RioTinto | Diavik

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Mason Mantla, Chair
Wek'èezhìi Land and Water Board
PO Box 32
Wekweètì, NT X0E 1W0
Canada

July 2, 2024

Dear Mr. Mantla,

**RE: Water Licence W2015L2-0001 Monthly SNP Report – May 2024**

**General**

Please find enclosed the May 2024 Surveillance Network Program (SNP) Report for Diavik Diamond Mines (2012) Inc. (DDMI). Figure 1 shows the locations of active SNP sample stations on site. Table 1a shows the dates SNP stations were sampled during the month and provides rationale for stations with missing samples or missing parameter results, if applicable. Table 1b shows suspended SNP stations in the reporting month, including rationale for suspension, if applicable.

Sampling of the effluent discharge from the North Inlet Water Treatment Plant (NIWTP) occurred every 6 days at stations 1645-18 and 1645-18B during the month. All results available were below the maximum grab and maximum average W2015L2-0001 effluent quality criteria (EQC) (Table 3 and graphs).

Sampling of the NIWTP effluent mixing zone at stations 1645-19A, 1645-19B2, and 1645-19C occurred on 5 May. Results are presented in Table 4.

Results from the NIWTP effluent toxicity samples collected on April 9 are presented in Attachment 2 and continue to show that the NIWTP effluent is non-toxic. Please note that the 7-day Rainbow Trout Early Life Stage results for NIWTP effluent is not available for Q2. The laboratory controls did not meet validity criteria and the lab was unable to supply eggs for testing within Q2. Please see Attachment 3 for details from Nautilus Environmental, the external laboratory.

The Processed Kimberlite Containment Facility (PKCF) interception wells 1645-77 and 1645-80 were sampled once during the month. Station 1645-79 remained frozen and could not be sampled. Station 1645-78 was turned off for the frozen season. Sample results are presented in Table 6.

A154 and A418 underground dewatering stations (1645-75 and 1645-75B) and A21 dewatering station (1645-51) were sampled twice during the month. Sample results are presented in Table 6.

Clarifier sludge from NIWTP Plant 1 (1645-85A/B) and Plant 2 (1645-86A/B) were sampled twice during the month. Sample results are presented in Table 6.

There were no spills recorded in the Underground Mine during the month. Fraction 3 hydrocarbons were detected in water (<0.10 – 6.5 mg/L) from the Underground Mine (1645-75 and 1645-75B) and were <0.1–<0.27 mg/L in sludge from the NIWTP clarifiers (1645-85A/B and 1645-86A/B) (Table 6). Total petroleum hydrocarbons (TPH) (C6 – C50) were below detection limits in the effluent of the NIWTP throughout the month (Table 3).

Petroleum Hydrocarbon (PHC) F3 concentrations from each clarifier are slightly aligned with each other, while there is no relationship between the concentration of hydrocarbons in water from the underground and the NIWTP clarifier sludge. Diavik continues to collect monthly samples for PHC analysis of sludge from the NIWTP and water from the underground mine. PHC F3 concentrations from June 2014 until May 2024 are displayed in Figure 2.

Annex 1, Part A, Condition 2 reporting requirements for SNP Station 1645-51 (A21 water pumped to North Inlet) are provided in Attachment 1.

## Results

### Water Sampling and Analysis Results

1. Sampling dates of SNP stations and rationales for any non-sampling events of SNP stations are provided in Table 1a. Table 1b outlines suspended SNP stations in the reporting month, including rationale for their suspension, if applicable.
2. Table 2 includes daily and monthly total phosphorus loading to Lac de Gras from the NIWTP.
3. Table 3 provides NIWTP effluent to Lac de Gras data for the month.
4. Table 4 provides effluent mixing zone in Lac de Gras analytical data.
5. Table 5 provides effluent mixing zone in Lac de Gras bioprofile data.
6. Table 6 provides results for non-discharge SNP Stations.
7. Table 7 summarizes spills that occurred at mine site during the month.
8. Table 8 summarizes onsite project activities.
9. Table 9 summarizes annual raw water use to date.
10. Table 10 summarizes QA/QC results for the month.
11. Attachment 1 provides Annex 1, Part A, Condition 2 reporting requirements for SNP Station 1645-51 (A21 water pumped to North Inlet).
12. Attachment 2 provides the quarterly toxicity results from the external laboratory

13. Attachment 3 provides a letter from Nautilus for missing quarterly early life stage rainbow trout result

**QA/QC Review**

Table 10 shows the QA/QC performance for the month. During the reported period, four (4) duplicate samples were collected (1645-18B, 1645-19A-10, 1645-69, 1645-77). One parameter from 1645-69 was above the relative percent difference (40%) threshold. One (1) field blank and one (1) trip blank were collected during the month. Results of QA/QC are presented in Table 10. Parameters above the relative percent difference, or the method detection limit are being reanalyzed by Diavik's external laboratory.

**QA/QC April Follow-Up**

Bureau Veritas (BV), DDMI's contractor for laboratory analysis of samples, reran requested reanalysis of parameters in April and previous result were either reconfirmed by the lab or in some cases reissued with lower values after the rerun.

**Flow and Volume Measurements**

1. Table 2 provides a breakdown of flow and volume measurements required under Part G of the water licence. Geo-technicians noted no unusual flow rates in the PKCF interception wells during the month.

2. Table 2 provides a breakdown of ore and waste rock material moved for the month from the Underground and Surface Operations.

3. Table 2 provides flow volumes for water within the A154/A418 decline, as well as water use for the cement batch and backfill plants (reuse of treated NIWTP water). **604,210 $m^3$** of flow was recorded from the underground during the month. **9,613 $m^3$** was recorded for use at the batch and backfill plants.

4. Table 2 provides flow volumes for water from the A154, A418, and A21 open pits.

5. Volumes of water used for drills/other uses and dust management are outlined in Table 2. The volume of water moved from collection ponds to the PKCF and North Inlet during the month is provided in Table 2.

6. North Inlet Elevation: average of **414.76 m** above sea level (asl) for the month (Table 2).

**Spill Summary**

There were thirteen (13) surface spills reported during the month. The spill information is presented in Table 7.

**Project Update**

Table 8 outlines the status of various infrastructure construction projects and other project activities at the Diavik mine site.

**Raw Water Usage**

Table 9 shows cumulative operational Lac de Gras water use during the year. At the end of the reporting period 29**%** of the operational licence limit (Part D, Condition 1) was used.

**A21 Waste Rock Management**

In May 2024, 4,106 tonnes of waste rock was mined from A21 underground development and operationally classified as Type III and taken to the WRSA-NCRP or used as underground cement rock fill.

In late January 2024 underground development neared a known major fault. Based on experienced from the A21 open pit and out of an abundance of caution, DDMI began operationally classifying all waste rock from A21 underground development as Type III while development was passing through this faulted zone. Waste rock sample results received from this area have been below the Type II sulphur percentage (0.04 wt%S) except for a sample from May 7, 2024 (0.05 wt%S). All material from May was proactively classified as Type 3 and taken to the WRSA-NCRP LOM region or used as underground cement rock fill.

DDMI believes that there is no impact to DDMI's ability to store Type II/III material in the Life of Mine (LOM) region of the Waste Rock Storage Area – North Country Rock Pile (WRSA-NCRP). There are no plans to propose any changes to sampling methodologies or material disposal locations.

DDMI continues to adhere to the requirements of the Waste Rock Management Plan and identifies and segregates Type II/III.

To date, DDMI has analyzed 1111 (17 in 2024) A21 waste rock samples for total sulphur and the mean sulphur content is 0.012 wt%S (0.010 wt%S in 2024).

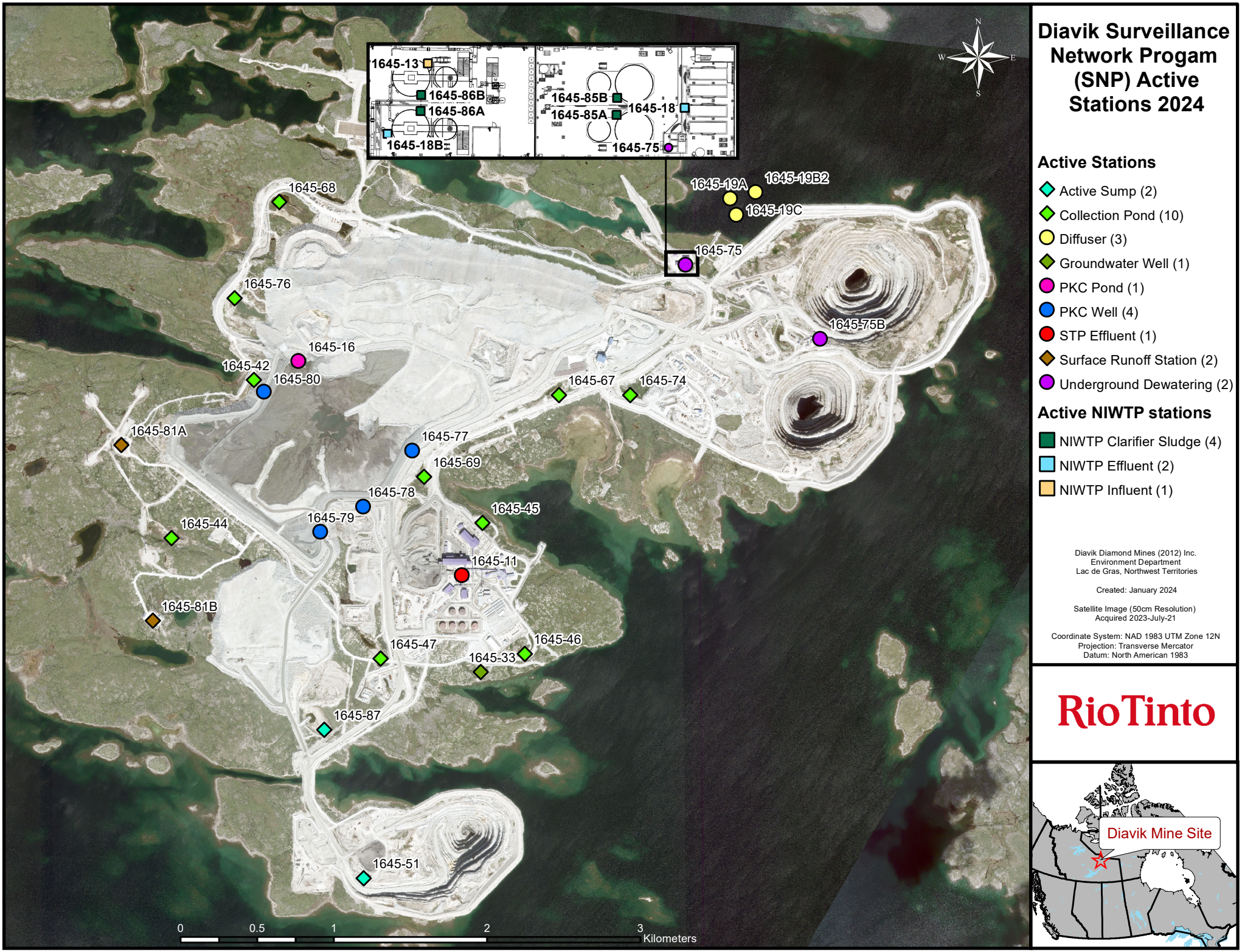
**Closure**

If you have any questions regarding the attached submission, please contact the undersigned or Kyla Gray (kyla.gray@riotinto.com; 867-445-4922).

Yours sincerely,

Nicole Goodman
Superintendent, Environment & Closure
Cross shift: Mark Nelson

CC: Marie-Eve Cyr, WLWB
Anneli Jokela, WLWB
Joseph Heron, GNWT Lands Inspector
John McCullum, Environmental Monitoring Advisory Board
Allison McCabe, Environmental Monitoring Advisory Board




# Diavik Surveillance Network Progam (SNP) Active Stations 2024

## Active Stations

- Active Sump (2)
- Collection Pond (10)
- Diffuser (3)
- Groundwater Well (1)
- PKC Pond (1)
- PKC Well (4)
- STP Effluent (1)
- Surface Runoff Station (2)
- Underground Dewatering (2)

## Active NIWTP stations

- NIWTP Clarifier Sludge (4)
- NIWTP Effluent (2)
- NIWTP Influent (1)

Diavik Diamond Mines (2012) Inc.
Environment Department
Lac de Gras, Northwest Territories

Created: January 2024

Satellite Image (50cm Resolution)
Acquired 2023-July-21

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

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**Table 1a: Rationale for Non-Sampling Events** **May, 2024**

| Date | Stations Sampled | Stations Not Sampled | Missed Parameters | Rationale |
|---|---|---|---|---|
| May 1, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 2, 2024 | | | | |
| May 3, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 4, 2024 | 1645-13/18/18B (6 Day) | | | |
| May 5, 2024 | 1645-51 (Bi Weekly) 1645-19A/19B2/19C (Monthly) | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 6, 2024 | | | | |
| May 7, 2024 | 1645-77/80 (Monthly) | 1645-16/78/79 645-81A/81B | | Water frozen at time of sample collection/No discharge occurring at time of sample collection |
| May 8, 2024 | 1645-75/75B (Bi Weekly) 1645-85A/86A (Monthly) | | | |
| May 9, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 10, 2024 | 1645-13/18/18B (6 Day) | | | |
| May 11, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 12, 2024 | | | | |
| May 13, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 14, 2024 | | | | |
| May 15, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 16, 2024 | 1645-13/18/18B (6 Day) | | | |
| May 17, 2024 | 1645-67/76/69/45/46/47/74/87 (Monthly) | 1645-42 1645-811A/81B | | Water frozen at time of sample collection/No discharge occurring at time of sample collection |
| May 18, 2024 | | | | |
| May 19, 2024 | 1645-51 (Bi Weekly) | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 20, 2024 | | | | |
| May 21, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 22, 2024 | 1645-13/18/18B (6 Day) 1645-75/75B (Bi-Weekly) 1645-85B/86B (Monthly) | | | |
| May 23, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 24, 2024 | 1645-68/44 (Monthly) | | | |
| May 25, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 26, 2024 | | | | |
| May 27, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 28, 2024 | 1645-13/18/18B (6 Day) | | | |
| May 29, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |
| May 30, 2024 | | | | |
| May 31, 2024 | | 1645-81A/81B | | No discharge occurring at time of sample collection |

**Table 1b: Suspended SNP Stations**

| SNP Stations | Rationale | Comments |
|---|---|---|
| | | |
| | | |

# Table 2: Project Site Daily/Monthly SNP Volumes — May, 2024

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| Date | North Inlet Elevation | Potable Water Usage | Sludge Generated STP | STP Water Discharged to A418 [3] | NIWTP Water Discharged to Lac de Gras | Phosphorus Loading to Lac de Gras | A154 Pit Water | A418 Pit Water | A154 Depressurization System Water | A418 Depressurization System Water | Underground Decline A418/A154 | Underground C9105 Pump Station | A21 Water to North Inlet | Batch & Backfill Plants (reuse of treated water from NIWTP) | Collection Ponds to Lac de Gras | Collection Ponds to North Inlet | Collection Ponds to Process Plant | PKCF Interception Well Water to North Inlet | PKCF Interception Well Water to PKCF [5] | Flow from PKCF Northwest Decant to North Inlet | Raw Water Usage Dust Management | Raw Water Used for Other (Drills,etc.) | Kimberlite Ore Processed [1] | North Inlet Recycled Water [4] | Process Plant Raw Water Usage | Process Plant Slurry Water Discharge to A418 | Coarse Processed Kimberlite Hauled to PKCF | Fine Processed Kimberlite Discharged to A418 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Surveyed | Metered | Measured | Metered | Metered | Calculated | Metered | Metered | Estimated | Estimated | Metered | Metered | Metered | Metered | Metered | Metered | Metered | Metered | Metered | Metered | Metered | Metered | Measured | Metered | Metered | Metered | Measured | Measured |
| | meters above sea level (masl) | $m^3$ | $m^3$ | $m^3$ | $m^3$ | kg | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^4$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | $m^3$ | metric ton | $m^3$ | $m^3$ | $m^3$ | metric ton | metric ton |
| | **Site Services** | | | | | | **Mining Group** | | | | | | | | | | | | | | | | **Processing Plant** | | | | | |
| May 1, 2024 | 414.58 | 209 | 5.4 | 167 | 36,838 | 0.34 | 9,820 | 0 | 73 | 33 | 79 | 17,984 | 7,333 | 168 | 0 | 0 | 0 | 160 | 0 | 6 | 0 | 0 | 301 | 7800 | 1764 | 10036 | 9 | 0 |
| May 2, 2024 | 414.55 | 198 | 5.06 | 176 | 37,149 | 0.31 | 9,854 | 0 | 74 | 34 | 77 | 17,480 | 8,739 | 234 | 0 | 0 | 0 | 146 | 0 | 6 | 0 | 0 | 319 | 5854 | 1745 | 8713 | 0 | 0 |
| May 3, 2024 | 414.48 | 203 | 4.18 | 175 | 37,443 | 0.31 | 9,220 | 0 | 73 | 35 | 71 | 18,584 | 8,917 | 248 | 0 | 0 | 482 | 152 | 0 | 6 | 0 | 0 | 301 | 6205 | 1778 | 9218 | 0 | 0 |
| May 4, 2024 | 414.40 | 179 | 4.45 | 163 | 32,320 | 0.27 | 9,024 | 0 | 73 | 36 | 65 | 17,920 | 10,834 | 263 | 0 | 0 | 717 | 174 | 0 | 6 | 0 | 0 | 0 | 5841 | 1970 | 8839 | 0 | 0 |
| May 5, 2024 | 414.30 | 194 | 4.81 | 168 | 32,862 | 0.27 | 10,292 | 0 | 74 | 37 | 93 | 17,752 | 10,829 | 301 | 0 | 0 | 523 | 113 | 0 | 5 | 0 | 0 | 3567 | 5120 | 2338 | 8398 | 433 | 1975 |
| May 6, 2024 | 414.28 | 187 | 5.06 | 188 | 31,012 | 0.26 | 9,692 | 0 | 72 | 38 | 96 | 18,456 | 10,533 | 327 | 0 | 0 | 327 | 149 | 0 | 6 | 0 | 0 | 6111 | 4950 | 2477 | 8833 | 1508 | 4581 |
| May 7, 2024 | 414.31 | 229 | 5.29 | 197 | 32,898 | 0.27 | 10,286 | 0 | 89 | 39 | 155 | 15,888 | 10,526 | 238 | 0 | 0 | 761 | 171 | 0 | 5 | 0 | 3 | 5873 | 4057 | 2344 | 8839 | 1454 | 4337 |
| May 8, 2024 | 414.31 | 187 | 4.94 | 183 | 30,021 | 0.34 | 9,868 | 0 | 212 | 40 | 138 | 17,168 | 11,535 | 241 | 0 | 0 | 2648 | 190 | 0 | 6 | 0 | 2 | 0 | 3708 | 1214 | 7476 | 0 | 0 |
| May 9, 2024 | 414.40 | 199 | 4.83 | 172 | 34,326 | 0.39 | 10,180 | 0 | 353 | 41 | 91 | 19,560 | 13,896 | 288 | 0 | 0 | 1123 | 162 | 0 | 6 | 0 | 3 | 0 | 1105 | 1187 | 3912 | 0 | 0 |
| May 10, 2024 | 414.51 | 212 | 4.82 | 195 | 31,296 | 0.36 | 12,374 | 0 | 764 | 42 | 124 | 19,488 | 14,970 | 247 | 0 | 0 | 1541 | 84 | 0 | 6 | 0 | 0 | 0 | 960 | 659 | 1921 | 0 | 0 |
| May 11, 2024 | 414.78 | 176 | 5.03 | 173 | 32,632 | 0.37 | 9,848 | 0 | 788 | 43 | 126 | 20,152 | 18,690 | 87 | 0 | 0 | 1916 | 213 | 0 | 6 | 0 | 0 | 0 | 251 | 1576 | 2513 | 0 | 0 |
| May 12, 2024 | 414.85 | 218 | 5.93 | 202 | 39,269 | 0.45 | 9,676 | 0 | 1,105 | 44 | 1,178 | 19,096 | 15,738 | 301 | 0 | 0 | 3410 | 111 | 0 | 1943 | 0 | 0 | 5467 | 5687 | 2856 | 9165 | 1643 | 3760 |
| May 13, 2024 | 414.77 | 211 | 5.93 | 181 | 40,104 | 0.46 | 10,770 | 0 | 494 | 45 | 144 | 18,344 | 11,285 | 157 | 0 | 0 | 1 | 144 | 0 | 1943 | 0 | 0 | 6655 | 5323 | 2537 | 8638 | 2176 | 5005 |
| May 14, 2024 | 414.71 | 189 | 5.93 | 204 | 27,244 | 0.40 | 10,190 | 0 | 1,914 | 46 | 215 | 19,160 | 12,243 | 160 | 0 | 0 | 485 | 143 | 0 | 1943 | 0 | 0 | 6218 | 4930 | 2469 | 7846 | 1887 | 4057 |
| May 15, 2024 | 414.93 | 235 | 5.93 | 210 | 51,425 | 0.75 | 9,772 | 0 | 1,076 | 47 | 855 | 19,328 | 13,918 | 210 | 0 | 0 | 252 | 137 | 0 | 0 | 0 | 0 | 7248 | 5450 | 2973 | 8540 | 2248 | 5175 |
| May 16, 2024 | 414.97 | 249 | 5.92 | 197 | 52,263 | 0.76 | 9,200 | 0 | 1,211 | 48 | 1,204 | 19,592 | 14,401 | 179 | 0 | 0 | 63 | 155 | 0 | 0 | 0 | 0 | 6975 | 3880 | 2304 | 8541 | 2149 | 4831 |
| May 17, 2024 | 414.99 | 223 | 5.93 | 205 | 51,797 | 0.76 | 12,174 | 0 | 1,061 | 49 | 79 | 20,360 | 12,933 | 160 | 0 | 0 | 1595 | 132 | 0 | 0 | 0 | 0 | 4064 | 4210 | 1852 | 6568 | 1418 | 2042 |
| May 18, 2024 | 415.05 | 183 | 5.93 | 154 | 52,836 | 0.77 | 10,720 | 0 | 959 | 50 | 356 | 20,584 | 14,730 | 152 | 0 | 0 | 446 | 151 | 0 | 0 | 0 | 0 | 4229 | 5280 | 2312 | 7464 | 1409 | 2628 |
| May 19, 2024 | 415.04 | 178 | 4.57 | 172 | 52,132 | 0.87 | 11,376 | 0 | 1,222 | 51 | 110 | 19,248 | 12,301 | 355 | 0 | 0 | 0 | 180 | 0 | 0 | 0 | 0 | 4636 | 4145 | 2469 | 7159 | 1300 | 2136 |
| May 20, 2024 | 415.02 | 180 | 4.57 | 176 | 54,137 | 0.90 | 11,102 | 0 | 4,198 | 52 | 34 | 20,752 | 13,352 | 473 | 0 | 0 | 356 | 200 | 0 | 0 | 0 | 0 | 6543 | 6205 | 2204 | 8887 | 2313 | 4442 |
| May 21, 2024 | 415.00 | 209 | 4.47 | 172 | 57,878 | 0.96 | 11,426 | 0 | 3,512 | 53 | 24 | 19,024 | 13,658 | 336 | 0 | 0 | 373 | 149 | 0 | 0 | 0 | 0 | 6077 | 3090 | 2244 | 8340 | 1985 | 3643 |
| May 22, 2024 | 415.01 | 235 | 4.48 | 198 | 57,487 | 0.96 | 11,230 | 0 | 2,638 | 54 | 21 | 19,528 | 13,657 | 407 | 0 | 0 | 3179 | 216 | 0 | 4867 | 30 | 0 | 5998 | 5170 | 2049 | 8884 | 1994 | 4059 |
| May 23, 2024 | 414.95 | 224 | 4.47 | 200 | 58,287 | 0.97 | 11,004 | 0 | 4,350 | 55 | 183 | 20,856 | 14,421 | 464 | 0 | 0 | 496 | 222 | 0 | 3870 | 0 | 0 | 6783 | 3990 | 2077 | 8964 | 2464 | 4549 |
| May 24, 2024 | 414.90 | 225 | 4.47 | 172 | 58,296 | 0.97 | 11,009 | 1,125 | 3,497 | 56 | 47 | 19,672 | 14,198 | 451 | 0 | 0 | 5440 | 116 | 0 | 3616 | 30 | 0 | 7341 | 1298 | 2580 | 8869 | 2578 | 4653 |
| May 25, 2024 | 414.91 | 197 | 4.47 | 175 | 55,501 | 0.92 | 10,428 | 1,383 | 2,843 | 57 | 36 | 19,400 | 13,791 | 463 | 0 | 5194 | 11651 | 234 | 0 | 3696 | 0 | 0 | 5650 | 992 | 2592 | 8803 | 2454 | 3992 |
| May 26, 2024 | 415.02 | 199 | 4.47 | 167 | 62,073 | 2.04 | 9,688 | 773 | 1,719 | 58 | 53 | 19,592 | 12,682 | 484 | 0 | 20150 | 11105 | 121 | 0 | 3649 | 64 | 0 | 374 | 942 | 2595 | 8828 | 18 | 0 |
| May 27, 2024 | 415.10 | 188 | 4.47 | 160 | 69,106 | 2.26 | 9,762 | 54 | 1,521 | 59 | 45 | 20,032 | 12,212 | 500 | 0 | 16073 | 11486 | 216 | 0 | 3720 | 90 | 0 | 210 | 38 | 2506 | 7633 | 9 | 0 |
| May 28, 2024 | 414.97 | 216 | 4.47 | 199 | 75,627 | 2.48 | 9,326 | 18 | 1,593 | 60 | 49 | 19,896 | 11,961 | 420 | 0 | 12638 | 10414 | 191 | 0 | 3672 | 0 | 0 | 3066 | 950 | 2470 | 8634 | 372 | 1512 |
| May 29, 2024 | 414.87 | 202 | 4.47 | 181 | 73,056 | 2.40 | 9,441 | 10 | 1,475 | 61 | 26 | 20,592 | 11,931 | 440 | 0 | 12638 | 9669 | 301 | 0 | 1396 | 60 | 0 | 6672 | 1870 | 2377 | 9090 | 1967 | 4836 |
| May 30, 2024 | 414.87 | 219 | 4.47 | 184 | 66,317 | 2.19 | 9,045 | 6 | 946 | 62 | 12 | 21,168 | 12,221 | 469 | 0 | 14241 | 8334 | 140 | 0 | 6 | 0 | 0 | 6421 | 1520 | 2364 | 8917 | 1834 | 4633 |
| May 31, 2024 | 414.77 | 214 | 4.70 | 182 | 72,176 | 1.17 | 9,118 | 7 | 621 | 63 | 40 | 21,728 | 11,256 | 390 | 0 | 12638 | 10966 | 205 | 0 | 2278 | 0 | 0 | 3926 | 2,080 | 2131 | 9234 | 1,418 | 2,784 |
| **Total** | **414.76** | **6,367** | **154** | **5,648** | **1,495,807** | **27** | **316,915** | **3376** | **40,602** | **1,498** | **5,826** | **598,384** | **389,692** | **9,613** | **0** | **93575** | **99759** | **5178** | **0** | **36,663** | **274** | **9** | **121,024** | **112,900** | **67,013** | **238,468** | **37,041** | **79,631** |

**Material Quantities**

| | SCRP remine | | A21 Underground | | A154 Underground | |
|---|---|---|---|---|---|---|
| **Material Type** | **Tonnes** | **Use / Destination** | **Tonnes** | **Use / Destination** | **Tonnes** | **Use / Destination** |
| Overburden Till and Lake Bottom Sediment | - | North Country Rock Pile | | North Country Rock Pile | | North Country Rock Pile |
| Overburden Till and Lake Bottom Sediment | - | South Country Rock Pile | | South Country Rock Pile | | South Country Rock Pile |
| Overburden Till and Lake Bottom Sediment | - | Construction | | Construction | | Construction |
| Country Rock, Type 1 | **8,429** | North Country Rock Pile | - | North Country Rock Pile | | North Country Rock Pile |
| Country Rock, Type 1 | - | South Country Rock Pile | - | South Country Rock Pile | | South Country Rock Pile |
| Country Rock, Type 1 | **74,042** | Construction/Reclamation | **940** | Construction/Reclamation | | Construction/Reclamation |
| Country Rock, Type 3 | | North Country Rock Pile | **2,460** | North Country Rock Pile | - | North Country Rock Pile |
| Country Rock, Type 3 | | CRF | **1,646** | CRF | **78** | CRF |
| Kimberlite Ore | | Process Plant | - | Process Plant | **121,024** | Process Plant |

**Summary:**

| | |
|---|---|
| **Total Phosphorus Loadir** | **27** |
| **Total Pit Water $m^3$ =** | **320,291** |
| **Total Dike DPS Water $m^3$ =** | **42,101** |
| **Total Recycled Water $m^3$ =** | **116,014** |
| **Grand Total Fresh Water Used $m^3$ =** | **73,663** |
| **Total Discharged to Lac de Gras $m^3$** | **1,495,807** |
| **Total Course PK Hauled to the PKC (t) =** | **37,041** |

**Note:**

[1] **Kimberlite Quantities are given in Metric Tonnes and represent diluted ore**

[2] **Negative value indicates NI Water sent directly to PKC Reclaim**

[3] **STP water metered before entering the processing plant**

[4] **Negative value indicates water transferred from the PKC to North Inlet**

[5] **Select PKCF interception wells report to Process Plant prior to disharge to the PKCF**

**Table 3: Effluent Discharge to Lac de Gras**

| Rio Tinto | May 2024 | | | 1645-18 | | | | | 1645-18B | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NIWTP - Discharge to LDG | W.L Criteria | Reported Units | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 |
| W2015L2-0001 Discharge Criteria | Ammonia (N) | 12 | mg/L | 0.35 | 0.45 | 0.52 | 0.47 | 0.54 | 0.35 | 0.46 | 0.52 | 0.49 | 0.54 |
| | Nitrite (N) | 2 | mg/L | 0.10 | 0.088 | <0.0010 | 0.067 | 0.024 | 0.099 | 0.084 | 0.085 | 0.063 | 0.019 |
| | pH | 6.0-8.4 | pH | 6.87 | 7.23 | 7.33 | 7.38 | 7.69 | 7.01 | 6.99 | 7.13 | 7.48 | 7.02 |
| | Total Suspended Solids (TSS) | 25 | mg/L | 3.7 | 1.1 | 1.1 | 1.4 | 1.5 | 2.3 | 1.7 | 1.6 | 1.5 | 1.2 |
| | Turbidity | 15 | NTU | 2.2 | 1.6 | 2.6 | <0.10 | <0.10 | 1.6 | 1.8 | 1.9 | <0.10 | <0.10 |
| | Zinc (Zn) - Total | 20 | ug/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| | Arsenic (As) - Total | 100 | ug/L | 0.713 | 0.579 | 0.602 | 0.690 | 0.851 | 0.683 | 0.580 | 0.594 | 0.846 | 0.687 |
| | Cadmium (Cd) - Total | 3 | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0108 | <0.0050 | <0.0050 | <0.0050 |
| | Chromium (Cr) - Total | 40 | ug/L | 1.33 | 1.32 | 1.88 | 2.17 | 2.37 | 1.19 | 1.23 | 1.89 | 2.61 | 2.06 |
| | Copper (Cu) - Total | 40 | ug/L | 0.66 | 0.48 | 0.39 | 0.28 | 0.30 | 0.59 | 0.45 | 0.36 | 0.35 | 0.24 |
| | Lead (Pb) - Total | 20 | ug/L | 0.044 | 0.034 | <0.020 | <0.020 | <0.020 | 0.033 | 0.024 | <0.020 | <0.020 | 0.034 |
| | Nickel (Ni) - Total | 100 | ug/L | 18.6 | 14.6 | 5.92 | 6.77 | 10.2 | 18.9 | 15.2 | 6.28 | 8.21 | 9.12 |
| | Aluminum (Al) - Total | 3000 | ug/L | 507 | 354 | 270 | 256 | 238 | 488 | 451 | 419 | 274 | 222 |
| | C6-C50 Hydrocarbons Calculated | 5 | mg/L | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 |

Data exceedes water licences maximum grab concentration

Warning data point exceeds the water licences maximum average threshold

**Table 3: Effluent Discharge to Lac de Gras**

| Rio Tinto | May 2024 | | | 1645-18 | | | | | 1645-18B | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NIWTP - Discharge to LDG | W.L Criteria | Reported Units | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 |
| Anions | Bicarbonate (HCO3) | | mg/L | 43.5 | 46.1 | 50.3 | 49.5 | 52.3 | 42.2 | 42.6 | 48.7 | 50.7 | 51.1 |
| | Carbonate (CO3) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Chloride (Cl) - Dissolved | | mg/L | 100 | 120 | 120 | 130 | 140 | 100 | 120 | 100 | 130 | 140 |
| | Fluoride (F) | | mg/L | 0.116 | 0.101 | 0.110 | 0.150 | 0.125 | 0.106 | 0.094 | 0.108 | 0.146 | 0.118 |
| | Hydroxide (OH) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Sulphate (SO4) - Dissolved | | mg/L | 65 | 62 | 61 | 59 | 59 | 65 | 63 | 65 | 58 | 60 |
| Nutrients | Dissolved Organic Carbon (C) | | mg/L | 0.96 | | | | | 1.2 | | | | |
| | Nitrate (N) | | mg/L | 2.6 | 2.7 | 2.9 | 2.2 | 2.3 | 2.6 | 2.6 | 2.7 | 2.2 | 2.3 |
| | Nitrate plus Nitrite (N) | | mg/L | 2.7 | 2.7 | 2.9 | 2.3 | 2.3 | 2.7 | 2.7 | 2.8 | 2.3 | 2.3 |
| | Nitrogen (N) - Total | | mg/L | 2.5 | 2.9 | 3.5 | 2.7 | 2.6 | 2.7 | 2.9 | 3.4 | 2.7 | 2.6 |
| | Orthophosphate (PO4-P) | | mg/L | 0.0058 | 0.0038 | 0.0070 | 0.0049 | 0.0035 | 0.0043 | 0.0028 | 0.0037 | 0.0053 | 0.0023 |
| | Phosphorus (P) - Dissolved (TDP) | | mg/L | 0.0033 | 0.0020 | 0.0039 | 0.0037 | <0.0020 | 0.0024 | <0.0020 | 0.0021 | 0.0033 | <0.0020 |
| | Phosphorus (P) - Total | | mg/L | 0.0318 | 0.0158 | 0.0130 | 0.0118 | 0.0084 | 0.0340 | 0.0175 | 0.0162 | 0.0108 | 0.0080 |
| | Total Kjeldahl Nitrogen (TKN) - (Calc | | mg/L | <0.10 | 0.15 | 0.58 | 0.38 | 0.31 | <0.10 | 0.20 | 0.58 | 0.43 | 0.29 |
| | Total Organic Carbon (TOC) | | mg/L | 1.5 | | | | | 1.4 | | | | |
| Physical Properties | Conductivity - DDMI Field | | us/cm | 628 | 615.9 | 642.4 | 699.2 | 685.9 | 576 | 625.3 | 670.8 | 693.3 | 713.2 |
| | Temperature of Water - DDMI Field | | °C | 5.2 | 3.4 | 4.1 | 4.4 | 4.7 | 5.2 | 3.5 | 3.8 | 4.4 | 4.0 |
| | Acidity (pH 4.5) | | mg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| | Acidity (pH 8.3) | | mg/L | 2.9 | 2.9 | 3.0 | 2.8 | 2.4 | 3.1 | 3.1 | 2.5 | 2.1 | 2.5 |
| | Alkalinity (PP as CaCO3) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Alkalinity (Total as CaCO3) - Total | | mg/L | 35.7 | 37.8 | 41.3 | 40.6 | 42.8 | 34.6 | 34.9 | 39.9 | 41.6 | 41.9 |
| | Hardness (as CaCO3) - Dissolved | | mg/L | 123 | | | | | 123 | | | | |
| | Hardness (as CACO3) - Total | | mg/L | 128 | 126 | 139 | 127 | 150 | 132 | 128 | 138 | 142 | 140 |
| | Dissolved Oxygen - Field | | mg/L | 12.53 | | | | | 12.53 | | | | |
| | Total Dissolved Solids (TDS) | | mg/L | 319 | 334 | 350 | 385 | 391 | 325 | 330 | 360 | 383 | 390 |

