Baffinland Iron Mines Corporation

PHASE 1 WASTE ROCK MANAGEMENT PLAN

BAF-PH1-830-P16-0029

Rev 4

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1 PURPOSE

The Phase 1 Waste Rock Management Plan (WRMP) details the processes and designs to adequately manage non-acid generating (Non-AG) and potentially acid generating (PAG) waste being mined and deposited at the Waste Rock Facility (WRF). The current footprint of the WRF has capacity for an additional 25Mt of waste rock before further expansion toward the Life of Mine dump footprint is required.

2 SCOPE

This plan describes the criteria to effectively identify and segregate Non-AG and PAG waste in the pit, standards for placing and storing this waste at the WRF, processes and requirements on water management, and waste rock management quality assurance, quality control (QAQC) procedures. Closure considerations fall outside the scope of this document and the reader is referred to Baffinland's Interim Closure and Reclamation Plan (BAF-PH1-830-P16-0012).

3 DEFINITIONS

Acid Rock Drainage (ARD): Outflow of acidic water from acid generating minerals with reduced pH.

Metal Leaching (ML): Leaching of metals from rock (mainly cause by the acid generated during ARD) causing drainage that has high amounts of dissolved metals (such as iron, aluminum, copper, zinc, etc.)

Non-Acid Generating (Non-AG): Rock that does not have the potential to produce acid or acidic water.

Potentially Acid Generating (PAG): Rock containing minerals which potentially can produce acid or acidic water as classified using the criteria detailed in Section 6.

Waste Rock Facility (WRF): An engineered facility for the disposal of rock that is not currently economic to process.

Waste Rock Facility Pond (WRF pond): An engineered facility at the toe of the WRF, designed to capture surface runoff from the WRF. Note that the WRF is surrounded by a network of ditches that convey surface runoff to the pond.

Water Treatment Plant (WTP): A facility established in close proximity to the WRF pond that is used to treat surface runoff collected in the pond.

4 RESPONSIBILITIES

4.1 Operations Manager

- Designate responsible persons within their department for implementing the Plan.
- Provide equipment requirements to execute the Plan.
- Ensure execution is in compliance to the Plan.
- Implement corrective actions in the event of identified non-conformances.

4.2 Technical Services Superintendent / Manager

- Designate responsible persons within their department for implementing the Plan.
- Provide training to ensure all Technical Services personnel understand the Plan.
- Ensure compliance with the WRMP and WRF QAQC Monitoring Plan.
- Manage timing and execution of future WRF expansions studies.
- Review and approve any changes, corrections, or updates to the Plan.
- Implement corrective actions in the event of identified non-conformances.
- Designate qualified personnel to produce NAPEG stamped drawings, on a quarterly basis, that show the extents of the Non-AG cover over the WRF.

4.3 Technical Services Staff

- Follow the responsibilities outlined in the Waste Rock Facility QAQC Monitoring Plan (BAF-PH1-340-P16-0004) and the Working Near Slopes: Pit Walls, Dumps, and Stockpiles Procedure (BAF-PH1-340-PRO-0033). Where Technical Services Staff includes the following personnel: Principal Geologist / Senior Geologist, Medium Term Planning Engineer / Short Term Planning Engineer, Mine Geologist, Mine Surveyor, Geotechnical Engineer.

4.4 Mine Superintendent

- Ensure all activities are executed as per the plan set in place by Technical Services.
- Ensure all supervisors and operators receive proper training and understand the Plan.
- Coordinate resources to achieve the Plan.

4.5 Mine Supervisor

- Follow the responsibilities outlined in the Waste Rock Facility QAQC Monitoring Plan (BAF-PH1-340-P16-0004) and the Working Near Slopes: Pit Walls, Dumps, and Stockpiles Procedure (BAF-PH1-340-PRO-0033).
- Ensure the WRF emergency ditch is drained prior to freshet and throughout the operating season.
- Ensure that snow is cleared from the Water Treatment Plant (WTP), WRP and ditches, to the extent practical, prior to freshet.
- Ensure Deposit 1 pit sump pumping time and volumes are reported daily to Technical Services.

