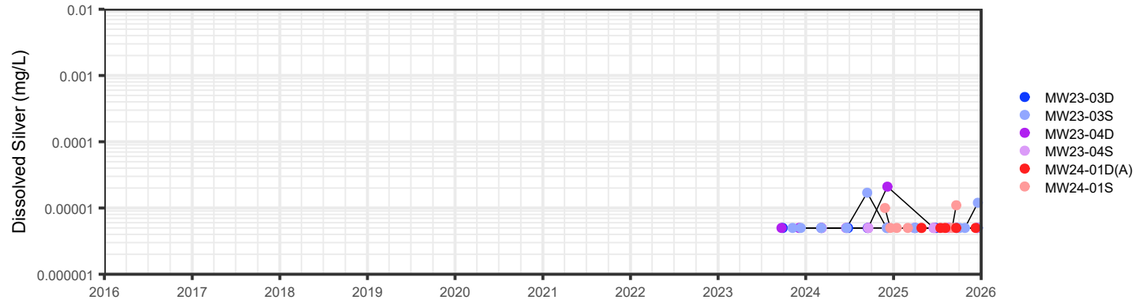
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (SILVER: 0.0005-0.015 mg/L).
5. THE CSR STANDARD IS HARDNESS DEPENDENT AND IS NOT SHOWN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED SILVER CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

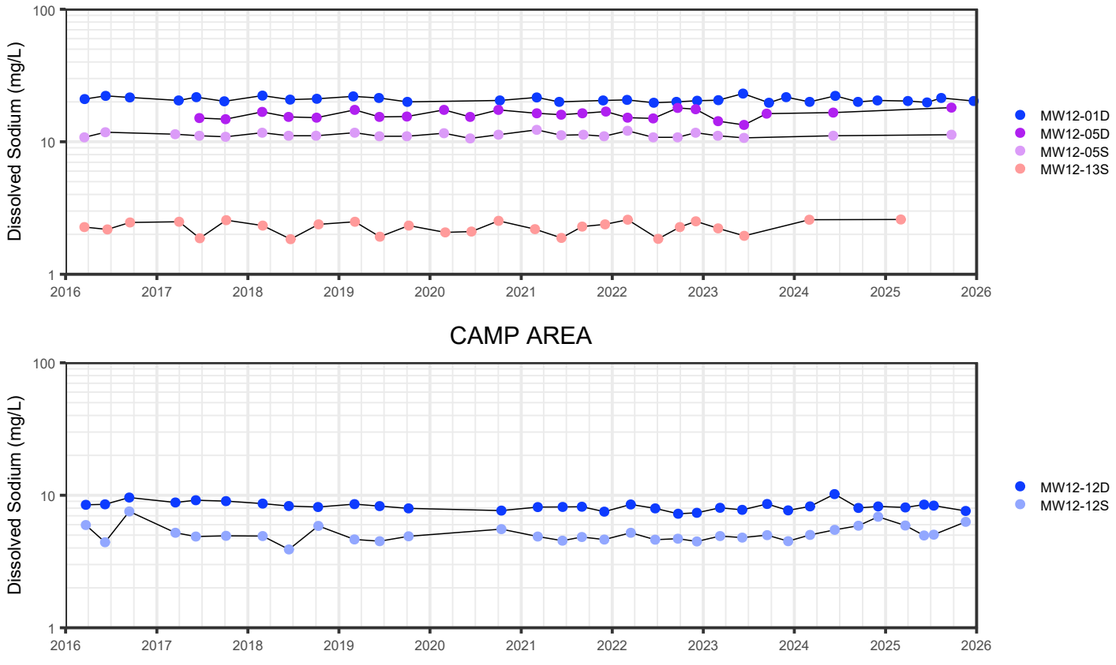
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

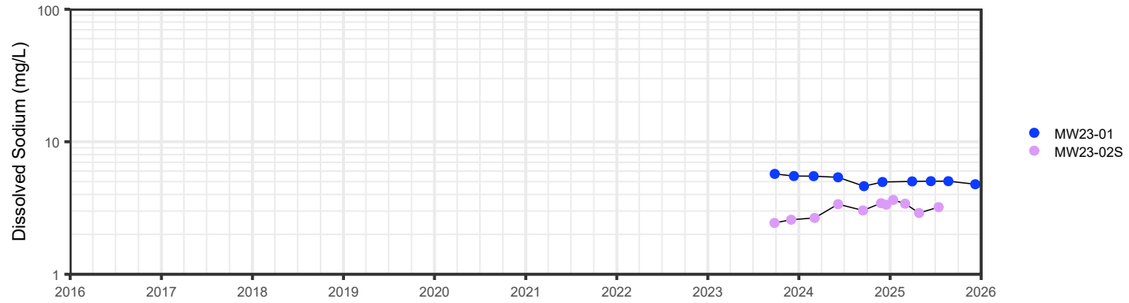
FIGURE G.36

Rev A

BACKGROUND

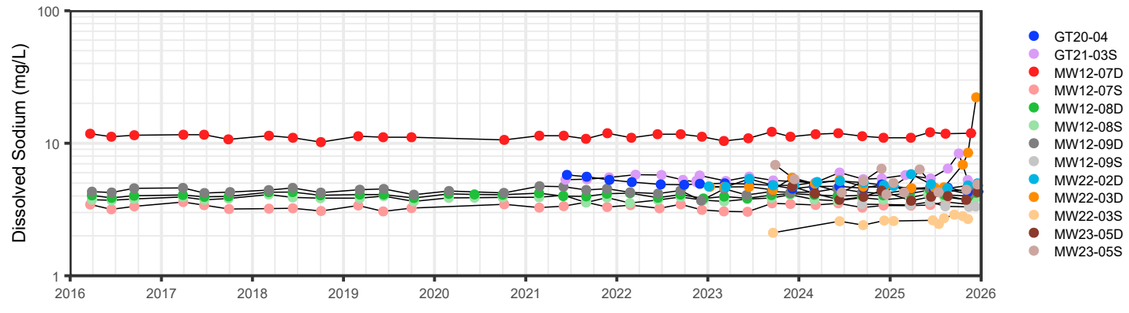


PLANT SITE AND RIBs

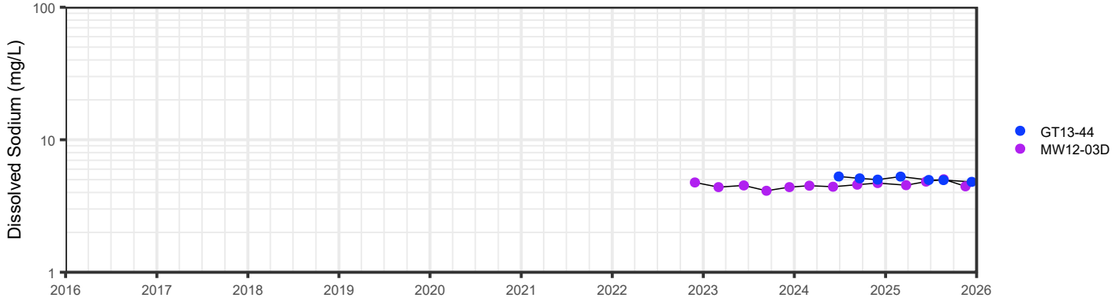


CAMP AREA

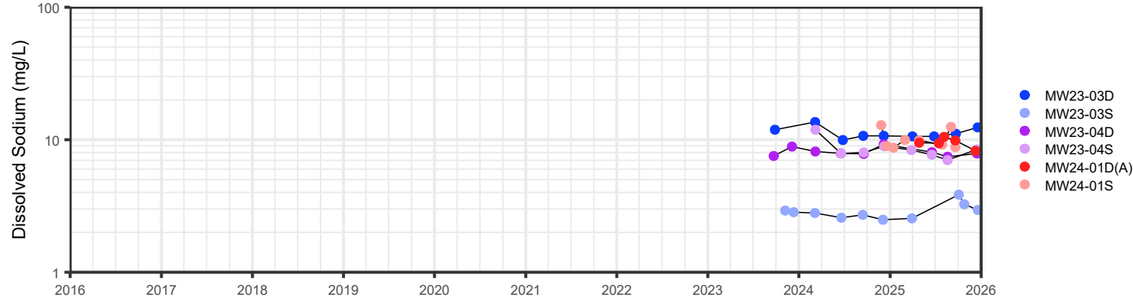
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED SODIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

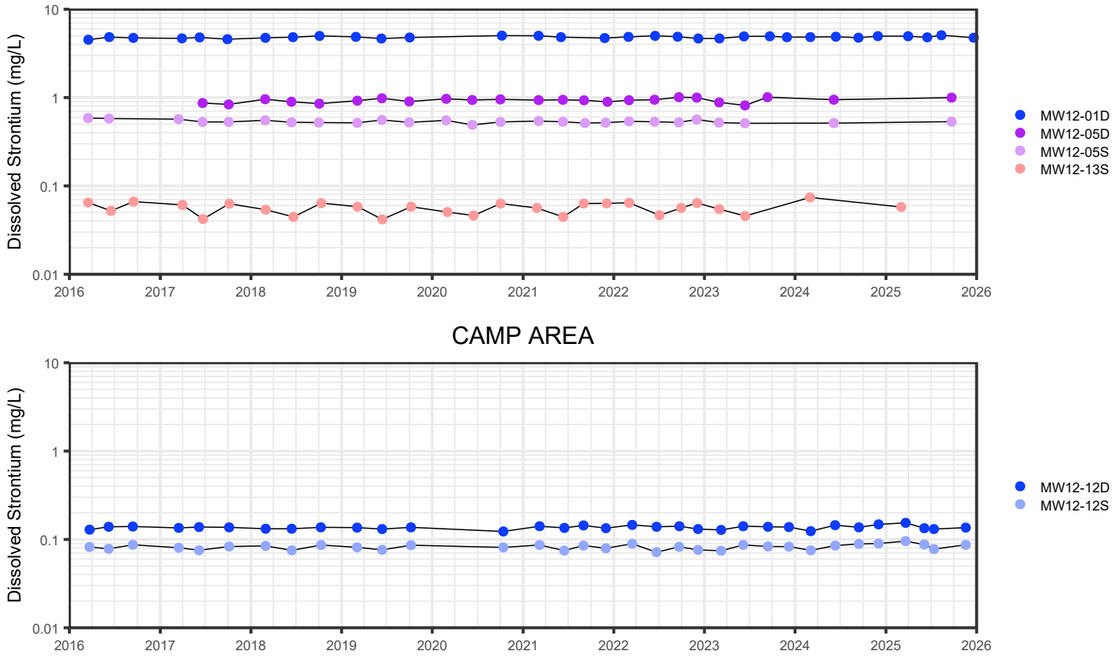
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

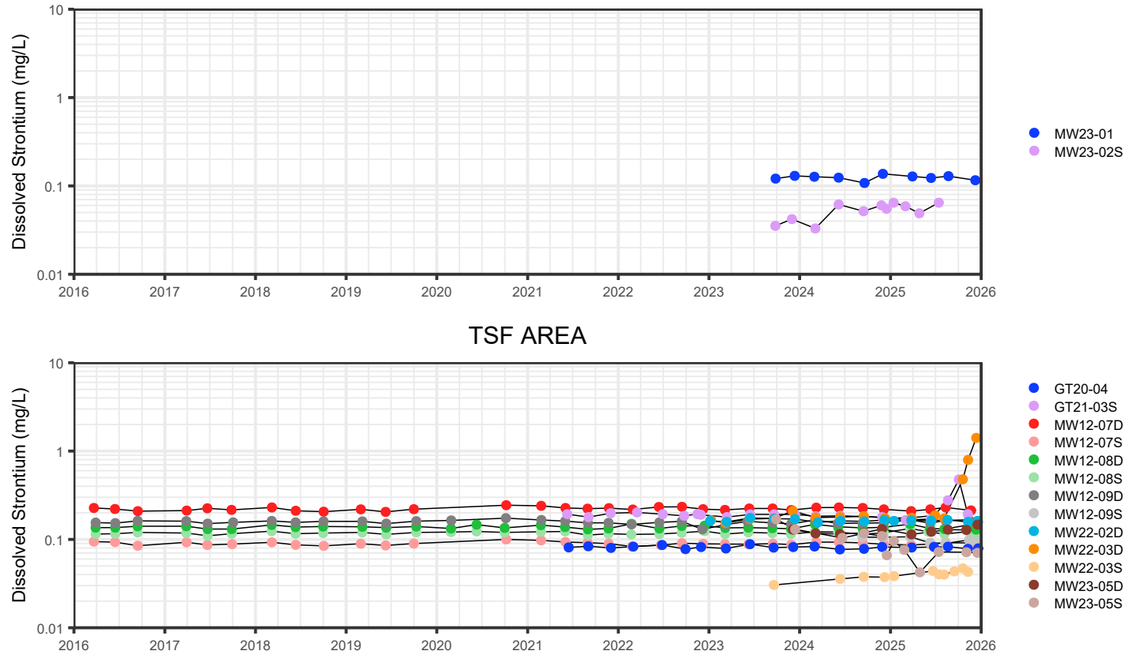
FIGURE G.37

Rev A

BACKGROUND



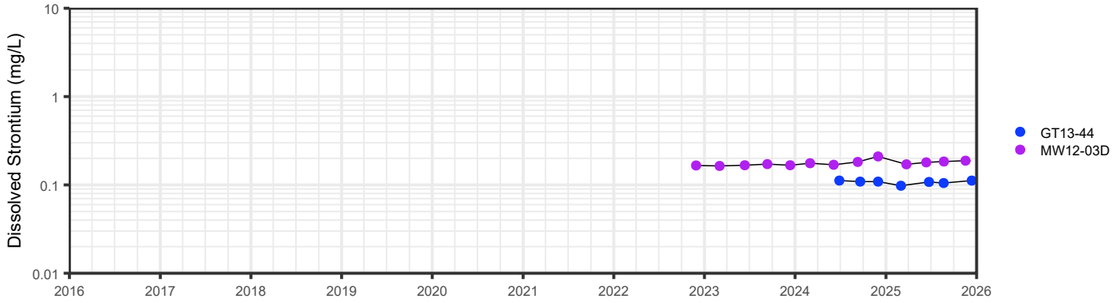
PLANT SITE AND RIBs



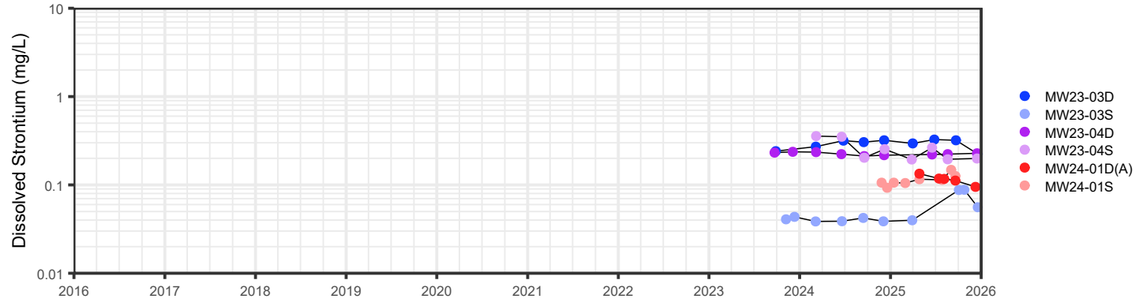
CAMP AREA

TSF AREA

DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED STRONTIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

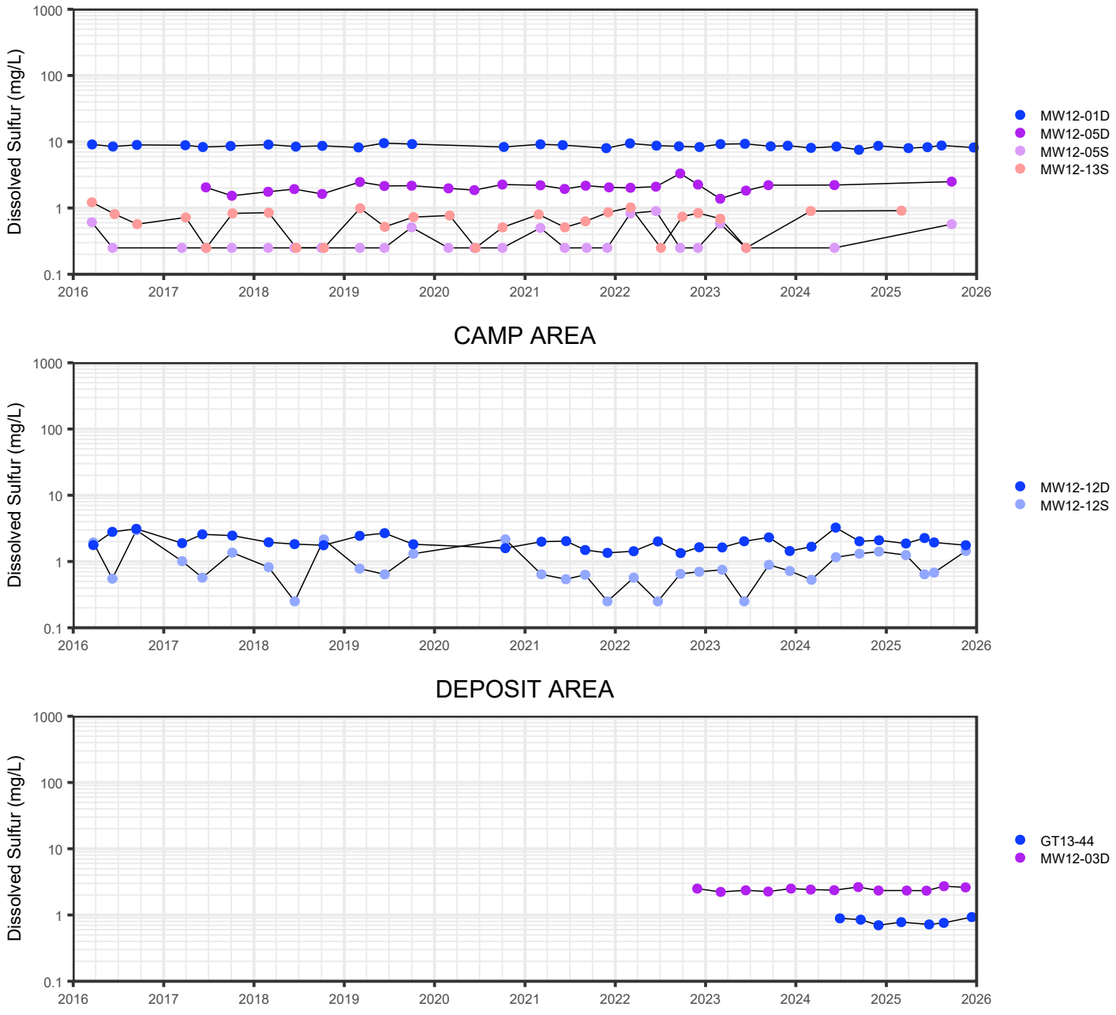
P/A NO. VA101-00457/62

REF NO. 2

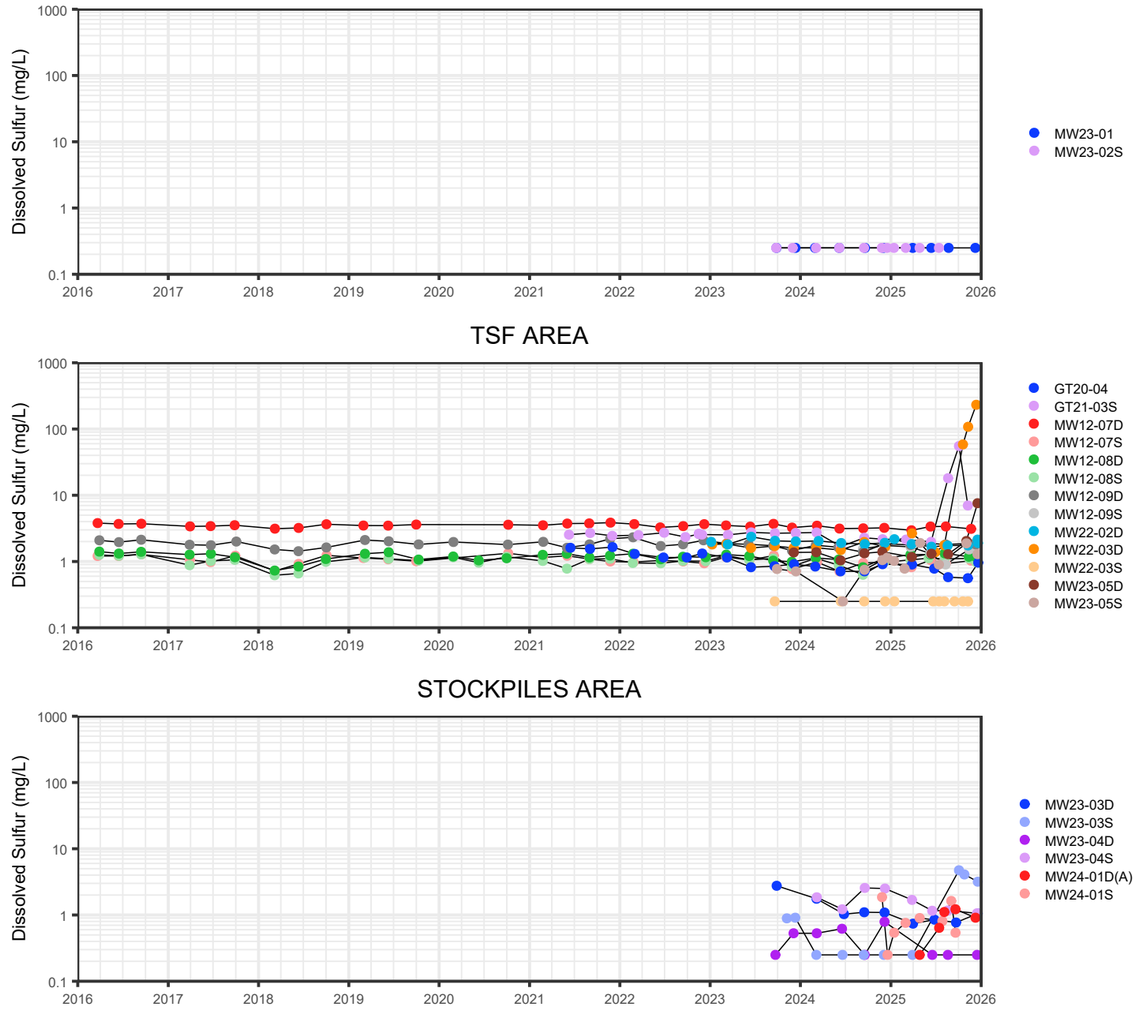
FIGURE G.38

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED SULFUR CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

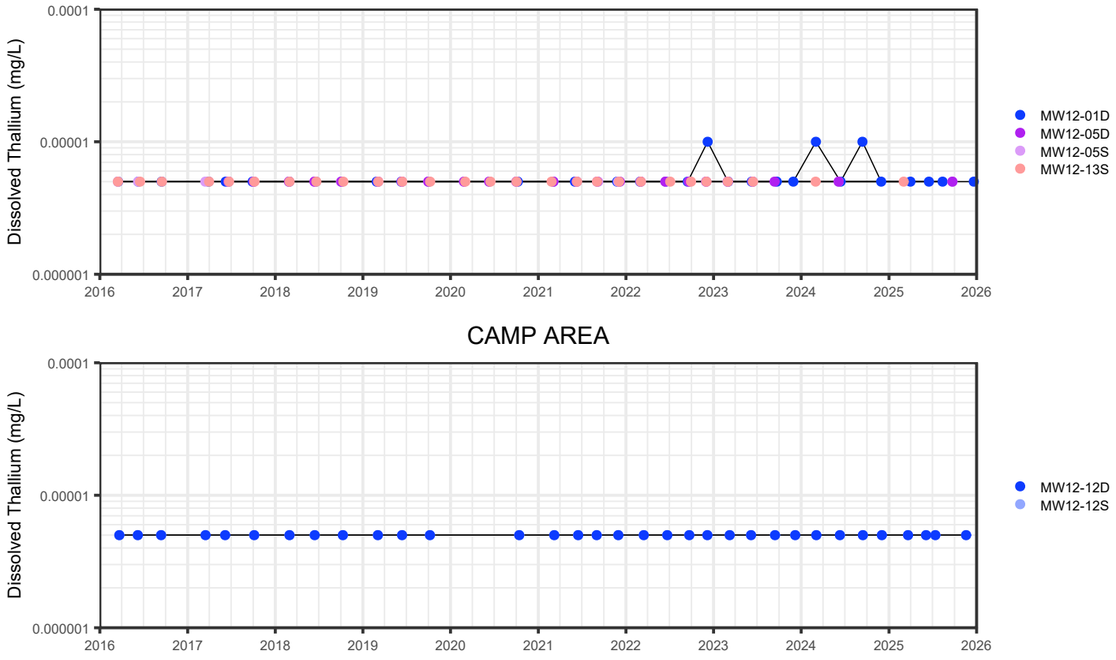
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

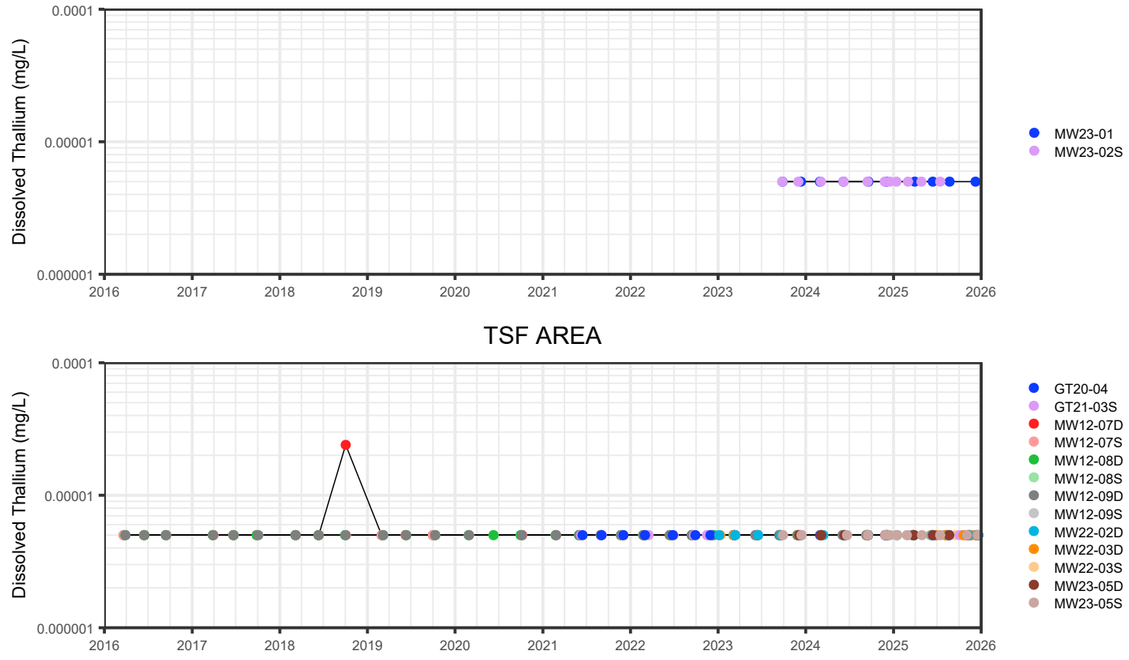
FIGURE G.39

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (THALLIUM: 0.003 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED THALLIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

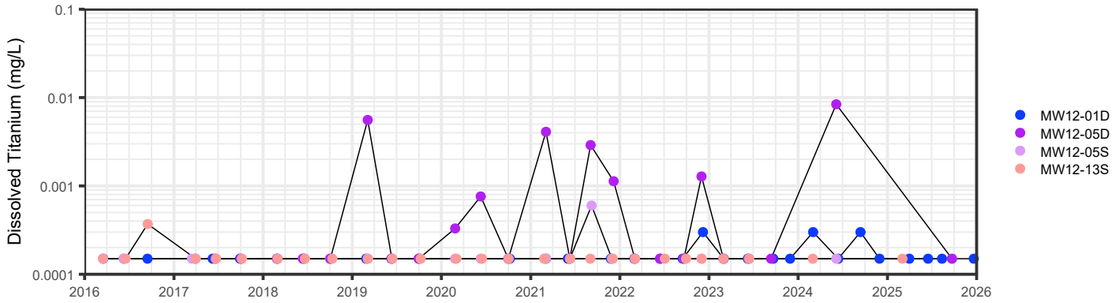
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

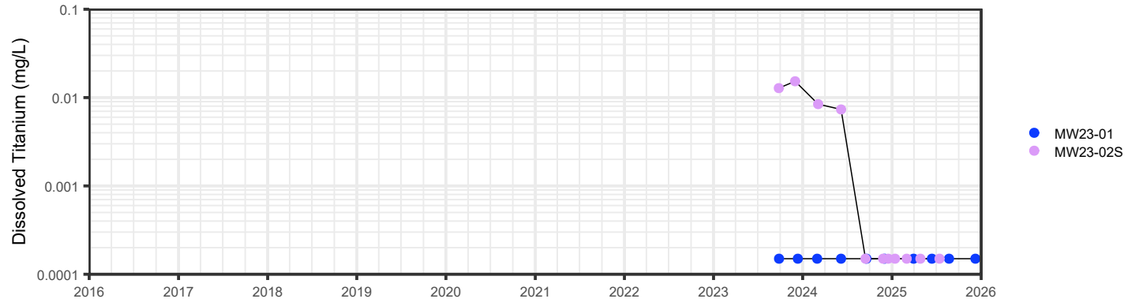
FIGURE G.40

Rev A

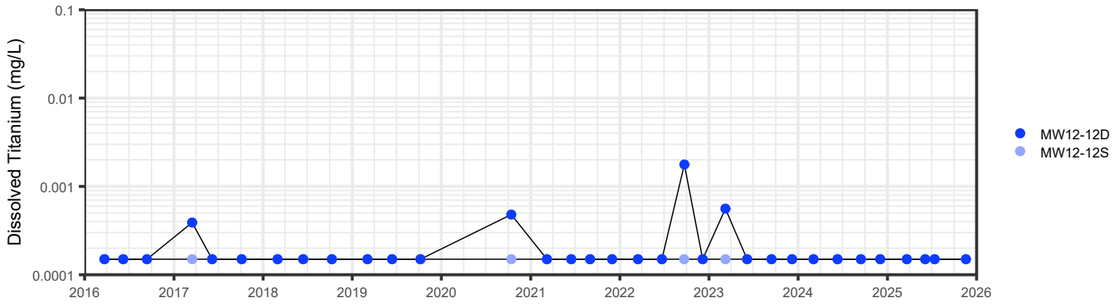
BACKGROUND



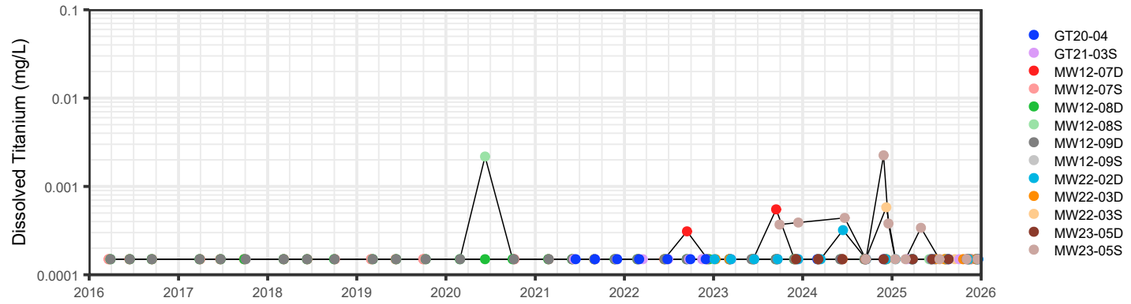
PLANT SITE AND RIBs



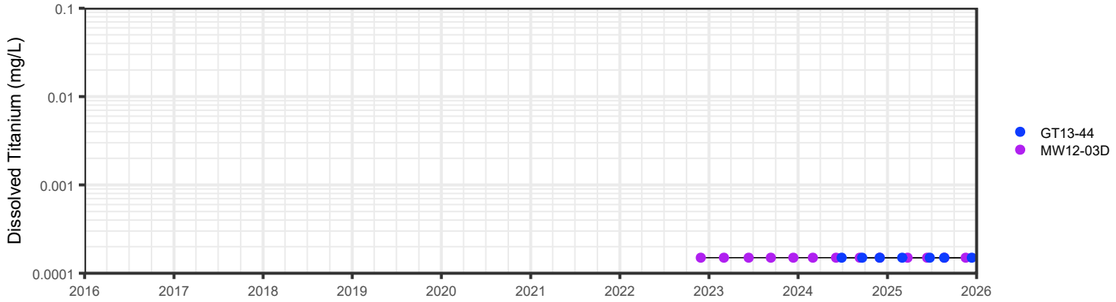
CAMP AREA



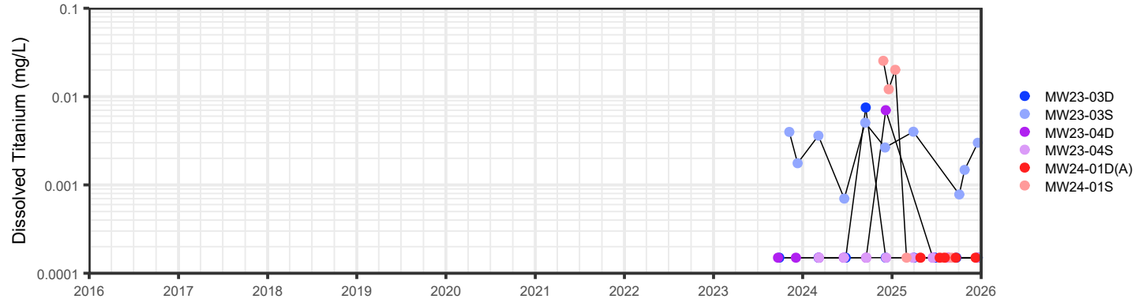
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (TITANIUM: 1 mg/L).
5. CONCENTRATIONS AT MW12-05D MAY BE INFLUENCED BY THE WELL PLUG INSTALLED AND ARE FLAGGED FOR FURTHER REVIEW.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED TITANIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

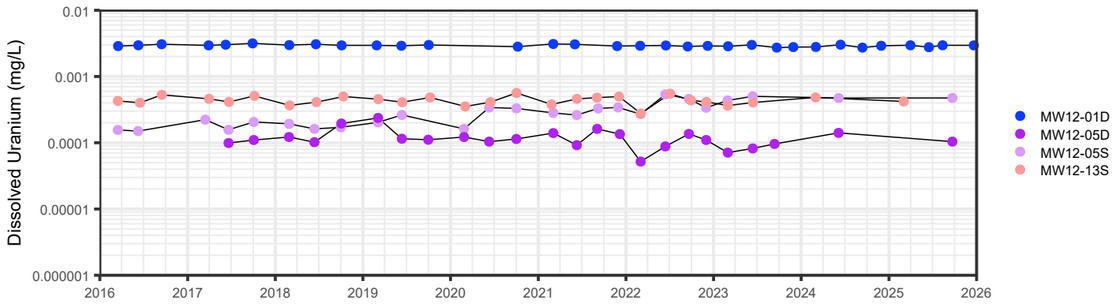
P/A NO. VA101-00457/62

REF NO. 2

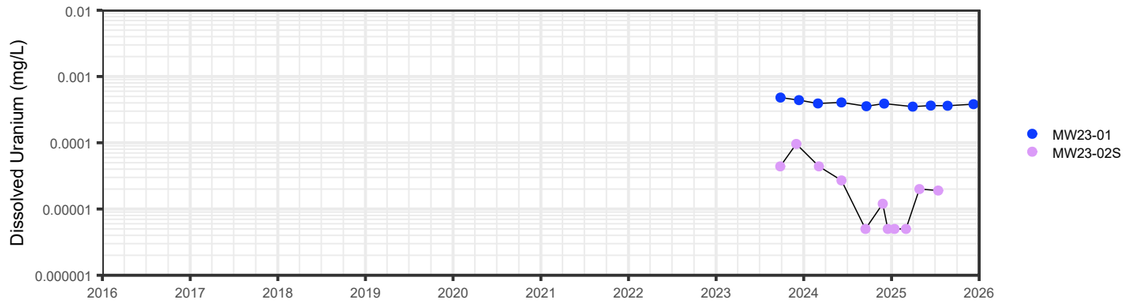
FIGURE G.41

Rev A

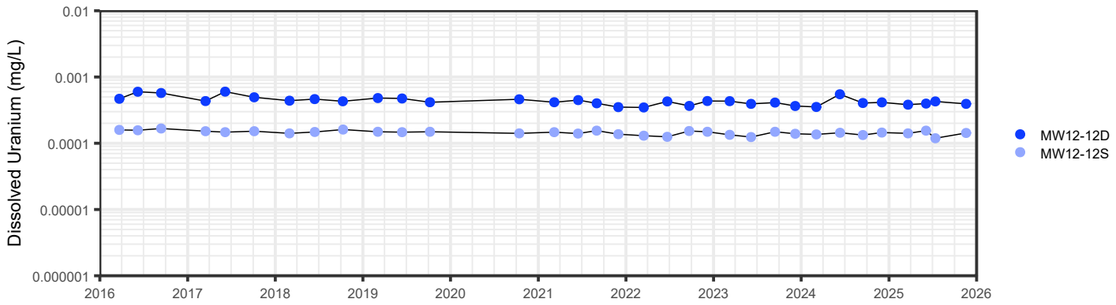
BACKGROUND



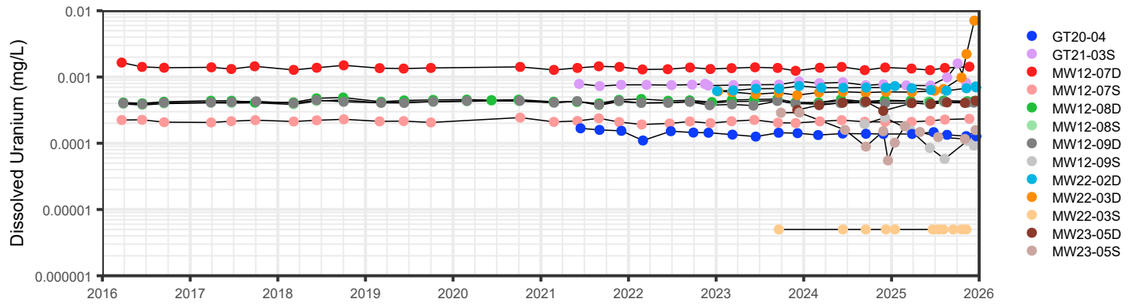
PLANT SITE AND RIBs



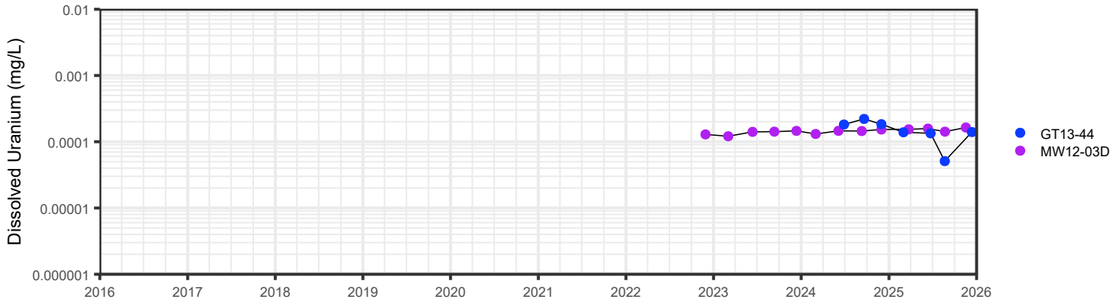
CAMP AREA



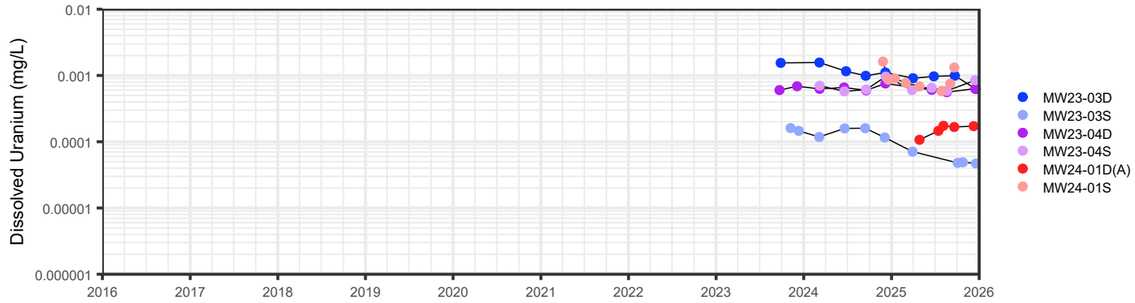
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (URANIUM: 0.085 mg/L).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED URANIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

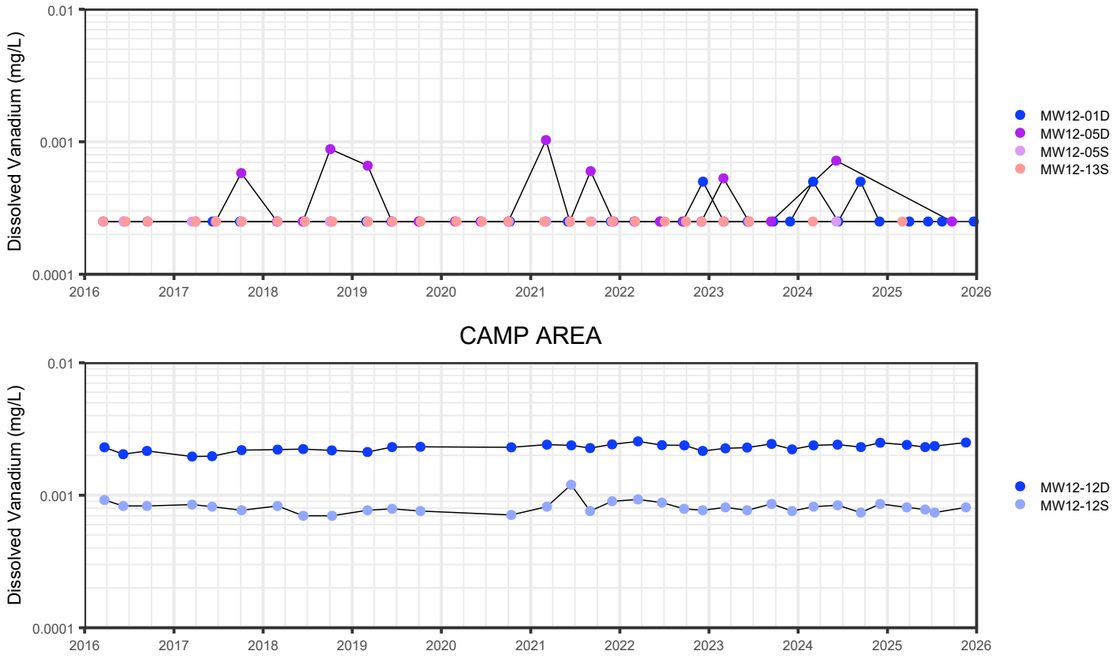
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

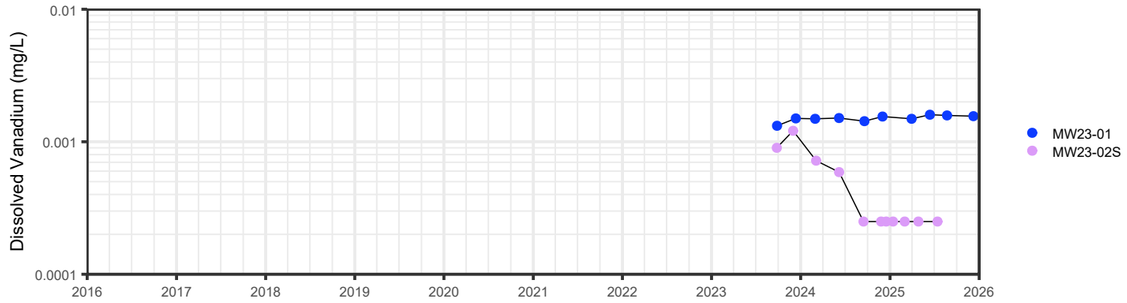
FIGURE G.42

Rev A

BACKGROUND

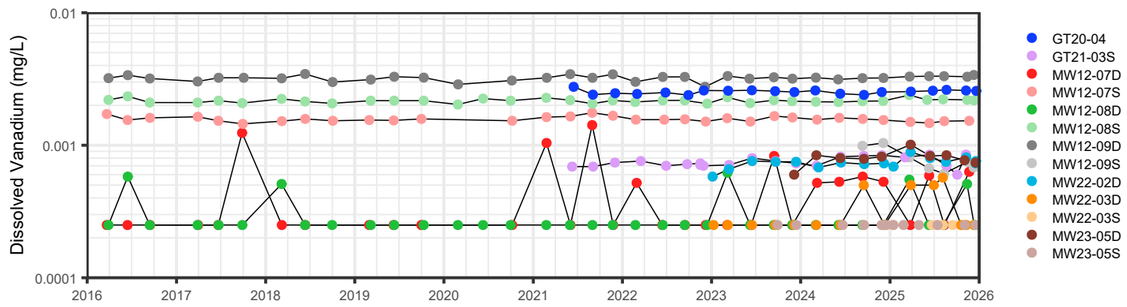


PLANT SITE AND RIBs

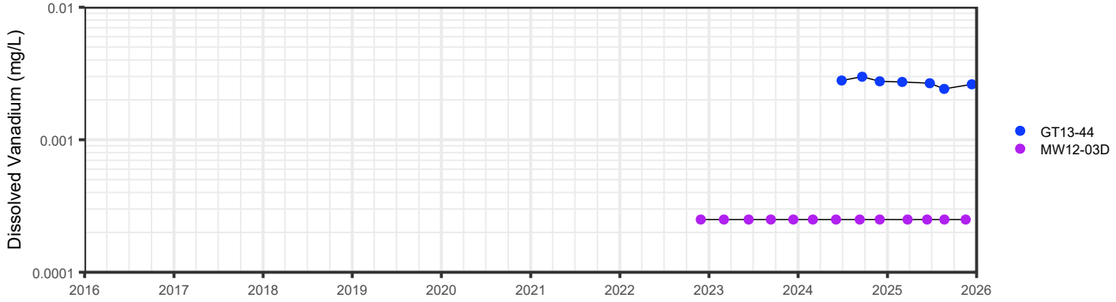


CAMP AREA

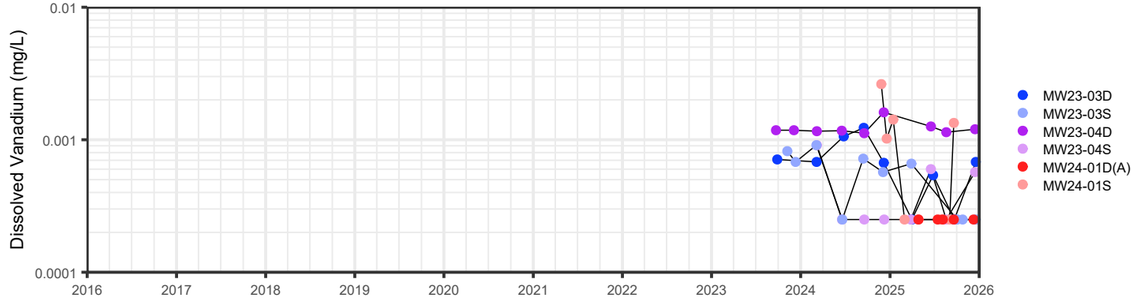
TSF AREA



DEPOSIT AREA



STOCKPILES AREA



NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. CONCENTRATIONS AT MW12-05D MAY BE INFLUENCED BY THE WELL PLUG INSTALLED AND ARE FLAGGED FOR FURTHER REVIEW.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED VANADIUM CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

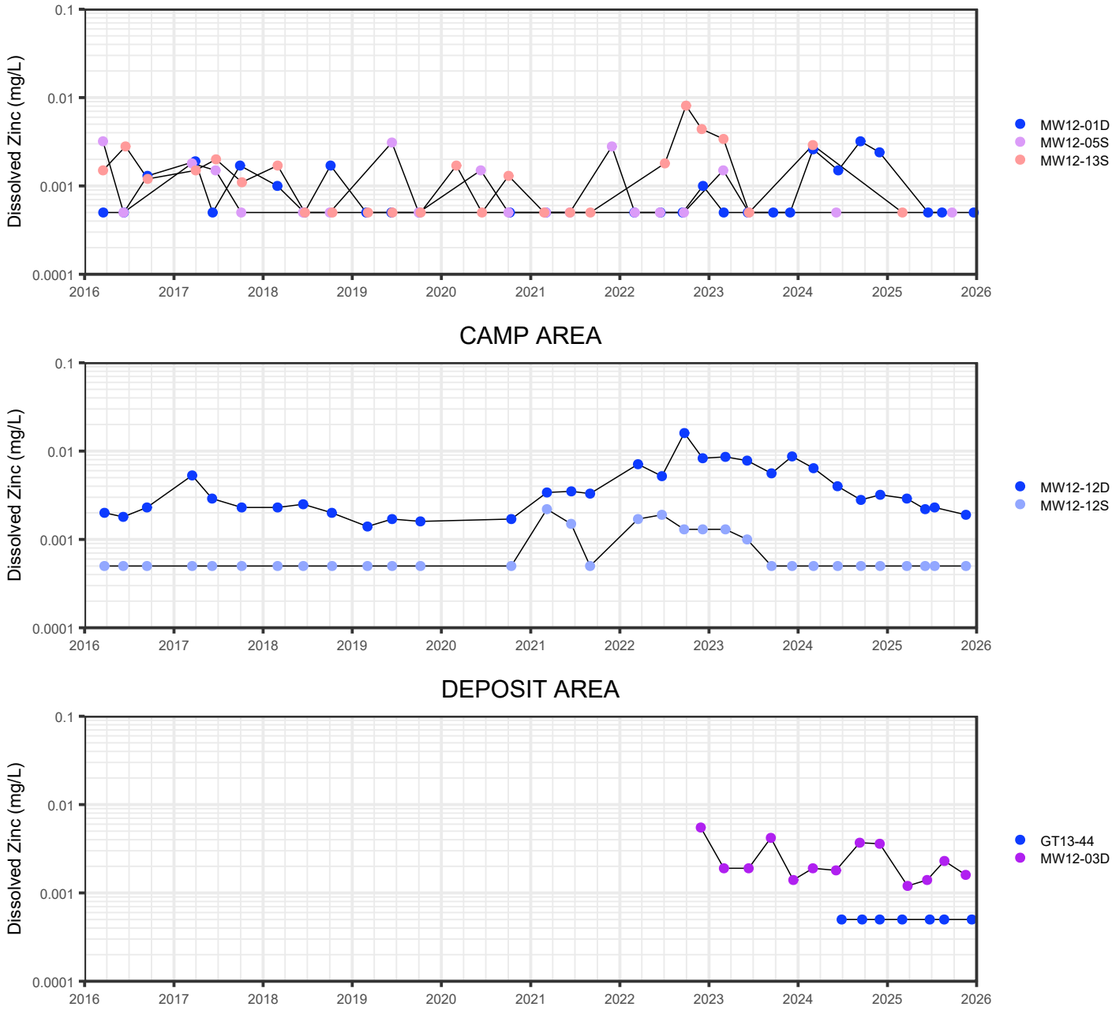
Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-00457/62	2