**Table 3: Effluent Discharge to Lac de Gras**

| Rio Tinto | May 2024 | | | 1645-18 | | | | | 1645-18B | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NIWTP - Discharge to LDG | W.L Criteria | Reported Units | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 |
| Total Metals by CRC-ICPMS | Antimony (Sb) - Total | | ug/L | 0.296 | 0.269 | 0.301 | 0.270 | 0.306 | 0.307 | 0.261 | 0.286 | 0.271 | 0.250 |
| | Barium (Ba) - Total | | ug/L | 83.9 | 81.8 | 86.2 | 85.3 | 101 | 85.4 | 83.5 | 86.4 | 89.3 | 90.7 |
| | Beryllium (Be) - Total | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Bismuth (Bi) - Total | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Boron (B) - Total | | ug/L | 29 | 28 | 33 | 32 | 35 | 30 | 30 | 34 | 36 | 28 |
| | Calcium (Ca) - Total | | mg/L | 33.9 | 33.8 | 38.9 | 37.5 | 42.9 | 35.2 | 34.3 | 39.0 | 41.0 | 39.8 |
| | Cobalt (Co) - Total | | ug/L | 0.680 | 0.521 | 0.186 | 0.110 | 0.135 | 0.670 | 0.550 | 0.176 | 0.138 | 0.119 |
| | Iron (Fe) - Total | | ug/L | 67.8 | 45.0 | 19.8 | 11.5 | 8.6 | 33.8 | 30.3 | 20.6 | 9.2 | 7.6 |
| | Lithium (Li) - Total | | ug/L | 13.0 | 10.8 | 12.7 | 11.6 | 11.7 | 13.0 | 10.9 | 13.4 | 12.3 | 9.70 |
| | Magnesium (Mg) - Total | | mg/L | 10.6 | 9.99 | 10.2 | 8.18 | 10.5 | 10.7 | 10.2 | 9.93 | 9.56 | 9.95 |
| | Manganese (Mn) - Total | | ug/L | 50.1 | 42.5 | 27.7 | 21.6 | 27.8 | 51.3 | 44.3 | 27.6 | 26.0 | 25.4 |
| | Mercury (Hg) - Total | | ug/L | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 |
| | Molybdenum (Mo) - Total | | ug/L | 21.9 | 20.2 | 20.7 | 17.6 | 19.5 | 22.2 | 20.9 | 21.3 | 18.6 | 17.7 |
| | Potassium (K) - Total | | mg/L | 9.42 | 8.29 | 8.36 | 6.43 | 8.34 | 9.67 | 8.45 | 8.19 | 7.55 | 7.28 |
| | Selenium (Se) - Total | | ug/L | 0.097 | 0.068 | 0.082 | 0.083 | 0.096 | 0.103 | 0.077 | 0.063 | 0.080 | 0.068 |
| | Silicon (Si) - Total | | ug/L | 4210 | 4270 | 4850 | 4520 | 5080 | 4300 | 4290 | 5030 | 4820 | 4600 |
| | Silver (Ag) - Total | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Sodium (Na) - Total | | mg/L | 52.8 | 52.9 | 59.7 | 56.2 | 69.6 | 53.7 | 54.4 | 59.4 | 65.8 | 67.9 |
| | Strontium (Sr) - Total | | ug/L | 750 | 728 | 823 | 867 | 1110 | 766 | 753 | 838 | 1050 | 977 |
| | Sulphur (S) - Total | | mg/L | 22.0 | 19.6 | 19.5 | 15.6 | 22.0 | 23.4 | 21.6 | 18.8 | 18.5 | 19.7 |
| | Thallium (Tl) - Total | | ug/L | 0.0040 | 0.0036 | 0.0069 | 0.0057 | 0.0033 | 0.0094 | 0.0088 | 0.0061 | 0.0064 | 0.0060 |
| | Tin (Sn) - Total | | ug/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | Titanium (Ti) - Total | | ug/L | 3.3 | 2.3 | <2.0 | <2.0 | <2.0 | <2.0 | 2.1 | <2.0 | <2.0 | <2.0 |
| | Uranium (U) - Total | | ug/L | 2.80 | 1.90 | 2.18 | 1.74 | 1.96 | 1.84 | 1.25 | 1.40 | 1.93 | 1.37 |
| | Vanadium (V) - Total | | ug/L | 1.22 | 1.26 | 1.52 | 1.66 | 1.86 | 1.12 | 1.15 | 1.43 | 2.07 | 1.56 |
| | Zirconium (Zr) - Total | | ug/L | <0.10 | <0.10 | <0.10 | 0.40 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

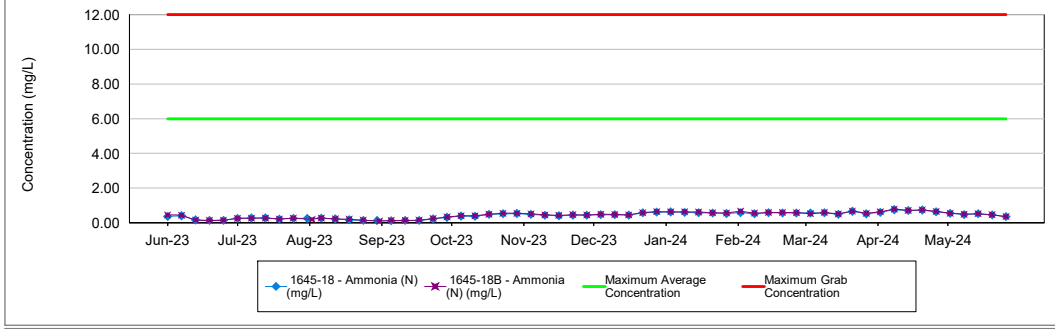
**Table 3: Effluent Discharge to Lac de Gras**

| Rio Tinto | May 2024 | | | 1645-18 | 1645-18 B |
|---|---|---|---|---|---|
| | NIWTP - Discharge to LDG | W.L Criteria | Reported Units | 28-May-24 | 28-May-24 |
| Dissolved Metals by CRC-ICPMS | Aluminum (Al) - Dissolved | | ug/L | 98.7 | 66.7 |
| | Antimony (Sb) - Dissolved | | ug/L | 0.266 | 0.258 |
| | Arsenic (As) - Dissolved | | ug/L | 0.400 | 0.356 |
| | Barium (Ba) - Dissolved | | ug/L | 79.2 | 77.3 |
| | Beryllium (Be) - Dissolved | | ug/L | <0.010 | <0.010 |
| | Bismuth (Bi) - Dissolved | | ug/L | <0.0050 | <0.0050 |
| | Boron (B) - Dissolved | | ug/L | 32.7 | 30.6 |
| | Cadmium (Cd) - Dissolved | | ug/L | <0.0050 | <0.0050 |
| | Calcium (Ca) - Dissolved | | mg/L | 33.1 | 32.9 |
| | Chromium (Cr) - Dissolved | | ug/L | 0.961 | 0.946 |
| | Cobalt (Co) - Dissolved | | ug/L | 0.558 | 0.587 |
| | Copper (Cu) - Dissolved | | ug/L | 0.438 | 0.397 |
| | Iron (Fe) - Dissolved | | ug/L | <1.0 | <1.0 |
| | Lead (Pb) - Dissolved | | ug/L | 0.0086 | 0.0057 |
| | Lithium (Li) - Dissolved | | ug/L | 12.1 | 12.1 |
| | Magnesium (Mg) - Dissolved | | mg/L | 9.70 | 9.86 |
| | Manganese (Mn) - Dissolved | | ug/L | 46.0 | 44.1 |
| | Mercury (Hg) - Dissolved | | ug/L | <0.0019 | <0.0019 |
| | Molybdenum (Mo) - Dissolved | | ug/L | 21.1 | 21.2 |
| | Nickel (Ni) - Dissolved | | ug/L | 16.8 | 17.4 |
| | Potassium (K) - Dissolved | | mg/L | 9.23 | 8.04 |
| | Selenium (Se) - Dissolved | | ug/L | 0.071 | 0.088 |
| | Silicon (Si) - Dissolved | | ug/L | 3870 | 4080 |
| | Silver (Ag) - Dissolved | | ug/L | <0.0050 | <0.0050 |
| | Sodium (Na) - Dissolved | | mg/L | 48.7 | 49.6 |
| | Strontium (Sr) - Dissolved | | ug/L | 747 | 720 |
| | Sulphur (S) - Dissolved | | mg/L | 21.2 | 19.8 |
| | Thallium (Tl) - Dissolved | | ug/L | 0.0102 | 0.0075 |
| | Tin (Sn) - Dissolved | | ug/L | <0.010 | <0.010 |
| | Titanium (Ti) - Dissolved | | ug/L | <0.50 | <0.50 |
| | Uranium (U) - Dissolved | | ug/L | 2.28 | 1.30 |
| | Vanadium (V) - Dissolved | | ug/L | 1.00 | 0.976 |
| | Zinc (Zn) - Dissolved | | ug/L | 0.20 | 0.34 |
| | Zirconium (Zr) - Dissolved | | ug/L | <0.050 | <0.050 |

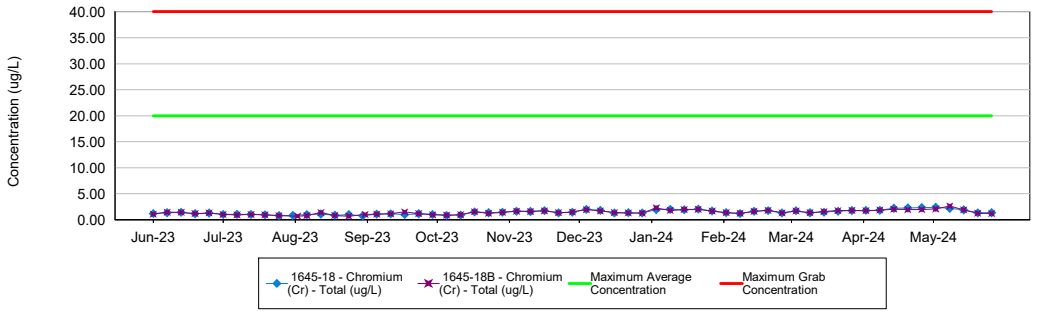
**Table 3: Effluent Discharge to Lac de Gras**

| Rio Tinto | May 2024 | | | 1645-18 | | | | | 1645-18B | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NIWTP - Discharge to LDG | W.L Criteria | Reported Units | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 |
| CCME Hydrocarbons | Benzene | | ug/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| | Ethylbenzene | | ug/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| | F1 (C6-C10 Hydrocarbons) | | ug/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | F1 (C6-C10) - BTEX | | ug/L | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | F2 (C10-C16 Hydrocarbons) | | mg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | F3 (C16-C34 Hydrocarbons) | | mg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | F4 (C34-C50 Hydrocarbons) | | mg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | Toluene | | ug/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| | Xylenes (Total) | | ug/L | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 |

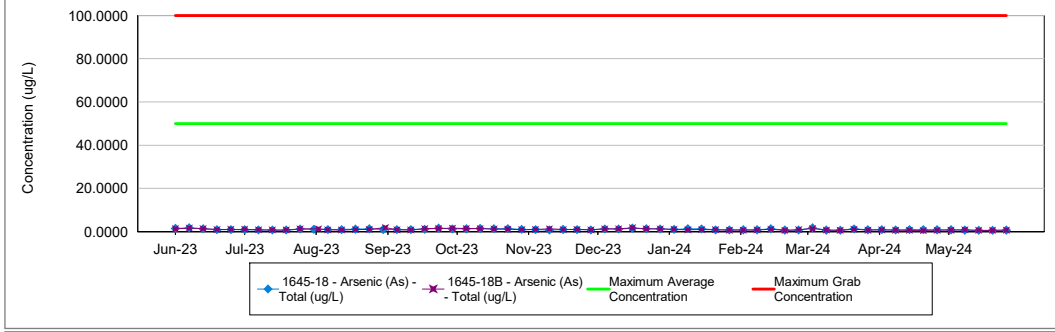
## 1645-18 / 1645-18B - Ammonia (N) Concentration



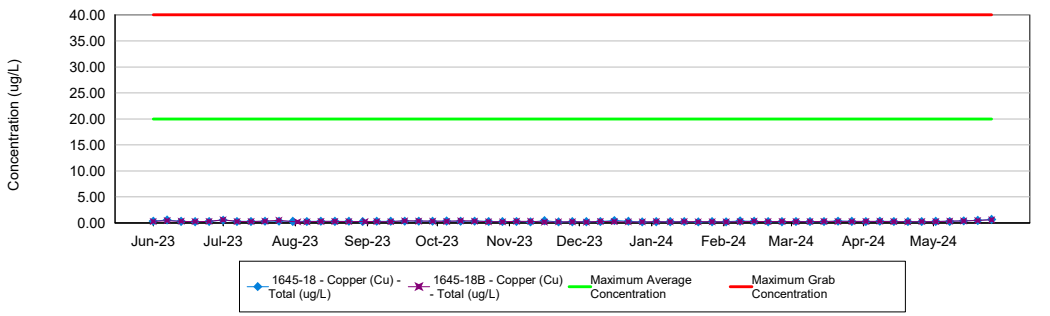

## 1645-18 / 1645-18B - Chromium (Cr) - Total Concentration



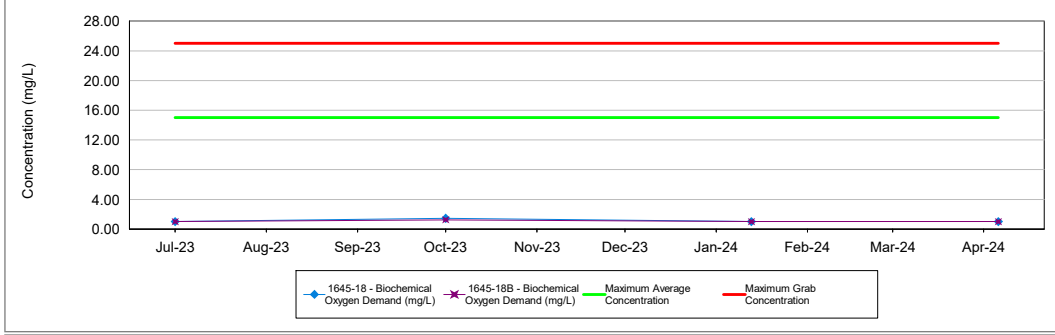

## 1645-18 / 1645-18B - Arsenic (As) - Total Concentration



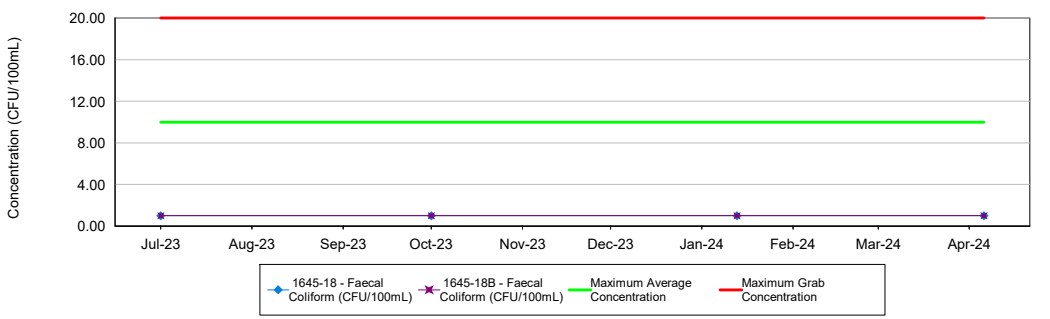

## 1645-18 / 1645-18B - Copper (Cu) - Total Concentration



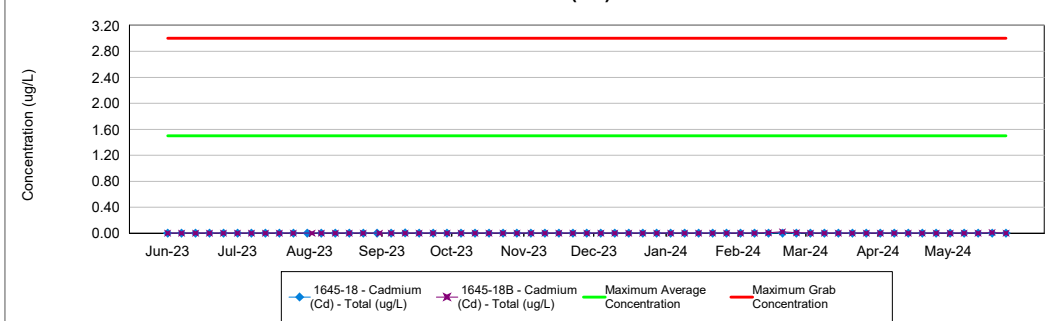

## 1645-18 / 1645-18B - Biochemical Oxygen Demand Concentration



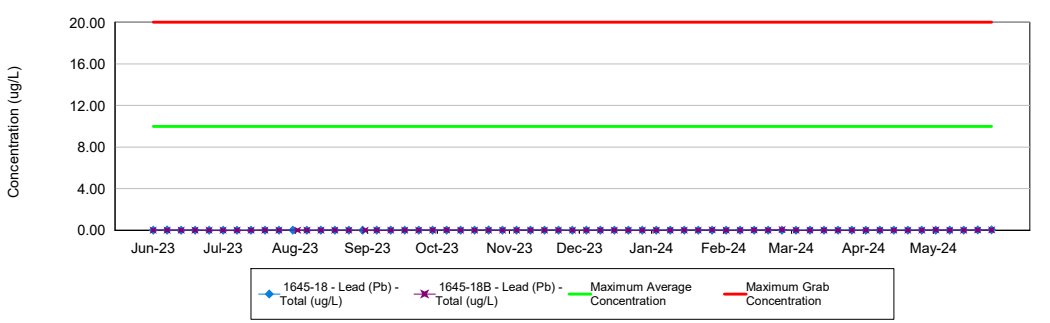

## 1645-18 / 1645-18B - Faecal Coliform Concentration



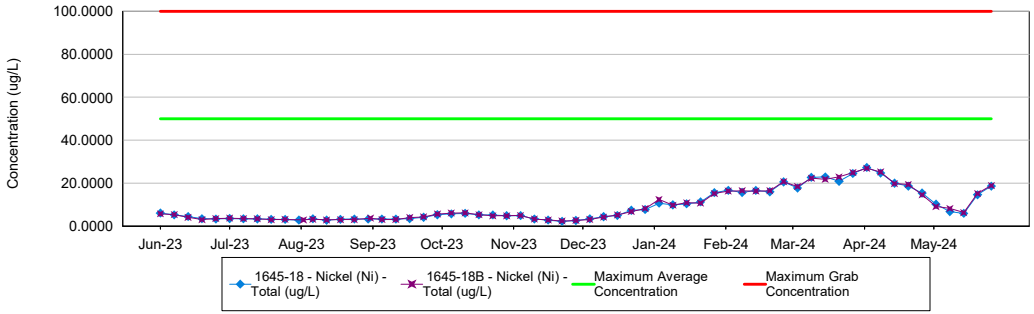

## 1645-18 / 1645-18B - Cadmium (Cd) - Total Concentration



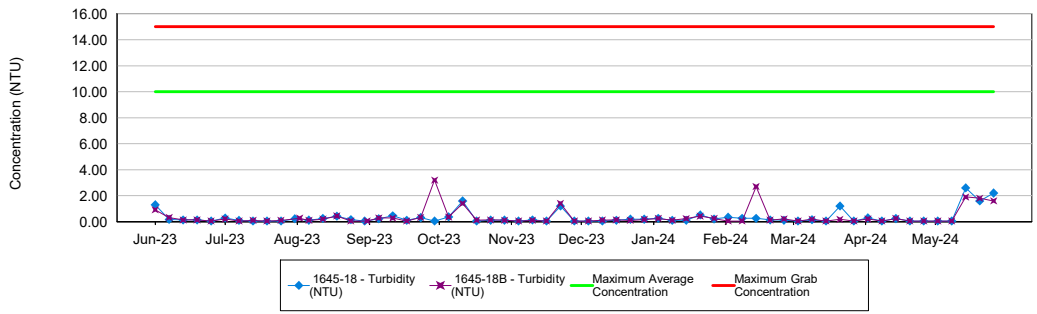

## 1645-18 / 1645-18B - Lead (Pb) - Total Concentration



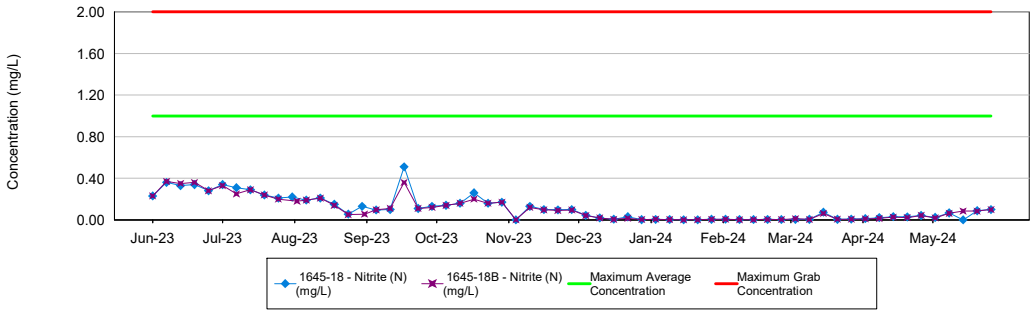
## 1645-18 / 1645-18B - Nickel (Ni) - Total Concentration



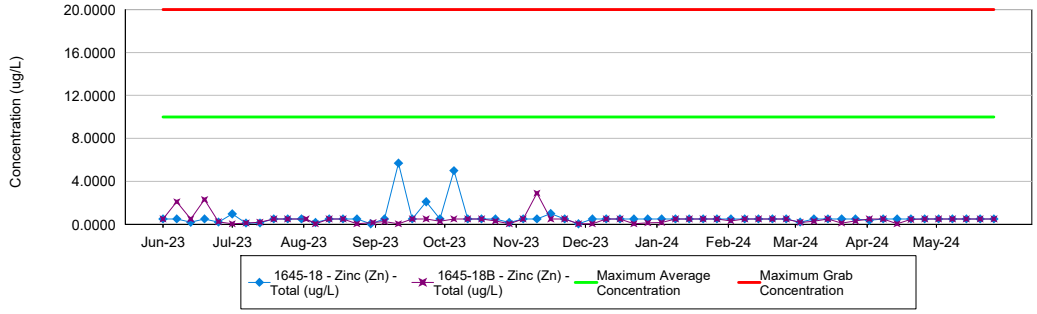

## 1645-18 / 1645-18B - Turbidity Concentration



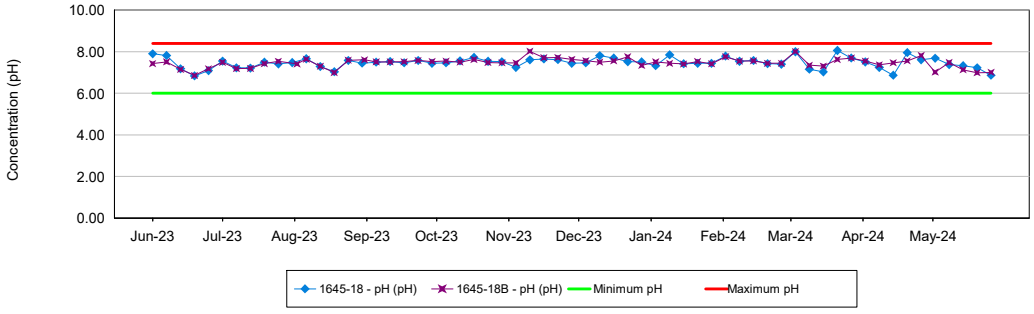

## 1645-18 / 1645-18B - Nitrite (N) Concentration



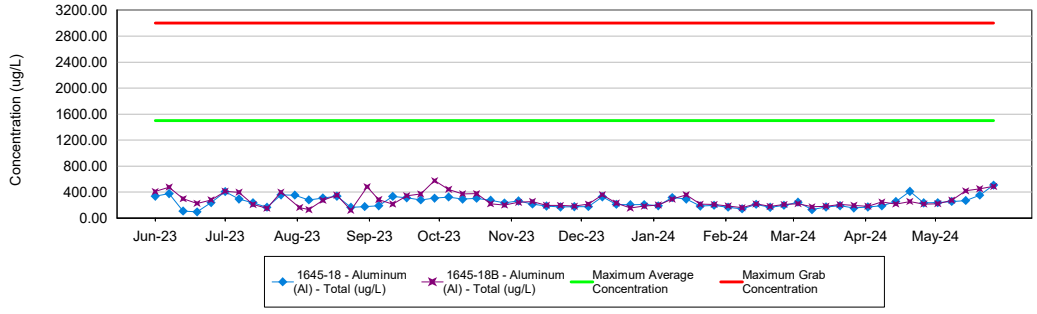

## 1645-18 / 1645-18B - Zinc (Zn) - Total Concentration



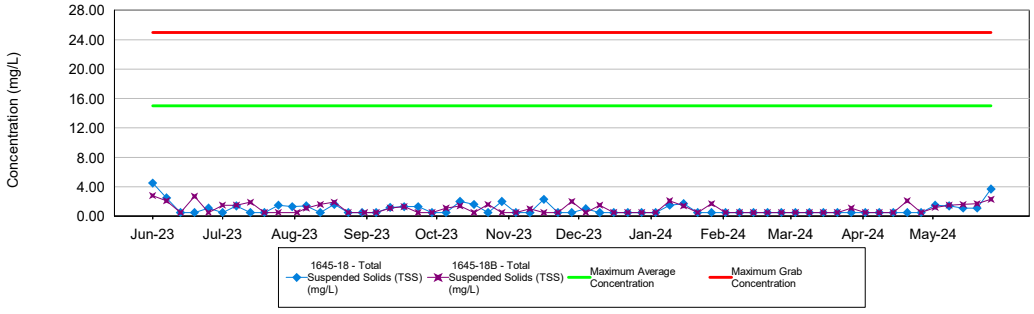

## 1645-18 / 1645-18B - pH Concentration




## 1645-18 / 1645-18B - Aluminum (Al) - Total Concentration




## 1645-18 / 1645-18B - Total Suspended Solids (TSS) Concentration




## 1645-18 / 1645-18B - C6-C50 Hydrocarbons Calculated Concentration

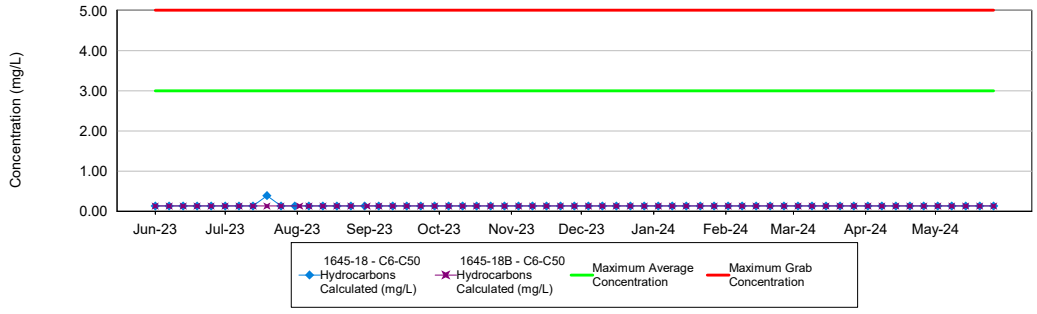


**Table 4: Lac de Gras Effluent Mixing Zone**

| Rio Tinto | May 2024 | | | 1645-19A-2 | 1645-19A-5 | 1645-19A-10 | 1645-19A-15 | 1645-19A-20 | 1645-19B2-2 | 1645-19B2-5 | 1645-19B2-10 | 1645-19B2-15 | 1645-19B2-20 | 1645-19C-2 | 1645-19C-5 | 1645-19C-10 | 1645-19C-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Depth (metres below surface) | | | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 |
| | LDG - Diffusor Stations | W.L Criteria | Reported Units | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 |
| Water License | Aluminum (Al) - Total | | ug/L | 2.91 | 2.69 | 12.6 | 18.0 | 18.0 | 3.03 | 2.74 | 13.9 | 16.2 | 18.1 | 2.81 | 12.0 | 15.0 | 16.4 |
| | Ammonia (N) | | mg/L | 0.023 | 0.024 | 0.044 | 0.055 | 0.055 | 0.025 | 0.022 | 0.051 | 0.050 | 0.053 | 0.022 | 0.042 | 0.049 | 0.052 |
| | Arsenic (As) - Total | | ug/L | 0.270 | 0.276 | 0.289 | 0.298 | 0.309 | 0.301 | 0.269 | 0.286 | 0.308 | 0.301 | 0.284 | 0.290 | 0.290 | 0.292 |
| | Cadmium (Cd) - Total | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Chromium (Cr) - Total | | ug/L | <0.050 | <0.050 | 0.076 | 0.114 | 0.102 | <0.050 | <0.050 | 0.068 | 0.072 | 0.114 | <0.050 | 0.067 | 0.056 | 0.094 |
| | Copper (Cu) - Total | | ug/L | 0.651 | 0.615 | 0.599 | 0.607 | 0.590 | 0.655 | 0.617 | 0.596 | 0.593 | 0.584 | 0.665 | 0.594 | 0.583 | 0.586 |
| | Lead (Pb) - Total | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Nickel (Ni) - Total | | ug/L | 0.805 | 0.690 | 1.19 | 1.38 | 1.40 | 0.864 | 0.745 | 1.29 | 1.40 | 1.42 | 0.843 | 1.14 | 1.27 | 1.34 |
| | Nitrite (N) | | mg/L | 0.0045 | 0.0023 | 0.0022 | 0.0038 | 0.0037 | 0.0039 | 0.0045 | 0.0045 | 0.0030 | 0.0023 | 0.0033 | 0.0022 | 0.0022 | 0.0043 |
| | pH | | pH | 6.9 | 6.8 | 6.79 | 6.68 | 6.65 | 6.59 | 6.69 | 6.58 | 6.59 | 6.59 | 6.4 | 6.42 | 6.49 | 6.58 |
| | Total Suspended Solids (TSS) | | mg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.99 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.99 |
| | Turbidity | | NTU | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Zinc (Zn) - Total | | ug/L | 0.30 | 0.24 | 0.29 | 0.32 | 0.19 | 0.28 | 0.32 | 0.19 | 0.15 | 0.20 | 0.38 | 0.31 | 0.25 | 0.18 |