4.6 Heavy Equipment Operators

- Safe operation of their equipment as outlined in their respective equipment Standard Operating Procedures (BAF-PH1-340-PRO-0006, BAF-PH1-300-PRO-0010, BAF-PH1-300-PRO-0011).
- Follow the responsibilities outlined in the Waste Rock Facility QAQC Monitoring Plan (BAF-PH1-340-P16-0004) and the Working Near Slopes: Pit Walls, Dumps, and Stockpiles Procedure (BAF-PH1-340-PRO-0033).

4.7 Environmental Superintendent / Manager

- Designate responsible persons within their department for implementing the Plan.
- Provide training to ensure all Environmental personnel understand the Plan.

4.8 Environmental Coordinator

- Follow the responsibilities outlined in the Waste Rock Facility QAQC Monitoring Plan (BAF-PH1-340-P16-0004).
- Follow the responsibilities outlined in the Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010).
- Responsible for effluent discharge sampling and all other Environmental Effects Monitoring (EEM) and Biological Monitoring, as required.

4.9 WRF Water Treatment Plant Operator

- Operate the WRF Water Treatment Plant and ensure compliant effluent discharge, following the procedures outlined in the Waste Rock Facility Water Treatment Plant Operations Plan (BAF-PH1-340-PRO-0059).
- Responsible for commissioning the WTP prior to freshet.
- Tracking and reporting of volumes of effluent discharged from WTP.

5 REGULATORY REQUIREMENTS

All mining operations are carried out under the *Mines Act* whose requirements are reflected in Baffinland procedures and must be followed.

This Plan has been developed under the requirements of Baffinland's Type A Water Licence.

In addition, the discharge from the WRF pond is established as a monitoring and discharge point under the *Metal and Diamond Mining Effluent Regulations* (MDMER) SOR/2002-222.

All monitoring and reporting of effluent water quality will be done by the Environmental Department, including reporting to the appropriate Regulatory agencies.

6 WASTE ROCK CLASSIFICATION AND GEOCHEMICAL SAMPLING PROGRAM

To mitigate ARD at the WRF, PAG waste rock must be appropriately identified for segregation during mining operations. Effective identification of PAG waste requires the waste rock geochemistry and mechanisms driving ARD production be understood. Baffinland has completed several geochemical studies investigating just this, dating back to 2008, and has developed a tested method for adequately identifying Non-AG and PAG waste during mining operations. A summary of this work is provided in Appendix A – Waste Rock Management Plan.

Cuttings from waste rock blastholes in the open pit are sampled prior to blasting and submitted to the on-site laboratory for total sulphur content and paste pH analysis. Based on the assay results, waste rock is classified using the Non-AG and PAG classification criteria shown in Table 1.

TABLE 1: WASTE CLASSIFICATION CRITERIA

Acid Generation Potential	Criteria*
PAG	Total sulphur ≥ 0.20 wt% as S
PAG	Total sulphur < 0.20 wt% as S and paste pH ≤ 6
Non-AG	Total sulphur < 0.20 wt% as S and paste pH >6

*Total sulphur measured by XRF or LECO method, as supported by WSP 2024. Total sulphur criteria of ≥ 0.2 wt% is used as an analogue for Neutralization Potential Ratio (NPR) of ≤ 2.0, as supported by WSP 2024 (Appendix A – Appendix A1).

To allow for continued monitoring and validation of Baffinland's waste rock classification and identification criteria, select blasthole samples of both Non-AG and PAG material will be submitted off-site for Acid Base Accounting (ABA) and Shake Flask Extraction (SFE) testing on an ongoing basis. A frequency of 1 hole per 40,000 tonnes of blasted waste material will be selected at random for testing. The geochemical results from this testing program to date have not revealed any issues with the current waste rock categorization practices.