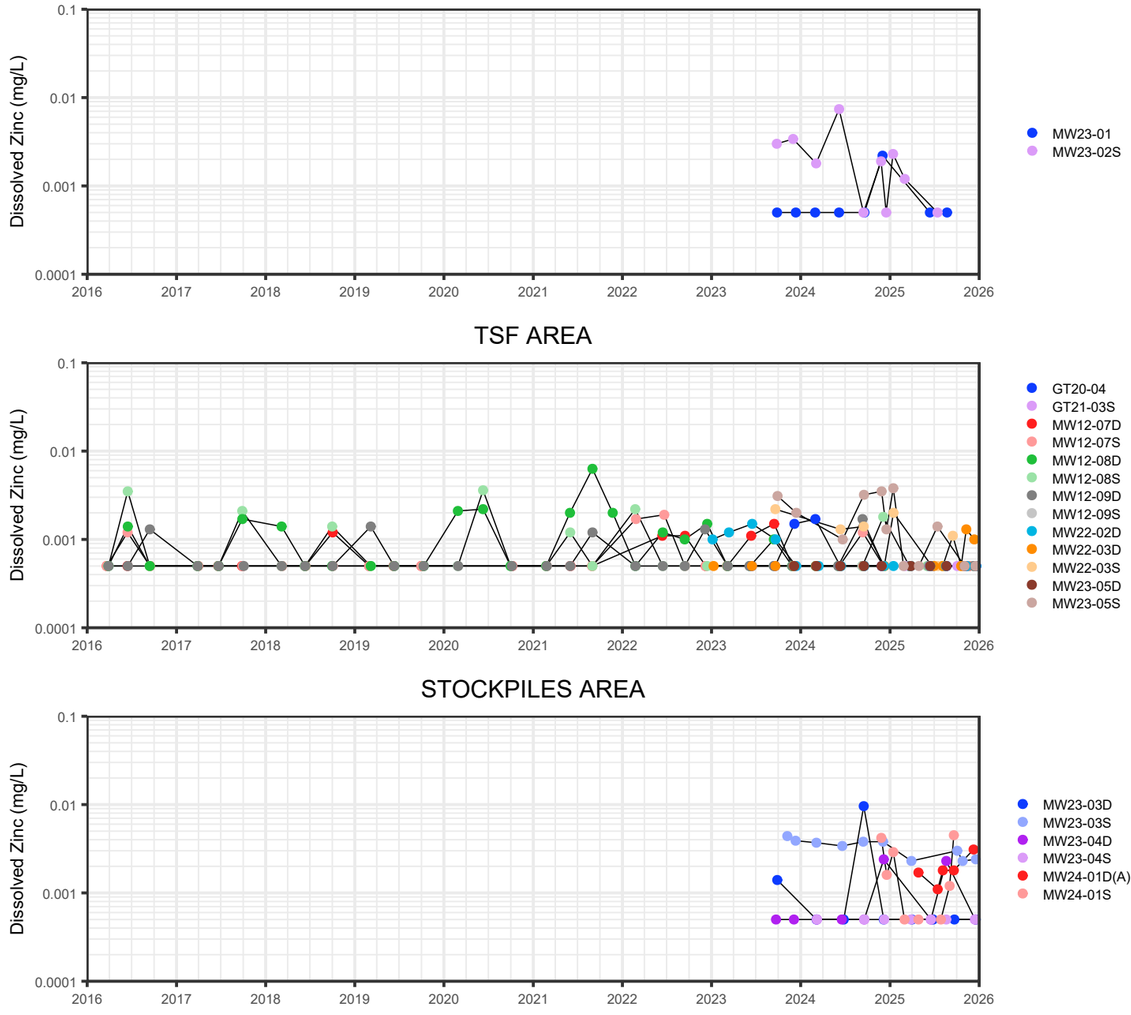
FIGURE G.43

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.
4. SCREENING CRITERIA APPLIED ARE THE CONTAMINATED SITES REGULATION (CSR) AQUATIC LIFE (AL) STANDARDS (ZINC: 0.075-3.40 mg/L).
5. THE CSR STANDARD IS HARDNESS DEPENDENT AND IS NOT SHOWN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED ZINC CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

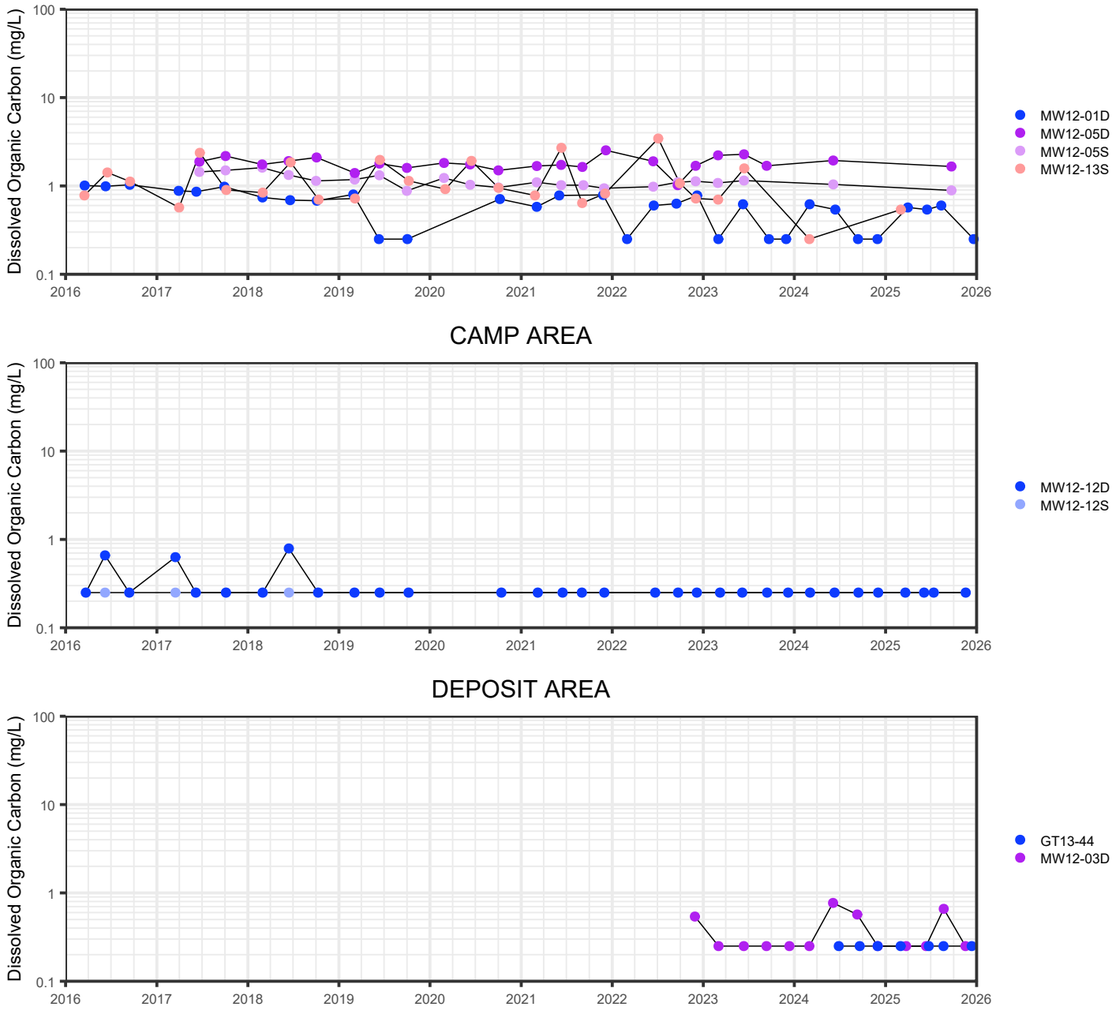
P/A NO. VA101-00457/62

REF NO. 2

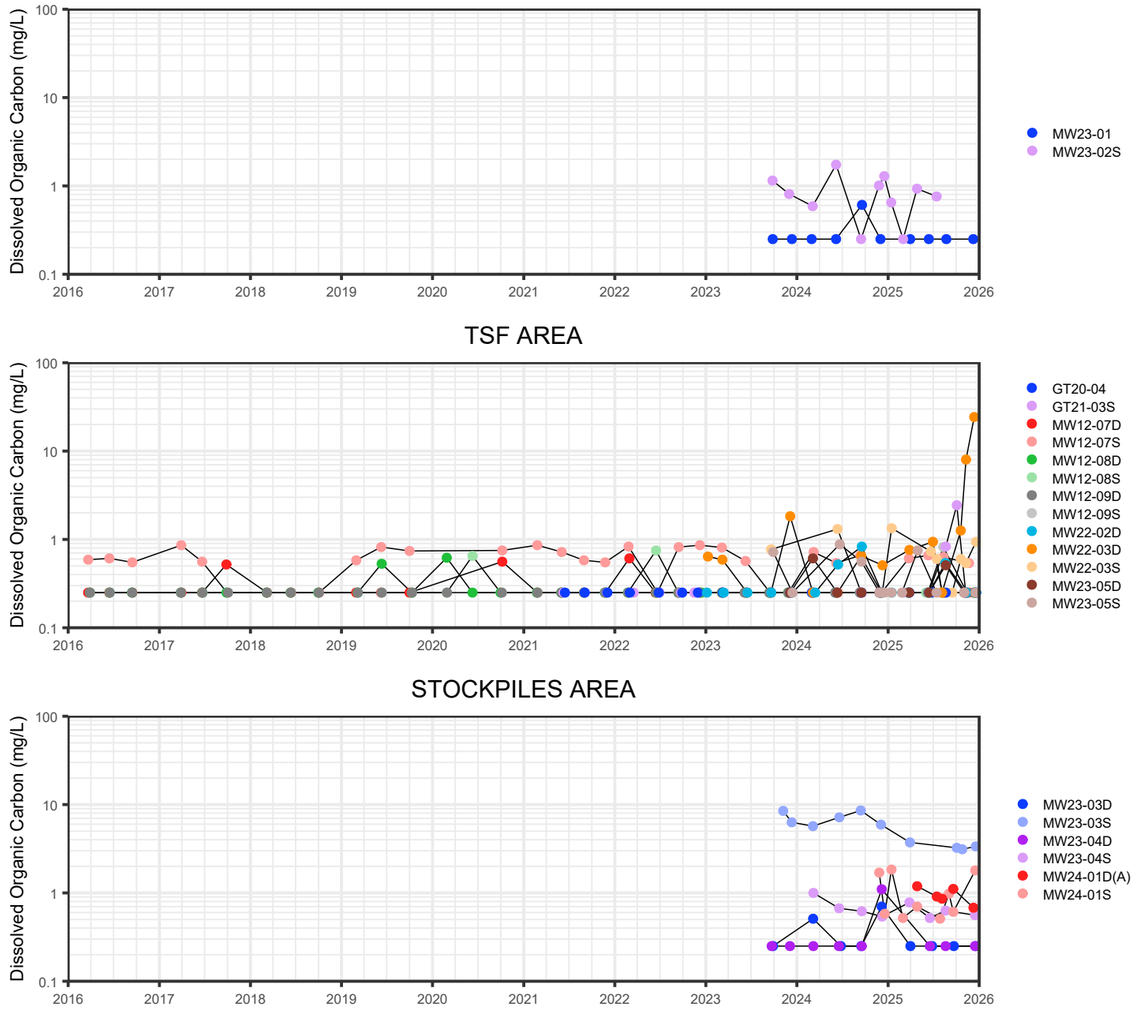
FIGURE G.44

Rev A

BACKGROUND



PLANT SITE AND RIBs



CAMP AREA

TSF AREA

DEPOSIT AREA

STOCKPILES AREA

NOTES:

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH KP'S REPORT TITLED "2025 ANNUAL REPORT - HYDROGEOLOGY" DATED MARCH 2026.
2. CONCENTRATIONS REPORTED BELOW THE METHOD DETECTION LIMIT (MDL) ARE SHOWN AT 1/2 THE MDL.
3. CONCENTRATIONS ARE SHOWN ON A LOGARITHMIC SCALE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	06MAR'26	ISSUED WITH REPORT	ACC	CAS

BW GOLD LTD.

BLACKWATER GOLD MINE

DISSOLVED ORGANIC CARBON CONCENTRATIONS AT GROUNDWATER MONITORING WELLS

Knight Piésold CONSULTING

P/A NO. VA101-00457/62

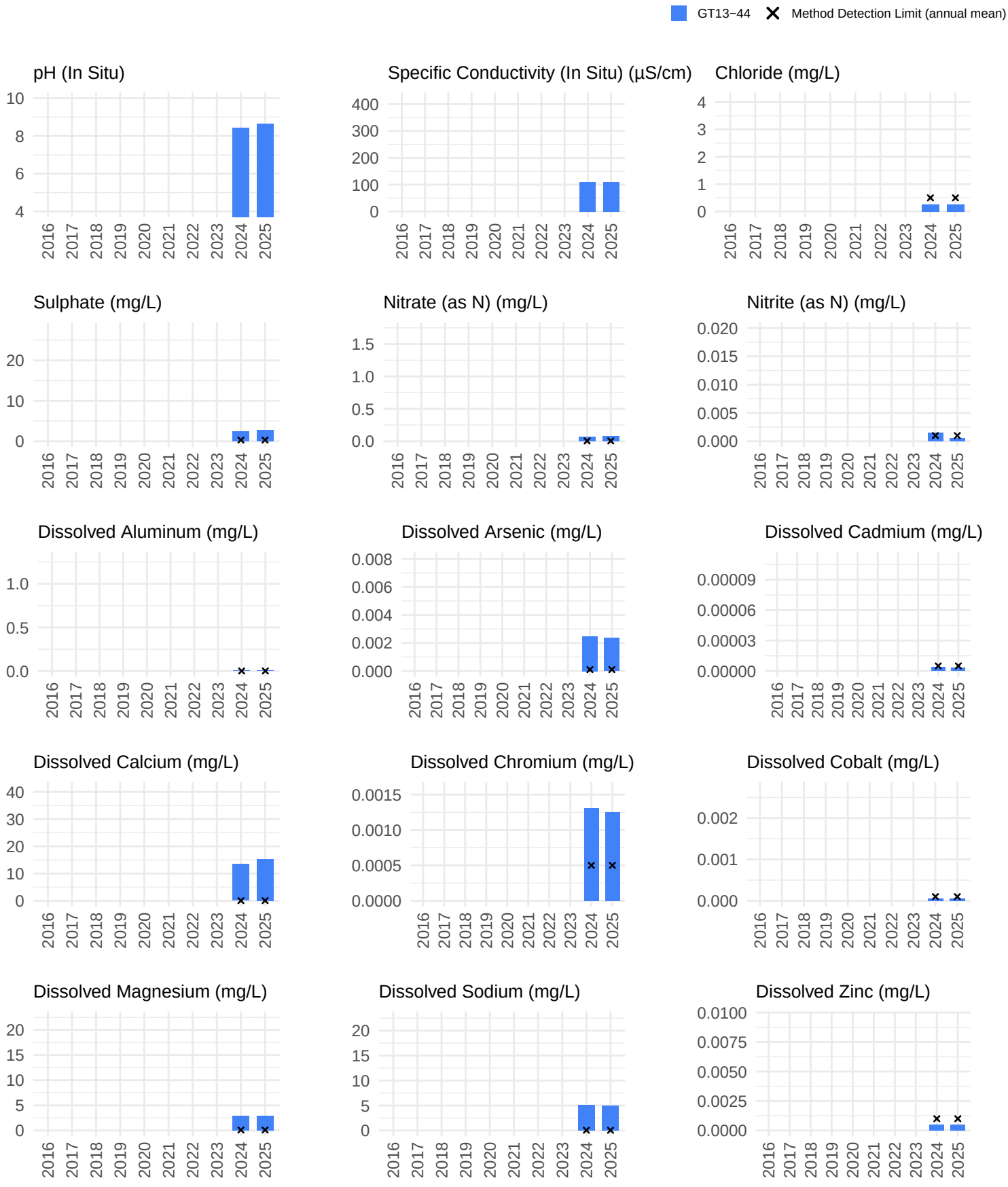
REF NO. 2

FIGURE G.45

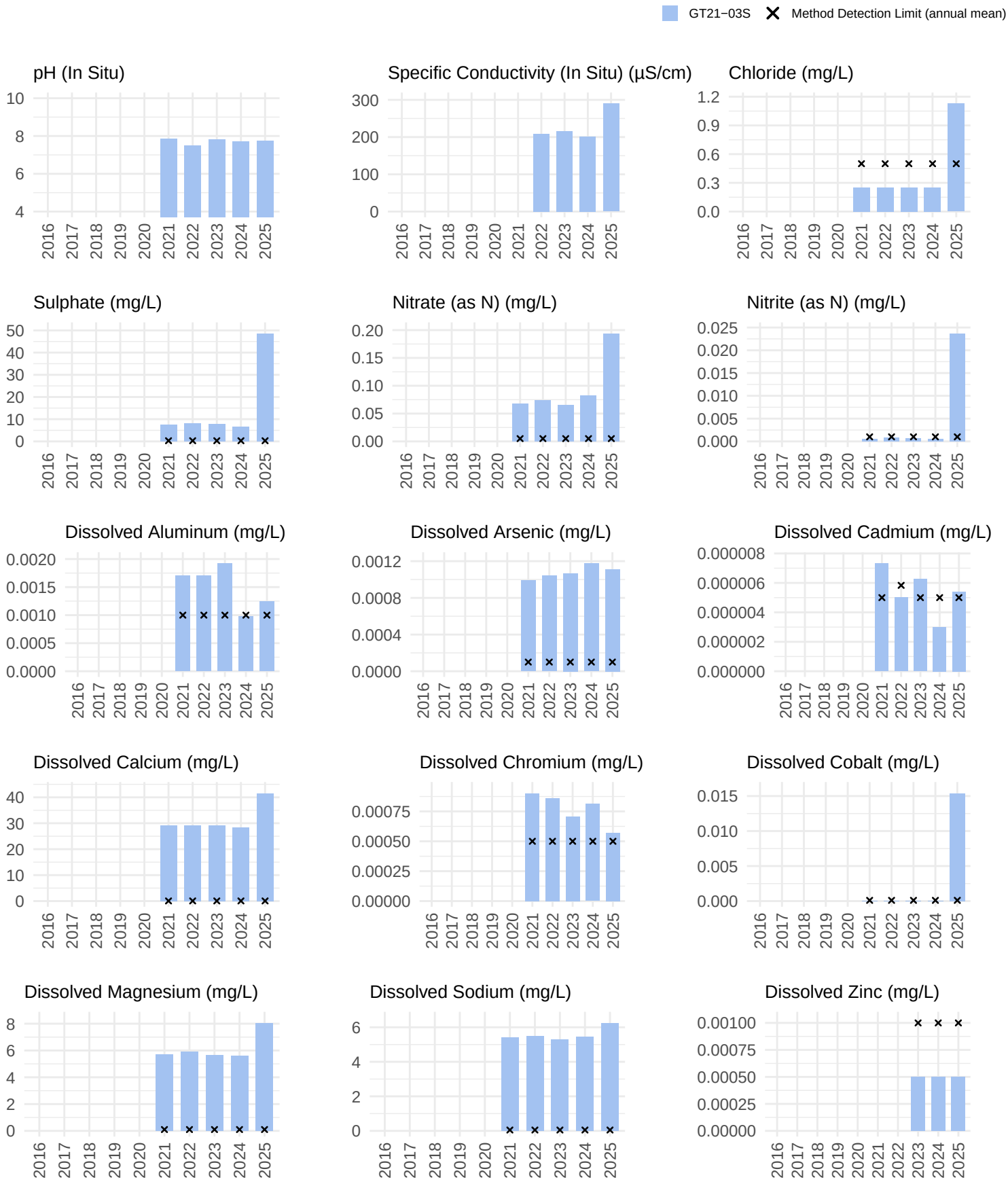
Rev A

Appendix G-2 Mean Annual Groundwater Quality Results

(Figures G1 to G19, as originally issued in *Blackwater Gold Mine – 2024 Annual Report – Hydrogeology* [KP 2026b])


GT13−44
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

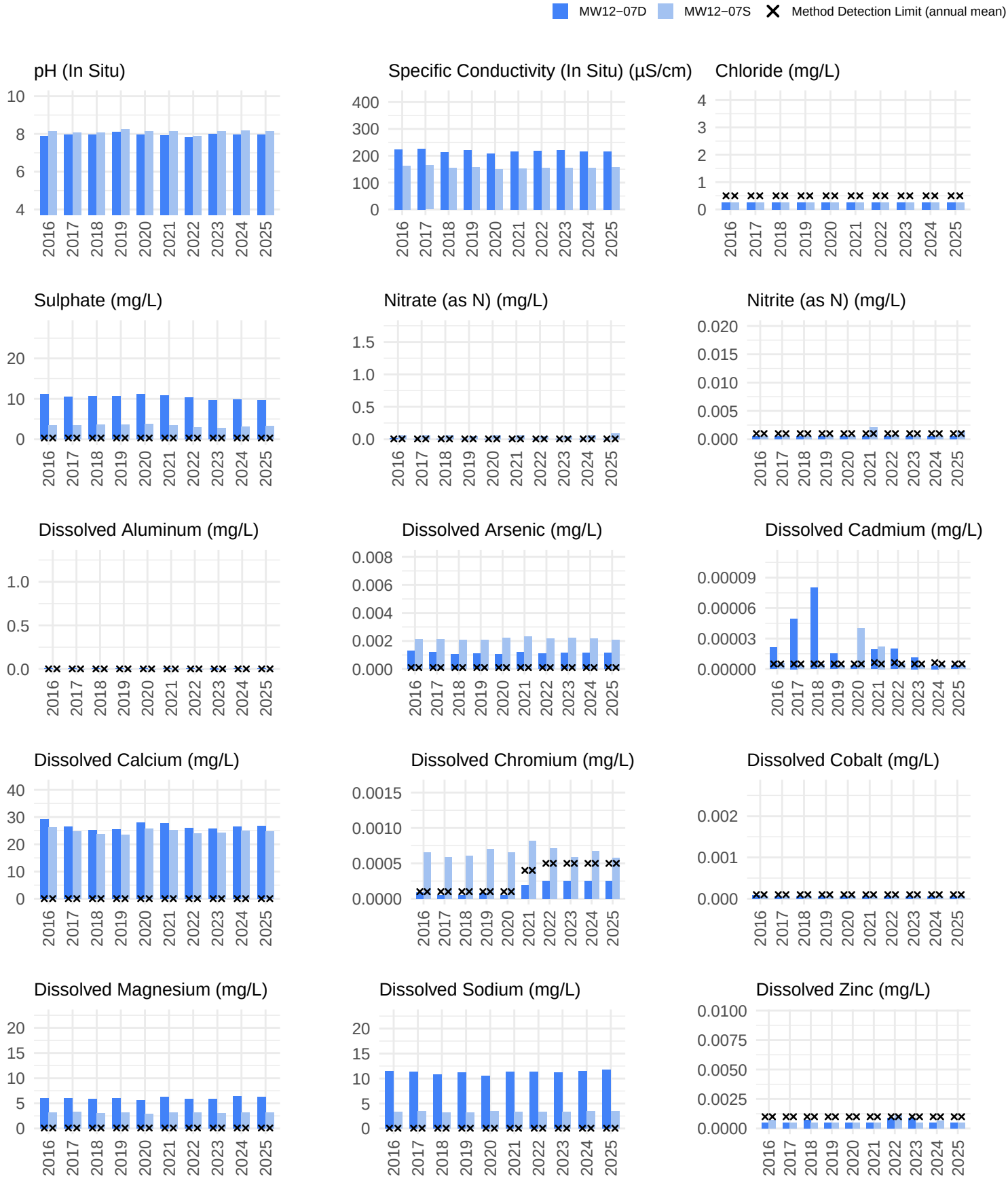
GT20−04
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)


GT21−03S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)

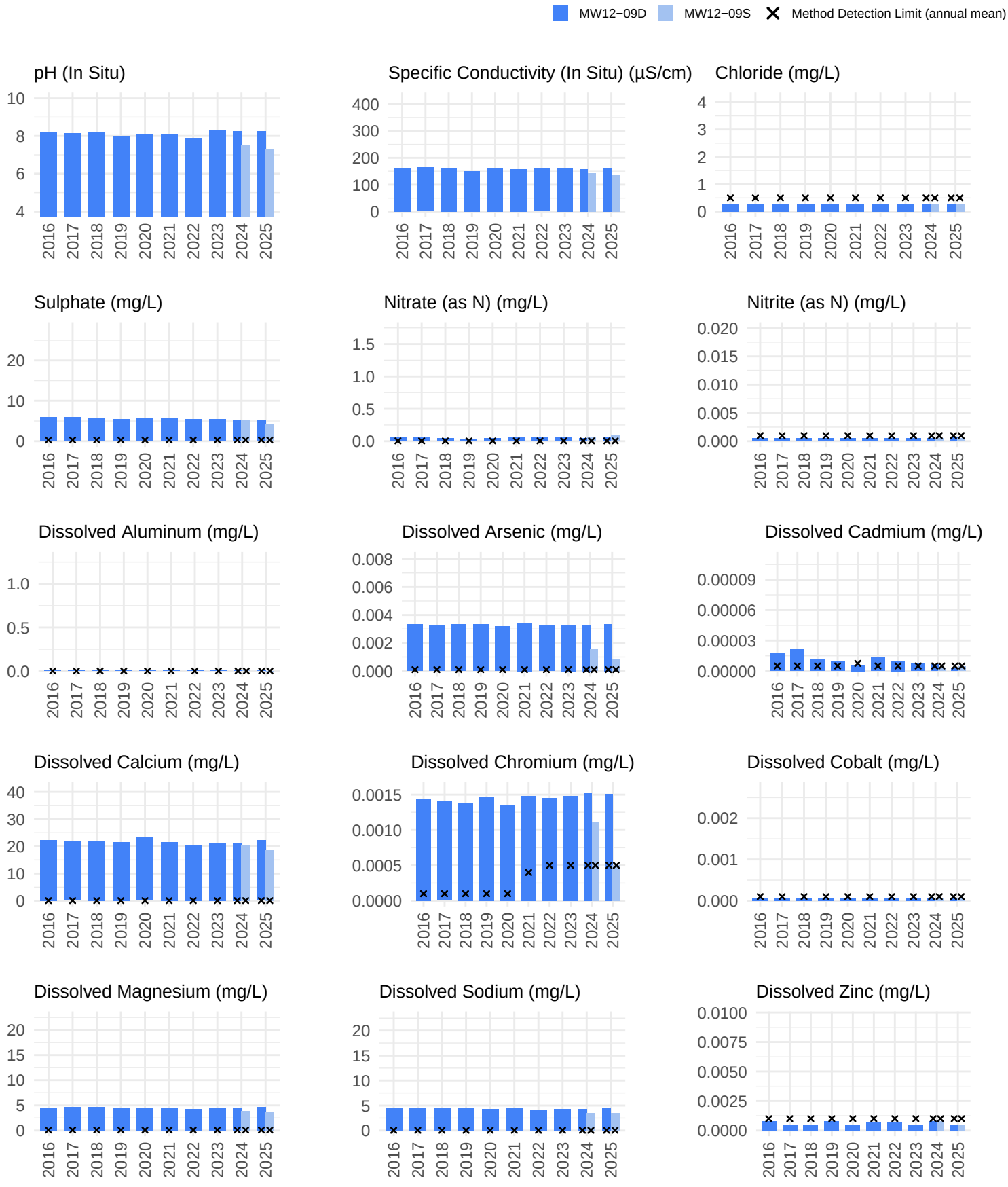
MW12−01D
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

MW12−03D
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

MW12−05D
MW12−05S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016 2017 2018 2019 2020 2021 2022 2023 2024 2025


MW12−07D
MW12−07S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

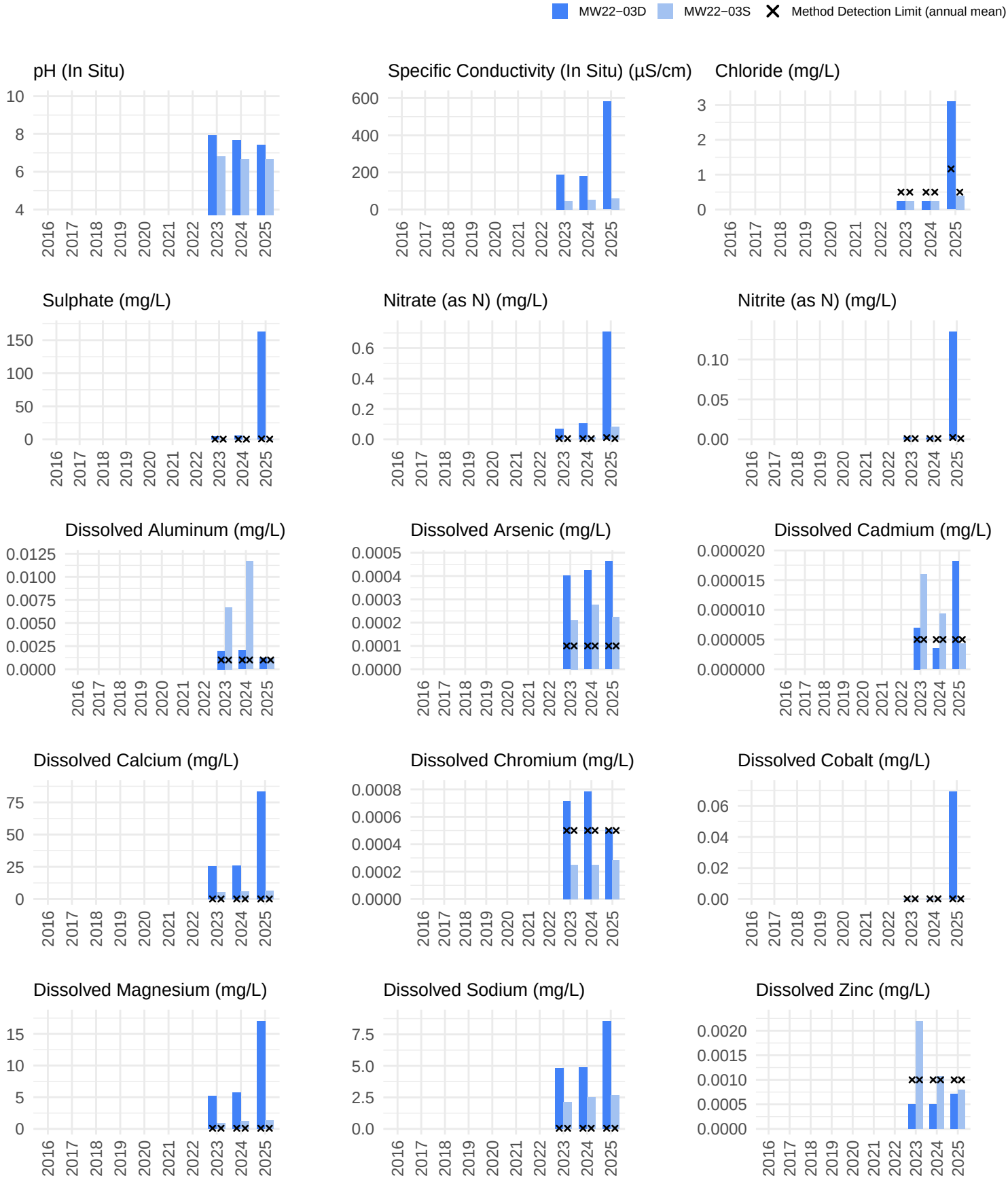
MW12−08D
MW12−08S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016 2017 2018 2019 2020 2021 2022 2023 2024 2025


MW12−09D
MW12−09S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

MW12−12D
MW12−12S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

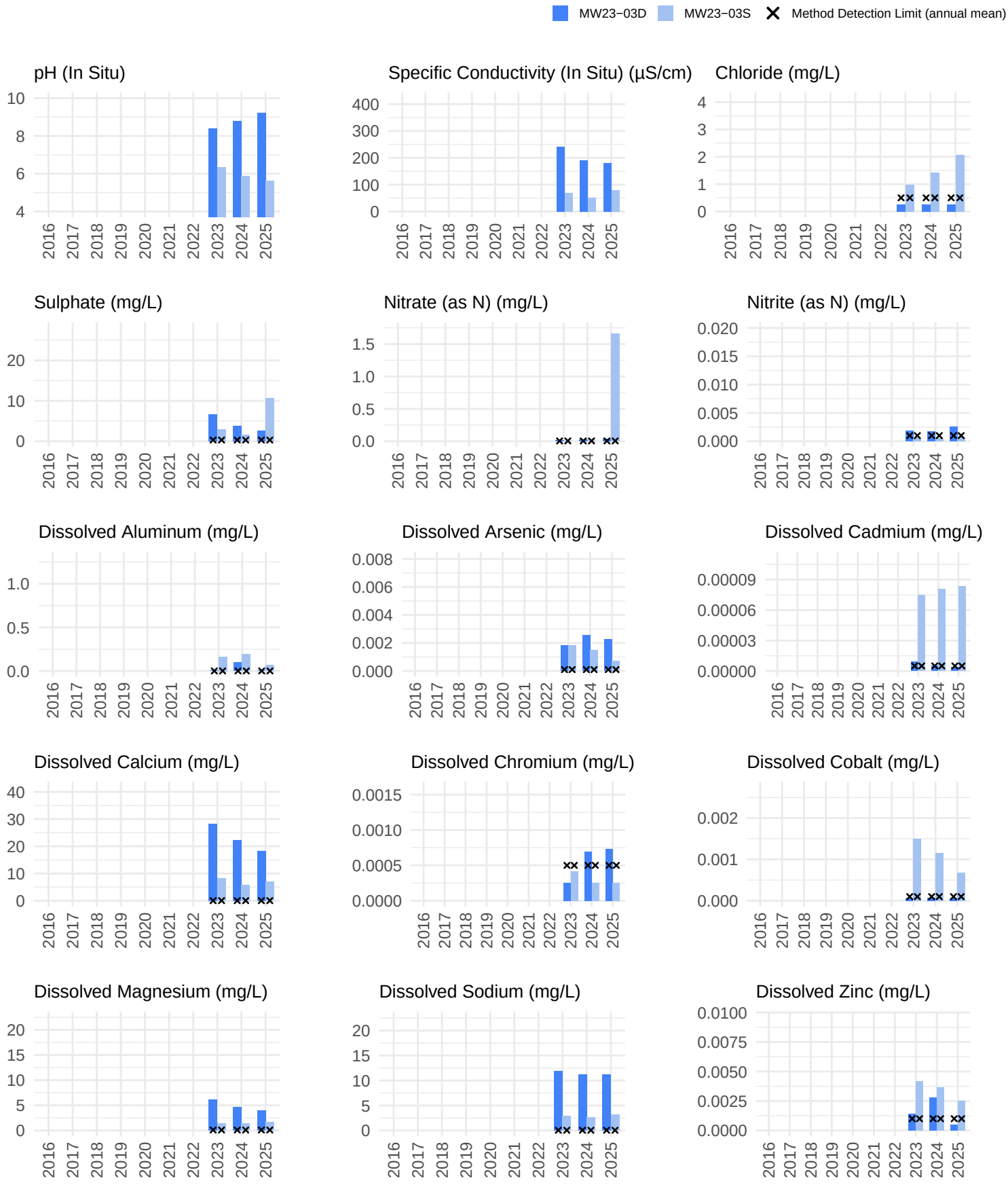
MW12−13S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

MW22−02D
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

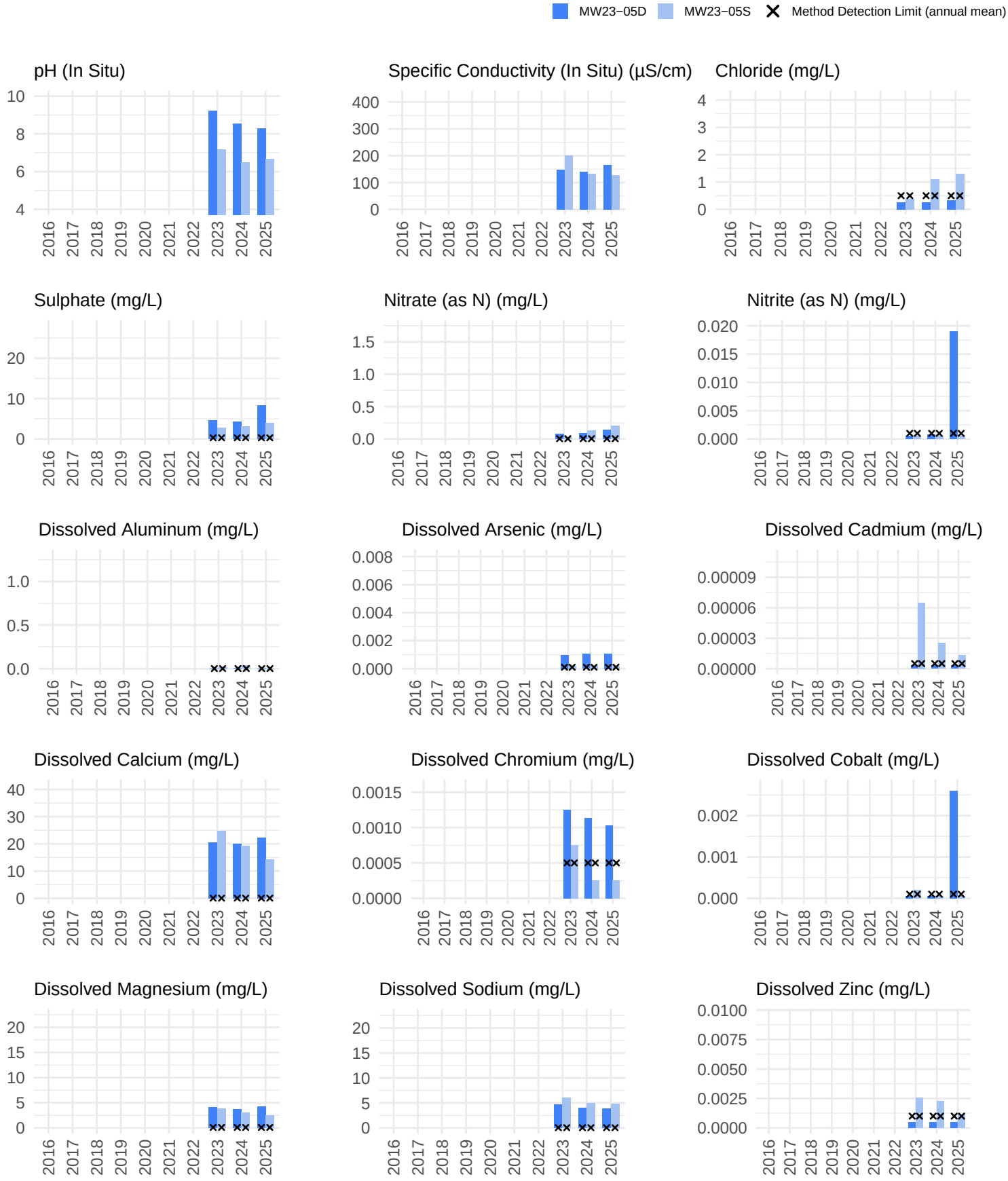

MW22−03D
MW22−03S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

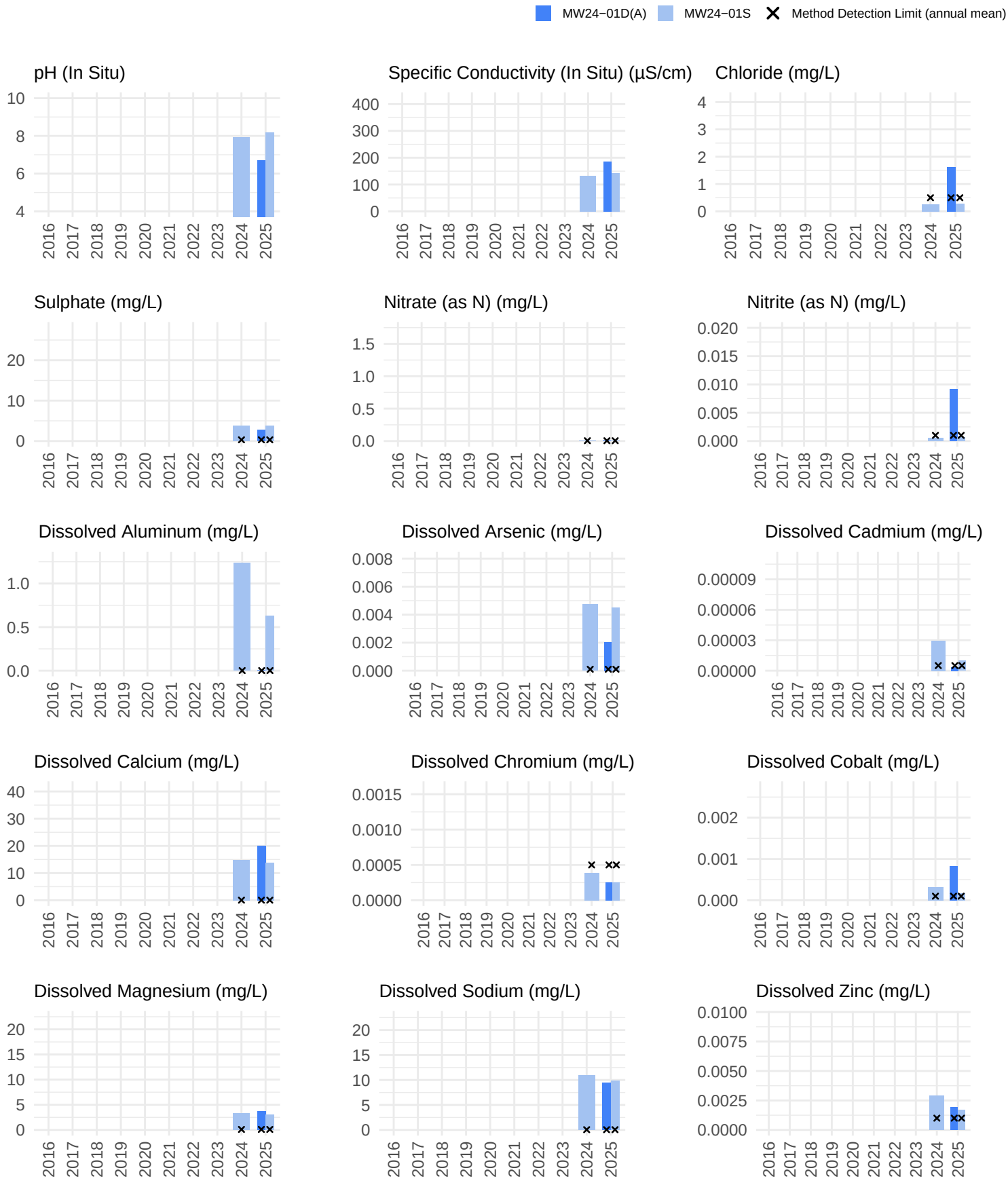
MW23−01
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

MW23−02S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025


MW23−03D
MW23−03S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

MW23−04D
MW23−04S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025


MW23−05D
MW23−05S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025


MW24−01D(A)
MW24−01S
Method Detection Limit (annual mean)
pH (In Situ)
Specific Conductivity (In Situ) (µS/cm)
Chloride (mg/L)
Sulphate (mg/L)
Nitrate (as N) (mg/L)
Nitrite (as N) (mg/L)
Dissolved Aluminum (mg/L)
Dissolved Arsenic (mg/L)
Dissolved Cadmium (mg/L)
Dissolved Calcium (mg/L)
Dissolved Chromium (mg/L)
Dissolved Cobalt (mg/L)
Dissolved Magnesium (mg/L)
Dissolved Sodium (mg/L)
Dissolved Zinc (mg/L)
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

Appendix H Groundwater Quality Results

Appendix H-1: Groundwater Quality Sample Results

Appendix H-2: Groundwater Quality Sample Summary Statistics

Appendix H-3: Summary of Groundwater Quality Standards

Appendix H-4: Comparison of TSF C Predicted Seepage Concentrations and Observed Groundwater Quality Concentrations

Appendix H-1 Groundwater Quality Sample Results

Knight Piésold CONSULTING

TABLE H-1.1

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 FOLLOW-UP PROGRAMS FOR CONDITION 3.15
GROUNDWATER QUALITY RESULTS

| Sample_ID | | UNA7502-25 | UNA8741-25 | UNA7503-25 | UNA8287-25 | UNA8343-25 | UNA8384-25 | UNJC1709-25 | UNJC1128-25 | UNJC1567-25 | UNA7256-25 | UNA8419-25 | UNA7210-25 | UNJC1803-25 | UNJC1803-25 | UNA7467-25 | UNA8361-25 | UNJC1215-25 | UNJC1855-25 | UNJC1807-25 | UNJC0151-25 | UNJC0282-25 | UNJB9987-25 | UNJC0588-25 | UNA7254-25 | UNJC0151-25 | UNA8439-25 | UNJB9998-25 | UNJC0588-25 | UNJB9998-25 | UNJC0588-25 | UNA7254-25 | UNJB9998-25 | UNJC0588-25 | UNA7254-25 | UNJB9998-25 | UNJC0588-25 | UNJC1709-25 | UNJC1128-25 | UNJC1567-25 | UNA7256-25 | UNA8419-25 | UNJC1803-25 | UNJC1803-25 | UNA7467-25 | UNA8361-25 | UNJC1215-25 | UNJC1855-25 | UNJC1807-25 | UNJC0151-25 | UNJC0282-25 | UNJB9987-25 | UNJC0588-25 | UNA7254-25 | UNJC0151-25 | UNA8439-25 | UNJB9998-25 | UNJC0588-25 | UNJB9998-25 | UNJC0588-25 | UNA7254-25 | UNJB9998-25 | UNJC0588-25 | UNA7254-25 | UNJB9998-25 | UNJC0588-25 | UNJC1709-25 | UNJC1128-25 | UNJC1567-25 | UNA7256-25 | UNA8419-25 | UNJC1803-25 | UNJC1803-25 | UNA7467-25 | UNA8361-25 | UNJC1215-25 | UNJC1855-25 | UNJC1807-25 | UNJC0151-25 | UNJC0282-25 | UNJB9987-25 | UNJC0588-25 | UNA7254-25 | UNJC0151-25 | UNA8439-25 | UNJB9998-25 | UNJC0588-25 | UNJB9998-25 | UNJC0588-25 | UNA7254-25 | UNJB9998-25 | UNJC0588-25 | UNA7254-25 | UNJB9998-25 | UNJC0588-25 |
|---|---|---

Knight Piésold CONSULTING

| Sample ID | | UNZ0152-202 | UNZ0427-005 | UNZ0489-001 | UNZ0721-001 | UNZ0850-001 | UNZ0850-002 | UNZ0850-003 | UNZ0850-004 | UNZ0850-005 | UNZ1159-001 | UNZ0152-001 | UNZ0152-002 | UNZ0152-003 | UNZ0350-001 | UNZ0350-002 | UNZ0350-003 | UNZ0350-004 | UNZ0350-005 | UNZ0350-006 | UNZ0350-007 | UNZ0350-008 | UNZ0350-009 | UNZ0350-010 | UNZ0350-011 | UNZ0350-012 | UNZ0350-013 | UNZ0350-014 | UNZ0350-015 | UNZ0350-016 | UNZ0350-017 | UNZ0350-018 | UNZ0350-019 | UNZ0350-020 |

Appendix H-2 Groundwater Quality Sample Summary Statistics

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 1 MW12-01D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	251	272	256	250	4	0	0	256	276	303	306
Oxygen Dissolved (In Situ %) %	-	11	24	2.9	31	3	0	0	0.01	4.5	10	11
pH (In Situ) pH	-	7.7	7.9	7.8	7.7	4	0	0	7.5	7.7	7.8	7.8
Redox Potential (In Situ) mV	-	-3.6	150	-95	-67	4	0	0	-121	-56	-15	-14
Salinity (In Situ) ppt	-	0.19	0.19	0.18	0.15	3	0	0	0.19	0.2	0.21	0.21
Specific Conductivity (In Situ) µS/cm	-	386	403	386	376	4	0	0	352	393	425	429
Temperature (In Situ) °C	-	6.6	9	7.3	7.4	4	0	0	5.9	9.7	13	14
Total Dissolved Solids (In Situ)	-	252	262	251	211	3	0	0	253	264	276	278
Turbidity (In Situ) NTU	-	1	2.9	3.2	3.3	4	0	0	1.8	3.7	5.5	5.6
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	4	0	4	1	1	1	1
Alkalinity (Total as CaCO3)	1	192	203	192	191	4	0	0	187	190	192	192
Alkalinity/ Bicarbonate as CaCO3	1	190	201	182	184	4	0	0	181	184	187	187
Alkalinity/ Carbonate as CaCO3	1	2.6	9.7	9.9	6.6	4	0	1	0.5	5.7	7.9	8
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8.3	8.4	8.4	8.4	4	0	0	8.2	8.4	8.4	8.4
Specific Conductivity µS/cm	2	383	397	387	387	4	0	0	374	382	390	391
Total Dissolved Solids	20	230	242	217	223	4	0	0	194	237	278	284
Turbidity NTU	0.1	1.7	2.7	2.8	2.3	4	0	0	1.6	2.6	3.6	3.8
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.09	0.096	0.082	0.085	4	0	0	0.07	0.081	0.09	0.091
Sulphate (Dissolved)	0.3	26	27	25	25	4	0	0	24	25	26	26
Nutrients												
Ammonia (Dissolved)	0.005	0.018	0.026	0.026	0.023	4	0	0	0.013	0.016	0.018	0.018
Ammonia (Total)	0.005	0.018	0.034	0.025	0.023	4	0	0	0.012	0.021	0.031	0.033
Nitrate (as N)	0.005	0.0058	0.021	0.0025	0.0046	4	0	3	0.0025	0.0057	0.013	0.015
Nitrate+Nitrite (Dissolved)	0.0051	0.0026	0.0026	0.0026	0.0046	4	0	3	0.0026	0.0058	0.013	0.015
Nitrite (as N)	0.001	0.00063	0.0013	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.037	0.073	0.02	0.055	4	0	1	0.015	0.049	0.064	0.065
Nitrogen (Total)	0.03	0.04	0.08	0.034	0.057	4	0	2	0.015	0.033	0.054	0.055
Nitrogen Kjeldahl (Total)	0.05	0.036	0.079	0.035	0.054	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	0.03	0.034	0.03	0.024	4	0	0	0.027	0.032	0.04	0.042
Phosphorus (Nutrient) Dissolved	0.002	0.053	0.061	0.06	0.053	4	0	0	0.05	0.058	0.071	0.073
Phosphorus (Nutrient) Total	0.002	0.06	0.074	0.066	0.064	4	0	0	0.064	0.073	0.09	0.094
Total Inorganic Nitrogen	0.025	-	-	-	0.03	3	0	2	0.013	0.019	0.031	0.033
Cyanide												
Cyanate	0.2	0.11	0.11	0.12	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0031	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0031	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0031	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyanate (SCN)	0.5	0.28	0.28	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0027	0.0035	0.0064	0.0033	4	0	0	0.0022	0.0026	0.0028	0.0028
Antimony (Dissolved)	0.0001	0.000060	0.00012	0.000050	0.000075	4	0	2	0.000050	0.000095	0.00016	0.00017
Arsenic (Dissolved)	0.0001	0.00093	0.0011	0.00087	0.001	4	0	0	0.00087	0.001	0.0013	0.0013
Barium (Dissolved)	0.0001	0.049	0.053	0.049	0.048	4	0	0	0.048	0.049	0.049	0.049
Beryllium (Dissolved)	0.00002	0.000011	0.000011	0.000010	0.000015	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000026	0.000026	0.000025	0.000038	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.0053	0.0053	0.005	0.0075	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	0.0000079	0.000018	0.0000035	0.0000050	4	0	3	0.0000030	0.0000042	0.0000072	0.0000080
Calcium (Dissolved)	0.05	33	34	33	34	4	0	0	32	33	34	34
Chromium (Dissolved)	0.0005	0.00013	0.00025	0.00025	0.00038	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	0.00015	0.0002	0.000095	0.00015	4	0	0	0.00018	0.00019	0.0002	0.0002
Copper (Dissolved)	0.0002	0.00012	0.00021	0.0001	0.00015	4	0	3	0.0001	0.00021	0.00046	0.00052
Iron (Dissolved)	0.01	0.24	0.28	0.29	0.19	4	0	0	0.15	0.22	0.29	0.3
Lead (Dissolved)	0.00005	0.000026	0.000026	0.000025	0.000038	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.025	0.027	0.025	0.025	4	0	0	0.024	0.025	0.027	0.027
Magnesium (Dissolved)	0.1	21	21	21	21	4	0	0	21	21	22	22
Manganese (Dissolved)	0.0001	0.22	0.29	0.19	0.18	4	0	0	0.17	0.19	0.21	0.22
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0053	0.0055	0.0051	0.0053	4	0	0	0.0055	0.0055	0.0056	0.0056
Nickel (Dissolved)	0.0005	0.00029	0.00051	0.00042	0.00038	4	0	2	0.00025	0.00055	0.00099	0.001
Phosphorus (Metal) Dissolved	0.05	0.053	0.075	0.064	0.051	4	0	1	0.025	0.052	0.067	0.067
Potassium (Dissolved)	0.1	0.73	0.79	0.74	0.78	4	0	0	0.62	0.68	0.71	0.71
Selenium (Dissolved)	0.00005	0.000031	0.000062	0.000025	0.000038	4	0	4	0.000025	0.000025	0.000025	0.000025
Silicon (Dissolved)	0.05	6.6	6.9	7	6.7	4	0	0	6.4	6.7	7.1	7.1
Silver (Dissolved)	0.00001	0.0000056	0.000010	0.0000050	0.0000075	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	21	22	21	21	4	0	0	20	20	21	21
Strontium (Dissolved)	0.0002	4.8	5	4.8	4.9	4	0	0	4.8	4.9	5.1	5.1
Sulfur (Dissolved)	0.5	8.7	9.4	8.9	8.2	4	0	0	8	8.3	8.7	8.8
Thallium (Dissolved)	0.00001	0.0000053	0.0000053	0.0000050	0.0000075	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000053	0.000053	0.000050	0.000075	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00016	0.00016	0.00015	0.00022	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.003	0.0031	0.0028	0.0029	4	0	0	0.0028	0.0029	0.003	0.003
Vanadium (Dissolved)	0.0005	0.00026	0.00026	0.00025	0.00038	4	0	4	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	0.00081	0.0017	0.0005	0.0024	3	1	3	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.00015	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.006	0.035	0.12	0.081	0.095	4	0	0	0.015	0.05	0.11	0.12
Antimony (Total)	0.0002	0.000083	0.00023	0.000050	0.000050	4	0	1	0.0001	0.00021	0.00039	0.00042
Arsenic (Total)	0.0002	0.001	0.0012	0.00097	0.0012	4	0	0	0.00096	0.0012	0.0015	0.0015
Barium (Total)	0.0002	0.05	0.054	0.048	0.048	4	0	0	0.048	0.05	0.052	0.052
Beryllium (Total)	0.00004	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000013	0.000018	0.000020
Bismuth (Total)	0.0001	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000031	0.000046	0.000050
Boron (Total)	0.02	0.005	0.005	0.005	0.005	4	0	4	0.005	0.0063	0.0092	0.01
Cadmium (Total)	0.00001	0.000057	0.00012	0.000059	0.000071	4	0	0	0.000016	0.000046	0.000074	0.000077
Calcium (Total)	0.1	34	36	34	34	4	0	0	31	33	35	35
Chromium (Total)	0.001	0.00019	0.00026	0.00032	0.00046	4	0	3	0.00025	0.00074	0.0019	0.0022
Cobalt (Total)	0.0002	0.00017	0.0002	0.00015	0.00026	4	0	0	0.00018	0.00025	0.00032	0.00033
Copper (Total)	0.001	0.00025	0.00025	0.00032	0.00038	4	0	4	0.00025	0.00031	0.00046	0.0005
Iron (Total)	0.02	0.29	0.37	0.38	0.32	4	0	0	0.29	0.33	0.36	0.36
Lead (Total)	0.0001	0.000036	0.000085	0.000088	0.000098	4	0	1	0.000025	0.000068	0.00012	0.00013
Lithium (Total)	0.002	0.025	0.028	0.025	0.025	4	0	0	0.022	0.024	0.025	0.025
Magnesium (Total)	0.1	21	22	21	22	4	0	0	20	21	22	22
Manganese (Total)	0.0002	0.24	0.29	0.19	0.19	4	0	0	0.19	0.21	0.23	0.23
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.0001	0.0057	0.0062	0.0054	0.0057	4	0	0	0.0055	0.0056	0.0057	0.0057
Nickel (Total)	0.001	0.00033	0.00071	0.00057	0.00053	4	0	1	0.00025	0.00097	0.0019	0.0021
Phosphorus (Metal) Total	0.1	0.076	0.1	0.08	0.088	4	0	1	0.05	0.084	0.11	0.11
Potassium (Total)	0.1	0.74	0.83	0.74	0.76	4	0	0	0.72	0.75	0.79	0.8
Selenium (Total)	0.0001	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000031	0.000046	0.000050
Silicon (Total)	0.2	6.7	7.3	7	7	4	0	0	6.3	6.8	7	7.1
Silver (Total)	0.00002	0.0000056	0.000010	0.0000050	0.0000050	4	0	4	0.0000050	0.0000063	0.0000092	0.000010
Sodium (Total)	0.1	22	23	21	21	4	0	0	20	21	22	22
Strontium (Total)	0.0004	5.1	5.6	5	5	4	0	0	4.6	4.9	5	5
Sulfur (Total)	1	9	9.7	8.9	8.7	4	0	0	8.5	8.7	8.9	8.9
Thallium (Total)	0.00002	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000063	0.0000092	0.000010
Tin (Total)	0.0002	0.000059	0.00011	0.000050	0.000050	4	0	4	0.000050	0.000063	0.000092	0.0001
Titanium (Total)	0.0006	0.00086	0.0027	0.0024	0.0029	4	0	0	0.00031	0.0013	0.0031	0.0034
Uranium (Total)	0.00002	0.0031	0.0033	0.0029	0.003	4	0	0	0.0029	0.003	0.003	0.003
Vanadium (Total)	0.001	0.00025	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00031	0.00046	0.0005
Zinc (Total)	0.003	0.0016	0.0018	0.0054	0.0054	3	1	2	0.0015	0.0021	0.0032	0.0034
Zirconium (Total)	0.0004	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.00013	0.00018	0.0002
Organics												
Carbon Organic (Dissolved)	0.5	0.71	1	0.34	0.42	4	0	1	0.25	0.49	0.6	0.6
Carbon Organic (Total)	0.5	0.88	1.7	0.67	0.64	4	0	0	0.64	0.71	0.78	0.79