**Table 4: Lac de Gras Effluent Mixing Zone**

| | May 2024 | | | 1645-19A-2 | 1645-19A-5 | 1645-19A-10 | 1645-19A-15 | 1645-19A-20 | 1645-19B2-2 | 1645-19B2-5 | 1645-19B2-10 | 1645-19B2-15 | 1645-19B2-20 | 1645-19C-2 | 1645-19C-5 | 1645-19C-10 | 1645-19C-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Depth (metres below surface) | | | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 |
| | LDG - Diffusor Stations | W.L Criteria | Reported Units | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 |
| An-ions | Fluoride (F) | | mg/L | 0.018 | 0.017 | 0.020 | 0.020 | 0.020 | 0.018 | 0.018 | 0.020 | 0.021 | 0.021 | 0.018 | 0.022 | 0.021 | 0.039 |
| | Bicarbonate (HCO3) | | mg/L | 8.49 | 7.74 | 10.0 | 10.4 | 11.3 | 8.29 | 7.78 | 10.1 | 10.2 | 10.5 | 8.50 | 9.41 | 9.66 | 10.4 |
| | Carbonate (CO3) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Hydroxide (OH) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Chloride (Cl) - Dissolved | | mg/L | 5.9 | 5.7 | 13 | 15 | 15 | 6.0 | 6.0 | 14 | 14 | 15 | 5.6 | 11 | 14 | 14 |
| | Sulphate (SO4) - Dissolved | | mg/L | 5.0 | 4.7 | 7.8 | 8.4 | 8.7 | 5.2 | 4.7 | 8.1 | 8.5 | 8.6 | 5.2 | 7.2 | 8.1 | 8.5 |
| Nutrients - SNP | Total Organic Carbon (TOC) | | mg/L | 2.2 | 2.0 | 2.1 | 1.8 | 1.7 | 2.4 | 1.7 | 1.9 | 3.0 | 2.7 | 2.8 | 2.5 | 2.6 | 2.4 |
| | Dissolved Organic Carbon (C) | | mg/L | 2.8 | 2.6 | 2.4 | 2.8 | 2.7 | 2.4 | 2.7 | 2.2 | 2.7 | 2.6 | 2.8 | 2.7 | 2.6 | 2.9 |
| | Nitrate (N) | | mg/L | 0.078 | 0.077 | 0.19 | 0.22 | 0.24 | 0.087 | 0.078 | 0.21 | 0.22 | 0.24 | 0.070 | 0.17 | 0.22 | 0.23 |
| | Orthophosphate (PO4-P) | | mg/L | 0.0014 | 0.0011 | <0.0010 | 0.0011 | <0.0010 | 0.0015 | 0.0012 | 0.0012 | <0.0010 | 0.0011 | 0.0023 | <0.0010 | <0.0010 | <0.0010 |
| | Total Kjeldahl Nitrogen (TKN) - (Ca | | mg/L | 0.139 | 0.168 | 0.177 | 0.171 | 0.171 | 0.223 | 0.180 | 0.167 | 0.140 | 0.161 | 0.173 | 0.223 | 0.153 | 0.171 |
| | Nitrate plus Nitrite (N) | | mg/L | 0.083 | 0.079 | 0.20 | 0.23 | 0.24 | 0.090 | 0.082 | 0.21 | 0.22 | 0.24 | 0.073 | 0.17 | 0.23 | 0.24 |
| | Nitrogen (N) - Total | | mg/L | 0.22 | 0.25 | 0.37 | 0.40 | 0.41 | 0.31 | 0.26 | 0.38 | 0.36 | 0.41 | 0.25 | 0.39 | 0.38 | 0.41 |
| | Phosphorus (P) - Total | | mg/L | 0.0025 | 0.0032 | 0.0021 | <0.0020 | <0.0020 | 0.0048 | 0.0099 | <0.0020 | 0.0020 | <0.0020 | 0.0047 | 0.0030 | <0.0020 | <0.0020 |
| | Phosphorus (P) - Dissolved (TDP) | | mg/L | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0023 | <0.0020 | <0.0020 | <0.0020 |
| Physical Properties | Acidity (pH 4.5) | | mg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| | Acidity (pH 8.3) | | mg/L | 1.9 | 2.3 | 1.9 | 1.9 | 1.9 | 2.0 | 1.8 | 2.0 | 2.5 | 2.2 | 2.0 | 2.3 | 2.6 | 2.1 |
| | Alkalinity (Total as CaCO3) - Total | | mg/L | 6.96 | 6.35 | 8.19 | 8.56 | 9.29 | 6.80 | 6.37 | 8.32 | 8.37 | 8.58 | 6.97 | 7.71 | 7.92 | 8.50 |
| | Alkalinity (PP as CaCO3) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Dissolved Oxygen - Field | | mg/L | 14.7 | 13.8 | 13.93 | 14.02 | 14.05 | 14.72 | 13.86 | 14.03 | 14.02 | 14 | 14.65 | 14.7 | 13.99 | 13.98 |
| | Total Dissolved Solids (TDS) | | mg/L | 29.6 | 28.8 | 47.2 | 53.2 | 54.8 | 30.4 | 32.8 | 50.8 | 52.0 | 56.0 | 32.0 | 42.8 | 49.6 | 50.4 |
| | Hardness (as CACO3) - Total | | mg/L | 12.1 | 11.6 | 18.2 | 19.9 | 20.5 | 12.3 | 11.7 | 18.7 | 19.6 | 20.4 | 12.4 | 17.0 | 19.0 | 19.6 |
| | Hardness (as CaCO3) - Dissolved | | mg/L | 11.8 | 11.4 | 18.0 | 19.2 | 20.1 | 12.0 | 11.5 | 18.3 | 19.4 | 20.2 | 12.0 | 16.8 | 18.3 | 19.3 |

**Table 4: Lac de Gras Effluent Mixing Zone**

| Rio Tinto | May 2024 | | | 1645-19A-2 | 1645-19A-5 | 1645-19A-10 | 1645-19A-15 | 1645-19A-20 | 1645-19B2-2 | 1645-19B2-5 | 1645-19B2-10 | 1645-19B2-15 | 1645-19B2-20 | 1645-19C-2 | 1645-19C-5 | 1645-19C-10 | 1645-19C-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Depth (metres below surface) | | | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 |
| | LDG - Diffusor Stations | W.L Criteria | Reported Units | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 |
| Total Metals - ICPMS | Antimony (Sb) - Total | | ug/L | 0.034 | 0.028 | 0.038 | 0.040 | 0.045 | 0.031 | 0.027 | 0.043 | 0.042 | 0.059 | 0.032 | 0.041 | 0.045 | 0.049 |
| | Barium (Ba) - Total | | ug/L | 4.26 | 4.04 | 8.72 | 9.87 | 10.1 | 4.29 | 4.06 | 9.26 | 9.67 | 10.3 | 4.26 | 7.86 | 9.26 | 9.75 |
| | Beryllium (Be) - Total | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Bismuth (Bi) - Total | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Boron (B) - Total | | ug/L | <5.0 | <5.0 | <5.0 | <5.0 | 5.4 | <5.0 | <5.0 | <5.0 | <5.0 | 7.8 | <5.0 | <5.0 | <5.0 | 5.1 |
| | Calcium (Ca) - Total | | mg/L | 2.59 | 2.48 | 4.44 | 4.87 | 5.01 | 2.62 | 2.53 | 4.58 | 4.81 | 5.04 | 2.64 | 4.06 | 4.65 | 4.86 |
| | Cobalt (Co) - Total | | ug/L | 0.0122 | 0.0104 | 0.0179 | 0.0232 | 0.0213 | 0.0146 | 0.0137 | 0.0177 | 0.0192 | 0.0211 | 0.0150 | 0.0176 | 0.0188 | 0.0203 |
| | Iron (Fe) - Total | | ug/L | 1.4 | 1.5 | 2.3 | 2.7 | 1.5 | 1.1 | 1.3 | 1.8 | 1.9 | 1.8 | 1.1 | 3.1 | 1.6 | 1.5 |
| | Lithium (Li) - Total | | ug/L | 1.91 | 1.79 | 2.35 | 2.53 | 2.57 | 1.95 | 1.85 | 2.46 | 2.56 | 2.58 | 2.01 | 2.31 | 2.46 | 2.49 |
| | Magnesium (Mg) - Total | | mg/L | 1.37 | 1.30 | 1.73 | 1.88 | 1.95 | 1.40 | 1.31 | 1.77 | 1.85 | 1.89 | 1.42 | 1.67 | 1.79 | 1.82 |
| | Manganese (Mn) - Total | | ug/L | 0.939 | 0.992 | 2.47 | 2.98 | 2.57 | 0.962 | 0.971 | 2.32 | 2.73 | 2.63 | 1.04 | 2.18 | 2.54 | 2.60 |
| | Mercury (Hg) - Total | | ug/L | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 |
| | Molybdenum (Mo) - Total | | ug/L | 0.869 | 0.921 | 1.71 | 1.87 | 1.97 | 0.875 | 0.896 | 1.83 | 1.88 | 1.98 | 0.878 | 1.55 | 1.80 | 1.91 |
| | Potassium (K) - Total | | mg/L | 1.39 | 1.31 | 1.68 | 1.80 | 1.82 | 1.38 | 1.30 | 1.68 | 1.74 | 1.79 | 1.38 | 1.62 | 1.72 | 1.75 |
| | Selenium (Se) - Total | | ug/L | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| | Silicon (Si) - Total | | ug/L | 75 | 68 | 286 | 350 | 377 | 77 | 71 | 330 | 354 | 381 | 76 | 261 | 332 | 357 |
| | Silver (Ag) - Total | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Sodium (Na) - Total | | mg/L | 3.74 | 3.59 | 6.64 | 7.42 | 7.84 | 3.75 | 3.59 | 6.94 | 7.42 | 7.75 | 3.70 | 6.16 | 7.11 | 7.31 |
| | Sulphur (S) - Total | | mg/L | 2.80 | 2.85 | 3.69 | 3.89 | 4.14 | 2.79 | 2.86 | 3.64 | 3.96 | 3.84 | 2.76 | 3.54 | 4.01 | 3.95 |
| | Thallium (Tl) - Total | | ug/L | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| | Tin (Sn) - Total | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Titanium (Ti) - Total | | ug/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Uranium (U) - Total | | ug/L | 0.0762 | 0.0768 | 0.163 | 0.184 | 0.193 | 0.0778 | 0.0765 | 0.172 | 0.184 | 0.202 | 0.0751 | 0.151 | 0.179 | 0.186 |
| | Vanadium (V) - Total | | ug/L | 0.058 | 0.057 | 0.132 | 0.134 | 0.136 | 0.060 | 0.051 | 0.122 | 0.145 | 0.129 | 0.059 | 0.111 | 0.147 | 0.141 |
| | Zirconium (Zr) - Total | | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |

**Table 4: Lac de Gras Effluent Mixing Zone**

| Rio Tinto | May 2024 | | | 1645-19A-2 | 1645-19A-5 | 1645-19A-10 | 1645-19A-15 | 1645-19A-20 | 1645-19B2-2 | 1645-19B2-5 | 1645-19B2-10 | 1645-19B2-15 | 1645-19B2-20 | 1645-19C-2 | 1645-19C-5 | 1645-19C-10 | 1645-19C-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Depth (metres below surface) | | | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 | 20 | 2 | 5 | 10 | 15 |
| | LDG - Diffusor Stations | W.L Criteria | Reported Units | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 | 5-May-24 |
| Dis. Metals - ICPMS | Aluminum (Al) - Dissolved | | ug/L | 2.15 | 1.92 | 7.95 | 8.68 | 8.87 | 2.19 | 2.03 | 7.71 | 8.47 | 9.08 | 2.30 | 6.71 | 8.40 | 8.84 |
| | Antimony (Sb) - Dissolved | | ug/L | 0.037 | 0.044 | 0.051 | 0.035 | 0.043 | 0.029 | 0.037 | 0.044 | 0.035 | 0.049 | 0.022 | 0.041 | 0.037 | 0.036 |
| | Arsenic (As) - Dissolved | | ug/L | 0.291 | 0.268 | 0.298 | 0.294 | 0.290 | 0.288 | 0.284 | 0.284 | 0.294 | 0.303 | 0.265 | 0.285 | 0.297 | 0.298 |
| | Barium (Ba) - Dissolved | | ug/L | 4.17 | 4.07 | 8.75 | 9.80 | 10.2 | 4.25 | 4.09 | 9.26 | 9.76 | 10.2 | 4.31 | 7.82 | 9.24 | 9.83 |
| | Beryllium (Be) - Dissolved | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Bismuth (Bi) - Dissolved | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Boron (B) - Dissolved | | ug/L | <5.0 | 6.1 | <5.0 | 5.1 | <5.0 | <5.0 | <5.0 | <5.0 | 5.0 | 5.2 | <5.0 | <5.0 | 5.1 | <5.0 |
| | Cadmium (Cd) - Dissolved | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Calcium (Ca) - Dissolved | | mg/L | 2.54 | 2.47 | 4.35 | 4.71 | 4.96 | 2.57 | 2.47 | 4.49 | 4.75 | 4.95 | 2.58 | 3.98 | 4.49 | 4.76 |
| | Chromium (Cr) - Dissolved | | ug/L | 0.053 | <0.050 | 0.104 | 0.120 | 0.109 | <0.050 | <0.050 | 0.117 | 0.150 | 0.158 | <0.050 | 0.146 | 0.131 | 0.136 |
| | Cobalt (Co) - Dissolved | | ug/L | 0.0080 | 0.0103 | 0.0137 | 0.0135 | 0.0138 | 0.0063 | 0.0081 | 0.0162 | 0.0126 | 0.0151 | 0.0091 | 0.0121 | 0.0140 | 0.0148 |
| | Copper (Cu) - Dissolved | | ug/L | 0.608 | 0.588 | 0.539 | 0.525 | 0.540 | 0.581 | 0.576 | 0.509 | 0.516 | 0.517 | 0.574 | 0.552 | 0.499 | 0.516 |
| | Iron (Fe) - Dissolved | | ug/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | <1.0 | <1.0 |
| | Lead (Pb) - Dissolved | | ug/L | <0.0050 | 0.0106 | <0.0050 | <0.0050 | <0.0050 | 0.0053 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Lithium (Li) - Dissolved | | ug/L | 1.88 | 1.76 | 2.45 | 2.62 | 2.65 | 1.94 | 1.79 | 2.44 | 2.60 | 2.58 | 2.01 | 2.34 | 2.57 | 2.51 |
| | Magnesium (Mg) - Dissolved | | mg/L | 1.32 | 1.27 | 1.74 | 1.80 | 1.87 | 1.35 | 1.28 | 1.73 | 1.84 | 1.91 | 1.35 | 1.67 | 1.72 | 1.80 |
| | Manganese (Mn) - Dissolved | | ug/L | 0.416 | 0.269 | 1.51 | 1.74 | 1.96 | 0.388 | 0.226 | 1.58 | 2.08 | 2.08 | 0.409 | 1.44 | 1.78 | 1.95 |
| | Mercury (Hg) - Dissolved | | ug/L | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 |
| | Molybdenum (Mo) - Dissolved | | ug/L | 0.872 | 0.918 | 1.70 | 1.87 | 1.97 | 0.873 | 0.920 | 1.75 | 1.88 | 2.00 | 0.849 | 1.54 | 1.79 | 1.89 |
| | Nickel (Ni) - Dissolved | | ug/L | 0.771 | 0.707 | 1.20 | 1.32 | 1.36 | 0.780 | 0.716 | 1.25 | 1.32 | 1.43 | 0.823 | 1.10 | 1.23 | 1.32 |
| | Potassium (K) - Dissolved | | mg/L | 1.32 | 1.29 | 1.62 | 1.69 | 1.72 | 1.34 | 1.30 | 1.64 | 1.71 | 1.76 | 1.33 | 1.59 | 1.63 | 1.72 |
| | Selenium (Se) - Dissolved | | ug/L | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| | Silicon (Si) - Dissolved | | ug/L | 73 | 67 | 299 | 354 | 374 | 73 | 68 | 320 | 359 | 373 | 77 | 260 | 329 | 357 |
| | Silver (Ag) - Dissolved | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Sodium (Na) - Dissolved | | mg/L | 3.55 | 3.53 | 6.58 | 7.08 | 7.49 | 3.57 | 3.55 | 6.78 | 7.23 | 7.65 | 3.57 | 6.11 | 6.65 | 7.13 |
| | Strontium (Sr) - Dissolved | | ug/L | 37.3 | 37.3 | 82.6 | 90.2 | 94.3 | 37.5 | 38.6 | 83.8 | 92.5 | 96.1 | 38.6 | 74.5 | 85.8 | 92.2 |
| | Sulphur (S) - Dissolved | | mg/L | 1.87 | 1.85 | 3.10 | 3.23 | 3.60 | 2.20 | 2.12 | 3.10 | 3.34 | 3.40 | 2.48 | 3.05 | 3.31 | 3.44 |
| | Thallium (Tl) - Dissolved | | ug/L | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| | Tin (Sn) - Dissolved | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Titanium (Ti) - Dissolved | | ug/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Uranium (U) - Dissolved | | ug/L | 0.0568 | 0.0572 | 0.135 | 0.142 | 0.149 | 0.0583 | 0.0563 | 0.136 | 0.145 | 0.156 | 0.0586 | 0.115 | 0.138 | 0.145 |
| | Vanadium (V) - Dissolved | | ug/L | 0.053 | 0.054 | 0.137 | 0.107 | 0.152 | <0.050 | 0.065 | 0.118 | 0.109 | 0.151 | <0.050 | 0.090 | 0.104 | 0.137 |
| | Zinc (Zn) - Dissolved | | ug/L | 0.21 | 0.16 | 0.12 | <0.10 | 0.12 | 0.19 | 0.23 | 0.22 | 0.10 | 0.10 | 0.16 | 0.18 | 0.15 | <0.10 |
| | Zirconium (Zr) - Dissolved | | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |

**Table 4: Lac de Gras Effluent Mixing Zone**

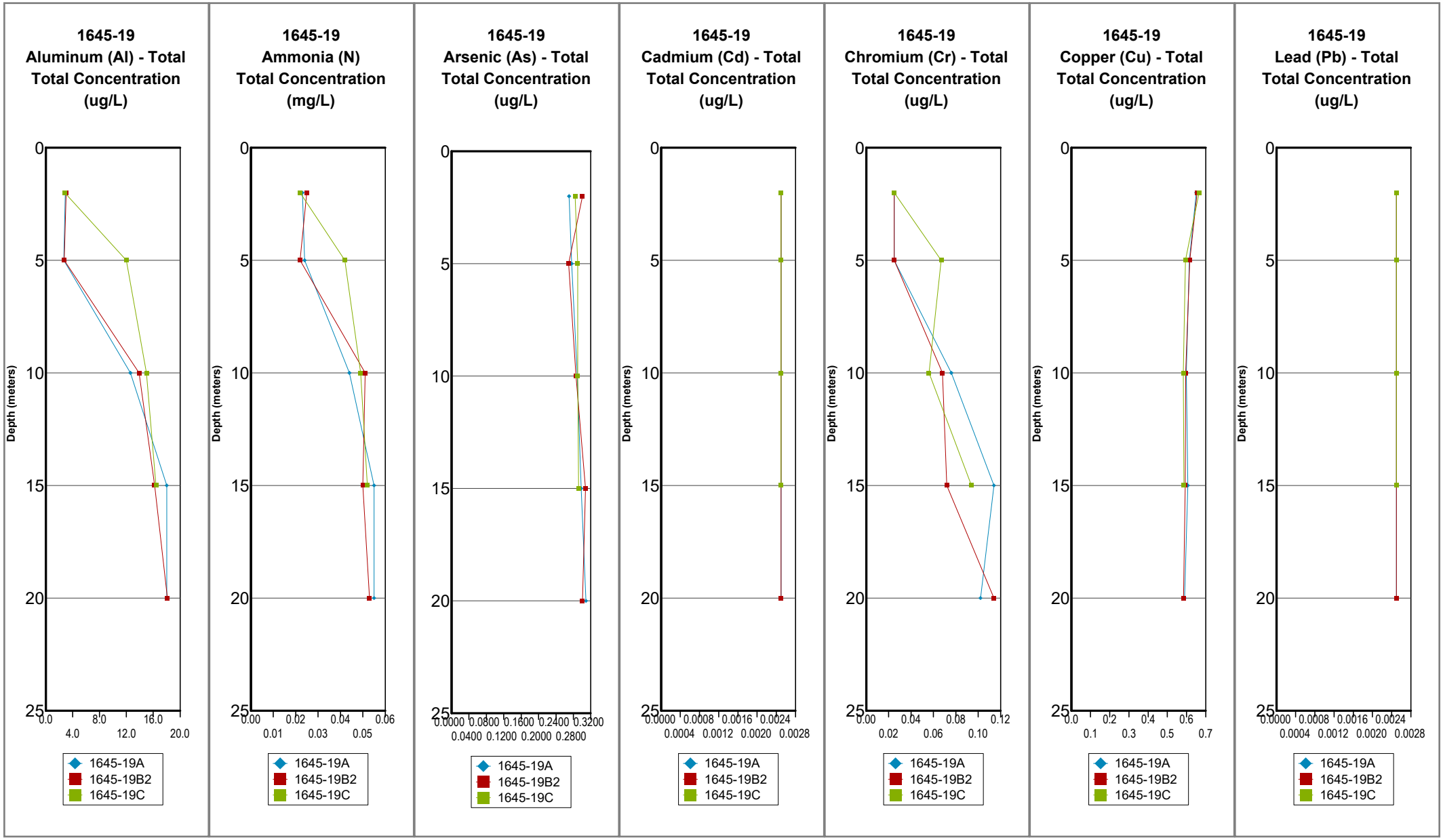
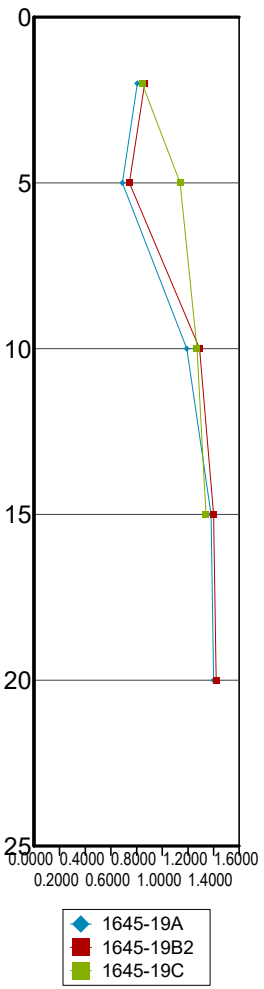
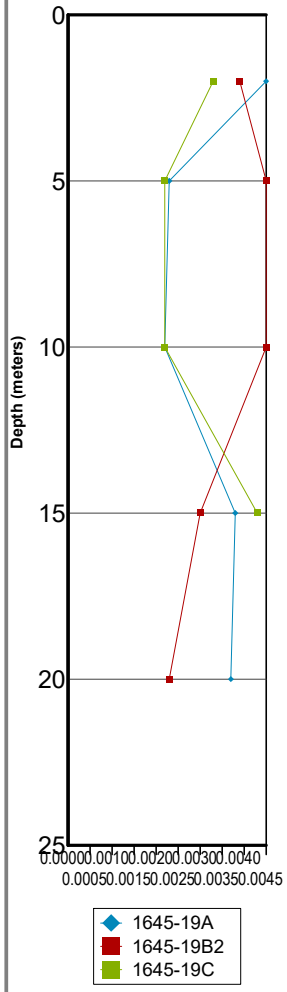


**Table 4: Lac de Gras Effluent Mixing Zone**

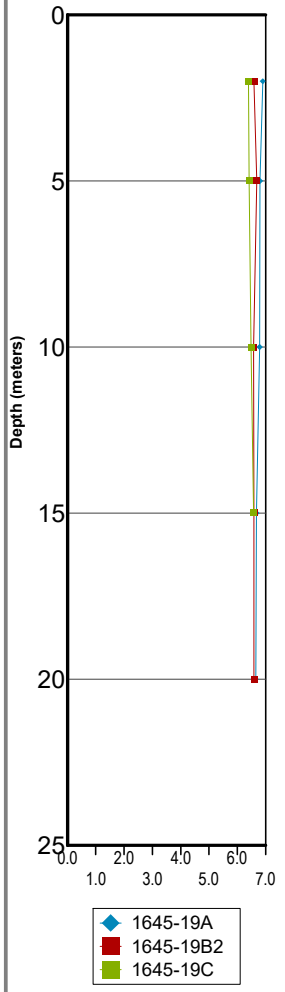
**1645-19**
**Nickel (Ni) - Total**
**Total Concentration**
**(ug/L)**



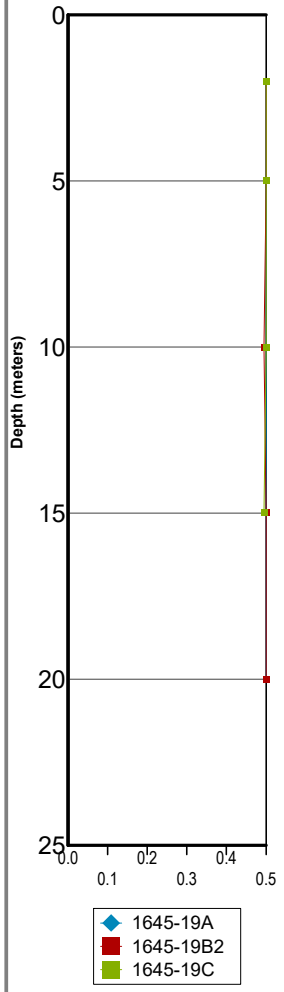

**1645-19**
**Nitrite (N)**
**Total Concentration**
**(mg/L)**



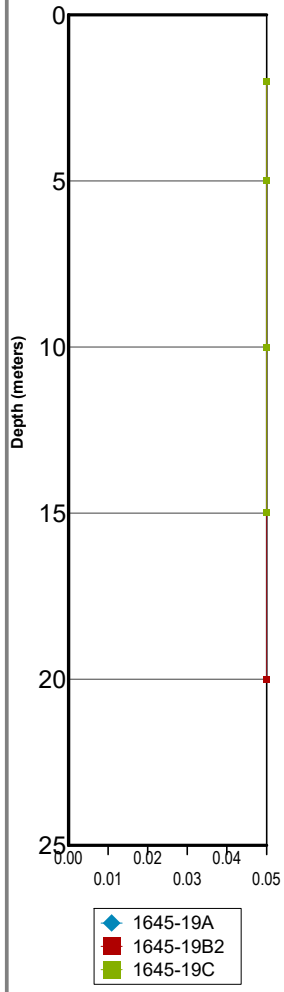

**1645-19**
**pH**
**Total Concentration**
**(pH)**




**1645-19**
**otal Suspended Solids (TSS**
**Total Concentration**
**(mg/L)**




**1645-19**
**Turbidity**
**Total Concentration**
**(NTU)**




**1645-19**
**Zinc (Zn) - Total**
**Total Concentration**
**(ug/L)**

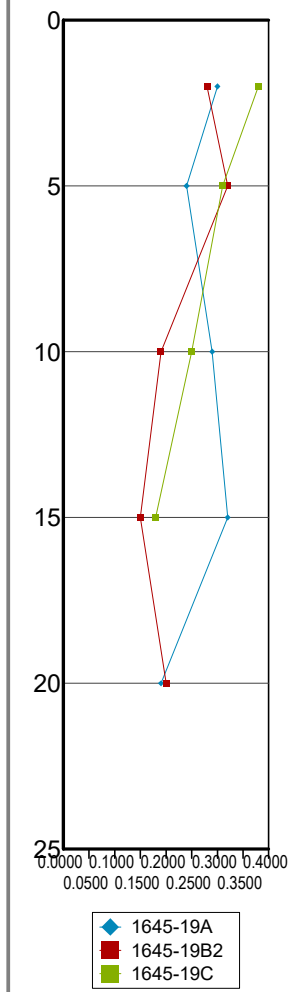


**Table 5: Lac de Gras Mixing Zone Bioprofile**

| Rio Tinto | May 2024 | | | | | | |
|---|---|---|---|---|---|---|---|
| | HydroLab Bioprofile - LDG - Diffuser Stations | Depth Below Surface | pH | Dissolved Oxygen - Field | Turbidity | Conductivity | Temperature |
| Station ID | | meters | pH | mg/L | NTU | us/cm | °C |
| 1645-19A | | 20.0 | 6.48 | 14.02 | 0.32 | 71.7 | 0.6 |
| | | 18.0 | 6.44 | 14.03 | 0.33 | 71.3 | 0.6 |
| | | 16.0 | 6.45 | 14.03 | 0.33 | 69.1 | 0.6 |
| | | 14.0 | 6.43 | 14.02 | 0.33 | 67.9 | 0.6 |
| | | 12.0 | 6.37 | 14 | 0.32 | 66.7 | 0.6 |
| | | 10.0 | 6.37 | 13.93 | 0.31 | 64.3 | 0.6 |
| | | 8.0 | 6.35 | 13.83 | 0.31 | 59.1 | 0.6 |
| | | 6.0 | 6.36 | 13.85 | 0.3 | 49.1 | 0.6 |
| | | 4.0 | 6.39 | 14.23 | 0.3 | 40.4 | 0.5 |
| | | 2.0 | 6.42 | 14.7 | 0.31 | 38.8 | 0.2 |
| 1645-19B2 | | 20.0 | 6.54 | 14 | 0.3 | 71.9 | 0.6 |
| | | 18.0 | 6.54 | 14.01 | 0.29 | 71.2 | 0.6 |
| | | 16.0 | 6.54 | 14.02 | 0.31 | 68.6 | 0.6 |
| | | 14.0 | 6.51 | 14.03 | 0.3 | 68 | 0.6 |
| | | 12.0 | 6.47 | 14.04 | 0.29 | 67.4 | 0.6 |
| | | 10.0 | 6.45 | 14.03 | 0.28 | 65 | 0.6 |
| | | 8.0 | 6.41 | 13.98 | 0.29 | 62.4 | 0.5 |
| | | 6.0 | 6.39 | 13.91 | 0.28 | 51.3 | 0.5 |
| | | 4.0 | 6.42 | 14.16 | 0.28 | 40.3 | 0.5 |
| | | 2.0 | 6.46 | 14.72 | 0.29 | 39 | 0.2 |
| 1645-19C | | 20.0 | 6.54 | 13.98 | 0.29 | 70 | 0.6 |
| | | 18.0 | 6.55 | 13.98 | 0.29 | 70.1 | 0.6 |
| | | 16.0 | 6.51 | 13.98 | 0.28 | 69.5 | 0.6 |
| | | 14.0 | 6.49 | 13.98 | 0.27 | 68.8 | 0.6 |
| | | 12.0 | 6.49 | 13.99 | 0.29 | 66.9 | 0.6 |
| | | 10.0 | 6.47 | 13.99 | 0.27 | 65.7 | 0.6 |
| | | 8.0 | 6.45 | 14 | 0.3 | 63.2 | 0.6 |
| | | 6.0 | 6.41 | 14.06 | 0.26 | 59.8 | 0.6 |
| | | 4.0 | 6.36 | 14.48 | 0.28 | 52.3 | 0.4 |
| | | 2.0 | 6.49 | 14.65 | 0.28 | 39.1 | 0.2 |