Overall, the geochemical results from sulphur, ABA, and SFE testing and on-site water quality analysis indicate that the overall waste rock classification practices are reasonable and appropriate to reduce the potential for acid generation and metal leaching. Additional analysis and supporting information can be found in Appendix A.

7 WRF DESIGN CRITERIA

The following design criteria have been developed with consideration to the criteria established under the Life of Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031):

- Runoff and seepage from the WRF will be collected at the WRF pond. Collected flows will be treated to comply with requirements of the Type 'A' Water License 2AM-MRY1325 and MDMER;
- The WRF will be developed in a manner conducive to permafrost aggradation,
- The following conditions define the WRF geometry (Baffinland, 2014):
  - Overall external side slopes will be 2H:1V. Exterior slopes will be benched with inter bench slopes of 1.5H:1V;
  - Minimum crest width will be 25 m; and,
  - The perimeter of the WRF will be a minimum of 31 m from any water body.

Additional design criteria are necessary to achieve the WRF development strategy to minimize the release of acidity and limit ARD production. These are discussed below under Section 8.

8 WRF DEVELOPMENT STRATEGY

The primary objectives for the WRF development are the safety of personnel, protection of the environment and long-term physical and chemical stability. Thin lift deposition of waste rock creates a more homogenous stockpile and reduces particle size segregation that may create preferential air and water flow paths through the stockpile (i.e. reduce flow channelization and potential for oxygen supply to PAG materials). Waste rock placement locations and lift thickness also focus on the continuous development and raising of permafrost within the WRF. Permafrost aggradation provides an effective barrier to acid-forming reactions as absence of oxygen and water supply limits potential for sulphide oxidation and ARD transport, and the rate of sulphide oxidation is greatly reduced at low temperatures.

8.1 Deposition Strategy and Guidelines

The WRF deposition strategy and guidelines below are developed from WSP's assessment of the geochemistry analysis and their various thermal, water quality and water balance models, presented in Appendix A.

The WRF design guidelines may change over time as the results of the ongoing studies and monitoring become available. A summary of the main aspects of the WRF deposition strategy is presented below and has been adjusted to reflect Baffinland's commitment to complete progressive reclamation of the WRF:

- **Footprint expansion:** The first lift of the WRF on native ground shall be Non-AG waste rock. Waste rock placement over native ground shall be carried out in the winter to the extent practical. At a minimum, the lift will be allowed to freeze prior to the deposition of subsequent lifts. Maintaining a frozen base and perimeter is expected to reduce potential for seepage.
- **Stockpile expansion construction:** Waste rock placed over an area of new WRF expansion shall be carried out in a manner conducive to aggrading permafrost, to limit potential for further development of ARD.
- **Material separation:** Non-AG and PAG waste rock placement locations at the WRF shall be documented. Non-AG material that may be intermixed with PAG shall be classified as, and follow the waste rock deposition strategies for PAG material.

Stockpile exterior face: PAG waste rock shall be placed 4 m (minimum) interior from ultimate and interim stockpile faces to conservatively maintain the PAG material interior from the permafrost active zone which has been measured up to 2.9 m in thickness.

Lift thickness: Waste rock placement to target a maximum thickness of 5 m during a single deposition event. This lift thickness has been established to reduce potential for waste rock segregation during placement while remaining operationally feasible with the available equipment. Reducing segregation of deposited waste rock is expected to reduce the potential for development of preferential air flow paths that can delivery oxygen to PAG waste rock.

- **Successive lift placement:** Placement of successive waste rock lifts shall give consideration to the waste rock and environmental conditions as described below. These placement strategies may be revised as the thermal performance of the WRF becomes better understood.
  - When the waste rock temperature at the time of placement is below 0°C, successive lifts may be continuously placed over a given footprint.