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

0	ISSUED WITH REPORT				
REV	DATE	ISSUED WITH REPORT	BY	CHK'D	APP'D

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 2 MW12-03D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	89	89	96	92	4	0	0	87	105	127	132
Oxygen Dissolved (In Situ %) %	-	22	22	22	29	4	0	0	21	26	30	31
pH (In Situ) pH	-	6.7	6.7	6.8	6.8	4	0	0	6.7	6.8	6.9	6.9
Redox Potential (In Situ) mV	-	253	253	117	-68	4	0	0	153	195	224	226
Salinity (In Situ) ppt	-	-	-	0.07	0.07	3	0	0	0.08	0.08	0.08	0.08
Specific Conductivity (In Situ) µS/cm	-	142	142	147	148	4	0	0	141	160	174	176
Temperature (In Situ) °C	-	5.5	5.5	6.8	5	4	0	0	0.6	7.3	15	16
Total Dissolved Solids (In Situ)	-	-	-	95	96	3	0	0	104	108	114	115
Turbidity (In Situ) NTU	-	6.9	6.9	1.6	2	4	0	0	2.6	7.1	15	17
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	2.5	2.4	4	0	1	1	3	5.7	6.2
Alkalinity (Total as CaCO3)	1	65	65	70	73	4	0	0	74	75	75	75
Alkalinity/ Bicarbonate as CaCO3	1	65	65	70	73	4	0	0	74	75	75	75
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	7.2	7.2	7.8	7.9	4	0	0	7.4	7.6	7.7	7.7
Specific Conductivity µS/cm	2	142	142	150	154	4	0	0	153	156	159	159
Total Dissolved Solids	13	88	88	102	102	4	0	0	105	109	113	114
Turbidity NTU	0.1	2.1	2.1	0.52	1.6	4	0	0	0.31	0.62	1	1.1
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.32	4	0	0	0.5	0.55	0.62	0.63
Fluoride (Dissolved)	0.02	0.055	0.055	0.057	0.059	4	0	0	0.052	0.055	0.061	0.062
Sulphate (Dissolved)	0.3	7.4	7.4	7.3	7.3	4	0	0	7	7.2	7.5	7.5
Nutrients												
Ammonia (Dissolved)	0.005	0.013	0.013	0.004	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	3	0.0025	0.0043	0.0085	0.0096
Nitrate (as N)	0.005	0.13	0.13	0.13	0.12	4	0	0	0.11	0.12	0.12	0.12
Nitrate+Nitrite (Dissolved)	0.0051	0.13	0.13	0.13	0.12	2	0	0	0.12	0.12	0.12	0.12
Nitrite (as N)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.13	0.13	0.13	0.17	4	0	0	0.12	0.14	0.16	0.17
Nitrogen (Total)	0.03	0.12	0.12	0.12	0.15	4	0	0	0.12	0.13	0.14	0.14
Nitrogen Kjeldahl (Total)	0.05	0.025	0.025	0.025	0.042	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	0.025	0.025	0.023	0.024	4	0	0	0.023	0.024	0.026	0.026
Phosphorus (Nutrient) Dissolved	0.002	0.026	0.026	0.026	0.025	4	0	0	0.024	0.025	0.027	0.028
Phosphorus (Nutrient) Total	0.002	0.033	0.033	0.027	0.03	4	0	0	0.024	0.026	0.029	0.029
Total Inorganic Nitrogen	0.025	-	-	-	0.13	3	0	0	0.12	0.12	0.12	0.12
Cyanide												
Cyanate	0.2	0.1	0.1	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.25	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0005	0.0005	0.0017	0.0012	4	0	4	0.0005	0.0005	0.0005	0.0005
Antimony (Dissolved)	0.0001	0.00021	0.00021	0.00021	0.00021	4	0	0	0.00022	0.00024	0.0003	0.00032
Arsenic (Dissolved)	0.0001	0.0004	0.0004	0.0004	0.00042	4	0	0	0.0004	0.00043	0.00044	0.00044
Barium (Dissolved)	0.0001	0.0045	0.0045	0.0049	0.0052	4	0	0	0.0046	0.005	0.0053	0.0054
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.000020	0.000020	0.000020	0.000027	4	0	0	0.000012	0.000014	0.000017	0.000017
Calcium (Dissolved)	0.05	20	20	19	20	4	0	0	20	21	22	22
Chromium (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.0001	0.0001	0.0001	0.00015	4	0	3	0.0001	0.00013	0.00019	0.00021
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	3.9	3.9	3.6	3.8	4	0	0	3.8	4.1	4.4	4.5
Manganese (Dissolved)	0.0001	0.00051	0.00051	0.00069	0.0013	4	0	0	0.00023	0.00042	0.00051	0.00052
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.00036	0.00036	0.00031	0.00031	4	0	0	0.0003	0.00032	0.00033	0.00034
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	0.72	0.72	0.73	0.78	4	0	0	0.76	0.78	0.81	0.81
Selenium (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Silicon (Dissolved)	0.05	10	10	9.8	10	4	0	0	9.9	10	11	11
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	4.8	4.8	4.4	4.6	4	0	0	4.5	4.7	5	5
Strontium (Dissolved)	0.0002	0.17	0.17	0.17	0.18	4	0	0	0.17	0.18	0.19	0.19
Sulfur (Dissolved)	0.5	2.5	2.5	2.3	2.4	4	0	0	2.3	2.5	2.7	2.7
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00015	0.00015	0.00015	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00013	0.00013	0.00014	0.00014	4	0	0	0.00014	0.00015	0.00016	0.00016
Vanadium (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	0.0055	0.0055	0.0024	0.0027	4	0	0	0.0012	0.0016	0.0022	0.0023
Zirconium (Dissolved)	0.0002	0.0001	0.0001	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.13	0.13	0.031	0.088	4	0	0	0.013	0.026	0.035	0.035
Antimony (Total)	0.0001	0.00024	0.00024	0.00022	0.00022	4	0	0	0.00024	0.0003	0.00041	0.00043
Arsenic (Total)	0.0001	0.00049	0.00049	0.00045	0.00046	4	0	0	0.00043	0.00046	0.00048	0.00048
Barium (Total)	0.0001	0.0059	0.0059	0.0052	0.0063	4	0	0	0.005	0.0053	0.0057	0.0058
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000032	0.000032	0.000023	0.000040	4	0	0	0.000015	0.000018	0.000022	0.000022
Calcium (Total)	0.05	21	21	19	21	4	0	0	20	22	23	23
Chromium (Total)	0.0005	0.00094	0.00094	0.00055	0.00069	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Total)	0.0001	0.000050	0.000050	0.000050	0.000063	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	0.00025	0.00025	0.00025	0.00038	4	0	4	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	0.24	0.24	0.033	0.079	4	0	1	0.005	0.022	0.028	0.028
Lead (Total)	0.00005	0.00013	0.00013	0.000044	0.00013	4	0	1	0.000025	0.000053	0.000076	0.000080
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	3.7	3.7	3.6	3.8	4	0	0	3.6	4.1	4.3	4.3
Manganese (Total)	0.0001	0.0055	0.0055	0.0024	0.0062	4	0	0	0.00054	0.0019	0.0027	0.0028
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.00041	0.00041	0.00035	0.00034	4	0	0	0.00033	0.00035	0.00037	0.00038
Nickel (Total)	0.0005	0.00063	0.00063	0.00044	0.00047	4	0	3	0.00025	0.00032	0.00047	0.00051
Phosphorus (Metal) Total	0.05	0.065	0.065	0.031	0.048	4	0	3	0.025	0.034	0.055	0.06
Potassium (Total)	0.1	0.77	0.77	0.74	0.77	4	0	0	0.7	0.74	0.79	0.79
Selenium (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	3	0.000025	0.000036	0.000061	0.000067
Silicon (Total)	0.1	10	10	10	10	4	0	0	9.8	10	10	10
Silver (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	4.4	4.4	4.4	4.6	4	0	0	4.5	4.7	5	5
Strontium (Total)	0.0002	0.17	0.17	0.17	0.18	4	0	0	0.17	0.18	0.2	0.2
Sulfur (Total)	0.5	2.4	2.4	2.5	2.4	4	0	0	2.3	2.5	2.7	2.7
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000050	0.000050	0.000050	0.000065	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.0063	0.0063	0.00088	0.0036	4	0	1	0.00015	0.00075	0.001	0.001
Uranium (Total)	0.00001	0.00015	0.00015	0.00014	0.00016	4	0	0	0.00015	0.00016	0.00017	0.00017
Vanadium (Total)	0.0005	0.00079	0.00079	0.0004	0.00042	4	0	4	0.00025	0.00025	0.00025	0.00025
Zinc (Total)	0.003	0.013	0.013	0.0024	0.0042	4	0	4	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	0.0001	0.0001	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.54	0.54	0.25	0.46	4	0	3	0.25	0.35	0.6	0.66
Carbon Organic (Total)	0.5	0.56	0.56	0.25	0.45	4	0	3	0.25	0.32	0.47	0.51

\\APL\NA-Prj\1101\0457\62A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 2 MW12-03D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

No.	Issue/Revision	Issued By / Approved By	Date	Initials

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 3 MW12-05D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	171	205	168	160	1	0	0	202	202	202	202
Oxygen Dissolved (In Situ %) %	-	11	32	1.8	16	1	0	0	1.6	1.6	1.6	1.6
pH (In Situ) pH	-	7.8	8	7.9	7.9	1	0	0	7.8	7.8	7.8	7.8
Redox Potential (In Situ) mV	-	36	269	-29	-28	1	0	0	85	85	85	85
Salinity (In Situ) ppt	-	0.12	0.13	0.12	0.12	1	0	0	0.14	0.14	0.14	0.14
Specific Conductivity (In Situ) µS/cm	-	262	282	256	260	1	0	0	294	294	294	294
Temperature (In Situ) °C	-	7	13	6.9	4.7	1	0	0	8.7	8.7	8.7	8.7
Total Dissolved Solids (In Situ)	-	171	184	168	169	1	0	0	190	190	190	190
Turbidity (In Situ) NTU	-	12	40	6.9	13	1	0	0	27	27	27	27
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	1	1	0	1	1	1	1	1
Alkalinity (Total as CaCO3)	1	140	149	136	150	1	0	0	141	141	141	141
Alkalinity/ Bicarbonate as CaCO3	1	140	148	135	138	1	0	0	141	141	141	141
Alkalinity/ Carbonate as CaCO3	1	0.79	2.9	1.8	12	1	0	1	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	1	0	1	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8.2	8.3	8.3	8.5	1	0	0	8.2	8.2	8.2	8.2
Specific Conductivity µS/cm	2	263	280	262	273	1	0	0	261	261	261	261
Total Dissolved Solids	20	164	177	171	159	1	0	0	166	166	166	166
Turbidity NTU	0.1	9.8	28	5.7	22	1	0	0	15	15	15	15
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	1	0	1	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	1	0	1	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.12	0.13	0.11	0.11	1	0	0	0.12	0.12	0.12	0.12
Sulphate (Dissolved)	0.3	6.6	7.7	5.6	6.2	1	0	0	7.1	7.1	7.1	7.1
Nutrients												
Ammonia (Dissolved)	0.005	0.073	0.11	0.074	0.068	1	0	0	0.066	0.066	0.066	0.066
Ammonia (Total)	0.005	0.068	0.086	0.068	0.067	1	0	0	0.063	0.063	0.063	0.063
Nitrate (as N)	0.005	0.019	0.069	0.0025	0.019	1	0	0	0.013	0.013	0.013	0.013
Nitrate+Nitrite (Dissolved)	-	0.011	0.027	0.0026	0.019	0	0	0	-	-	-	-
Nitrite (as N)	0.001	0.0011	0.0028	0.0008	0.0005	1	0	1	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.14	0.19	0.11	0.13	1	0	0	0.12	0.12	0.12	0.12
Nitrogen (Total)	0.03	0.14	0.19	0.14	0.12	1	0	0	0.13	0.13	0.13	0.13
Nitrogen Kjeldahl (Total)	0.05	0.12	0.17	0.14	0.097	1	0	0	0.14	0.14	0.14	0.14
Orthophosphate (Dissolved)	0.001	0.045	0.054	0.05	0.042	1	0	0	0.034	0.034	0.034	0.034
Phosphorus (Nutrient) Dissolved	0.002	0.064	0.075	0.076	0.073	1	0	0	0.057	0.057	0.057	0.057
Phosphorus (Nutrient) Total	0.002	0.078	0.096	0.1	0.086	1	0	0	0.095	0.095	0.095	0.095
Total Inorganic Nitrogen	0.025	-	-	-	-	1	0	0	0.076	0.076	0.076	0.076
Cyanide												
Cyanate	0.2	0.1	0.1	0.1	0.1	1	0	1	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0033	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0024	0.0025	0.0033	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0024	0.0025	0.0033	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.24	0.25	0.25	0.25	1	0	1	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.023	0.1	0.0039	0.28	1	0	0	0.0015	0.0015	0.0015	0.0015
Antimony (Dissolved)	0.0001	0.000066	0.00014	0.000050	0.000050	1	0	0	0.00015	0.00015	0.00015	0.00015
Arsenic (Dissolved)	0.0001	0.0035	0.0041	0.0036	0.0039	1	0	0	0.0033	0.0033	0.0033	0.0033
Barium (Dissolved)	0.0001	0.16	0.17	0.15	0.18	1	0	0	0.17	0.17	0.17	0.17
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	1	0	1	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	1	0	1	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	0.000027	0.000074	0.0000067	0.000017	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	27	30	25	27	1	0	0	29	29	29	29
Chromium (Dissolved)	0.0005	0.00015	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	0.00019	0.00026	0.00014	0.00018	1	0	0	0.00012	0.00012	0.00012	0.00012
Copper (Dissolved)	0.0002	0.00027	0.00092	0.0001	0.00084	1	0	1	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.19	0.32	0.22	0.36	1	0	0	0.17	0.17	0.17	0.17
Lead (Dissolved)	0.00005	0.000069	0.00026	0.000043	0.00026	1	0	1	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.014	0.015	0.013	0.014	1	0	0	0.017	0.017	0.017	0.017
Magnesium (Dissolved)	0.1	8.8	9.3	8.5	9.3	1	0	0	9.6	9.6	9.6	9.6
Manganese (Dissolved)	0.0001	0.11	0.14	0.093	0.1	1	0	0	0.1	0.1	0.1	0.1
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0068	0.0074	0.0065	0.007	1	0	0	0.0076	0.0076	0.0076	0.0076
Nickel (Dissolved)	0.0005	0.00038	0.00073	0.00036	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.058	0.076	0.073	0.066	1	0	0	0.066	0.066	0.066	0.066
Potassium (Dissolved)	0.1	0.86	0.93	0.79	0.89	1	0	0	0.9	0.9	0.9	0.9
Selenium (Dissolved)	0.00005	0.000026	0.000028	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Silicon (Dissolved)	0.05	6.7	7.4	6.8	7.6	1	0	0	7.3	7.3	7.3	7.3
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	16	18	15	17	1	0	0	18	18	18	18
Strontium (Dissolved)	0.0002	0.93	1	0.9	0.95	1	0	0	1	1	1	1
Sulfur (Dissolved)	0.5	2.1	2.6	1.8	2.2	1	0	0	2.5	2.5	2.5	2.5
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00094	0.0042	0.00015	0.0084	1	0	1	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00012	0.0002	0.000083	0.00014	1	0	0	0.0001	0.0001	0.0001	0.0001
Vanadium (Dissolved)	0.0005	0.00038	0.00089	0.00034	0.00072	1	0	1	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	-	-	-	-	-	0	1	0	-	-	-	-
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0003	1	0	1	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.31	1.1	0.19	0.73	1	0	0	0.66	0.66	0.66	0.66
Antimony (Total)	0.0001	0.00012	0.00025	0.000077	0.00015	1	0	0	0.0011	0.0011	0.0011	0.0011
Arsenic (Total)	0.0001	0.0038	0.0044	0.0041	0.0044	1	0	0	0.0045	0.0045	0.0045	0.0045
Barium (Total)	0.0001	0.16	0.18	0.16	0.17	1	0	0	0.18	0.18	0.18	0.18
Beryllium (Total)	0.00002	0.000023	0.000073	0.000014	0.000051	1	0	0	0.000063	0.000063	0.000063	0.000063
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.0053	0.0055	0.005	0.005	1	0	1	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.00014	0.00025	0.00019	0.000069	1	0	0	0.00014	0.00014	0.00014	0.00014
Calcium (Total)	0.05	28	31	27	29	1	0	0	29	29	29	29
Chromium (Total)	0.0005	0.00079	0.0016	0.00094	0.00066	1	0	0	0.0011	0.0011	0.0011	0.0011
Cobalt (Total)	0.0001	0.00035	0.00066	0.00025	0.00046	1	0	0	0.00057	0.00057	0.00057	0.00057
Copper (Total)	0.0005	0.0017	0.0058	0.0013	0.0036	1	0	0	0.005	0.005	0.005	0.005
Iron (Total)	0.01	0.54	1.2	0.55	0.86	1	0	0	0.98	0.98	0.98	0.98
Lead (Total)	0.00005	0.00053	0.0015	0.00065	0.001	1	0	0	0.0013	0.0013	0.0013	0.0013
Lithium (Total)	0.001	0.015	0.017	0.014	0.016	1	0	0	0.017	0.017	0.017	0.017
Magnesium (Total)	0.1	9.1	9.8	8.6	10	1	0	0	11	11	11	11
Manganese (Total)	0.0001	0.12	0.16	0.11	0.12	1	0	0	0.12	0.12	0.12	0.12
Mercury (Total)	0.000005	0.0000035	0.0000040	0.0000030	0.0000030	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.0071	0.0082	0.0066	0.0074	1	0	0	0.0084	0.0084	0.0084	0.0084
Nickel (Total)	0.0005	0.00092	0.0015	0.00089	0.00081	1	0	0	0.0011	0.0011	0.0011	0.0011
Phosphorus (Metal) Total	0.05	0.09	0.11	0.12	0.1	1	0	0	0.09	0.09	0.09	0.09
Potassium (Total)	0.1	0.95	1.2	0.88	1.1	1	0	0	1.1	1.1	1.1	1.1
Selenium (Total)	0.00005	0.000029	0.000054	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Silicon (Total)	0.1	7.5	9	7.4	8.2	1	0	0	8.9	8.9	8.9	8.9
Silver (Total)	0.00001	0.000016	0.000038	0.000012	0.000019	1	0	0	0.000028	0.000028	0.000028	0.000028
Sodium (Total)	0.05	17	20	15	18	1	0	0	18	18	18	18
Strontium (Total)	0.0002	0.98	1.1	0.95	0.99	1	0	0	1.1	1.1	1.1	1.1
Sulfur (Total)	0.5	2.3	3	2	2.2	1	0	0	2.5	2.5	2.5	2.5
Thallium (Total)	0.00001	0.0000085	0.000023	0.0000050	0.000014	1	0	0	0.000016	0.000016	0.000016	0.000016
Tin (Total)	0.0001	0.000069	0.00015	0.000087	0.000050	1	0	0	0.00014	0.00014	0.00014	0.00014
Titanium (Total)	0.0003	0.01	0.03	0.0071	0.023	1	0	0	0.021	0.021	0.021	0.021
Uranium (Total)	0.00001	0.00021	0.00048	0.00012	0.00033	1	0	0	0.0003	0.0003	0.0003	0.0003
Vanadium (Total)	0.0005	0.0011	0.0026	0.00092	0.0017	1	0	0	0.0017	0.0017	0.0017	0.0017
Zinc (Total)	-	-	-	-	-	0	1	0	-	-	-	-
Zirconium (Total)	0.0002	0.00023	0.0005	0.00023	0.00039	1	0	0	0.00037	0.00037	0.00037	0.00037
Organics												
Carbon Organic (Dissolved)	0.5	1.8	2.2	2.1	1.9	1	0	0	1.7	1.7	1.7	1.7
Carbon Organic (Total)	0.5	2.1	3.2	2.6	2.1	1	0	0	2.2	2.2	2.2	2.2

\\APL\NA-Prj\E1\E1004578\ZA\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 3 MW12-05D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	DATE	DESCRIPTION	PREPD	CHKD
A	25/MAR/26	ISSUED WITH REPORT VA101-00182/-A	EB	GAS

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 4 MW12-05S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	176	196	166	175	1	0	0	204	204	204	204
Oxygen Dissolved (In Situ %) %	-	9.7	32	27	10	1	0	0	2.8	2.8	2.8	2.8
pH (In Situ) pH	-	7.8	8	7.8	7.9	1	0	0	7.7	7.7	7.7	7.7
Redox Potential (In Situ) mV	-	-150	-49	-49	-32	1	0	0	-191	-191	-191	-191
Salinity (In Situ) ppt	-	0.13	0.15	0.12	0.13	1	0	0	0.14	0.14	0.14	0.14
Specific Conductivity (In Situ) µS/cm	-	280	307	266	268	1	0	0	289	289	289	289
Temperature (In Situ) °C	-	5.5	8.5	5.2	6.6	1	0	0	9.7	9.7	9.7	9.7
Total Dissolved Solids (In Situ)	-	177	200	167	175	1	0	0	188	188	188	188
Turbidity (In Situ) NTU	-	3.2	8.1	1.2	2.4	1	0	0	3.6	3.6	3.6	3.6
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	1	1	0	1	1	1	1	1
Alkalinity (Total as CaCO3)	1	155	166	146	151	1	0	0	144	144	144	144
Alkalinity/ Bicarbonate as CaCO3	1	155	166	145	138	1	0	0	144	144	144	144
Alkalinity/ Carbonate as CaCO3	1	0.67	1.4	1.6	13	1	0	1	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	1	0	1	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8.1	8.3	8.3	8.5	1	0	0	8.2	8.2	8.2	8.2
Specific Conductivity µS/cm	2	276	294	272	278	1	0	0	252	252	252	252
Total Dissolved Solids	20	165	183	152	156	1	0	0	164	164	164	164
Turbidity NTU	0.1	18	32	10	14	1	0	0	5.8	5.8	5.8	5.8
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	1	0	1	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	1	0	1	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.18	0.19	0.18	0.17	1	0	0	0.17	0.17	0.17	0.17
Sulphate (Dissolved)	0.3	0.89	1.6	0.97	0.74	1	0	0	1.6	1.6	1.6	1.6
Nutrients												
Ammonia (Dissolved)	0.005	0.23	0.24	0.25	0.25	1	0	0	0.23	0.23	0.23	0.23
Ammonia (Total)	0.005	0.23	0.28	0.25	0.24	1	0	0	0.22	0.22	0.22	0.22
Nitrate (as N)	0.005	0.0029	0.0054	0.0025	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Nitrate+Nitrite (Dissolved)	-	0.0036	0.0064	0.0026	0.0026	0	0	0	-	-	-	-
Nitrite (as N)	0.001	0.00055	0.00097	0.0005	0.0005	1	0	0	0.001	0.001	0.001	0.001
Nitrogen (Dissolved)	0.03	0.26	0.31	0.28	0.27	1	0	0	0.3	0.3	0.3	0.3
Nitrogen (Total)	0.03	0.3	0.37	0.3	0.29	1	0	0	0.27	0.27	0.27	0.27
Nitrogen Kjeldahl (Total)	0.05	0.3	0.37	0.3	0.29	1	0	0	0.31	0.31	0.31	0.31
Orthophosphate (Dissolved)	0.001	0.0012	0.0034	0.0027	0.0025	1	0	1	0.0005	0.0005	0.0005	0.0005
Phosphorus (Nutrient) Dissolved	0.002	0.089	0.11	0.087	0.1	1	0	0	0.087	0.087	0.087	0.087
Phosphorus (Nutrient) Total	0.002	0.12	0.15	0.1	0.11	1	0	0	0.1	0.1	0.1	0.1
Total Inorganic Nitrogen	0.025	-	-	-	-	1	0	0	0.22	0.22	0.22	0.22
Cyanide												
Cyanide	0.2	0.12	0.23	0.1	0.1	1	0	1	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0028	0.0025	0.0025	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0028	0.0025	0.0063	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0028	0.0025	0.0025	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.24	0.25	0.25	0.25	1	0	1	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0039	0.0063	0.0027	0.0034	1	0	0	0.0025	0.0025	0.0025	0.0025
Antimony (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	0.0063	0.0079	0.0047	0.0059	1	0	0	0.0056	0.0056	0.0056	0.0056
Barium (Dissolved)	0.0001	0.12	0.13	0.11	0.12	1	0	0	0.11	0.11	0.11	0.11
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	1	0	1	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	1	0	1	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	0.0000071	0.000013	0.0000030	0.0000030	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	33	39	30	32	1	0	0	32	32	32	32
Chromium (Dissolved)	0.0005	0.00012	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	0.00039	0.00077	0.00014	0.00014	1	0	0	0.0001	0.0001	0.0001	0.0001
Copper (Dissolved)	0.0002	0.00011	0.0001	0.0001	0.0001	1	0	1	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	2.4	3.8	1.4	1.7	1	0	0	1.5	1.5	1.5	1.5
Lead (Dissolved)	0.00005	0.000054	0.00014	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0033	0.0037	0.0035	0.0034	1	0	0	0.0039	0.0039	0.0039	0.0039
Magnesium (Dissolved)	0.1	9.9	11	9.4	9.9	1	0	0	9.8	9.8	9.8	9.8
Manganese (Dissolved)	0.0001	1.3	2	0.94	1	1	0	0	0.93	0.93	0.93	0.93
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.016	0.017	0.016	0.015	1	0	0	0.016	0.016	0.016	0.016
Nickel (Dissolved)	0.0005	0.00043	0.00078	0.00042	0.00053	1	0	1	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.1	0.14	0.084	0.1	1	0	0	0.12	0.12	0.12	0.12
Potassium (Dissolved)	0.1	1.3	1.5	1.3	1.3	1	0	0	1.4	1.4	1.4	1.4
Selenium (Dissolved)	0.00005	0.000026	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Silicon (Dissolved)	0.05	6.3	6.8	6.5	6.6	1	0	0	6.4	6.4	6.4	6.4
Silver (Dissolved)	0.00001	0.0000062	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	11	12	11	11	1	0	0	11	11	11	11
Strontium (Dissolved)	0.0002	0.54	0.58	0.52	0.51	1	0	0	0.53	0.53	0.53	0.53
Sulfur (Dissolved)	0.5	0.35	0.82	0.41	0.25	1	0	0	0.57	0.57	0.57	0.57
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00017	0.00015	0.00015	0.00015	1	0	1	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00026	0.00046	0.00047	0.00047	1	0	0	0.00047	0.00047	0.00047	0.00047
Vanadium (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	0.0011	0.0031	0.001	0.0005	1	0	1	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	1	0	1	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.038	0.085	0.031	0.043	1	0	0	0.027	0.027	0.027	0.027
Antimony (Total)	0.0001	0.000079	0.00015	0.000050	0.000050	1	0	0	0.00016	0.00016	0.00016	0.00016
Arsenic (Total)	0.0001	0.0066	0.0083	0.0048	0.0064	1	0	0	0.0059	0.0059	0.0059	0.0059
Barium (Total)	0.0001	0.12	0.13	0.11	0.11	1	0	0	0.11	0.11	0.11	0.11
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	1	0	1	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	1	0	1	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000095	0.00028	0.000072	0.000037	1	0	0	0.000047	0.000047	0.000047	0.000047
Calcium (Total)	0.05	33	38	31	33	1	0	0	32	32	32	32
Chromium (Total)	0.0005	0.00024	0.00066	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Cobalt (Total)	0.0001	0.00043	0.00075	0.00018	0.00017	1	0	0	0.00015	0.00015	0.00015	0.00015
Copper (Total)	0.0005	0.00039	0.00077	0.00052	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	2.7	4	1.7	1.9	1	0	0	1.6	1.6	1.6	1.6
Lead (Total)	0.00005	0.00015	0.00036	0.00013	0.000098	1	0	0	0.000098	0.000098	0.000098	0.000098
Lithium (Total)	0.001	0.0034	0.0038	0.0034	0.0034	1	0	0	0.0041	0.0041	0.0041	0.0041
Magnesium (Total)	0.1	10	11	9.4	10	1	0	0	10	10	10	10
Manganese (Total)	0.0001	1.4	2	0.96	1.1	1	0	0	0.91	0.91	0.91	0.91
Mercury (Total)	0.0000005	0.0000035	0.0000030	0.0000030	0.0000030	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.016	0.017	0.016	0.016	1	0	0	0.018	0.018	0.018	0.018
Nickel (Total)	0.0005	0.00079	0.0013	0.0021	0.00057	1	0	0	0.00058	0.00058	0.00058	0.00058
Phosphorus (Metal) Total	0.05	0.14	0.18	0.12	0.12	1	0	0	0.095	0.095	0.095	0.095
Potassium (Total)	0.1	1.4	1.6	1.4	1.4	1	0	0	1.3	1.3	1.3	1.3
Selenium (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Silicon (Total)	0.1	6.5	7	6.7	6.4	1	0	0	6.9	6.9	6.9	6.9
Silver (Total)	0.00001	0.0000064	0.000014	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	11	12	11	12	1	0	0	11	11	11	11
Strontium (Total)	0.0002	0.56	0.6	0.53	0.55	1	0	0	0.56	0.56	0.56	0.56
Sulfur (Total)	0.5	0.32	0.75	0.25	0.25	1	0	1	0.25	0.25	0.25	0.25
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000053	0.000050	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.0016	0.0038	0.0014	0.002	1	0	0	0.001	0.001	0.001	0.001
Uranium (Total)	0.00001	0.00027	0.00046	0.00043	0.00049	1	0	0	0.00049	0.00049	0.00049	0.00049
Vanadium (Total)	0.0005	0.00027	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Zinc (Total)	0.003	0.016	0.031	0.022	0.016	1	0	0	0.027	0.027	0.027	0.027
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	1	0	1	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	1.2	1.5	1.1	1	1	0	0	0.89	0.89	0.89	0.89
Carbon Organic (Total)	0.5	1.3	1.6	1.1	1.1	1	0	0	0.78	0.78	0.78	0.78

\\KPLNA-Prj\Ti\01\04578\02\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 4 MW12-05S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	DATE	DESCRIPTION	PREPD	CHKD
A	2026/03/26	ISSUED WITH REPORT VA 001-05/182-5	SB	CAS

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 5 MW12-07D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	141	150	145	134	4	0	0	132	139	151	153
Oxygen Dissolved (In Situ %) %	-	9.2	47	3	9.2	4	0	0	0	1.6	3.1	3.1
pH (In Situ) pH	-	7.9	8.1	8	8	4	0	0	7.9	8	8	8.1
Redox Potential (In Situ) mV	-	194	329	28	34	4	0	0	65	134	235	254
Salinity (In Situ) ppt	-	0.1	0.11	0.1	0.1	3	0	0	0.1	0.11	0.11	0.11
Specific Conductivity (In Situ) µS/cm	-	219	230	222	216	4	0	0	199	217	227	228
Temperature (In Situ) °C	-	6.4	8.1	7	5.2	4	0	0	3.5	6.3	9.1	9.1
Total Dissolved Solids (In Situ)	-	141	147	138	139	3	0	0	144	146	148	148
Turbidity (In Situ) NTU	-	1.2	3.3	0.55	0.89	4	0	0	2	3	3.9	4
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1.3	4	0	4	1	1	1	1
Alkalinity (Total as CaCO3)	1	109	113	111	111	4	0	0	108	110	112	113
Alkalinity/ Bicarbonate as CaCO3	1	109	113	110	109	4	0	0	108	110	112	113
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	1.7	2.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8.2	8.3	8.2	8.3	4	0	0	8.1	8.2	8.3	8.3
Specific Conductivity µS/cm	2	220	229	219	224	4	0	0	221	222	225	225
Total Dissolved Solids	20	136	147	135	128	3	0	0	138	142	149	150
Turbidity NTU	0.1	0.65	1.2	0.3	0.6	4	0	0	0.44	1.5	2.9	3
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.13	0.14	0.12	0.12	4	0	0	0.12	0.12	0.12	0.12
Sulphate (Dissolved)	0.3	11	11	9.7	9.8	4	0	0	9.3	9.7	9.9	9.9
Nutrients												
Ammonia (Dissolved)	0.005	0.0044	0.01	0.0079	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.003	0.0058	0.0057	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	0.0056	0.014	0.0025	0.0034	4	0	4	0.0025	0.0025	0.0025	0.0025
Nitrate+Nitrite (Dissolved)	0.0051	0.0048	0.0081	0.0026	0.0034	2	0	2	0.0026	0.0026	0.0026	0.0026
Nitrite (as N)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.019	0.032	0.015	0.015	4	0	4	0.015	0.015	0.015	0.015
Nitrogen (Total)	0.03	0.021	0.05	0.019	0.015	4	0	4	0.015	0.015	0.015	0.015
Nitrogen Kjeldahl (Total)	0.05	0.027	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.01	0.06	0.068	0.059	0.058	4	0	0	0.054	0.059	0.063	0.064
Phosphorus (Nutrient) Dissolved	0.002	0.067	0.072	0.065	0.063	4	0	0	0.061	0.063	0.064	0.064
Phosphorus (Nutrient) Total	0.002	0.067	0.071	0.066	0.064	4	0	0	0.062	0.066	0.069	0.069
Total Inorganic Nitrogen	0.025	-	-	-	-	3	0	3	0.013	0.013	0.013	0.013
Cyanide												
Cyanate	0.2	0.11	0.11	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.25	0.25	0.25	0.25	4	0	3	0.25	0.37	0.67	0.74
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0035	0.0045	0.0083	0.0026	4	0	0	0.0015	0.0021	0.0027	0.0028
Antimony (Dissolved)	0.0001	0.000055	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	0.0011	0.0013	0.0011	0.0012	4	0	0	0.0011	0.0011	0.0012	0.0012
Barium (Dissolved)	0.0001	0.026	0.028	0.023	0.022	4	0	0	0.021	0.022	0.023	0.023
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	0.000031	0.00011	0.000012	0.0000035	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	27	29	26	27	4	0	0	25	27	28	28
Chromium (Dissolved)	0.0005	0.00013	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	0.000055	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.0001	0.0001	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.011	0.005	4	0	3	0.005	0.0065	0.01	0.011
Lead (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	6	6.3	5.8	6.4	4	0	0	5.8	6.3	6.5	6.5
Manganese (Dissolved)	0.0001	0.087	0.12	0.078	0.072	4	0	0	0.07	0.076	0.087	0.089
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0039	0.0042	0.0039	0.0038	4	0	0	0.0037	0.0039	0.0042	0.0042
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.065	0.089	0.064	0.061	4	0	0	0.055	0.061	0.065	0.065
Potassium (Dissolved)	0.1	0.97	1.1	0.94	0.98	4	0	0	0.94	0.97	0.99	0.99
Selenium (Dissolved)	0.00005	0.000028	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Silicon (Dissolved)	0.05	6.3	6.6	6.6	6.6	4	0	0	6.1	6.3	6.6	6.7
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	11	12	11	11	4	0	0	11	12	12	12
Strontium (Dissolved)	0.0002	0.22	0.24	0.22	0.23	4	0	0	0.21	0.22	0.23	0.23
Sulfur (Dissolved)	0.5	3.6	3.8	3.5	3.3	4	0	0	3	3.2	3.4	3.4
Thallium (Dissolved)	0.00001	0.0000059	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00016	0.00015	0.00025	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.0014	0.0015	0.0013	0.0014	4	0	0	0.0013	0.0014	0.0014	0.0014
Vanadium (Dissolved)	0.0005	0.00041	0.0012	0.0004	0.00054	4	0	2	0.00025	0.00043	0.00062	0.00063
Zinc (Dissolved)	0.001	0.0006	0.0011	0.0009	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.026	0.06	0.018	0.034	4	0	0	0.0077	0.043	0.092	0.098
Antimony (Total)	0.0001	0.000065	0.00013	0.000050	0.000050	4	0	3	0.000050	0.000065	0.0001	0.00011
Arsenic (Total)	0.0001	0.0012	0.0016	0.0012	0.0012	4	0	0	0.0011	0.0012	0.0013	0.0013
Barium (Total)	0.0001	0.027	0.03	0.024	0.023	4	0	0	0.022	0.023	0.024	0.025
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	0.000072	0.0002	0.000030	0.000012	4	0	0	0.0000050	0.000053	0.00012	0.00014
Calcium (Total)	0.05	27	29	25	27	4	0	0	25	27	28	28
Chromium (Total)	0.0005	0.00026	0.00054	0.00025	0.00038	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Total)	0.0001	0.000095	0.00018	0.000050	0.000050	4	0	3	0.000050	0.000088	0.00018	0.0002
Copper (Total)	0.0005	0.00028	0.0005	0.00025	0.00025	4	0	3	0.00025	0.0004	0.00075	0.00084
Iron (Total)	0.01	0.025	0.053	0.024	0.032	4	0	2	0.005	0.046	0.11	0.12
Lead (Total)	0.00005	0.000063	0.00012	0.000032	0.000036	4	0	2	0.000025	0.000096	0.00019	0.0002
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	6	6.5	6	6.5	4	0	0	6	6.3	6.5	6.5
Manganese (Total)	0.0001	0.13	0.27	0.098	0.077	4	0	0	0.073	0.095	0.13	0.14
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.004	0.0043	0.0039	0.0039	4	0	0	0.0039	0.004	0.0042	0.0042
Nickel (Total)	0.0005	0.00035	0.00063	0.00031	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	0.08	0.11	0.078	0.08	4	0	0	0.083	0.092	0.097	0.098
Potassium (Total)	0.1	0.96	1	0.94	0.93	4	0	0	0.88	0.93	0.98	0.98
Selenium (Total)	0.00005	0.000028	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Silicon (Total)	0.1	6.3	6.9	6.6	6.7	4	0	0	6.3	6.6	6.8	6.8
Silver (Total)	0.00001	0.0000060	0.000013	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	11	12	11	12	4	0	0	11	11	12	12
Strontium (Total)	0.0002	0.22	0.24	0.23	0.23	4	0	0	0.22	0.22	0.22	0.22
Sulfur (Total)	0.5	3.7	3.9	3.6	3.2	4	0	0	3.2	3.2	3.3	3.3
Thallium (Total)	0.00001	0.0000063	0.000010	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.001	0.0029	0.00069	0.0015	4	0	1	0.00015	0.0015	0.0031	0.0032
Uranium (Total)	0.00001	0.0014	0.0015	0.0014	0.0014	4	0	0	0.0014	0.0014	0.0015	0.0015
Vanadium (Total)	0.0005	0.00054	0.0015	0.00054	0.00068	4	0	1	0.00025	0.00072	0.00098	0.00098
Zinc (Total)	0.003	0.002	0.0037	0.0023	0.0015	4	0	3	0.0015	0.0021	0.0035	0.0039
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.29	0.56	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	0.3	0.59	0.32	0.35	4	0	4	0.25	0.25	0.25	0.25

\\KPLNA-Prj\Ti\01\04578\Z\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 5 MW12-07D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	25MAR26	ISSUED WITH REPORT VA101-457/02-5	BB	CAS
REV	DATE	DESCRIPTION	PREPD	CHK'D

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 6 MW12-07S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	98	104	97	98	4	0	0	95	103	119	122
Oxygen Dissolved (In Situ %) %	-	79	89	81	77	4	0	0	100	107	118	120
pH (In Situ) pH	-	8.1	8.3	8.2	8.2	4	0	0	8.1	8.2	8.3	8.3
Redox Potential (In Situ) mV	-	233	341	-9.1	9.6	4	0	0	113	161	242	257
Salinity (In Situ) ppt	-	0.073	0.081	0.07	0.073	3	0	0	0.08	0.08	0.08	0.08
Specific Conductivity (In Situ) µS/cm	-	158	166	157	156	4	0	0	145	158	164	164
Temperature (In Situ) °C	-	5.2	6.3	5	5.5	4	0	0	3.7	6.8	11	12
Total Dissolved Solids (In Situ)	-	100	108	97	100	3	0	0	105	106	107	107
Turbidity (In Situ) NTU	-	0.36	1.2	0.085	1.2	4	0	0	0.52	1.9	2.6	2.6
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	3	0	3	1	1	1	1
Alkalinity (Total as CaCO3)	1	80	84	81	82	4	0	0	73	80	83	83
Alkalinity/ Bicarbonate as CaCO3	1	80	84	81	82	4	0	0	73	80	83	83
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8.1	8.2	8.1	8.2	4	0	0	8.1	8.2	8.2	8.2
Specific Conductivity µS/cm	2	159	166	157	162	4	0	0	156	160	166	167
Total Dissolved Solids	13	103	112	97	93	3	0	0	97	102	106	106
Turbidity NTU	0.1	0.22	0.72	0.05	0.11	4	0	1	0.05	0.39	0.72	0.73
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.073	0.079	0.072	0.07	4	0	0	0.06	0.066	0.071	0.071
Sulphate (Dissolved)	0.3	3.4	3.6	2.8	3	4	0	0	3	3.2	3.4	3.4
Nutrients												
Ammonia (Dissolved)	0.005	0.0034	0.0073	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0029	0.0057	0.0025	0.0025	4	0	3	0.0025	0.0033	0.0053	0.0058
Nitrate (as N)	0.005	0.055	0.062	0.049	0.052	4	0	0	0.038	0.088	0.19	0.21
Nitrate+Nitrite (Dissolved)	0.0051	0.052	0.061	0.049	0.052	2	0	0	0.042	0.047	0.052	0.052
Nitrite (as N)	0.001	0.00083	0.0011	0.0005	0.0005	4	0	3	0.0005	0.0014	0.0034	0.0039
Nitrogen (Dissolved)	0.03	0.071	0.086	0.053	0.064	4	0	0	0.066	0.083	0.11	0.12
Nitrogen (Total)	0.03	0.07	0.092	0.049	0.076	4	0	0	0.056	0.066	0.073	0.073
Nitrogen Kjeldahl (Total)	0.05	0.031	0.092	0.025	0.036	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	0.02	0.022	0.019	0.017	4	0	0	0.018	0.019	0.02	0.02
Phosphorus (Nutrient) Dissolved	0.002	0.021	0.024	0.021	0.021	4	0	0	0.017	0.019	0.02	0.02
Phosphorus (Nutrient) Total	0.002	0.02	0.023	0.021	0.02	4	0	0	0.017	0.02	0.022	0.022
Total Inorganic Nitrogen	0.025	-	-	-	-	3	0	0	0.042	0.1	0.19	0.21
Cyanide												
Cyanate	0.2	0.13	0.22	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.26	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0015	0.0022	0.0019	0.0014	4	0	1	0.0005	0.00097	0.0012	0.0012
Antimony (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	0.0022	0.0024	0.0022	0.0022	4	0	0	0.002	0.0021	0.0021	0.0021
Barium (Dissolved)	0.0001	0.008	0.0091	0.0076	0.0077	4	0	0	0.0075	0.0077	0.0079	0.008
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.0000094	0.000029	0.0000030	0.0000038	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	25	27	24	25	4	0	0	24	25	26	26
Chromium (Dissolved)	0.0005	0.00069	0.001	0.00059	0.00068	4	0	0	0.00055	0.00058	0.0006	0.0006
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.00011	0.00023	0.0001	0.0003	4	0	4	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	3.2	3.4	3	3.2	4	0	0	3	3.2	3.4	3.4
Manganese (Dissolved)	0.0001	0.00019	0.00032	0.000090	0.00025	4	0	1	0.000050	0.00016	0.00027	0.00028
Mercury (Dissolved)	0.0000005	0.0000032	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.00072	0.00081	0.00069	0.00072	4	0	0	0.00066	0.00067	0.00068	0.00068
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	0.69	0.77	0.7	0.71	4	0	0	0.65	0.69	0.71	0.71
Selenium (Dissolved)	0.00005	0.00011	0.00012	0.0001	0.00012	4	0	0	0.000076	0.00011	0.00014	0.00014
Silicon (Dissolved)	0.05	7.2	7.6	7.2	7.3	4	0	0	7.1	7.3	7.4	7.4
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	3.3	3.6	3.3	3.4	4	0	0	3.4	3.5	3.6	3.6
Strontium (Dissolved)	0.0002	0.09	0.098	0.088	0.091	4	0	0	0.086	0.09	0.092	0.092
Sulfur (Dissolved)	0.5	1.1	1.3	1.1	0.9	4	0	0	0.82	0.96	1	1.1
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00015	0.00015	0.00015	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00022	0.00024	0.00021	0.00021	4	0	0	0.00021	0.00022	0.00023	0.00023
Vanadium (Dissolved)	0.0005	0.0016	0.0017	0.0016	0.0016	4	0	0	0.0015	0.0015	0.0015	0.0015
Zinc (Dissolved)	0.001	0.00067	0.0017	0.0005	0.00067	4	0	4	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.0097	0.022	0.0052	0.0056	4	0	1	0.0015	0.0096	0.025	0.028
Antimony (Total)	0.0001	0.000067	0.00014	0.000050	0.000050	4	0	3	0.000050	0.000068	0.00011	0.00012
Arsenic (Total)	0.0001	0.0022	0.0024	0.0022	0.0022	4	0	0	0.0021	0.0022	0.0022	0.0022
Barium (Total)	0.0001	0.0081	0.0088	0.0074	0.0077	4	0	0	0.0074	0.0079	0.0084	0.0085
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000018	0.000071	0.0000030	0.0000038	4	0	3	0.0000030	0.0000035	0.0000047	0.0000050
Calcium (Total)	0.05	24	27	24	25	4	0	0	24	26	28	28
Chromium (Total)	0.0005	0.00077	0.00094	0.0008	0.00078	4	0	0	0.00064	0.00066	0.00069	0.00069
Cobalt (Total)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	0.00027	0.00027	0.00025	0.00046	4	0	4	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	0.011	0.02	0.0063	0.005	4	0	3	0.005	0.01	0.024	0.027
Lead (Total)	0.00005	0.000033	0.000074	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	3.1	3.4	3	3.3	4	0	0	3.1	3.2	3.3	3.3
Manganese (Total)	0.0001	0.0008	0.0022	0.00024	0.00038	4	0	0	0.00015	0.00065	0.0017	0.0019
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.00073	0.0008	0.00072	0.00075	4	0	0	0.00068	0.0007	0.00072	0.00073
Nickel (Total)	0.0005	0.00025	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	0.026	0.026	0.032	0.025	4	0	3	0.025	0.033	0.051	0.056
Potassium (Total)	0.1	0.69	0.76	0.66	0.67	4	0	0	0.63	0.68	0.7	0.7
Selenium (Total)	0.00005	0.00011	0.00014	0.00012	0.00013	4	0	0	0.0001	0.00013	0.00018	0.0002
Silicon (Total)	0.1	7.2	7.8	7.1	7.4	4	0	0	7.2	7.5	7.8	7.8
Silver (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	3.4	3.6	3.2	3.5	4	0	0	3.2	3.4	3.5	3.5
Strontium (Total)	0.0002	0.09	0.096	0.088	0.089	4	0	0	0.091	0.092	0.093	0.093
Sulfur (Total)	0.5	1.2	1.4	0.97	0.93	4	0	0	0.97	1	1.1	1.1
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	3	0.0000050	0.0000063	0.0000092	0.000010
Tin (Total)	0.0001	0.000055	0.000055	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.00042	0.0016	0.00034	0.00023	4	0	3	0.00015	0.00047	0.0013	0.0014
Uranium (Total)	0.00001	0.00022	0.00024	0.00021	0.00022	4	0	0	0.00022	0.00023	0.00024	0.00024
Vanadium (Total)	0.0005	0.0017	0.0019	0.0017	0.0016	4	0	0	0.0015	0.0016	0.0017	0.0017
Zinc (Total)	0.003	0.0015	0.0015	0.0015	0.0015	4	0	4	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.6	0.86	0.47	0.54	4	0	0	0.54	0.61	0.66	0.66
Carbon Organic (Total)	0.5	0.57	0.88	0.57	0.48	4	0	0	0.56	0.77	1.1	1.2

\\KPLNA-Prj\Ti\01\00457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 6 MW12-07S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	DATE	DESCRIPTION	PREP'D	REV'D
A	26MAR26	ISSUED WITH REPORT VA101-457/62-5	EIE	CAB