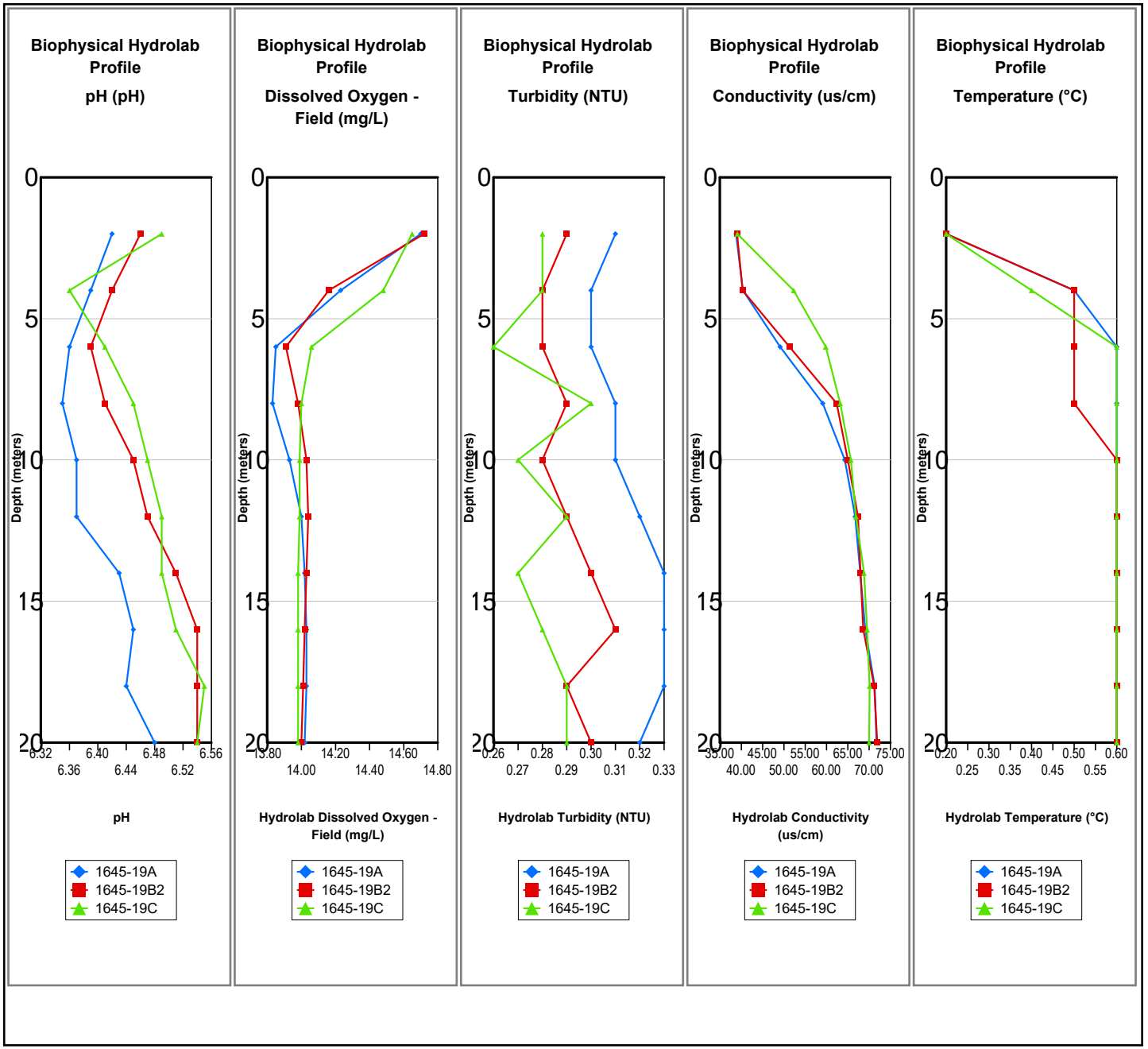


**Table 6: Non Discharge SNP Stations**

| Rio Tinto | May 2024 | | | 1645-13 | | | | | 1645-44 | 1645-45 | 1645-46 | 1645-47 | 1645-51 | | 1645-67 | 1645-68 | 1645-69 | 1645-74 | 1645-75 | | 1645-75B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Discharge SNP Stations, incl. Collection Ponds | W.L Criteria | Reported Units | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 17-May-24 | 19-May-24 | 5-May-24 | 17-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 22-May-24 | 9-May-24 | 29-May-24 | 22-May-24 |
| W2015L2-0001 Discharge Criteria | Aluminum (Al) - Total | | ug/L | 498 | 560 | 577 | 467 | 236 | 265 | 2260 | 2640 | 1100 | 1940 | 1680 | 4570 | 539 | 3900 | 1550 | 89400 | 4930 | 155 | 180 |
| | Ammonia (N) | | mg/L | 0.33 | 0.44 | 0.50 | 0.48 | 0.53 | <0.0050 | 0.011 | 0.025 | 0.059 | 1.1 | 1.5 | 0.57 | 0.12 | 0.47 | 0.074 | 1.1 | 0.028 | | 0.19 |
| | Arsenic (As) - Total | | ug/L | 2.73 | 2.96 | 3.20 | 3.65 | 3.74 | 0.275 | 0.919 | 0.557 | 0.605 | 2.47 | 2.64 | 1.84 | 0.482 | 1.25 | 1.03 | 11.4 | 3.14 | 4.61 | 4.81 |
| | C6-C50 Hydrocarbons Calculated | | mg/L | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 | <0.26 | | | <0.26 | 0.60 | 0.43 | | <0.26 | | | 8.3 | 0.55 | | <0.26 |
| | Cadmium (Cd) - Total | | ug/L | <0.0050 | 0.0086 | <0.0050 | <0.0050 | <0.0050 | 0.0148 | 0.0227 | 0.0270 | 0.0229 | 0.141 | 0.0088 | 0.027 | 0.0903 | 0.0439 | 0.0165 | 0.493 | 0.033 | 0.0963 | 0.0626 |
| | Chromium (Cr) - Total | | ug/L | 3.28 | 3.79 | 4.14 | 4.30 | 3.36 | 0.95 | 10.2 | 8.50 | 4.70 | 8.67 | 6.56 | 30.4 | 0.99 | 23.9 | 9.57 | 611 | 37.4 | 0.387 | 0.54 |
| | Copper (Cu) - Total | | ug/L | 1.46 | 1.47 | 1.16 | 1.01 | 0.53 | 3.98 | 4.53 | 4.60 | 4.16 | 4.02 | 3.09 | 10.7 | 9.70 | 6.21 | 4.76 | 107 | 5.70 | 2.77 | 1.90 |
| | Lead (Pb) - Total | | ug/L | 0.370 | 0.280 | 0.317 | 0.329 | 0.125 | 0.158 | 2.27 | 2.11 | 1.11 | 4.34 | 4.35 | 4.24 | 0.495 | 2.16 | 1.16 | 35.2 | 2.01 | 0.0890 | 0.067 |
| | Nickel (Ni) - Total | | ug/L | 26.6 | 22.8 | 11.8 | 12.3 | 12.1 | 9.82 | 33.9 | 20.7 | 18.8 | 38.3 | 15.0 | 36.6 | 35.3 | 76.1 | 18.7 | 1280 | 39.9 | 139 | 84.6 |
| | Nitrite (N) | | mg/L | 0.13 | 0.12 | 0.13 | 0.10 | 0.11 | 0.0063 | 0.12 | <0.0010 | 0.016 | 0.028 | 0.058 | 0.079 | 0.052 | 0.17 | 0.055 | 0.55 | <0.0010 | | 0.042 |
| | pH | | pH | 8.70 | 8.54 | 9.01 | 9.20 | 9.20 | 6.66 | 7.61 | 2.18 | 7.18 | 7.60 | 8.18 | 9.76 | 6.74 | 8.08 | 7.52 | 9.27 | 8.49 | | 7.17 |
| | Total Suspended Solids (TSS) | | mg/L | 9.7 | 11 | 4.9 | 4.5 | 3.8 | 3.9 | 27 | 6.0 | 32 | 61 | 67 | 180 | 5.9 | 89 | 14 | 2800 | 220 | | 2.2 |
| | Turbidity | | NTU | 15 | 14 | 17 | 7.6 | 5.1 | 3.0 | 94 | 65 | 44 | 34 | 38 | 160 | 13 | 110 | 48 | >4000 | 140 | | 8.1 |
| | Zinc (Zn) - Total | | ug/L | 4.0 | 3.4 | 2.5 | 2.43 | 2.4 | 3.7 | 13.0 | 22.6 | 11.4 | 24.1 | 9.4 | 27.5 | 20.9 | 16.1 | 11.6 | 616 | 32.3 | 56.6 | 36.4 |

| | | | | 1645-75B | 1645-76 | 1645-77 | 1645-80 | 1645-85A Clarifier 1 | 1645-85B Clarifier 2 | 1645-86A Clarifier 3 | 1645-86B Clarifier 4 | 1645-87 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 8-May-24 | 17-May-24 | 7-May-24 | 7-May-24 | 8-May-24 | 22-May-24 | 8-May-24 | 22-May-24 | 17-May-24 |
| W2015L2-0001 Discharge Criteria | Aluminum (Al) - Total | | ug/L | 174 | 1780 | 2.2 | 7.1 | | | | | 1920 |
| | Ammonia (N) | | mg/L | 0.12 | 0.31 | 0.010 | <0.0050 | | | | | 0.095 |
| | Arsenic (As) - Total | | ug/L | 5.76 | 1.53 | 1.00 | 0.47 | | | | | 1.21 |
| | C6-C50 Hydrocarbons Calculated | | mg/L | <0.26 | | | | <0.26 | <0.66 | <0.26 | <0.66 | |
| | Cadmium (Cd) - Total | | ug/L | <0.0050 | 0.040 | <0.050 | 0.510 | | | | | 0.0548 |
| | Chromium (Cr) - Total | | ug/L | 1.15 | 7.01 | <0.25 | <0.25 | | | | | 5.59 |
| | Copper (Cu) - Total | | ug/L | 0.331 | 6.51 | 3.86 | 10.6 | | | | | 6.96 |
| | Lead (Pb) - Total | | ug/L | 0.128 | 1.07 | <0.025 | 0.105 | | | | | 1.34 |
| | Nickel (Ni) - Total | | ug/L | 7.72 | 32.0 | 26.8 | 40.7 | | | | | 20.6 |
| | Nitrite (N) | | mg/L | 0.031 | 0.039 | <0.0010 | <0.0010 | | | | | 0.012 |
| | pH | | pH | 7.50 | 7.28 | 6.82 | 6.98 | | | | | 6.80 |
| | Total Suspended Solids (TSS) | | mg/L | <1.0 | 45 | <1.0 | <1.0 | | | | | 66 |
| | Turbidity | | NTU | 2.2 | 62 | 0.15 | 0.16 | | | | | 88 |
| | Zinc (Zn) - Total | | ug/L | 4.67 | 7.9 | 3.11 | 53.8 | | | | | 10.2 |

**Table 6: Non Discharge SNP Stations**

| Rio Tinto | May 2024 | | | 1645-13 | | | | | 1645-44 | 1645-45 | 1645-46 | 1645-47 | 1645-51 | | 1645-67 | 1645-68 | 1645-69 | 1645-74 | 1645-75 | | 1645-75B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Non-Discharge SNP Stations, incl. Collection Ponds** | **W.L Criteria** | **Reported Units** | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 17-May-24 | 19-May-24 | 5-May-24 | 17-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 22-May-24 | 9-May-24 | 29-May-24 | 22-May-24 |
| **Nutrients** | Dissolved Organic Carbon (C) | | mg/L | 1.5 | | | | | | | | | | | | | | | | | | |
| | Nitrate (N) | | mg/L | 2.7 | 2.6 | 2.7 | 2.2 | 2.4 | 0.43 | 0.69 | 0.21 | 0.55 | 2.2 | 2.1 | 4.0 | 3.0 | 3.9 | 2.1 | 6.5 | 2.4 | | 0.90 |
| | Nitrate plus Nitrite (N) | | mg/L | 2.8 | 2.7 | 2.9 | 2.3 | 2.5 | 0.44 | 0.81 | 0.21 | 0.57 | 2.2 | 2.2 | 4.1 | 3.0 | 4.1 | 2.2 | 7.0 | 2.4 | | 0.94 |
| | Nitrogen (N) - Total | | mg/L | 2.6 | 3.1 | 3.5 | 2.8 | 2.6 | 1.0 | 1.1 | 0.58 | 1.1 | 2.7 | 3.4 | 4.9 | 3.4 | 4.5 | 2.5 | 9.0 | 2.4 | | 1.0 |
| | Orthophosphate (PO4-P) | | mg/L | 0.11 | 0.15 | 0.18 | 0.20 | 0.22 | 0.0011 | 0.0011 | 0.029 | 0.0025 | 0.0034 | 0.20 | 0.012 | <0.0010 | 0.0011 | 0.0024 | 0.092 | 0.29 | | 0.11 |
| | Phosphorus (P) - Dissolved (TDP) | | mg/L | 0.107 | 0.135 | 0.174 | 0.189 | 0.195 | 0.0082 | 0.0073 | 0.0278 | 0.0069 | <0.0020 | 0.176 | 0.0216 | <0.0020 | 0.0022 | 0.0103 | 0.0810 | 0.260 | | 0.0960 |
| | Phosphorus (P) - Total | | mg/L | 0.143 | 0.165 | 0.191 | 0.187 | 0.213 | 0.0263 | 0.065 | 0.0760 | 0.0512 | 0.114 | 0.237 | 0.190 | 0.0234 | 0.098 | 0.0669 | 5.96 | 0.519 | | 0.469 |
| | Total Organic Carbon (TOC) | | mg/L | 1.9 | | | | | | | | | | | | | | | | | | |
| **Physical Properties** | Acidity (pH 4.5) | | mg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 481 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | <1.0 |
| | Acidity (pH 8.3) | | mg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.1 | 13.7 | 512 | 6.8 | 9.6 | <1.0 | 5.5 | 1.4 | 8.3 | 8.5 | <1.0 | <1.0 | | 2.9 |
| | Alkalinity (PP as CaCO3) | | mg/L | 2.97 | 1.48 | 7.10 | 10.8 | 10.1 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 14.7 | <0.50 | <0.50 | <0.50 | 15.0 | 1.71 | | <0.50 |
| | Alkalinity (Total as CaCO3) - Total | | mg/L | 46.3 | 49.0 | 55.3 | 59.9 | 60.5 | 7.78 | 73.0 | <0.50 | 29.7 | 30.4 | 60.4 | 35.0 | 16.0 | 80.9 | 58.8 | 82.6 | 71.9 | | 36.3 |
| | Hardness (as CaCO3) - Dissolved | | mg/L | 124 | | | | | 19.9 | 71.9 | 29.5 | 45.3 | 162 | 123 | 74.2 | 51.5 | 119 | 67.3 | 127 | 101 | 160 | 160 |
| | Hardness (as CACO3) - Total | | mg/L | 129 | 133 | 142 | 129 | 139 | 22.9 | 87.5 | 43.1 | 52.8 | 169 | 134 | 204 | 55.8 | 168 | 76.5 | 1410 | 147 | 154 | 166 |
| | Total Dissolved Solids (TDS) | | mg/L | 323 | 334 | 358 | 375 | 395 | 57.6 | 169 | 74.0 | 62.4 | 271 | 269 | 161 | 98.4 | 238 | 132 | 256 | 232 | | 547 |

| | | | | 1645-75B | 1645-76 | 1645-77 | 1645-80 | 1645-87 |
|---|---|---|---|---|---|---|---|---|
| | | | | 8-May-24 | 17-May-24 | 7-May-24 | 7-May-24 | 17-May-24 |
| Nutrients | Dissolved Organic Carbon (C) | | mg/L | | | 3.9 | 3.0 | |
| | Nitrate (N) | | mg/L | 0.61 | 1.6 | 11 | 8.8 | 0.64 |
| | Nitrate plus Nitrite (N) | | mg/L | 0.64 | 1.6 | 11 | 8.8 | 0.65 |
| | Nitrogen (N) - Total | | mg/L | 0.72 | 2.2 | 14 | 9.4 | 1.2 |
| | Orthophosphate (PO4-P) | | mg/L | 0.34 | 0.0029 | 0.011 | 0.0068 | 0.0037 |
| | Phosphorus (P) - Dissolved (TDP) | | mg/L | 0.305 | 0.0035 | 0.0074 | 0.0059 | 0.0065 |
| | Phosphorus (P) - Total | | mg/L | 0.456 | 0.0704 | 0.0106 | 0.0034 | 0.066 |
| | Total Organic Carbon (TOC) | | mg/L | | | 4.0 | 2.8 | |
| Physical Properties | Acidity (pH 4.5) | | mg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| | Acidity (pH 8.3) | | mg/L | 2.9 | 6.6 | 4.1 | 4.3 | 6.8 |
| | Alkalinity (PP as CaCO3) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Alkalinity (Total as CaCO3) - Total | | mg/L | 38.3 | 34.7 | 68.2 | 71.9 | 14.3 |
| | Hardness (as CaCO3) - Dissolved | | mg/L | 155 | 152 | 631 | 497 | 50.1 |
| | Hardness (as CACO3) - Total | | mg/L | 148 | 154 | 603 | 478 | 57.4 |
| | Total Dissolved Solids (TDS) | | mg/L | 563 | 194 | >1330 | 1250 | 94.4 |

**Table 6: Non Discharge SNP Stations**

| Rio Tinto | May 2024 | | | 1645-13 | | | | | 1645-44 | 1645-45 | 1645-46 | 1645-47 | 1645-51 | | 1645-67 | 1645-68 | 1645-69 | 1645-74 | 1645-75 | | 1645-75B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Discharge SNP Stations, incl. Collection Ponds | W.L Criteria | Reported Units | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 17-May-24 | 19-May-24 | 5-May-24 | 17-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 22-May-24 | 9-May-24 | 29-May-24 | 22-May-24 |
| Total Metals by CRC-ICPMS | Antimony (Sb) - Total | | ug/L | 0.301 | 0.276 | 0.290 | 0.252 | 0.286 | 0.051 | 0.839 | 0.205 | 0.640 | 0.188 | 0.245 | 0.75 | 0.072 | 0.523 | 0.414 | 0.74 | 0.34 | 0.070 | 0.054 |
| | Barium (Ba) - Total | | ug/L | 91.9 | 95.1 | 97.6 | 96.7 | 107 | 13.7 | 89.5 | 52.4 | 42.4 | 129 | 133 | 104 | 20.8 | 156 | 46.0 | 2380 | 142 | 138 | 167 |
| | Beryllium (Be) - Total | | ug/L | 0.018 | 0.014 | 0.021 | 0.011 | <0.010 | 0.019 | 0.102 | 0.118 | 0.049 | 0.109 | 0.092 | 0.186 | 0.057 | 0.158 | 0.061 | 2.20 | 0.113 | 0.068 | 0.043 |
| | Bismuth (Bi) - Total | | ug/L | 0.019 | 0.027 | 0.025 | 0.0304 | <0.010 | 0.066 | 0.443 | 0.360 | 0.270 | 0.050 | 0.043 | 0.598 | 0.132 | 0.433 | 0.288 | 1.77 | 0.115 | <0.0050 | <0.010 |
| | Boron (B) - Total | | ug/L | 30 | 31 | 34 | 38.3 | 33 | <10 | 50 | 12 | 18 | 49 | 52 | <50 | 12 | 29 | 21 | 74 | <50 | 23.5 | 23 |
| | Calcium (Ca) - Total | | mg/L | 33.5 | 35.2 | 39.2 | 37.2 | 40.5 | 3.24 | 14.0 | 7.18 | 9.96 | 33.5 | 29.1 | 65.5 | 9.89 | 19.2 | 18.7 | 187 | 40.7 | 42.9 | 46.5 |
| | Cobalt (Co) - Total | | ug/L | 1.40 | 1.23 | 0.676 | 0.608 | 0.361 | 0.430 | 2.47 | 1.90 | 1.52 | 4.15 | 1.41 | 4.14 | 3.33 | 5.19 | 1.81 | 110 | 3.83 | 11.4 | 7.16 |
| | Iron (Fe) - Total | | ug/L | 568 | 643 | 602 | 548 | 254 | 269 | 2780 | 2710 | 1480 | 2520 | 2000 | 5670 | 545 | 5750 | 2110 | 142000 | 6060 | 989 | 1310 |
| | Lithium (Li) - Total | | ug/L | 14.2 | 13.1 | 15.0 | 16.0 | 11.7 | 4.02 | 31.9 | 14.3 | 8.93 | 22.0 | 14.7 | 43.8 | 17.3 | 25.1 | 13.0 | 416 | 31.8 | 14.6 | 13.8 |
| | Magnesium (Mg) - Total | | mg/L | 11.0 | 11.0 | 10.8 | 8.83 | 9.25 | 3.61 | 12.7 | 6.11 | 6.79 | 20.8 | 14.9 | 9.79 | 7.56 | 29.3 | 7.23 | 229 | 11.0 | 11.5 | 12.2 |
| | Manganese (Mn) - Total | | ug/L | 64.4 | 57.2 | 40.2 | 37.7 | 30.7 | 19.1 | 56.1 | 66.7 | 82.0 | 409 | 331 | 114 | 102 | 99.6 | 74.1 | 2470 | 123 | 123 | 123 |
| | Mercury (Hg) - Total | | ug/L | <0.0019 | <0.0019 | <0.0019 | <0.0019 | <0.0019 | 0.0058 | <0.0019 | <0.0019 | <0.0019 | | | <0.0019 | <0.0019 | <0.0019 | <0.0019 | | | | |
| | Molybdenum (Mo) - Total | | ug/L | 21.4 | 21.3 | 21.0 | 17.5 | 19.2 | 0.353 | 23.0 | 2.05 | 3.50 | 5.94 | 5.97 | 17.0 | 1.47 | 29.6 | 11.1 | 50.0 | 18.3 | 13.5 | 14.2 |
| | Potassium (K) - Total | | mg/L | 9.44 | 8.71 | 8.43 | 6.47 | 7.41 | 2.57 | 21.9 | 4.89 | 5.33 | 4.52 | 3.41 | 20.0 | 5.52 | 27.7 | 12.8 | 69.2 | 14.5 | 7.70 | 5.87 |
| | Selenium (Se) - Total | | ug/L | 0.103 | 0.104 | 0.068 | 0.080 | 0.060 | 0.056 | 0.215 | 0.054 | 0.054 | 0.127 | 0.071 | 0.49 | 0.145 | 0.309 | 0.129 | 0.73 | <0.20 | 0.055 | <0.040 |
| | Silicon (Si) - Total | | ug/L | 5390 | 5850 | 6800 | 6260 | 6160 | 1680 | 8280 | 7840 | 3960 | 10000 | 10900 | 17700 | 2250 | 16900 | 7450 | 108000 | 21300 | 5670 | 5620 |
| | Silver (Ag) - Total | | ug/L | <0.010 | <0.010 | <0.010 | <0.0050 | <0.010 | <0.010 | 0.014 | 0.039 | 0.032 | 0.144 | 0.163 | <0.050 | 0.011 | 0.027 | 0.016 | 0.470 | <0.050 | <0.0050 | 0.010 |
| | Sodium (Na) - Total | | mg/L | 51.1 | 55.1 | 59.0 | 54.7 | 60.2 | 1.79 | 10.9 | 1.71 | 3.32 | 31.4 | 31.4 | 14.4 | 4.45 | 16.8 | 8.46 | 47.7 | 30.7 | 83.5 | 99.8 |
| | Strontium (Sr) - Total | | ug/L | 742 | 774 | 824 | 901 | 957 | 24.8 | 175 | 60.7 | 83.7 | 360 | 358 | 241 | 72.4 | 285 | 103 | 1450 | 476 | 1350 | 1530 |
| | Sulphur (S) - Total | | mg/L | 17.5 | 15.9 | 13.5 | 9.21 | 12.9 | 4.18 | 13.3 | 1.27 | 7.56 | 11.7 | 4.95 | 14.9 | 11.8 | 30.0 | 9.48 | 23.7 | 10.9 | 20.9 | 17.5 |
| | Thallium (Tl) - Total | | ug/L | 0.0062 | 0.0092 | 0.0153 | 0.0140 | 0.0038 | 0.0125 | 0.0594 | 0.0559 | 0.0146 | 0.0172 | 0.0156 | 0.052 | 0.0216 | 0.0374 | 0.0158 | 1.30 | 0.043 | 0.0336 | 0.0094 |
| | Tin (Sn) - Total | | ug/L | <0.20 | <0.20 | <0.20 | 0.035 | <0.20 | <0.20 | <0.20 | 0.28 | <0.20 | 0.25 | 0.36 | <1.0 | <0.20 | 0.36 | <0.20 | 9.2 | <1.0 | <0.010 | <0.20 |
| | Titanium (Ti) - Total | | ug/L | 26.4 | 32.6 | 32.6 | 30.6 | 14.0 | 7.8 | 110 | 139 | 63.4 | 113 | 122 | 250 | 20.6 | 258 | 97.4 | 8300 | 355 | 2.40 | <2.0 |
| | Uranium (U) - Total | | ug/L | 5.04 | 4.80 | 3.83 | 3.16 | 3.12 | 2.45 | 9.46 | 6.81 | 6.97 | 13.4 | 9.41 | 13.2 | 6.48 | 28.2 | 23.8 | 27.3 | 2.64 | 3.26 | 2.28 |
| | Vanadium (V) - Total | | ug/L | 2.22 | 2.58 | 2.82 | 3.05 | 2.58 | 0.37 | 4.63 | 4.75 | 2.42 | 4.67 | 4.48 | 21.0 | 0.95 | 9.96 | 4.35 | 229 | 17.4 | 0.176 | 0.34 |
| | Zirconium (Zr) - Total | | ug/L | 0.33 | 0.22 | 0.21 | 0.248 | 0.27 | 0.40 | 2.28 | 2.55 | 0.93 | 0.88 | 0.85 | 1.97 | 0.70 | 1.19 | 1.05 | 9.57 | 1.55 | 0.056 | 0.46 |

| | | | | 1645-75B | 1645-76 | 1645-77 | 1645-80 | 1645-87 |
|---|---|---|---|---|---|---|---|---|
| | | | | 8-May-24 | 17-May-24 | 7-May-24 | 7-May-24 | 17-May-24 |
| Total Metals by CRC-ICPMS | Antimony (Sb) - Total | | ug/L | 0.036 | 0.34 | 0.92 | 0.37 | 0.110 |
| | Barium (Ba) - Total | | ug/L | 216 | 85.1 | 16.6 | 20.9 | 43.0 |
| | Beryllium (Be) - Total | | ug/L | 0.030 | 0.073 | <0.050 | <0.050 | 0.092 |
| | Bismuth (Bi) - Total | | ug/L | 0.0332 | 0.163 | <0.025 | <0.025 | 0.131 |
| | Boron (B) - Total | | ug/L | 22.6 | <50 | 29 | <25 | <10 |
| | Calcium (Ca) - Total | | mg/L | 43.8 | 23.0 | 60.7 | 39.3 | 11.4 |
| | Cobalt (Co) - Total | | ug/L | 0.685 | 2.44 | 2.33 | 6.28 | 2.67 |
| | Iron (Fe) - Total | | ug/L | 1850 | 2360 | 10.8 | 88.5 | 2290 |
| | Lithium (Li) - Total | | ug/L | 13.4 | 9.9 | 6.2 | 12.8 | 14.7 |
| | Magnesium (Mg) - Total | | mg/L | 9.39 | 23.4 | 110 | 92.4 | 7.04 |
| | Manganese (Mn) - Total | | ug/L | 93.9 | 185 | 155 | 460 | 245 |
| | Mercury (Hg) - Total | | ug/L | | <0.0019 | <0.0019 | <0.0019 | <0.0019 |
| | Molybdenum (Mo) - Total | | ug/L | 11.2 | 27.8 | 361 | 243 | 1.02 |
| | Potassium (K) - Total | | mg/L | 2.46 | 18.9 | 191 | 117 | 5.07 |
| | Selenium (Se) - Total | | ug/L | <0.040 | <0.20 | 0.32 | 0.26 | 0.077 |
| | Silicon (Si) - Total | | ug/L | 5670 | 5090 | 2010 | 3120 | 5290 |
| | Silver (Ag) - Total | | ug/L | <0.0050 | <0.050 | <0.025 | <0.025 | 0.017 |
| | Sodium (Na) - Total | | mg/L | 99.7 | 15.0 | 210 | 136 | 3.15 |
| | Strontium (Sr) - Total | | ug/L | 1520 | 384 | 1760 | 1050 | 75.4 |
| | Sulphur (S) - Total | | mg/L | 6.69 | 55.6 | 309 | 198 | 11.4 |
| | Thallium (Tl) - Total | | ug/L | 0.0044 | <0.010 | 0.035 | 0.059 | 0.0581 |
| | Tin (Sn) - Total | | ug/L | <0.010 | <1.0 | <0.050 | <0.050 | <0.20 |
| | Titanium (Ti) - Total | | ug/L | 11.8 | 95 | <2.5 | <2.5 | 95.7 |
| | Uranium (U) - Total | | ug/L | 0.360 | 6.43 | 27.8 | 84.5 | 3.63 |
| | Vanadium (V) - Total | | ug/L | 0.482 | 4.9 | 1.12 | 0.60 | 4.20 |
| | Zirconium (Zr) - Total | | ug/L | 0.060 | 0.67 | <0.25 | <0.25 | 1.26 |

**Table 6: Non Discharge SNP Stations**

| Rio Tinto | May 2024 | | | 1645-13 | 1645-44 | 1645-45 | 1645-46 | 1645-47 | 1645-51 | | 1645-67 | 1645-68 | 1645-69 | 1645-74 | 1645-75 | | 1645-75B | | | 1645-76 | 1645-77 | 1645-80 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Non-Discharge SNP Stations, incl. Collection Ponds** | **W.L Criteria** | **Reported Units** | 28-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 17-May-24 | 19-May-24 | 5-May-24 | 17-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 22-May-24 | 9-May-24 | 29-May-24 | 22-May-24 | 8-May-24 | 17-May-24 | 7-May-24 | 7-May-24 |
| **Dissolved Metals by CRC-ICPMS** | Aluminum (Al) - Dissolved | | ug/L | 49.7 | 129 | 8.12 | 19.6 | 26.4 | 28.0 | 11.8 | 59.4 | 15.5 | 5.08 | 6.30 | 24.5 | 10.5 | 9.50 | 7.95 | 7.57 | 12.1 | 2.2 | 1.5 |
| | Antimony (Sb) - Dissolved | | ug/L | 0.281 | 0.041 | 0.796 | 0.172 | 0.548 | 0.150 | 0.163 | 0.60 | 0.060 | 0.431 | 0.346 | 1.00 | 0.369 | 0.058 | 0.050 | 0.030 | 0.31 | 0.90 | 0.38 |
| | Arsenic (As) - Dissolved | | ug/L | 2.54 | 0.247 | 0.647 | 0.281 | 0.341 | 1.45 | 2.42 | 0.80 | 0.362 | 0.676 | 0.598 | 3.20 | 2.91 | 3.33 | 3.43 | 4.19 | 0.65 | 0.82 | 0.35 |
| | Barium (Ba) - Dissolved | | ug/L | 80.9 | 11.5 | 53.9 | 18.0 | 25.5 | 86.5 | 91.8 | 25.3 | 15.5 | 74.8 | 26.1 | 69.0 | 55.6 | 140 | 136 | 160 | 60.4 | 17.0 | 21.4 |
| | Beryllium (Be) - Dissolved | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.015 | <0.010 | <0.050 | 0.019 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 | <0.050 | <0.050 |
| | Bismuth (Bi) - Dissolved | | ug/L | <0.0050 | 0.0158 | <0.0050 | 0.0059 | <0.0050 | <0.0050 | <0.0050 | <0.025 | 0.0080 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.025 | <0.025 | <0.025 |
| | Boron (B) - Dissolved | | ug/L | 30.9 | 6.3 | 44.8 | 10.5 | 16.4 | 47.6 | 51.5 | <25 | 11.9 | 27.3 | 21.4 | 46.2 | 22.2 | 25.9 | 23.8 | 23.1 | <25 | 28 | <25 |
| | Cadmium (Cd) - Dissolved | | ug/L | <0.050 | 0.0074 | <0.0050 | 0.0062 | 0.0102 | 0.124 | <0.0050 | <0.025 | 0.0308 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0589 | 0.0420 | <0.0050 | <0.025 | 0.083 | 0.569 |
| | Calcium (Ca) - Dissolved | | mg/L | 33.5 | 2.97 | 13.7 | 6.34 | 9.90 | 32.3 | 28.4 | 26.3 | 9.39 | 18.8 | 18.9 | 37.2 | 33.0 | 45.3 | 45.4 | 45.1 | 24.3 | 62.6 | 40.8 |
| | Chromium (Cr) - Dissolved | | ug/L | 0.973 | 0.761 | 0.171 | 0.211 | 0.327 | 0.070 | 0.362 | 13.0 | 0.112 | 0.127 | 1.92 | 3.82 | 16.9 | <0.050 | <0.050 | <0.050 | <0.25 | <0.25 | <0.25 |
| | Cobalt (Co) - Dissolved | | ug/L | 0.464 | 0.215 | 0.0361 | 0.0305 | 0.0551 | 1.64 | 0.0754 | 0.146 | 0.0892 | 0.163 | 0.0453 | 0.0810 | 0.0606 | 8.39 | 7.10 | 0.334 | 0.265 | 2.28 | 6.31 |
| | Copper (Cu) - Dissolved | | ug/L | 0.698 | 3.48 | 0.910 | 1.58 | 1.97 | 0.650 | 0.874 | 2.72 | 5.81 | 1.01 | 1.63 | 0.442 | 0.574 | 0.569 | 0.639 | 0.118 | 2.43 | 3.54 | 9.52 |
| | Iron (Fe) - Dissolved | | ug/L | 4.5 | 84.5 | 2.3 | 17.5 | 23.2 | 1.2 | 1.2 | <5.0 | 23.1 | 2.1 | 12.1 | 1.8 | 3.7 | 18.0 | 4.8 | 1.8 | 7.6 | 5.3 | <5.0 |
| | Lead (Pb) - Dissolved | | ug/L | 0.0106 | 0.0502 | 0.0267 | 0.0274 | 0.0322 | <0.0050 | 0.0176 | <0.025 | 0.0272 | 0.0069 | 0.0178 | <0.0050 | <0.0050 | 0.0212 | <0.0050 | <0.0050 | <0.025 | <0.025 | 0.026 |
| | Lithium (Li) - Dissolved | | ug/L | 12.2 | 3.80 | 23.5 | 4.94 | 6.41 | 14.0 | 9.93 | 21.3 | 17.5 | 15.3 | 9.21 | 17.4 | 14.6 | 16.2 | 14.9 | 13.3 | 7.9 | 7.1 | 14.5 |
| | Magnesium (Mg) - Dissolved | | mg/L | 9.87 | 3.03 | 9.14 | 3.31 | 4.98 | 19.8 | 12.7 | 2.08 | 6.80 | 17.5 | 4.90 | 8.30 | 4.58 | 11.4 | 11.3 | 10.2 | 22.2 | 115 | 95.9 |
| | Manganese (Mn) - Dissolved | | ug/L | 43.2 | 14.4 | 1.14 | 2.00 | 2.43 | 234 | 263 | <0.25 | 1.06 | 10.3 | 0.340 | 0.992 | 0.366 | 122 | 112 | 82.7 | 115 | 164 | 500 |
| | Mercury (Hg) - Dissolved | | ug/L | <0.0019 | 0.0053 | <0.0019 | <0.0019 | <0.0019 | | | <0.0019 | <0.0019 | <0.0019 | <0.0019 | | | | | | <0.0019 | <0.0019 | <0.0019 |
| | Molybdenum (Mo) - Dissolved | | ug/L | 21.7 | 0.316 | 22.6 | 1.79 | 3.10 | 5.65 | 5.63 | 14.7 | 1.27 | 26.2 | 9.98 | 42.8 | 19.0 | 13.0 | 13.6 | 11.4 | 26.0 | 371 | 248 |
| | Nickel (Ni) - Dissolved | | ug/L | 16.7 | 8.74 | 5.46 | 5.68 | 7.71 | 28.9 | 1.98 | 2.07 | 24.1 | 10.5 | 4.66 | 2.67 | 2.53 | 102 | 85.2 | 6.08 | 16.5 | 26.4 | 41.9 |
| | Potassium (K) - Dissolved | | mg/L | 9.46 | 2.42 | 20.5 | 3.38 | 4.36 | 3.87 | 2.71 | 15.7 | 5.63 | 23.0 | 10.6 | 14.1 | 13.1 | 7.57 | 5.07 | 2.51 | 16.4 | 207 | 127 |
| | Selenium (Se) - Dissolved | | ug/L | 0.094 | <0.040 | 0.146 | <0.040 | 0.047 | 0.151 | <0.040 | 0.36 | 0.145 | 0.259 | 0.076 | 0.182 | 0.146 | 0.041 | 0.041 | <0.040 | <0.20 | 0.27 | 0.21 |
| | Silicon (Si) - Dissolved | | ug/L | 4340 | 1320 | 2720 | 1190 | 1480 | 6000 | 6210 | 7050 | 1300 | 2500 | 3580 | 7390 | 10100 | 5470 | 5560 | 5650 | 1370 | 2100 | 3300 |
| | Silver (Ag) - Dissolved | | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.025 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.025 | <0.025 | <0.025 |
| | Sodium (Na) - Dissolved | | mg/L | 49.5 | 1.60 | 10.7 | 1.29 | 3.18 | 28.7 | 34.6 | 12.1 | 4.59 | 15.1 | 7.76 | 40.9 | 30.9 | 91.4 | 94.6 | 100 | 15.0 | 215 | 139 |
| | Strontium (Sr) - Dissolved | | ug/L | 771 | 24.1 | 162 | 50.3 | 78.7 | 334 | 349 | 149 | 72.2 | 271 | 98.0 | 499 | 438 | 1570 | 1540 | 1640 | 376 | 1890 | 1130 |
| | Sulphur (S) - Dissolved | | mg/L | 18.2 | 4.53 | 13.3 | 1.55 | 5.96 | 20.1 | 4.20 | 14.9 | 13.4 | 26.4 | 8.00 | 18.7 | 10.1 | 20.3 | 15.3 | 6.65 | 43.8 | 336 | 217 |
| | Thallium (Tl) - Dissolved | | ug/L | 0.0093 | 0.0084 | 0.0112 | 0.0053 | 0.0099 | 0.0106 | 0.0043 | <0.010 | 0.0144 | 0.0202 | 0.0074 | 0.0107 | 0.0063 | 0.0217 | 0.0197 | <0.0020 | 0.026 | 0.032 | 0.056 |
| | Tin (Sn) - Dissolved | | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 | <0.010 | <0.010 | <0.010 | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 | <0.050 | <0.050 |
| | Titanium (Ti) - Dissolved | | ug/L | <0.50 | 1.32 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | <2.5 | <2.5 |
| | Uranium (U) - Dissolved | | ug/L | 4.79 | 1.90 | 7.24 | 3.42 | 4.36 | 11.4 | 6.57 | 0.508 | 3.73 | 22.7 | 20.6 | 1.81 | 1.51 | 1.06 | 1.54 | 0.177 | 4.55 | 28.0 | 82.8 |
| | Vanadium (V) - Dissolved | | ug/L | 1.29 | 0.224 | 0.405 | 0.232 | 0.244 | 0.480 | 0.758 | 10.9 | 0.125 | 0.429 | 0.862 | 4.62 | 7.17 | 0.071 | <0.050 | <0.050 | 0.38 | 0.54 | <0.25 |
| | Zinc (Zn) - Dissolved | | ug/L | 0.13 | 2.63 | 0.22 | 0.20 | 0.49 | 2.50 | <0.10 | <0.50 | 11.1 | <0.10 | 0.16 | <0.10 | <0.10 | 29.6 | 20.7 | 0.74 | <0.50 | 2.61 | 54.1 |
| | Zirconium (Zr) - Dissolved | | ug/L | <0.050 | 0.274 | <0.050 | 0.137 | 0.125 | <0.050 | <0.050 | <0.25 | 0.130 | 0.057 | 0.092 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.25 | <0.25 | <0.25 |

| | | | | 1645-87 |
|---|---|---|---|---|
| | | | | 17-May-24 |
| Dissolved Metals by CRC-ICPMS | Aluminum (Al) - Dissolved | | ug/L | 47.4 |
| | Antimony (Sb) - Dissolved | | ug/L | 0.097 |
| | Arsenic (As) - Dissolved | | ug/L | 0.397 |
| | Barium (Ba) - Dissolved | | ug/L | 20.6 |
| | Beryllium (Be) - Dissolved | | ug/L | 0.013 |
| | Bismuth (Bi) - Dissolved | | ug/L | <0.0050 |
| | Boron (B) - Dissolved | | ug/L | 11.3 |
| | Cadmium (Cd) - Dissolved | | ug/L | 0.0356 |
| | Calcium (Ca) - Dissolved | | mg/L | 10.9 |
| | Chromium (Cr) - Dissolved | | ug/L | 0.238 |
| | Cobalt (Co) - Dissolved | | ug/L | 0.846 |
| | Copper (Cu) - Dissolved | | ug/L | 3.45 |
| | Iron (Fe) - Dissolved | | ug/L | 50.2 |
| | Lead (Pb) - Dissolved | | ug/L | 0.0349 |
| | Lithium (Li) - Dissolved | | ug/L | 8.53 |
| | Magnesium (Mg) - Dissolved | | mg/L | 5.55 |
| | Manganese (Mn) - Dissolved | | ug/L | 188 |
| | Mercury (Hg) - Dissolved | | ug/L | <0.0019 |
| | Molybdenum (Mo) - Dissolved | | ug/L | 0.878 |
| | Nickel (Ni) - Dissolved | | ug/L | 12.1 |
| | Potassium (K) - Dissolved | | mg/L | 4.07 |
| | Selenium (Se) - Dissolved | | ug/L | 0.053 |
| | Silicon (Si) - Dissolved | | ug/L | 1760 |
| | Silver (Ag) - Dissolved | | ug/L | <0.0050 |
| | Sodium (Na) - Dissolved | | mg/L | 2.92 |
| | Strontium (Sr) - Dissolved | | ug/L | 70.6 |
| | Sulphur (S) - Dissolved | | mg/L | 12.7 |
| | Thallium (Tl) - Dissolved | | ug/L | 0.0212 |
| | Tin (Sn) - Dissolved | | ug/L | <0.010 |
| | Titanium (Ti) - Dissolved | | ug/L | <0.50 |
| | Uranium (U) - Dissolved | | ug/L | 2.22 |
| | Vanadium (V) - Dissolved | | ug/L | 0.162 |
| | Zinc (Zn) - Dissolved | | ug/L | 1.15 |
| | Zirconium (Zr) - Dissolved | | ug/L | 0.175 |