  - During summer deposition, when the waste rock temperature is greater than 0°C, a total maximum of 7 m of successive lifts should be placed at a given location. To the extent practical, thicker lifts should be placed in early summer, and thinner lifts should be placed during late summer to promote faster cooling, and to allow for material deposited in late summer to freeze faster in the subsequent winter.
  - When the waste rock temperature is above 0°C and the air temperature below 0°C, the surface of the waste rock shall be kept clear of snow to the extent possible to promote permafrost aggradation prior to placement of the subsequent lift.
  - To the extent possible, the deposition of successive lifts should occur in such a way that prevents the formation of depressions or low points with a difference in elevation between adjacent areas greater than 7 m. End-dumping waste rock to fill depressions will typically cause waste rock segregation that could potentially serve as a preferential flow path for air and water.
- **Capping PAG placement before summer:** To the extent practical, PAG waste rock shall be covered with a 4 m thick (minimum) layer of Non-AG waste rock prior to summer. The intention of this criteria is to maintain the permafrost active zone within the Non-AG waste rock during the summer months (i.e. maintain the PAG waste rock in a frozen state).
- **Capping PAG placement:** In all cases, PAG waste rock must be covered with a 4 m thick (minimum) layer of Non-AG waste within 24 months of initial placement.
- **Progressive Reclamation Objective:** To the maximum possible extent (without compromising the primary objective to permanently freeze PAG and minimize potential for ARD and ML), PAG material should be covered following the above guidelines such that the exposed PAG footprint is less than or equal to 15% of the dump footprint. PAG is to be covered with 4 m of Non-AG material following the deposition strategy outlined above.

Baffinland develops quarterly WRF placement plans to illustrate the upcoming waste deposition sequence including details on Non-AG cover, active PAG dumping areas and exposed PAG footprint. In the event that waste rock deposition following the above guidelines is not possible, Baffinland will document short-term deviations from the above waste rock deposition strategies and develop corrective action plans to return to the long-term objectives.

Additional details regarding the Adaptive Management and Trigger Action Response Plans (TARP) are outlined below in Appendix B Waste Rock Facility QAQC Monitoring Plan.

9 WRF WATER MANAGEMENT

In compliance with Baffinland's Type 'A' Water Licence, contact water from the WRF are collected in a network of ditches, directed towards the WRF pond and treated through the water treatment plant (WTP) if water quality is not in compliance with discharge criteria. Dewatering from the Deposit 1 pit is also directed to the WRF pond.

Clean, non-contact water is diverted around the WRF by diversion berms as required. In addition, as part of the Snow Management Plan (BAF-PH1-830-P16-0023), clean snow is stockpiled in designated areas outside of the WRF pond catchment area to limit clean melt water from reporting into the WRF pond.

The emergency ditch will be drained and cleared prior to freshet to ensure that water is contained if a spill were to occur. The ditch is to be regularly pumped into the main pond to maintain its capacity.

Figure 1 shows the current WRF and the key water management structures. Phased drainage management berms, ditches and ponds are designed as mining progresses and when additional WRF expansions are required for capacity and/or adherence to the WRF development strategy.