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 7 MW12-08D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	94	105	93	84	5	0	0	85	95	105	108
Oxygen Dissolved (In Situ %) %	-	59	87	51	69	5	0	0	66	72	81	83
pH (In Situ) pH	-	7.9	8.1	8	7.9	5	0	0	7.9	8	8.1	8.2
Redox Potential (In Situ) mV	-	215	321	56	-65	5	0	0	124	190	256	260
Salinity (In Situ) ppt	-	0.067	0.07	0.06	0.06	4	0	0	0.06	0.07	0.079	0.08
Specific Conductivity (In Situ) µS/cm	-	140	145	140	135	5	0	0	127	145	162	164
Temperature (In Situ) °C	-	7.9	11	7.8	5.4	5	0	0	4.3	7.9	11	11
Total Dissolved Solids (In Situ)	-	91	95	86	88	4	0	0	89	98	106	107
Turbidity (In Situ) NTU	-	2.8	6.1	3	3.7	5	0	0	2.6	6.1	8.9	9
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	2.1	1.3	5	0	5	1	1	1	1
Alkalinity (Total as CaCO3)	1	69	72	71	71	5	0	0	69	71	72	72
Alkalinity/ Bicarbonate as CaCO3	1	69	72	71	71	5	0	0	69	71	72	72
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8	8.1	8.1	8.1	5	0	0	8	8	8.1	8.1
Specific Conductivity µS/cm	2	140	144	142	142	5	0	0	135	139	143	144
Total Dissolved Solids	13	93	101	101	87	5	0	0	84	89	95	96
Turbidity NTU	0.1	1.8	4.1	1.6	2.2	5	0	0	0.58	3.6	7.1	7.7
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.059	0.064	0.058	0.06	5	0	0	0.048	0.055	0.059	0.059
Sulphate (Dissolved)	0.3	3.8	4.1	3.5	3.8	5	0	0	3.5	3.6	3.8	3.9
Nutrients												
Ammonia (Dissolved)	0.005	0.0035	0.0076	0.0033	0.0025	5	0	2	0.0025	0.0093	0.024	0.029
Ammonia (Total)	0.005	0.0044	0.012	0.005	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	0.078	0.085	0.077	0.076	5	0	0	0.079	0.081	0.084	0.085
Nitrate+Nitrite (Dissolved)	0.0051	0.077	0.082	0.077	0.078	3	0	0	0.079	0.081	0.084	0.085
Nitrite (as N)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.089	0.11	0.076	0.071	5	0	0	0.096	0.11	0.11	0.11
Nitrogen (Total)	0.03	0.09	0.11	0.08	0.081	5	0	0	0.077	0.086	0.093	0.093
Nitrogen Kjeldahl (Total)	0.05	0.031	0.084	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.01	0.1	0.11	0.11	0.1	5	0	0	0.1	0.11	0.11	0.11
Phosphorus (Nutrient) Dissolved	0.002	0.11	0.12	0.11	0.11	5	0	0	0.11	0.12	0.12	0.12
Phosphorus (Nutrient) Total	0.002	0.12	0.14	0.12	0.12	5	0	0	0.12	0.12	0.13	0.13
Total Inorganic Nitrogen	0.025	0.067	0.067	-	0.078	3	0	0	0.08	0.08	0.081	0.081
Cyanide												
Cyanate	0.2	0.1	0.1	0.1	0.1	5	0	5	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.003	0.0085	0.0016	0.0022	5	0	1	0.0005	0.0018	0.003	0.0031
Antimony (Dissolved)	0.0001	0.000068	0.00011	0.000050	0.000050	5	0	1	0.000050	0.00012	0.00018	0.00019
Arsenic (Dissolved)	0.0001	0.001	0.0011	0.00099	0.00099	5	0	0	0.00095	0.001	0.0011	0.0011
Barium (Dissolved)	0.0001	0.019	0.02	0.019	0.018	5	0	0	0.018	0.019	0.02	0.02
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.000018	0.000050	0.0000030	0.0000035	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	19	20	18	18	5	0	0	18	19	20	20
Chromium (Dissolved)	0.0005	0.0012	0.0013	0.0011	0.0011	5	0	0	0.0011	0.0012	0.0012	0.0012
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.00014	0.00032	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.0058	0.0095	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000027	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	4	4.2	3.8	3.9	5	0	0	3.5	4.1	4.3	4.3
Manganese (Dissolved)	0.0001	0.0032	0.0055	0.0021	0.0039	5	0	0	0.00032	0.0044	0.0096	0.011
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0018	0.0019	0.0018	0.0018	5	0	0	0.0018	0.0022	0.0035	0.0039
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.11	0.12	0.11	0.11	5	0	0	0.11	0.12	0.12	0.12
Potassium (Dissolved)	0.1	0.54	0.57	0.54	0.56	5	0	0	0.53	0.55	0.57	0.57
Selenium (Dissolved)	0.00005	0.00016	0.00019	0.00016	0.00015	5	0	0	0.00011	0.00015	0.00019	0.00019
Silicon (Dissolved)	0.05	8.3	8.7	8.4	8.4	5	0	0	8.3	8.7	9	9
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	4.1	4.3	4	4	5	0	0	4	4.2	4.4	4.4
Strontium (Dissolved)	0.0002	0.14	0.15	0.13	0.14	5	0	0	0.13	0.14	0.15	0.15
Sulfur (Dissolved)	0.5	1.2	1.4	1.1	1	5	0	0	1.2	1.2	1.3	1.3
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00015	0.00015	0.00015	0.00015	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00044	0.00048	0.00045	0.00044	5	0	0	0.00042	0.00043	0.00044	0.00044
Vanadium (Dissolved)	0.0005	0.00028	0.00048	0.00034	0.00025	5	0	3	0.00025	0.00036	0.00054	0.00055
Zinc (Dissolved)	0.001	0.0013	0.0022	0.00063	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.099	0.31	0.086	0.11	5	0	0	0.009	0.12	0.21	0.21
Antimony (Total)	0.0001	0.00013	0.00016	0.00012	0.0001	5	0	0	0.0002	0.00043	0.00095	0.0011
Arsenic (Total)	0.0001	0.0011	0.0012	0.0011	0.0011	5	0	0	0.001	0.0011	0.0012	0.0012
Barium (Total)	0.0001	0.02	0.022	0.02	0.02	5	0	0	0.018	0.02	0.022	0.022
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000035	0.00011	0.000014	0.000015	5	0	1	0.0000030	0.000016	0.000031	0.000034
Calcium (Total)	0.05	19	20	18	19	5	0	0	19	19	20	20
Chromium (Total)	0.0005	0.0017	0.0022	0.0017	0.0016	5	0	0	0.0015	0.0022	0.0031	0.0033
Cobalt (Total)	0.0001	0.000081	0.00023	0.000078	0.000068	5	0	2	0.000050	0.00013	0.00022	0.00022
Copper (Total)	0.0005	0.0004	0.00096	0.00036	0.00033	5	0	2	0.00025	0.00066	0.0012	0.0013
Iron (Total)	0.01	0.12	0.41	0.11	0.14	5	0	0	0.012	0.16	0.3	0.31
Lead (Total)	0.00005	0.00014	0.00039	0.00012	0.00013	5	0	1	0.000025	0.0002	0.00036	0.00037
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	4	4.3	4	4	5	0	0	4	4.2	4.4	4.4
Manganese (Total)	0.0001	0.0066	0.015	0.0052	0.0081	5	0	0	0.00079	0.0088	0.016	0.017
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.0019	0.002	0.0019	0.0018	5	0	0	0.0018	0.0023	0.0037	0.0041
Nickel (Total)	0.0005	0.00042	0.001	0.00039	0.00025	5	0	2	0.00025	0.00068	0.0011	0.0011
Phosphorus (Metal) Total	0.05	0.13	0.17	0.14	0.14	5	0	0	0.12	0.14	0.15	0.15
Potassium (Total)	0.1	0.56	0.63	0.56	0.56	5	0	0	0.48	0.56	0.6	0.61
Selenium (Total)	0.00005	0.00016	0.00019	0.00017	0.00016	5	0	0	0.00015	0.0002	0.00029	0.00032
Silicon (Total)	0.1	8.5	8.8	8.7	8.9	5	0	0	8.6	8.9	9.1	9.1
Silver (Total)	0.00001	0.0000080	0.000021	0.0000070	0.0000050	5	0	3	0.0000050	0.000014	0.000035	0.000040
Sodium (Total)	0.05	4.2	4.3	4	4.1	5	0	0	4	4.2	4.4	4.4
Strontium (Total)	0.0002	0.14	0.15	0.14	0.14	5	0	0	0.13	0.14	0.15	0.15
Sulfur (Total)	0.5	1.3	1.5	1.2	1.1	5	0	0	0.98	1.2	1.3	1.3
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000096	0.00025	0.000050	0.000050	5	0	4	0.000050	0.000064	0.00011	0.00012
Titanium (Total)	0.0003	0.0042	0.013	0.0042	0.0048	5	0	1	0.00032	0.0042	0.0096	0.011
Uranium (Total)	0.00001	0.00047	0.00051	0.00047	0.00047	5	0	0	0.00045	0.00046	0.00046	0.00047
Vanadium (Total)	0.0005	0.00073	0.0012	0.00082	0.00069	5	0	1	0.00025	0.00072	0.0011	0.0011
Zinc (Total)	0.003	0.0031	0.0076	0.0026	0.0025	5	0	2	0.0015	0.0036	0.0058	0.0059
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.28	0.5	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	0.26	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25

\\KPLNA-Prj\Clt1\00457\02A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 7 MW12-08D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

No.	Issue/Rev. Status	Description and/or Purpose of Issue/Revision	By	Date Approved

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 8 MW12-08S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	88	97	87	85	5	0	0	79	87	98	100
Oxygen Dissolved (In Situ %) %	-	59	87	52	57	5	0	0	62	63	66	66
pH (In Situ) pH	-	7.9	8.1	8.1	7.9	5	0	0	7.9	8	8.1	8.2
Redox Potential (In Situ) mV	-	254	356	50	-69	5	0	0	149	210	249	249
Salinity (In Situ) ppt	-	0.063	0.07	0.06	0.06	4	0	0	0.07	0.073	0.079	0.08
Specific Conductivity (In Situ) µS/cm	-	136	140	137	133	5	0	0	123	143	160	162
Temperature (In Situ) °C	-	6.4	9.2	6.1	6	5	0	0	3.3	4.9	6.3	6.4
Total Dissolved Solids (In Situ)	-	88	91	85	86	4	0	0	91	96	104	105
Turbidity (In Situ) NTU	-	1.2	6.1	0.62	2	5	0	0	-0.59	1.7	2.6	2.6
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1.3	5	0	5	1	1	1	1
Alkalinity (Total as CaCO3)	1	68	70	70	71	5	0	0	68	70	71	71
Alkalinity/ Bicarbonate as CaCO3	1	68	70	70	71	5	0	0	68	70	71	71
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8	8.1	8.1	8.1	5	0	0	8	8.1	8.1	8.1
Specific Conductivity µS/cm	2	137	141	139	140	5	0	0	133	136	141	142
Total Dissolved Solids	13	91	103	72	80	5	0	0	78	87	97	99
Turbidity NTU	0.1	0.45	2.2	0.31	0.79	5	0	2	0.05	0.15	0.29	0.3
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	4	0.25	1.3	4.5	5.5
Fluoride (Dissolved)	0.02	0.075	0.079	0.074	0.076	5	0	0	0.062	0.069	0.073	0.073
Sulphate (Dissolved)	0.3	3.4	3.6	3.2	3.3	5	0	0	3	3.2	3.5	3.5
Nutrients												
Ammonia (Dissolved)	0.005	0.0025	0.0025	0.0033	0.0034	5	0	5	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0028	0.005	0.0025	0.0032	5	0	5	0.0025	0.0025	0.0025	0.0029
Nitrate (as N)	0.005	0.069	0.075	0.075	0.072	5	0	0	0.07	0.075	0.079	0.079
Nitrate+Nitrite (Dissolved)	0.0051	0.071	0.075	0.075	0.073	3	0	0	0.07	0.076	0.079	0.079
Nitrite (as N)	0.001	0.00052	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.082	0.1	0.075	0.081	5	0	0	0.062	0.082	0.091	0.091
Nitrogen (Total)	0.03	0.081	0.11	0.069	0.086	5	0	0	0.068	0.074	0.078	0.078
Nitrogen Kjeldahl (Total)	0.05	0.031	0.074	0.025	0.038	5	0	5	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	0.048	0.053	0.048	0.044	5	0	0	0.041	0.048	0.052	0.052
Phosphorus (Nutrient) Dissolved	0.002	0.05	0.056	0.051	0.049	5	0	0	0.05	0.051	0.054	0.054
Phosphorus (Nutrient) Total	0.002	0.053	0.066	0.052	0.053	5	0	0	0.049	0.051	0.053	0.053
Total Inorganic Nitrogen	0.025	0.062	0.062	-	0.073	3	0	0	0.074	0.076	0.078	0.078
Cyanide												
Cyanate	0.2	0.11	0.1	0.1	0.1	5	0	5	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.24	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0016	0.0024	0.0015	0.0014	5	0	1	0.0005	0.0015	0.0026	0.0028
Antimony (Dissolved)	0.0001	0.000056	0.000095	0.000050	0.000065	5	0	4	0.000050	0.000094	0.00023	0.00027
Arsenic (Dissolved)	0.0001	0.0013	0.0014	0.0013	0.0013	5	0	0	0.0012	0.0013	0.0013	0.0013
Barium (Dissolved)	0.0001	0.0048	0.0056	0.0046	0.0048	5	0	0	0.0041	0.0043	0.0045	0.0045
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.000015	0.000059	0.0000030	0.0000050	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	19	20	19	19	5	0	0	19	19	20	21
Chromium (Dissolved)	0.0005	0.0014	0.0015	0.0014	0.0013	5	0	0	0.0014	0.0014	0.0015	0.0015
Cobalt (Dissolved)	0.0001	0.000052	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.00015	0.00031	0.00017	0.00018	5	0	5	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000029	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	3.4	3.6	3.3	3.3	5	0	0	3.1	3.5	3.7	3.7
Manganese (Dissolved)	0.0001	0.00022	0.00062	0.00026	0.00057	5	0	3	0.000050	0.00016	0.00038	0.00041
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0018	0.0019	0.0018	0.0018	5	0	0	0.0017	0.0028	0.0055	0.0064
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.043	0.071	0.04	0.048	5	0	1	0.025	0.049	0.061	0.062
Potassium (Dissolved)	0.1	0.72	0.76	0.72	0.75	5	0	0	0.72	0.73	0.75	0.75
Selenium (Dissolved)	0.00005	0.00014	0.00018	0.00016	0.00013	5	0	0	0.00013	0.00016	0.00017	0.00017
Silicon (Dissolved)	0.05	7.3	7.7	7.4	7.4	5	0	0	7.2	7.7	7.9	7.9
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	3.8	4	3.8	3.8	5	0	0	3.7	3.9	4.1	4.1
Strontium (Dissolved)	0.0002	0.12	0.12	0.12	0.12	5	0	0	0.11	0.12	0.13	0.13
Sulfur (Dissolved)	0.5	1	1.3	1.1	0.9	5	0	0	0.98	1.1	1.1	1.1
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00024	0.00015	0.00015	0.00015	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00041	0.00044	0.00042	0.00042	5	0	0	0.00042	0.00042	0.00043	0.00043
Vanadium (Dissolved)	0.0005	0.0022	0.0023	0.0022	0.0021	5	0	0	0.0022	0.0022	0.0024	0.0024
Zinc (Dissolved)	0.001	0.001	0.0034	0.0005	0.00082	5	0	5	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.011	0.029	0.012	0.049	5	0	2	0.0015	0.0034	0.0064	0.0071
Antimony (Total)	0.0001	0.000081	0.00023	0.000065	0.000075	5	0	4	0.000050	0.000096	0.00023	0.00028
Arsenic (Total)	0.0001	0.0013	0.0014	0.0014	0.0013	5	0	0	0.0012	0.0013	0.0013	0.0013
Barium (Total)	0.0001	0.0052	0.0068	0.0048	0.0056	5	0	0	0.0041	0.0043	0.0045	0.0045
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000021	0.00011	0.0000040	0.0000083	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Total)	0.05	19	20	19	19	5	0	0	18	19	20	20
Chromium (Total)	0.0005	0.0017	0.0022	0.0016	0.0016	5	0	0	0.0014	0.0015	0.0015	0.0015
Cobalt (Total)	0.0001	0.000063	0.0001	0.000050	0.000063	5	0	5	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	0.00035	0.001	0.0012	0.00044	5	0	5	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	0.01	0.022	0.017	0.047	5	0	5	0.005	0.005	0.005	0.005
Lead (Total)	0.00005	0.000061	0.00023	0.000025	0.000066	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	3.4	3.6	3.4	3.4	5	0	0	3.4	3.6	3.8	3.8
Manganese (Total)	0.0001	0.0005	0.00092	0.00059	0.0028	5	0	2	0.000050	0.00026	0.0006	0.00064
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.0019	0.0021	0.0019	0.0018	5	0	0	0.0018	0.003	0.0064	0.0075
Nickel (Total)	0.0005	0.00036	0.00099	0.00025	0.00037	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	0.07	0.1	0.064	0.077	5	0	1	0.025	0.064	0.081	0.082
Potassium (Total)	0.1	0.73	0.78	0.73	0.75	5	0	0	0.65	0.71	0.75	0.75
Selenium (Total)	0.00005	0.00016	0.00018	0.00015	0.00014	5	0	0	0.00011	0.00015	0.00018	0.00019
Silicon (Total)	0.1	7.4	7.7	7.4	7.6	5	0	0	7.1	7.4	7.5	7.5
Silver (Total)	0.00001	0.0000057	0.000010	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	3.9	4.2	3.8	3.8	5	0	0	3.9	4	4.1	4.1
Strontium (Total)	0.0002	0.12	0.13	0.12	0.12	5	0	0	0.11	0.12	0.13	0.13
Sulfur (Total)	0.5	1.1	1.3	1.1	0.85	5	0	0	0.76	0.99	1.1	1.1
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000059	0.00011	0.000050	0.000068	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.0018	0.0067	0.00027	0.0021	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Total)	0.00001	0.00043	0.00046	0.00045	0.00044	5	0	0	0.00041	0.00042	0.00043	0.00044
Vanadium (Total)	0.0005	0.0024	0.0026	0.0024	0.0023	5	0	0	0.0022	0.0023	0.0024	0.0025
Zinc (Total)	0.003	0.0022	0.0046	0.003	0.0025	5	0	5	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.29	0.61	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	0.33	0.85	0.25	0.33	5	0	5	0.25	0.25	0.25	0.25

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

NO.	REVISION / ISSUE	BY	CHK'D	APP'D

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 9 MW12-09D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	104	116	104	100	5	0	0	96	104	113	113
Oxygen Dissolved (In Situ %) %	-	24	44	24	30	5	0	0	23	41	92	108
pH (In Situ) pH	-	8.1	8.3	8.3	8.2	5	0	0	8.2	8.3	8.4	8.4
Redox Potential (In Situ) mV	-	215	347	61	71	5	0	0	-125	112	213	215
Salinity (In Situ) ppt	-	0.077	0.08	0.07	0.036	4	0	0	0.07	0.078	0.08	0.08
Specific Conductivity (In Situ) µS/cm	-	159	166	162	158	5	0	0	144	163	175	176
Temperature (In Situ) °C	-	6.8	10	6.3	6	5	0	0	3	6.1	9.3	9.7
Total Dissolved Solids (In Situ)	-	104	107	102	101	4	0	0	100	108	115	115
Turbidity (In Situ) NTU	-	0.72	1.8	0.79	1.1	5	0	0	0	2.2	4.7	5.4
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	5	0	5	1	1	1	1
Alkalinity (Total as CaCO3)	1	79	83	80	83	5	0	0	79	80	83	83
Alkalinity/ Bicarbonate as CaCO3	1	79	83	80	83	5	0	0	79	80	83	83
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8.1	8.2	8.1	8.1	5	0	0	8.1	8.2	8.2	8.2
Specific Conductivity µS/cm	2	161	167	159	161	5	0	0	155	160	164	165
Total Dissolved Solids	13	102	119	99	96	5	0	0	95	104	114	116
Turbidity NTU	0.1	0.41	0.79	0.45	0.4	5	0	1	0.05	0.51	1.2	1.4
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.086	0.095	0.085	0.084	5	0	0	0.072	0.082	0.087	0.087
Sulphate (Dissolved)	0.3	5.7	6.1	5.4	5.4	5	0	0	5.1	5.3	5.5	5.6
Nutrients												
Ammonia (Dissolved)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0041	0.0061	0.0025	0.0025	5	0	4	0.0025	0.0033	0.0058	0.0066
Nitrate (as N)	0.005	0.051	0.056	0.054	0.051	5	0	0	0.053	0.057	0.062	0.062
Nitrate+Nitrite (Dissolved)	0.0051	0.051	0.057	0.054	0.051	3	0	0	0.054	0.057	0.06	0.061
Nitrite (as N)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	4	0.0005	0.0006	0.0009	0.001
Nitrogen (Dissolved)	0.03	0.061	0.08	0.055	0.049	5	0	0	0.047	0.067	0.082	0.085
Nitrogen (Total)	0.03	0.06	0.078	0.052	0.052	5	0	0	0.059	0.067	0.078	0.079
Nitrogen Kjeldahl (Total)	0.05	0.027	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	0.042	0.045	0.042	0.039	5	0	0	0.038	0.041	0.043	0.043
Phosphorus (Nutrient) Dissolved	0.002	0.042	0.046	0.044	0.042	5	0	0	0.041	0.043	0.044	0.045
Phosphorus (Nutrient) Total	0.002	0.044	0.049	0.045	0.044	5	0	0	0.043	0.045	0.048	0.048
Total Inorganic Nitrogen	0.025	0.042	0.042	-	0.054	4	0	0	0.053	0.056	0.061	0.062
Cyanide												
Cyanate	0.2	0.1	0.1	0.1	0.1	5	0	5	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Thiocyanate (SCN)	0.5	0.24	0.25	0.94	0.25	5	0	5	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0031	0.0042	0.0024	0.0055	5	0	0	0.0021	0.0023	0.0025	0.0025
Antimony (Dissolved)	0.0001	0.000068	0.00011	0.000063	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	0.0033	0.0035	0.0033	0.0033	5	0	0	0.0032	0.0033	0.0035	0.0035
Barium (Dissolved)	0.0001	0.0092	0.0099	0.0089	0.0088	5	0	0	0.0088	0.009	0.0092	0.0093
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.000113	0.00020	0.0000080	0.0000062	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	22	23	21	21	5	0	0	21	22	23	23
Chromium (Dissolved)	0.0005	0.0014	0.0016	0.0015	0.0015	5	0	0	0.0015	0.0015	0.0015	0.0015
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.0001	0.0001	0.0001	0.00029	5	0	5	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	4.5	4.7	4.4	4.5	5	0	0	4.2	4.7	5	5
Manganese (Dissolved)	0.0001	0.00023	0.00047	0.00022	0.00027	5	0	1	0.000050	0.00014	0.00022	0.00023
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0026	0.0028	0.0026	0.0026	5	0	0	0.0025	0.0027	0.0031	0.0031
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.029	0.059	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	0.71	0.77	0.71	0.73	5	0	0	0.72	0.74	0.76	0.76
Selenium (Dissolved)	0.00005	0.00049	0.00056	0.00051	0.00049	5	0	0	0.00044	0.00048	0.00054	0.00055
Silicon (Dissolved)	0.05	6.5	6.9	6.6	6.6	5	0	0	6.1	6.7	7	7
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	4.4	4.7	4.3	4.3	5	0	0	4.1	4.4	4.6	4.7
Strontium (Dissolved)	0.0002	0.16	0.17	0.15	0.16	5	0	0	0.15	0.16	0.17	0.17
Sulfur (Dissolved)	0.5	1.9	2.2	1.7	1.7	5	0	0	1.8	1.8	1.9	1.9
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	4	0.000050	0.000060	0.000090	0.0001
Titanium (Dissolved)	0.0003	0.00015	0.00015	0.00015	0.00015	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00041	0.00044	0.0004	0.0004	5	0	0	0.00039	0.00041	0.00042	0.00042
Vanadium (Dissolved)	0.0005	0.0032	0.0034	0.0032	0.0032	5	0	0	0.0033	0.0033	0.0034	0.0034
Zinc (Dissolved)	0.001	0.00065	0.0013	0.0005	0.0008	5	0	5	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.032	0.09	0.019	0.034	5	0	0	0.0071	0.08	0.27	0.33
Antimony (Total)	0.0001	0.00011	0.00016	0.000097	0.000082	5	0	0	0.00011	0.00019	0.00025	0.00026
Arsenic (Total)	0.0001	0.0034	0.0035	0.0035	0.0033	5	0	0	0.0033	0.0034	0.0036	0.0036
Barium (Total)	0.0001	0.0099	0.011	0.0094	0.0095	5	0	0	0.0089	0.01	0.013	0.013
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000023	0.000044	0.000019	0.000013	5	0	1	0.0000030	0.000019	0.000056	0.000067
Calcium (Total)	0.05	22	25	21	22	5	0	0	21	22	24	24
Chromium (Total)	0.0005	0.0017	0.002	0.0018	0.0019	5	0	0	0.0016	0.0023	0.0034	0.0037
Cobalt (Total)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	4	0.000050	0.000086	0.00019	0.00023
Copper (Total)	0.0005	0.00025	0.00025	0.034	0.00051	5	0	4	0.00025	0.00053	0.0014	0.0016
Iron (Total)	0.01	0.03	0.082	0.024	0.034	5	0	1	0.005	0.089	0.31	0.38
Lead (Total)	0.00005	0.000048	0.00011	0.00089	0.000038	5	0	4	0.000025	0.00011	0.00036	0.00045
Lithium (Total)	0.001	0.00053	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	4.6	4.9	4.6	4.6	5	0	0	4.5	4.7	4.9	4.9
Manganese (Total)	0.0001	0.0025	0.0045	0.0029	0.0034	5	0	0	0.0013	0.011	0.036	0.044
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.0027	0.0028	0.0026	0.0026	5	0	0	0.0025	0.0028	0.0033	0.0034
Nickel (Total)	0.0005	0.00026	0.00025	0.00083	0.00025	5	0	3	0.00025	0.00058	0.0014	0.0015
Phosphorus (Metal) Total	0.05	0.054	0.086	0.072	0.063	5	0	0	0.058	0.064	0.071	0.073
Potassium (Total)	0.1	0.74	0.78	0.72	0.73	5	0	0	0.71	0.75	0.8	0.81
Selenium (Total)	0.00005	0.00048	0.00052	0.00054	0.00053	5	0	0	0.00043	0.00047	0.00051	0.00052
Silicon (Total)	0.1	6.7	7	6.8	6.9	5	0	0	6.7	7	7.3	7.4
Silver (Total)	0.00001	0.0000050	0.0000050	0.0000083	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	4.4	4.8	4.4	4.3	5	0	0	4.3	4.4	4.6	4.6
Strontium (Total)	0.0002	0.16	0.17	0.16	0.16	5	0	0	0.15	0.16	0.17	0.18
Sulfur (Total)	0.5	1.9	2.1	1.9	1.7	5	0	0	1.8	1.9	1.9	1.9
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000050	0.000050	0.00015	0.000050	5	0	4	0.000050	0.000064	0.00011	0.00012
Titanium (Total)	0.0003	0.0013	0.0039	0.0011	0.0016	5	0	1	0.00015	0.004	0.014	0.018
Uranium (Total)	0.00001	0.00043	0.00046	0.00043	0.00043	5	0	0	0.00042	0.00043	0.00044	0.00044
Vanadium (Total)	0.0005	0.0034	0.0036	0.0034	0.0034	5	0	0	0.0033	0.0035	0.004	0.0041
Zinc (Total)	0.003	0.0016	0.0015	0.021	0.0015	5	0	4	0.0015	0.0026	0.0059	0.007
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	0.27	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25

\\KPLVA-Prj\Ef\1\01\00457\E2\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_vA.xlsx]TABLE 9 MW12-09D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	ISSUED AS	ISSUED WITH REPORT - NO CHANGES	SB	MJB	
REV	DATE	DESCRIPTION	PREPARED	REVIEWED	

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 10 MW12-09S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	-	90	5	0	0	80	88	94	95
Oxygen Dissolved (In Situ %) %	-	-	-	-	41	5	0	0	51	59	73	77
pH (In Situ) pH	-	-	-	-	7.5	5	0	0	7.2	7.3	7.5	7.5
Redox Potential (In Situ) mV	-	-	-	-	-121	5	0	0	145	190	267	275
Salinity (In Situ) ppt	-	-	-	-	0.07	4	0	0	0	0.05	0.07	0.07
Specific Conductivity (In Situ) µS/cm	-	-	-	-	142	5	0	0	119	136	150	152
Temperature (In Situ) °C	-	-	-	-	5.8	5	0	0	4.2	6.8	12	13
Total Dissolved Solids (In Situ)	-	-	-	-	92	3	2	0	80	88	94	94
Turbidity (In Situ) NTU	-	-	-	-	0.54	5	0	0	1.7	3.1	4.3	4.3
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	1.6	5	0	4	1	1.4	2.7	3.1
Alkalinity (Total as CaCO3)	1	-	-	-	72	5	0	0	60	67	71	71
Alkalinity/ Bicarbonate as CaCO3	1	-	-	-	72	5	0	0	60	67	71	71
Alkalinity/ Carbonate as CaCO3	1	-	-	-	0.5	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	-	0.5	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	-	8	5	0	0	7.7	7.8	8	8
Specific Conductivity µS/cm	2	-	-	-	147	5	0	0	126	133	139	140
Total Dissolved Solids	13	-	-	-	92	5	0	0	78	86	92	92
Turbidity NTU	0.1	-	-	-	0.22	5	0	0	0.12	0.62	1.8	2.2
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	-	0.025	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	-	0.25	5	0	5	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	-	-	-	0.052	5	0	0	0.051	0.055	0.059	0.059
Sulphate (Dissolved)	0.3	-	-	-	5.3	5	0	0	3.6	4.4	4.9	5
Nutrients												
Ammonia (Dissolved)	0.005	-	-	-	0.0051	5	0	5	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	-	-	-	0.0053	5	0	4	0.0025	0.0036	0.0071	0.0082
Nitrate (as N)	0.005	-	-	-	0.056	5	0	0	0.074	0.087	0.094	0.095
Nitrate+Nitrite (Dissolved)	0.0051	-	-	-	0.054	3	0	0	0.074	0.084	0.09	0.09
Nitrite (as N)	0.001	-	-	-	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	-	-	-	0.088	5	0	0	0.071	0.1	0.12	0.12
Nitrogen (Total)	0.03	-	-	-	0.084	5	0	0	0.079	0.095	0.11	0.12
Nitrogen Kjeldahl (Total)	0.05	-	-	-	0.044	5	0	5	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	-	-	-	0.017	5	0	0	0.0056	0.0098	0.012	0.012
Phosphorus (Nutrient) Dissolved	0.002	-	-	-	0.02	5	0	0	0.0082	0.012	0.014	0.015
Phosphorus (Nutrient) Total	0.002	-	-	-	0.019	5	0	0	0.0096	0.012	0.015	0.015
Total Inorganic Nitrogen	0.025	-	-	-	-	3	0	0	0.087	0.091	0.095	0.095
Cyanide												
Cyanate	0.2	-	-	-	0.1	5	0	5	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	-	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	-	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	-	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	-	0.25	5	0	5	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	-	0.0017	5	0	3	0.0005	0.00098	0.0021	0.0024
Antimony (Dissolved)	0.0001	-	-	-	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	-	-	-	0.0018	5	0	0	0.00061	0.00087	0.0012	0.0013
Barium (Dissolved)	0.0001	-	-	-	0.01	5	0	0	0.0077	0.0086	0.0093	0.0094
Beryllium (Dissolved)	0.00002	-	-	-	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	-	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	-	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	-	0.0000030	5	0	4	0.0000030	0.0000042	0.0000078	0.0000090
Calcium (Dissolved)	0.05	-	-	-	21	5	0	0	17	19	20	20
Chromium (Dissolved)	0.0005	-	-	-	0.00069	5	0	1	0.00025	0.00051	0.00058	0.00058
Cobalt (Dissolved)	0.0001	-	-	-	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	-	0.0001	5	0	4	0.0001	0.00013	0.0002	0.00023
Iron (Dissolved)	0.01	-	-	-	0.005	5	0	5	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	-	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	-	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	-	3.9	5	0	0	3.4	3.6	3.9	4
Manganese (Dissolved)	0.0001	-	-	-	0.00012	5	0	2	0.000050	0.00012	0.00021	0.00022
Mercury (Dissolved)	0.0000005	-	-	-	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	-	0.0013	5	0	0	0.00089	0.0011	0.0015	0.0016
Nickel (Dissolved)	0.0005	-	-	-	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	-	0.025	5	0	5	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	-	0.76	5	0	0	0.73	0.75	0.78	0.79
Selenium (Dissolved)	0.00005	-	-	-	0.0003	5	0	0	0.00019	0.00023	0.00027	0.00027
Silicon (Dissolved)	0.05	-	-	-	6.7	5	0	0	6.3	6.7	6.9	6.9
Silver (Dissolved)	0.00001	-	-	-	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	-	3.5	5	0	0	3.3	3.4	3.6	3.6
Strontium (Dissolved)	0.0002	-	-	-	0.11	5	0	0	0.09	0.096	0.11	0.11
Sulfur (Dissolved)	0.5	-	-	-	1.6	5	0	0	0.9	1.4	1.6	1.7
Thallium (Dissolved)	0.00001	-	-	-	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	-	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	-	0.00015	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	-	0.00022	5	0	0	0.000058	0.0001	0.00015	0.00016
Vanadium (Dissolved)	0.0005	-	-	-	0.001	5	0	0	0.00061	0.0007	0.0008	0.00081
Zinc (Dissolved)	0.001	-	-	-	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	-	-	-	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	-	0.0053	5	0	0	0.0037	0.021	0.065	0.079
Antimony (Total)	0.0001	-	-	-	0.000050	5	0	4	0.000050	0.000080	0.00017	0.0002
Arsenic (Total)	0.0001	-	-	-	0.0018	5	0	0	0.00059	0.00085	0.0011	0.0012
Barium (Total)	0.0001	-	-	-	0.01	5	0	0	0.0072	0.0086	0.0092	0.0092
Beryllium (Total)	0.00002	-	-	-	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	-	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	-	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	-	0.0000030	5	0	3	0.0000030	0.0000048	0.0000090	0.000010
Calcium (Total)	0.05	-	-	-	21	5	0	0	15	19	21	21
Chromium (Total)	0.0005	-	-	-	0.0008	5	0	0	0.00054	0.00062	0.00072	0.00074
Cobalt (Total)	0.0001	-	-	-	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	-	-	-	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	-	-	-	0.005	5	0	4	0.005	0.016	0.048	0.059
Lead (Total)	0.00005	-	-	-	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	-	-	-	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	-	-	-	4	5	0	0	3.2	3.7	4	4
Manganese (Total)	0.0001	-	-	-	0.0002	5	0	0	0.0002	0.0005	0.0012	0.0015
Mercury (Total)	0.0000005	-	-	-	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	-	0.0013	5	0	0	0.00085	0.0011	0.0015	0.0016
Nickel (Total)	0.0005	-	-	-	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	-	-	-	0.041	5	0	4	0.025	0.031	0.047	0.053
Potassium (Total)	0.1	-	-	-	0.78	5	0	0	0.7	0.76	0.78	0.78
Selenium (Total)	0.00005	-	-	-	0.00028	5	0	0	0.00018	0.00022	0.00025	0.00025
Silicon (Total)	0.1	-	-	-	6.7	5	0	0	6.4	6.6	6.8	6.8
Silver (Total)	0.00001	-	-	-	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	-	3.6	5	0	0	3.2	3.5	3.6	3.6
Strontium (Total)	0.0002	-	-	-	0.11	5	0	0	0.085	0.094	0.1	0.1
Sulfur (Total)	0.5	-	-	-	1.6	5	0	0	1.2	1.5	1.7	1.8
Thallium (Total)	0.00001	-	-	-	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	-	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	-	0.00015	5	0	4	0.00015	0.00054	0.0017	0.0021
Uranium (Total)	0.00001	-	-	-	0.00023	5	0	0	0.000060	0.0001	0.00015	0.00015
Vanadium (Total)	0.0005	-	-	-	0.0011	5	0	0	0.00064	0.00075	0.00082	0.00083
Zinc (Total)	0.003	-	-	-	0.0015	5	0	5	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	-	-	-	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	-	0.25	5	0	4	0.25	0.36	0.71	0.82
Carbon Organic (Total)	0.5	-	-	-	0.44	5	0	3	0.25	0.38	0.62	0.64

\\KPLNA-Prj\Ti01\00457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 10 MW12-09S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

NO.	ISSUE/DATE	REVISION/REPORT ISSUE DETAILS	BY	CHK
REV	DATE	DESCRIPTION	KNIGHT PIÉSOLD	SOURCE

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 11 MW12-12D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	95	107	97	95	4	0	0	91	100	104	104
Oxygen Dissolved (In Situ %) %	-	18	35	24	31	4	0	0	11	29	58	64
pH (In Situ) pH	-	7.8	8	7.9	7.7	4	0	0	7.6	7.8	8	8.1
Redox Potential (In Situ) mV	-	216	308	56	-52	4	0	0	126	188	229	230
Salinity (In Situ) ppt	-	0.074	0.083	0.07	0.073	3	0	0	0.07	0.073	0.079	0.08
Specific Conductivity (In Situ) µS/cm	-	151	163	155	153	4	0	0	141	155	167	169
Temperature (In Situ) °C	-	5.8	8.4	5.6	5.2	4	0	0	3.4	6.1	10	11
Total Dissolved Solids (In Situ)	-	98	107	98	101	3	0	0	101	101	101	101
Turbidity (In Situ) NTU	-	8.2	14	9.1	9	4	0	0	1.6	4.4	6.4	6.6
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	4	0	3	1	1.4	2.2	2.4
Alkalinity (Total as CaCO3)	1	76	78	76	77	4	0	0	74	76	78	78
Alkalinity/ Bicarbonate as CaCO3	1	76	78	76	77	4	0	0	74	76	78	78
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8	8.2	8.1	8.1	4	0	0	7.9	8	8.1	8.2
Specific Conductivity µS/cm	2	155	164	155	158	4	0	0	148	152	155	155
Total Dissolved Solids	13	107	115	105	102	4	0	0	98	106	111	111
Turbidity NTU	0.1	5.3	8.5	5.2	6.8	4	0	0	0.25	3.4	5.7	6.1
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.086	0.091	0.084	0.086	4	0	0	0.082	0.085	0.087	0.087
Sulphate (Dissolved)	0.3	5.8	8.1	4.9	6.6	4	0	0	5.1	5.8	7	7.2
Nutrients												
Ammonia (Dissolved)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0035	0.0058	0.0035	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	0.12	0.17	0.16	0.16	4	0	0	0.078	0.11	0.16	0.17
Nitrate+Nitrite (Dissolved)	0.0051	0.13	0.17	0.16	0.18	4	0	0	0.078	0.11	0.16	0.17
Nitrite (as N)	0.001	0.00063	0.0016	0.0005	0.0005	4	0	3	0.0005	0.0008	0.0015	0.0017
Nitrogen (Dissolved)	0.03	0.14	0.2	0.15	0.16	4	0	0	0.092	0.12	0.16	0.17
Nitrogen (Total)	0.03	0.17	0.21	0.24	0.23	4	0	0	0.089	0.13	0.18	0.19
Nitrogen Kjeldahl (Total)	0.05	0.048	0.087	0.082	0.082	4	0	3	0.025	0.036	0.062	0.068
Orthophosphate (Dissolved)	0.001	0.057	0.062	0.053	0.051	4	0	0	0.044	0.054	0.069	0.073
Phosphorus (Nutrient) Dissolved	0.002	0.059	0.065	0.056	0.053	4	0	0	0.05	0.057	0.071	0.074
Phosphorus (Nutrient) Total	0.002	0.071	0.086	0.078	0.081	4	0	0	0.05	0.07	0.088	0.088
Total Inorganic Nitrogen	0.025	-	-	-	-	2	0	0	0.1	0.1	0.11	0.11
Cyanide												
Cyanate	0.2	0.11	0.1	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.24	0.25	0.88	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0077	0.019	0.0074	0.003	4	0	0	0.0015	0.0019	0.0025	0.0026
Antimony (Dissolved)	0.0001	0.0001	0.00017	0.000068	0.00016	4	0	0	0.00018	0.00071	0.0013	0.0014
Arsenic (Dissolved)	0.0001	0.0015	0.0016	0.0014	0.0014	4	0	0	0.0014	0.0014	0.0015	0.0015
Barium (Dissolved)	0.0001	0.022	0.026	0.018	0.018	4	0	0	0.015	0.016	0.016	0.016
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.000069	0.00012	0.000045	0.000026	4	0	0	0.000010	0.000019	0.000027	0.000027
Calcium (Dissolved)	0.05	18	19	18	17	4	0	0	17	17	18	18
Chromium (Dissolved)	0.0005	0.00098	0.0012	0.00098	0.0011	4	0	0	0.00087	0.00098	0.0011	0.0011
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.00013	0.00024	0.00021	0.00017	4	0	4	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.0085	0.016	0.009	0.005	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000028	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	4.4	4.6	4.4	4.5	4	0	0	4.1	4.4	4.7	4.7
Manganese (Dissolved)	0.0001	0.0068	0.0098	0.0055	0.0059	4	0	0	0.00022	0.0026	0.005	0.0052
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.00078	0.0009	0.00073	0.00091	4	0	0	0.00078	0.00091	0.0011	0.0012
Nickel (Dissolved)	0.0005	0.00034	0.0007	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.055	0.069	0.058	0.042	4	0	3	0.025	0.042	0.083	0.093
Potassium (Dissolved)	0.1	0.91	1	0.9	0.94	4	0	0	0.84	0.85	0.87	0.88
Selenium (Dissolved)	0.00005	0.00044	0.00052	0.00037	0.00037	4	0	0	0.00035	0.00038	0.00044	0.00045
Silicon (Dissolved)	0.05	10	11	11	11	4	0	0	11	11	11	11
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	8.3	9.2	8	8.7	4	0	0	7.6	8.1	8.5	8.5
Strontium (Dissolved)	0.0002	0.14	0.14	0.14	0.14	4	0	0	0.13	0.14	0.15	0.15
Sulfur (Dissolved)	0.5	2	2.8	1.9	2.3	4	0	0	1.8	2	2.2	2.3
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00025	0.00048	0.00025	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00045	0.0006	0.0004	0.00043	4	0	0	0.00038	0.0004	0.00042	0.00043
Vanadium (Dissolved)	0.0005	0.0023	0.0024	0.0023	0.0024	4	0	0	0.0023	0.0024	0.0025	0.0025
Zinc (Dissolved)	0.001	0.0038	0.0087	0.0077	0.0041	4	0	0	0.0019	0.0023	0.0028	0.0029
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.28	0.48	0.3	0.34	4	0	0	0.017	0.14	0.24	0.25
Antimony (Total)	0.0001	0.00021	0.00031	0.00022	0.00057	4	0	0	0.00038	0.0016	0.0033	0.0036
Arsenic (Total)	0.0001	0.0017	0.0019	0.0016	0.0016	4	0	0	0.0014	0.0014	0.0015	0.0015
Barium (Total)	0.0001	0.024	0.031	0.022	0.021	4	0	0	0.015	0.016	0.018	0.018
Beryllium (Total)	0.00002	0.000015	0.000030	0.000014	0.000015	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.0053	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.00024	0.00039	0.00016	0.00013	4	0	0	0.000033	0.000058	0.000078	0.000078
Calcium (Total)	0.05	18	19	17	18	4	0	0	17	18	18	18
Chromium (Total)	0.0005	0.0021	0.0032	0.0022	0.003	4	0	0	0.0013	0.0016	0.0019	0.0019
Cobalt (Total)	0.0001	0.00015	0.00025	0.00016	0.00019	4	0	2	0.000050	0.000085	0.00013	0.00013
Copper (Total)	0.0005	0.00098	0.002	0.0013	0.0013	4	0	1	0.00025	0.00061	0.00076	0.00076
Iron (Total)	0.01	0.25	0.45	0.31	0.36	4	0	0	0.016	0.12	0.2	0.21
Lead (Total)	0.00005	0.00037	0.00081	0.00052	0.00053	4	0	1	0.000025	0.00018	0.00027	0.00028
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	4.5	5	4.5	4.5	4	0	0	4.3	4.6	4.7	4.8
Manganese (Total)	0.0001	0.015	0.023	0.015	0.016	4	0	0	0.0011	0.0063	0.0098	0.01
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.00083	0.001	0.00079	0.00096	4	0	0	0.00079	0.00093	0.0012	0.0012
Nickel (Total)	0.0005	0.00098	0.0016	0.0012	0.0013	4	0	1	0.00025	0.00058	0.00078	0.00078
Phosphorus (Metal) Total	0.05	0.087	0.13	0.093	0.092	4	0	0	0.062	0.094	0.14	0.15
Potassium (Total)	0.1	0.96	1.1	0.91	1	4	0	0	0.84	0.88	0.93	0.94
Selenium (Total)	0.00005	0.00044	0.0005	0.0004	0.00037	4	0	0	0.00036	0.00038	0.0004	0.0004
Silicon (Total)	0.1	11	12	11	11	4	0	0	11	11	12	12
Silver (Total)	0.00001	0.000025	0.000065	0.000017	0.000014	4	0	3	0.0000050	0.000011	0.000026	0.000030
Sodium (Total)	0.05	8.3	9.7	7.9	8.4	4	0	0	7.8	8.3	8.8	8.8
Strontium (Total)	0.0002	0.14	0.15	0.14	0.14	4	0	0	0.14	0.14	0.15	0.15
Sulfur (Total)	0.5	1.9	2.8	1.8	2.1	4	0	0	1.6	1.8	2	2
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000065	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.00011	0.0002	0.00014	0.00015	4	0	2	0.000050	0.000077	0.00011	0.00011
Titanium (Total)	0.0003	0.011	0.023	0.012	0.014	4	0	0	0.00055	0.0056	0.0098	0.01
Uranium (Total)	0.00001	0.00048	0.00065	0.00044	0.00045	4	0	0	0.00038	0.0004	0.00042	0.00042
Vanadium (Total)	0.0005	0.003	0.0035	0.0029	0.0031	4	0	0	0.0025	0.0028	0.0029	0.003
Zinc (Total)	0.003	0.011	0.029	0.02	0.014	4	0	1	0.0015	0.0054	0.0071	0.0072
Zirconium (Total)	0.0002	0.00014	0.00021	0.00017	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.32	0.67	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	0.52	1.4	0.56	0.42	4	0	3	0.25	0.32	0.47	0.51

\\KPLNA-Prj\Ti01\00457\62A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 11 MW12-12D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	26MAR26	ISSUED WITH REPORT REV 1 (2025)	AB	CAS
REV	DATE	DESCRIPTION	CHK'D	APP'D

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 12 MW12-12S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	84	104	82	79	4	0	0	76	84	89	89
Oxygen Dissolved (In Situ %) %	-	29	43	30	24	4	0	0	12	24	40	43
pH (In Situ) pH	-	7.4	7.7	7.6	7.4	4	0	0	7.4	7.5	7.6	7.6
Redox Potential (In Situ) mV	-	255	304	105	-110	4	0	0	129	193	261	272
Salinity (In Situ) ppt	-	0.063	0.086	0.057	0.06	3	0	0	0.06	0.063	0.069	0.07
Specific Conductivity (In Situ) µS/cm	-	129	143	124	123	4	0	0	112	127	139	141
Temperature (In Situ) °C	-	7	12	7	6	4	0	0	5.5	7.3	8.6	8.6
Total Dissolved Solids (In Situ)	-	83	94	77	81	3	0	0	82	86	91	92
Turbidity (In Situ) NTU	-	1.7	5.2	0.86	1.1	4	0	0	1.9	3.5	5.6	6.1
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	4	0	2	1	1.6	2.4	2.4
Alkalinity (Total as CaCO3)	1	65	70	64	65	4	0	0	61	64	66	66
Alkalinity/ Bicarbonate as CaCO3	1	65	70	64	65	4	0	0	61	64	66	66
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	7.9	8.1	8	8	4	0	0	7.7	7.9	8	8
Specific Conductivity µS/cm	2	130	145	123	130	4	0	0	123	125	126	126
Total Dissolved Solids	13	88	101	84	82	4	0	0	84	87	90	90
Turbidity NTU	0.1	0.99	1.9	0.38	0.66	4	0	0	0.21	0.38	0.52	0.53
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.092	0.099	0.096	0.083	4	0	0	0.071	0.083	0.09	0.09
Sulphate (Dissolved)	0.3	3.4	8.4	1.8	3.4	4	0	0	2.1	3.1	4	4
Nutrients												
Ammonia (Dissolved)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0032	0.0025	0.0035	0.0032	4	0	4	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	0.026	0.034	0.027	0.022	4	0	0	0.021	0.026	0.03	0.031
Nitrate+Nitrite (Dissolved)	0.0051	0.026	0.03	0.027	0.024	4	0	0	0.021	0.026	0.03	0.031
Nitrite (as N)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.03	0.055	0.019	0.015	4	0	1	0.015	0.036	0.047	0.047
Nitrogen (Total)	0.03	0.032	0.068	0.032	0.02	4	0	1	0.015	0.027	0.033	0.033
Nitrogen Kjeldahl (Total)	0.05	0.025	0.025	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	0.053	0.057	0.052	0.053	4	0	0	0.051	0.052	0.054	0.054
Phosphorus (Nutrient) Dissolved	0.002	0.054	0.059	0.057	0.054	4	0	0	0.053	0.055	0.057	0.057
Phosphorus (Nutrient) Total	0.002	0.056	0.067	0.056	0.059	4	0	0	0.052	0.055	0.058	0.058
Total Inorganic Nitrogen	0.025	-	-	-	-	2	0	2	0.013	0.013	0.013	0.013
Cyanide												
Cyanate	0.2	0.1	0.1	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0044	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0044	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.24	0.25	0.88	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.003	0.0077	0.004	0.001	4	0	1	0.0005	0.0011	0.0016	0.0017
Antimony (Dissolved)	0.0001	0.000055	0.0001	0.000050	0.000050	4	0	3	0.000050	0.000075	0.00013	0.00015
Arsenic (Dissolved)	0.0001	0.0013	0.0014	0.0013	0.0014	4	0	0	0.0013	0.0015	0.0016	0.0017
Barium (Dissolved)	0.0001	0.0063	0.0072	0.0057	0.0059	4	0	0	0.0056	0.0057	0.0057	0.0057
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.000015	0.000026	0.0000090	0.0000072	4	0	0	0.0000050	0.0000063	0.0000070	0.0000070
Calcium (Dissolved)	0.05	16	18	15	15	4	0	0	14	15	16	16
Chromium (Dissolved)	0.0005	0.00027	0.00034	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.00012	0.0001	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	3.9	4.2	3.9	3.6	4	0	0	3.4	3.6	3.8	3.9
Manganese (Dissolved)	0.0001	0.00046	0.0015	0.00046	0.00024	4	0	2	0.000050	0.00037	0.0008	0.00084
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0011	0.0013	0.0011	0.00069	4	0	0	0.00041	0.00069	0.001	0.0011
Nickel (Dissolved)	0.0005	0.00029	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.049	0.066	0.042	0.048	4	0	3	0.025	0.034	0.055	0.06
Potassium (Dissolved)	0.1	0.75	0.88	0.75	0.79	4	0	0	0.75	0.77	0.79	0.79
Selenium (Dissolved)	0.00005	0.00027	0.00037	0.00027	0.00035	4	0	0	0.00028	0.00035	0.00042	0.00043
Silicon (Dissolved)	0.05	8.8	9.3	9.1	9	4	0	0	8.7	9.2	9.8	10
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	5	6	4.8	5.8	4	0	0	5	5.6	6.2	6.3
Strontium (Dissolved)	0.0002	0.081	0.087	0.082	0.085	4	0	0	0.078	0.087	0.094	0.096
Sulfur (Dissolved)	0.5	0.99	2.2	0.65	1.1	4	0	0	0.64	1	1.4	1.4
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00015	0.00015	0.00015	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00015	0.00016	0.00014	0.00014	4	0	0	0.00012	0.00014	0.00015	0.00015
Vanadium (Dissolved)	0.0005	0.00083	0.00093	0.0008	0.00082	4	0	0	0.00074	0.00078	0.00081	0.00081
Zinc (Dissolved)	0.001	0.00085	0.0019	0.00082	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.039	0.055	0.034	0.041	4	0	0	0.0065	0.015	0.026	0.027
Antimony (Total)	0.0001	0.000078	0.00014	0.000050	0.000087	4	0	3	0.000050	0.000083	0.00016	0.00018
Arsenic (Total)	0.0001	0.0014	0.0016	0.0014	0.0015	4	0	0	0.0014	0.0014	0.0015	0.0015
Barium (Total)	0.0001	0.0069	0.0083	0.0062	0.0063	4	0	0	0.0056	0.0057	0.0059	0.0059
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.0055	0.005	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000034	0.000065	0.000015	0.000012	4	0	0	0.0000070	0.0000080	0.0000088	0.0000090
Calcium (Total)	0.05	16	18	15	15	4	0	0	15	15	16	16
Chromium (Total)	0.0005	0.00045	0.00064	0.00049	0.0006	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Total)	0.0001	0.000079	0.00035	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	0.00028	0.00025	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	0.038	0.054	0.036	0.044	4	0	2	0.005	0.012	0.022	0.023
Lead (Total)	0.00005	0.000051	0.00017	0.000035	0.000040	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	4	4.3	3.9	3.6	4	0	0	3.4	3.6	3.7	3.7
Manganese (Total)	0.0001	0.0078	0.037	0.0033	0.0021	4	0	0	0.00018	0.0013	0.0026	0.0027
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.0011	0.0014	0.0012	0.00075	4	0	0	0.00039	0.00072	0.0011	0.0011
Nickel (Total)	0.0005	0.00032	0.00077	0.00033	0.00034	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	0.07	0.096	0.083	0.072	4	0	0	0.071	0.081	0.094	0.096
Potassium (Total)	0.1	0.79	0.93	0.72	0.8	4	0	0	0.73	0.77	0.81	0.82
Selenium (Total)	0.00005	0.00029	0.0004	0.00027	0.00037	4	0	0	0.00025	0.00033	0.00042	0.00042
Silicon (Total)	0.1	9	9.4	9	9.1	4	0	0	8.8	9.1	9.5	9.6
Silver (Total)	0.00001	0.0000063	0.000012	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	5.2	7	4.8	5.7	4	0	0	4.9	5.7	6.4	6.5
Strontium (Total)	0.0002	0.084	0.091	0.082	0.087	4	0	0	0.087	0.09	0.095	0.095
Sulfur (Total)	0.5	1.1	3	0.59	0.92	4	0	0	0.66	1.1	1.5	1.6
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000050	0.000050	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.0022	0.0056	0.0012	0.002	4	0	2	0.00015	0.00036	0.0007	0.00076
Uranium (Total)	0.00001	0.00016	0.00019	0.00015	0.00014	4	0	0	0.00013	0.00014	0.00015	0.00015
Vanadium (Total)	0.0005	0.0011	0.0016	0.0009	0.00096	4	0	0	0.00086	0.00087	0.00089	0.00089
Zinc (Total)	0.003	0.0022	0.0037	0.0015	0.0015	4	0	4	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.25	0.25	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	0.3	0.55	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25