**Table 6: Non Discharge SNP Stations**

| Rio Tinto | May 2024 | | | 1645-13 | | | | | 1645-44 | 1645-45 | 1645-46 | 1645-47 | 1645-51 | | 1645-67 | 1645-68 | 1645-69 | 1645-74 | 1645-75 | | 1645-75B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Discharge SNP Stations, incl. Collection Ponds | W.L Criteria | Reported Units | 28-May-24 | 22-May-24 | 16-May-24 | 10-May-24 | 4-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 17-May-24 | 19-May-24 | 5-May-24 | 17-May-24 | 27-May-24 | 17-May-24 | 17-May-24 | 22-May-24 | 9-May-24 | 22-May-24 | 8-May-24 |
| Anions | Bicarbonate (HCO3) | | mg/L | 49.2 | 56.2 | 50.2 | 46.8 | 49.2 | 9.49 | 89.1 | <0.50 | 36.3 | 37.1 | 73.7 | 6.81 | 19.5 | 98.7 | 71.7 | 64.0 | 83.5 | 44.3 | 46.7 |
| | Carbonate (CO3) | | mg/L | 3.57 | 1.77 | 8.51 | 12.9 | 12.1 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 17.6 | <0.50 | <0.50 | <0.50 | 18.0 | 2.05 | <0.50 | <0.50 |
| | Chloride (Cl) - Dissolved | | mg/L | 100 | 120 | 110 | 130 | 140 | 0.69 | 3.0 | <0.50 | <2.5 | 36 | 95 | 7.2 | 1.6 | 7.5 | 2.9 | 52 | 51 | 210 | 230 |
| | Fluoride (F) | | mg/L | 0.131 | 0.144 | 0.154 | 0.189 | 0.157 | 0.037 | 0.096 | 0.016 | 0.036 | 0.198 | 0.272 | 0.177 | 0.060 | 0.075 | 0.079 | 0.159 | 0.136 | 0.125 | 0.111 |
| | Hydroxide (OH) | | mg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Sulphate (SO4) - Dissolved | | mg/L | 53 | 43 | 48 | 42 | 42 | 14 | 45 | 260 | 23 | 160 | 17 | 57 | 38 | 85 | 29 | 67 | 37 | 54 | 22 |
| CCME Hydrocarbons | Benzene | | ug/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | | | <0.40 | <0.40 | <0.40 | | <0.40 | | | <0.40 | <0.40 | <0.40 | <0.40 |
| | Ethylbenzene | | ug/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | | | <0.40 | <0.40 | <0.40 | | <0.40 | | | <0.40 | <0.40 | <0.40 | <0.40 |
| | F1 (C6-C10 Hydrocarbons) | | ug/L | <100 | <100 | <100 | <100 | <100 | <100 | | | <100 | <100 | <100 | | <100 | | | <100 | <100 | <100 | <100 |
| | F1 (C6-C10) - BTEX | | ug/L | <100 | <100 | <100 | <100 | <100 | <100 | | | <100 | <100 | <100 | | <100 | | | <100 | <100 | <100 | <100 |
| | F2 (C10-C16 Hydrocarbons) | | mg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | | <0.10 | <0.10 | <0.10 | | <0.10 | | | 0.94 | <0.10 | <0.10 | <0.10 |
| | F3 (C16-C34 Hydrocarbons) | | mg/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | | <0.10 | 0.60 | 0.43 | | <0.10 | | | 6.5 | 0.55 | <0.10 | <0.10 |
| | F4 (C34-C50 Hydrocarbons) | | mg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | | | <0.20 | <0.20 | <0.20 | | <0.20 | | | 0.85 | <0.20 | <0.20 | <0.20 |
| | Toluene | | ug/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | | | <0.40 | <0.40 | <0.40 | | <0.40 | | | <0.40 | <0.40 | <0.40 | <0.40 |
| | Xylenes (Total) | | ug/L | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 | <0.57 | | | <0.57 | <0.57 | <0.57 | | <0.57 | | | <0.57 | <0.57 | <0.57 | <0.57 |

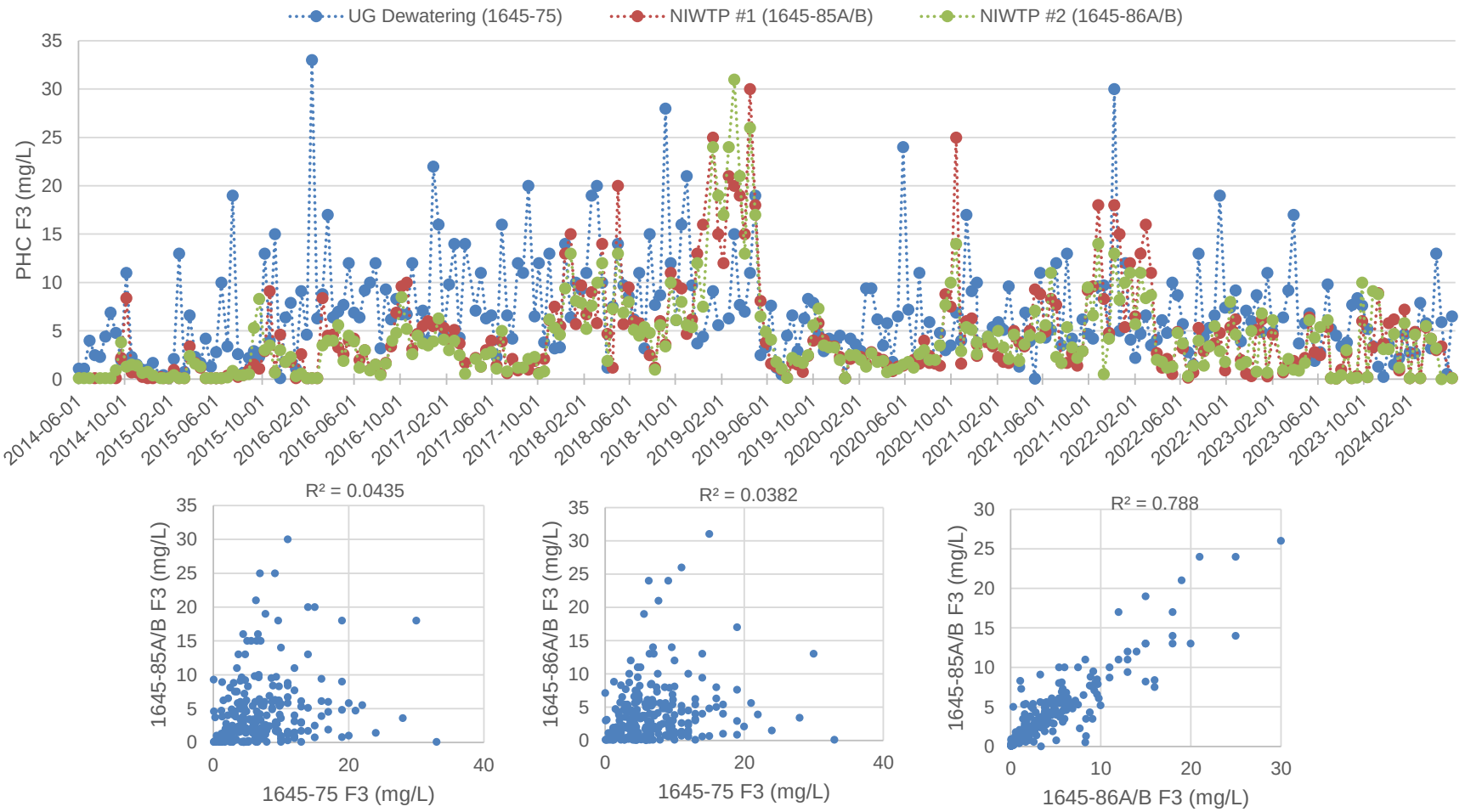
| | | | | 1645-76 | 1645-77 | 1645-80 | 1645-85A Clarifier 1 | 1645-85B Clarifier 2 | 1645-86A Clarifier 3 | 1645-86B Clarifier 4 | 1645-87 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 17-May-24 | 7-May-24 | 7-May-24 | 8-May-24 | 22-May-24 | 8-May-24 | 22-May-24 | 17-May-24 |
| **Anions** | Bicarbonate (HCO3) | | mg/L | 42.3 | 83.2 | 87.8 | | | | | 17.4 |
| | Carbonate (CO3) | | mg/L | <0.50 | <0.50 | <0.50 | | | | | <0.50 |
| | Chloride (Cl) - Dissolved | | mg/L | 8.2 | 150 | 130 | | | | | 1.4 |
| | Fluoride (F) | | mg/L | 0.058 | 0.047 | 0.085 | | | | | 0.015 |
| | Hydroxide (OH) | | mg/L | <0.50 | <0.50 | <0.50 | | | | | <0.50 |
| | Sulphate (SO4) - Dissolved | | mg/L | 160 | 1000 | 630 | | | | | 43 |
| **CCME Hydrocarbons** | Benzene | | ug/L | | | | <0.40 | <0.40 | <0.40 | <0.40 | |
| | Ethylbenzene | | ug/L | | | | <0.40 | <0.40 | <0.40 | <0.40 | |
| | F1 (C6-C10 Hydrocarbons) | | ug/L | | | | <100 | <100 | <100 | <100 | |
| | F1 (C6-C10) - BTEX | | ug/L | | | | <100 | <100 | <100 | <100 | |
| | F2 (C10-C16 Hydrocarbons) | | mg/L | | | | <0.10 | <0.27 | <0.10 | <0.27 | |
| | F3 (C16-C34 Hydrocarbons) | | mg/L | | | | <0.10 | <0.27 | <0.10 | <0.27 | |
| | F4 (C34-C50 Hydrocarbons) | | mg/L | | | | <0.20 | <0.53 | <0.20 | <0.53 | |
| | Toluene | | ug/L | | | | <0.40 | <0.40 | <0.40 | <0.40 | |
| | Xylenes (Total) | | ug/L | | | | <0.57 | <0.57 | <0.57 | <0.57 | |

# Table 7: Spill Summary May, 2024

RioTinto

| RTBS/ Enablon Incident Number | Spill Date | DDMI Dept. / Contractor | Material /Product Spilled | Spill Volume (L) | Area of Spill ($m^2$) | Internal or Gov't Record | Equipment Type | Equipment Number | Incident Description | Spill Location Designation | Spill Location (Specific) | Easting | Northing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Surface Spills** | | | | | | | | | | | | | |
| 1553387136_30123 | 2024-05-05 | DDMI - Process Operations - Backfill Ops | Oil - Hydraulic | 200 | 20 | External | Loaders and Forklifts | 982 | Hydraulic line leak from 982 loader | Backfill Plant | Crusher Rom | 535021 | 7152596 |
| 1628677511_30221 | 2024-05-05 | DDMI - Process Operations - Backfill Ops | Oil - Hydraulic | 50 | 5 | Internal | Loaders and Forklifts | 982 | Hydraulic line leak from 982 loader | Backfill Plant | Backfill Yard | 534933 | 7152556 |
| 2162619822_30821 | 2024-05-11 | DDMI - Infras - Proj - Pow - Site Maintenance | Oil - Diesel | 10 | 2 | Internal | Pipelines | NA | Overflow of fuel from catch containment container | A21 MAH | A21 MAH | 533522 | 7150269 |
| 2813842960_31744 | 2024-05-17 | DDMI - Process Operations - Backfill Ops | Water - Process | 11,000 | 50 | External | Pipelines | Wet well PP return line | Over pressure in the line caused by seepage well and collection pond pumping into line at the same time extruded the gasket causing a leak | Backfill Plant | Loadout Yard | 535345 | 7152513 |
| 2828824254_31761 | 2024-05-18 | DDMI - Process Operations - Process Plant | Processed Kimberlite | 40,000 | 300 | External | Pipelines | 311 | Blanked flange on PKMW line blew out near the pig discharge shack | Process Plant | Near Pig discharge shack on PKMW line 311 | 533902 | 7151224 |
| 2871877273_31814 | 2024-05-19 | DDMI - Underground - Equipment | Oil - Hydraulic | 12 | 8 | Internal | Haul Trucks Underground | 616 | Hydraulic leak from MHT616 on C Portal ore pad | Underground Surface Infrastructure | C Portal Ore Pad | 535426 | 7152256 |
| 3257753660_34278 | 2024-05-23 | DDMI - Underground - Equipment | Oil - Hydraulic | 90 | 15 | Internal | Loaders and Forklifts | 313 | Leak from blown hydraulic hose at c-portal | Underground Surface Infrastructure | C Portal Ore Pad | 535405 | 7152238 |
| 3297195478_34302 | 2024-05-25 | DDMI - Underground - Equipment | Oil - Diesel | 20 | 15 | Internal | Haul Trucks Underground | 622 | Fuel spill at C-Portal while refueling UG Haul Truck | Underground Surface Infrastructure | C Portal Refueling Bay | 535516 | 7152157 |
| 3447444434_34485 | 2024-05-26 | DDMI - Infras - Proj - Pow - Site Services | Oil - Diesel | 1500 | 10 | External | Service Vehicle | 548 | Fuel truck parked in Metcon leaked diesel fuel onto ground | Metcon Yard | Metcon Yard | 533638 | 7150897 |
| 3297195478_34302 | 2024-05-26 | DDMI - Underground - Equipment | Oil - Diesel | 15 | 5 | Internal | Haul Trucks Underground | 622 | 622 Haul Truck was refueling at the C-Portal fuel pad | Underground Surface Infrastructure | C-Portal refuel pad | 535519 | 7152164 |
| 1299788343_37394 | 2024-05-26 | DDMI - Infras - Proj - Pow - Site Maintenance | Water - Untreated | 9,272,000 | 17,000 | External | Pipelines | NA | E21 release to Lac de Gras | Lake | Lac de Gras | 533305 | 7149921 |
| 3633332897_34820 | 2024-05-28 | DDMI - Maintenance - Truck Shop | Oil - Engine | 5 | 1 | Internal | Light Vehicles Underground | 296 | Oil filter leaking engine oil on south haul road | Roads General | South Haul Road | 534071 | 7151934 |
| 3862787941_35146 | 2024-05-31 | DDMI - Process Operations - Process Plant | Oil - Hydraulic | 75 | 10 | Internal | Loaders and Forklifts | 904 | Broken hydraulic oil line leaking hydraulic oil | ROM | Process ROM | 533894 | 7151105 |
| **UG Spills** | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

## Figure 2. PHC F3 Concentrations in UG Dewatering and NIWTP Clarifiers



| RioTinto | Table 8: Project Activities at Diavik | May, 2024 |
|---|---|---|
| **Projects** | | |
| CPK placement in the PKCF | | |
| CPK remined from South Cell and delivered to Zone 2 | | |
| Subgrading and staging of riprap on the PKCF Spillway | | |
| Snow clearing and pad construction and infrastructure installation | | |
| **Geotechnical** | | |
| Inspection and monitoring of the A154, A418 and A21 Pits | | |
| Inspection and monitoring of the A154, A418 and A21 Dikes | | |
| Inspection monitoring of the North Inlet Dikes and sit Runoff Collection Pond System | | |
| Inspection and monitoring of the Processed Kimberlite Containment Facility | | |
| Tracking of A418, A154, and A21 seepage and depressurization responses | | |
| Installation and Operation of A154, A418, and A21 Pit Slope Stability Radar System | | |
| Inspection and monitoring of the Processed Kimberlite to A418 PK to Mine Workings pipelines | | |
| Monitoring of instrumentation for PKCF rock fill cover closure trials | | |
| Inspections, drone flights and monitoring of the A418 PK to Mine Workings deposition | | |
| Monitoring and maintenance of PKCF seepage wells | | |
| Geotechnical assessment and coordination for preparation work on freshet inflow mitigation in A21, A154 and A418 open pits. | | |
| Geotechnical Inspections of NCRP, NCTP, SCRP, MUDX/JJM Pile, and Dump 12. | | |
| Operation of Deep Blue well 6 | | |

**Table 9: 2024 Raw Water Usage - W2015L2-0001**
**Part D, Item 2B**

RioTinto

| Month | Potable Water ($m^3$) | Drills / Others ($m^3$) | Process Plant ($m^3$) | Site Dust Management ($m^3$) | TOTAL ($m^3$) |
|---|---|---|---|---|---|
| January | 6,501 | 10 | 66,444 | - | **72,955** |
| February | 5,995 | 5 | 76,220 | - | **82,220** |
| March | 6,443 | 14 | 67,091 | - | **73,548** |
| April | 6,153 | 34 | 61,873 | - | **68,060** |
| May | 6,367 | 9 | 67,013 | 274 | **73,663** |
| June | | | | | |
| July | | | | | |
| August | | | | | |
| September | | | | | |
| October | | | | | |
| November | | | | | |
| December | | | | | |
| **TOTAL ($m^3$)** | **31,459** | **71** | **338,641** | **274** | **370,445** |

| | |
|---|---|
| **WATER LICENCE ALLOWED ANNUAL RAW WATER USAGE (m3) =** | **1,280,000** |
| **RAW WATER RESIDUAL (m3) =** | **909,555** |
| **PERCENTAGE RESIDUAL =** | **71%** |