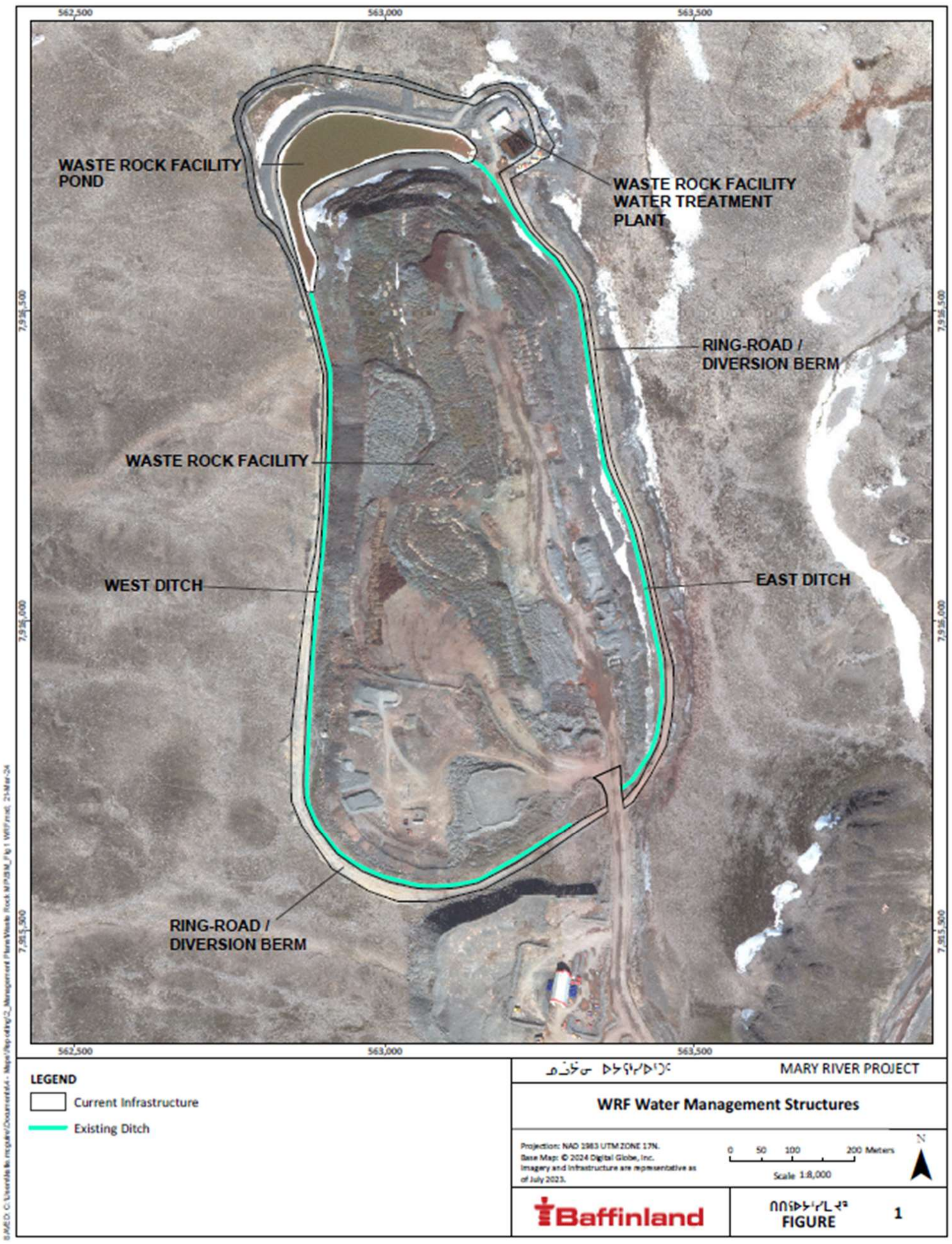

FIGURE 1: WRF WATER MANAGEMENT STRUCTURES

9.1 WRF Water Treatment Plant

A water treatment plant facility established in close proximity to the WRF pond was constructed to treat surface runoff collected at the WRF pond. A transfer pump conveys water from the WRF pond to the WTP. The WTP consists of physical-chemical treatment for pH adjustment, chemical precipitation and removal of solids by physical barrier. The water treatment processes include coagulation, pH adjustment and precipitation, flocculation, and filtration. The WTP effluent is then discharged to the receiving environment of Mary River tributary.

A detailed design of the WTP was carried out by McCue Engineering Contractors (McCue, 2018). The WTP was constructed in 2018 and has a design treatment rate of 280 m^3/hr capacity, consisting of two 140 m^3/hr treatment trains. For each train, the water flow rate and pH in Reactor Tanks 1 and 2 is continuously monitored. Ferric sulfate and polymer are added based on flow rate, while the lime dosage is based on pH in Reactor Tank 1. The chemical dose rate is adjusted by the plant operator in the PLC to ensure discharge from the WRF does not exceed the effluent quality limits outlined in Section 9.2.