\\APL\NA-Prj\1101\0457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 12 MW12-12S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	26/03/25	ISSUED WITH REPORT	AB	CW
rev	date	description	initial	check

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 13 MW12-13S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	40	50	41	56	1	0	0	50	50	50	50
Oxygen Dissolved (In Situ %) %	-	62	79	59	40	1	0	0	44	44	44	44
pH (In Situ) pH	-	6.7	7.1	6.3	6.4	1	0	0	6.5	6.5	6.5	6.5
Redox Potential (In Situ) mV	-	275	376	27	-74	1	0	0	236	236	236	236
Salinity (In Situ) ppt	-	0.031	0.04	0.03	0.04	1	0	0	0.04	0.04	0.04	0.04
Specific Conductivity (In Situ) µS/cm	-	63	77	65	86	1	0	0	80	80	80	80
Temperature (In Situ) °C	-	5.6	7	6.4	6.5	1	0	0	5.9	5.9	5.9	5.9
Total Dissolved Solids (In Situ)	-	42	51	36	55	1	0	0	52	52	52	52
Turbidity (In Situ) NTU	-	0.37	1.1	0.11	1.2	1	0	0	2.9	2.9	2.9	2.9
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	3.8	1	0	0	6.7	6.7	6.7	6.7
Alkalinity (Total as CaCO3)	1	33	39	32	44	1	0	0	37	37	37	37
Alkalinity/ Bicarbonate as CaCO3	1	33	39	32	44	1	0	0	37	37	37	37
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	1	0	1	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	1	0	1	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	7.4	7.7	7.6	7.7	1	0	0	7.2	7.2	7.2	7.2
Specific Conductivity µS/cm	2	69	81	66	89	1	0	0	79	79	79	79
Total Dissolved Solids	13	51	63	54	46	1	0	0	54	54	54	54
Turbidity NTU	0.1	0.19	0.34	0.24	0.7	1	0	0	0.11	0.11	0.11	0.11
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	1	0	1	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	1	0	1	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.017	0.026	0.023	0.021	1	0	0	0.02	0.02	0.02	0.02
Sulphate (Dissolved)	0.3	2.3	3.3	2.5	2.9	1	0	0	3	3	3	3
Nutrients												
Ammonia (Dissolved)	0.005	0.0028	0.0044	0.004	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0025	0.0025	0.0054	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	0.044	0.083	0.082	0.14	1	0	0	0.15	0.15	0.15	0.15
Nitrate+Nitrite (Dissolved)	-	0.046	0.07	0.082	0.14	0	0	0	-	-	-	-
Nitrite (as N)	0.001	0.0005	0.0005	0.0005	0.0005	1	0	1	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.075	0.13	0.087	0.15	1	0	0	0.18	0.18	0.18	0.18
Nitrogen (Total)	0.03	0.073	0.12	0.089	0.17	1	0	0	0.17	0.17	0.17	0.17
Nitrogen Kjeldahl (Total)	0.05	0.035	0.06	0.025	0.056	1	0	1	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	0.0033	0.0049	0.0011	0.0005	1	0	1	0.0005	0.0005	0.0005	0.0005
Phosphorus (Nutrient) Dissolved	0.002	0.0037	0.005	0.0037	0.0037	1	0	0	0.0039	0.0039	0.0039	0.0039
Phosphorus (Nutrient) Total	0.002	0.0042	0.0059	0.0038	0.0059	1	0	0	0.0049	0.0049	0.0049	0.0049
Total Inorganic Nitrogen	0.025	-	-	-	0.14	1	0	0	0.15	0.15	0.15	0.15
Cyanide												
Cyanate	0.2	0.1	0.1	0.1	0.1	1	0	1	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	1	0	1	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.26	0.25	0.25	0.25	1	0	1	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0036	0.0084	0.003	0.0017	1	0	0	0.0013	0.0013	0.0013	0.0013
Antimony (Dissolved)	0.0001	0.0001	0.00013	0.000085	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	0.00079	0.00089	0.00081	0.0007	1	0	0	0.00073	0.00073	0.00073	0.00073
Barium (Dissolved)	0.0001	0.0026	0.0035	0.0024	0.0033	1	0	0	0.0029	0.0029	0.0029	0.0029
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	1	0	1	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	1	0	1	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.000014	0.000045	0.0000030	0.000021	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	9	10	8	11	1	0	0	11	11	11	11
Chromium (Dissolved)	0.0005	0.00013	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.00019	0.0004	0.00017	0.0004	1	0	1	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	1	0	1	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000029	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	1	0	1	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	1.8	2.1	1.6	2.3	1	0	0	2	2	2	2
Manganese (Dissolved)	0.0001	0.00037	0.00094	0.00043	0.00046	1	0	0	0.0003	0.0003	0.0003	0.0003
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0014	0.0016	0.0014	0.00082	1	0	0	0.0012	0.0012	0.0012	0.0012
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.025	0.025	0.025	0.025	1	0	1	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	0.27	0.33	0.24	0.33	1	0	0	0.31	0.31	0.31	0.31
Selenium (Dissolved)	0.00005	0.000031	0.000062	0.000025	0.000074	1	0	0	0.000058	0.000058	0.000058	0.000058
Silicon (Dissolved)	0.05	5.2	5.6	5.1	6.1	1	0	0	5.4	5.4	5.4	5.4
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	2.3	2.6	2.1	2.6	1	0	0	2.6	2.6	2.6	2.6
Strontium (Dissolved)	0.0002	0.056	0.065	0.05	0.074	1	0	0	0.058	0.058	0.058	0.058
Sulfur (Dissolved)	0.5	0.66	1	0.47	0.9	1	0	0	0.91	0.91	0.91	0.91
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00016	0.00015	0.00015	0.00015	1	0	1	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00044	0.00055	0.00038	0.00048	1	0	0	0.00042	0.00042	0.00042	0.00042
Vanadium (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	0.0016	0.0044	0.0019	0.0029	1	0	1	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.00013	0.00015	0.0001	0.0001	1	0	1	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.015	0.031	0.015	0.032	1	0	0	0.0056	0.0056	0.0056	0.0056
Antimony (Total)	0.0001	0.00012	0.00015	0.00011	0.00012	1	0	1	0.000050	0.000050	0.000050	0.000050
Arsenic (Total)	0.0001	0.00083	0.00094	0.00081	0.00075	1	0	0	0.00074	0.00074	0.00074	0.00074
Barium (Total)	0.0001	0.0027	0.0037	0.0026	0.0037	1	0	0	0.0029	0.0029	0.0029	0.0029
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	1	0	1	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	1	0	1	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	1	0	1	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.000016	0.000041	0.0000055	0.000033	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Total)	0.05	9.1	11	8.3	11	1	0	0	9.8	9.8	9.8	9.8
Chromium (Total)	0.0005	0.0002	0.00036	0.00025	0.00058	1	0	1	0.00025	0.00025	0.00025	0.00025
Cobalt (Total)	0.0001	0.000050	0.000050	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	0.00027	0.00025	0.00025	0.00063	1	0	1	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	0.012	0.031	0.011	0.034	1	0	1	0.005	0.005	0.005	0.005
Lead (Total)	0.00005	0.000027	0.000025	0.000025	0.000060	1	0	1	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	1	0	1	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	1.8	2.1	1.6	2.3	1	0	0	2	2	2	2
Manganese (Total)	0.0001	0.00078	0.0018	0.00063	0.0031	1	0	0	0.00035	0.00035	0.00035	0.00035
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	1	0	1	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.0014	0.0016	0.0014	0.00093	1	0	0	0.0012	0.0012	0.0012	0.0012
Nickel (Total)	0.0005	0.00025	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	0.025	0.025	0.025	0.025	1	0	1	0.025	0.025	0.025	0.025
Potassium (Total)	0.1	0.28	0.35	0.26	0.33	1	0	0	0.31	0.31	0.31	0.31
Selenium (Total)	0.00005	0.000031	0.000058	0.000039	0.000079	1	0	1	0.000025	0.000025	0.000025	0.000025
Silicon (Total)	0.1	5.2	5.7	5.3	6.1	1	0	0	5.4	5.4	5.4	5.4
Silver (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	2.2	2.5	2.1	2.6	1	0	0	2.4	2.4	2.4	2.4
Strontium (Total)	0.0002	0.057	0.067	0.052	0.069	1	0	0	0.062	0.062	0.062	0.062
Sulfur (Total)	0.5	0.73	1.2	0.6	0.78	1	0	0	0.96	0.96	0.96	0.96
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	1	0	1	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000057	0.0001	0.000050	0.000050	1	0	1	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.00029	0.0007	0.00015	0.0011	1	0	1	0.00015	0.00015	0.00015	0.00015
Uranium (Total)	0.00001	0.00048	0.00058	0.00041	0.00053	1	0	0	0.00043	0.00043	0.00043	0.00043
Vanadium (Total)	0.0005	0.00027	0.00025	0.00025	0.00025	1	0	1	0.00025	0.00025	0.00025	0.00025
Zinc (Total)	0.003	0.0024	0.0062	0.003	0.0046	1	0	1	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	0.00013	0.00015	0.0001	0.0001	1	0	1	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	1.3	2.7	1.1	0.25	1	0	0	0.54	0.54	0.54	0.54
Carbon Organic (Total)	0.5	1.3	2.8	1.1	0.54	1	0	0	0.61	0.61	0.61	0.61

\\APLNA-Prj\01\0045762\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 13 MW12-13S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

NO.	DATE	DESCRIPTION	BY	CHK'D	APP'D
A	2025/12/18	ISSUED WITH CONCURRENT YEAR DRAWING	MB		

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 14 GT13-44

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	-	70	4	0	0	55	69	79	80
Oxygen Dissolved (In Situ %) %	-	-	-	-	47	4	0	0	52	64	74	74
pH (In Situ) pH	-	-	-	-	8.4	4	0	0	8.6	8.6	8.8	8.8
Redox Potential (In Situ) mV	-	-	-	-	-140	4	0	0	108	149	177	180
Salinity (In Situ) ppt	-	-	-	-	0.05	3	0	0	0.04	0.05	0.059	0.06
Specific Conductivity (In Situ) µS/cm	-	-	-	-	109	4	0	0	93	111	125	127
Temperature (In Situ) °C	-	-	-	-	6.1	4	0	0	2.3	5.3	8.6	9.1
Total Dissolved Solids (In Situ)	-	-	-	-	70	3	0	0	60	72	81	82
Turbidity (In Situ) NTU	-	-	-	-	2.4	4	0	0	0.26	1.3	1.7	1.8
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	1.4	4	0	4	1	1	1	1
Alkalinity (Total as CaCO3)	1	-	-	-	57	4	0	0	57	59	62	62
Alkalinity/ Bicarbonate as CaCO3	1	-	-	-	57	4	0	0	54	57	59	60
Alkalinity/ Carbonate as CaCO3	1	-	-	-	0.5	4	0	3	0.5	2.3	6.8	7.7
Alkalinity/ Hydroxide as CaCO3	1	-	-	-	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	-	8.1	4	0	0	8.1	8.3	8.6	8.6
Specific Conductivity µS/cm	2	-	-	-	116	4	0	0	112	118	123	123
Total Dissolved Solids	13	-	-	-	84	4	0	0	71	81	87	88
Turbidity NTU	0.1	-	-	-	1.2	4	0	0	0.32	0.41	0.48	0.49
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	-	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	-	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	-	-	-	0.063	4	0	0	0.057	0.064	0.07	0.07
Sulphate (Dissolved)	0.3	-	-	-	2.5	4	0	0	2.6	2.7	2.9	3
Nutrients												
Ammonia (Dissolved)	0.005	-	-	-	0.004	4	0	4	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	-	-	-	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	-	-	-	0.069	4	0	0	0.072	0.079	0.083	0.084
Nitrate+Nitrite (Dissolved)	0.0051	-	-	-	0.07	2	0	0	0.08	0.082	0.084	0.084
Nitrite (as N)	0.001	-	-	-	0.0015	4	0	4	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	-	-	-	0.11	4	0	0	0.083	0.086	0.09	0.091
Nitrogen (Total)	0.03	-	-	-	0.11	4	0	0	0.076	0.081	0.085	0.086
Nitrogen Kjeldahl (Total)	0.05	-	-	-	0.053	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.01	-	-	-	0.074	4	0	0	0.074	0.079	0.083	0.084
Phosphorus (Nutrient) Dissolved	0.002	-	-	-	0.086	4	0	0	0.073	0.083	0.087	0.088
Phosphorus (Nutrient) Total	0.002	-	-	-	0.086	4	0	0	0.083	0.088	0.092	0.092
Total Inorganic Nitrogen	0.025	-	-	-	-	3	0	0	0.072	0.077	0.08	0.08
Cyanide												
Cyanate	0.2	-	-	-	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	-	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	-	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	-	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	-	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	-	0.0023	4	0	0	0.0014	0.0026	0.0039	0.004
Antimony (Dissolved)	0.0001	-	-	-	0.00012	4	0	0	0.00012	0.00014	0.00018	0.00019
Arsenic (Dissolved)	0.0001	-	-	-	0.0025	4	0	0	0.0023	0.0024	0.0024	0.0024
Barium (Dissolved)	0.0001	-	-	-	0.0034	3	1	0	0.0026	0.0029	0.0032	0.0032
Beryllium (Dissolved)	0.00002	-	-	-	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	-	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	-	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	-	-	-	0.0000040	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	-	-	-	13	4	0	0	14	15	18	18
Chromium (Dissolved)	0.0005	-	-	-	0.0013	3	1	0	0.0012	0.0013	0.0013	0.0013
Cobalt (Dissolved)	0.0001	-	-	-	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	-	0.00016	4	0	4	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	-	-	-	0.005	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	-	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	-	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	-	3	4	0	0	2.8	2.9	3	3
Manganese (Dissolved)	0.0001	-	-	-	0.00022	4	0	4	0.000050	0.000050	0.000050	0.000050
Mercury (Dissolved)	0.000005	-	-	-	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	-	0.00067	3	1	0	0.00063	0.00065	0.00067	0.00067
Nickel (Dissolved)	0.0005	-	-	-	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	-	0.078	4	0	0	0.073	0.078	0.081	0.081
Potassium (Dissolved)	0.1	-	-	-	0.74	4	0	0	0.69	0.73	0.79	0.8
Selenium (Dissolved)	0.00005	-	-	-	0.000095	4	0	1	0.000025	0.000089	0.00011	0.00011
Silicon (Dissolved)	0.05	-	-	-	10	4	0	0	9.3	9.5	9.8	9.9
Silver (Dissolved)	0.00001	-	-	-	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	-	5.1	4	0	0	4.8	5	5.2	5.3
Strontium (Dissolved)	0.0002	-	-	-	0.11	4	0	0	0.098	0.11	0.11	0.11
Sulfur (Dissolved)	0.5	-	-	-	0.81	4	0	0	0.72	0.8	0.91	0.93
Thallium (Dissolved)	0.00001	-	-	-	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	-	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	-	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	-	0.0002	4	0	0	0.000051	0.00012	0.00014	0.00014
Vanadium (Dissolved)	0.0005	-	-	-	0.0029	4	0	0	0.0024	0.0026	0.0027	0.0027
Zinc (Dissolved)	0.001	-	-	-	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	-	-	-	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	-	0.046	4	0	0	0.0096	0.034	0.063	0.065
Antimony (Total)	0.0001	-	-	-	0.00014	4	0	0	0.00012	0.00014	0.00016	0.00016
Arsenic (Total)	0.0001	-	-	-	0.0024	4	0	0	0.0024	0.0025	0.0026	0.0026
Barium (Total)	0.0001	-	-	-	0.0045	4	0	0	0.0028	0.0031	0.0035	0.0035
Beryllium (Total)	0.00002	-	-	-	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	-	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	-	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	-	-	-	0.0000083	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Total)	0.05	-	-	-	14	4	0	0	14	16	17	17
Chromium (Total)	0.0005	-	-	-	0.0014	4	0	0	0.0014	0.0014	0.0014	0.0014
Cobalt (Total)	0.0001	-	-	-	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	-	-	-	0.0011	4	0	4	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	-	-	-	0.025	4	0	4	0.005	0.005	0.005	0.005
Lead (Total)	0.00005	-	-	-	0.000098	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	-	-	-	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	-	-	-	3	4	0	0	2.9	3.1	3.4	3.4
Manganese (Total)	0.0001	-	-	-	0.0015	4	0	2	0.000050	0.0001	0.00017	0.00018
Mercury (Total)	0.000005	-	-	-	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	-	0.00067	4	0	0	0.00066	0.00067	0.00069	0.00069
Nickel (Total)	0.0005	-	-	-	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	-	-	-	0.098	4	0	0	0.097	0.11	0.12	0.12
Potassium (Total)	0.1	-	-	-	0.74	4	0	0	0.69	0.72	0.74	0.74
Selenium (Total)	0.00005	-	-	-	0.0001	4	0	1	0.000025	0.000082	0.00012	0.00012
Silicon (Total)	0.1	-	-	-	10	4	0	0	9.5	9.9	10	10
Silver (Total)	0.00001	-	-	-	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	-	5.1	4	0	0	5	5.1	5.2	5.2
Strontium (Total)	0.0002	-	-	-	0.11	4	0	0	0.11	0.11	0.11	0.11
Sulfur (Total)	0.5	-	-	-	0.96	4	0	0	0.59	0.75	0.82	0.83
Thallium (Total)	0.00001	-	-	-	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	-	0.00039	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	-	0.0024	4	0	3	0.00015	0.00019	0.00029	0.00031
Uranium (Total)	0.00001	-	-	-	0.00023	4	0	0	0.00021	0.00022	0.00023	0.00023
Vanadium (Total)	0.0005	-	-	-	0.003	4	0	0	0.0029	0.003	0.0031	0.0031
Zinc (Total)	0.003	-	-	-	0.0026	4	0	4	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	-	-	-	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	-	0.25	4	0	4	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	-	-	-	0.81	4	0	4	0.25	0.25	0.25	0.25

\\KPL\VA-Prj$\1101\20457\EZ\Al\Report5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_vA.xlsx]TABLE 14 GT 13-44

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	25/MAR/26	ISSUED WITH REPORT (VA21 - 20457) A		GB	CWS
REV	DATE	DESCRIPTION		ORIGINATOR	REVIEWER

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 15 GT20-04

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	66	71	63	62	5	0	0	65	66	67	67
Oxygen Dissolved (In Situ %) %	-	51	69	41	47	4	1	0	48	52	61	62
pH (In Situ) pH	-	8	8.4	8.5	8.3	5	0	0	8.3	8.4	8.6	8.6
Redox Potential (In Situ) mV	-	265	307	88	-72	5	0	0	148	210	259	265
Salinity (In Situ) ppt	-	0.05	0.05	0.047	0.06	4	0	0	0.05	0.05	0.05	0.05
Specific Conductivity (In Situ) µS/cm	-	105	108	104	98	5	0	0	98	103	109	110
Temperature (In Situ) °C	-	5.3	6.9	4.8	5.6	5	0	0	4.1	6.1	7.8	8
Total Dissolved Solids (In Situ)	-	68	70	65	64	4	0	0	65	68	71	71
Turbidity (In Situ) NTU	-	0.81	1.7	1.4	3	5	0	0	0.85	3	5.1	5.6
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	5	0	5	1	1	1	1
Alkalinity (Total as CaCO3)	1	50	52	50	50	5	0	0	50	51	52	52
Alkalinity/ Bicarbonate as CaCO3	1	50	52	50	50	5	0	0	50	51	52	52
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	7.8	7.9	7.9	8	5	0	0	7.9	8	8.1	8.1
Specific Conductivity µS/cm	2	106	111	103	103	5	0	0	99	101	103	103
Total Dissolved Solids	13	69	74	71	68	5	0	0	63	72	77	77
Turbidity NTU	0.1	0.51	1.2	0.79	2.7	5	0	0	0.4	1.3	3.4	4
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	0.068	0.078	0.06	0.059	5	0	0	0.051	0.056	0.061	0.062
Sulphate (Dissolved)	0.3	4.1	5.2	2.7	2.8	5	0	0	2.4	2.6	2.7	2.7
Nutrients												
Ammonia (Dissolved)	0.005	0.0048	0.011	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	0.074	0.078	0.07	0.073	5	0	0	0.062	0.07	0.072	0.072
Nitrate+Nitrite (Dissolved)	0.0051	0.074	0.078	0.07	0.072	4	0	0	0.07	0.071	0.072	0.072
Nitrite (as N)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	0.077	0.088	0.067	0.066	5	0	0	0.071	0.081	0.092	0.093
Nitrogen (Total)	0.03	0.079	0.091	0.078	0.09	5	0	0	0.066	0.073	0.076	0.076
Nitrogen Kjeldahl (Total)	0.05	0.025	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.01	0.058	0.061	0.058	0.056	5	0	0	0.053	0.059	0.063	0.064
Phosphorus (Nutrient) Dissolved	0.002	0.061	0.063	0.062	0.06	5	0	0	0.06	0.061	0.063	0.064
Phosphorus (Nutrient) Total	0.002	0.064	0.067	0.064	0.075	5	0	0	0.06	0.064	0.07	0.072
Total Inorganic Nitrogen	0.025	-	-	-	0.074	4	0	0	0.062	0.069	0.072	0.072
Cyanide												
Cyanate	0.2	0.1	0.1	0.1	0.1	5	0	5	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	0.0025	0.0025	0.0025	0.0025	5	0	5	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0035	0.0043	0.0035	0.0042	5	0	0	0.0024	0.0027	0.003	0.003
Antimony (Dissolved)	0.0001	0.00011	0.00012	0.00011	0.00011	5	0	0	0.00011	0.00012	0.00014	0.00014
Arsenic (Dissolved)	0.0001	0.0037	0.0039	0.0038	0.0038	5	0	0	0.0036	0.0037	0.0039	0.0039
Barium (Dissolved)	0.0001	0.0055	0.0062	0.0054	0.0051	5	0	0	0.0047	0.005	0.0052	0.0053
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.0000047	0.0000077	0.0000040	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	13	14	13	13	5	0	0	13	14	14	14
Chromium (Dissolved)	0.0005	0.0013	0.0014	0.0013	0.0014	5	0	0	0.0013	0.0014	0.0014	0.0014
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	0.0001	0.0001	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	1.8	1.9	1.9	1.9	5	0	0	1.8	1.9	1.9	1.9
Manganese (Dissolved)	0.0001	0.0022	0.0057	0.00048	0.00032	5	0	4	0.000050	0.0001	0.00025	0.0003
Mercury (Dissolved)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	0.0037	0.004	0.0033	0.0034	5	0	0	0.0034	0.0034	0.0035	0.0035
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.048	0.06	0.053	0.059	5	0	0	0.054	0.063	0.071	0.073
Potassium (Dissolved)	0.1	0.55	0.6	0.52	0.51	5	0	0	0.48	0.51	0.54	0.54
Selenium (Dissolved)	0.00005	0.00019	0.00021	0.00017	0.00017	5	0	0	0.00016	0.00019	0.00021	0.00021
Silicon (Dissolved)	0.05	6.9	7.2	7.3	7	5	0	0	7.1	7.4	7.6	7.6
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	5.2	5.7	4.8	4.7	5	0	0	4.3	4.4	4.6	4.6
Strontium (Dissolved)	0.0002	0.082	0.086	0.082	0.08	5	0	0	0.078	0.081	0.083	0.083
Sulfur (Dissolved)	0.5	1.4	1.6	0.93	0.79	5	0	0	0.56	0.76	0.95	0.96
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00015	0.00015	0.00015	0.00015	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00015	0.00017	0.00014	0.00014	5	0	0	0.00013	0.00013	0.00015	0.00015
Vanadium (Dissolved)	0.0005	0.0025	0.0027	0.0026	0.0025	5	0	0	0.0025	0.0026	0.0026	0.0026
Zinc (Dissolved)	0.001	-	-	0.00083	0.0008	5	0	5	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.0001	0.0001	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.042	0.084	0.025	0.2	5	0	0	0.022	0.07	0.18	0.21
Antimony (Total)	0.0001	0.00013	0.00015	0.00015	0.00013	5	0	0	0.00015	0.0002	0.00025	0.00026
Arsenic (Total)	0.0001	0.0038	0.004	0.0039	0.0039	5	0	0	0.0037	0.0039	0.0041	0.0041
Barium (Total)	0.0001	0.0061	0.0073	0.0054	0.0077	5	0	0	0.0052	0.0058	0.0073	0.0077
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.0000070	0.000012	0.0000078	0.0000077	5	0	4	0.0000030	0.0000044	0.0000086	0.000010
Calcium (Total)	0.05	14	14	13	13	5	0	0	13	13	14	14
Chromium (Total)	0.0005	0.0016	0.0018	0.0016	0.0022	5	0	0	0.0015	0.0018	0.002	0.002
Cobalt (Total)	0.0001	0.000050	0.000050	0.000070	0.00013	5	0	4	0.000050	0.000068	0.00012	0.00014
Copper (Total)	0.0005	0.00025	0.00025	0.00025	0.00052	5	0	5	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	0.052	0.1	0.035	0.18	5	0	0	0.019	0.071	0.19	0.22
Lead (Total)	0.00005	0.000032	0.000059	0.000086	0.00018	5	0	3	0.000025	0.000066	0.00016	0.00019
Lithium (Total)	0.001	0.0005	0.0005	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	1.9	1.9	1.8	1.9	5	0	0	1.8	1.9	2	2
Manganese (Total)	0.0001	0.0049	0.0082	0.0041	0.012	5	0	0	0.0011	0.0042	0.011	0.013
Mercury (Total)	0.0000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	0.0038	0.004	0.0035	0.0034	5	0	0	0.0034	0.0035	0.0037	0.0037
Nickel (Total)	0.0005	0.00025	0.00025	0.00025	0.00046	5	0	4	0.00025	0.00031	0.00047	0.00053
Phosphorus (Metal) Total	0.05	0.079	0.088	0.096	0.086	5	0	0	0.075	0.089	0.1	0.1
Potassium (Total)	0.1	0.56	0.61	0.51	0.55	5	0	0	0.5	0.52	0.56	0.57
Selenium (Total)	0.00005	0.0002	0.00023	0.00022	0.00017	5	0	0	0.00015	0.00019	0.00021	0.00021
Silicon (Total)	0.1	7.1	7.4	7.2	7.5	5	0	0	7.2	7.5	7.6	7.6
Silver (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	5.3	5.8	4.7	4.7	5	0	0	4.4	4.6	4.7	4.7
Strontium (Total)	0.0002	0.085	0.088	0.082	0.082	5	0	0	0.079	0.082	0.088	0.088
Sulfur (Total)	0.5	1.4	1.7	0.96	0.7	5	0	0	0.62	0.86	1.1	1.2
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	0.000059	0.000092	0.0001	0.00011	5	0	4	0.000050	0.000064	0.00011	0.00012
Titanium (Total)	0.0003	0.002	0.0043	0.00077	0.0083	5	0	0	0.00075	0.004	0.011	0.013
Uranium (Total)	0.00001	0.00016	0.00017	0.00015	0.00015	5	0	0	0.00013	0.00014	0.00015	0.00015
Vanadium (Total)	0.0005	0.0027	0.003	0.0027	0.003	5	0	0	0.0027	0.0028	0.003	0.0031
Zinc (Total)	0.003	-	-	0.011	0.01	5	0	3	0.0015	0.0032	0.0057	0.0058
Zirconium (Total)	0.0002	0.0001	0.0001	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	0.25	0.25	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25

\\KPLNA-Prj\1101\0457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 15 GT20-04

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	26/03/25	ISSUED WITH REPORT	MB	DM
rev	date	issue/revision	author	check

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APPENDIX H-2 - TABLE 16 GT21-03S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	128	131	133	126	5	0	0	115	180	303	334
Oxygen Dissolved (In Situ %) %	-	36	43	37	38	5	0	0	0.5	29	52	53
pH (In Situ) pH	-	7.6	8.2	7.8	7.7	5	0	0	7.6	7.8	7.9	7.9
Redox Potential (In Situ) mV	-	196	261	41	-97	5	0	0	132	186	247	254
Salinity (In Situ) ppt	-	0.1	0.1	0.097	0.1	4	0	0	0.1	0.15	0.24	0.26
Specific Conductivity (In Situ) µS/cm	-	209	212	216	202	5	0	0	182	290	481	529
Temperature (In Situ) °C	-	4.8	5.8	4.7	5.2	5	0	0	4.4	5.1	5.7	5.7
Total Dissolved Solids (In Situ)	-	137	139	138	134	4	0	0	130	203	320	344
Turbidity (In Situ) NTU	-	1.4	4.8	1.3	0.21	5	0	0	1.5	2	2.8	3
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	5	0	3	1	1.7	2.8	2.9
Alkalinity (Total as CaCO3)	1	108	112	110	105	5	0	0	94	102	105	105
Alkalinity/ Bicarbonate as CaCO3	1	108	112	110	103	5	0	0	94	102	105	105
Alkalinity/ Carbonate as CaCO3	1	0.5	0.5	0.5	1.8	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	0.5	0.5	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	8.1	8.2	8.2	8.3	5	0	0	7.9	8.1	8.2	8.2
Specific Conductivity µS/cm	2	212	217	208	208	5	0	0	190	291	486	534
Total Dissolved Solids	20	136	153	137	122	5	0	0	128	212	326	353
Turbidity NTU	0.1	0.44	1.6	0.53	0.25	5	0	2	0.05	0.16	0.28	0.28
Dissolved Anions												
Bromide (Dissolved)	0.05	0.025	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	3	0.25	1.1	3	3.4
Fluoride (Dissolved)	0.02	0.072	0.078	0.069	0.07	5	0	0	0.057	0.067	0.072	0.072
Sulphate (Dissolved)	0.3	7.8	8.2	7.7	6.6	5	0	0	6.2	49	138	160
Nutrients												
Ammonia (Dissolved)	0.005	0.012	0.048	0.0025	0.0025	5	0	2	0.0025	0.25	0.62	0.62
Ammonia (Total)	0.005	0.0061	0.02	0.0025	0.0025	5	0	2	0.0025	0.26	0.63	0.64
Nitrate (as N)	0.005	0.072	0.078	0.065	0.082	5	0	0	0.011	0.19	0.59	0.71
Nitrate+Nitrite (Dissolved)	0.0051	0.072	0.078	0.065	0.082	2	0	0	0.011	0.047	0.08	0.084
Nitrite (as N)	0.001	0.00074	0.0018	0.00073	0.0005	5	0	3	0.0005	0.024	0.082	0.098
Nitrogen (Dissolved)	0.03	0.088	0.12	0.075	0.084	5	0	0	0.066	0.79	2	2.1
Nitrogen (Total)	0.03	0.085	0.097	0.068	0.078	5	0	0	0.064	0.81	2.2	2.3
Nitrogen Kjeldahl (Total)	0.05	0.025	0.025	0.025	0.025	5	0	3	0.025	0.5	1.5	1.6
Orthophosphate (Dissolved)	0.001	0.016	0.017	0.015	0.016	5	0	0	0.011	0.015	0.018	0.019
Phosphorus (Nutrient) Dissolved	0.002	0.016	0.017	0.017	0.017	5	0	0	0.013	0.017	0.021	0.021
Phosphorus (Nutrient) Total	0.002	0.017	0.021	0.019	0.019	5	0	0	0.014	0.018	0.02	0.021
Total Inorganic Nitrogen	0.025	-	-	-	-	5	0	0	0.054	0.48	1.3	1.4
Cyanide												
Cyanate	0.2	0.1	0.1	0.12	0.1	5	0	3	0.1	0.92	2.3	2.3
Cyanide (Free)	0.005	0.0025	0.0025	0.0031	0.0025	5	0	3	0.0025	0.014	0.031	0.031
Cyanide (SAD)	0.005	0.0025	0.0025	0.0031	0.0025	5	0	3	0.0025	0.017	0.04	0.041
Cyanide (WAD)	0.005	0.0025	0.0025	0.0031	0.0025	5	0	3	0.0025	0.015	0.033	0.034
Thiocyanate (SCN)	0.5	0.25	0.25	0.25	0.25	5	0	4	0.25	1.3	4.3	5.3
Dissolved Metals												
Aluminum (Dissolved)	0.001	0.0017	0.0023	0.0019	0.00097	5	0	2	0.0005	0.0012	0.0021	0.0022
Antimony (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	0.001	0.0011	0.0011	0.0012	5	0	0	0.00082	0.0011	0.0013	0.0013
Barium (Dissolved)	0.0001	0.011	0.013	0.011	0.01	5	0	0	0.0094	0.015	0.025	0.027
Beryllium (Dissolved)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	0.0000058	0.000010	0.0000062	0.0000030	5	0	3	0.0000030	0.0000054	0.0000096	0.000010
Calcium (Dissolved)	0.05	29	31	29	28	5	0	0	27	42	68	74
Chromium (Dissolved)	0.0005	0.00087	0.0011	0.00071	0.00081	5	0	2	0.00025	0.00057	0.00085	0.00086
Cobalt (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	2	0.000050	0.015	0.047	0.053
Copper (Dissolved)	0.0002	0.0001	0.0001	0.00016	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	0.00057	0.00086	0.0005	0.00063	5	0	2	0.0005	0.00086	0.0012	0.0013
Magnesium (Dissolved)	0.1	5.8	6.1	5.6	5.6	5	0	0	5.2	8.1	13	15
Manganese (Dissolved)	0.0001	0.0014	0.0033	0.00079	0.00016	5	0	2	0.000050	0.00042	0.0011	0.0013
Mercury (Dissolved)	0.000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	4	0.0000030	0.0000036	0.0000054	0.0000060
Molybdenum (Dissolved)	0.00005	0.0024	0.0026	0.0023	0.0023	5	0	0	0.0013	0.0021	0.0025	0.0026
Nickel (Dissolved)	0.0005	0.00025	0.00025	0.00025	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	0.025	0.025	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	0.79	0.82	0.81	0.8	5	0	0	0.78	0.89	1.1	1.2
Selenium (Dissolved)	0.00005	0.00026	0.00031	0.00026	0.00039	5	0	0	0.0003	0.00034	0.00039	0.00039
Silicon (Dissolved)	0.05	6.7	6.9	6.8	6.9	5	0	0	5.9	7	7.7	7.8
Silver (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	5.4	5.8	5.3	5.5	5	0	0	5.3	6.3	8	8.4
Strontium (Dissolved)	0.0002	0.19	0.2	0.19	0.18	5	0	0	0.17	0.26	0.44	0.48
Sulfur (Dissolved)	0.5	2.6	2.7	2.7	2.2	5	0	0	2	17	48	55
Thallium (Dissolved)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	0.00015	0.00015	0.00015	0.00015	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	0.00076	0.00079	0.00079	0.00079	5	0	0	0.00074	0.00098	0.0015	0.0016
Vanadium (Dissolved)	0.0005	0.00072	0.00075	0.00075	0.0008	5	0	0	0.0006	0.00076	0.00085	0.00085
Zinc (Dissolved)	0.001	-	-	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	0.0001	0.0001	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	0.041	0.16	0.035	0.018	5	0	0	0.0032	0.0086	0.016	0.016
Antimony (Total)	0.0001	0.000050	0.000050	0.000050	0.000050	5	0	4	0.000050	0.000064	0.00011	0.00012
Arsenic (Total)	0.0001	0.0011	0.0012	0.0011	0.0012	5	0	0	0.00091	0.0011	0.0012	0.0012
Barium (Total)	0.0001	0.012	0.014	0.012	0.01	5	0	0	0.0093	0.015	0.025	0.028
Beryllium (Total)	0.00002	0.000010	0.000010	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	0.000025	0.000025	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	0.005	0.005	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	0.0000076	0.000017	0.0000062	0.0000030	5	0	3	0.0000030	0.0000050	0.0000092	0.000010
Calcium (Total)	0.05	30	31	30	28	5	0	0	26	42	71	79
Chromium (Total)	0.0005	0.0011	0.0015	0.0009	0.0011	5	0	2	0.00025	0.00066	0.0011	0.0011
Cobalt (Total)	0.0001	0.000065	0.00013	0.000050	0.000050	5	0	2	0.000050	0.016	0.051	0.058
Copper (Total)	0.0005	0.00031	0.00054	0.00039	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	0.063	0.25	0.069	0.023	5	0	3	0.005	0.0092	0.016	0.017
Lead (Total)	0.00005	0.000051	0.00015	0.000051	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	0.0005	0.0005	0.00075	0.0005	5	0	2	0.0005	0.0009	0.0013	0.0014
Magnesium (Total)	0.1	5.9	6.2	5.9	5.8	5	0	0	5.3	8.2	14	16
Manganese (Total)	0.0001	0.0032	0.011	0.0024	0.00098	5	0	0	0.00032	0.00082	0.0016	0.0018
Mercury (Total)	0.000005	0.0000030	0.0000030	0.0000030	0.0000030	5	0	4	0.0000030	0.0000036	0.0000054	0.0000060
Molybdenum (Total)	0.00005	0.0024	0.0025	0.0024	0.0024	5	0	0	0.0014	0.0021	0.0027	0.0027
Nickel (Total)	0.0005	0.00029	0.00045	0.00025	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	0.025	0.025	0.043	0.025	5	0	5	0.025	0.025	0.025	0.025
Potassium (Total)	0.1	0.8	0.82	0.81	0.76	5	0	0	0.71	0.88	1.1	1.2
Selenium (Total)	0.00005	0.00025	0.00027	0.00029	0.00041	5	0	0	0.00028	0.00036	0.00041	0.00042
Silicon (Total)	0.1	6.9	7.2	6.9	7	5	0	0	6.1	7.1	7.5	7.5
Silver (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	5.5	5.9	5.5	5.4	5	0	0	5.1	6.2	8.1	8.5
Strontium (Total)	0.0002	0.2	0.21	0.19	0.18	5	0	0	0.17	0.26	0.46	0.51
Sulfur (Total)	0.5	2.7	2.8	2.6	2.3	5	0	0	2.1	19	57	67
Thallium (Total)	0.00001	0.0000050	0.0000050	0.0000050	0.0000050	5	0	4	0.0000050	0.0000070	0.0000013	0.0000015
Tin (Total)	0.0001	0.000061	0.00011	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	0.0015	0.006	0.0015	0.00093	5	0	2	0.00015	0.0004	0.0007	0.00072
Uranium (Total)	0.00001	0.0008	0.00081	0.00082	0.00081	5	0	0	0.00077	0.001	0.0015	0.0016
Vanadium (Total)	0.0005	0.00088	0.0011	0.00092	0.0009	5	0	0	0.0006	0.0008	0.00091	0.00092
Zinc (Total)	0.003	-	-	0.0024	0.0015	5	0	5	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	0.0001	0.0001	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	0.25	0.25	0.25	0.25	5	0	3	0.25	0.8	2.1	2.4
Carbon Organic (Total)	0.5	0.25	0.25	0.25	0.25	5	0	3	0.25	0.77	2.1	2.5

\\KPLVA-Prj\Z1\01\00457\EZ\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_vA.xlsx]TABLE 16 GT21-03S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	Mar/26/26	ISSUED WITH REPORT (VA01-00457-5)	SB	KAB
REV	DATE	DESCRIPTION	ORIGINATOR	REVIEWER

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 17 MW22-02D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	121	128	7	0	0	109	125	141	146
Oxygen Dissolved (In Situ %) %	-	-	-	40	47	6	0	0	32	53	63	63
pH (In Situ) pH	-	-	-	7.8	7.7	7	0	0	7.5	7.6	7.8	7.8
Redox Potential (In Situ) mV	-	-	-	116	69	7	0	0	78	167	258	262
Salinity (In Situ) ppt	-	-	-	0.09	0.095	6	0	0	0.08	0.098	0.11	0.11
Specific Conductivity (In Situ) µS/cm	-	-	-	193	195	7	0	0	171	200	231	234
Temperature (In Situ) °C	-	-	-	5.4	6.9	7	0	0	2.9	5.4	8.9	9.9
Total Dissolved Solids (In Situ)	-	-	-	122	119	6	0	0	119	134	151	152
Turbidity (In Situ) NTU	-	-	-	1.1	3.1	7	0	0	0.45	1.8	2.6	2.6
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	7	0	5	1	1.5	2.8	2.8
Alkalinity (Total as CaCO3)	1	-	-	96	94	7	0	0	94	94	95	95
Alkalinity/ Bicarbonate as CaCO3	1	-	-	96	93	7	0	0	94	94	95	95
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	1.2	7	0	7	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	7	0	7	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	8.1	8.2	7	0	0	7.9	8.1	8.2	8.2
Specific Conductivity µS/cm	2	-	-	190	190	7	0	0	182	186	192	194
Total Dissolved Solids	13	-	-	113	117	7	0	0	106	118	127	127
Turbidity NTU	0.1	-	-	0.65	1.5	7	0	0	0.12	0.25	0.41	0.45
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	7	0	7	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.25	0.25	7	0	7	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	-	-	0.068	0.066	7	0	0	0.058	0.062	0.067	0.069
Sulphate (Dissolved)	0.3	-	-	5.9	6	7	0	0	5.5	5.9	6.2	6.3
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0025	0.004	7	0	6	0.0025	0.0032	0.0058	0.0072
Ammonia (Total)	0.005	-	-	0.0025	0.0025	7	0	6	0.0025	0.003	0.0049	0.006
Nitrate (as N)	0.005	-	-	0.071	0.085	7	0	0	0.084	0.087	0.09	0.091
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.073	0.085	5	0	0	0.084	0.087	0.09	0.091
Nitrite (as N)	0.001	-	-	0.0016	0.0005	7	0	7	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	-	-	0.086	0.086	7	0	0	0.089	0.11	0.17	0.2
Nitrogen (Total)	0.03	-	-	0.084	0.092	7	0	0	0.079	0.11	0.19	0.23
Nitrogen Kjeldahl (Total)	0.05	-	-	0.025	0.025	7	0	7	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	-	-	0.0093	0.0095	7	0	0	0.01	0.011	0.012	0.012
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.011	0.012	7	0	0	0.011	0.012	0.013	0.013
Phosphorus (Nutrient) Total	0.002	-	-	0.014	0.016	7	0	0	0.012	0.012	0.013	0.013
Total Inorganic Nitrogen	0.025	-	-	-	-	5	0	0	0.084	0.088	0.092	0.092
Cyanide												
Cyanate	0.2	-	-	0.12	0.1	7	0	7	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0025	7	0	7	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	7	0	7	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	7	0	7	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	7	0	7	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.0022	0.0046	7	0	1	0.0005	0.0014	0.002	0.002
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000050	7	0	7	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	-	-	0.00085	0.00092	7	0	0	0.00084	0.00089	0.00093	0.00093
Barium (Dissolved)	0.0001	-	-	0.013	0.012	7	0	0	0.01	0.011	0.011	0.011
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000010	7	0	7	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	7	0	7	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	7	0	7	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.0000088	0.0000040	7	0	5	0.0000030	0.0000037	0.0000057	0.0000060
Calcium (Dissolved)	0.05	-	-	25	26	7	0	0	26	26	27	27
Chromium (Dissolved)	0.0005	-	-	0.00078	0.0008	7	0	0	0.00077	0.00081	0.00086	0.00087
Cobalt (Dissolved)	0.0001	-	-	0.000050	0.000050	7	0	7	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	0.0001	0.0001	7	0	7	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	-	-	0.005	0.005	7	0	7	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.000025	7	0	7	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.0005	0.0005	7	0	7	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	5.1	5.3	7	0	0	4.8	5.3	5.6	5.6
Manganese (Dissolved)	0.0001	-	-	0.019	0.0019	7	0	2	0.000050	0.00031	0.0008	0.00092
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	7	0	7	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.0021	0.0017	7	0	0	0.0016	0.0017	0.0017	0.0017
Nickel (Dissolved)	0.0005	-	-	0.00025	0.00025	7	0	7	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	7	0	7	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	0.8	0.76	7	0	0	0.67	0.73	0.77	0.77
Selenium (Dissolved)	0.00005	-	-	0.00024	0.00024	7	0	0	0.00019	0.00023	0.00026	0.00027
Silicon (Dissolved)	0.05	-	-	6.7	6.7	7	0	0	6.7	7	7.3	7.3
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000050	7	0	7	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	4.9	5	7	0	0	4.6	5	5.6	5.8
Strontium (Dissolved)	0.0002	-	-	0.17	0.16	7	0	0	0.16	0.16	0.17	0.17
Sulfur (Dissolved)	0.5	-	-	2	1.9	7	0	0	1.7	1.9	2.2	2.2
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	7	0	7	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	7	0	7	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.00015	0.00019	7	0	7	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.00066	0.00069	7	0	0	0.00062	0.00068	0.00073	0.00073
Vanadium (Dissolved)	0.0005	-	-	0.0007	0.00072	7	0	0	0.00069	0.00078	0.00087	0.00089
Zinc (Dissolved)	0.001	-	-	0.001	0.0005	7	0	7	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.0001	7	0	7	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.04	0.061	7	0	0	0.0036	0.0093	0.017	0.018
Antimony (Total)	0.0001	-	-	0.000062	0.000050	7	0	6	0.000050	0.000059	0.000092	0.00011
Arsenic (Total)	0.0001	-	-	0.00092	0.00098	7	0	0	0.00084	0.00091	0.00097	0.00098
Barium (Total)	0.0001	-	-	0.014	0.013	7	0	0	0.01	0.011	0.012	0.012
Beryllium (Total)	0.00002	-	-	0.000010	0.000010	7	0	7	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	7	0	7	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	7	0	7	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.0000011	0.0000092	7	0	3	0.0000030	0.0000047	0.0000060	0.0000060
Calcium (Total)	0.05	-	-	26	26	7	0	0	25	26	28	28
Chromium (Total)	0.0005	-	-	0.0011	0.0013	7	0	0	0.00082	0.00094	0.001	0.001
Cobalt (Total)	0.0001	-	-	0.000050	0.000063	7	0	7	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	-	-	0.00025	0.00032	7	0	6	0.00025	0.00033	0.00066	0.00084
Iron (Total)	0.01	-	-	0.049	0.057	7	0	4	0.005	0.0087	0.016	0.017
Lead (Total)	0.00005	-	-	0.000037	0.000068	7	0	7	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	-	-	0.0005	0.0005	7	0	6	0.0005	0.00063	0.0011	0.0014
Magnesium (Total)	0.1	-	-	5.2	5.3	7	0	0	5.3	5.5	5.8	6
Manganese (Total)	0.0001	-	-	0.026	0.013	7	0	0	0.00019	0.0042	0.0097	0.011
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000030	7	0	7	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	0.0021	0.0018	7	0	0	0.0015	0.0017	0.0018	0.0019
Nickel (Total)	0.0005	-	-	0.00025	0.00042	7	0	7	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	-	-	0.032	0.025	7	0	6	0.025	0.029	0.045	0.054
Potassium (Total)	0.1	-	-	0.82	0.77	7	0	0	0.68	0.76	0.87	0.92
Selenium (Total)	0.00005	-	-	0.00025	0.00025	7	0	0	0.0002	0.00024	0.00027	0.00027
Silicon (Total)	0.1	-	-	6.9	6.9	7	0	0	6.9	7.2	7.4	7.4
Silver (Total)	0.00001	-	-	0.0000076	0.0000050	7	0	7	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	5	5.1	7	0	0	4.7	26	107	150
Strontium (Total)	0.0002	-	-	0.17	0.17	7	0	0	0.16	0.17	0.18	0.18
Sulfur (Total)	0.5	-	-	2.1	2.1	7	0	0	1.8	2	2.1	2.1
Thallium (Total)	0.00001	-	-	0.0000050	0.0000050	7	0	7	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.000050	0.000050	7	0	7	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.0017	0.0025	7	0	4	0.00015	0.0003	0.00059	0.0006
Uranium (Total)	0.00001	-	-	0.00067	0.00071	7	0	0	0.00068	0.00071	0.00076	0.00076
Vanadium (Total)	0.0005	-	-	0.00086	0.0009	7	0	0	0.00075	0.00087	0.0012	0.0013
Zinc (Total)	0.003	-	-	0.0018	0.0015	7	0	7	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	-	-	0.0001	0.0001	7	0	7	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.25	0.46	7	0	6	0.25	0.29	0.45	0.54
Carbon Organic (Total)	0.5	-	-	0.3	0.39	7	0	6	0.25	0.31	0.56	0.69

\\KPLNA-Prj\Ci\1\0045762\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 17 MW22-02D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	ISSUED FOR / DATE	PREPARED	REVIEWED	APPROVED