## Table 10: DDMI Field QC results

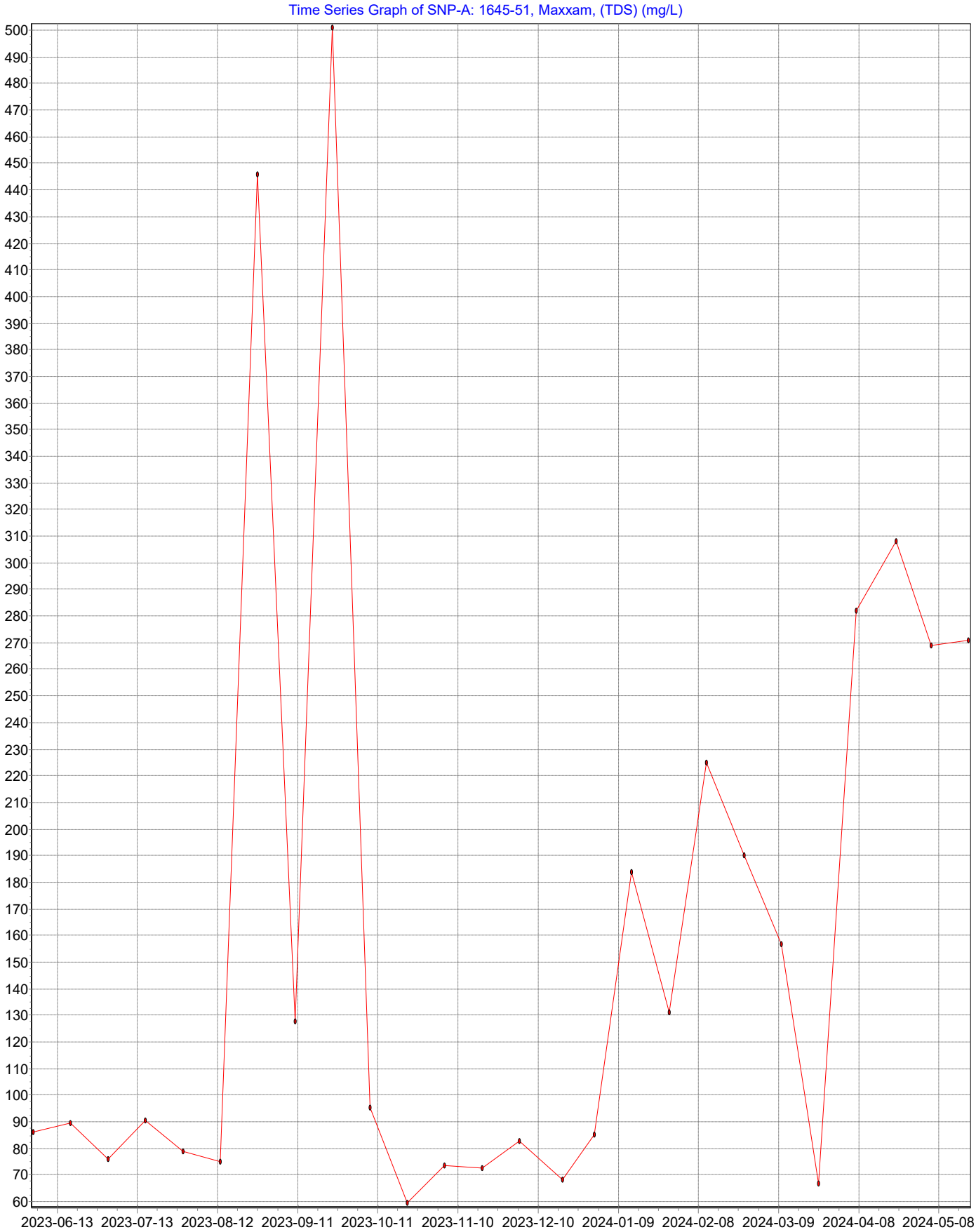
RioTinto

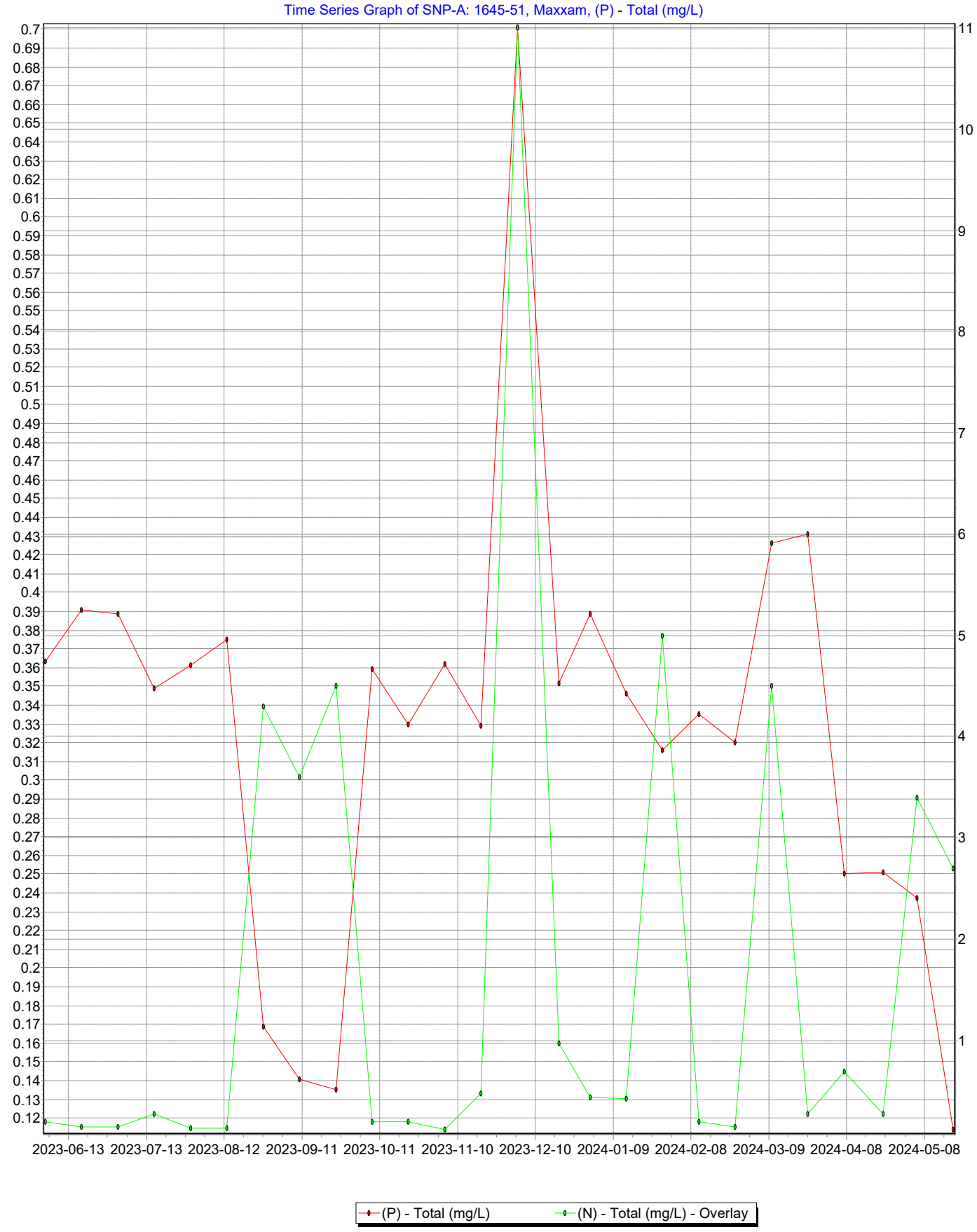
| | May, 2024 | | | RPD Acceptance Threshold | 40% | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Detection Limit Multipler | 5 | | | | | | | | | | | | | | | | |
| | **WL2015L2-0001 Field Sample Quality Control** | W.L Criteria (in reported units) | Method Detection Limit | Reported Units | **1645-18B - BV COR241/COR242** DUPW1 | DUPW2 | **Relative Percent Difference** | **1645-19A-10 - BV CNJ240/CNJ252** DUPW1 | DUPW2 | **Relative Percent Difference** | **1645-69 - BV CNX970/CNX974** DUPW1 | DUPW2 | **Relative Percent Difference** | **1645-77 - BV COF422/COF423** DUPW1 | DUPW2 | **Relative Percent Difference** | **Trip Blank - BV COE505** TBW | **Field Blank - BV CNJ256** FBW |
| **W2015L2-0001 Discharge Criteria** | Aluminum (Al) - Total | 3000.0 | 0.2 | ug/L | 488 | 462 | 5% | 13 | 10 | 23% | 3900.00 | 3690.00 | 6% | 2.20 | 2.40 | 9% | 0.3100 | <0.20 |
| | Ammonia (N) | 12.00 | 0.005 | mg/L | 0.35 | 0.35 | 0% | 0.044 | 0.04 | 10% | 0.47 | 0.48 | 2% | 0.01 | 0.0081 | NC | <0.0050 | <0.0050 |
| | Arsenic (As) - Total | 100.0 | 0.02 | mg/L | 0.683 | 0.644 | 6% | 0.289 | 0.289 | 0% | 1.250 | 1.210 | 3% | 1.000 | 1.040 | 4% | <0.020 | <0.020 |
| | Biochemical Oxygen Demand | 25 | 2 | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Cadmium (Cd) - Total | 3.0 | 0.005 | ug/L | <0.0050 | <0.0050 | NC | <0.0050 | <0.0050 | NC | 0.0439 | 0.0153 | NC | <0.050 | <0.050 | NC | <0.0050 | <0.0050 |
| | Chromium (Cr) - Total | 40.0 | 0.05 | ug/L | 1.19 | 1.16 | 3% | 0.076 | <0.050 | NC | 23.9 | 23.2 | 3% | <0.25 | <0.25 | NC | <0.050 | <0.050 |
| | Copper (Cu) - Total | 40.0 | 0.05 | ug/L | 0.59 | 0.58 | 2% | 0.599 | 0.592 | 1% | 6.21 | 6.1 | 2% | 3.86 | 3.95 | 2% | <0.050 | <0.050 |
| | Faecal Coliform | 20 | 1 | CFU/100mL | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Lead (Pb) - Total | 20.0 | 0.005 | ug/L | 0.028 | 0.033 | 16% | <0.0050 | <0.0050 | NC | 2.16 | 2.73 | 23% | <0.025 | 0.026 | NC | <0.0050 | <0.0050 |
| | Nickel (Ni) - Total | 100.0 | 0.02 | ug/L | 18.9 | 18 | 5% | 1.19 | 1.11 | 7% | 76.1 | 75.3 | 1% | 26.8 | 26.6 | 1% | 0.022 | <0.020 |
| | Nitrite (N) - Total | 2.00 | 0.002 | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | pH | 6.0 - 8.4 | | pH | 7.08 | 7.07 | 0% | 6.94 | 6.9 | 1% | 8.08 | 7.94 | 2% | 6.82 | 6.91 | 1% | 5.63 | 5.49 |
| | C6-C50 Hydrocarbons Calculated | 5 | 0.44 | mg/L | <0.26 | <0.26 | NC | - | - | - | - | - | - | - | - | - | <0.26 | <0.26 |
| | Total Suspended Solids (TSS) | 25 | 1 | mg/L | 2.3 | 1.9 | NC | <1.0 | <1.0 | NC | 89 | 71 | 23% | <1.0 | <1.0 | NC | <1.0 | <0.95 |
| | Turbidity | 15.00 | 0.1 | NTU | 1.6 | 1.6 | 0% | <0.10 | <0.10 | NC | 110 | 110 | 0% | 0.15 | 0.19 | NC | <0.10 | <0.10 |
| | Zinc (Zn) - Total | 20.0 | 0.10 | ug/L | <1.0 | <1.0 | NC | 0.29 | 0.16 | NC | 16.1 | 15.9 | 1% | 3.11 | 2.99 | 4% | 0.130 | <0.10 |
| **Anions** | Bicarbonate (HCO3) | | 0.5 | mg/L | 42.2 | 41.8 | 1% | 10 | 9.44 | 6% | 98.7 | 96.2 | 3% | 83.2 | 84.2 | 1% | <0.50 | <0.50 |
| | Carbonate (CO3) | | 0.5 | mg/L | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 |
| | Chloride (Cl) - Dissolved | | 0.5 | mg/L | 100 | 100 | 0% | 13 | 11 | 17% | 7.5 | 7.1 | 5% | 150 | 150 | 0% | <0.50 | <0.50 |
| | Fluoride (F) | | 0.01 | mg/L | 0.102 | 0.106 | 4% | 0.02 | 0.019 | NC | 0.075 | 0.071 | 5% | 0.047 | 0.07 | NC | 0.010 | <0.010 |
| | Hydroxide (OH) | | 0.5 | mg/L | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 |
| | Sulphate (SO4) - Dissolved | | 0.5 | mg/L | 64 | 65 | 2% | 7.8 | 7 | 11% | 85 | 85 | 0% | 1000 | 1000 | 0% | <0.50 | <0.50 |
| **Nutrients** | Dissolved Organic Carbon (C) | | 0.2 | mg/L | - | 1.2 | - | 2.4 | 2.7 | 12% | - | - | - | 3.9 | 3.9 | 0% | - | - |
| | Nitrate (N) | | 0.002 | mg/L | 2.6 | 2.6 | 0% | 0.19 | 0.17 | 11% | 3.9 | 3.8 | 3% | 11 | 10 | 10% | 0.003 | <0.0020 |
| | Nitrate plus Nitrite (N) | | 0.002 | mg/L | 2.7 | 2.7 | 0% | 0.2 | 0.18 | 11% | 4.1 | 4 | 2% | 11 | 10 | 10% | 0.003 | <0.0022 |
| | Nitrogen (N) - Total | | 0.020 | mg/L | 2.7 | 2.7 | 0% | 0.37 | 0.33 | 11% | 4.5 | 4.5 | 0% | 14 | 13 | 7% | <0.020 | <0.020 |
| | Orthophosphate (PO4-P) | | 0.001 | mg/L | 0.004 | 0.0043 | NC | <0.0010 | <0.0010 | NC | 0.0011 | <0.0010 | NC | 0.011 | 0.011 | 0% | <0.0010 | <0.0010 |
| | Phosphorus (P) - Dissolved (TDP) | | 0.002 | mg/L | 0.0024 | 0.0023 | NC | <0.0020 | <0.0020 | NC | 0.0022 | 0.0032 | NC | 0.0074 | 0.0073 | NC | <0.0020 | <0.0020 |
| | Phosphorus (P) - Total | | 0.002 | mg/L | 0.034 | 0.0301 | 12% | 0.0021 | <0.0020 | NC | 0.098 | 0.098 | 0% | 0.0106 | 0.0112 | 6% | <0.0020 | <0.0020 |
| | Total Kjeldahl Nitrogen (TKN) - (Calc) | | 0.02 | mg/L | <0.10 | <0.10 | NC | 0.177 | 0.154 | 14% | 0.44 | 0.52 | 17% | 3.17 | 3.23 | 2% | <0.020 | <0.020 |
| | Total Organic Carbon (TOC) | | 0.2 | mg/L | 1.4 | 1.3 | 7% | 2.1 | 2.5 | 17% | - | - | - | 4 | 3.5 | 13% | - | - |
| **Physical Properties** | Conductivity - DDMI Field | | 0.1 | mS/cm2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Temperature of Water - DDMI Field | | 0.1 | °C | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Acidity (pH 4.5) | | 0.5 | mg/L | <1.0 | <1.0 | NC | <1.0 | <1.0 | NC | <1.0 | <1.0 | NC | <1.0 | <1.0 | NC | <1.0 | <1.0 |
| | Acidity (pH 8.3) | | 0.5 | mg/L | 2.9 | 3.1 | 7% | 1.9 | 2 | NC | 8.3 | 8.7 | 5% | 4.1 | 4 | 2% | <1.0 | 1.700 |
| | Alkalinity (PP as CaCO3) | | 0.5 | mg/L | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <0.50 | <0.50 |
| | Alkalinity (Total as CaCO3) - Total | | 0.5 | mg/L | 34.6 | 34.3 | 1% | 8.19 | 7.74 | 6% | 80.9 | 78.8 | 3% | 68.2 | 69 | 1% | <0.50 | <0.50 |
| | Hardness (as CaCO3) - Dissolved | | 0.5 | mg/L | 123 | - | - | 18 | 16.2 | 11% | 119 | 119 | 0% | 631 | 622 | 1% | <0.50 | - |
| | Hardness (as CaCO3) - Total | | 0.5 | mg/L | 132 | 125 | 5% | 18.2 | 16.5 | 10% | 168 | 158 | 6% | 603 | 593 | 2% | <0.50 | <0.50 |
| | Total - Dissolved Oxygen | | 0.1 | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total Dissolved Solids (TDS) | | 10 | mg/L | 325 | 322 | 1% | 47.2 | 43.2 | NC | 238 | 236 | 1% | >1330 | >1330 | NC | <1.0 | <1.0 |
| **CCME Hydrocarbons** | Benzene | | 0.4 | ug/L | <0.40 | <0.40 | NC | - | - | - | - | - | - | - | - | - | <0.40 | <0.40 |
| | Ethylbenzene | | 0.4 | ug/L | <0.40 | <0.40 | NC | - | - | - | - | - | - | - | - | - | <0.40 | <0.40 |
| | F1 (C6-C10 Hydrocarbons) | | 300.0 | ug/L | <100 | <100 | NC | - | - | - | - | - | - | - | - | - | <100 | <100 |
| | F1 (C6-C10) - BTEX | | 300.0 | ug/L | <100 | <100 | NC | - | - | - | - | - | - | - | - | - | <100 | <100 |
| | F2 (C10-C16 Hydrocarbons) | | 0.15 | mg/L | <0.10 | <0.10 | NC | - | - | - | - | - | - | - | - | - | <0.10 | <0.10 |
| | F3 (C16-C34 Hydrocarbons) | | 0.2 | mg/L | <0.10 | <0.10 | NC | - | - | - | - | - | - | - | - | - | <0.10 | <0.10 |
| | F4 (C34-C50 Hydrocarbons) | | 0.2 | mg/L | <0.20 | <0.20 | NC | - | - | - | - | - | - | - | - | - | <0.20 | <0.20 |
| | Toluene | | 0.4 | ug/L | <0.40 | <0.40 | NC | - | - | - | - | - | - | - | - | - | <0.40 | <0.40 |
| | Xylenes (Total) | | 0.4 | ug/L | <0.57 | <0.57 | NC | - | - | - | - | - | - | - | - | - | <0.57 | <0.57 |
| **Total Metals by CRC-ICPMS** | Antimony (Sb) - Total | | 0.02 | ug/L | 0.307 | 0.296 | 4% | 0.038 | 0.039 | NC | 0.523 | 0.475 | 10% | 0.92 | 0.93 | 1% | <0.020 | <0.020 |
| | Barium (Ba) - Total | | 0.02 | ug/L | 85.4 | 80.9 | 5% | 8.72 | 7.49 | 15% | 156 | 159 | 2% | 16.6 | 16.3 | 2% | <0.020 | <0.020 |
| | Beryllium (Be) - Total | | 0.01 | ug/L | <0.010 | <0.010 | NC | <0.010 | <0.010 | NC | 0.158 | 0.182 | 14% | <0.050 | <0.050 | NC | <0.010 | <0.010 |
| | Bismuth (Bi) - Total | | 0.005 | ug/L | <0.010 | <0.010 | NC | <0.0050 | <0.0050 | NC | 0.433 | 0.401 | 8% | <0.025 | <0.025 | NC | <0.0050 | <0.0050 |
| | Boron (B) - Total | | 5 | ug/L | 30 | 30 | 0% | <5.0 | <5.0 | NC | 29 | 33 | 13% | 29 | 28 | 4% | <5.0 | <5.0 |
| | Calcium (Ca) - Total | | 0.05 | mg/L | 35.2 | 33.2 | 6% | 4.44 | 3.91 | 13% | 19.2 | 19.6 | 2% | 60.7 | 59.7 | 2% | <0.010 | <0.010 |
| | Cobalt (Co) - Total | | 0.005 | ug/L | 0.67 | 0.631 | 6% | 0.0179 | 0.0166 | NC | 5.19 | 5.02 | 3% | 2.33 | 2.37 | 2% | <0.0050 | <0.0050 |
| | Iron (Fe) - Total | | 1 | ug/L | 33.8 | 31.8 | 6% | 2.3 | 1.8 | NC | 5750 | 5210 | 10% | 10.8 | 12.7 | 16% | <1.0 | <1.0 |
| | Lithium (Li) - Total | | 0.5 | ug/L | 13 | 12.5 | 4% | 2.35 | 2.23 | NC | 25.1 | 27.7 | 10% | 6.2 | 6.3 | 2% | <0.50 | <0.50 |
| | Magnesium (Mg) - Total | | 0.05 | mg/L | 10.7 | 10.2 | 5% | 1.73 | 1.65 | 5% | 29.3 | 26.4 | 10% | 110 | 108 | 2% | <0.0050 | <0.0050 |
| | Manganese (Mn) - Total | | 0.05 | ug/L | 51.3 | 48.3 | 6% | 2.47 | 2.11 | 16% | 99.6 | 97.2 | 2% | 155 | 152 | 2% | 0.084 | <0.050 |
| | Mercury (Hg) - Total | | 0.002 | ug/L | <0.0019 | <0.0019 | NC | <0.0019 | <0.0019 | NC | <0.0019 | <0.0019 | NC | <0.0019 | <0.0019 | NC | - | <0.0019 |
| | Molybdenum (Mo) - Total | | 0.05 | ug/L | 22.2 | 21.2 | 5% | 1.71 | 1.51 | 12% | 29.6 | 27.9 | 6% | 361 | 361 | 0% | <0.050 | <0.050 |
| | Potassium (K) - Total | | 0.05 | mg/L | 9.67 | 9.15 | 6% | 1.68 | 1.6 | 5% | 27.7 | 25.2 | 9% | 191 | 184 | 4% | <0.010 | 0.011 |
| | Selenium (Se) - Total | | 0.04 | ug/L | 0.103 | 0.087 | NC | <0.040 | <0.040 | NC | 0.309 | 0.34 | 10% | 0.32 | 0.28 | 13% | <0.040 | <0.040 |
| | Silicon (Si) - Total | | 50 | ug/L | 4300 | 4040 | 6% | 286 | 249 | NC | 16900 | 16100 | 5% | 2010 | 2010 | 0% | <50 | <50 |
| | Silver (Ag) - Total | | 0.005 | ug/L | <0.010 | <0.010 | NC | <0.0050 | <0.0050 | NC | 0.027 | 0.023 | NC | <0.025 | <0.025 | NC | <0.0050 | <0.0050 |
| | Sodium (Na) - Total | | 0.05 | ug/L | 53.7 | 50.8 | 6% | 6.64 | 5.96 | 11% | 16.8 | 15.7 | 7% | 210 | 207 | 1% | <0.010 | 0.010 |
| | Strontium (Sr) - Total | | 0.05 | ug/L | 766 | 731 | 5% | 82.3 | 70.5 | 15% | 285 | 301 | 5% | 1760 | 1760 | 0% | <0.050 | <0.050 |
| | Sulphur (S) - Total | | 0.5 | mg/L | 23.4 | 22 | 6% | 3.69 | 3.27 | 12% | 30 | 26.2 | 14% | 309 | 303 | 2% | <0.50 | 0.670 |
| | Thallium (Tl) - Total | | 0.002 | ug/L | 0.0094 | 0.0034 | NC | <0.0020 | <0.0020 | NC | 0.0374 | 0.0414 | 10% | 0.035 | 0.036 | 3% | <0.0020 | <0.0020 |
| | Tin (Sn) - Total | | 0.20 | ug/L | <0.20 | <0.20 | NC | <0.010 | <0.010 | NC | 0.36 | 0.33 | NC | <0.050 | <0.050 | NC | <0.010 | <0.010 |
| | Titanium (Ti) - Total | | 0.5 | ug/L | <2.0 | <2.0 | NC | <0.50 | <0.50 | NC | 258 | 222 | 15% | <2.5 | <2.5 | NC | <0.50 | <0.50 |
| | Uranium (U) - Total | | 0.002 | ug/L | 1.84 | 1.77 | 4% | 0.163 | 0.144 | 12% | 28.2 | 26.5 | 6% | 27.8 | 28 | 1% | <0.0020 | <0.0020 |
| | Vanadium (V) - Total | | 0.1 | ug/L | 1.12 | 1.07 | 5% | 0.132 | 0.106 | NC | 9.96 | 9.43 | 5% | 1.12 | 1.15 | 3% | 0.085 | <0.050 |
| | Zirconium (Zr) - Total | | 0.05 | ug/L | <0.10 | <0.10 | NC | <0.050 | <0.050 | NC | 1.19 | 2.63 | 75% | <0.25 | <0.25 | NC | <0.050 | <0.050 |
| **Dissolved Metals by CRC-ICPMS** | Aluminum (Al) - Dissolved | | 0.2 | ug/L | 66.7 | - | - | 7.95 | 6.41 | 21% | 5.1 | 5.3 | 4% | 2.2 | 2 | 10% | 0.220 | - |
| | Antimony (Sb) - Dissolved | | 0.02 | ug/L | 0.258 | - | - | 0.051 | 0.039 | NC | 0.431 | 0.431 | 0% | 0.9 | 0.86 | 5% | <0.020 | - |
| | Arsenic (As) - Dissolved | | 0.02 | ug/L | 0.356 | - | - | 0.298 | 0.279 | 7% | 0.676 | 0.671 | 1% | 0.82 | 0.79 | 4% | <0.020 | - |
| | Barium (Ba) - Dissolved | | 0.02 | ug/L | 77.3 | - | - | 8.75 | 7.54 | 15% | 74.8 | 75 | 0% | 17 | 17 | 0% | <0.020 | - |
| | Beryllium (Be) - Dissolved | | 0.01 | ug/L | <0.010 | - | - | <0.010 | <0.010 | NC | <0.010 | <0.010 | NC | <0.050 | <0.050 | NC | <0.010 | - |
| | Bismuth (Bi) - Dissolved | | 0.005 | ug/L | <0.0050 | - | - | <0.0050 | <0.0050 | NC | <0.0050 | <0.0050 | NC | <0.025 | <0.025 | NC | <0.0050 | - |
| | Boron (B) - Dissolved | | 5 | ug/L | 30.6 | - | - | <5.0 | <5.0 | NC | 27.3 | 26.3 | 4% | 28 | 28 | 0% | <5.0 | - |
| | Cadmium (Cd) - Dissolved | | 0.005 | ug/L | <0.0050 | - | - | <0.0050 | <0.0050 | NC | <0.0050 | <0.0050 | NC | 0.083 | 0.092 | 10% | <0.0050 | - |
| | Calcium (Ca) - Dissolved | | 0.05 | mg/L | 32.9 | - | - | 4.35 | 3.83 | 13% | 18.8 | 18.8 | 0% | 62.6 | 62.7 | 0% | <0.010 | - |
| | Chromium (Cr) - Dissolved | | 0.05 | ug/L | 0.946 | - | - | 0.104 | 0.106 | NC | 0.127 | 0.14 | NC | <0.25 | <0.25 | NC | <0.050 | - |
| | Cobalt (Co) - Dissolved | | 0.005 | ug/L | 0.587 | - | - | 0.0137 | 0.0096 | NC | 0.163 | 0.154 | 6% | 2.28 | 2.35 | 3% | <0.0050 | - |
| | Copper (Cu) - Dissolved | | 0.05 | ug/L | 0.397 | - | - | 0.539 | 0.558 | 3% | 1.01 | 1.01 | 0% | 3.54 | 3.39 | 4% | <0.050 | - |
| | Iron (Fe) - Dissolved | | 1 | ug/L | <1.0 | - | - | - | <1.0 | - | 2.1 | 2.3 | NC | 5.3 | 5.9 | 11% | <1.0 | - |
| | Lead (Pb) - Dissolved | | 0.005 | ug/L | 0.0057 | - | - | <0.0050 | <0.0050 | NC | 0.0069 | 0.0076 | NC | <0.025 | <0.025 | NC | <0.0050 | - |
| | Lithium (Li) - Dissolved | | 0.5 | ug/L | 12.1 | - | - | 2.45 | 2.29 | NC | 15.3 | 15.1 | 1% | 7.1 | 7.2 | 1% | <0.50 | - |
| | Magnesium (Mg) - Dissolved | | 0.05 | mg/L | 9.86 | - | - | 1.74 | 1.61 | 8% | 17.5 | 17.5 | 0% | 115 | 113 | 2% | <0.0050 | - |
| | Manganese (Mn) - Dissolved | | 0.05 | ug/L | 44.1 | - | - | 1.51 | 1.33 | 13% | 10.3 | 9.39 | 9% | 164 | 162 | 1% | 0.062 | - |
| | Mercury (Hg) - Dissolved | | 0.002 | ug/L | <0.0019 | <0.0019 | NC | <0.0019 | <0.0019 | NC | <0.0019 | <0.0019 | NC | <0.0019 | <0.0019 | NC | - | - |
| | Molybdenum (Mo) - Dissolved | | 0.05 | ug/L | 21.2 | - | - | 1.7 | 1.49 | 13% | 26.2 | 26 | 1% | 371 | 365 | 2% | <0.050 | - |
| | Nickel (Ni) - Dissolved | | 0.02 | ug/L | 17.4 | - | - | 1.2 | 1.05 | 13% | 10.5 | 10.4 | 1% | 26.4 | 26.3 | 0% | <0.020 | - |
| | Potassium (K) - Dissolved | | 0.05 | mg/L | 8.04 | - | - | 1.62 | 1.55 | 4% | 23 | 23 | 0% | 207 | 206 | 0% | <0.010 | - |
| | Selenium (Se) - Dissolved | | 0.04 | ug/L | 0.088 | - | - | <0.040 | <0.040 | NC | 0.259 | 0.26 | 0% | 0.27 | 0.29 | 7% | <0.040 | - |
| | Silicon (Si) - Dissolved | | 50 | ug/L | 4080 | - | - | 299 | 247 | NC | 2500 | 2470 | 1% | 2100 | 2100 | 0% | <50 | - |
| | Silver (Ag) - Dissolved | | 0.005 | ug/L | <0.0050 | - | - | <0.0050 | <0.0050 | NC | <0.0050 | <0.0050 | NC | <0.025 | <0.025 | NC | <0.0050 | - |
| | Sodium (Na) - Dissolved | | 0.05 | mg/L | 49.6 | - | - | 6.58 | 5.81 | 12% | 15.1 | 15 | 1% | 215 | 213 | 1% | <0.010 | - |
| | Strontium (Sr) - Dissolved | | 0.05 | ug/L | 720 | - | - | 82.6 | 70 | 17% | 271 | 269 | 1% | 1890 | 1880 | 1% | <0.050 | - |
| | Sulphur (S) - Dissolved | | 0.5 | mg/L | 19.8 | - | - | 3.1 | 3.1 | 0% | 26.4 | 26.4 | 0% | 336 | 327 | 3% | <0.50 | - |
| | Thallium (Tl) - Dissolved | | 0.002 | ug/L | 0.0075 | - | - | <0.0020 | <0.0020 | NC | 0.0202 | 0.0194 | 4% | 0.032 | 0.034 | 6% | <0.0020 | - |
| | Tin (Sn) - Dissolved | | 0.01 | ug/L | <0.010 | - | - | <0.010 | <0.010 | NC | <0.010 | <0.010 | NC | <0.050 | <0.050 | NC | <0.010 | - |
| | Titanium (Ti) - Dissolved | | 0.5 | ug/L | <0.50 | - | - | <0.50 | <0.50 | NC | <0.50 | <0.50 | NC | <2.5 | <2.5 | NC | <0.50 | - |
| | Uranium (U) - Dissolved | | 0.002 | ug/L | 1.3 | - | - | 0.135 | 0.115 | 16% | 22.7 | 22.8 | 0% | 28 | 27.7 | 1% | <0.0020 | - |
| | Vanadium (V) - Dissolved | | 0.1 | ug/L | 0.976 | - | - | 0.137 | 0.096 | NC | 0.429 | 0.42 | NC | 0.54 | 0.45 | NC | <0.050 | - |
| | Zinc (Zn) - Dissolved | | 0.1 | ug/L | 0.34 | - | - | 0.12 | 0.12 | NC | <0.10 | <0.10 | NC | 2.61 | 2.29 | 13% | <0.10 | - |
| | Zirconium (Zr) - Dissolved | | 0.05 | ug/L | <0.050 | - | - | <0.050 | <0.050 | NC | 0.057 | 0.06 | NC | <0.25 | <0.25 | NC | <0.050 | - |

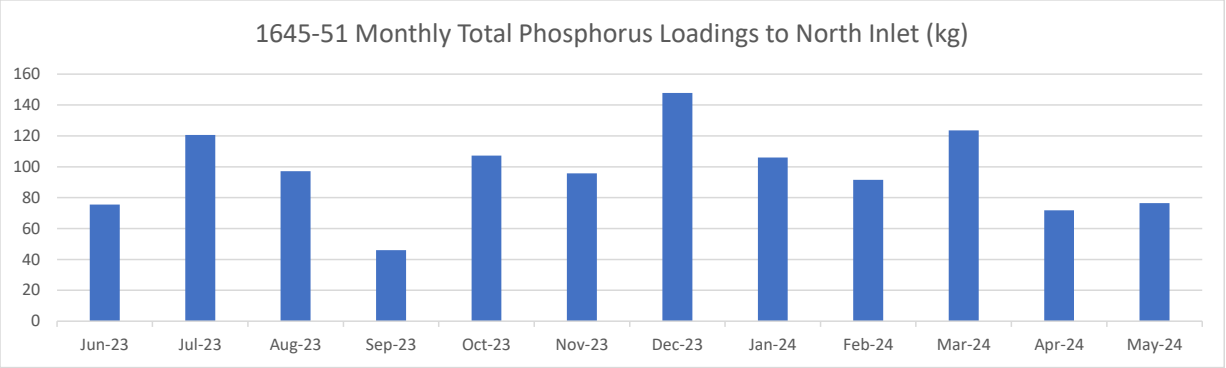
Gray Text / NC = analytical results are <5x method RDL and are excluded from RPD review

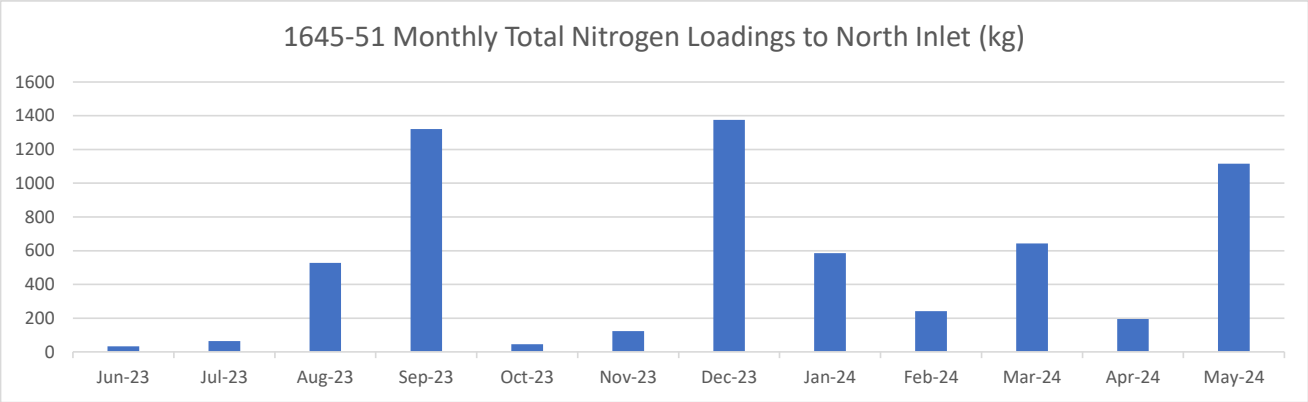
RPD >40% ; or Blank >5x RDL - sampling and analytical method review required (CCME, 2016)

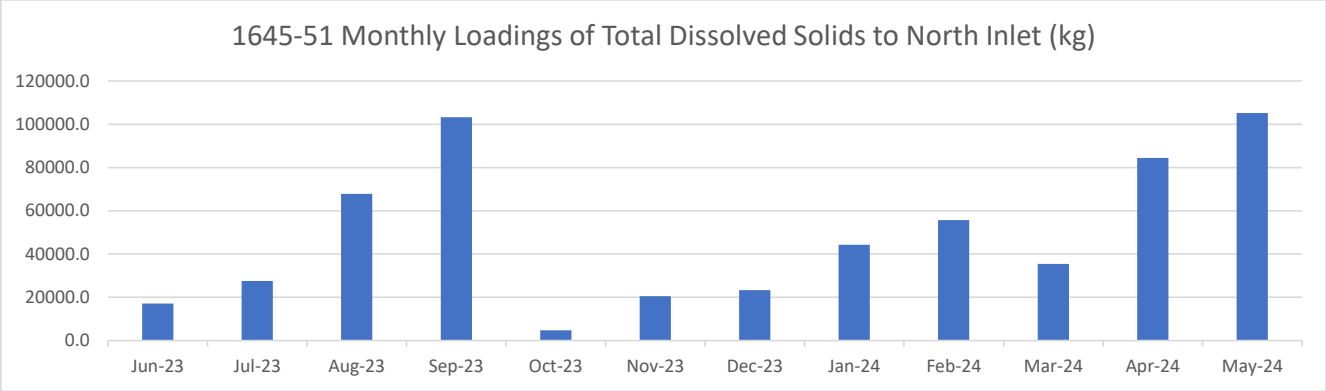
# Attachment 1

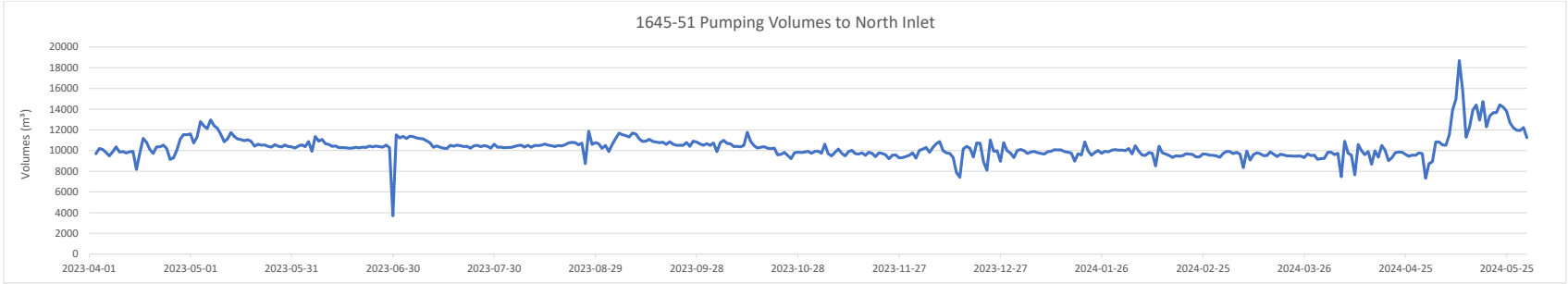

Time Series Graph of SNP-A: 1645-51, Maxxam, (TDS) (mg/L)
500
490
480
470
460
450
440
430
420
410
400
390
380
370
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
2023-06-13
2023-07-13
2023-08-12
2023-09-11
2023-10-11
2023-11-10
2023-12-10
2024-01-09
2024-02-08
2024-03-09
2024-04-08
2024-05-08


Time Series Graph of SNP-A: 1645-51, Maxxam, (P) - Total (mg/L)
0.7 0.69 0.68 0.67 0.66 0.65 0.64 0.63 0.62 0.61 0.6 0.59 0.58 0.57 0.56 0.55 0.54 0.53 0.52 0.51 0.5 0.49 0.48 0.47 0.46 0.45 0.44 0.43 0.42 0.41 0.4 0.39 0.38 0.37 0.36 0.35 0.34 0.33 0.32 0.31 0.3 0.29 0.28 0.27 0.26 0.25 0.24 0.23 0.22 0.21 0.2 0.19 0.18 0.17 0.16 0.15 0.14 0.13 0.12
11 10 9 8 7 6 5 4 3 2 1
2023-06-13 2023-07-13 2023-08-12 2023-09-11 2023-10-11 2023-11-10 2023-12-10 2024-01-09 2024-02-08 2024-03-09 2024-04-08 2024-05-08
(P) - Total (mg/L)
(N) - Total (mg/L) - Overlay


1645-51 Monthly Total Phosphorus Loadings to North Inlet (kg)
160
140
120
100
80
60
40
20
0
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24


1645-51 Monthly Total Nitrogen Loadings to North Inlet (kg)
1600
1400
1200
1000
800
600
400
200
0
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24


1645-51 Monthly Loadings of Total Dissolved Solids to North Inlet (kg)
120000.0
100000.0
80000.0
60000.0
40000.0
20000.0
0.0
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24


1645-51 Pumping Volumes to North Inlet
Volumes (m³)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2023-04-01
2023-05-01
2023-05-31
2023-06-30
2023-07-30
2023-08-29
2023-09-28
2023-10-28
2023-11-27
2023-12-27
2024-01-26
2024-02-25
2024-03-26
2024-04-25
2024-05-25

# Attachment 2

# RESULTS OF RAINBOW TROUT SINGLE CONCENTRATION-100%

**Client :** 4388 DIAVIK DIAMOND MINES INC., YELLOWKNIFE Job Number: C424566

Client Project Name & Number: QUARTERLY TOX SNP-A

**Test Result:**

**96 hrs Mortality %** 0 Statistical Method: Visual

**Sample Name :** 1645-18 Sample Matrix : Water

Description: Clear, colorless Sample Number: CLX203-02

Sample Collected: Apr 09, 2024 05:15 AM Sampling Method : N/A Site Collection: N/A

Sample Collected By: DP Volume Received: 20 L Avg Temp Arrival: 2 °C Storage: 2-6°C

Sample Received: Apr 09, 2024 03:49 PM pH: 7.1 Dissolved Oxygen: 114.0 %

Analysis Start : Apr 11, 2024 10:30 AM Temperature : 14 °C Sample Conductance: 729 µS/cm

| Concentration | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % vol/vol | Start | Start | Start | Start | 24 hrs | 24 hrs | 24 hrs | 24 hrs | 48 hrs | 48 hrs | 48 hrs | 48 hrs |
| 0 | 14 | 7.6 | 373 | 9.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 14 | 7.2 | 724 | 9.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Concentration | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % vol/vol | 72 hrs | 72 hrs | 72 hrs | 72 hrs | 96 hrs | 96 hr | 96 hrs | 96 hrs | 96 hrs | 96 hrs | 96 hrs | 96 hrs |
| 0 | 0 | 0 | 0 | 0 | 14 | 7.7 | 370 | 8.8 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 | 14 | 7.3 | 736 | 8.8 | 0 | 0 | 0 | 0 |

**Comments :** None

**Culture/Control/Dilution Water** City of Edmonton dechlorinated tap water

Hardness: 190 mg/L $CaCO_3$ Other parameters available on request.

**Test Conditions** Test concentration : 0,100 (% vol/vol)

| | | | | | |
|---|---|---|---|---|---|
| Organisms per Vessel : | 10 | Test Temperature : | 15 ± 1 °C | Solution Depth : | >15 cm |
| Total # of Organisms Used : | 20 | Pre-aeration Time : | 120 min. | Rate of Aeration | 6.5±1 mL/min/L |
| Test Volume : | 20 L | Vessel Volume : | 38L | Test pH Adjusted: | No |
| Loading Density : | 0.2 g/L | Photoperiod : | 16:8 (light: dark) | | |

**Test Organism :** Rainbow Trout *(Oncorhynchus mykiss)* Source : LSL Trout Hatchery

| | | | | | |
|---|---|---|---|---|---|
| Culture Temperature : | 15 ± 2 °C | Weight (Mean) +- SD : | 0.4 ± 0.1 g | Length (Mean) +- SD : | 3.72 ± 0.25 cm |
| Culture Water Renewal : | ≥ 1.0 L/min/kg fish | Weight (Range) : | 0.3 – 0.6 g | Length (Range) : | 3.40 – 4.20 cm |
| Culture Photoperiod : | 16:8 (light: dark) | | | % Mortality within 7 days : | 0.1% |
| Feeding rate and frequency : | daily: 1-5% biomass of trout. | | | Acclimation Time: | >14 days |

**Reference chemical:** Phenol Test Date: Apr 09, 2024

Test Endpoint 96 hrs LC50 (95% confidence interval) : 8.28 (<7.59, 9.01)mg/L Statistical Method : Probit

Historical Mean LC50 (warning limits) : 7.95 (4.65, 13.6) mg/L Concentration : 0,7.59,9.15,11,13.3,16 mg/L

**Test Method** EPS 1/RM/13

Method Deviations : None

**Note:** The results contained in this report refer only to the testing of the sample submitted. Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation, including the toxicity parameters reported herein. The conductivity, dissolved oxygen and pH data contained within the toxicity report are provided for information purposes and are not individually accredited parameters. This report may not be reproduced, except in its entirety, without the written approval of the laboratory.

Analyst : Cara Shurgot, Joey Pilgrim, Svetlana Sofrenovic

Verified By : Natasha Lloyd, Team Lead Date: Apr 16, 2024 12:36 PM

# RESULTS OF RAINBOW TROUT SINGLE CONCENTRATION-100%

**Client :** 4388 DIAVIK DIAMOND MINES INC., YELLOWKNIFE Job Number: C424566

Client Project Name & Number: QUARTERLY TOX SNP-A

**Test Result:**

**96 hrs Mortality %** 0 Statistical Method: Visual

**Sample Name :** 1645-18B Sample Matrix : Water

Description: Clear, colorless Sample Number: CLX204-02

Sample Collected: Apr 09, 2024 05:30 AM Sampling Method : N/A Site Collection: N/A

Sample Collected By: DP Volume Received: 20 L Avg Temp Arrival: 2 °C Storage: 2-6°C

Sample Received: Apr 09, 2024 03:49 PM pH: 6.9 Dissolved Oxygen: 111.0 %

Analysis Start : Apr 11, 2024 10:30 AM Temperature : 14 °C Sample Conductance: 729 µS/cm

| Concentration | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % vol/vol | Start | Start | Start | Start | 24 hrs | 24 hrs | 24 hrs | 24 hrs | 48 hrs | 48 hrs | 48 hrs | 48 hrs |
| 0 | 14 | 7.7 | 373 | 9.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 14 | 7.1 | 723 | 9.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Concentration | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) | Mortality (#) | Mortality (%) | Atypical Behaviour (#) | Atypical Behaviour (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % vol/vol | 72 hrs | 72 hrs | 72 hrs | 72 hrs | 96 hrs | 96 hr | 96 hrs | 96 hrs | 96 hrs | 96 hrs | 96 hrs | 96 hrs |
| 0 | 0 | 0 | 0 | 0 | 14 | 7.7 | 375 | 8.9 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 | 14 | 7.3 | 737 | 8.8 | 0 | 0 | 0 | 0 |

**Comments :** None

**Culture/Control/Dilution Water** City of Edmonton dechlorinated tap water

Hardness: 190 mg/L $CaCO_3$ Other parameters available on request.