Other temporary treatment systems can be used to alter water chemistry with various mixing and dosing components if required. Treatment systems could be established alongside the WRF pond berm, or in an adjacent facility. Suction and recirculation hoses can be installed with floats, ensuring the lines do not damage the liner or disturb any settled solids. During discharge, it may be necessary to arrange equipment on the discharge end of the pump to provide pH adjustment or final solids removal before the water enters the receiving environment. Additional details regarding alternative water treatment solutions considered for the project that may be applicable depending on the encountered water quality parameters can be found in Baffinland's Fresh Water, Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010).

9.2 Water Quality & Effluent Discharge Monitoring

Water quality sampling for the purposes of effluent discharge are outlined in the Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010). All sampling and reporting will be carried out by the Environmental Department.

Discharge from the WRF shall not exceed the effluent quality limits of Part F, Item 24 in the Type 'A' Water Licence site-specific limits (Table 1), as well as criteria listed under Schedule 4 of MDMER (Table 2). In addition, Environmental Effects Monitoring (EEM) and Biological Monitoring is carried out as required by MDMER. Baffinland has implemented an Aquatic Effects Monitoring Plan (AEMP) to monitor environmental effects of effluent discharge to the receiving environment at Mary River. Results of the discharge monitoring, EEM and the AEMP can trigger additional adaptive management actions such as further treatment of pond effluent, if required.

When the maximum limit for a parameter differs between the MDMER and the Type 'A' Water Licence discharge criteria, the more conservative (lower) limit for the parameter will be adopted.

TABLE 1: EFFLUENT DISCHARGE QUALITY LIMITS FOR THE WRF POND

Parameter	Maximum Concentration of Any Grab Sample (mg/L)
Total Arsenic	0.50
Total Copper	0.30
Total Lead	0.20
Total Nickel	0.50
Total Zinc	0.50
Total Suspended Solids	15
Oil and Grease	No visible sheen
Toxicity	Not acutely toxic
pH	6.0 – 9.5

*Source: Type 'A' Water Licence (2AM-MRY1325 – Amendment No. 1) Table 10.

TABLE 2: EFFLUENT DISCHARGE QUALITY LIMITS FOR THE WRF POND

Parameter	Mean Monthly Limit (mg/L)[1]	Maximum Concentration of Any Grab Sample (mg/L)
Total Arsenic	0.30	0.60
Total Copper	0.30	0.60
Total Lead	0.10	0.20
Total Nickel	0.50	1.00
Total Zinc	0.50	1.00
Total Suspended Solids	15	30
Radium-226	0.37 Bq/L	1.11
pH	6 – 9.5	6 – 9.5
Toxicity	Not acutely toxic	Not acutely toxic
Un-ionized Ammonia	0.50	1.00

*Source: Metal and Diamond Mining Effluent Regulations, Schedule 4 Table 2

[1] Parameters listed above are sampled during discharge.

Additional parameters including sub-lethal toxicity, aluminum, cadmium, iron, mercury, molybdenum, selenium, nitrate, ammonia, chloride, chromium, cobalt, sulphate, thallium, uranium, phosphorus, manganese, hardness, alkalinity and specific conductance are also required under MDMER, however these parameters do not have a maximum water quality discharge limit but instead are used to provide additional information to assist in interpreting toxicity results and identifying potential effects on the receiving environment.

Results of the water quality monitoring conducted to satisfy the conditions of the Type 'A' Water Licence will be reported monthly, and compiled annually into the QIA/NWB Annual Report for Operations. Results of the water quality monitoring conducted to satisfy the conditions of the MDMER will be reported quarterly in the ECCC's Mine Effluent Reporting System..

9.3 Water Volume Tracking

Baffinland monitors and records water volumes in the WRF pond daily during active discharges, in addition to inflows from the Deposit 1 Pit Sump(s) and effluent discharges to the receiving environment. The WRF WTP operator is responsible for tracking water volume discharged from the WTP, Technical Services is responsible for surveying and/or collecting via automated sensor the WRF pond level , and Mine Operations is responsible for tracking water volume discharged from the Deposit 1 Pit Sump. This monitoring data is used in the various water balance and quality models that inform the WRF design criteria and the WRF deposition strategy and guidelines. Results from the current iterations of the models are found in Appendix A.