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 18 MW22-03D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	124	115	6	0	0	121	364	809	897
Oxygen Dissolved (In Situ %) %	-	-	-	51	57	6	0	0	0	34	67	67
pH (In Situ) pH	-	-	-	7.9	7.7	6	0	0	7	7.4	7.9	7.9
Redox Potential (In Situ) mV	-	-	-	88	17	5	0	0	159	197	231	233
Salinity (In Situ) ppt	-	-	-	0.085	0.083	5	0	0	0.09	0.32	0.66	0.73
Specific Conductivity (In Situ) µS/cm	-	-	-	189	182	6	0	0	184	581	1310	1466
Temperature (In Situ) °C	-	-	-	6.9	5.5	6	0	0	2.8	6.5	9.2	9.5
Total Dissolved Solids (In Situ)	-	-	-	120	127	5	0	0	121	425	867	953
Turbidity (In Situ) NTU	-	-	-	0.61	1.1	6	0	0	1.8	3.6	5.4	5.9
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	2.2	6	0	4	1	2.3	5.7	6.6
Alkalinity (Total as CaCO3)	1	-	-	95	96	6	0	0	84	108	150	162
Alkalinity/ Bicarbonate as CaCO3	1	-	-	95	96	6	0	0	84	108	150	162
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	1.2	6	0	6	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	6	0	6	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	8.1	8.2	6	0	0	7.7	7.9	8.2	8.2
Specific Conductivity µS/cm	2	-	-	187	194	6	0	0	189	538	1232	1380
Total Dissolved Solids	13	-	-	113	118	6	0	0	111	396	943	1040
Turbidity NTU	0.1	-	-	0.19	0.39	6	0	2	0.05	0.26	0.43	0.43
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	6	0	6	0.025	0.058	0.12	0.12
Chloride (Dissolved)	0.5	-	-	0.25	0.25	6	0	3	0.25	3.1	7.3	7.8
Fluoride (Dissolved)	0.02	-	-	0.075	0.069	6	0	2	0.046	0.057	0.069	0.071
Sulphate (Dissolved)	0.3	-	-	5	5.5	6	0	0	5	163	461	517
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0032	0.0025	6	0	3	0.0025	1.4	5.6	7.2
Ammonia (Total)	0.005	-	-	0.0036	0.0025	6	0	3	0.0025	1.4	5.8	7.5
Nitrate (as N)	0.005	-	-	0.07	0.11	6	0	0	0.048	0.71	2.6	3.3
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.089	0.11	5	0	0	0.062	0.99	3.2	3.9
Nitrite (as N)	0.001	-	-	0.0029	0.0023	6	0	1	0.0005	0.14	0.46	0.55
Nitrogen (Dissolved)	0.03	-	-	0.12	0.12	6	0	0	0.11	5.3	19	23
Nitrogen (Total)	0.03	-	-	0.12	0.14	6	0	0	0.11	5.3	19	23
Nitrogen Kjeldahl (Total)	0.05	-	-	0.056	0.025	6	0	3	0.025	4.2	16	20
Orthophosphate (Dissolved)	0.001	-	-	0.0068	0.0082	6	0	2	0.0005	0.005	0.01	0.01
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.011	0.012	6	0	0	0.0055	0.0087	0.011	0.011
Phosphorus (Nutrient) Total	0.002	-	-	0.012	0.015	6	0	0	0.0066	0.0097	0.013	0.013
Total Inorganic Nitrogen	0.025	-	-	-	-	6	0	0	0.062	2.3	8.8	11
Cyanide												
Cyanate	0.2	-	-	0.1	0.9	6	0	3	0.1	4.6	18	24
Cyanide (Free)	0.005	-	-	0.0025	0.0025	6	0	3	0.0025	0.35	1.5	2
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	6	0	3	0.0025	0.62	2.7	3.5
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	6	0	3	0.0025	0.61	2.6	3.5
Thiocyante (SCN)	0.5	-	-	0.25	0.25	6	0	4	0.25	17	64	77
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.002	0.002	6	0	1	0.0005	0.0012	0.0016	0.0017
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000050	6	0	5	0.000050	0.000060	0.000095	0.00011
Arsenic (Dissolved)	0.0001	-	-	0.0004	0.00042	6	0	0	0.00036	0.00046	0.0007	0.00076
Barium (Dissolved)	0.0001	-	-	0.016	0.016	6	0	0	0.012	0.044	0.11	0.12
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000010	6	0	6	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	6	0	6	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	6	0	6	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.0000070	0.0000035	6	0	3	0.0000030	0.000018	0.000055	0.000065
Calcium (Dissolved)	0.05	-	-	26	26	6	0	0	26	84	198	221
Chromium (Dissolved)	0.0005	-	-	0.00072	0.00079	6	0	3	0.00025	0.00051	0.0008	0.0008
Cobalt (Dissolved)	0.0001	-	-	0.000050	0.000050	6	0	3	0.000050	0.07	0.21	0.25
Copper (Dissolved)	0.0002	-	-	0.0001	0.0001	6	0	3	0.0001	0.0019	0.0078	0.01
Iron (Dissolved)	0.01	-	-	0.005	0.005	6	0	6	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.000025	6	0	6	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.00082	0.00065	6	0	2	0.0005	0.0011	0.0016	0.0017
Magnesium (Dissolved)	0.1	-	-	5.2	5.7	6	0	0	4.8	17	41	46
Manganese (Dissolved)	0.0001	-	-	0.0075	0.00094	6	0	0	0.00014	0.0035	0.013	0.015
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	6	0	6	0.0000030	0.000015	0.000044	0.000050
Molybdenum (Dissolved)	0.00005	-	-	0.0016	0.0016	6	0	0	0.001	0.0014	0.0016	0.0016
Nickel (Dissolved)	0.0005	-	-	0.00025	0.00025	6	0	4	0.00025	0.14	0.61	0.79
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	6	0	6	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	1.1	0.97	6	0	0	0.86	1.3	2.1	2.3
Selenium (Dissolved)	0.00005	-	-	0.00022	0.00021	6	0	0	0.0002	0.00091	0.0028	0.0034
Silicon (Dissolved)	0.05	-	-	7	7	6	0	0	6.5	7.2	7.6	7.8
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000050	6	0	5	0.0000050	0.0016	0.0073	0.0098
Sodium (Dissolved)	0.05	-	-	4.8	4.9	6	0	0	4.6	8.6	19	22
Strontium (Dissolved)	0.0002	-	-	0.17	0.18	6	0	0	0.17	0.54	1.3	1.4
Sulfur (Dissolved)	0.5	-	-	1.7	1.7	6	0	0	1.4	67	201	232
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	6	0	6	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	6	0	6	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.00015	0.00015	6	0	6	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.00057	0.00059	6	0	0	0.00059	0.002	0.0059	0.0071
Vanadium (Dissolved)	0.0005	-	-	0.00025	0.00031	6	0	3	0.00025	0.00039	0.00055	0.00057
Zinc (Dissolved)	0.001	-	-	0.0005	0.0005	6	0	4	0.0005	0.00072	0.0012	0.0013
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.0001	6	0	6	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.0068	0.058	6	0	1	0.0015	0.0065	0.012	0.014
Antimony (Total)	0.0001	-	-	0.000050	0.000050	6	0	3	0.000050	0.00012	0.00021	0.00022
Arsenic (Total)	0.0001	-	-	0.00043	0.00049	6	0	0	0.00039	0.0005	0.00071	0.00078
Barium (Total)	0.0001	-	-	0.018	0.019	6	0	0	0.014	0.045	0.1	0.12
Beryllium (Total)	0.00002	-	-	0.000010	0.000010	6	0	6	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	6	0	6	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	6	0	6	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.0000070	0.000010	6	0	3	0.0000030	0.000019	0.000058	0.000068
Calcium (Total)	0.05	-	-	26	27	6	0	0	26	83	203	231
Chromium (Total)	0.0005	-	-	0.00087	0.0013	6	0	3	0.00025	0.00068	0.0013	0.0013
Cobalt (Total)	0.0001	-	-	0.000050	0.000078	6	0	3	0.000050	0.072	0.23	0.26
Copper (Total)	0.0005	-	-	0.00025	0.00033	6	0	4	0.00025	0.002	0.0082	0.011
Iron (Total)	0.01	-	-	0.0084	0.081	6	0	3	0.005	0.01	0.022	0.026
Lead (Total)	0.00005	-	-	0.000025	0.000075	6	0	6	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	-	-	0.00098	0.0008	6	0	2	0.0005	0.0011	0.0018	0.0018
Magnesium (Total)	0.1	-	-	5.1	5.6	6	0	0	5.1	17	42	48
Manganese (Total)	0.0001	-	-	0.0081	0.0042	6	0	0	0.00031	0.0038	0.013	0.015
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000030	6	0	5	0.0000030	0.0000062	0.00026	0.00033
Molybdenum (Total)	0.00005	-	-	0.0016	0.0016	6	0	0	0.0011	0.0014	0.0017	0.0017
Nickel (Total)	0.0005	-	-	0.00025	0.0004	6	0	4	0.00025	0.15	0.64	0.83
Phosphorus (Metal) Total	0.05	-	-	0.031	0.032	6	0	6	0.025	0.025	0.025	0.025
Potassium (Total)	0.1	-	-	1.2	0.99	6	0	0	0.85	1.4	2.2	2.4
Selenium (Total)	0.00005	-	-	0.00023	0.00024	6	0	0	0.0002	0.00084	0.0026	0.0031
Silicon (Total)	0.1	-	-	6.9	7.3	6	0	0	6.9	7.2	7.6	7.7
Silver (Total)	0.00001	-	-	0.0000050	0.0000050	6	0	5	0.0000050	0.0049	0.022	0.029
Sodium (Total)	0.05	-	-	4.9	4.8	6	0	0	4.6	9	20	24
Strontium (Total)	0.0002	-	-	0.18	0.18	6	0	0	0.18	0.54	1.3	1.4
Sulfur (Total)	0.5	-	-	1.8	1.8	6	0	0	1.6	72	214	244
Thallium (Total)	0.00001	-	-	0.0000050	0.0000050	6	0	6	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.000050	0.000073	6	0	6	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.00031	0.0021	6	0	4	0.00015	0.0003	0.00066	0.00071
Uranium (Total)	0.00001	-	-	0.00063	0.00062	6	0	0	0.00055	0.002	0.0059	0.007
Vanadium (Total)	0.0005	-	-	0.00044	0.00069	6	0	1	0.00025	0.00053	0.00063	0.00065
Zinc (Total)	0.003	-	-	0.0015	0.002	6	0	6	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	-	-	0.0001	0.0001	6	0	6	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.71	0.41	6	0	1	0.25	5.9	20	24
Carbon Organic (Total)	0.5	-	-	0.77	0.57	6	0	1	0.25	6.3	20	24

\\APL\NA-Prj\210\3045762A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 18 MW22-03D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	DATE	DESCRIPTION	PREPD	REVIEW
A	26MAR26	ISSUED WITH REPORT VA101-03/15/2-5	EB	CAS

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 19 MW22-03S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	29	35	8	0	0	33	38	44	44
Oxygen Dissolved (In Situ %) %	-	-	-	67	85	6	0	0	98	106	117	121
pH (In Situ) pH	-	-	-	6.8	6.7	8	0	0	6.3	6.7	7.1	7.4
Redox Potential (In Situ) mV	-	-	-	73	149	7	1	0	74	170	248	263
Salinity (In Situ) ppt	-	-	-	0.02	0.025	5	0	0	0.01	0.022	0.03	0.03
Specific Conductivity (In Situ) µS/cm	-	-	-	46	52	8	0	0	52	61	74	76
Temperature (In Situ) °C	-	-	-	5.9	6.4	8	0	0	2.6	5.9	11	12
Total Dissolved Solids (In Situ)	-	-	-	30	41	5	0	0	19	35	44	45
Turbidity (In Situ) NTU	-	-	-	2	3.6	8	0	0	2.5	50	235	347
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	2.4	8	0	2	1	2.6	4.6	5.2
Alkalinity (Total as CaCO3)	1	-	-	23	26	8	0	0	27	29	30	30
Alkalinity/ Bicarbonate as CaCO3	1	-	-	23	26	8	0	0	27	29	30	30
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	0.5	8	0	8	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	8	0	8	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	7.6	7.6	8	0	0	7.3	7.4	7.6	7.6
Specific Conductivity µS/cm	2	-	-	45	52	8	0	0	52	57	59	60
Total Dissolved Solids	13	-	-	40	48	8	0	0	42	54	69	75
Turbidity NTU	0.1	-	-	1.5	3.4	8	0	0	1.3	15	69	103
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	8	0	8	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.25	0.25	8	0	4	0.25	0.4	0.6	0.61
Fluoride (Dissolved)	0.02	-	-	0.031	0.026	8	0	1	0.01	0.023	0.03	0.03
Sulphate (Dissolved)	0.3	-	-	0.64	0.61	8	0	0	0.72	0.81	0.85	0.86
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0025	0.0025	8	0	8	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	-	-	0.0025	0.0025	8	0	7	0.0025	0.0035	0.0078	0.011
Nitrate (as N)	0.005	-	-	0.0025	0.015	8	0	0	0.016	0.085	0.14	0.16
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.0026	0.015	5	0	0	0.017	0.09	0.15	0.16
Nitrite (as N)	0.001	-	-	0.0005	0.0005	8	0	7	0.0005	0.00056	0.00082	0.001
Nitrogen (Dissolved)	0.03	-	-	0.015	0.037	8	0	0	0.091	0.13	0.2	0.2
Nitrogen (Total)	0.03	-	-	0.015	0.024	8	0	0	0.079	0.13	0.22	0.23
Nitrogen Kjeldahl (Total)	0.05	-	-	0.025	0.025	8	0	6	0.025	0.055	0.15	0.15
Orthophosphate (Dissolved)	0.001	-	-	0.0082	0.0088	8	0	0	0.0036	0.0086	0.011	0.011
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.01	0.014	8	0	0	0.0092	0.011	0.012	0.013
Phosphorus (Nutrient) Total	0.002	-	-	0.012	0.015	8	0	0	0.012	0.036	0.13	0.19
Total Inorganic Nitrogen	0.025	-	-	-	-	7	0	0	0.066	0.096	0.15	0.16
Cyanide												
Cyanate	0.2	-	-	0.1	0.1	8	0	8	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0025	8	0	8	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	8	0	8	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	8	0	8	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	8	0	8	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.0067	0.012	7	1	3	0.0005	0.0012	0.0023	0.0026
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000050	7	1	6	0.000050	0.000067	0.00013	0.00017
Arsenic (Dissolved)	0.0001	-	-	0.00021	0.00028	7	1	0	0.00018	0.00022	0.00027	0.00028
Barium (Dissolved)	0.0001	-	-	0.0053	0.0062	7	1	0	0.0054	0.0062	0.0068	0.0069
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000010	7	1	7	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	7	1	7	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	7	1	7	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.000016	0.0000093	7	1	6	0.0000030	0.0000043	0.0000093	0.000012
Calcium (Dissolved)	0.05	-	-	5.3	6.1	7	1	0	6.3	6.6	7	7
Chromium (Dissolved)	0.0005	-	-	0.00025	0.00025	7	1	6	0.00025	0.00029	0.00042	0.0005
Cobalt (Dissolved)	0.0001	-	-	0.000050	0.000050	7	1	7	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	0.0001	0.00018	7	1	6	0.0001	0.00021	0.00062	0.00084
Iron (Dissolved)	0.01	-	-	0.005	0.0083	7	1	7	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.000025	7	1	7	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.0005	0.0005	7	1	7	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	0.9	1.2	7	1	0	1.2	1.3	1.4	1.4
Manganese (Dissolved)	0.0001	-	-	0.0047	0.0018	7	1	0	0.00043	0.00069	0.0012	0.0014
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	7	1	7	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.00017	0.00018	7	1	0	0.00012	0.00016	0.00023	0.00025
Nickel (Dissolved)	0.0005	-	-	0.00025	0.00025	7	1	7	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	7	1	7	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	0.58	0.64	7	1	0	0.56	0.63	0.69	0.7
Selenium (Dissolved)	0.00005	-	-	0.000025	0.000025	7	1	6	0.000025	0.000029	0.000045	0.000054
Silicon (Dissolved)	0.05	-	-	7.3	7.3	7	1	0	6.8	7.6	8.4	8.6
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000050	7	1	7	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	2.1	2.5	7	1	0	2.5	2.7	2.9	2.9
Strontium (Dissolved)	0.0002	-	-	0.03	0.037	7	1	0	0.038	0.042	0.046	0.047
Sulfur (Dissolved)	0.5	-	-	0.25	0.25	7	1	7	0.25	0.25	0.25	0.25
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	7	1	7	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	7	1	7	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.00015	0.00029	7	1	7	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	7	1	7	0.0000050	0.0000050	0.0000050	0.0000050
Vanadium (Dissolved)	0.0005	-	-	0.00025	0.00025	7	1	7	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	-	-	0.0022	0.0011	7	1	5	0.0005	0.0008	0.0017	0.002
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.0001	7	1	7	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.07	0.2	7	1	0	0.067	0.16	0.25	0.25
Antimony (Total)	0.0001	-	-	0.000050	0.000050	7	1	5	0.000050	0.000070	0.00013	0.00014
Arsenic (Total)	0.0001	-	-	0.00026	0.00035	7	1	0	0.00025	0.00033	0.00043	0.00046
Barium (Total)	0.0001	-	-	0.0062	0.0081	7	1	0	0.0071	0.0079	0.009	0.0093
Beryllium (Total)	0.00002	-	-	0.000010	0.000010	7	1	7	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	7	1	7	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	7	1	7	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.0000012	0.0000097	7	1	2	0.0000030	0.0000067	0.000012	0.000014
Calcium (Total)	0.05	-	-	5.4	6	7	1	0	6.2	6.7	7.2	7.2
Chromium (Total)	0.0005	-	-	0.00025	0.0009	7	1	6	0.00025	0.00034	0.00067	0.00085
Cobalt (Total)	0.0001	-	-	0.000050	0.000050	7	1	6	0.000050	0.000063	0.00011	0.00014
Copper (Total)	0.0005	-	-	0.00025	0.00025	7	1	6	0.00025	0.00037	0.00083	0.0011
Iron (Total)	0.01	-	-	0.068	0.16	7	1	0	0.054	0.14	0.29	0.33
Lead (Total)	0.00005	-	-	0.000025	0.000080	7	1	2	0.000025	0.000094	0.00022	0.00025
Lithium (Total)	0.001	-	-	0.0005	0.0005	7	1	7	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	-	-	0.94	1.2	7	1	0	1.2	1.4	1.5	1.5
Manganese (Total)	0.0001	-	-	0.0058	0.0045	7	1	0	0.0021	0.0044	0.0094	0.011
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000030	7	1	7	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	0.00014	0.00021	7	1	0	0.00014	0.00016	0.00019	0.00019
Nickel (Total)	0.0005	-	-	0.00025	0.00055	7	1	6	0.00025	0.00029	0.00047	0.00056
Phosphorus (Metal) Total	0.05	-	-	0.025	0.025	7	1	7	0.025	0.025	0.025	0.025
Potassium (Total)	0.1	-	-	0.58	0.67	7	1	0	0.63	0.67	0.71	0.72
Selenium (Total)	0.00005	-	-	0.000025	0.000025	7	1	7	0.000025	0.000025	0.000025	0.000025
Silicon (Total)	0.1	-	-	7.5	7.9	7	1	0	7.3	8	8.3	8.3
Silver (Total)	0.00001	-	-	0.0000050	0.0000050	7	1	7	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	2.2	2.6	7	1	0	2.5	2.7	2.9	2.9
Strontium (Total)	0.0002	-	-	0.03	0.038	7	1	0	0.038	0.043	0.046	0.047
Sulfur (Total)	0.5	-	-	0.25	0.25	7	1	7	0.25	0.25	0.25	0.25
Thallium (Total)	0.00001	-	-	0.0000050	0.0000050	7	1	7	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.000050	0.000050	7	1	7	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.0016	0.0044	7	1	0	0.0017	0.0038	0.0064	0.0065
Uranium (Total)	0.00001	-	-	0.0000050	0.000015	7	1	1	0.0000050	0.000013	0.000021	0.000022
Vanadium (Total)	0.0005	-	-	0.00025	0.00065	7	1	2	0.00025	0.00054	0.00082	0.00087
Zinc (Total)	0.003	-	-	0.0015	0.0015	7	1	7	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	-	-	0.0001	0.00014	7	1	4	0.0001	0.00015	0.00024	0.00026
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.77	0.6	8	0	2	0.25	0.66	1.2	1.3
Carbon Organic (Total)	0.5	-	-	0.64	0.81	8	0	4	0.25	0.7	1.9	2.4

\\APL\NA-Prj\1101\345762\AI\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 19 MW22-03S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 20 MW23-01

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	89	85	4	0	0	89	99	113	116
Oxygen Dissolved (In Situ %) %	-	-	-	49	43	4	0	0	58	63	69	69
pH (In Situ) pH	-	-	-	8	7.8	4	0	0	7.7	7.8	7.8	7.8
Redox Potential (In Situ) mV	-	-	-	23	-129	4	0	0	118	152	189	190
Salinity (In Situ) ppt	-	-	-	0.07	0.06	2	0	0	0	0.035	0.067	0.07
Specific Conductivity (In Situ) µS/cm	-	-	-	144	136	4	0	0	126	139	145	145
Temperature (In Situ) °C	-	-	-	5	4.9	4	0	0	4.6	10	15	16
Total Dissolved Solids (In Situ)	-	-	-	94	89	1	2	0	94	94	94	94
Turbidity (In Situ) NTU	-	-	-	2.2	2.7	4	0	0	0.99	1.9	2.8	2.9
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	4	0	3	1	1.3	2.1	2.3
Alkalinity (Total as CaCO3)	1	-	-	74	75	4	0	0	73	74	75	75
Alkalinity/ Bicarbonate as CaCO3	1	-	-	74	75	4	0	0	73	74	75	75
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	8.1	8.1	4	0	0	7.8	8	8	8.1
Specific Conductivity µS/cm	2	-	-	146	142	4	0	0	134	137	141	142
Total Dissolved Solids	13	-	-	78	85	4	0	0	86	95	100	100
Turbidity NTU	0.1	-	-	1.6	0.88	4	0	0	0.11	0.28	0.51	0.54
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	-	-	0.068	0.073	4	0	0	0.068	0.072	0.075	0.075
Sulphate (Dissolved)	0.3	-	-	0.97	0.65	4	0	0	0.47	0.55	0.65	0.66
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0054	0.0043	4	0	4	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	-	-	0.0025	0.0025	4	0	3	0.0025	0.0042	0.0082	0.0092
Nitrate (as N)	0.005	-	-	0.13	0.14	4	0	0	0.12	0.14	0.14	0.15
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.13	0.14	2	0	0	0.14	0.14	0.15	0.15
Nitrite (as N)	0.001	-	-	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	-	-	0.14	0.16	4	0	0	0.13	0.15	0.17	0.17
Nitrogen (Total)	0.03	-	-	0.15	0.19	4	0	0	0.13	0.14	0.14	0.14
Nitrogen Kjeldahl (Total)	0.05	-	-	0.025	0.072	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.01	-	-	0.069	0.078	4	0	0	0.074	0.081	0.086	0.086
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.081	0.08	4	0	0	0.083	0.087	0.09	0.09
Phosphorus (Nutrient) Total	0.002	-	-	0.082	0.081	4	0	0	0.083	0.086	0.088	0.088
Total Inorganic Nitrogen	0.025	-	-	-	0.14	3	0	0	0.12	0.13	0.14	0.15
Cyanide												
Cyanate	0.2	-	-	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0044	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.0026	0.0035	4	0	0	0.0014	0.002	0.003	0.0032
Antimony (Dissolved)	0.0001	-	-	0.00015	0.00016	4	0	0	0.00016	0.00016	0.00017	0.00017
Arsenic (Dissolved)	0.0001	-	-	0.0012	0.0012	4	0	0	0.0011	0.0012	0.0012	0.0012
Barium (Dissolved)	0.0001	-	-	0.0094	0.0078	4	0	0	0.0058	0.0065	0.0068	0.0069
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.0000050	0.0000062	4	0	3	0.0000030	0.0000038	0.0000055	0.0000060
Calcium (Dissolved)	0.05	-	-	18	18	4	0	0	18	18	19	19
Chromium (Dissolved)	0.0005	-	-	0.00072	0.00069	4	0	0	0.00064	0.00068	0.00071	0.00072
Cobalt (Dissolved)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	0.0001	0.00021	4	0	4	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	3.8	3.8	4	0	0	3.6	3.9	4.2	4.3
Manganese (Dissolved)	0.0001	-	-	0.004	0.0015	4	0	0	0.00029	0.00043	0.00056	0.00057
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.00052	0.00044	4	0	0	0.00042	0.00043	0.00043	0.00043
Nickel (Dissolved)	0.0005	-	-	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	0.079	0.082	4	0	0	0.075	0.079	0.083	0.083
Potassium (Dissolved)	0.1	-	-	0.78	0.71	4	0	0	0.67	0.69	0.71	0.72
Selenium (Dissolved)	0.00005	-	-	0.000094	0.0001	4	0	0	0.000059	0.000092	0.00012	0.00012
Silicon (Dissolved)	0.05	-	-	10	10	4	0	0	9.4	10	11	11
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	5.6	5.1	4	0	0	4.8	5	5	5
Strontium (Dissolved)	0.0002	-	-	0.13	0.12	4	0	0	0.12	0.12	0.13	0.13
Sulfur (Dissolved)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.00015	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.00046	0.00039	4	0	0	0.00035	0.00036	0.00038	0.00038
Vanadium (Dissolved)	0.0005	-	-	0.0014	0.0015	4	0	0	0.0015	0.0016	0.0016	0.0016
Zinc (Dissolved)	0.001	-	-	0.0005	0.00093	2	2	2	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.028	0.024	4	0	0	0.0049	0.0087	0.014	0.015
Antimony (Total)	0.0001	-	-	0.00019	0.00016	4	0	0	0.00017	0.00021	0.00027	0.00028
Arsenic (Total)	0.0001	-	-	0.0013	0.0012	4	0	0	0.0011	0.0012	0.0012	0.0012
Barium (Total)	0.0001	-	-	0.0098	0.0077	4	0	0	0.0063	0.0066	0.0071	0.0072
Beryllium (Total)	0.00002	-	-	0.000010	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.0000010	0.0000045	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Total)	0.05	-	-	18	18	4	0	0	17	18	19	19
Chromium (Total)	0.0005	-	-	0.001	0.00094	4	0	0	0.00068	0.00084	0.0011	0.0011
Cobalt (Total)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	-	-	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	-	-	0.028	0.021	4	0	3	0.005	0.0083	0.016	0.018
Lead (Total)	0.00005	-	-	0.000048	0.000039	4	0	3	0.000025	0.000033	0.000050	0.000055
Lithium (Total)	0.001	-	-	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	-	-	3.9	3.8	4	0	0	3.7	4	4.2	4.3
Manganese (Total)	0.0001	-	-	0.0058	0.0022	4	0	0	0.00054	0.00083	0.0012	0.0012
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	0.00053	0.00047	4	0	0	0.00042	0.00044	0.00044	0.00044
Nickel (Total)	0.0005	-	-	0.00025	0.00034	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	-	-	0.099	0.11	4	0	0	0.093	0.11	0.13	0.13
Potassium (Total)	0.1	-	-	0.8	0.68	4	0	0	0.64	0.67	0.69	0.69
Selenium (Total)	0.00005	-	-	0.00011	0.000091	4	0	0	0.000091	0.0001	0.00012	0.00013
Silicon (Total)	0.1	-	-	10	9.9	4	0	0	10	10	10	10
Silver (Total)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	5.7	5	4	0	0	4.8	5	5.3	5.4
Strontium (Total)	0.0002	-	-	0.13	0.12	4	0	0	0.12	0.12	0.13	0.13
Sulfur (Total)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Thallium (Total)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.00048	0.000065	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.001	0.00084	4	0	3	0.00015	0.00026	0.00052	0.00059
Uranium (Total)	0.00001	-	-	0.00048	0.00041	4	0	0	0.00038	0.0004	0.00041	0.00041
Vanadium (Total)	0.0005	-	-	0.0016	0.0016	4	0	0	0.0016	0.0017	0.0017	0.0018
Zinc (Total)	0.003	-	-	0.0015	0.0015	3	1	2	0.0015	0.0098	0.024	0.026
Zirconium (Total)	0.0002	-	-	0.0001	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.25	0.34	4	0	4	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	-	-	0.81	0.87	4	0	4	0.25	0.25	0.25	0.25

\\APL\NA-Prj\1101\0457\62A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 20 MW23-01

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	MAR/25/26	ISSUED WITH REPORT (ADD ADDENDA)	EB	CAS
REV	DATE	DESCRIPTION	PREPD	REVD

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 21 MW23-02S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	49	44	3	1	0	40	46	51	51
Oxygen Dissolved (In Situ %) %	-	-	-	72	70	4	0	0	1	68	96	97
pH (In Situ) pH	-	-	-	7	6.2	4	0	0	5.7	6	6.1	6.1
Redox Potential (In Situ) mV	-	-	-	-64	-138	4	0	0	97	168	199	201
Salinity (In Situ) ppt	-	-	-	0.035	0.03	3	0	0	0.03	0.043	0.058	0.06
Specific Conductivity (In Situ) µS/cm	-	-	-	82	73	3	1	0	67	75	79	79
Temperature (In Situ) °C	-	-	-	4	4.1	4	0	0	2.3	4	6.1	6.5
Total Dissolved Solids (In Situ)	-	-	-	54	47	3	0	0	44	59	80	83
Turbidity (In Situ) NTU	-	-	-	20	6.5	4	0	0	1.3	2.6	4.2	4.3
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	2.7	7.1	4	0	0	2.1	9.8	13	13
Alkalinity (Total as CaCO3)	1	-	-	42	36	4	0	0	18	29	35	35
Alkalinity/ Bicarbonate as CaCO3	1	-	-	42	36	4	0	0	18	29	35	35
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	7.6	7.4	4	0	0	6.6	7	7.5	7.5
Specific Conductivity µS/cm	2	-	-	82	76	4	0	0	60	76	84	85
Total Dissolved Solids	13	-	-	80	65	4	0	0	47	60	67	67
Turbidity NTU	0.1	-	-	23	8.4	4	0	0	1.1	1.8	2.9	3.1
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.75	2.2	4	0	0	3.3	3.9	5.2	5.5
Fluoride (Dissolved)	0.02	-	-	0.027	0.022	4	0	3	0.01	0.013	0.018	0.02
Sulphate (Dissolved)	0.3	-	-	0.55	0.48	4	0	0	0.64	1.1	1.7	1.8
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0025	0.0025	4	0	3	0.0025	0.0036	0.0063	0.007
Ammonia (Total)	0.005	-	-	0.007	0.0038	4	0	4	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	-	-	0.028	0.14	4	0	0	0.29	0.33	0.41	0.42
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.028	0.14	4	0	0	0.29	0.33	0.41	0.42
Nitrite (as N)	0.001	-	-	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	-	-	0.078	0.18	4	0	0	0.29	0.34	0.41	0.42
Nitrogen (Total)	0.03	-	-	0.097	0.18	4	0	0	0.3	0.34	0.4	0.41
Nitrogen Kjeldahl (Total)	0.05	-	-	0.069	0.043	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	-	-	0.016	0.014	4	0	0	0.0088	0.016	0.019	0.019
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.024	0.02	4	0	0	0.013	0.019	0.024	0.024
Phosphorus (Nutrient) Total	0.002	-	-	0.041	0.03	4	0	0	0.013	0.021	0.026	0.026
Total Inorganic Nitrogen	0.025	-	-	-	-	1	0	0	0.42	0.42	0.42	0.42
Cyanide												
Cyanate	0.2	-	-	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.64	0.14	4	0	0	0.0019	0.0032	0.0041	0.0042
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	-	-	0.00063	0.00034	4	0	0	0.00017	0.00022	0.00024	0.00024
Barium (Dissolved)	0.0001	-	-	0.011	0.0076	4	0	0	0.0045	0.006	0.0068	0.0068
Beryllium (Dissolved)	0.00002	-	-	0.000025	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	-	-	0.000017	0.000014	4	0	0	0.0000070	0.000012	0.000019	0.000020
Calcium (Dissolved)	0.05	-	-	11	8.5	4	0	0	6.4	8.5	9.4	9.4
Chromium (Dissolved)	0.0005	-	-	0.00058	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	-	-	0.00014	0.000062	4	0	3	0.000050	0.000075	0.00013	0.00015
Copper (Dissolved)	0.0002	-	-	0.00071	0.0003	4	0	2	0.0001	0.00019	0.00029	0.00029
Iron (Dissolved)	0.01	-	-	0.38	0.086	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.00028	0.000099	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	1.8	2.1	4	0	0	1.4	1.9	2.2	2.2
Manganese (Dissolved)	0.0001	-	-	0.013	0.0046	4	0	0	0.0012	0.0018	0.0022	0.0023
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.00012	0.000089	4	0	1	0.000025	0.000054	0.000075	0.000078
Nickel (Dissolved)	0.0005	-	-	0.00058	0.0003	4	0	3	0.00025	0.00056	0.0013	0.0015
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	0.61	0.56	4	0	0	0.51	0.55	0.6	0.61
Selenium (Dissolved)	0.00005	-	-	0.000025	0.000033	4	0	4	0.000025	0.000025	0.000025	0.000025
Silicon (Dissolved)	0.05	-	-	8.4	7.8	4	0	0	5.8	7.1	7.6	7.6
Silver (Dissolved)	0.00001	-	-	0.000019	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	2.5	3.2	4	0	0	2.9	3.3	3.6	3.6
Strontium (Dissolved)	0.0002	-	-	0.039	0.052	4	0	0	0.049	0.059	0.065	0.065
Sulfur (Dissolved)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.014	0.0032	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.000070	0.000019	4	0	2	0.0000050	0.000012	0.000020	0.000020
Vanadium (Dissolved)	0.0005	-	-	0.0011	0.00041	4	0	4	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	-	-	0.0032	0.0024	3	1	1	0.0005	0.0013	0.0022	0.0023
Zirconium (Dissolved)	0.0002	-	-	0.00049	0.00021	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	1.6	0.55	4	0	0	0.074	0.1	0.15	0.16
Antimony (Total)	0.0001	-	-	0.00014	0.000082	4	0	2	0.000050	0.000078	0.00011	0.00011
Arsenic (Total)	0.0001	-	-	0.0014	0.00069	4	0	0	0.00028	0.00031	0.00032	0.00032
Barium (Total)	0.0001	-	-	0.018	0.012	4	0	0	0.0055	0.0068	0.0077	0.0078
Beryllium (Total)	0.00002	-	-	0.000059	0.000023	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	-	-	0.000022	0.000022	4	0	0	0.000010	0.000017	0.000026	0.000027
Calcium (Total)	0.05	-	-	12	8.8	4	0	0	6.4	8.6	9.6	9.7
Chromium (Total)	0.0005	-	-	0.0021	0.001	4	0	3	0.00025	0.00041	0.00079	0.00088
Cobalt (Total)	0.0001	-	-	0.0004	0.00014	4	0	3	0.000050	0.000085	0.00017	0.00019
Copper (Total)	0.0005	-	-	0.0019	0.00069	4	0	4	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	-	-	1.3	0.42	4	0	0	0.048	0.064	0.092	0.097
Lead (Total)	0.00005	-	-	0.00088	0.00041	4	0	3	0.000025	0.000058	0.00014	0.00016
Lithium (Total)	0.001	-	-	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	-	-	1.9	2.2	4	0	0	1.4	1.9	2.3	2.3
Manganese (Total)	0.0001	-	-	0.031	0.013	4	0	0	0.0024	0.0032	0.0042	0.0044
Mercury (Total)	0.0000005	-	-	0.0000050	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	0.00022	0.00012	4	0	0	0.000055	0.000081	0.00014	0.00015
Nickel (Total)	0.0005	-	-	0.0016	0.00084	4	0	3	0.00025	0.00064	0.0016	0.0018
Phosphorus (Metal) Total	0.05	-	-	0.025	0.037	4	0	2	0.025	0.04	0.055	0.055
Potassium (Total)	0.1	-	-	0.83	0.65	4	0	0	0.54	0.6	0.66	0.67
Selenium (Total)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Silicon (Total)	0.1	-	-	10	8.4	4	0	0	6.5	7.7	8.2	8.2
Silver (Total)	0.00001	-	-	0.000040	0.000015	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	2.5	3.1	4	0	0	3	3.3	3.7	3.7
Strontium (Total)	0.0002	-	-	0.042	0.054	4	0	0	0.053	0.064	0.071	0.072
Sulfur (Total)	0.5	-	-	0.29	0.25	4	0	4	0.25	0.25	0.25	0.25
Thallium (Total)	0.00001	-	-	0.000020	0.0000082	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.000090	0.000080	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.035	0.014	4	0	0	0.0016	0.0022	0.0035	0.0038
Uranium (Total)	0.00001	-	-	0.00012	0.000045	4	0	0	0.000012	0.000020	0.000028	0.000029
Vanadium (Total)	0.0005	-	-	0.0023	0.00093	4	0	4	0.00025	0.00025	0.00025	0.00025
Zinc (Total)	0.003	-	-	0.0075	0.0045	3	1	2	0.0015	0.0021	0.0031	0.0033
Zirconium (Total)	0.0002	-	-	0.00084	0.0003	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.98	0.98	4	0	1	0.25	0.65	0.9	0.93
Carbon Organic (Total)	0.5	-	-	1.1	1.1	4	0	0	0.59	0.85	1.1	1.2

\\KPLNA-Prj\Clt1\0045762\Admin\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 21 MW23-02S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	25MAR26	ISSUED WITH REPORT VA01-00760/3		EB	CAS
REV	DATE	DESCRIPTION		PREPD	REVIEW

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 22 MW23-03D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	144	115	4	0	0	106	116	127	128
Oxygen Dissolved (In Situ %) %	-	-	-	27	29	4	0	0	11	30	52	54
pH (In Situ) pH	-	-	-	8.4	8.8	4	0	0	8.8	9.2	10	10
Redox Potential (In Situ) mV	-	-	-	-47	31	4	0	0	117	141	167	170
Salinity (In Situ) ppt	-	-	-	0.09	0.093	2	0	0	0.08	0.085	0.089	0.09
Specific Conductivity (In Situ) µS/cm	-	-	-	241	191	4	0	0	170	181	189	190
Temperature (In Situ) °C	-	-	-	4.1	4.1	4	0	0	3.9	6.2	7.8	7.8
Total Dissolved Solids (In Situ)	-	-	-	125	132	2	0	0	111	117	122	123
Turbidity (In Situ) NTU	-	-	-	3.7	17	4	0	0	3.4	13	33	38
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	1	4	0	4	1	1	1	1
Alkalinity (Total as CaCO3)	1	-	-	122	106	4	0	0	55	87	99	100
Alkalinity/ Bicarbonate as CaCO3	1	-	-	120	103	4	0	0	30	78	96	97
Alkalinity/ Carbonate as CaCO3	1	-	-	2	2.6	4	0	0	3	9.1	22	25
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	8.4	8.2	4	0	0	8.3	8.7	9.4	9.6
Specific Conductivity µS/cm	2	-	-	240	192	4	0	0	102	164	191	191
Total Dissolved Solids	13	-	-	110	120	4	0	0	64	101	119	120
Turbidity NTU	0.1	-	-	4.2	18	4	0	0	0.48	6.2	13	14
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	-	-	0.11	0.07	4	0	0	0.06	0.066	0.076	0.078
Sulphate (Dissolved)	0.3	-	-	6.6	3.7	4	0	0	2.3	2.7	3	3.1
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0025	0.0043	4	0	2	0.0025	0.007	0.014	0.016
Ammonia (Total)	0.005	-	-	0.0025	0.0033	4	0	2	0.0025	0.0054	0.0094	0.0099
Nitrate (as N)	0.005	-	-	0.014	0.028	4	0	0	0.025	0.032	0.038	0.039
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.016	0.03	3	0	0	0.027	0.032	0.037	0.038
Nitrite (as N)	0.001	-	-	0.0019	0.0017	4	0	0	0.0015	0.0026	0.0039	0.0041
Nitrogen (Dissolved)	0.03	-	-	0.061	0.063	4	0	0	0.058	0.068	0.081	0.084
Nitrogen (Total)	0.03	-	-	0.07	0.067	4	0	0	0.054	0.069	0.084	0.085
Nitrogen Kjeldahl (Total)	0.05	-	-	0.054	0.025	4	0	3	0.025	0.032	0.049	0.053
Orthophosphate (Dissolved)	0.001	-	-	0.027	0.02	4	0	0	0.0027	0.017	0.025	0.026
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.029	0.029	4	0	0	0.0096	0.02	0.025	0.026
Phosphorus (Nutrient) Total	0.002	-	-	0.036	0.056	4	0	0	0.013	0.029	0.047	0.051
Total Inorganic Nitrogen	0.025	-	-	-	-	2	0	0	0.042	0.045	0.048	0.048
Cyanide												
Cyanate	0.2	-	-	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.0069	0.1	4	0	2	0.0005	0.0023	0.0054	0.006
Antimony (Dissolved)	0.0001	-	-	0.00081	0.00096	4	0	0	0.00094	0.0012	0.0014	0.0014
Arsenic (Dissolved)	0.0001	-	-	0.0018	0.0025	4	0	0	0.0021	0.0023	0.0024	0.0024
Barium (Dissolved)	0.0001	-	-	0.013	0.026	4	0	0	0.034	0.044	0.051	0.052
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000015	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.0000090	0.0000053	4	0	3	0.0000030	0.0000038	0.0000055	0.0000060
Calcium (Dissolved)	0.05	-	-	28	22	4	0	0	12	18	21	22
Chromium (Dissolved)	0.0005	-	-	0.00025	0.00069	4	0	0	0.00066	0.00073	0.00089	0.00093
Cobalt (Dissolved)	0.0001	-	-	0.000050	0.000078	4	0	4	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	0.00022	0.0002	4	0	2	0.0001	0.00051	0.0014	0.0016
Iron (Dissolved)	0.01	-	-	0.005	0.048	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.00012	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.0014	0.0013	4	0	0	0.0015	0.0021	0.0032	0.0034
Magnesium (Dissolved)	0.1	-	-	6.1	4.7	4	0	0	2.7	4	4.6	4.6
Manganese (Dissolved)	0.0001	-	-	0.015	0.0068	4	0	0	0.0008	0.0041	0.0067	0.0068
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000040	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.0019	0.0015	4	0	0	0.0014	0.0017	0.0024	0.0025
Nickel (Dissolved)	0.0005	-	-	0.00025	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	1.5	2.2	4	0	0	2.2	2.4	2.6	2.6
Selenium (Dissolved)	0.00005	-	-	0.00036	0.00021	4	0	0	0.00017	0.0002	0.00022	0.00022
Silicon (Dissolved)	0.05	-	-	8.4	8.2	4	0	0	6.1	7.3	7.8	7.8
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	12	11	4	0	0	11	11	12	12
Strontium (Dissolved)	0.0002	-	-	0.24	0.3	4	0	0	0.22	0.29	0.33	0.33
Sulfur (Dissolved)	0.5	-	-	2.8	1.2	4	0	0	0.74	0.85	1	1.1
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.0001	0.000050	4	0	3	0.000050	0.000063	0.000092	0.0001
Titanium (Dissolved)	0.0003	-	-	0.00015	0.002	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.0015	0.0012	4	0	0	0.00063	0.00087	0.00099	0.00099
Vanadium (Dissolved)	0.0005	-	-	0.00071	0.00091	4	0	2	0.00025	0.00043	0.00066	0.00068
Zinc (Dissolved)	0.001	-	-	0.0014	0.0028	4	0	4	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.00016	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.12	0.55	4	0	0	0.013	0.18	0.56	0.66
Antimony (Total)	0.0001	-	-	0.00087	0.0011	4	0	0	0.0012	0.0024	0.0036	0.0036
Arsenic (Total)	0.0001	-	-	0.002	0.0032	4	0	0	0.0021	0.0026	0.0034	0.0035
Barium (Total)	0.0001	-	-	0.014	0.033	4	0	0	0.042	0.052	0.063	0.065
Beryllium (Total)	0.00002	-	-	0.000010	0.000065	4	0	3	0.000010	0.000027	0.000069	0.000079
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	4	0	3	0.000025	0.000033	0.000053	0.000058
Boron (Total)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.0000020	0.0000025	4	0	3	0.0000030	0.0000021	0.0000062	0.0000073
Calcium (Total)	0.05	-	-	28	26	4	0	0	20	24	27	28
Chromium (Total)	0.0005	-	-	0.00094	0.0012	4	0	0	0.00078	0.0016	0.0031	0.0034
Cobalt (Total)	0.0001	-	-	0.0001	0.00026	4	0	2	0.000050	0.00015	0.00036	0.0004
Copper (Total)	0.0005	-	-	0.00025	0.00077	4	0	2	0.00025	0.002	0.0053	0.006
Iron (Total)	0.01	-	-	0.097	0.39	4	0	1	0.005	0.15	0.46	0.54
Lead (Total)	0.00005	-	-	0.00016	0.0011	4	0	2	0.000025	0.0008	0.0026	0.0031
Lithium (Total)	0.001	-	-	0.0015	0.0014	4	0	0	0.0016	0.0022	0.0031	0.0033
Magnesium (Total)	0.1	-	-	6	5	4	0	0	3.3	4.4	4.8	4.8
Manganese (Total)	0.0001	-	-	0.02	0.021	4	0	0	0.0046	0.012	0.025	0.028
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000070	4	0	3	0.0000030	0.0000035	0.0000047	0.0000050
Molybdenum (Total)	0.00005	-	-	0.0019	0.0016	4	0	0	0.0015	0.0019	0.0028	0.0029
Nickel (Total)	0.0005	-	-	0.00054	0.00054	4	0	3	0.00025	0.00064	0.0016	0.0018
Phosphorus (Metal) Total	0.05	-	-	0.025	0.076	4	0	2	0.025	0.041	0.059	0.059
Potassium (Total)	0.1	-	-	1.6	2.3	4	0	0	2.2	2.4	2.8	2.8
Selenium (Total)	0.00005	-	-	0.00038	0.00026	4	0	0	0.00018	0.0002	0.00025	0.00026
Silicon (Total)	0.1	-	-	8.6	9	4	0	0	7	8.3	9.2	9.4
Silver (Total)	0.00001	-	-	0.0000050	0.0000063	4	0	3	0.0000050	0.0000090	0.000019	0.000021
Sodium (Total)	0.05	-	-	13	12	4	0	0	10	11	13	13
Strontium (Total)	0.0002	-	-	0.26	0.31	4	0	0	0.28	0.33	0.35	0.36
Sulfur (Total)	0.5	-	-	2.7	1.2	4	0	1	0.25	0.77	1	1
Thallium (Total)	0.00001	-	-	0.0000050	0.0000097	4	0	3	0.0000050	0.0000067	0.000011	0.000012
Tin (Total)	0.0001	-	-	0.00042	0.00022	4	0	3	0.000050	0.0006	0.0019	0.0022
Titanium (Total)	0.0003	-	-	0.0038	0.015	4	0	0	0.00033	0.0043	0.013	0.015
Uranium (Total)	0.00001	-	-	0.0017	0.0015	4	0	0	0.00067	0.001	0.0012	0.0013
Vanadium (Total)	0.0005	-	-	0.00089	0.0016	4	0	0	0.00054	0.00088	0.0014	0.0014
Zinc (Total)	0.003	-	-	0.0042	0.011	4	0	3	0.0015	0.0083	0.025	0.029
Zirconium (Total)	0.0005	-	-	0.0001	0.00025	4	0	4	0.0001	0.00014	0.00023	0.00025
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.25	0.43	4	0	4	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	-	-	1.2	0.63	4	0	2	0.25	0.66	1.2	1.3

\\APL\NA-Prj\1101\345762\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 22 MW23-03D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	DATE	DESCRIPTION	PREP'D	CHK'D
A	09MAR26	ISSUED WITH REPORT VA101-00762-3	EB	CAS

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 23 MW23-03S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	41	33	4	0	0	35	52	63	63
Oxygen Dissolved (In Situ %) %	-	-	-	12	4	4	0	0	30	38	44	45
pH (In Situ) pH	-	-	-	6.3	5.9	4	0	0	5.4	5.6	5.9	6
Redox Potential (In Situ) mV	-	-	-	-20	31	4	0	0	192	209	226	229
Salinity (In Situ) ppt	-	-	-	0.03	0.023	3	0	0	0.04	0.04	0.04	0.04
Specific Conductivity (In Situ) µS/cm	-	-	-	69	52	4	0	0	55	81	94	94
Temperature (In Situ) °C	-	-	-	4	5.4	4	0	0	4.5	6.5	8	8
Total Dissolved Solids (In Situ)	-	-	-	45	35	3	0	0	55	58	60	60
Turbidity (In Situ) NTU	-	-	-	4.9	5.9	4	0	0	4.5	9.3	18	20
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	2.2	7.2	4	0	0	5.9	10	13	14
Alkalinity (Total as CaCO3)	1	-	-	30	22	4	0	0	10	12	16	17
Alkalinity/ Bicarbonate as CaCO3	1	-	-	30	22	4	0	0	10	12	16	17
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	7.1	7.2	4	0	0	6.2	6.4	6.5	6.5
Specific Conductivity µS/cm	2	-	-	66	52	4	0	0	50	73	94	96
Total Dissolved Solids	13	-	-	66	71	4	0	0	56	69	80	80
Turbidity NTU	0.1	-	-	3.7	13	4	0	0	3	5.8	9.6	10
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.98	1.4	4	0	0	1.8	2.1	2.3	2.4
Fluoride (Dissolved)	0.02	-	-	0.033	0.03	4	0	0	0.028	0.031	0.033	0.033
Sulphate (Dissolved)	0.3	-	-	2.9	1.5	4	0	0	2.2	11	16	16
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0065	0.0078	4	0	2	0.0025	0.0047	0.0077	0.0081
Ammonia (Total)	0.005	-	-	0.0075	0.0067	4	0	1	0.0025	0.01	0.022	0.024
Nitrate (as N)	0.005	-	-	0.0025	0.0047	4	0	0	0.31	1.7	2.7	2.8
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.0026	0.0047	4	0	0	0.32	1.7	2.7	2.8
Nitrite (as N)	0.001	-	-	0.0005	0.0005	4	0	3	0.0005	0.00078	0.0014	0.0016
Nitrogen (Dissolved)	0.03	-	-	0.12	0.14	4	0	0	0.38	1.6	2.6	2.6
Nitrogen (Total)	0.03	-	-	0.12	0.16	4	0	0	0.39	1.6	2.6	2.6
Nitrogen Kjeldahl (Total)	0.05	-	-	0.12	0.16	4	0	1	0.072	0.17	0.27	0.29
Orthophosphate (Dissolved)	0.001	-	-	0.011	0.0062	4	0	2	0.0005	0.0012	0.0024	0.0026
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.021	0.02	4	0	0	0.0044	0.0069	0.01	0.011
Phosphorus (Nutrient) Total	0.002	-	-	0.023	0.037	4	0	0	0.01	0.016	0.026	0.028
Total Inorganic Nitrogen	0.025	-	-	-	-	2	0	0	1	1.9	2.7	2.8
Cyanide												
Cyanate	0.2	-	-	0.1	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0044	4	0	3	0.0025	0.0034	0.0056	0.0061
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.17	0.19	4	0	0	0.048	0.068	0.078	0.079
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Arsenic (Dissolved)	0.0001	-	-	0.0018	0.0015	4	0	0	0.00035	0.00071	0.0012	0.0013
Barium (Dissolved)	0.0001	-	-	0.012	0.011	4	0	0	0.0095	0.016	0.021	0.021
Beryllium (Dissolved)	0.00002	-	-	0.000071	0.000066	4	0	0	0.000049	0.000061	0.000075	0.000076
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.000005	-	-	0.000074	0.000081	4	0	0	0.000063	0.000083	0.0001	0.00011
Calcium (Dissolved)	0.05	-	-	8.3	5.8	4	0	0	4.5	7	8.9	9
Chromium (Dissolved)	0.0005	-	-	0.00042	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	-	-	0.0015	0.0012	4	0	0	0.00027	0.00069	0.0012	0.0012
Copper (Dissolved)	0.0002	-	-	0.00078	0.0012	4	0	0	0.00059	0.00069	0.00081	0.00083
Iron (Dissolved)	0.01	-	-	0.87	0.7	4	0	0	0.073	0.19	0.44	0.5
Lead (Dissolved)	0.00005	-	-	0.00018	0.00012	4	0	2	0.000025	0.000058	0.00011	0.00012
Lithium (Dissolved)	0.001	-	-	0.0005	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	1.5	1.4	4	0	0	1.2	1.7	2.1	2.1
Manganese (Dissolved)	0.0001	-	-	0.41	0.28	4	0	0	0.064	0.16	0.27	0.29
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000045	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.0002	0.00016	4	0	1	0.000025	0.000082	0.00015	0.00016
Nickel (Dissolved)	0.0005	-	-	0.0017	0.0013	4	0	0	0.00069	0.001	0.0012	0.0012
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	4	0	4	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	0.27	0.24	4	0	0	0.23	0.28	0.35	0.36
Selenium (Dissolved)	0.00005	-	-	0.000025	0.000034	4	0	3	0.000025	0.000041	0.000079	0.000088
Silicon (Dissolved)	0.05	-	-	10	9.7	4	0	0	8.5	8.7	8.9	9
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000080	4	0	3	0.0000050	0.0000068	0.000011	0.000012
Sodium (Dissolved)	0.05	-	-	2.9	2.6	4	0	0	2.5	3.2	3.8	3.9
Strontium (Dissolved)	0.0002	-	-	0.042	0.04	4	0	0	0.04	0.068	0.088	0.088
Sulfur (Dissolved)	0.5	-	-	0.9	0.25	4	0	1	0.25	3.1	4.6	4.7
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.0029	0.003	4	0	0	0.00078	0.0023	0.0038	0.004
Uranium (Dissolved)	0.00001	-	-	0.00015	0.00014	4	0	0	0.000047	0.000054	0.000068	0.000071
Vanadium (Dissolved)	0.0005	-	-	0.00075	0.00061	4	0	3	0.00025	0.00035	0.0006	0.00066
Zinc (Dissolved)	0.001	-	-	0.0042	0.0037	4	0	0	0.0023	0.0025	0.0029	0.003
Zirconium (Dissolved)	0.0006	-	-	0.00064	0.00065	4	0	1	0.00025	0.00028	0.00031	0.00031
Total Metals												
Aluminum (Total)	0.003	-	-	0.28	0.98	4	0	0	0.26	0.39	0.66	0.73
Antimony (Total)	0.0001	-	-	0.00012	0.0001	4	0	3	0.000050	0.000063	0.000092	0.0001
Arsenic (Total)	0.0001	-	-	0.002	0.0021	4	0	0	0.00049	0.001	0.0018	0.0019
Barium (Total)	0.0001	-	-	0.012	0.017	4	0	0	0.014	0.019	0.022	0.022
Beryllium (Total)	0.00002	-	-	0.000070	0.0001	4	0	0	0.000062	0.000076	0.000085	0.000086
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.000005	-	-	0.000082	0.000093	4	0	0	0.000066	0.000084	0.000099	0.0001
Calcium (Total)	0.05	-	-	8.4	5.8	4	0	0	4.7	7.2	9.1	9.1
Chromium (Total)	0.0005	-	-	0.00079	0.0011	4	0	3	0.00025	0.00043	0.00085	0.00096
Cobalt (Total)	0.0001	-	-	0.0015	0.0014	4	0	0	0.00033	0.00077	0.0013	0.0014
Copper (Total)	0.0005	-	-	0.0012	0.0021	4	0	0	0.00074	0.001	0.0014	0.0015
Iron (Total)	0.01	-	-	0.97	1.4	4	0	0	0.23	0.5	0.93	1
Lead (Total)	0.00005	-	-	0.0003	0.00057	4	0	0	0.00016	0.00026	0.00048	0.00054
Lithium (Total)	0.001	-	-	0.0005	0.00065	4	0	4	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	-	-	1.5	1.5	4	0	0	1.4	1.8	2.2	2.2
Manganese (Total)	0.0001	-	-	0.39	0.29	4	0	0	0.07	0.17	0.28	0.3
Mercury (Total)	0.0000005	-	-	0.0000045	0.0000068	4	0	3	0.0000030	0.0000040	0.0000064	0.0000070
Molybdenum (Total)	0.00005	-	-	0.00027	0.00021	4	0	0	0.000057	0.00011	0.00018	0.0002
Nickel (Total)	0.0005	-	-	0.0018	0.0017	4	0	0	0.00084	0.0013	0.0015	0.0015
Phosphorus (Metal) Total	0.05	-	-	0.025	0.039	4	0	4	0.025	0.025	0.025	0.025
Potassium (Total)	0.1	-	-	0.27	0.39	4	0	0	0.27	0.34	0.37	0.38
Selenium (Total)	0.00005	-	-	0.000039	0.000038	4	0	2	0.000025	0.000045	0.000067	0.000068
Silicon (Total)	0.1	-	-	9.8	11	4	0	0	8.8	9.6	11	11
Silver (Total)	0.00001	-	-	0.0000090	0.000023	4	0	1	0.0000050	0.000013	0.000022	0.000023
Sodium (Total)	0.05	-	-	2.8	2.7	4	0	0	2.5	3.4	3.9	4
Strontium (Total)	0.0002	-	-	0.043	0.042	4	0	0	0.041	0.072	0.094	0.095
Sulfur (Total)	0.5	-	-	1.1	0.43	4	0	1	0.25	3.6	6	6.2
Thallium (Total)	0.00001	-	-	0.0000050	0.000015	4	0	3	0.0000050	0.0000065	0.000010	0.000011
Tin (Total)	0.0001	-	-	0.000050	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.0067	0.022	4	0	0	0.0067	0.011	0.02	0.022
Uranium (Total)	0.00001	-	-	0.00018	0.00019	4	0	0	0.000060	0.000080	0.00012	0.00012
Vanadium (Total)	0.0005	-	-	0.00098	0.0018	4	0	0	0.00057	0.00095	0.0017	0.0019
Zinc (Total)	0.003	-	-	0.0052	0.0059	4	0	2	0.0015	0.0027	0.0039	0.0039
Zirconium (Total)	0.0002	-	-	0.00078	0.0011	4	0	0	0.00034	0.00053	0.00081	0.00086
Organics												
Carbon Organic (Dissolved)	0.5	-	-	7.4	6.8	4	0	0	3.1	3.4	3.7	3.7
Carbon Organic (Total)	0.5	-	-	7.9	7.4	4	0	0	3.1	3.4	3.9	4