**Test Conditions** Test concentration : 0,100 (% vol/vol)

| | | | | | |
|---|---|---|---|---|---|
| Organisms per Vessel : | 10 | Test Temperature : | 15 ± 1 °C | Solution Depth : | >15 cm |
| Total # of Organisms Used : | 20 | Pre-aeration Time : | 120 min. | Rate of Aeration | 6.5±1 mL/min/L |
| Test Volume : | 20 L | Vessel Volume : | 38L | Test pH Adjusted: | No |
| Loading Density : | 0.2 g/L | Photoperiod : | 16:8 (light: dark) | | |

**Test Organism :** Rainbow Trout *(Oncorhynchus mykiss)* Source : LSL Trout Hatchery

| | | | | | |
|---|---|---|---|---|---|
| Culture Temperature : | 15 ± 2 °C | Weight (Mean) +- SD : | 0.5 ± 0.1 g | Length (Mean) +- SD : | 3.80 ± 0.19 cm |
| Culture Water Renewal : | ≥ 1.0 L/min/kg fish | Weight (Range) : | 0.3 – 0.6 g | Length (Range) : | 3.40 – 4.00 cm |
| Culture Photoperiod : | 16:8 (light: dark) | | | % Mortality within 7 days : | 0.1% |
| Feeding rate and frequency : | daily: 1-5% biomass of trout. | | | Acclimation Time: | >14 days |

**Reference chemical:** Phenol Test Date: Apr 09, 2024

Test Endpoint 96 hrs LC50 (95% confidence interval) : 8.28 (<7.59, 9.01)mg/L Statistical Method : Probit

Historical Mean LC50 (warning limits) : 7.95 (4.65, 13.6) mg/L Concentration : 0,7.59,9.15,11,13.3,16 mg/L

**Test Method** EPS 1/RM/13

Method Deviations : None

**Note:** The results contained in this report refer only to the testing of the sample submitted. Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation, including the toxicity parameters reported herein. The conductivity, dissolved oxygen and pH data contained within the toxicity report are provided for information purposes and are not individually accredited parameters. This report may not be reproduced, except in its entirety, without the written approval of the laboratory.

Analyst : Cara Shurgot, Joey Pilgrim, Svetlana Sofrenovic

Verified By : Natasha Lloyd, Team Lead Date: Apr 16, 2024 12:37 PM

## RESULTS OF *DAPHNIA MAGNA* SINGLE CONCENTRATION-100%

**Client :** 4388 DIAVIK DIAMOND MINES INC., YELLOWKNIFE Job Number: C424566

Client Project Name & Number: QUARTERLY TOX SNP-A Sample Number: CLX203-04

**Test Result:**

**48 hrs Mortality %** 0 Statistical Method:

**Mean percent mortality:** Sample 0 Control 0

**Sample Name :** 1645-18 Sample Matrix : Water

Description: clear, coloulress Sample Prior to Analysis:

Sample Collected: Apr 09, 2024 05:15 AM Sampling Method : N/A pH: 7.5

Sample Collected By: DP Site Collection: N/A Temperature : 18 °C

Sample Received: Apr 09, 2024 03:49 PM Volume Received: 1L Dissolved Oxygen: 133.0 %

Analysis Start : Apr 10, 2024 11:43 AM Avg Temp Arrival: 2 °C Sample Conductance: 720 µS/cm

End : Apr 12, 2024 10:43 AM Storage: 2-6°C Hardness: 140 mg $CaCO_3$/L

| Concentration | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) | Mortality (#) | Mortality (%) | Immobility (#) | Immobility (%) | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % vol/vol | Start | Start | Start | Start | 24 hrs | 24 hrs | 24 hrs | 24 hrs | 48 hrs | 48 hr | 48 hrs | 48 hrs |
| 0 | 21 | 8.3 | 393 | 8.1 | 0 | 0 | 0 | 0 | 19 | 8.2 | 410 | 7.9 |
| 0 | 21 | 8.4 | 395 | 8.1 | 0 | 0 | 0 | 0 | 20 | 8.3 | 396 | 8.1 |
| 0 | 21 | 8.4 | 396 | 8.1 | 0 | 0 | 0 | 0 | 19 | 8.2 | 401 | 8.1 |
| 100 | 19 | 7.7 | 721 | 9.8 | 0 | 0 | 0 | 0 | 20 | 7.8 | 711 | 7.9 |
| 100 | 19 | 7.6 | 725 | 9.9 | 0 | 0 | 0 | 0 | 19 | 7.7 | 732 | 7.4 |
| 100 | 19 | 7.7 | 724 | 9.9 | 0 | 0 | 0 | 0 | 19 | 7.7 | 732 | 7.6 |

| Concentration | Mortality (#) | Mortality (%) | Immobility (#) | Immobility (%) |
|---|---|---|---|---|
| % vol/vol | 48 hrs | 48 hrs | 48 hrs | 48 hrs |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 |

**Comments :** None

**Culture/Control/Dilution Water:** City of Edmonton dechlorinated tap water

Hardness: 180 mg/L $CaCO_3$ Other parameters available on request.

**Test Conditions** Test concentration : 0,0,0,100,100,100 (% vol/vol)

| | | | | | |
|---|---|---|---|---|---|
| Organisms per Vessel : | 10 | Pre-aeration Time : | 30 min | Rate of Pre-aeration : | 25-50 mL/min/L |
| Total # of Organisms Used : | 60 | Test Temperature : | 20 ± 2 °C | Test Hardness Adjusted : | No |
| Test Volume : | 150 mL | Vessel Volume : | 200 mL | Test pH Adjusted: | No |
| Loading Density : | 15.0 mL/Daphnia | Photoperiod : | 16:8 (light: dark) | | |

**Test Organism :** *Daphnia magna* Source : In House Culture

| | | | |
|---|---|---|---|
| Age at Test Initiation : | <24 hrs | Average Brood Size : | 28.1 |
| Culture Photoperiod : | 16:8 (light: dark) | % Mortality within 7 days : | 3.2 |
| Culture Temperature : | 20 ± 2 °C | Time To First Brood : | 8 Days |

Culture Diet Pseudokirchnriella and YTC at a ratio of 2 mL/L of culture daily. New cultures weekly, 63 daphnids distributed into 6 culture vessels and 3 reproductive vessels.

## RESULTS OF *DAPHNIA MAGNA* SINGLE CONCENTRATION-100%

| | | | | |
|---|---|---|---|---|
| **Client :** | 4388 | DIAVIK DIAMOND MINES INC., YELLOWKNIFE | Job Number: | C424566 |
| Client Project Name & Number: | | QUARTERLY TOX SNP-A | Sample Number: | CLX203-04 |

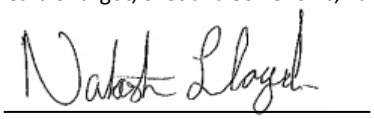
| | | | |
|---|---|---|---|
| **Reference chemical:** | Sodium Chloride | Test Date: | Apr 03, 2024 |
| Test Endpoint 48 hrs LC50 (95% confidence interval) : | 6.96 (5.70, 8.50)g/L | Statistical Method : | Binomial |
| Historical Mean LC50 (warning limits) : | 6.25 (4.95, 7.88) g/L | Concentration : | 0,1.71,2.56,3.82,5.7,8.5 g/L |

**Test Method** EPS 1/RM/14

Method Deviations: None

**Note:** The results contained in this report refer only to the testing of the sample submitted. Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation, including the toxicity parameters reported herein. The conductivity, dissolved oxygen and pH data contained within the toxicity report are provided for information purposes and are not individually accredited parameters.This report may not be reproduced, except in its entirety, without the written approval of the laboratory.

Analyst : Cara Shurgot, Svetlana Sofrenovic, Tami Horvath



Verified By : Natasha Lloyd, Team Lead Date: Apr 18, 2024 11:35 AM

## RESULTS OF *DAPHNIA MAGNA* SINGLE CONCENTRATION-100%

**Client :** 4388 DIAVIK DIAMOND MINES INC., YELLOWKNIFE Job Number: C424566

Client Project Name & Number: QUARTERLY TOX SNP-A Sample Number: CLX204-04

**Test Result:**

**48 hrs Mortality %** 0 Statistical Method:

**Mean percent mortality:** Sample 0 Control 0

**Sample Name :** 1645-18B Sample Matrix : Water

Description: clear, colourless Sample Prior to Analysis:

Sample Collected: Apr 09, 2024 05:30 AM Sampling Method : N/A pH: 7.4

Sample Collected By: DP Site Collection: N/A Temperature : 24 °C

Sample Received: Apr 09, 2024 03:49 PM Volume Received: 1L Dissolved Oxygen: 132.0 %

Analysis Start : Apr 10, 2024 11:43 AM Avg Temp Arrival: 2 °C Sample Conductance: 725 µS/cm

End : Apr 12, 2024 10:43 AM Storage: 2-6°C Hardness: 120 mg $CaCO_3$/L

| Concentration | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) | Mortality (#) | Mortality (%) | Immobility (#) | Immobility (%) | Temperature (°C) | pH (pH) | Conductivity (uS/cm) | Dissolved Oxygen (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % vol/vol | Start | Start | Start | Start | 24 hrs | 24 hrs | 24 hrs | 24 hrs | 48 hrs | 48 hr | 48 hrs | 48 hrs |
| 0 | 21 | 8.3 | 392 | 8.1 | 0 | 0 | 0 | 0 | 18 | 8.0 | 416 | 7.6 |
| 0 | 21 | 8.3 | 395 | 8.1 | 0 | 0 | 0 | 0 | 20 | 8.2 | 397 | 7.9 |
| 0 | 21 | 8.3 | 395 | 8.1 | 0 | 0 | 0 | 0 | 19 | 8.2 | 405 | 7.9 |
| 100 | 20 | 7.5 | 722 | 9.7 | 0 | 0 | 0 | 0 | 19 | 7.7 | 727 | 7.6 |
| 100 | 20 | 7.6 | 726 | 9.7 | 0 | 0 | 0 | 0 | 20 | 7.8 | 721 | 8.0 |
| 100 | 20 | 7.6 | 726 | 9.8 | 0 | 0 | 0 | 0 | 19 | 7.6 | 754 | 7.3 |

| Concentration | Mortality (#) | Mortality (%) | Immobility (#) | Immobility (%) |
|---|---|---|---|---|
| % vol/vol | 48 hrs | 48 hrs | 48 hrs | 48 hrs |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 |

**Comments :** None

**Culture/Control/Dilution Water:** City of Edmonton dechlorinated tap water

Hardness: 180 mg/L $CaCO_3$ Other parameters available on request.

**Test Conditions** Test concentration : 0,0,0,100,100,100 (% vol/vol)

| | | | | | |
|---|---|---|---|---|---|
| Organisms per Vessel : | 10 | Pre-aeration Time : | 30 min | Rate of Pre-aeration : | 25-50 mL/min/L |
| Total # of Organisms Used : | 60 | Test Temperature : | 20 ± 2 °C | Test Hardness Adjusted : | No |
| Test Volume : | 150 mL | Vessel Volume : | 200 mL | Test pH Adjusted: | No |
| Loading Density : | 15.0 mL/Daphnia | Photoperiod : | 16:8 (light: dark) | | |

**Test Organism :** *Daphnia magna* Source : In House Culture

| | | | |
|---|---|---|---|
| Age at Test Initiation : | <24 hrs | Average Brood Size : | 28.1 |
| Culture Photoperiod : | 16:8 (light: dark) | % Mortality within 7 days : | 3.2 |
| Culture Temperature : | 20 ± 2 °C | Time To First Brood : | 8 Days |

Culture Diet: Pseudokirchnriella and YTC at a ratio of 2 mL/L of culture daily. New cultures weekly, 63 daphnids distributed into 6 culture vessels and 3 reproductive vessels.

## RESULTS OF *DAPHNIA MAGNA* SINGLE CONCENTRATION-100%

| | | | | |
|---|---|---|---|---|
| **Client :** | 4388 | DIAVIK DIAMOND MINES INC., YELLOWKNIFE | Job Number: | C424566 |
| Client Project Name & Number: | | QUARTERLY TOX SNP-A | Sample Number: | CLX204-04 |

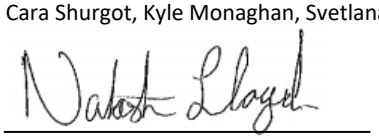
| | | | |
|---|---|---|---|
| **Reference chemical:** | Sodium Chloride | Test Date: | Apr 03, 2024 |
| Test Endpoint 48 hrs LC50 (95% confidence interval) : | 6.96 (5.70, 8.50)g/L | Statistical Method : | Binomial |
| Historical Mean LC50 (warning limits) : | 6.25 (4.95, 7.88) g/L | Concentration : | 0,1.71,2.56,3.82,5.7,8.5 g/L |

**Test Method** EPS 1/RM/14

Method Deviations: None

**Note:** The results contained in this report refer only to the testing of the sample submitted. Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation, including the toxicity parameters reported herein. The conductivity, dissolved oxygen and pH data contained within the toxicity report are provided for information purposes and are not individually accredited parameters.This report may not be reproduced, except in its entirety, without the written approval of the laboratory.

Analyst : Cara Shurgot, Kyle Monaghan, Svetlana Sofrenovic, Tami Horvath



Verified By : Natasha Lloyd, Team Lead Date: Apr 18, 2024 11:47 AM

# *Ceriodaphnia dubia* 7 Day Bioassay Report

**Test Details**

**Job and Sample ID:** C424566-CLX203 **Client Sample ID:** 1645-18
**Date sample collected:** 4/9/2024 **Test Performed By:** CSH, NM9, SVC, KMG, THR
**Test Initiation Date:** 4/10/2024
**Test End Date:** 4/18/2024
**Dates when subsamples used:** 4/10/2024 4/14/2024
4/11/2024 4/15/2024
4/12/2024 4/16/2024
4/13/2024 4/17/2024

**Chemistries prior to test:** **Dissolved Oxygen(mg/L):** 10.4 **Temperature (°C):** 24
**pH(pH units):** 7.5 **Conductivity (µS/cm):** 718

| **Test Results** | | | Significant or non-significant | Method | Data Transforms | Outliers* (concentration-replicate) |
|---|---|---|---|---|---|---|
| Sample Test Results | 7 day Survival Result | Effect | Non-Significant | Fisher Exact Test | Untransformed | n/a |
| | 7 day Reproduction Result | | Significant | Equal Variance t Two-Sample Test | Untransformed | n/a |

| **Reference Toxicant Results** | | | Endpoint | 95% LCL | 95% UCL | Method | Data Transforms | Outliers* (concentration-replicate) |
|---|---|---|---|---|---|---|---|---|
| Reference Toxicant Test Results (g/L) | 7 day Survival Result | LC50 | 1.49 | 0.96 | 2.30 | Trimmed Spearman-Karber | Log-X | n/a |
| | 7 day Reproduction Result | IC50 | 1.33 | 0.99 | 1.46 | Linear Interpolation (ICPIN) | Log-X | n/a |
| Control Chart Data (g/L) | 7 day Survival Result | LC50 | 1.46 | 1.15 | 1.86 | Levey-Jennings | n/a | n/a |
| | 7 day Reproduction Result | IC50 | 1.25 | 1.03 | 1.52 | | | |
| Reference Toxicant Test Initiation Date: | | | 2024/04/10 | | | | | |

* If outliers were removed, description in comments.

**Test Validity Criteria**

| | |
|---|---|
| Mean mortality of the control adults ≤20%: | PASS |
| Average of ≥15 neonates/surviving adult in the control: | PASS |
| 3 broods produced by ≥60% of control organisms by the end of the 8th day: | PASS |
| Valid Reference Toxicant test: | PASS |

**Comments**

100% concentration analyzed with 9 organisms.

**Test Organisms**

| | |
|---|---|
| Species: | *Ceriodaphnia dubia* |
| Source of test organisms: | Aquatic Research Organisms. Hampton, NH |
| Age of organisms at test initiation: | ≤ 24 hours, within 12 hours |
| Unusual Appearance, behaviour or treatment prior to use in tes | None |
| Mean % mortality of brood organisms during 7-day period proceding test: | 3.4 |
| Number of neonates produced by each organism in its third or subsequent brood: | ≥8 neonates |
| Mean number of neonates per adult during first 3 broods in 7 days preceding test: | 33 |
| Observations of ephippia: | None |

All test organisms used to initiate this test were taken from a series of individual cultures, that originated from the same mass culture.
The 4th brood or subsequent broods produced during the test are not included in the final statistical analysis.

## Test Facilities and Apparatus

| | |
|---|---|
| Test vessels used: | 16 x 125 mm borosilicate glass test tubes |

## Control/Dilution Water

| | |
|---|---|
| Consists of: | 16 L RODI from in-house system, to which the following |
| | 4 L Perrier Brand carbonated spring water |
| | 1 mL cyanocobalamin (Vitamin B-12) |
| | 1 mL Sodium Selenate Decahydrate |

## Test Method

| | |
|---|---|
| Reference method used for testing: | Biological Test Method: Test of Reproduction and Survival Using the Cladoceran *Ceriodaphnia dubia* . Environment Canada, EPS 1/RM/21 Second Edition - February 2007 |
| Did the following occur during sample preparations: | |
| Filtered: | No |
| Adjusted for hardness: | No |
| Adjusted for pH: | No |
| Frequency of observations: | 24 ± 2 hours |
| Frequency of water quality measurements: | Daily |
| Design and description of any specialized procedure: | N/A |
| Program used for statistical calculations: | Comprehensive Environmental Toxicity Information System (CETIS). Tidepool Scientific Software. Version 2.1.2.3 |
| Reference method used for statistical calculations: | Guidance Document on Statistical Methods for Environmental Toxicity Tests. Environment Canada, EPS 1/RM/46 - March 2005, Amendments: June 2007. |

## Test Conditions and Procedures

| | |
|---|---|
| Number of test solutions: | 20 |
| Number of test concentrations: | 1 and a negative control |
| Concentrations tested (%): | 100 |
| Units of tested concentrations: | % vol/vol |
| Number of replicates: | 10 |
| Volume of test solutions: | ≥ 15 mL |
| Depth of test solutions: | ≥ 5 cm |
| Individuals per test vessel: | 1 |
| Was pre-aeration performed: | Yes |
| Procedure: | Oil-free compressed air is dispensed through airline tubing and a disposable pipette |
| Rate: | ≤ 100 bubbles / minute |
| Duration: | 20 minutes |
| Dates where pre-aeration occurred: | 4/10/2024 4/14/2024<br>4/11/2024 4/15/2024<br>4/12/2024 4/16/2024<br>4/13/2024 4/17/2024 |
| Aeration during testing: | None |

Refer to comments section for any deviations.

The reference toxicity test was performed under the same experimental conditions as those used with the test sample.

Refer to comments section for any deviations regarding reference toxicity testing.

The results contained in this report refer only to the testing of the sample submitted. Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation, including the toxicity parameters reported herein. The conductivity, dissolved oxygen and pH data contained within the toxicity report are provided for information purposes and are not individually accredited parameters. This report may not be reproduced, except in its entirety, without the written approval of the laboratory.

## *Ceriodaphnia dubia* Survival and Reproduction Observations

Note: Mortalities are indicated by an "X" in the column and row of the concentration, replicate and day of occurance. If organism was not used for testing, this will be indicated by "N/A" in mortality and neonate columns for the replicate.

**Legend: R= Reproduction (neonates), M= mortality**

| Conc. (%vol/vol) | Replicate number | Day of Testing | | | | | | | | | | | | | | | | Cumulative Mean % Mortality | Cumulative Mean Reproduction | SD of mean reproduction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | | | |
| | | R | M | R | M | R | M | R | M | R | M | R | M | R | M | R | M | | | |
| Control | 1 | 0 | | 0 | | 0 | | 0 | | 10 | | 0 | | 18 | | 10 | | 0.0% | 32.8 | 5.6 |
| | 2 | 0 | | 0 | | 0 | | 0 | | 9 | | 0 | | 18 | | 0 | | | | |
| | 3 | 0 | | 0 | | 0 | | 0 | | 12 | | 0 | | 16 | | 6 | | | | |
| | 4 | 0 | | 0 | | 0 | | 0 | | 12 | | 0 | | 18 | | 0 | | | | |
| | 5 | 0 | | 0 | | 0 | | 4 | | 10 | | 0 | | 21 | | | | | | |
| | 6 | 0 | | 0 | | 0 | | 0 | | 10 | | 0 | | 17 | | 15 | | | | |
| | 7 | 0 | | 0 | | 0 | | 5 | | 6 | | 0 | | 15 | | | | | | |
| | 8 | 0 | | 0 | | 0 | | 6 | | 13 | | 0 | | 17 | | | | | | |
| | 9 | 0 | | 0 | | 0 | | 5 | | 12 | | 0 | | 18 | | | | | | |
| | 10 | 0 | | 0 | | 0 | | 0 | | 11 | | 0 | | 14 | | 0 | | | | |
| 100% | 1 | 0 | | 0 | | 0 | | 6 | | 9 | | 0 | | 7 | | | | 11.1% | 21.222222 | 3.4 |
| | 2 | 0 | | 0 | | 0 | | 7 | | 11 | | 4 | | | | | | | | |
| | 3 | 0 | | 0 | | 0 | | 5 | | 9 | | 0 | | 6 | | | | | | |
| | 4 | 0 | | 0 | | 0 | | 7 | | 10 | | 0 | | 0 | | 0 | X | | | |
| | 5 | 0 | | 0 | | 0 | | 6 | | 8 | | 0 | | 6 | | | | | | |
| | 6 | 0 | | 0 | | 0 | | 5 | | 12 | | 0 | | 6 | | | | | | |
| | 7 | 0 | | 0 | | 0 | | 4 | | 8 | | 0 | | 12 | | | | | | |
| | 8 | 0 | | 0 | | 0 | | 5 | | 11 | | 0 | | 0 | | 0 | | | | |
| | 9 | 0 | | 0 | | 0 | | 6 | | 9 | | 0 | | 12 | | | | | | |
| | 10 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | | |

### Average Values for Chemical Data of Test Concentrations

| Test Concentration (% vol/vol) | Before Effluent Renewal | | | | After Effluent Renewal | | | |
|---|---|---|---|---|---|---|---|---|
| | Date | Temperature (°C) | pH | DO (mg/L) | Date | Temperature (°C) | pH | DO (mg/L) |
| Control | 24/04/10 | 25 | 8.1 | 7.3 | 24/04/11 | 25 | 7.9 | 6.4 |
| 100 | | 24 | 7.5 | 10.1 | | 25 | 7.5 | 6.6 |
| Control | 24/04/11 | 24 | 8.2 | 7.3 | 24/04/12 | 24 | 8.2 | 6.4 |
| 100 | | 24 | 7.5 | 8.9 | | 24 | 7.7 | 6.3 |
| Control | 24/04/12 | 25 | 8.3 | 7.3 | 24/04/13 | 24 | 7.9 | 6.5 |
| 100 | | 24 | 7.5 | 8.9 | | 24 | 7.7 | 6.5 |
| Control | 24/04/13 | 25 | 8.3 | 7.4 | 24/04/14 | 25 | 7.9 | 6.3 |
| 100 | | 24 | 7.6 | 8.6 | | 25 | 7.7 | 6.6 |
| Control | 24/04/14 | 25 | 8.3 | 7.3 | 24/04/15 | 24 | 7.9 | 6.3 |
| 100 | | 24 | 7.6 | 8.4 | | 24 | 7.5 | 6.3 |
| Control | 24/04/15 | 24 | 8.3 | 7.2 | 24/04/16 | 24 | 7.8 | 6.1 |
| 100 | | 24 | 7.5 | 8.5 | | 24 | 7.6 | 6.3 |
| Control | 24/04/16 | 24 | 8.0 | 7.4 | 24/04/17 | 24 | 7.9 | 5.8 |
| 100 | | 24 | 7.6 | 8.8 | | 24 | 7.7 | 6.1 |
| Control | 24/04/17 | 25 | 8.3 | 7.1 | 24/04/18 | 24 | 7.7 | 5.5 |
| 100 | | 25 | 7.6 | 8.3 | | 24 | 7.5 | 6.1 |

# *Ceriodaphnia dubia* 7 Day Bioassay Report

**Test Details**

**Job and Sample ID:** C424566-CLX204 **Client Sample ID:** 1645-18B
**Date sample collected:** 4/9/2024 **Test Performed By:** CSH, NM9, SVC, THR, KMG
**Test Initiation Date:** 4/10/2024
**Test End Date:** 4/17/2024
**Dates when subsamples used:** 4/10/2024 4/14/2024
4/11/2024 4/15/2024
4/12/2024 4/16/2024
4/13/2024

**Chemistries prior to test:** **Dissolved Oxygen(mg/L):** 10.3 **Temperature (°C):** 24
**pH(pH units):** 7.4 **Conductivity (µS/cm):** 725

| **Test Results** | | | Significant or non-significant | Method | Data Transforms | Outliers* (concentration-replicate) |
|---|---|---|---|---|---|---|
| Sample Test Results | 7 day Survival Result | Effect | Non-Significant | Fisher Exact Test | Untransformed | Log-X |
| | 7 day Reproduction Result | | Significant | Equal Variance t Two-sample Test | Untransformed | Log-X |

| **Reference Toxicant Results** | | | Endpoint | 95% LCL | 95% UCL | Method | Data Transforms | Outliers* (concentration-replicate) |
|---|---|---|---|---|---|---|---|---|
| Reference Toxicant Test Results (g/L) | 7 day Survival Result | LC50 | 1.49 | 0.96 | 2.30 | Trimmed Spearman-Karber | Log-X | N/A |
| | 7 day Reproduction Result | IC50 | 1.33 | 0.99 | 1.46 | Linear Interpolation (ICPIN) | Log-X | N/A |
| Control Chart Data (g/L) | 7 day Survival Result | LC50 | 1.46 | 1.15 | 1.86 | Levey-Jennings | n/a | n/a |
| | 7 day Reproduction Result | IC50 | 1.25 | 1.03 | 1.52 | | | |
| Reference Toxicant Test Initiation Date: | | | 2024/04/10 | | | | | |

* If outliers were removed, description in comments.

**Test Validity Criteria**

| | |
|---|---|
| Mean mortality of the control adults ≤20%: | PASS |
| Average of ≥15 neonates/surviving adult in the control: | PASS |
| 3 broods produced by ≥60% of control organisms by the end of the 8th day: | PASS |
| Valid Reference Toxicant test: | PASS |

**Comments**

**Test Organisms**

| | |
|---|---|
| Species: | *Ceriodaphnia dubia* |
| Source of test organisms: | Aquatic Research Organisms. Hampton, NH |
| Age of organisms at test initiation: | ≤ 24 hours, within 12 hours |
| Unusual Appearance, behaviour or treatment prior to use in tes | None |
| Mean % mortality of brood organisms during 7-day period proceding test: | 3.4 |
| Number of neonates produced by each organism in its third or subsequent brood: | ≥8 neonates |
| Mean number of neonates per adult during first 3 broods in 7 days preceding test: | 33 |
| Observations of ephippia: | None |

All test organisms used to initiate this test were taken from a series of individual cultures, that originated from the same mass culture.
The 4th brood or subsequent broods produced during the test are not included in the final statistical analysis.

## Test Facilities and Apparatus

| | |
|---|---|
| Test vessels used: | 16 x 125 mm borosilicate glass test tubes |

## Control/Dilution Water

| | |
|---|---|
| Consists of: | 16 L RODI from in-house system, to which the following |
| | 4 L Perrier Brand carbonated spring water |
| | 1 mL cyanocobalamin (Vitamin B-12) |
| | 1 mL Sodium Selenate Decahydrate |

## Test Method

| | |
|---|---|
| Reference method used for testing: | Biological Test Method: Test of Reproduction and Survival Using the Cladoceran *Ceriodaphnia dubia* . Environment Canada, EPS 1/RM/21 Second Edition - February 2007 |
| Did the following occur during sample preparations: | |
| Filtered: | No |
| Adjusted for hardness: | No |
| Adjusted for pH: | No |
| Frequency of observations: | 24 ± 2 hours |
| Frequency of water quality measurements: | Daily |
| Design and description of any specialized procedure: | N/A |
| Program used for statistical calculations: | Comprehensive Environmental Toxicity Information System (CETIS). Tidepool Scientific Software. Version 2.1.2.3 |
| Reference method used for statistical calculations: | Guidance Document on Statistical Methods for Environmental Toxicity Tests. Environment Canada, EPS 1/RM/46 - March 2005, Amendments: June 2007. |

## Test Conditions and Procedures

| | |
|---|---|
| Number of test solutions: | 20 |
| Number of test concentrations: | 1 and a negative control |
| Concentrations tested (%): | 100 |
| Units of tested concentrations: | % vol/vol |
| Number of replicates: | 10 |
| Volume of test solutions: | ≥ 15 mL |
| Depth of test solutions: | ≥ 5 cm |
| Individuals per test vessel: | 1 |
| Was pre-aeration performed: | Yes |
| Procedure: | Oil-free compressed air is dispensed through airline tubing and a disposable pipette |
| Rate: | ≤ 100 bubbles / minute |
| Duration: | 20 minutes |
| Dates where pre-aeration occurred: | 4/10/2024 4/14/2024<br>4/11/2024 4/15/2024<br>4/12/2024 4/16/2024<br>4/13/2024 |
| Aeration during testing: | None |

Refer to comments section for any deviations.

The reference toxicity test was performed under the same experimental conditions as those used with the test sample.

Refer to comments section for any deviations regarding reference toxicity testing.

The results contained in this report refer only to the testing of the sample submitted. Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation, including the toxicity parameters reported herein. The conductivity, dissolved oxygen and pH data contained within the toxicity report are provided for information purposes and are not individually accredited parameters. This report may not be reproduced, except in its entirety, without the written approval of the laboratory.

## *Ceriodaphnia dubia* Survival and Reproduction Observations

Note: Mortalities are indicated by an "X" in the column and row of the concentration, replicate and day of occurance. If organism was not used for testing, this will be indicated by "N/A" in mortality and neonate columns for the replicate.