10 WRF CLOSURE

At closure, the principal objectives are the safety of the public and maintaining the physical and chemical stability of the permanent structures to ensure that there is no long-term safety or environmental impact. The closure criteria for the WRF are outlined in Baffinland's Interim Closure and Reclamation Plan (BAF-PH1-830-P16-0012).

11 WRF QAQC Monitoring Plan and Adaptive Management

The criteria outlined in the WRMP are designed to mitigate the risk of ARD at the WRF due to the mining and deposition of Non-AG and PAG waste. A quality assurance and quality control (QAQC) monitoring plan is required to ensure conformance with the criteria outlined in the WRMP, and to ensure the WRF is performing as intended. The WRF QAQC Monitoring Plan provided in Appendix B describes processes for:

- In-Pit Material Identification & Delineation.
- WRF Material Placement Planning, Execution, Tracking & Reconciliation.
- WRF Non-AG Cover Placement Verification.
- WRF Instrumentation Monitoring and Reporting.
- WRF Water Quality Monitoring and Reporting.
- Quarterly Reporting as outlined in the plan.

Adaptive management plans that include Trigger Action Response Plans (TARP) based on specific performance indicators can be found in Appendix A of the above noted WRF QAQC Monitoring Plan. Additional adaptive management plans for waste placement and water management are discussed below.

11.1 NAG/PAG Deposition

If it is found that the thickness of placed material is above the 5 m limit within a 0.5 m tolerance over an area greater than 100 m x 100 m, it will be surveyed and noted. These areas will be examined visually for excessive particle segregation. If necessary, test pitting may be completed to verify the suitability of the placed material. In the event it is found that these sections do not meet expected levels of compaction and particle distribution, a site specific plan to remediate the impacted area(s) will be formulated. This plan may include but is not limited to the following:

- Dozing and/or excavation of unsuitable material into a thinner lift;
- Target area with specific waste material determined by Technical Services;
- Adjustment of subsequent lift thickness and/or timing of the next lift to maximize permafrost aggradation.

The impact of lift height variance, material segregation, encapsulated thawed material, or the thawing of previously frozen material, on the WRF performance is dependent on several factors:

- The reason for the presence of thawed material (i.e. exothermal geochemical reaction vs. encapsulation of thawed material);
- The location of the thawed material within the WRF and surrounding waste rock geochemistry;
- Forward planning for waste rock placement (both short term and long-term); and,
- Time of year.

The impact thawed waste rock may have on the WRF long-term performance, and the potential remediation strategies, must be assessed on a case-by-case basis. Upon identification of a thawed zone within the WRF (collected on a quarterly basis from installed thermistor data from representative location within the pile) the available construction records will be reviewed to identify the type of thawed waste rock (PAG vs. non-PAG), thickness of placement, and timing of placement. This information will be reviewed to assess the probable cause for the thawed material and inform the requirement for taking further action.

After reviewing the available construction documentation, the following general steps will be taken to assess the potential for the thawed material to impact the WRF long-term performance.

1) Identify if thawing was the result of construction practices or exothermic reaction
    a. If caused by construction practices assess time for freeze-back of thawed material.
        i. If freeze-back time is unacceptable and may result in development of exothermic reactions based on the type of material and/or surrounding material (within the thawed or surrounding waste rock) further action is required (see Item 1b).
        ii. If freeze-back time is acceptable then no further action is required. Document conditions and contributing factors and adjust waste rock placement guidelines to limit potential for a similar occurrence in the future.
    b. If the thawed zone developed from an exothermic reaction or the reason cannot be determined, then additional investigation may be required. The extent of the investigation (desktop study vs. field investigation) will be assessed on a case-by-case basis, and may include:
        i. Preliminary thermal modelling to screen potential extent and geometry of heat generation within the WRF.
        ii. Review of water quality data from the WRF perimeter ditches, particularly in the area of the thawed zone.
        iii. Field investigations to obtain samples for geochemical analysis.
        iv. Installation of additional thermistor strings and oxygen sensors to better define the thawed zone and confirm the presence of oxygen consuming reactions.

    v. Post-investigation thermal modelling to assess potential impact on long-term WRF performance.