\\KPLNA-Prj\Clt\1004578\ZA\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 23 MW23-03S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	JAN/MK/DR	ISSUED WITH REPORT VA101-457/02-3		EM	CAS
REV	DATE	DESCRIPTION		PREPD	REVD

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 24 MW23-04D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	104	110	3	0	0	108	117	125	126
Oxygen Dissolved (In Situ %) %	-	-	-	16	27	3	0	0	8.9	25	49	53
pH (In Situ) pH	-	-	-	8.3	8	3	0	0	7.8	8	8.2	8.2
Redox Potential (In Situ) mV	-	-	-	-9.4	30	3	0	0	77	146	194	198
Salinity (In Situ) ppt	-	-	-	0.08	0.08	2	0	0	0.08	0.085	0.089	0.09
Specific Conductivity (In Situ) µS/cm	-	-	-	171	169	3	0	0	154	173	194	197
Temperature (In Situ) °C	-	-	-	4.5	6.6	3	0	0	6.1	8.2	9.4	9.4
Total Dissolved Solids (In Situ)	-	-	-	110	108	2	0	0	110	119	127	128
Turbidity (In Situ) NTU	-	-	-	1.9	2	3	0	0	1.7	2	2.2	2.2
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1.8	3	0	3	1	1	1	1
Alkalinity (Total as CaCO3)	1	-	-	90	90	3	0	0	90	91	92	92
Alkalinity/ Bicarbonate as CaCO3	1	-	-	90	89	3	0	0	90	91	92	92
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	0.82	3	0	3	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	3	0	3	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	8.2	8.2	3	0	0	8.1	8.1	8.1	8.2
Specific Conductivity µS/cm	2	-	-	170	172	3	0	0	162	168	171	171
Total Dissolved Solids	10	-	-	106	111	3	0	0	96	103	109	110
Turbidity NTU	0.1	-	-	1.2	4.1	3	0	1	0.05	0.5	0.81	0.83
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	3	0	3	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.25	0.25	3	0	3	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	-	-	0.038	0.04	3	0	0	0.036	0.041	0.045	0.045
Sulphate (Dissolved)	0.3	-	-	1.9	2	3	0	0	1.7	1.8	1.9	1.9
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0025	0.0025	3	0	2	0.0025	0.0034	0.005	0.0053
Ammonia (Total)	0.005	-	-	0.0025	0.0025	3	0	3	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	-	-	0.031	0.065	3	0	0	0.048	0.048	0.049	0.049
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.032	0.065	1	0	0	0.049	0.049	0.049	0.049
Nitrite (as N)	0.001	-	-	0.0011	0.0005	3	0	3	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	-	-	0.032	0.075	3	0	0	0.04	0.068	0.084	0.085
Nitrogen (Total)	0.03	-	-	0.047	0.076	3	0	0	0.039	0.056	0.078	0.081
Nitrogen Kjeldahl (Total)	0.05	-	-	0.025	0.025	3	0	3	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	-	-	0.028	0.027	3	0	0	0.029	0.029	0.03	0.03
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.029	0.032	3	0	0	0.028	0.029	0.03	0.03
Phosphorus (Nutrient) Total	0.002	-	-	0.031	0.035	3	0	0	0.028	0.03	0.032	0.032
Total Inorganic Nitrogen	0.025	-	-	-	-	3	0	0	0.048	0.048	0.049	0.049
Cyanide												
Cyanate	0.2	-	-	0.15	0.1	3	0	3	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0025	3	0	3	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	3	0	3	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	3	0	3	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	3	0	3	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.0022	0.091	3	0	2	0.0005	0.00073	0.0011	0.0012
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000070	3	0	2	0.000050	0.00014	0.00028	0.00031
Arsenic (Dissolved)	0.0001	-	-	0.00082	0.00085	3	0	0	0.00084	0.00084	0.00084	0.00084
Barium (Dissolved)	0.0001	-	-	0.0016	0.0021	3	0	0	0.0007	0.00096	0.0014	0.0015
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000018	3	0	3	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	3	0	3	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	3	0	3	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.0000045	0.0000058	3	0	3	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	-	-	21	21	3	0	0	21	21	22	22
Chromium (Dissolved)	0.0005	-	-	0.00099	0.0011	3	0	0	0.001	0.0011	0.0011	0.0011
Cobalt (Dissolved)	0.0001	-	-	0.000050	0.000065	3	0	3	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	0.0001	0.00022	3	0	3	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	-	-	0.005	0.062	3	0	3	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.00014	3	0	3	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.0012	0.0012	3	0	0	0.0011	0.0012	0.0012	0.0012
Magnesium (Dissolved)	0.1	-	-	4.6	4.6	3	0	0	4.9	4.9	5	5
Manganese (Dissolved)	0.0001	-	-	0.0012	0.0027	3	0	0	0.00018	0.00026	0.00037	0.00039
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	3	0	3	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.00051	0.00068	3	0	0	0.00046	0.00048	0.00051	0.00051
Nickel (Dissolved)	0.0005	-	-	0.00025	0.00025	3	0	3	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	3	0	3	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	0.74	0.71	3	0	0	0.61	0.63	0.65	0.65
Selenium (Dissolved)	0.00005	-	-	0.00022	0.00025	3	0	0	0.00022	0.00024	0.00027	0.00027
Silicon (Dissolved)	0.05	-	-	8.7	8.2	3	0	0	8.2	8.5	8.6	8.6
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000090	3	0	3	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	8.2	8.3	3	0	0	7.4	7.8	8	8.1
Strontium (Dissolved)	0.0002	-	-	0.23	0.22	3	0	0	0.22	0.22	0.23	0.23
Sulfur (Dissolved)	0.5	-	-	0.39	0.55	3	0	3	0.25	0.25	0.25	0.25
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	3	0	3	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	3	0	3	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.00015	0.0019	3	0	3	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.00064	0.00066	3	0	0	0.00056	0.0006	0.00063	0.00063
Vanadium (Dissolved)	0.0005	-	-	0.0012	0.0013	3	0	0	0.0011	0.0012	0.0013	0.0013
Zinc (Dissolved)	0.001	-	-	0.0005	0.00097	3	0	2	0.0005	0.0011	0.0021	0.0023
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.00013	3	0	3	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.042	0.68	3	0	0	0.0037	0.016	0.025	0.025
Antimony (Total)	0.0001	-	-	0.000075	0.000085	3	0	1	0.000050	0.00018	0.00034	0.00036
Arsenic (Total)	0.0001	-	-	0.00085	0.00095	3	0	0	0.0008	0.00084	0.00086	0.00086
Barium (Total)	0.0001	-	-	0.0032	0.0034	3	0	0	0.00081	0.0014	0.0019	0.002
Beryllium (Total)	0.00002	-	-	0.000010	0.000026	3	0	3	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	3	0	3	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	3	0	3	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.0000090	0.0000067	3	0	3	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Total)	0.05	-	-	21	21	3	0	0	20	22	23	23
Chromium (Total)	0.0005	-	-	0.0014	0.0016	3	0	0	0.0011	0.0012	0.0014	0.0014
Cobalt (Total)	0.0001	-	-	0.000050	0.000090	3	0	3	0.000050	0.000050	0.000050	0.000050
Copper (Total)	0.0005	-	-	0.00025	0.00044	3	0	3	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	-	-	0.041	0.26	3	0	1	0.005	0.015	0.021	0.021
Lead (Total)	0.00005	-	-	0.000041	0.00022	3	0	3	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	-	-	0.0013	0.0015	3	0	0	0.0011	0.0012	0.0014	0.0014
Magnesium (Total)	0.1	-	-	4.5	4.8	3	0	0	4.3	4.7	5.1	5.1
Manganese (Total)	0.0001	-	-	0.0067	0.0054	3	0	0	0.00028	0.0008	0.0012	0.0012
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000030	3	0	3	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	0.00058	0.00072	3	0	0	0.00047	0.00049	0.00051	0.00051
Nickel (Total)	0.0005	-	-	0.00025	0.00041	3	0	3	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	-	-	0.042	0.042	3	0	2	0.025	0.038	0.06	0.064
Potassium (Total)	0.1	-	-	0.7	0.74	3	0	0	0.64	0.65	0.66	0.66
Selenium (Total)	0.00005	-	-	0.00025	0.00026	3	0	0	0.00027	0.00028	0.00028	0.00028
Silicon (Total)	0.1	-	-	8.3	10	3	0	0	8.2	8.6	8.9	8.9
Silver (Total)	0.00001	-	-	0.0000075	0.000015	3	0	0	0.000010	0.000015	0.000022	0.000023
Sodium (Total)	0.05	-	-	7.7	8.6	3	0	0	7.8	8.3	8.9	9
Strontium (Total)	0.0002	-	-	0.24	0.22	3	0	0	0.22	0.23	0.24	0.24
Sulfur (Total)	0.5	-	-	0.43	0.56	3	0	1	0.25	0.54	0.77	0.79
Thallium (Total)	0.00001	-	-	0.0000050	0.0000063	3	0	3	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.00014	0.000095	3	0	3	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.0017	0.0098	3	0	1	0.00015	0.00076	0.0013	0.0013
Uranium (Total)	0.00001	-	-	0.00066	0.00071	3	0	0	0.00062	0.00064	0.00067	0.00067
Vanadium (Total)	0.0005	-	-	0.0013	0.0016	3	0	0	0.0012	0.0012	0.0013	0.0013
Zinc (Total)	0.003	-	-	0.0027	0.0023	3	0	3	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	-	-	0.0001	0.0012	3	0	3	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.25	0.46	3	0	3	0.25	0.25	0.25	0.25
Carbon Organic (Total)	0.5	-	-	0.25	0.56	3	0	3	0.25	0.25	0.25	0.25

\\APL\NA-Prj\1101\0457\62A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 24 MW23-04D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	ISSUED FOR USE	ISSUED FOR REVIEW / PREPARED BY / REVISIONS	BY	CHK'D
0	2026		MEPA	DWO

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 25 MW23-04S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	-	98	4	0	0	64	94	106	106
Oxygen Dissolved (In Situ %) %	-	-	-	-	24	4	0	0	2.9	13	36	42
pH (In Situ) pH	-	-	-	-	9.4	4	0	0	8.9	9.2	9.5	9.5
Redox Potential (In Situ) mV	-	-	-	-	9.3	4	0	0	35	127	187	192
Salinity (In Situ) ppt	-	-	-	-	0.075	2	0	0	0.07	0.075	0.08	0.08
Specific Conductivity (In Situ) µS/cm	-	-	-	-	153	4	0	0	91	138	163	164
Temperature (In Situ) °C	-	-	-	-	6.8	4	0	0	6.3	8.6	10	10
Total Dissolved Solids (In Situ)	-	-	-	-	105	2	0	0	103	106	108	108
Turbidity (In Situ) NTU	-	-	-	-	23	4	0	0	5.7	11	21	23
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	1	4	0	4	1	1	1	1
Alkalinity (Total as CaCO3)	1	-	-	-	82	4	0	0	76	80	83	83
Alkalinity/ Bicarbonate as CaCO3	1	-	-	-	78	4	0	0	60	71	79	79
Alkalinity/ Carbonate as CaCO3	1	-	-	-	4.2	4	0	0	2.6	9.2	18	20
Alkalinity/ Hydroxide as CaCO3	1	-	-	-	0.5	4	0	4	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	-	8.4	4	0	0	8.3	8.7	9.1	9.2
Specific Conductivity µS/cm	2	-	-	-	163	4	0	0	148	154	158	158
Total Dissolved Solids	13	-	-	-	106	4	0	0	88	97	107	108
Turbidity NTU	0.1	-	-	-	239	4	0	0	2.2	6.9	11	11
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	-	0.025	4	0	4	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	-	0.25	4	0	4	0.25	0.25	0.25	0.25
Fluoride (Dissolved)	0.02	-	-	-	0.068	4	0	0	0.054	0.064	0.08	0.082
Sulphate (Dissolved)	0.3	-	-	-	5.7	4	0	0	3.7	4.2	4.9	5
Nutrients												
Ammonia (Dissolved)	0.005	-	-	-	0.0056	4	0	3	0.0025	0.0034	0.0055	0.006
Ammonia (Total)	0.005	-	-	-	0.0048	4	0	2	0.0025	0.0048	0.0073	0.0074
Nitrate (as N)	0.005	-	-	-	0.014	4	0	0	0.0092	0.019	0.033	0.035
Nitrate+Nitrite (Dissolved)	0.0051	-	-	-	0.016	2	0	0	0.013	0.021	0.027	0.028
Nitrite (as N)	0.001	-	-	-	0.0025	4	0	1	0.0005	0.0032	0.0049	0.0051
Nitrogen (Dissolved)	0.03	-	-	-	0.058	4	0	0	0.056	0.067	0.083	0.086
Nitrogen (Total)	0.03	-	-	-	0.073	4	0	0	0.043	0.092	0.18	0.21
Nitrogen Kjeldahl (Total)	0.05	-	-	-	0.057	4	0	4	0.025	0.025	0.025	0.025
Orthophosphate (Dissolved)	0.001	-	-	-	0.024	4	0	0	0.023	0.031	0.035	0.035
Phosphorus (Nutrient) Dissolved	0.002	-	-	-	0.029	4	0	0	0.025	0.032	0.036	0.036
Phosphorus (Nutrient) Total	0.002	-	-	-	0.13	4	0	0	0.029	0.04	0.048	0.049
Total Inorganic Nitrogen	0.025	-	-	-	-	4	0	2	0.013	0.026	0.041	0.042
Cyanide												
Cyanate	0.2	-	-	-	0.1	4	0	4	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	-	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	-	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	-	0.0025	4	0	4	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	-	0.25	4	0	4	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	-	0.0023	4	0	2	0.0005	0.0017	0.004	0.0045
Antimony (Dissolved)	0.0001	-	-	-	0.00022	4	0	0	0.00013	0.00019	0.00021	0.00021
Arsenic (Dissolved)	0.0001	-	-	-	0.0012	4	0	0	0.00091	0.001	0.0012	0.0013
Barium (Dissolved)	0.0001	-	-	-	0.047	4	0	0	0.038	0.049	0.062	0.064
Beryllium (Dissolved)	0.00002	-	-	-	0.000010	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	-	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	-	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	-	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	-	-	-	16	4	0	0	16	17	18	18
Chromium (Dissolved)	0.0005	-	-	-	0.00025	4	0	4	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	-	-	-	0.000068	4	0	3	0.000050	0.000063	0.000092	0.0001
Copper (Dissolved)	0.0002	-	-	-	0.00036	4	0	4	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	-	-	-	0.005	4	0	4	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	-	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	-	0.0029	4	0	0	0.0021	0.0026	0.0033	0.0034
Magnesium (Dissolved)	0.1	-	-	-	4.6	4	0	0	4.3	4.8	5.1	5.1
Manganese (Dissolved)	0.0001	-	-	-	0.005	4	0	0	0.0021	0.0056	0.012	0.014
Mercury (Dissolved)	0.0000005	-	-	-	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	-	0.0011	4	0	0	0.00082	0.001	0.0013	0.0014
Nickel (Dissolved)	0.0005	-	-	-	0.00025	4	0	3	0.00025	0.00035	0.0006	0.00066
Phosphorus (Metal) Dissolved	0.05	-	-	-	0.025	4	0	4	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	-	4.3	4	0	0	1.3	1.6	1.9	2
Selenium (Dissolved)	0.00005	-	-	-	0.00015	4	0	0	0.000066	0.00011	0.00015	0.00016
Silicon (Dissolved)	0.05	-	-	-	8.6	4	0	0	9	9.5	10	10
Silver (Dissolved)	0.00001	-	-	-	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	-	9.2	4	0	0	7	7.9	8.4	8.4
Strontium (Dissolved)	0.0002	-	-	-	0.29	4	0	0	0.19	0.21	0.25	0.26
Sulfur (Dissolved)	0.5	-	-	-	2	4	0	0	1.1	1.3	1.6	1.7
Thallium (Dissolved)	0.00001	-	-	-	0.0000050	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	-	0.000050	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	-	0.00015	4	0	4	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	-	0.00071	4	0	0	0.00059	0.00067	0.00082	0.00085
Vanadium (Dissolved)	0.0005	-	-	-	0.00042	4	0	2	0.00025	0.00042	0.0006	0.0006
Zinc (Dissolved)	0.001	-	-	-	0.0005	4	0	4	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	-	-	-	0.0001	4	0	4	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	-	0.48	4	0	0	0.044	0.22	0.46	0.49
Antimony (Total)	0.0001	-	-	-	0.00027	4	0	0	0.00022	0.00035	0.00055	0.00059
Arsenic (Total)	0.0001	-	-	-	0.0016	4	0	0	0.00098	0.0013	0.0014	0.0015
Barium (Total)	0.0001	-	-	-	0.069	4	0	0	0.038	0.055	0.066	0.067
Beryllium (Total)	0.00002	-	-	-	0.000028	4	0	4	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	-	0.000025	4	0	4	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	-	0.005	4	0	4	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	-	0.000012	4	0	1	0.0000030	0.000012	0.000020	0.000021
Calcium (Total)	0.05	-	-	-	18	4	0	0	17	18	20	20
Chromium (Total)	0.0005	-	-	-	0.00092	4	0	2	0.00025	0.00053	0.001	0.0011
Cobalt (Total)	0.0001	-	-	-	0.00039	4	0	1	0.000050	0.00016	0.00026	0.00028
Copper (Total)	0.0005	-	-	-	0.0011	4	0	2	0.00025	0.00053	0.00092	0.00096
Iron (Total)	0.01	-	-	-	0.59	4	0	0	0.048	0.2	0.4	0.43
Lead (Total)	0.00005	-	-	-	0.00036	4	0	1	0.000025	0.00028	0.00057	0.00061
Lithium (Total)	0.001	-	-	-	0.0033	4	0	0	0.002	0.0028	0.0035	0.0035
Magnesium (Total)	0.1	-	-	-	5.7	4	0	0	4.8	5.7	6.6	6.6
Manganese (Total)	0.0001	-	-	-	0.035	4	0	0	0.0077	0.017	0.026	0.027
Mercury (Total)	0.0000005	-	-	-	0.0000030	4	0	4	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	-	0.0012	4	0	0	0.00082	0.0011	0.0014	0.0015
Nickel (Total)	0.0005	-	-	-	0.00072	4	0	1	0.00025	0.00063	0.00084	0.00086
Phosphorus (Metal) Total	0.05	-	-	-	0.073	4	0	0	0.051	0.06	0.071	0.071
Potassium (Total)	0.1	-	-	-	5.3	4	0	0	1.4	1.7	2.1	2.2
Selenium (Total)	0.00005	-	-	-	0.00012	4	0	0	0.0001	0.00014	0.00017	0.00018
Silicon (Total)	0.1	-	-	-	11	4	0	0	9.1	11	13	13
Silver (Total)	0.00001	-	-	-	0.0000080	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	-	10	4	0	0	7.5	8.6	10	10
Strontium (Total)	0.0002	-	-	-	0.36	4	0	0	0.2	0.23	0.26	0.27
Sulfur (Total)	0.5	-	-	-	1.7	4	0	0	1.2	1.4	1.7	1.7
Thallium (Total)	0.00001	-	-	-	0.000011	4	0	4	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	-	0.00017	4	0	4	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	-	0.031	4	0	0	0.0022	0.0073	0.014	0.015
Uranium (Total)	0.00001	-	-	-	0.00094	4	0	0	0.0006	0.00085	0.0011	0.0011
Vanadium (Total)	0.0005	-	-	-	0.0018	4	0	0	0.00052	0.00092	0.0015	0.0016
Zinc (Total)	0.003	-	-	-	0.0033	4	0	3	0.0015	0.0022	0.0037	0.0041
Zirconium (Total)	0.0002	-	-	-	0.00023	4	0	4	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	-	0.71	4	0	0	0.52	0.62	0.76	0.78
Carbon Organic (Total)	0.5	-	-	-	1.9	4	0	0	0.63	0.74	0.82	0.82

\\KPLNA-Prj\Ci\10\04578\02A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 25 MW23-04S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	DATE	DESCRIPTION	PREPD	REVWD
A	26MAR26	ISSUED WITH REPORT MAR01 AMENDS A	SW	CAS

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 26 MW23-05D

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	88	87	5	0	0	95	107	127	130
Oxygen Dissolved (In Situ %) %	-	-	-	64	60	4	0	0	64	74	84	85
pH (In Situ) pH	-	-	-	9.2	8.6	5	0	0	7.9	8.3	8.6	8.6
Redox Potential (In Situ) mV	-	-	-	23	-104	5	0	0	102	172	256	268
Salinity (In Situ) ppt	-	-	-	0.07	0.068	4	0	0	0.07	0.08	0.097	0.1
Specific Conductivity (In Situ) µS/cm	-	-	-	148	141	5	0	0	140	166	206	216
Temperature (In Situ) °C	-	-	-	3.7	5	5	0	0	3.7	6	11	12
Total Dissolved Solids (In Situ)	-	-	-	97	92	4	0	0	98	112	135	140
Turbidity (In Situ) NTU	-	-	-	8.4	2.6	5	0	0	3.2	4.8	7.6	8.1
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	1	5	0	5	1	1	1	1
Alkalinity (Total as CaCO3)	1	-	-	107	73	5	0	0	71	75	78	78
Alkalinity/ Bicarbonate as CaCO3	1	-	-	102	72	5	0	0	71	75	78	78
Alkalinity/ Carbonate as CaCO3	1	-	-	5	1.4	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	8.8	8.3	5	0	0	8	8.1	8.2	8.2
Specific Conductivity µS/cm	2	-	-	136	148	5	0	0	149	159	180	185
Total Dissolved Solids	13	-	-	75	93	5	0	0	95	105	117	120
Turbidity NTU	0.1	-	-	21	6.6	5	0	0	0.3	2	4.7	5
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.25	0.25	5	0	4	0.25	0.34	0.59	0.68
Fluoride (Dissolved)	0.02	-	-	0.051	0.056	5	0	0	0.054	0.058	0.06	0.06
Sulphate (Dissolved)	0.3	-	-	4.6	4.3	5	0	0	4.4	8.3	18	21
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.0025	0.0032	5	0	3	0.0025	0.036	0.12	0.14
Ammonia (Total)	0.005	-	-	0.0061	0.0032	5	0	3	0.0025	0.036	0.12	0.14
Nitrate (as N)	0.005	-	-	0.074	0.087	5	0	0	0.085	0.15	0.27	0.3
Nitrate+Nitrite (Dissolved)	0.0051	-	-	-	0.088	3	0	0	0.096	0.22	0.36	0.38
Nitrite (as N)	0.001	-	-	0.0005	0.00075	5	0	3	0.0005	0.019	0.07	0.085
Nitrogen (Dissolved)	0.03	-	-	0.095	0.094	5	0	0	0.095	0.21	0.46	0.53
Nitrogen (Total)	0.03	-	-	0.11	0.11	5	0	0	0.084	0.21	0.48	0.55
Nitrogen Kjeldahl (Total)	0.05	-	-	0.025	0.025	5	0	4	0.025	0.058	0.16	0.19
Orthophosphate (Dissolved)	0.001	-	-	0.0035	0.016	5	0	0	0.018	0.021	0.022	0.022
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.017	0.024	5	0	0	0.02	0.022	0.024	0.024
Phosphorus (Nutrient) Total	0.002	-	-	0.031	0.025	5	0	0	0.02	0.022	0.024	0.024
Total Inorganic Nitrogen	0.025	-	-	-	-	4	0	0	0.085	0.23	0.48	0.53
Cyanide												
Cyanate	0.2	-	-	0.1	0.1	5	0	4	0.1	0.16	0.33	0.39
Cyanide (Free)	0.005	-	-	0.0025	0.0025	5	0	4	0.0025	0.0038	0.0075	0.0088
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	5	0	4	0.0025	0.0039	0.0083	0.0097
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	5	0	4	0.0025	0.0036	0.0069	0.008
Thiocyante (SCN)	0.5	-	-	0.25	0.25	5	0	5	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.0011	0.0026	5	0	3	0.0005	0.0011	0.0023	0.0026
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000050	5	0	3	0.000050	0.000072	0.00011	0.00011
Arsenic (Dissolved)	0.0001	-	-	0.00098	0.0011	5	0	0	0.00097	0.0011	0.0011	0.0012
Barium (Dissolved)	0.0001	-	-	0.018	0.013	5	0	0	0.0082	0.01	0.013	0.013
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Dissolved)	0.05	-	-	21	20	5	0	0	21	22	25	25
Chromium (Dissolved)	0.0005	-	-	0.0013	0.0011	5	0	0	0.00096	0.001	0.0011	0.0011
Cobalt (Dissolved)	0.0001	-	-	0.000050	0.000050	5	0	3	0.000050	0.0026	0.0089	0.011
Copper (Dissolved)	0.0002	-	-	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	-	-	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.0012	0.00082	5	0	5	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	4.1	3.7	5	0	0	3.9	4.2	5	5.2
Manganese (Dissolved)	0.0001	-	-	0.00091	0.00092	5	0	0	0.00032	0.00044	0.00059	0.00062
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.0013	0.0013	5	0	0	0.0011	0.0012	0.0013	0.0013
Nickel (Dissolved)	0.0005	-	-	0.00025	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	5	0	5	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	1.2	0.92	5	0	0	0.69	0.77	0.86	0.88
Selenium (Dissolved)	0.00005	-	-	0.00022	0.00019	5	0	0	0.00017	0.00019	0.00023	0.00023
Silicon (Dissolved)	0.05	-	-	6.7	6.6	5	0	0	6.8	7	7.3	7.4
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	4.7	4.1	5	0	0	3.7	3.9	4.2	4.3
Strontium (Dissolved)	0.0002	-	-	0.13	0.12	5	0	0	0.11	0.13	0.14	0.15
Sulfur (Dissolved)	0.5	-	-	1.4	1.3	5	0	0	1.2	2.7	6.5	7.6
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.00015	0.00015	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	0.00032	0.00038	5	0	0	0.00039	0.00041	0.00043	0.00044
Vanadium (Dissolved)	0.0005	-	-	0.0006	0.00081	5	0	0	0.00074	0.00084	0.00098	0.001
Zinc (Dissolved)	0.001	-	-	0.0005	0.0005	5	0	5	0.0005	0.0005	0.0005	0.0005
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.16	0.066	5	0	0	0.005	0.011	0.022	0.023
Antimony (Total)	0.0001	-	-	0.000050	0.000065	5	0	1	0.000050	0.00016	0.00026	0.00027
Arsenic (Total)	0.0001	-	-	0.0015	0.0012	5	0	0	0.00093	0.0011	0.0012	0.0012
Barium (Total)	0.0001	-	-	0.032	0.017	5	0	0	0.0085	0.011	0.015	0.016
Beryllium (Total)	0.00002	-	-	0.000010	0.000010	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.0000014	0.0000060	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Calcium (Total)	0.05	-	-	28	23	5	0	0	22	23	26	27
Chromium (Total)	0.0005	-	-	0.0018	0.0016	5	0	0	0.0011	0.0013	0.0014	0.0014
Cobalt (Total)	0.0001	-	-	0.000050	0.000050	5	0	3	0.000050	0.0026	0.009	0.011
Copper (Total)	0.0005	-	-	0.00095	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	-	-	0.081	0.06	5	0	4	0.005	0.0084	0.019	0.022
Lead (Total)	0.00005	-	-	0.00013	0.000061	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Total)	0.001	-	-	0.0015	0.00093	5	0	4	0.0005	0.00064	0.0011	0.0012
Magnesium (Total)	0.1	-	-	17	4.1	5	0	0	4	4.4	4.9	5
Manganese (Total)	0.0001	-	-	0.0092	0.0039	5	0	0	0.0005	0.00075	0.0011	0.0012
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000030	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	0.0016	0.0013	5	0	0	0.0011	0.0012	0.0013	0.0013
Nickel (Total)	0.0005	-	-	0.00066	0.00025	5	0	5	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Total	0.05	-	-	0.055	0.032	5	0	3	0.025	0.038	0.06	0.062
Potassium (Total)	0.1	-	-	1.4	0.93	5	0	0	0.68	0.77	0.95	0.98
Selenium (Total)	0.00005	-	-	0.00023	0.00021	5	0	0	0.00017	0.00021	0.00022	0.00022
Silicon (Total)	0.1	-	-	13	7	5	0	0	7	7.1	7.3	7.3
Silver (Total)	0.00001	-	-	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	5.2	4.1	5	0	0	3.6	3.9	4.3	4.3
Strontium (Total)	0.0002	-	-	0.16	0.13	5	0	0	0.12	0.13	0.15	0.15
Sulfur (Total)	0.5	-	-	1.7	1.3	5	0	0	1.4	2.8	6.2	7.3
Thallium (Total)	0.00001	-	-	0.0000050	0.0000050	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.00023	0.000075	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	0.0017	0.0025	5	0	3	0.00015	0.00029	0.00062	0.0007
Uranium (Total)	0.00001	-	-	0.0014	0.00043	5	0	0	0.00043	0.00043	0.00045	0.00046
Vanadium (Total)	0.0005	-	-	0.0014	0.001	5	0	0	0.00081	0.00092	0.0012	0.0012
Zinc (Total)	0.003	-	-	0.0031	0.0015	5	0	5	0.0015	0.0015	0.0015	0.0015
Zirconium (Total)	0.0002	-	-	0.0001	0.0001	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.25	0.34	5	0	4	0.25	0.3	0.46	0.51
Carbon Organic (Total)	0.5	-	-	0.6	0.44	5	0	5	0.25	0.25	0.25	0.25

\\KPLNA-Prj\Clt\100457\02A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 26 MW23-05D

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	DATE	DESCRIPTION	PREPD	CHKD
A	26MAR26	ISSUED WITH REPORT VA101-457/02-5	EB	CAS

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 27 MW23-05S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	130	94	6	0	0	60	79	98	101
Oxygen Dissolved (In Situ %) %	-	-	-	84	71	5	0	0	1.3	76	109	110
pH (In Situ) pH	-	-	-	7.2	6.5	6	0	0	6.5	6.7	7	7
Redox Potential (In Situ) mV	-	-	-	-	-102	6	0	0	77	155	193	196
Salinity (In Situ) ppt	-	-	-	0.095	0.062	5	0	0	0.04	0.054	0.068	0.07
Specific Conductivity (In Situ) µS/cm	-	-	-	201	133	6	0	0	104	128	160	164
Temperature (In Situ) °C	-	-	-	6.2	7.1	6	0	0	2.3	4.7	6.9	7.4
Total Dissolved Solids (In Situ)	-	-	-	133	89	5	0	0	60	75	94	96
Turbidity (In Situ) NTU	-	-	-	4.1	13	6	0	0	3.1	7.6	12	14
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	1	4.1	6	0	1	1	4	7.7	8.4
Alkalinity (Total as CaCO3)	1	-	-	96	67	6	0	0	32	54	67	67
Alkalinity/ Bicarbonate as CaCO3	1	-	-	96	67	6	0	0	32	54	67	67
Alkalinity/ Carbonate as CaCO3	1	-	-	0.5	0.5	6	0	6	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	0.5	0.5	6	0	6	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	8	7.6	6	0	0	6.9	7.5	8	8
Specific Conductivity µS/cm	2	-	-	189	137	6	0	0	81	115	139	140
Total Dissolved Solids	13	-	-	121	104	6	0	0	66	80	89	91
Turbidity NTU	0.1	-	-	3.9	8.6	6	0	0	1.5	6.7	10	10
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	0.025	0.025	6	0	6	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	0.4	1.1	6	0	0	1.1	1.3	1.5	1.6
Fluoride (Dissolved)	0.02	-	-	0.095	0.046	6	0	0	0.03	0.047	0.057	0.058
Sulphate (Dissolved)	0.3	-	-	2.7	3.2	6	0	0	2.9	4	5.7	6.2
Nutrients												
Ammonia (Dissolved)	0.005	-	-	0.006	0.0025	6	0	6	0.0025	0.0025	0.0025	0.0025
Ammonia (Total)	0.005	-	-	0.0044	0.0025	6	0	6	0.0025	0.0025	0.0025	0.0025
Nitrate (as N)	0.005	-	-	0.03	0.13	6	0	0	0.15	0.2	0.24	0.24
Nitrate+Nitrite (Dissolved)	0.0051	-	-	0.03	0.13	6	0	0	0.15	0.2	0.24	0.24
Nitrite (as N)	0.001	-	-	0.0005	0.0005	6	0	6	0.0005	0.0005	0.0005	0.0005
Nitrogen (Dissolved)	0.03	-	-	0.078	0.17	6	0	0	0.19	0.23	0.27	0.28
Nitrogen (Total)	0.03	-	-	0.063	0.16	6	0	0	0.17	0.22	0.28	0.3
Nitrogen Kjeldahl (Total)	0.05	-	-	0.025	0.037	6	0	5	0.025	0.033	0.061	0.073
Orthophosphate (Dissolved)	0.001	-	-	0.002	0.0032	6	0	0	0.0028	0.005	0.0077	0.008
Phosphorus (Nutrient) Dissolved	0.002	-	-	0.0057	0.0071	6	0	0	0.0042	0.0065	0.0093	0.0099
Phosphorus (Nutrient) Total	0.002	-	-	0.011	0.015	6	0	0	0.006	0.014	0.021	0.023
Total Inorganic Nitrogen	0.025	-	-	-	-	4	0	0	0.21	0.22	0.24	0.24
Cyanide												
Cyanate	0.2	-	-	0.1	0.1	6	0	6	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	0.0025	0.0025	6	0	6	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	0.0025	0.0025	6	0	6	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	0.0025	0.0025	6	0	6	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	0.25	0.25	6	0	5	0.25	0.4	0.92	1.1
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	0.017	0.036	6	0	0	0.001	0.0058	0.013	0.014
Antimony (Dissolved)	0.0001	-	-	0.000050	0.000050	6	0	5	0.000050	0.000063	0.00011	0.00013
Arsenic (Dissolved)	0.0001	-	-	0.00019	0.0002	6	0	1	0.000050	0.00014	0.00022	0.00024
Barium (Dissolved)	0.0001	-	-	0.023	0.019	6	0	0	0.0079	0.013	0.016	0.017
Beryllium (Dissolved)	0.00002	-	-	0.000010	0.000010	6	0	6	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	0.000025	0.000025	6	0	6	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	0.005	0.005	6	0	6	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	0.000065	0.000025	6	0	0	0.0000050	0.000013	0.000025	0.000027
Calcium (Dissolved)	0.05	-	-	25	19	6	0	0	7.2	14	18	18
Chromium (Dissolved)	0.0005	-	-	0.00076	0.00025	6	0	6	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	-	-	0.00021	0.000050	6	0	6	0.000050	0.000050	0.000050	0.000050
Copper (Dissolved)	0.0002	-	-	0.00028	0.00039	6	0	3	0.0001	0.00033	0.00087	0.001
Iron (Dissolved)	0.01	-	-	0.021	0.025	6	0	6	0.005	0.005	0.005	0.005
Lead (Dissolved)	0.00005	-	-	0.000025	0.000033	6	0	6	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	0.00085	0.0005	6	0	6	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	3.8	3	6	0	0	1.3	2.5	3.2	3.2
Manganese (Dissolved)	0.0001	-	-	0.27	0.013	6	0	0	0.00072	0.0073	0.02	0.023
Mercury (Dissolved)	0.0000005	-	-	0.0000030	0.0000030	6	0	6	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	0.0017	0.00028	6	0	0	0.00013	0.00028	0.00037	0.00038
Nickel (Dissolved)	0.0005	-	-	0.0013	0.00045	6	0	6	0.00025	0.00025	0.00025	0.00025
Phosphorus (Metal) Dissolved	0.05	-	-	0.025	0.025	6	0	6	0.025	0.025	0.025	0.025
Potassium (Dissolved)	0.1	-	-	1.3	1.1	6	0	0	0.69	0.85	0.99	1
Selenium (Dissolved)	0.00005	-	-	0.000070	0.000050	6	0	4	0.000025	0.000045	0.000094	0.0001
Silicon (Dissolved)	0.05	-	-	8.3	8.7	6	0	0	6.8	8.1	8.8	8.8
Silver (Dissolved)	0.00001	-	-	0.0000050	0.0000050	6	0	6	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	6.1	5	6	0	0	4.2	4.9	6	6.3
Strontium (Dissolved)	0.0002	-	-	0.15	0.099	6	0	0	0.042	0.071	0.091	0.096
Sulfur (Dissolved)	0.5	-	-	0.74	0.8	6	0	0	0.78	1.3	1.9	1.9
Thallium (Dissolved)	0.00001	-	-	0.0000050	0.0000050	6	0	6	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	0.000050	0.000050	6	0	6	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	0.00038	0.0008	6	0	5	0.00015	0.00018	0.00029	0.00034
Uranium (Dissolved)	0.00001	-	-	0.00029	0.00011	6	0	0	0.0001	0.00014	0.00018	0.00018
Vanadium (Dissolved)	0.0005	-	-	0.00025	0.00025	6	0	6	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	-	-	0.0026	0.0023	6	0	4	0.0005	0.0012	0.0032	0.0038
Zirconium (Dissolved)	0.0002	-	-	0.0001	0.0001	6	0	6	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	0.11	0.4	6	0	0	0.12	0.32	0.49	0.5
Antimony (Total)	0.0001	-	-	0.000050	0.000050	6	0	4	0.000050	0.000095	0.00019	0.00019
Arsenic (Total)	0.0001	-	-	0.00029	0.00034	6	0	0	0.00018	0.0003	0.00043	0.00046
Barium (Total)	0.0001	-	-	0.025	0.022	6	0	0	0.012	0.016	0.019	0.02
Beryllium (Total)	0.00002	-	-	0.000010	0.000015	6	0	6	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	0.000025	0.000025	6	0	6	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	0.005	0.005	6	0	6	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	0.000068	0.000029	6	0	0	0.0000060	0.000017	0.000030	0.000033
Calcium (Total)	0.05	-	-	27	20	6	0	0	7.5	15	19	19
Chromium (Total)	0.0005	-	-	0.00048	0.00076	6	0	2	0.00025	0.00055	0.00081	0.00085
Cobalt (Total)	0.0001	-	-	0.00027	0.00013	6	0	2	0.000050	0.00012	0.00018	0.00018
Copper (Total)	0.0005	-	-	0.0004	0.00068	6	0	3	0.00025	0.00049	0.00076	0.00076
Iron (Total)	0.01	-	-	0.16	0.33	6	0	0	0.083	0.26	0.42	0.44
Lead (Total)	0.00005	-	-	0.00011	0.00022	6	0	1	0.000025	0.00016	0.00026	0.00027
Lithium (Total)	0.001	-	-	0.00085	0.0005	6	0	6	0.0005	0.0005	0.0005	0.0005
Magnesium (Total)	0.1	-	-	3.9	2.9	6	0	0	1.3	2.5	3.2	3.3
Manganese (Total)	0.0001	-	-	0.29	0.02	6	0	0	0.0034	0.017	0.03	0.03
Mercury (Total)	0.0000005	-	-	0.0000030	0.0000030	6	0	6	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	0.0016	0.0003	6	0	0	0.00014	0.0003	0.00041	0.00041
Nickel (Total)	0.0005	-	-	0.0015	0.00075	6	0	2	0.00025	0.00056	0.00089	0.00091
Phosphorus (Metal) Total	0.05	-	-	0.025	0.032	6	0	6	0.025	0.025	0.025	0.025
Potassium (Total)	0.1	-	-	1.4	1.1	6	0	0	0.8	0.94	1.1	1.1
Selenium (Total)	0.00005	-	-	0.000065	0.000037	6	0	4	0.000025	0.000045	0.0001	0.00012
Silicon (Total)	0.1	-	-	8.2	9	6	0	0	7.5	8.9	9.9	10
Silver (Total)	0.00001	-	-	0.0000050	0.0000065	6	0	6	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	6.3	4.8	6	0	0	4.3	19	70	92
Strontium (Total)	0.0002	-	-	0.15	0.1	6	0	0	0.045	0.074	0.093	0.098
Sulfur (Total)	0.5	-	-	0.88	0.94	6	0	0	0.72	1.3	1.9	2
Thallium (Total)	0.00001	-	-	0.0000050	0.0000078	6	0	6	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	0.000050	0.000050	6	0	5	0.000050	0.000075	0.00016	0.0002
Titanium (Total)	0.0003	-	-	0.0049	0.011	6	0	1	0.0016	0.0084	0.013	0.013
Uranium (Total)	0.00001	-	-	0.0003	0.00013	6	0	0	0.0001	0.00016	0.00019	0.00019
Vanadium (Total)	0.0005	-	-	0.0004	0.00071	6	0	2	0.00025	0.0006	0.00088	0.00092
Zinc (Total)	0.003	-	-	0.0035	0.0029	6	0	5	0.0015	0.0021	0.0043	0.0052
Zirconium (Total)	0.0002	-	-	0.0001	0.00026	6	0	3	0.0001	0.00023	0.00039	0.00039
Organics												
Carbon Organic (Dissolved)	0.5	-	-	0.48	0.48	6	0	5	0.25	0.33	0.62	0.75
Carbon Organic (Total)	0.5	-	-	0.38	0.57	6	0	3	0.25	0.49	0.85	0.9

\\KPLNA-Prj\01\01045762\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_rA.xlsx]TABLE 27 MW23-05S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

A	26MAR26	ISSUED WITH REPORT (FOR ISSUE)	ML	VDB	
REV	DATE	DESCRIPTION	PREPD	CHKD	APVD

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 28 MW24-01D(A)

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	-	-	4	3	0	109	118	130	132
Oxygen Dissolved (In Situ %) %	-	-	-	-	-	5	2	0	1.7	8.5	25	30
pH (In Situ) pH	-	-	-	-	-	5	2	0	6.5	6.7	7	7
Redox Potential (In Situ) mV	-	-	-	-	-	5	2	0	-266	-38	89	111
Salinity (In Situ) ppt	-	-	-	-	-	5	2	0	0.08	0.11	0.16	0.18
Specific Conductivity (In Situ) µS/cm	-	-	-	-	-	4	3	0	175	185	201	204
Temperature (In Situ) °C	-	-	-	-	-	5	2	0	4.1	6	7.5	7.6
Total Dissolved Solids (In Situ)	-	-	-	-	-	5	2	0	114	146	222	245
Turbidity (In Situ) NTU	-	-	-	-	-	5	2	0	4.6	6.2	7.9	8.2
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	-	5	0	1	1	8.7	16	17
Alkalinity (Total as CaCO3)	1	-	-	-	-	5	0	0	81	84	87	87
Alkalinity/ Bicarbonate as CaCO3	1	-	-	-	-	5	0	0	81	84	87	87
Alkalinity/ Carbonate as CaCO3	1	-	-	-	-	5	0	5	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	-	-	5	0	5	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	-	-	5	0	0	6.9	7.3	7.6	7.7
Specific Conductivity µS/cm	2	-	-	-	-	5	0	0	157	165	173	173
Total Dissolved Solids	13	-	-	-	-	5	0	0	89	106	123	127
Turbidity NTU	0.1	-	-	-	-	5	0	0	21	43	67	72
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	-	-	5	0	5	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	-	-	5	0	0	1.3	1.6	2.1	2.2
Fluoride (Dissolved)	0.02	-	-	-	-	5	0	0	0.053	0.073	0.085	0.086
Sulphate (Dissolved)	0.3	-	-	-	-	5	0	0	2.4	2.8	3.2	3.2
Nutrients												
Ammonia (Dissolved)	0.005	-	-	-	-	5	0	0	0.048	0.11	0.15	0.16
Ammonia (Total)	0.005	-	-	-	-	5	0	0	0.045	0.099	0.14	0.14
Nitrate (as N)	0.005	-	-	-	-	5	0	3	0.0025	0.0054	0.012	0.013
Nitrate+Nitrite (Dissolved)	0.0051	-	-	-	-	2	0	0	0.0086	0.029	0.047	0.049
Nitrite (as N)	0.001	-	-	-	-	5	0	0	0.0021	0.0092	0.029	0.036
Nitrogen (Dissolved)	0.03	-	-	-	-	5	0	1	0.075	0.15	0.21	0.22
Nitrogen (Total)	0.3	-	-	-	-	5	0	1	0.075	0.15	0.28	0.31
Nitrogen Kjeldahl (Total)	0.3	-	-	-	-	5	0	1	0.097	0.14	0.17	0.17
Orthophosphate (Dissolved)	0.001	-	-	-	-	5	0	5	0.0005	0.0005	0.0005	0.0005
Phosphorus (Nutrient) Dissolved	0.002	-	-	-	-	5	0	0	0.027	0.043	0.063	0.067
Phosphorus (Nutrient) Total	0.002	-	-	-	-	5	0	0	0.061	0.088	0.12	0.12
Total Inorganic Nitrogen	0.025	-	-	-	-	4	0	0	0.054	0.093	0.12	0.12
Cyanide												
Cyanate	0.2	-	-	-	-	5	0	5	0.1	0.1	0.1	0.1
Cyanide (Free)	0.005	-	-	-	-	5	0	5	0.0025	0.003	0.0045	0.005
Cyanide (SAD)	0.005	-	-	-	-	5	0	5	0.0025	0.003	0.0045	0.005
Cyanide (WAD)	0.005	-	-	-	-	5	0	5	0.0025	0.003	0.0045	0.005
Thiocyante (SCN)	0.5	-	-	-	-	5	0	5	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	-	-	5	0	0	0.0018	0.0024	0.0029	0.003
Antimony (Dissolved)	0.0001	-	-	-	-	5	0	1	0.000050	0.00014	0.00023	0.00025
Arsenic (Dissolved)	0.0001	-	-	-	-	5	0	0	0.0013	0.002	0.0025	0.0026
Barium (Dissolved)	0.0001	-	-	-	-	5	0	0	0.022	0.024	0.026	0.026
Beryllium (Dissolved)	0.00002	-	-	-	-	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Dissolved)	0.00005	-	-	-	-	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Dissolved)	0.01	-	-	-	-	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	-	-	5	0	4	0.0000030	0.0000034	0.0000046	0.0000050
Calcium (Dissolved)	0.05	-	-	-	-	5	0	0	19	20	21	21
Chromium (Dissolved)	0.0005	-	-	-	-	5	0	5	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	-	-	-	-	5	0	0	0.00067	0.00082	0.001	0.001
Copper (Dissolved)	0.0002	-	-	-	-	5	0	5	0.0001	0.0001	0.0001	0.0001
Iron (Dissolved)	0.01	-	-	-	-	5	0	0	2.4	5.5	6.9	7.1
Lead (Dissolved)	0.00005	-	-	-	-	5	0	5	0.000025	0.000025	0.000025	0.000025
Lithium (Dissolved)	0.001	-	-	-	-	5	0	2	0.0005	0.00088	0.0012	0.0012
Magnesium (Dissolved)	0.1	-	-	-	-	5	0	0	3.3	3.7	4.2	4.3
Manganese (Dissolved)	0.0001	-	-	-	-	5	0	0	0.95	1.3	1.6	1.6
Mercury (Dissolved)	0.0000005	-	-	-	-	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.00005	-	-	-	-	5	0	0	0.0014	0.0025	0.0035	0.0037
Nickel (Dissolved)	0.0005	-	-	-	-	5	0	0	0.00072	0.0013	0.0024	0.0026
Phosphorus (Metal) Dissolved	0.05	-	-	-	-	5	0	3	0.025	0.041	0.066	0.066
Potassium (Dissolved)	0.1	-	-	-	-	5	0	0	0.66	0.79	0.88	0.89
Selenium (Dissolved)	0.00005	-	-	-	-	5	0	0	0.000060	0.0001	0.00017	0.00019
Silicon (Dissolved)	0.05	-	-	-	-	5	0	0	8.8	9.7	10	10
Silver (Dissolved)	0.00001	-	-	-	-	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Dissolved)	0.05	-	-	-	-	5	0	0	8.2	9.5	10	10
Strontium (Dissolved)	0.0002	-	-	-	-	5	0	0	0.095	0.12	0.13	0.13
Sulfur (Dissolved)	0.5	-	-	-	-	5	0	1	0.25	0.83	1.2	1.2
Thallium (Dissolved)	0.00001	-	-	-	-	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Dissolved)	0.0001	-	-	-	-	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Dissolved)	0.0003	-	-	-	-	5	0	5	0.00015	0.00015	0.00015	0.00015
Uranium (Dissolved)	0.00001	-	-	-	-	5	0	0	0.00011	0.00015	0.00017	0.00017
Vanadium (Dissolved)	0.0005	-	-	-	-	5	0	5	0.00025	0.00025	0.00025	0.00025
Zinc (Dissolved)	0.001	-	-	-	-	5	0	0	0.0011	0.0019	0.0028	0.0031
Zirconium (Dissolved)	0.0002	-	-	-	-	5	0	5	0.0001	0.0001	0.0001	0.0001
Total Metals												
Aluminum (Total)	0.003	-	-	-	-	5	0	0	0.036	0.051	0.067	0.068
Antimony (Total)	0.0001	-	-	-	-	5	0	0	0.00016	0.00033	0.00063	0.00069
Arsenic (Total)	0.0001	-	-	-	-	5	0	0	0.0017	0.0025	0.0031	0.0031
Barium (Total)	0.0001	-	-	-	-	5	0	0	0.022	0.025	0.026	0.026
Beryllium (Total)	0.00002	-	-	-	-	5	0	5	0.000010	0.000010	0.000010	0.000010
Bismuth (Total)	0.00005	-	-	-	-	5	0	5	0.000025	0.000025	0.000025	0.000025
Boron (Total)	0.01	-	-	-	-	5	0	5	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	-	-	5	0	0	0.0000060	0.0000094	0.000013	0.000014
Calcium (Total)	0.05	-	-	-	-	5	0	0	17	19	20	20
Chromium (Total)	0.0005	-	-	-	-	5	0	2	0.00025	0.00056	0.0009	0.00092
Cobalt (Total)	0.0001	-	-	-	-	5	0	0	0.00072	0.00086	0.001	0.0011
Copper (Total)	0.0005	-	-	-	-	5	0	5	0.00025	0.00025	0.00025	0.00025
Iron (Total)	0.01	-	-	-	-	5	0	0	3	6	7.5	7.6
Lead (Total)	0.00005	-	-	-	-	5	0	1	0.000025	0.00014	0.0002	0.0002
Lithium (Total)	0.001	-	-	-	-	5	0	2	0.0005	0.00086	0.0012	0.0012
Magnesium (Total)	0.1	-	-	-	-	5	0	0	3.4	3.7	4.2	4.4
Manganese (Total)	0.0001	-	-	-	-	5	0	0	0.96	1.3	1.6	1.7
Mercury (Total)	0.0000005	-	-	-	-	5	0	5	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	-	-	5	0	0	0.0015	0.0026	0.0035	0.0036
Nickel (Total)	0.0005	-	-	-	-	5	0	0	0.00089	0.0016	0.0027	0.0028
Phosphorus (Metal) Total	0.05	-	-	-	-	5	0	0	0.093	0.11	0.13	0.14
Potassium (Total)	0.1	-	-	-	-	5	0	0	0.69	0.81	0.88	0.89
Selenium (Total)	0.00005	-	-	-	-	5	0	1	0.000025	0.000085	0.00012	0.00012
Silicon (Total)	0.1	-	-	-	-	5	0	0	9.9	10	11	11
Silver (Total)	0.00001	-	-	-	-	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Sodium (Total)	0.05	-	-	-	-	5	0	0	8.5	9.8	11	11
Strontium (Total)	0.0002	-	-	-	-	5	0	0	0.11	0.12	0.13	0.13
Sulfur (Total)	0.5	-	-	-	-	5	0	0	0.81	0.99	1.2	1.3
Thallium (Total)	0.00001	-	-	-	-	5	0	5	0.0000050	0.0000050	0.0000050	0.0000050
Tin (Total)	0.0001	-	-	-	-	5	0	5	0.000050	0.000050	0.000050	0.000050
Titanium (Total)	0.0003	-	-	-	-	5	0	0	0.001	0.0014	0.002	0.0022
Uranium (Total)	0.00001	-	-	-	-	5	0	0	0.00012	0.00016	0.00019	0.00019
Vanadium (Total)	0.0005	-	-	-	-	5	0	1	0.00025	0.00064	0.00081	0.00082
Zinc (Total)	0.003	-	-	-	-	5	0	4	0.0015	0.002	0.0035	0.004
Zirconium (Total)	0.0002	-	-	-	-	5	0	5	0.0001	0.0001	0.0001	0.0001
Organics												
Carbon Organic (Dissolved)	0.5	-	-	-	-	5	0	0	0.68	0.95	1.2	1.2
Carbon Organic (Total)	0.5	-	-	-	-	5	0	0	0.79	1.1	1.5	1.6

\\KPLTAA-Prj\S1107\004578\02A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_vA.xlsx]TABLE 28 MW24-01D(A)