**Legend: R= Reproduction (neonates), M= mortality**

| Conc. (%vol/vol) | Replicate number | Day of Testing | | | | | | | | | | | | | | | | Cumulative Mean % Mortality | Cumulative Mean Reproduction | SD of mean reproduction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | | | |
| | | R | M | R | M | R | M | R | M | R | M | R | M | R | M | R | M | | | |
| Control | 1 | 0 | | 0 | | 0 | | 0 | | 4 | | 0 | | 16 | | | | 0.0% | 29.6 | 6.9 |
| | 2 | 0 | | 0 | | 0 | | 6 | | 10 | | 0 | | 20 | | | | | | |
| | 3 | 0 | | 0 | | 0 | | 0 | | 7 | | 0 | | 17 | | | | | | |
| | 4 | 0 | | 0 | | 0 | | 7 | | 9 | | 0 | | 14 | | | | | | |
| | 5 | 0 | | 0 | | 0 | | 4 | | 16 | | 0 | | 13 | | | | | | |
| | 6 | 0 | | 0 | | 0 | | 3 | | 4 | | 0 | | 16 | | | | | | |
| | 7 | 0 | | 0 | | 0 | | 4 | | 10 | | 0 | | 16 | | | | | | |
| | 8 | 0 | | 0 | | 0 | | 0 | | 10 | | 0 | | 13 | | | | | | |
| | 9 | 0 | | 0 | | 0 | | 8 | | 12 | | 0 | | 19 | | | | | | |
| | 10 | 0 | | 0 | | 0 | | 6 | | 12 | | 0 | | 20 | | | | | | |
| 100% | 1 | 0 | | 0 | | 0 | | 4 | | 11 | | 0 | | 9 | | | | 0.0% | 18.1 | 5.8 |
| | 2 | 0 | | 0 | | 0 | | 5 | | 12 | | 0 | | 5 | | | | | | |
| | 3 | 0 | | 0 | | 0 | | 4 | | 5 | | 0 | | 0 | | | | | | |
| | 4 | 0 | | 0 | | 0 | | 7 | | 12 | | 0 | | 6 | | | | | | |
| | 5 | 0 | | 0 | | 0 | | 8 | | 6 | | 0 | | 0 | | | | | | |
| | 6 | 0 | | 0 | | 0 | | 5 | | 12 | | 0 | | 0 | | | | | | |
| | 7 | 0 | | 0 | | 0 | | 3 | | 10 | | 0 | | 3 | | | | | | |
| | 8 | 0 | | 0 | | 0 | | 4 | | 11 | | 0 | | 8 | | | | | | |
| | 9 | 0 | | 0 | | 0 | | 5 | | 0 | | 9 | | 7 | | | | | | |
| | 10 | 0 | | 0 | | 0 | | 7 | | 0 | | 0 | | 3 | | | | | | |

### Average Values for Chemical Data of Test Concentrations

| Test Concentration (% vol/vol) | Before Effluent Renewal | | | | After Effluent Renewal | | | |
|---|---|---|---|---|---|---|---|---|
| | Date | Temperature (°C) | pH | DO (mg/L) | Date | Temperature (°C) | pH | DO (mg/L) |
| Control | 24/04/10 | 25 | 8.2 | 7.4 | 24/04/11 | 25 | 7.9 | 6.3 |
| 100 | | 24 | 7.5 | 9.9 | | 25 | 7.5 | 6.5 |
| Control | 24/04/11 | 24 | 8.2 | 7.4 | 24/04/12 | 24 | 8.0 | 6.3 |
| 100 | | 24 | 7.5 | 8.6 | | 24 | 7.6 | 6.3 |
| Control | 24/04/12 | 24 | 8.3 | 7.4 | 24/04/13 | 24 | 7.9 | 6.3 |
| 100 | | 24 | 7.5 | 8.8 | | 24 | 7.5 | 6.4 |
| Control | 24/04/13 | 25 | 8.2 | 7.3 | 24/04/14 | 25 | 7.8 | 6.2 |
| 100 | | 24 | 7.5 | 8.5 | | 25 | 7.6 | 6.5 |
| Control | 24/04/14 | 25 | 8.2 | 7.3 | 24/04/15 | 24 | 7.9 | 6.3 |
| 100 | | 24 | 7.3 | 9.0 | | 24 | 7.5 | 6.3 |
| Control | 24/04/15 | 24 | 8.2 | 7.2 | 24/04/16 | 24 | 7.8 | 6.2 |
| 100 | | 24 | 7.3 | 8.9 | | 24 | 7.5 | 6.4 |
| Control | 24/04/16 | 24 | 8.0 | 7.5 | 24/04/17 | 24 | 7.8 | 5.5 |
| 100 | | 24 | 7.4 | 9.1 | | 24 | 7.6 | 6.0 |
| Control | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 100 | | N/A | N/A | N/A | | N/A | N/A | N/A |

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# SUBLETHAL TOXICITY TESTS ON:

# 1645-18 AND 1645-18B

## SAMPLING DATE:

## APRIL 09, 2024

---

Prepared for:

Diavik Diamond Mines Inc.
PO. Box 2498
300-5201 – 50th Ave.
Yellowknife, NT
Canada X1A 2P8

Prepared by:

Ecotoxicology Group
Bureau Veritas

Job No.: C424566
May 2024

## Summary of Test Results for Samples from
## Diavik Diamond Mines Ltd.
## Sample Date: April 09, 2024
### Job C424566

**Sample: 1645-18**

| Test | | Significant Effect (Inhibition) |
|---|---|---|
| *P. subcapitata*: | Cell yield | No |

**Sample: 1645-18B**

| Test | | Significant Effect (Inhibition) |
|---|---|---|
| *P. subcapitata*: | Cell yield | No |

## *Pseudokirchneriella subcapitata* Test Data Summary

| | |
|---|---|
| Client Name/Location | Diavik Diamond Mines Inc. / Yellowknife, NT |
| Testing Lab/Location | Bureau Veritas / Burnaby, BC |
| Collection Approach | 2 samples |
| **Effluent Sample** | |
| Name of Samples | 1645-18 and 1645-18B |
| Information on labelling/coding | Submissions logged under Job # C424566. See Certificate of Analysis for details. |
| Sample collection date (y/m/d) | 2024/Apr/09 |
| Date (y/m/d) of sample receipt at lab | 2024/Apr/09 @ 15:49 |
| **Test Organisms** | |
| Species | *Pseudokirchneriella subcapitata* |
| Strain number and origin of culture | Strain CPCC #37 was obtained from the Canadian Phycological Culture Centre |
| Age of culture used to provide inoculum, at start of test | 3 days old |
| Culture in logarithmic growth phase? | See attached growth curve |
| Inoculum prepared less than 2-3 hrs before microplate incubation? | Yes, at 11:22 |
| Initial cell density of inoculum | 9,409 cells/mL |
| Appearance, behaviour, or treatment of known-age culture before use | See “Data Summary” data sheet |
| **Test Conditions & Facilities** | |
| Test method | EPS 1/RM/25, 2nd Edition, March 2007<br>BBY2SOP-00006 - *Pseudokirchneriella subcapitata* 72H Growth Inhibition Test |
| Date & time test(s) started | **1645-18**: 2024/Apr/12 @ 11:45<br>**1645-18B**: 2024/Apr/12 @ 11:39 |
| Date & time test(s) ended | 2024/Apr/15 @ 10:59 |
| Persons performing test(s) | P. Fang, M. Thompson, N. Shergill |
| Mean test temperature | 25°C |
| Procedure/rate/duration of aeration of sample(s) before test | No aeration of samples |
| pH adjustment | No pH adjustments |

| | |
|---|---|
| pH of aqueous sample(s) before preparation and use in toxicity test | See “Data Summary” data sheet |
| pH of sample before any dilution at start of test | See “Data Summary” data sheet |
| pH from two controls at start & end of test | See “Data Summary” data sheet |
| Procedure for sample filtration | 10 mL sub-sample was filtered through a pre-conditioned 0.45 µm pore diameter filter |
| Type & source of control/dilution water | Reconstituted water |
| Type & quantity of chemicals added to control/dilution $H_2O$ | $NaHCO_3$, $CaSO_4$, $MgSO_4$, and KCl in the ratio of 1.6:0.8:1.0:0.07 |
| # and conc. of test solutions | See Cell Counts sheet |
| # of replicates per conc. | See Cell Counts sheet |
| Absorbance not used | Cell counts done by Nexcelom Cellometer® Auto X4HM cell counter |
| Culture/test incubators & apparatus | Conviron Environmental Chamber – Costar Microplate- w/96 u-shaped wells |
| Microplate final volume | 220 µL / well (200 µL sample, 10 µL enrichment media, and 10 µL algal inoculum) |
| Light intensity & quality | Full spectrum fluorescent lights, 3777-4250 lux |
| Composition of growth medium | As per Table 1 in EPS 1/RM/25 |
| Test observations and/or deviations from test method and standard practices | There was nothing unusual about the tests, no deviations from the test method, and no problems with the tests. |
| **Results** | Results contained in this report refer only to the testing of samples as submitted. |
| Date cells counted (y/m/d) | 2024/Apr/15 |
| Cell counts in each replicate | See Cell Counts sheet |
| Any findings of growth stimulation at any concentration? | **1645-18**: None<br>**1645-18B**: Yes, significant growth stimulation was found in 90.91% v/v concentration. See Equal Variance t Two-Sample Test in CETIS. |

| | |
|---|---|
| Name and citation of program(s) and methods used for calculating statistical endpoint(s) | CETIS v2.1.2.3:<br>**1645-18**: Equal Variance t Two-Sample Test<br>**1645-18B**: Equal Variance t Two-Sample Test |
| Weighting techniques applied? | N/A |
| Residuals Analysis | N/A |
| Outliers? | **1645-18**: None<br>**1645-18B**: None |
| **QA** | |
| Did the test pass the test validity criteria:<br>• Homogeneity in the control (CV is ≤20%)<br>• No trend or gradient in the control<br>• Increase by a factor of >16 in the control | Yes,<br>• % CV<br>**1645-18**: 13%<br>**1645-18B**: 15%<br>• Trend in the controls?<br>**1645-18**: N/A<br>**1645-18B**: N/A<br>• Algal cells increased by:<br>**1645-18**: 60.55<br>**1645-18B**: 29.26 |
| Ref tox test IC50 (95% CL) (mg Zn/L) and duration of test | 0.0618; 2SD: (0.0230, 0.0918)<br>duration was ~72 hrs |
| Ref tox test historic mean & 2SD range (mg Zn/L) | 0.0444; 2SD: (0.0312, 0.0631) |
| Invalid Ref tox test? | No |
| Date of ref tox test (y/m/d) | 2024/Apr/12 |
| Conditions of ref tox test | Same as test conditions |

**Alga Growth Inhibition Test** — **Bureau Veritas**

| | | | | | |
|---|---|---|---|---|---|
| **Analysis ID:** | 12-5523-6527 | **Endpoint:** | Cell Yield | **CETIS Version:** | CETISv2.1.2 |
| **Analyzed:** | 15 Apr-24 14:54 | **Analysis:** | Parametric-Two Sample | **Status Level:** | 1 |
| **Edit Date:** | | **MD5 Hash:** | F9589352A894C17D3EF5852BBA7EB1BA | **Editor ID:** | |
| **Batch ID:** | 15-6052-2391 | **Test Type:** | Cell Growth | **Analyst:** | P. Fang |
| **Start Date:** | 12 Apr-24 11:45 | **Protocol:** | EC/EPS 1/RM/25 | **Diluent:** | Algal Culture Media |
| **Ending Date:** | 15 Apr-24 10:59 | **Species:** | Pseudokirchneriella subcapitata | **Brine:** | Not Applicable |
| **Test Length:** | 71h | **Taxon:** | Chlorophyta | **Source:** | Canadian Phycological Cult **Age:** |
| **Sample ID:** | 07-5931-6708 | **Code:** | C424566 | **Project:** | 2-11-0691 |
| **Sample Date:** | 09 Apr-24 05:15 | **Material:** | Water | **Source:** | Diavik |
| **Receipt Date:** | 09 Apr-24 15:49 | **CAS (PC):** | | **Station:** | 1645-18 |
| **Sample Age:** | 79h | **Client:** | Diavik Diamond Mines Inc | | |

| Data Transform | Alt Hyp | Comparison Result | PMSD |
|---|---|---|---|
| Untransformed | C <> T | 90.91% passed cell yield endpoint | 29.09% |

**Equal Variance t Two-Sample Test**

| Control | vs | Conc-% | df | Test Stat | Critical | MSD | P-Type | P-Value | Decision(α:5%) |
|---|---|---|---|---|---|---|---|---|---|
| Lab Control 1 | | 90.91 | 14 | 1.296 | 2.145 | 17.61 | CDF | 0.2159 | Non-Significant Effect |

**Auxiliary Tests**

| Attribute | Test | Test Stat | Critical | P-Value | Decision(α:5%) |
|---|---|---|---|---|---|
| Outlier | Grubbs Extreme Value Test | 2.136 | 2.586 | 0.3402 | No Outliers Detected |
| Control Trend | Mann-Kendall Trend Test | 0.3987 | 0.05 | 0.3987 | Non-Significant Control Trend |

**ANOVA Table**

| Source | Sum Squares | Mean Square | DF | F Stat | P-Value | Decision(α:5%) |
|---|---|---|---|---|---|---|
| Between | 453.158 | 453.158 | 1 | 1.68 | 0.2159 | Non-Significant Effect |
| Error | 3776.85 | 269.775 | 14 | | | |
| Total | 4230.01 | | 15 | | | |

**ANOVA Assumptions Tests**

| Attribute | Test | Test Stat | Critical | P-Value | Decision(α:1%) |
|---|---|---|---|---|---|
| Variance | Variance Ratio F Test | 8.086 | 8.885 | 0.0132 | Equal Variances |
| Distribution | Shapiro-Wilk W Normality Test | 0.9615 | 0.8408 | 0.6890 | Normal Distribution |

**Cell Yield Summary**

| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Median | Min | Max | Std Err | CV% | %Effect |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | N1 | 8 | 60.55 | 54.11 | 66.99 | 62.28 | 47.1 | 71.3 | 2.724 | 12.73% | 0.00% |
| 90.91 | | 8 | 49.91 | 31.59 | 68.23 | 54.75 | 21.7 | 83.8 | 7.747 | 43.91% | 17.58% |

**Cell Yield Detail**

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | Rep 6 | Rep 7 | Rep 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | N1 | 61.45 | 64.65 | 66.55 | 71.3 | 54.8 | 55.45 | 63.1 | 47.1 |
| 90.91 | | 32.1 | 21.7 | 55.35 | 61.5 | 54.15 | 66.25 | 83.8 | 24.4 |

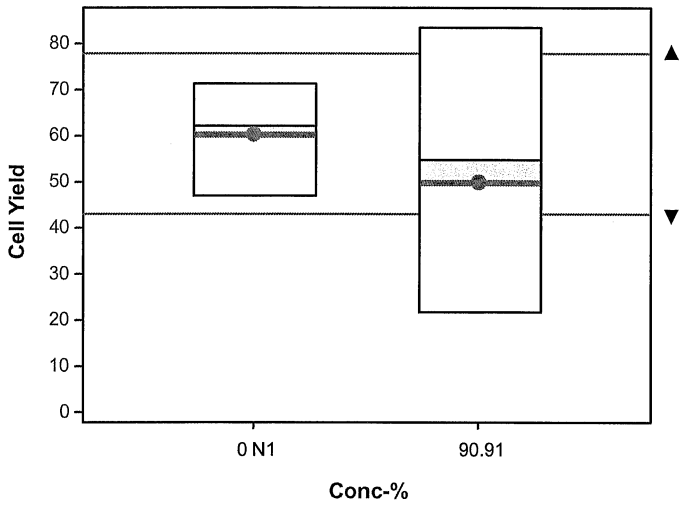


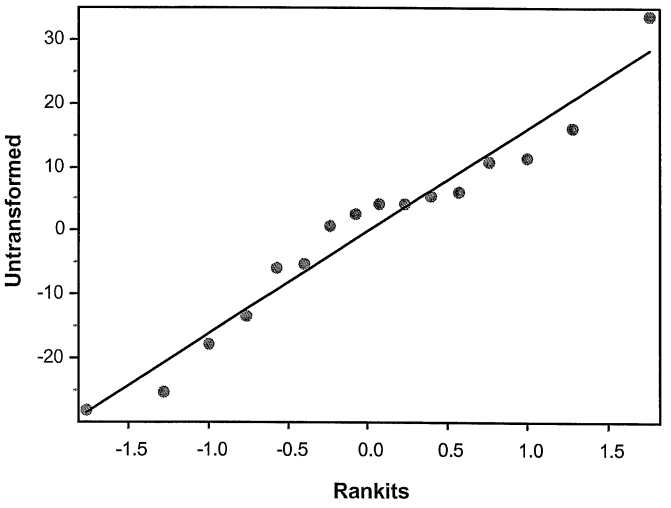
Analyst: dmw 2024 Apr 15 QA: 2024 May 06

**Alga Growth Inhibition Test** — **Bureau Veritas**

| | | | | | |
|---|---|---|---|---|---|
| **Analysis ID:** | 12-5523-6527 | **Endpoint:** | Cell Yield | **CETIS Version:** | CETISv2.1.2 |
| **Analyzed:** | 15 Apr-24 14:54 | **Analysis:** | Parametric-Two Sample | **Status Level:** | 1 |
| **Edit Date:** | | **MD5 Hash:** | F9589352A894C17D3EF5852BBA7EB1BA | **Editor ID:** | |

**Graphics**






Analyst: 2024 Apr 15 QA: 2024 May 06

Client Name: Diavik Diamond Mines Inc.
Sample ID: 1645-18
Date Sampled: 2024 Apr 09
Job /Sample #: C424566 / CLX203
Date & Time Started: 2024 Apr 12 @11:45
Date & Time Ended: 2024 Apr 15 @ 10:59
Analyst(s): M. Thompson
Instrument ID: BBY2-0006, BBY2-0273

| Conc. (% v/v) | Well | Counts (*$10^4$ Cells/mL) | | Cell Yield (*$10^4$ Cells/mL) | Mean Cell Yield (*$10^4$ Cells/mL) | Standard Deviation | %CV |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | | | | |
| Lab Control | D2 | 62.9 | 62.0 | 61.45 | 60.55 | 7.71 | 13 |
| Lab Control | D3 | 64.2 | 67.1 | 64.65 | | | |
| Lab Control | D4 | 63.0 | 72.1 | 66.55 | | | |
| Lab Control | D5 | 77.2 | 67.4 | 71.30 | | | |
| Lab Control | D8 | 66.2 | 45.4 | 54.80 | | | |
| Lab Control | D9 | 51.7 | 61.2 | 55.45 | | | |
| Lab Control | D10 | 58.5 | 69.7 | 63.10 | | | |
| Lab Control | D11 | 49.7 | 46.5 | 47.10 | | | |
| 90.91 | C2 | 20.0 | 46.2 | 32.10 | 49.91 | 21.91 | 44 |
| 90.91 | E2 | 11.9 | 33.5 | 21.70 | | | |
| 90.91 | F2 | 62.4 | 50.3 | 55.35 | | | |
| 90.91 | G2 | 65.3 | 59.7 | 61.50 | | | |
| 90.91 | C3 | 56.7 | 53.6 | 54.15 | | | |
| 90.91 | E3 | 61.8 | 72.7 | 66.25 | | | |
| 90.91 | F3 | 73.3 | 96.3 | 83.80 | | | |
| 90.91 | G3 | 23.0 | 27.8 | 24.40 | | | |

Proofed : mo 2024 May06

Client Name: Diavik Diamond Mines Inc. Job / Sample #: C424566 / CLX203

Date Sampled: 2024 Apr 09 Sample ID: 1645-18

Date Received: 2024 Apr 09 Culture Date: 2024 Apr 09 A

Date & Time Started: 2024 Apr 12 @ 11:45 Culture Description: green

Date & Time Ended: 2024 Apr 15 @ 10:59 Light Intensity at Surface (lux): 3777 - 4250

Analyst(s): P. Fang M. Thompson, N. Sweigill

Instrument ID(s): BBY2-0006, BBY2-0526, BBY2-0405, BBY2-0290, BBY2-0128, BBY2-0111, BBY2-0077, BBY2-0509 BBY2-0293

**Reagent Water Preparation:**

Date of reconstituted water prep: 2024 Apr 08 Hardness (~20 mg/L $CaCO_3$): 19

Volume prepared: 150 mL reconstituted water to 1L DI water Analyst: A

**Temperature (°C):**

Day 0: 25 Day 1: 25 Day 2: 25 Day 3: 25

**Sample Water Quality**

Initial pH: 7.2 Initial Temp (°C): 24.8 Sample Description: Clear, colourless

Initial Filtered pH (well B2): 7.8 Final Filtered pH (well B2): 7.9

**Control Water Quality**

Initial Filtered pH (well D6): (A) ~~7.8~~ 7.7 Final Filtered pH (well D7): 8.1

**Determination of Initial Cell Concentration of Inoculum:**

Prepared inoculum final concentration (**X**): 20.7 (*$10^4$ cells/mL)

Time of inoculum prep: 11:22

Therefore, (**Xi**) 2070 cells were initially put into each test well and the initial cell density was (**Xd**) 9409 cells/mL.

To calculate # cells initially put into each test well:

**Xi** = [(0.5 * X) * 0.02] = [(0.5 * 20.7 x 10⁴) * 0.02] = 2070 cells

To calculate the initial cell density:

**Xd** = [(Xi) * (1000/220)] = [(2070) * (4.5455)] = 9409 cells/mL

**Observations during Test (Y/N):**

| Date | Algal Growth | Condensation | Rotated Plates | Analyst |
|---|---|---|---|---|
| 2024 Apr 13 | Y | Y | Y | DL |
| 2024 Apr 14 | Y | Y | Y | NS |
| 2024 Apr 15 | Y | Y | | MT |

(A) wrote on wrong spot. DL 2024 Apr 12.

# CETIS Analytical Report



**Alga Growth Inhibition Test** — **Bureau Veritas**

| | | | | | |
|---|---|---|---|---|---|
| **Analysis ID:** | 08-6456-2984 | **Endpoint:** | Cell Yield | **CETIS Version:** | CETISv2.1.2 |
| **Analyzed:** | 15 Apr-24 14:55 | **Analysis:** | Parametric-Two Sample | **Status Level:** | 1 |
| **Edit Date:** | | **MD5 Hash:** | 5094B43F74EB6B04DCCD569A8D81F17A | **Editor ID:** | |
| **Batch ID:** | 00-9116-9111 | **Test Type:** | Cell Growth | **Analyst:** | P. Fang |
| **Start Date:** | 12 Apr-24 11:39 | **Protocol:** | EC/EPS 1/RM/25 | **Diluent:** | Algal Culture Media |
| **Ending Date:** | 15 Apr-24 10:59 | **Species:** | Pseudokirchneriella subcapitata | **Brine:** | Not Applicable |
| **Test Length:** | 71h | **Taxon:** | Chlorophyta | **Source:** | Canadian Phycological Cult **Age:** |
| **Sample ID:** | 12-8011-8231 | **Code:** | C424566 | **Project:** | 2-11-0691 |
| **Sample Date:** | 09 Apr-24 05:30 | **Material:** | Water | **Source:** | Diavik |
| **Receipt Date:** | 09 Apr-24 15:49 | **CAS (PC):** | | **Station:** | 1645-18B |
| **Sample Age:** | 78h | **Client:** | Diavik Diamond Mines Inc | | |

| Data Transform | Alt Hyp | Comparison Result | PMSD |
|---|---|---|---|
| Untransformed | C <> T | 90.91% failed cell yield endpoint | 20.63% |

**Equal Variance t Two-Sample Test**

| Control | vs | Conc-% | df | Test Stat | Critical | MSD | P-Type | P-Value | Decision(α:5%) |
|---|---|---|---|---|---|---|---|---|---|
| Lab Control 1 | | 90.91* | 14 | 12.43 | 2.145 | 6.037 | CDF | <1.0E-05 | Significant Effect |

**Auxiliary Tests**

| Attribute | Test | Test Stat | Critical | P-Value | Decision(α:5%) |
|---|---|---|---|---|---|
| Outlier | Grubbs Extreme Value Test | 2.205 | 2.586 | 0.2653 | No Outliers Detected |
| Control Trend | Mann-Kendall Trend Test | 0.1087 | 0.05 | 0.1087 | Non-Significant Control Trend |

**ANOVA Table**

| Source | Sum Squares | Mean Square | DF | F Stat | P-Value | Decision(α:5%) |
|---|---|---|---|---|---|---|
| Between | 4894.75 | 4894.75 | 1 | 154.4 | <1.0E-05 | Significant Effect |
| Error | 443.731 | 31.6951 | 14 | | | |
| Total | 5338.48 | | 15 | | | |

**ANOVA Assumptions Tests**

| Attribute | Test | Test Stat | Critical | P-Value | Decision(α:1%) |
|---|---|---|---|---|---|
| Variance | Variance Ratio F Test | 2.193 | 8.885 | 0.3220 | Equal Variances |
| Distribution | Shapiro-Wilk W Normality Test | 0.962 | 0.8408 | 0.6991 | Normal Distribution |

**Cell Yield Summary**

| Conc-% | Code | Count | Mean | 95% LCL | 95% UCL | Median | Min | Max | Std Err | CV% | %Effect |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | N1 | 8 | 29.26 | 25.54 | 32.99 | 29.1 | 22.35 | 37.4 | 1.575 | 15.23% | 0.00% |
| 90.91 | | 8 | 64.24 | 58.73 | 69.76 | 65.5 | 52.25 | 71.05 | 2.333 | 10.27% | -119.54% |

**Cell Yield Detail**

| Conc-% | Code | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 | Rep 6 | Rep 7 | Rep 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | N1 | 30.4 | 37.4 | 30.15 | 28.05 | 25.75 | 28 | 32 | 22.35 |
| 90.91 | | 70.35 | 66.95 | 71.05 | 57.1 | 63.65 | 64.05 | 52.25 | 68.55 |

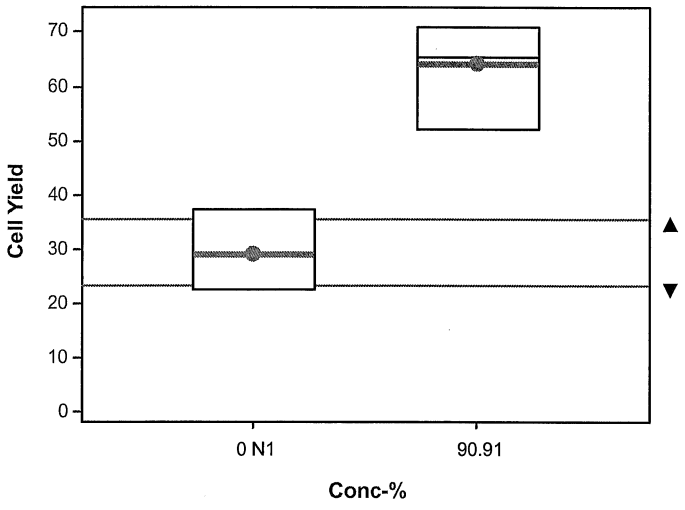


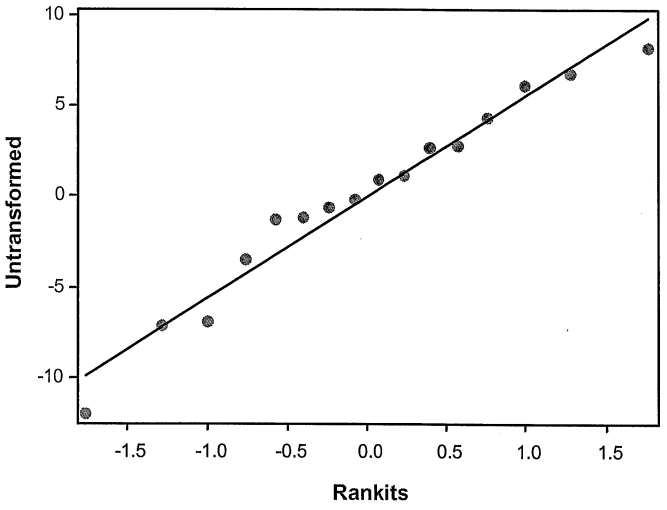
Analyst: dmw 2024 Apr 15 QA: mo 2024 May 06

**Alga Growth Inhibition Test** — **Bureau Veritas**

| | | | | | |
|---|---|---|---|---|---|
| **Analysis ID:** | 08-6456-2984 | **Endpoint:** | Cell Yield | **CETIS Version:** | CETISv2.1.2 |
| **Analyzed:** | 15 Apr-24 14:55 | **Analysis:** | Parametric-Two Sample | **Status Level:** | 1 |
| **Edit Date:** | | **MD5 Hash:** | 5094B43F74EB6B04DCCD569A8D81F17A | **Editor ID:** | |

**Graphics**






Analyst: 2024 Apr 15 QA: 2024 May 06

Client Name: Diavik Diamond Mines Inc.
Sample ID: 1645-18B
Date Sampled: 2024 Apr 09
Job /Sample #: C424566 / CLX204
Date & Time Started: 2024 Apr 12 @11:39
Date & Time Ended: 2024 Apr 15 @ 10:59
Analyst(s): M. Thompson
Instrument ID: BBY2-0006, BBY2-0273

| Conc. (% v/v) | Well | Counts (*$10^4$ Cells/mL) | | Cell Yield (*$10^4$ Cells/mL) | Mean Cell Yield (*$10^4$ Cells/mL) | Standard Deviation | %CV |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | | | | |
| Lab Control | D2 | 22.8 | 40.0 | 30.40 | 29.26 | 4.46 | 15 |
| Lab Control | D3 | 44.7 | 32.1 | 37.40 | | | |
| Lab Control | D4 | 34.0 | 28.3 | 30.15 | | | |
| Lab Control | D5 | 22.8 | 35.3 | 28.05 | | | |
| Lab Control | D8 | 27.4 | 26.1 | 25.75 | | | |
| Lab Control | D9 | 25.0 | 33.0 | 28.00 | | | |
| Lab Control | D10 | 31.9 | 34.1 | 32.00 | | | |
| Lab Control | D11 | 22.7 | 24.0 | 22.35 | | | |
| 90.91 | C2 | 67.7 | 75.0 | 70.35 | 64.24 | 6.60 | 10 |
| 90.91 | E2 | 70.6 | 65.3 | 66.95 | | | |
| 90.91 | F2 | 66.2 | 77.9 | 71.05 | | | |
| 90.91 | G2 | 49.2 | 67.0 | 57.10 | | | |
| 90.91 | C3 | 60.1 | 69.2 | 63.65 | | | |
| 90.91 | E3 | 63.8 | 66.3 | 64.05 | | | |
| 90.91 | F3 | 51.2 | 55.3 | 52.25 | | | |
| 90.91 | G3 | 63.8 | 75.3 | 68.55 | | | |

Proofed: mo 2024 May 06

Client Name: Diavik Diamond Mines Inc.

Job / Sample #: C424566 / CLX204

Date Sampled: 2024 Apr 09

Sample ID: 1645-18B

Date Received: 2024 Apr 09

Culture Date: 2024 Apr 09 A

Date & Time Started: 2024 Apr 12 @ 11:39

Culture Description: green

Date & Time Ended: 2024 Apr 15 @ 10:59

Light Intensity at Surface (lux): 3777 - 4250

Analyst(s): P. Fong M. Thompson, N. Sherg, II

Instrument ID(s): BBY2-0006, BBY2-0526, BBY2-0405, BBY2-0290, BBY2-0128, BBY2-0111, BBY2-0077, BBY2-0509
BB42-0273

**Reagent Water Preparation:**

Date of reconstituted water prep: 2024 Apr 08

Hardness (~20 mg/L $CaCO_3$): 19

Volume prepared: 150 mL reconstituted water to 1L DI water

Analyst: DR

**Temperature (°C):**

Day 0: 25 Day 1: 25 Day 2: 25 Day 3: 25

**Sample Water Quality**

Initial pH: 7.0 Initial Temp (°C): 25.3 Sample Description: clear, colourless

Initial Filtered pH (well B2): 7.8

Final Filtered pH (well B2): 8.4

**Control Water Quality**

Initial Filtered pH (well D6): 7.6

Final Filtered pH (well D7): 7.7

**Determination of Initial Cell Concentration of Inoculum:**

Prepared inoculum final concentration (**X**): 20.7 (*$10^4$ cells/mL)

Time of inoculum prep: 11:22

Therefore, (**Xi**) 2070 cells were initially put into each test well and the initial cell density was (**Xd**) 9609 cells/mL.

To calculate # cells initially put into each test well:

**Xi** = [(0.5 * X) * 0.02] = [(0.5 * $20.7 \times 10^4$) * 0.02] = 2070 cells

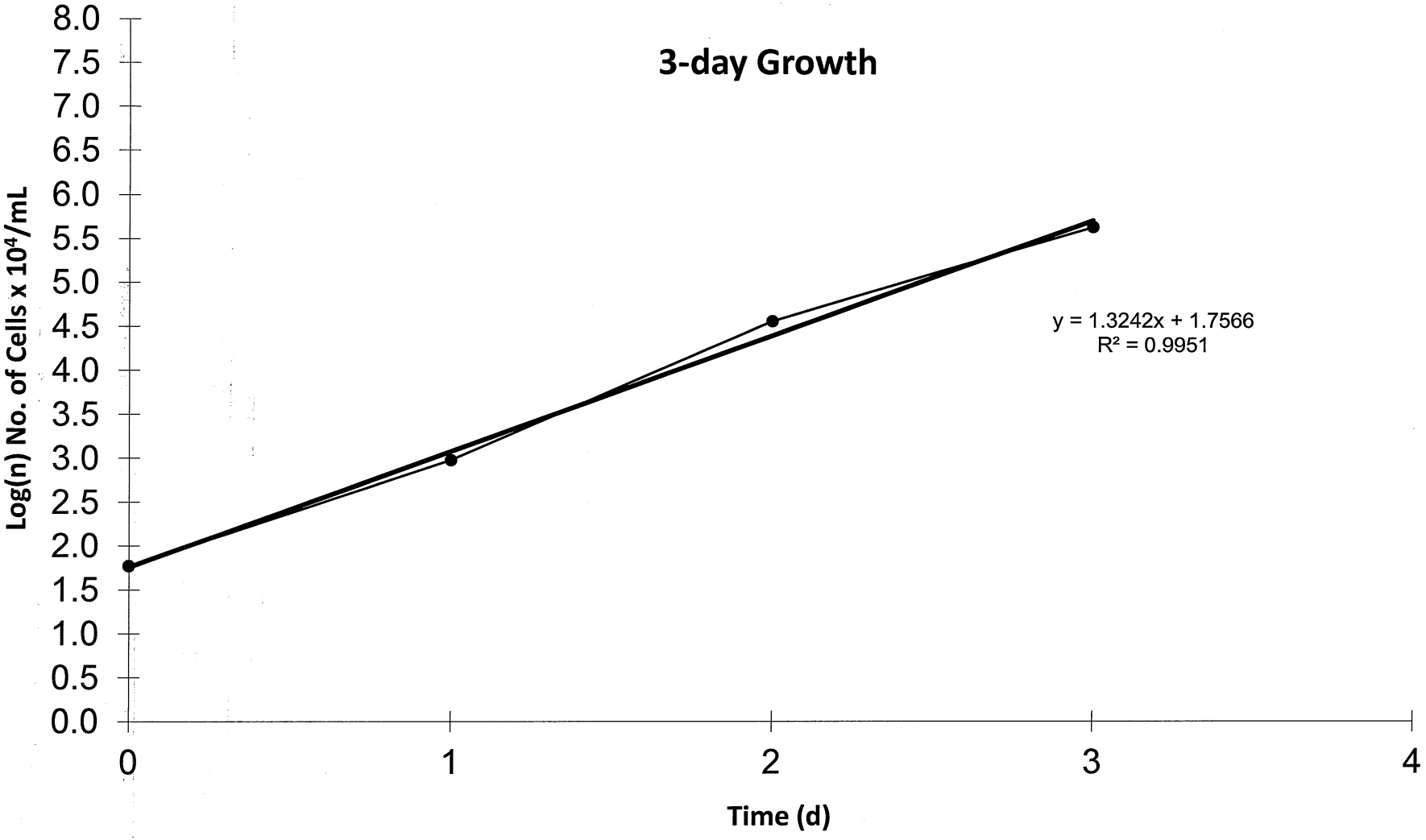
To calculate the initial cell density:

**Xd** = [(Xi) * (1000/220)] = [(2070) * (4.5455)] = 9409 cells/mL

**Observations during Test (Y/N):**

| Date | Algal Growth | Condensation | Rotated Plates | Analyst |
|---|---|---|---|---|
| 2024 Apr 13 | Y | Y | Y | DR |
| 2024 Apr 14 | Y | Y | Y | NS |
| 2024 Apr 15 | Y | Y | | MT |

***Pseudokirchneriella subcapitata*** **Growth Curve using CP231213; Date: 2024/Jan/16**
**EC~4000lux, 24°C, 0.5ml culture to 50 mL nutrient medium**



# Attachment 3

June 19, 2024

**Memo: Embryo Tests for Quarter 2 – Bureau Veritas Laboratories**


| | | | |
|---|---|---|---|
| *To* | Geraldlyn Gouthro | *From* | Ditty Kakkassery; Jacklyn Poole |
| *Affiliation* | Bureau Veritas | *Tel* | 604-420-8773 |
| *e-mail* | geraldlyn.gouthro@bureauveritas.com | *e-mail* | ditty@nautilusenvironmental.ca; jacklyn@nautilusnenvironmental.ca |


Nautilus Environmental (Burnaby) received two samples, CLX203-1645-18 and CLX204-1645-18B, on April 10, 2024, from Bureau Veritas for the 7-d Rainbow Trout Early Life Stage test. Tests were initiated on the same day of arrival, April 10, 2024, and were terminated on April 17, 2024. Upon test completion, the laboratory control did not meet the test validity criteria, as described in the reference test method EPS1/RM/28, as there was less than 70% fertilization in the laboratory control (56% and 57%, respectively). Bureau Veritas was notified via email on April 17, 2024, and decided that re-sampling would be done for these two samples on April 23, 2024.

Samples CML604-1645-18 and CML-1645-18B were received on April 24, 2024, in good condition. The 7-d Rainbow Trout Early Life Stage tests were initiated on the same day of sample arrival, April 24, 2024, and terminated on May 1, 2024. Upon test completion, the laboratory controls again did not meet the test validity criteria, as the fertilization in the two lab controls was 0%. This was notified to Bureau Veritas on May 3, 2024, via email. An option to re-test was given to the client using trout eggs from a different supplier later in May or June 2024. The supplier had originally communicated they would have organisms available until end of June, but unfortunately eggs were no longer available for the proposed date of testing (June 5, 2024). It was informed that the next availability window for trout gametes would be from mid-July onwards.

There are inherent challenges when working with live organisms, and with this test in particular there are additional challenges with obtaining quality gametes as they are only available during specific times of the year. Additionally, we have recently observed changes in the quality and timing of gametes but unfortunately, these are circumstances beyond our control, and we are working with our suppliers to see if these recent quality issues can be overcome.

Please do not hesitate to contact us if you have any questions or concerns.

Regards,

Ditty Kakkassery, Ph.D., R.P. Bio.
Laboratory Supervisor

Jacklyn Poole, B.Sc.
Laboratory Manager