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

REV	ISSUANCE DATE	ISSUED WITH REPORT VA101-251/5-5 DESCRIPTION	BB PREPD	CCR APP'D
A				

Knight Piésold CONSULTING

APPENDIX H-2 - TABLE 29 MW24-01S

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
SAMPLE SUMMARY STATISTICS

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Parameter	MDL	2016-2022 Samples		2023 Samples	2024 Samples	2025 Samples						
		Mean	95th Percentile	Mean	Mean	Samples Included	Samples Excluded	Samples Below MDL	Minimum	Mean	95th Percentile	Maximum
In Situ Parameters												
Conductivity (In Situ) µS/cm	-	-	-	-	81	6	1	0	63	88	112	117
Oxygen Dissolved (In Situ %) %	-	-	-	-	7.5	7	0	0	0	1.2	4.3	5.6
pH (In Situ) pH	-	-	-	-	7.9	7	0	0	7.9	8.2	8.3	8.4
Redox Potential (In Situ) mV	-	-	-	-	-93	7	0	0	-216	-20	108	118
Salinity (In Situ) ppt	-	-	-	-	0.075	7	0	0	0	0.07	0.12	0.14
Specific Conductivity (In Situ) µS/cm	-	-	-	-	134	6	1	0	108	143	183	192
Temperature (In Situ) °C	-	-	-	-	4.3	7	0	0	3.2	4.5	5.8	6
Total Dissolved Solids (In Situ)	-	-	-	-	87	6	2	0	84	112	173	189
Turbidity (In Situ) NTU	-	-	-	-	20	7	0	0	14	33	66	75
Physical Tests												
Acidity to pH 8.3 (as CaCO3)	2	-	-	-	1	7	0	7	1	1	1	1
Alkalinity (Total as CaCO3)	1	-	-	-	70	7	0	0	64	69	73	74
Alkalinity/ Bicarbonate as CaCO3	1	-	-	-	70	7	0	0	64	69	73	74
Alkalinity/ Carbonate as CaCO3	1	-	-	-	0.5	7	0	7	0.5	0.5	0.5	0.5
Alkalinity/ Hydroxide as CaCO3	1	-	-	-	0.5	7	0	7	0.5	0.5	0.5	0.5
Hardness as CaCO3 (Dissolved)	-	-	-	-	-	0	0	0	-	-	-	-
pH pH	0.1	-	-	-	8.1	7	0	0	8	8	8.1	8.2
Specific Conductivity µS/cm	2	-	-	-	136	7	0	0	128	137	154	156
Total Dissolved Solids	13	-	-	-	123	7	0	0	84	111	181	207
Turbidity NTU	0.1	-	-	-	24	7	0	0	16	40	82	94
Dissolved Anions												
Bromide (Dissolved)	0.05	-	-	-	0.025	7	0	7	0.025	0.025	0.025	0.025
Chloride (Dissolved)	0.5	-	-	-	0.25	7	0	6	0.25	0.29	0.43	0.51
Fluoride (Dissolved)	0.02	-	-	-	0.22	7	0	0	0.18	0.2	0.21	0.21
Sulphate (Dissolved)	0.3	-	-	-	3.8	7	0	0	1.9	3.8	8.3	9.6
Nutrients												
Ammonia (Dissolved)	0.005	-	-	-	0.087	7	0	0	0.065	0.085	0.1	0.1
Ammonia (Total)	0.005	-	-	-	0.094	7	0	0	0.082	0.091	0.1	0.11
Nitrate (as N)	0.005	-	-	-	0.0025	7	0	7	0.0025	0.0025	0.0025	0.0025
Nitrate+Nitrite (Dissolved)	0.0051	-	-	-	0.0026	4	0	4	0.0026	0.0026	0.0026	0.0026
Nitrite (as N)	0.001	-	-	-	0.0005	7	0	6	0.0005	0.00067	0.0013	0.0017
Nitrogen (Dissolved)	0.03	-	-	-	0.15	7	0	0	0.1	0.12	0.14	0.14
Nitrogen (Total)	0.03	-	-	-	0.17	7	0	0	0.1	0.14	0.18	0.19
Nitrogen Kjeldahl (Total)	0.05	-	-	-	0.17	7	0	0	0.095	0.12	0.15	0.15
Orthophosphate (Dissolved)	0.01	-	-	-	0.14	7	0	0	0.14	0.16	0.18	0.19
Phosphorus (Nutrient) Dissolved	0.002	-	-	-	0.17	7	0	0	0.16	0.18	0.19	0.19
Phosphorus (Nutrient) Total	0.002	-	-	-	0.19	7	0	0	0.18	0.2	0.22	0.23
Total Inorganic Nitrogen	0.025	-	-	-	-	6	0	0	0.082	0.091	0.11	0.11
Cyanide												
Cyanate	0.2	-	-	-	0.1	7	0	6	0.1	0.11	0.17	0.2
Cyanide (Free)	0.005	-	-	-	0.0025	7	0	7	0.0025	0.0025	0.0025	0.0025
Cyanide (SAD)	0.005	-	-	-	0.0025	7	0	7	0.0025	0.0025	0.0025	0.0025
Cyanide (WAD)	0.005	-	-	-	0.0025	7	0	7	0.0025	0.0025	0.0025	0.0025
Thiocyante (SCN)	0.5	-	-	-	0.25	7	0	7	0.25	0.25	0.25	0.25
Dissolved Metals												
Aluminum (Dissolved)	0.001	-	-	-	1.2	6	1	0	0.0021	0.63	2.1	2.3
Antimony (Dissolved)	0.0001	-	-	-	0.00011	6	1	5	0.000050	0.000058	0.000087	0.0001
Arsenic (Dissolved)	0.0001	-	-	-	0.0047	6	1	0	0.0042	0.0045	0.0049	0.005
Barium (Dissolved)	0.0001	-	-	-	0.02	6	1	0	0.015	0.02	0.027	0.029
Beryllium (Dissolved)	0.00002	-	-	-	0.000094	6	1	4	0.000010	0.000069	0.00024	0.00029
Bismuth (Dissolved)	0.00005	-	-	-	0.000025	6	1	5	0.000025	0.000030	0.000047	0.000054
Boron (Dissolved)	0.01	-	-	-	0.005	6	1	6	0.005	0.005	0.005	0.005
Cadmium (Dissolved)	0.0000005	-	-	-	0.000029	6	1	4	0.0000030	0.0000097	0.000027	0.000032
Calcium (Dissolved)	0.05	-	-	-	15	6	1	0	12	14	15	15
Chromium (Dissolved)	0.0005	-	-	-	0.00039	6	1	6	0.00025	0.00025	0.00025	0.00025
Cobalt (Dissolved)	0.0001	-	-	-	0.00032	6	1	4	0.000050	0.00017	0.00046	0.00052
Copper (Dissolved)	0.0002	-	-	-	0.00094	6	1	4	0.0001	0.00034	0.00094	0.001
Iron (Dissolved)	0.01	-	-	-	0.33	6	1	1	0.005	0.17	0.5	0.55
Lead (Dissolved)	0.00005	-	-	-	0.00073	6	1	4	0.000025	0.00051	0.0019	0.0024
Lithium (Dissolved)	0.001	-	-	-	0.0008	6	1	6	0.0005	0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	-	-	-	3.3	6	1	0	2.7	3.1	3.5	3.5
Manganese (Dissolved)	0.0001	-	-	-	0.25	6	1	0	0.23	0.27	0.32	0.34
Mercury (Dissolved)	0.0000005	-	-	-	0.0000030	6	1	6	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Dissolved)	0.0005	-	-	-	0.0087	6	1	0	0.007	0.008	0.0085	0.0085
Nickel (Dissolved)	0.0005	-	-	-	0.0008	6	1	4	0.00025	0.0004	0.00074	0.00077
Phosphorus (Metal) Dissolved	0.05	-	-	-	0.17	6	1	0	0.13	0.17	0.19	0.2
Potassium (Dissolved)	0.1	-	-	-	0.86	6	1	0	0.68	0.77	0.83	0.83
Selenium (Dissolved)	0.00005	-	-	-	0.00017	6	1	4	0.000025	0.000040	0.000080	0.000090
Silicon (Dissolved)	0.05	-	-	-	9.1	6	1	0	6.2	7.8	11	11
Silver (Dissolved)	0.00001	-	-	-	0.0000075	6	1	5	0.0000050	0.0000060	0.0000095	0.000011
Sodium (Dissolved)	0.05	-	-	-	11	6	1	0	8.7	9.8	12	12
Strontium (Dissolved)	0.0002	-	-	-	0.099	6	1	0	0.1	0.12	0.14	0.15
Sulfur (Dissolved)	0.5	-	-	-	1.1	6	1	0	0.54	0.86	1.4	1.6
Thallium (Dissolved)	0.00001	-	-	-	0.0000080	6	1	5	0.0000050	0.0000065	0.000012	0.000014
Tin (Dissolved)	0.0001	-	-	-	0.00014	6	1	5	0.000050	0.000060	0.000095	0.00011
Titanium (Dissolved)	0.0003	-	-	-	0.019	5	2	4	0.00015	0.0041	0.016	0.02
Uranium (Dissolved)	0.00001	-	-	-	0.0012	6	1	0	0.00058	0.00084	0.0012	0.0013
Vanadium (Dissolved)	0.0005	-	-	-	0.0018	6	1	4	0.00025	0.00063	0.0014	0.0014
Zinc (Dissolved)	0.001	-	-	-	0.0029	6	1	3	0.0005	0.0017	0.0041	0.0045
Zirconium (Dissolved)	0.0002	-	-	-	0.0012	5	2	4	0.0001	0.00044	0.0014	0.0018
Total Metals												
Aluminum (Total)	0.003	-	-	-	2.9	6	1	0	0.67	1.6	2.4	2.6
Antimony (Total)	0.0001	-	-	-	0.00015	6	1	0	0.0001	0.00016	0.00022	0.00023
Arsenic (Total)	0.0001	-	-	-	0.0052	6	1	0	0.0046	0.0049	0.0055	0.0057
Barium (Total)	0.0001	-	-	-	0.024	6	1	0	0.022	0.026	0.034	0.035
Beryllium (Total)	0.00002	-	-	-	0.00016	6	1	0	0.000064	0.00018	0.00029	0.00032
Bismuth (Total)	0.00005	-	-	-	0.000025	6	1	4	0.000025	0.000040	0.000072	0.000074
Boron (Total)	0.01	-	-	-	0.005	6	1	6	0.005	0.005	0.005	0.005
Cadmium (Total)	0.0000005	-	-	-	0.000041	6	1	0	0.000022	0.000029	0.000040	0.000040
Calcium (Total)	0.05	-	-	-	15	6	1	0	14	15	16	16
Chromium (Total)	0.0005	-	-	-	0.0012	6	1	0	0.00066	0.00077	0.0009	0.00091
Cobalt (Total)	0.0001	-	-	-	0.0006	6	1	0	0.00025	0.00043	0.0006	0.00065
Copper (Total)	0.0005	-	-	-	0.0015	6	1	0	0.00071	0.001	0.0013	0.0014
Iron (Total)	0.01	-	-	-	0.95	6	1	0	0.36	0.59	0.76	0.8
Lead (Total)	0.00005	-	-	-	0.0014	6	1	0	0.00073	0.0016	0.0025	0.0026
Lithium (Total)	0.001	-	-	-	0.0014	6	1	3	0.0005	0.0008	0.0011	0.0011
Magnesium (Total)	0.1	-	-	-	3.7	6	1	0	3.3	3.4	3.6	3.6
Manganese (Total)	0.0001	-	-	-	0.28	6	1	0	0.27	0.29	0.33	0.34
Mercury (Total)	0.0000005	-	-	-	0.0000030	6	1	6	0.0000030	0.0000030	0.0000030	0.0000030
Molybdenum (Total)	0.00005	-	-	-	0.009	6	1	0	0.0066	0.0078	0.0087	0.0087
Nickel (Total)	0.0005	-	-	-	0.0014	6	1	0	0.00087	0.00099	0.0011	0.0011
Phosphorus (Metal) Total	0.05	-	-	-	0.18	6	1	0	0.18	0.2	0.23	0.23
Potassium (Total)	0.1	-	-	-	0.99	6	1	0	0.79	0.88	0.98	1
Selenium (Total)	0.00005	-	-	-	0.00013	6	1	3	0.000025	0.000050	0.000087	0.000090
Silicon (Total)	0.1	-	-	-	13	6	1	0	7.8	9.8	11	12
Silver (Total)	0.00001	-	-	-	0.000015	6	1	5	0.0000050	0.0000063	0.000011	0.000013
Sodium (Total)	0.05	-	-	-	12	6	1	0	8.8	10	13	14
Strontium (Total)	0.0002	-	-	-	0.11	6	1	0	0.11	0.13	0.16	0.18
Sulfur (Total)	0.5	-	-	-	1.3	6	1	0	0.62	0.92	1.5	1.7
Thallium (Total)	0.00001	-	-	-	0.000016	6	1	1	0.0000050	0.000014	0.000020	0.000021
Tin (Total)	0.0001	-	-	-	0.00044	6	1	0	0.00016	0.0002	0.00023	0.00024
Titanium (Total)	0.0003	-	-	-	0.047	6	1	0	0.013	0.018	0.022	0.023
Uranium (Total)	0.00001	-	-	-	0.0014	6	1	0	0.00091	0.0012	0.0016	0.0016
Vanadium (Total)	0.0005	-	-	-	0.0031	6	1	0	0.0013	0.0016	0.0019	0.0019
Zinc (Total)	0.003	-	-	-	0.0058	6	1	1	0.0015	0.0038	0.0053	0.0056
Zirconium (Total)	0.0002	-	-	-	0.0022	6	1	2	0.0001	0.00033	0.00082	0.00098
Organics												
Carbon Organic (Dissolved)	0.5	-	-	-	1.1	7	0	0	0.51	0.99	1.8	1.8
Carbon Organic (Total)	0.5	-	-	-	1.6	7	0	0	1	1.5	2.3	2.3

\\KPLTAA-Prj\S1107\0045\TEDA\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-2 Summary Stats\[App H-2 - Sample Statistics_vA.xlsx]TABLE 29 MW24-01S

Notes:

(1) Units are mg/L unless otherwise stated

(2) Statistics calculated using half the method detection limit (MDL) value.

rev	issue/st	issued with report (KP/BW)	KB	AMB
rev	DATE	ISSUE/STATUS	engrd	approv

Appendix H-3 Summary of Groundwater Quality Standards

Knight Piésold CONSULTING

TABLE H-3.1

BW GOLD LTD.
BLACKWATER MINE

2025 FOLLOW-UP PROGRAMS FOR CONDITION 3.15
SUMMARY OF WATER QUALITY STANDARDS

Print Mar/25/26 14:55:59

Analytes	Contaminated Sites Regulation (CSR) Aquatic Life (AL) [2]
Physical Tests	
Salinity (ppt)	15
Dissolved Anions	
Chloride (Dissolved)	1500
Fluoride (Dissolved)	2 @ H [3] <50 3 @ H ≥50
Sulphate (Dissolved)	1,280 @ H ≤30 2,180 @ H = 31-75 3,090 @ H = 76-180 4,290 @ H > 180
Sulphide (Dissolved)	0.02
Nutrients	
Ammonia (Total)	1.31 @ pH [4] ≥8.5 3.70 @ pH 8.0 - <8.5 11.3 @ pH 7.5 - <8.0 18.5 @ pH 7.0 - <7.5 18.4 @ pH <7.0
Nitrate (as N)	400
Nitrate+Nitrite (Dissolved)	400
Nitrite (as N)	0.2 @ Cl [5] <2 0.4 @ Cl = 2 - <4 0.6 @ Cl = 4 - <6 0.8 @ Cl = 6 - <8 1.0 @ Cl = 8 - <10 2.0 @ Cl ≥10
Cyanide	
Cyanide (WAD)	0.05
Dissolved Metals	
Antimony (Dissolved)	0.09
Arsenic (Dissolved)	0.05
Barium (Dissolved)	10
Beryllium (Dissolved)	0.0015
Boron (Dissolved)	12
Cadmium (Dissolved)	0.0005 @ H <30 0.0015 @ H = 30 - <90 0.0025 @ H = 90 - <150 0.0035 @ H = 150- <210 0.004 @ H ≥210
Chromium III (Dissolved)	0.09
Chromium VI (Dissolved)	0.01
Cobalt (Dissolved)	0.04
Copper (Dissolved)	0.02 @ H <50 0.03 @ H = 50 - <75 0.04 @ H = 75 - <100 0.05 @ H = 100 - <125 0.06 @ H = 125 - <150 0.07 @ H = 150 - <175 0.08 @ H = 175 - <200 0.09 @ H ≥200
Lead (Dissolved)	0.04 @ H <50 0.05 @ H = 50 - <100 0.06 @ H = 100 - <200 0.11 @ H = 200 - <300 0.16 @ H ≥300
Mercury (Dissolved)	0.00025
Molybdenum (Dissolved)	10
Nickel (Dissolved)	0.25 @ H <60 0.65 @ H = 60 - <120 1.10 @ H = 120 - <180 1.50 @ H ≥180
Selenium (Dissolved)	0.02
Silver (Dissolved)	0.0005 @ H ≤100 0.015 @ H >100
Thallium (Dissolved)	0.003
Titanium (Dissolved)	1
Uranium (Dissolved)	0.085
Zinc (Dissolved)	0.075 @ H <90 0.15 @ H = 90 - <100 0.90 @ H = 100 - <200 1.65 @ H = 200 - <300 2.40 @ H = 300 - <400

\\KPL\VA-Prj$\1\01\00457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-3 Summary of WQ Standards\[App H-3 - CSR Water Quality Standards_rA.xlsx]Table H

NOTES:

1. UNITS ARE mg/L UNLESS OTHERWISE STATED.
2. CONTAMINATED SITES REGULATION, GENERIC NUMERICAL WATER STANDARDS, SCHEDULE 3.2 COLUMN 3 AQUATIC LIFE (CSR-AL).
3. STANDARD IS DEPENDENT ON HARDNESS (AS $CaCO_3$).
4. STANDARD IS DEPENDENT ON pH.
5. STANDARD IS DEPENDENT ON CHLORIDE.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	13MAR'26	ISSUED WITH REPORT VA101-457/62-5	ACC	CAS

Appendix H-4 Comparison of TSF C Predicted Seepage Concentrations and Observed Groundwater Quality Concentrations

Knight Piésold CONSULTING

TABLE H-4.1

BW GOLD LTD.
BLACKWATER GOLD MINE

COONDITION 3.15 REPORT
COMPARISON OF MEASURED 2025 TSF AREA GROUNDWATER TO MODELLED SEEPAGE PREDICTIONS

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POPC[4]	CSR AL[5]	EA Predictions[6]	Year 1 TMF Seepage Predictions[7]		GT20-04					GT21-03S					MW12-07D				MW12-07S			
			Base Case	Upper Case	2025-03-27	2025-06-25	2025-08-20	2025-11-08	2025-12-20	2025-03-03	2025-06-12	2025-08-20	2025-10-03	2025-11-08	2025-03-25	2025-06-10	2025-08-11	2025-11-21	2025-03-25	2025-06-11	2025-08-11	2025-11-21
Sulphate	1280 to 4290 (H)	2,300	1380	1390	2.54	2.44	2.65	2.66	2.58	6.22	6.44	47.9	160	22.6	9.3	9.77	9.78	9.92	2.95	3.43	3.16	3.37
Ammonia	1.31 to 3.7 (pH)	33.5	6.43	7.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.619	0.609	0.0418	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N) [NOTE 9]	400	0.022	0	0	0.0724	0.07	0.0618	0.0711	0.0724	0.0883	0.0913	0.715	0.0646	0.0108	< 0.005	< 0.005	< 0.005	< 0.005	0.0524	0.0377	0.0553	0.208
Nitrite (as N) [NOTE 9]	0.2 to 2 (Cl)	0.033	0	0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0977	0.0193	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0039	< 0.001	< 0.001
Cyanide (WAD)	0.05	0.015	0.00102	0.00000573	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0335	0.0324	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Aluminum (Dissolved)	-	0.002	0.0196	0.0271	0.003	0.0024	0.0027	0.003	0.0025	< 0.001	0.0016	< 0.001	0.0022	0.0014	0.0016	0.0028	0.0023	0.0015	< 0.001	0.0011	0.0011	0.0012
Antimony (Dissolved)	0.09	0.00595	0.0195	0.0238	0.00014	0.00011	0.00013	0.00011	0.00011	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic (Dissolved)	0.05	0.00305	0.0145	0.0156	0.00357	0.00383	0.00388	0.00368	0.00369	0.0012	0.00124	0.00104	0.00082	0.00126	0.00114	0.00116	0.00116	0.00111	0.0021	0.00212	0.00213	0.00201
Beryllium (Dissolved)	0.0015	-	0.00005	0.00005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005
Cadmium (Dissolved)	0.0005 to 0.004 (H)	0.000052	0.00007	0.00122	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.00001	0.000008	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003
Chromium (Dissolved) [NOTE 8]	0.01	0.0001	0.001	0.001	0.00133	0.00139	0.00144	0.00144	0.00133	0.00081	0.00086	0.00069	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00058	0.00059	0.0006	0.00055
Cobalt (Dissolved)	0.04	0.034	0.0476	0.0546	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0232	0.0531	0.00071	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper (Dissolved)	0.02 to 0.09 (H)	0.0001	0.0005	0.00291	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron (Dissolved)	-	0.09	0.359	0.77	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.011	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead (Dissolved)	0.04 to 0.16 (H)	0.00012	0.0001	0.000695	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005
Manganese (Dissolved)	-	7.2	0.153	0.264	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00011	< 0.0001	< 0.0001	0.00125	0.00063	0.0706	0.0894	0.0699	0.0738	0.0002	0.00028	< 0.0001	0.00011
Mercury (Dissolved)	0.00025	-	0.00005	0.00025	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000006	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003
Nickel (Dissolved)	0.25 to 1.5 (H)	0.0073	0.0005	0.000792	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Silver (Dissolved)	0.0005 to 0.015 (H)	0.000005	0.00005	0.0000904	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005
Zinc (Dissolved)	0.075 to 2.4 (H)	0.55	0.005	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

POPC[4]	CSR AL[5]	EA Predictions[6]	Year 1 TMF Seepage Predictions[7]		MW12-08D					MW12-08S					MW12-09D					MW12-09S				
			Base Case	Upper Case	2025-03-21	2025-06-09	2025-08-06	2025-11-12	2025-12-11	2025-03-21	2025-06-02	2025-08-06	2025-11-13	2025-12-11	2025-03-22	2025-06-10	2025-08-10	2025-11-13	2025-12-10	2025-03-21	2025-06-09	2025-08-10	2025-11-13	2025-12-10
Sulphate	1280 to 4290 (H)	2,300	1380	1390	3.86	3.58	3.5	3.6	3.54	3.54	3.12	3.05	3.13	3.14	5.59	5.33	5.37	5.08	5.25	5.04	4.38	3.65	4.42	4.35
Ammonia	1.31 to 3.7 (pH)	33.5	6.43	7.03	0.0058	0.0071	0.0285	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N) [NOTE 9]	400	0.022	0	0	0.0845	0.0788	0.08	0.0802	0.0811	0.0792	0.0702	0.074	0.0753	0.0783	0.06	0.0548	0.0623	0.0534	0.0544	0.0739	0.0905	0.0954	0.0895	0.087
Nitrite (as N) [NOTE 9]	0.2 to 2 (Cl)	0.033	0	0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cyanide (WAD)	0.05	0.015	0.00102	0.00000573	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Aluminum (Dissolved)	-	0.002	0.0196	0.0271	0.0015	0.0027	< 0.001	0.0012	0.0031	0.0016	< 0.001	0.0011	0.0028	0.0014	0.0024	0.0021	0.0025	0.0023	0.0022	< 0.001	< 0.001	0.0024	0.001	< 0.001
Antimony (Dissolved)	0.09	0.00595	0.0195	0.0238	0.00011	0.00011	< 0.0001	0.00015	0.00019	< 0.0001	0.00027	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic (Dissolved)	0.05	0.00305	0.0145	0.0156	0.00107	0.0011	0.00095	0.00097	0.00097	0.00134	0.00126	0.00125	0.00123	0.00127	0.00353	0.00348	0.00335	0.00315	0.00322	0.00131	0.00081	0.00061	0.00088	0.00076
Beryllium (Dissolved)	0.0015	-	0.00005	0.00005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005
Cadmium (Dissolved)	0.0005 to 0.004 (H)	0.000052	0.00007	0.00122	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000009	0.000003
Chromium (Dissolved) [NOTE 8]	0.01	0.0001	0.001	0.001	0.00117	0.00114	0.00122	0.00111	0.00116	0.00139	0.00148	0.00142	0.00135	0.00143	0.00147	0.00152	0.00152	0.00153	0.00151	0.00057	0.00058	0.00055	0.00058	< 0.0005
Cobalt (Dissolved)	0.04	0.034	0.0476	0.0546	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper (Dissolved)	0.02 to 0.09 (H)	0.0001	0.0005	0.00291	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00023	< 0.0002
Iron (Dissolved)	-	0.09	0.359	0.77	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead (Dissolved)	0.04 to 0.16 (H)	0.00012	0.0001	0.000695	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005
Manganese (Dissolved)	-	7.2	0.153	0.264	0.00444	0.0109	0.00032	0.0033	0.003	0.00041	0.00025	< 0.0001	< 0.0001	< 0.0001	0.00023	0.00012	0.00015	< 0.0001	0.00016	0.00011	< 0.0001	0.00022	< 0.0001	0.00016
Mercury (Dissolved)	0.00025	-	0.00005	0.00025	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003
Nickel (Dissolved)	0.25 to 1.5 (H)	0.0073	0.0005	0.000792	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Silver (Dissolved)	0.0005 to 0.015 (H)	0.000005	0.00005	0.0000904	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005
Zinc (Dissolved)	0.075 to 2.4 (H)	0.55	0.005	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Knight Piésold CONSULTING

TABLE H-4.1

BW GOLD LTD.
BLACKWATER GOLD MINE

COONDITION 3.15 REPORT
COMPARISON OF MEASURED 2025 TSF AREA GROUNDWATER TO MODELLED SEEPAGE PREDICTIONS

POPC[4]	CSR AL[5]	EA Predictions[6]	Year 1 TMF Seepage Predictions[7]		MW22-02D							MW22-03D						MW22-03S							
			Base Case	Upper Case	2025-01-15	2025-03-26	2025-06-14	2025-08-18	2025-11-09	2025-12-17	2025-12-19	2025-03-27	2025-06-29	2025-08-05	2025-10-19	2025-11-09	2025-12-12	2025-01-15	2025-06-21	2025-07-15	2025-08-05	2025-09-15	2025-10-19	2025-11-09	2025-12-19
Sulphate	1280 to 4290 (H)	2,300	1380	1390	5.98	6.27	5.82	5.78	5.84	5.52	5.91	5.02	5.22	5.46	155	292	517	0.81	0.72	0.8	0.86	0.84	0.82	0.8	0.8
Ammonia	1.31 to 3.7 (pH)	33.5	6.43	7.03	< 0.005	< 0.005	0.0072	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.514	0.624	**7.24**	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N) [NOTE 9]	400	0.022	0	0	**0.0838**	**0.0876**	**0.0884**	**0.0839**	**0.0862**	**0.0861**	**0.0909**	**0.108**	**0.0479**	**0.114**	**0.414**	**0.247**	**3.33**	**0.016**	**0.0665**	**0.0755**	**0.0798**	**0.0749**	**0.0989**	**0.164**	**0.103**
Nitrite (as N) [NOTE 9]	0.2 to 2 (Cl)	0.033	0	0	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**0.0023**	**0.0138**	< 0.001	**0.0267**	**0.221**	**0.546**	**0.001**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cyanide (WAD)	0.05	0.015	0.00102	0.00000573	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	**0.0473**	**0.111**	**3.47**	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Aluminum (Dissolved)	-	0.002	0.0196	0.0271	0.002	0.0011	0.002	< 0.001	0.0017	0.0013	0.0015	0.0017	0.0012	0.0015	0.0011	< 0.001	0.0013	0.0026	0.001	0.0015	0.0016	< 0.001	< 0.001	< 0.001	-
Antimony (Dissolved)	0.09	0.00595	0.0195	0.0238	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00011	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00017	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-
Arsenic (Dissolved)	0.05	0.00305	0.0145	0.0156	0.00084	0.00091	0.00088	0.00093	0.00087	0.00091	0.00092	0.0004	0.00036	0.00038	0.00038	0.0005	0.00076	0.00028	0.00019	0.00018	0.00021	0.00026	0.00023	0.00021	-
Beryllium (Dissolved)	0.0015	-	0.00005	0.00005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	-
Cadmium (Dissolved)	0.0005 to 0.004 (H)	0.000052	0.00007	0.00122	0.000006	0.000003	0.000005	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.00001	0.000025	0.000065	0.000012	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	-
Chromium (Dissolved) [NOTE 8]	0.01	0.0001	0.001	0.001	0.00082	0.0008	0.00077	0.0008	0.00078	0.00087	0.00083	0.00078	0.0008	0.00074	< 0.0005	< 0.0005	< 0.0005	0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-
Cobalt (Dissolved)	0.04	0.034	0.0476	0.0546	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	**0.0572**	**0.11**	**0.25**	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-
Copper (Dissolved)	0.02 to 0.09 (H)	0.0001	0.0005	0.00291	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00024	< 0.0002	0.00032	**0.0103**	**0.00084**	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	-
Iron (Dissolved)	-	0.09	0.359	0.77	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-
Lead (Dissolved)	0.04 to 0.16 (H)	0.00012	0.0001	0.000695	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	-
Manganese (Dissolved)	-	7.2	0.153	0.264	0.00092	0.00051	< 0.0001	0.00014	0.00018	< 0.0001	0.00034	0.00016	0.00014	0.00032	0.00034	0.00473	0.0153	0.00139	0.00048	0.00046	0.00069	0.00073	0.00063	0.00043	-
Mercury (Dissolved)	0.00025	-	0.00005	0.00025	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000025	0.00005	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	-
Nickel (Dissolved)	0.25 to 1.5 (H)	0.0073	0.0005	0.000792	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**0.0689**	**0.791**	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-
Silver (Dissolved)	0.0005 to 0.015 (H)	0.000005	0.00005	0.0000904	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	0.00001	< 1E-005	**0.00979**	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	-
Zinc (Dissolved)	0.075 to 2.4 (H)	0.55	0.005	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0013	0.001	0.002	< 0.001	< 0.001	< 0.001	0.0011	< 0.001	< 0.001	-

POPC[4]	CSR AL[5]	EA Predictions[6]	Year 1 TMF Seepage Predictions[7]		MW23-05D					MW23-05S					
			Base Case	Upper Case	2025-03-26	2025-06-14	2025-08-20	2025-11-02	2025-12-17	2025-01-14	2025-02-25	2025-04-29	2025-07-14	2025-11-02	2025-12-17
Sulphate	1280 to 4290 (H)	2,300	1380	1390	4.61	4.54	4.38	7.23	20.9	3.71	2.91	6.2	3.24	4.14	3.72
Ammonia	1.31 to 3.7 (pH)	33.5	6.43	7.03	< 0.005	< 0.005	< 0.005	0.0294	0.143	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nitrate (as N) [NOTE 9]	400	0.022	0	0	**0.0957**	**0.0965**	**0.0846**	**0.157**	**0.299**	**0.242**	**0.173**	**0.147**	**0.222**	**0.209**	**0.224**
Nitrite (as N) [NOTE 9]	0.2 to 2 (Cl)	0.033	0	0	< 0.001	< 0.001	< 0.001	**0.0087**	**0.0851**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cyanide (WAD)	0.05	0.015	0.00102	0.00000573	< 0.005	< 0.005	< 0.005	< 0.005	**0.008**	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Aluminum (Dissolved)	-	0.002	0.0196	0.0271	< 0.001	0.0026	0.0013	< 0.001	< 0.001	0.0082	0.0056	0.0142	0.0033	0.0023	0.001
Antimony (Dissolved)	0.09	0.00595	0.0195	0.0238	< 0.0001	< 0.0001	< 0.0001	0.00011	0.0001	< 0.0001	< 0.0001	< 0.0001	0.00013	< 0.0001	< 0.0001
Arsenic (Dissolved)	0.05	0.00305	0.0145	0.0156	0.00116	0.00111	0.00109	0.00103	0.00097	0.00014	0.00024	< 0.0001	0.00012	0.00013	0.00018
Beryllium (Dissolved)	0.0015	-	0.00005	0.00005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005
Cadmium (Dissolved)	0.0005 to 0.004 (H)	0.000052	0.00007	0.00122	0.000003	0.000003	0.000003	0.000003	0.000003	0.000027	0.000006	0.000015	0.000018	0.000007	0.000005
Chromium (Dissolved) [NOTE 8]	0.01	0.0001	0.001	0.001	0.00099	**0.00102**	**0.00111**	0.00096	**0.00107**	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt (Dissolved)	0.04	0.034	0.0476	0.0546	< 0.0001	< 0.0001	< 0.0001	0.00231	0.0106	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper (Dissolved)	0.02 to 0.09 (H)	0.0001	0.0005	0.00291	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00026	< 0.0002	**0.00104**	0.00037	< 0.0002	< 0.0002
Iron (Dissolved)	-	0.09	0.359	0.77	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead (Dissolved)	0.04 to 0.16 (H)	0.00012	0.0001	0.000695	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005
Manganese (Dissolved)	-	7.2	0.153	0.264	0.00062	0.00046	0.00034	0.00032	0.00044	0.0129	0.00072	0.0229	0.00577	0.00099	0.0008
Mercury (Dissolved)	0.00025	-	0.00005	0.00025	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003
Nickel (Dissolved)	0.25 to 1.5 (H)	0.0073	0.0005	0.000792	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Silver (Dissolved)	0.0005 to 0.015 (H)	0.000005	0.00005	0.0000904	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005
Zinc (Dissolved)	0.075 to 2.4 (H)	0.55	0.005	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0038	< 0.001	< 0.001	0.0014	< 0.001	< 0.001

\\KPL\VA-Prj$\1\01\00457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-4 Groundwater Sample Predictons Comparison\[Table H.4-1 - TSF C Source Term and Sample Results_rA.xlsx]Table H-4.1 TMF Source term

NOTES:
1. UNITS ARE mg/L UNLESS OTHERWISE STATED.
2. **BOLD FONT** INDICATES THE SAMPLE EXCEEDS THE BASE-CASE SOURCE TERM PREDICTION, **BOLD RED FONT** INDICATES AN EXCEEDANCE OF THE UPPER-CASE PREDICTION.
3. GREY BACKGROUNDS INDICATE A SAMPLE EXCEEDING THE EA PREDICTIONS.
4. POPC = PARAMETER OF POTENTIAL CONCERN AS OUTLINED IN THE AUQATIC EFFECTS MONITORING PROGRAM, VERSION 2.0.
5. CSR AL = CONTAMINATED SITE REGULATIONS (CSR) AQUATIC LIFE (AL) STANDARDS. BC ENVIRONMENTAL MANAGEMENT ACT, 2023. BC Reg. 375/96.
6. ENVIRONMENTAL ASSESSMENT (EA) TSF SEEPAGE PREDICTIONS FROM TABLE E-3 IN ERM (2016b).
7. SEEPAGE SOURCE TERM CONCENTRATIONS REPRESENT TSF C SEEPAGE CONCENTRATION FOR YEAR 1 FROM APPENDIX C-1.1 OF THE GEOCHEMISTRY SOURCE TERM REPORT (LORAX, 2021).
8. BASED ON THE HEXAVALENT STANDARD FOR CHROMIUM, AS THERE IS NO GENERAL STANDARD FOR CHROMIUM.
9. NITRATE AND NITRITE ARE MODELLED TO BE ABSENT IN THE 2022 MODEL PREDICTIONS DUE TO PREDICTED REDUCING GROUNDWATER CONDITIONS.

REV	DATE	DESCRIPTION	PREPD	RVW'D
A	23MAR26	ISSUED WITH REPORT VA101-457/62-5	EB	CAS

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TABLE H-4.2

BW GOLD LTD.
BLACKWATER GOLD MINE

CONDITION 3.15 REPORT
COMPARISON OF MEASURED 2025 STOCKPILE AREA GROUNDWATER TO PREDICTED SEEPAGE PREDICTIONS

Print Mar/22/26 22:41:41

POPC[2]	CSR AL[3]	Year 1 LGO Stockpile Seepage Source Terms[4]		MW23-03D				MW23-03S				MW23-04D			MW23-04S			
		Base Case	Upper Case	2025-03-31	2025-06-26	2025-09-21	2025-12-18	2025-03-29	2025-10-03	2025-10-25	2025-12-18	2025-06-17	2025-08-19	2025-12-15	2025-03-27	2025-06-17	2025-08-19	2025-12-15
Sulphate	1280 to 4290 (H)	5420	8500	2.92	2.4	2.27	3.06	2.23	16.4	13.9	10.1	1.73	1.89	1.66	3.84	5.01	4.05	3.71
Ammonia	1.31 to 3.7 (pH)	0.06	0.2	< 0.005	0.0076	< 0.005	0.0156	0.0081	0.0056	< 0.005	< 0.005	< 0.005	0.0053	< 0.005	< 0.005	0.006	< 0.005	< 0.005
Nitrate (as N)	400	3.5	5.3	0.0255	0.0307	0.0391	0.0335	0.313	2.76	2.59	0.996	0.0489	0.0481	0.0481	0.0092	0.0231	0.0097	0.0345
Nitrite (as N)	0.2 to 2 (Cl)	0.037	0.055	0.0018	0.0015	0.0031	0.0041	0.0016	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0036	0.0051	0.0037	< 0.001
Cyanide (WAD)	0.05	0	0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Aluminum (Dissolved)	-	170	389	0.006	< 0.001	< 0.001	0.002	0.0747	0.0475	0.069	0.0791	< 0.001	< 0.001	0.0012	< 0.001	0.0015	< 0.001	0.0045
Antimony (Dissolved)	0.09	0.00885	0.0225	0.00144	0.00094	0.00099	0.00133	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00031	0.00021	0.00013	0.00019	0.00021
Arsenic (Dissolved)	0.05	0.472	0.901	0.00232	0.00242	0.00228	0.00208	0.00134	0.00056	0.0006	0.00035	0.00084	0.00084	0.00084	0.00129	0.00091	0.001	0.00096
Beryllium (Dissolved)	0.0015	0.0594	0.128	< 2E-005	< 2E-005	< 2E-005	< 2E-005	0.000049	0.000076	0.000067	0.000052	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005
Cadmium (Dissolved)	0.0005 to 0.004 (H)	1.89	3.32	0.000006	0.000003	0.000003	0.000003	0.000073	0.000106	0.000091	0.000063	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003
Chromium (Dissolved)	0.01 (NOTE 6)	0.0438	0.097	0.00067	0.00066	0.00068	0.00093	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00105	0.00108	0.00105	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt (Dissolved)	0.04	1.73	3.64	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00124	0.00069	0.00055	0.00027	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Copper (Dissolved)	0.02 to 0.09 (H)	12.6	30.9	0.00156	< 0.0002	< 0.0002	0.00028	0.00083	0.00069	0.00064	0.00059	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron (Dissolved)	-	124	781	< 0.01	< 0.01	< 0.01	< 0.01	0.501	0.109	0.095	0.073	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead (Dissolved)	0.04 to 0.16 (H)	0.705	1.15	< 5E-005	< 5E-005	< 5E-005	< 5E-005	0.000121	< 5E-005	< 5E-005	0.00006	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005
Manganese (Dissolved)	-	222	622	0.0008	0.0068	0.00628	0.0024	0.293	0.151	0.123	0.0642	0.00039	0.00018	0.00022	0.0137	0.00211	0.00374	0.00302
Mercury (Dissolved)	0.00025	0.000111	0.000165	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003
Nickel (Dissolved)	0.25 to 1.5 (H)	2.18	4.11	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00104	0.00122	0.00104	0.00069	< 0.0005	< 0.0005	< 0.0005	0.00066	< 0.0005	< 0.0005	< 0.0005
Silver (Dissolved)	0.0005 to 0.015 (H)	0.00113	0.00315	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	0.000012	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005
Zinc (Dissolved)	0.075 to 2.4 (H)	413	556	< 0.001	< 0.001	< 0.001	< 0.001	0.0023	0.003	0.0023	0.0024	< 0.001	0.0023	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Knight Piésold CONSULTING

TABLE H-4.2

BW GOLD LTD.
BLACKWATER GOLD MINE

CONDITION 3.15 REPORT
COMPARISON OF MEASURED 2025 STOCKPILE AREA GROUNDWATER TO PREDICTED SEEPAGE PREDICTIONS

POPC[2]	CSR AL[3]	Year 1 LGO Stockpile Seepage Source Terms[4]		MW24-01D(A)					MW24-01S						
		Base Case	Upper Case	2025-04-27	2025-07-15	2025-08-05	2025-09-19	2025-12-09	2025-01-14	2025-03-01	2025-04-27	2025-07-28	2025-09-02	2025-09-19	2025-12-16
Sulphate	1280 to 4290 (H)	5420	8500	2.71	2.44	3.22	3.01	2.47	2.26	2.1	3.3	2.2	5.31	1.95	9.63
Ammonia	1.31 to 3.7 (pH)	0.06	0.2	**0.164**	**0.118**	**0.108**	**0.094**	0.0482	**0.0933**	**0.0653**	**0.0945**	**0.0802**	**0.104**	**0.0738**	**0.0855**
Nitrate (as N)	400	3.5	5.3	0.0133	< 0.005	< 0.005	< 0.005	0.0062	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nitrite (as N)	0.2 to 2 (Cl)	0.037	0.055	0.0357	0.0033	0.0026	0.0021	0.0024	< 0.001	< 0.001	< 0.001	< 0.001	0.0017	< 0.001	< 0.001
Cyanide (WAD)	0.05	0	0	< 0.005	**0.005**	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Aluminum (Dissolved)	-	170	389	0.0018	0.003	0.0024	0.0026	0.0022	1.5	0.0073	0.0026	0.0021	0.0027	2.26	-
Antimony (Dissolved)	0.09	0.00885	0.0225	0.00012	0.00014	< 0.0001	0.00014	0.00025	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-
Arsenic (Dissolved)	0.05	0.472	0.901	0.0013	0.00216	0.00218	0.00261	0.00199	0.00463	0.00451	0.00444	0.00415	0.00502	0.00437	-
Beryllium (Dissolved)	0.0015	0.0594	0.128	< 2E-005	< 2E-005	< 2E-005	< 2E-005	< 2E-005	0.000081	< 2E-005	< 2E-005	< 2E-005	< 2E-005	0.000294	-
Cadmium (Dissolved)	0.0005 to 0.004 (H)	1.89	3.32	0.000003	0.000003	0.000003	0.000003	0.000005	0.000014	0.000003	0.000003	0.000003	0.000003	0.000032	-
Chromium (Dissolved)	0.01 (NOTE 6)	0.0438	0.097	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-
Cobalt (Dissolved)	0.04	1.73	3.64	0.00068	0.00103	0.0009	0.00067	0.00083	0.00029	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00052	-
Copper (Dissolved)	0.02 to 0.09 (H)	12.6	30.9	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0006	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00105	-
Iron (Dissolved)	-	124	781	2.38	5.98	6.2	6.02	7.07	0.361	< 0.01	0.026	0.024	0.028	0.549	-
Lead (Dissolved)	0.04 to 0.16 (H)	0.705	1.15	< 5E-005	< 5E-005	< 5E-005	< 5E-005	< 5E-005	0.000571	< 5E-005	< 5E-005	< 5E-005	< 5E-005	0.00237	-
Manganese (Dissolved)	-	222	622	1.64	1.43	1.34	1.12	0.953	0.255	0.235	0.254	0.254	0.271	0.336	-
Mercury (Dissolved)	0.00025	0.000111	0.000165	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	0.000003	-
Nickel (Dissolved)	0.25 to 1.5 (H)	2.18	4.11	0.00185	0.00256	0.00082	0.00072	0.00078	0.00064	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00077	-
Silver (Dissolved)	0.0005 to 0.015 (H)	0.00113	0.00315	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	< 1E-005	0.000011	-
Zinc (Dissolved)	0.075 to 2.4 (H)	413	556	0.0017	0.0011	0.0018	0.0018	0.0031	0.0029	< 0.001	< 0.001	< 0.001	0.0012	0.0045	-

\\KPL\VA-Prj$\1\01\00457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-4 Groundwater Sample Predictons Comparison\[Table H.4-2 - STOCKPILE Source Term and Sample Results_rA.xlsx]Table H4-2 - Stockpile STs

NOTES:

1. UNITS ARE mg/L UNLESS OTHERWISE STATED.
2. POPC = PARAMETER OF POTENTIAL CONCERN AS OUTLINE IN THE AUQATIC EFFECTS MONITORING PROGRAM, VERSION 2.0.
3. CSR AL = CONTAMINATED SITE REGULATIONS (CSR) AQUATIC LIFE (AL) STANDARDS. BC EENVIRONMENT MANAGEMENT ACT, 2025. BC Reg. 375/96.
4. SEEPAGE SOURCE TERM CONCENTRATIONS REPRESENT LGO SEEPAGE SOURCE TERM CONCENTRATIONS FOR YEAR 1 FROM APPENDIX C1-4 (BASE CASE) AND APPENDIX C2-4 (UPPER CASE) (LORAX 2021).
5. **BOLD FONT** INDICATES THE SAMPLE EXCEEDS THE BASE CASE SOURCE TERM PREDICTION, **BOLD RED FONT** INDICATES AN EXCEEDANCE OF THE UPPER CASE SOURCE TERM PREDICTION.
6. BASED ON THE HEXAVALENT STANDARD FOR CHROMIUM, AS THERE IS NO GENERAL STANDARD FOR CHROMIUM.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	23MAR'26	ISSUED WITH REPORT VA101-457/62-5	EB	CAS

Knight Piésold CONSULTING

TABLE H4.3-1

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
COMPARISON OF PREDICTED AND MEASURED 2025 TSF C EMBANKMENT DRAIN WATER QUALITY

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POPC[3]	Predicted Source Term: Main Dam C - Downstream[4]		Predicted Source Term: TSF C Seepage[4]		MDL	Measured - Embankment Drains[5] (n=8)		
	Base Case	Upper Case	Base Case	Upper Case		Minimum	Mean	Maximum
Sulphate	890	1210	1162	1252	0.3	4.2	260	593
Ammonia	0.06	0.2	6.43	7.03	0.005	0.0991	**4.9**	**12.2**
Nitrate (as N)	15.6	23.4	0	0	0.005	**0.183**	**2.3**	**5.48**
Nitrite (as N)	0.1	0.25	0	0	0.001	<0.001	**0.21**	**0.582**
Cyanide (WAD)	0	0	0.00095	5.9E-06	0.005	<0.005	**3.24**	**11.7**
Aluminum (Dissolved)	0.0086	0.002	0.020	0.02712	0.001	<0.001	0.0026	0.0042
Antimony (Dissolved)	0.543	0.545	0.020	0.02378	0.0001	<0.0001	0.00011	0.00025
Arsenic (Dissolved)	0.033	0.121	0.015	0.01556	0.0001	0.00096	0.00114	0.00127
Beryllium (Dissolved)	0.0029	0.0083	0.00005	0.00005	2E-005	<0.00002	0.000018	0.00005
Cadmium (Dissolved)	0.0044	0.013	0.00007	0.00122	5E-006	<0.000005	0.000223	0.000747
Chromium (Dissolved)	0.00022	0.0011	0.001	0.001	0.0005	<0.0005	**0.00091**	**0.0014**
Cobalt (Dissolved)	0.0598	0.079	0.0476	0.05462	0.0001	0.00538	**0.15**	**0.354**
Copper (Dissolved)	0.0216	0.045	0.0005	0.00291	0.0002	<0.0002	**3.17**	**10.8**
Iron (Dissolved)	0.0031	0.011	0.359	0.7702	0.01	<0.01	**0.00875**	**0.025**
Lead (Dissolved)	0.0027	0.00031	0.0001	0.000695	5E-05	<5E-05	0.000044	0.0001
Manganese (Dissolved)	0.771	25.1	0.153	0.264	0.0001	0.00018	**0.97**	**2.38**
Mercury (Dissolved)	0.00068	0.00073	0.00005	0.00025	5E-06	<0.000005	0.000018	0.000067
Nickel (Dissolved)	0.038	0.104	0.0005	0.000792	0.0005	<0.0005	**0.47**	**1.05**
Silver (Dissolved)	0.0009	0.0011	0.00005	0.0000904	1E-05	<0.00001	**0.0014**	**0.0084**
Zinc (Dissolved)	0.22	0.909	0.005	0.005	0.001	<0.001	0.000875	0.0025

\\KPL\VA-Prj$\1\01\00457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-4 Groundwater Sample Predictons Comparison\[Table_H4.3-1 Embankment Drain_rA.xlsx]Table H4.3-1-Embankment D

NOTES:

1. UNITS ARE mg/L.
2. **BOLD FONT** INDICATES MEASURED CONCENTRATIONS EXCEED THE BASE CASE PREDICTION FOR ONE OR BOTH SOURCE TERMS; **BOLD RED** FONT INDICA EXCEEDANCES OF ONE OR BOTH UPPER CASE SOURCE TERMS.
3. POPC = PARAMETER OF POTENTIAL CONCERN AS OUTLINED IN THE AQUATIC EFFECTS MONITORING PROGRAM PLAN, VERSION 4.0.
4. PREDICTED CONCENTRATIONS REPRESENT SOURCE TERM CONCENTRATIONS PROVIDED IN APPENDIX C OF LORAX (2021)
5. EMBANKMENT DRAIN CONCENTRATIONS REPRESENT 2025 SAMPLES COLLECTED FROM TSF-CFD AND TSF-EFD. TSF-WFD WAS DRY IN 2025.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	23MAR'26	ISSUED WITH REPORT VA101-00457/62-5	ACC	CAS

Knight Piésold CONSULTING

TABLE H4.3-2

BW GOLD LTD.
BLACKWATER GOLD MINE

2025 CONDITION 3.15 REPORT
COMPARISON OF PREDICTED AND 2025 MEASURED IECD WATER QUALITY

Print Mar/22/26 22:38:33

POPC[4]	Predicted IECD[5]			MDL	Measured IECD[5] (n = 13)		
	Minimum	Median	Maximum		Minimum	Median	Maximum
Sulphate	1000	1300	1700	0.005	3.8	10	300
Ammonia	4.6	6.5	8	0.005	<0.0050	0.052	1.9
Nitrate (as N)	2.3	4.6	6.5	0.001	<0.0050	0.098	0.82
Nitrite (as N)	0.016	0.033	0.055	0.001	<0.0010	<0.0010	**0.35**
Cyanide (WAD)	0.00049	0.0015	0.0021	0.005	<0.0050	<0.0050	**0.76**
Aluminum (Dissolved)	0.016	0.019	0.17	0.001	0.0024	0.0055	0.062
Antimony (Dissolved)	0.077	0.13	0.15	0.0001	<0.00010	<0.00010	0.00031
Arsenic (Dissolved)	0.014	0.015	0.019	0.0001	0.00043	0.00071	0.00087
Cadmium (Dissolved)	0.00059	0.00099	0.0012	5E-006	0.0000054	0.000011	0.000064
Chromium (Dissolved)	0.00078	0.0009	0.00095	0.0005	<0.00050	<0.00050	0.00072
Cobalt (Dissolved)	0.049	0.063	0.074	0.0001	<0.00010	0.003	**0.14**
Copper (Dissolved)	0.003	0.005	0.0058	0.0002	<0.00020	0.00051	**0.7**
Iron (Dissolved)	0.17	0.19	0.29	0.01	<0.010	<0.010	0.061
Lead (Dissolved)	0.00051	0.00082	0.00093	5.00E-05	<0.000050	<0.000050	<0.000050
Manganese (Dissolved)	0.34	0.46	0.52	0.0001	0.00045	0.031	**0.87**
Mercury (Dissolved)	0.00012	0.00019	0.00022	5E-06	<0.0000050	<0.0000050	0.00005
Nickel (Dissolved)	0.0053	0.0087	0.01	0.0005	<0.00050	<0.00050	**0.28**
Silver (Dissolved)	0.00014	0.00022	0.00025	1E-05	<0.000010	<0.000010	**0.00044**
Zinc (Dissolved)	0.032	0.053	0.061	0.001	<0.0010	0.0015	0.0078

\\KPL\VA-Prj$\1\01\00457\62\A\Report\5 - 2025 Condition 3.15 Report\Appendices\Appendix H-4 Groundwater Sample Predictons Comparison\[Table_H4.3-2 IECD Results and Prediction_r0.xlsx]Table H-4.3-2-IECD Co

NOTES:

1. UNITS ARE mg/L.
2. IECD = INTERIM ENVIRONMENTAL CONTROL DAM.
3. **BOLD FONT** INDICATES THE CONCENTRATION EXCEEDS THE MINIMUM PREDICTION. **BOLD RED** FONT INDICATES AN EXCEEDANCE OF THE MAXIMUM PREDICTION.
4. POPC = PARAMETER OF POTENTIAL CONCERN AS OUTLINED IN THE AQUATIC EFFECTS MONITORING PROGRAM PLAN, VERSION 4.0 (ERM, 2025).
5. PREDICTED AND MEASURED CONCENTRATIONS IN IECD WATER OBTAINED FROM LORAX (2026). PREDICTED CONCENTRATIONS REPRESENT 95TH PERCENTILE WATER QUALITY RESULTS FROM THE MODELLING WITH VARIABLE CLIMATE INPUTS (LORAX 2022).

REV	DATE	DESCRIPTION	PREP'D	RVW'D
A	23MAR'26	ISSUED WITH REPORT VA101-00457/62-5	ACC	CAS