2) Develop Remediation Plan (if required)
    a. As noted under Item 1aii, remediation may not be required under certain circumstances.
    b. Potential remediation strategies are itemized below and may vary significantly depending on the extent of thawed material and mechanism resulting in the thawed conditions. The appropriate actions to be undertaken can only be determined following a detailed review of the thawed zone in the context of the overall waste rock management plan. Such actions may include but are not limited to:
        i. Adjustment of subsequent lift placement strategies to promote more rapid freeze-back (e.g. revised lift thickness, exposure time prior to covering over, etc.).
        ii. Adjustment of waste rock placement locations and/or modification to the WRF development plan.
        iii. Exposure of thawed materials to promote rapid freeze-back.
        iv. Excavation of thawed material for re-deposition into thinner lifts and/or further encapsulation with NAG material.
3) Update waste rock placement guidelines and operational procedures to reduce potential for further development of thawed zones within the WRF. Update instrumentation plan and water quality sampling programs to address any observed shortcomings.

12 REFERENCES

BAF-PH1-340-PRO-0006 - Haul Truck Operation Procedure

BAF-PH1-300-PRO-0011 - Loader Operation Procedure

BAF-PH1-300-PRO-0011 - Dozer Operation Procedure

BAF-PH1-340-PRO-0033 - Working Near Slopes: Pit Walls, Dumps, and Stockpiles

BAF-PH1-830-P16-0012 - Interim Closure and Reclamation Plan

BAF-PH1-830-P16-0023 - Snow Management Plan

BAF-PH1-830-P16-0010 - Fresh Water Supply, Sewage and Wastewater Management Plan

BAF-PH1-830-P16-0031 Life-of-Mine Waste Rock Management Plan

Metal and Diamond Mining Effluent Regulation, 2002. SOR/2002-222.

NWT Mine Health and Safety Act and Regulations

Nunavut Water Board, Type 'A' Water Licence, 2AM-MRY1325

APPENDIX A: WASTE ROCK MANAGEMENT PLAN - JUNE 2023 THROUGH SEPTEMBER 2026

REPORT

Waste Rock Management Plan-June 2023 through September 2026

Baffinland Iron Mines Mary River Project

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APPENDICES

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2020 to 2022 Waste Rock Geochemistry Report

APPENDIX A2
Thermal Model and Assessment of Conceptual Summer Deposition Strategies for the Waste Rock Storage Facility at Mary River Mine Technical Memorandum

APPENDIX A3
2023 Water Balance Update Report

APPENDIX A4
2023 Water Quality Model Update, Waste Rock Facility Report

APPENDIX B
Baffinland Conceptual Waste Rock Deposition Plans

1.0 INTRODUCTION

Baffinland Iron Mines Corporation's (Baffinland) Mary River Project is an operational iron mine on Baffin Island in Nunavut, Canada. Baffinland has retained WSP Canada Inc. (WSP) to assist with developing an updated waste rock management plan (WRMP) for deposition of potential acid generating (PAG) and non-acid generating (Non-AG) waste rock at their existing Waste Rock Facility (WRF).

An estimated 640 Mt of waste rock and 32 Mt of overburden will require management from mining Deposit No. 1 (Baffinland 2014). An updated WRMP is required to accommodate current operational constraints, address the occurrence of acid rock drainage (ARD) from the WRF, and improve the chemical stability of future PAG waste rock deposition.

This WRMP provides a waste rock deposition plan for June 2023 through September 2026. Review of the updated waste rock geochemistry, and WRF thermal, water balance and water quality modelling are also discussed in this report.

2.0 DEPOSIT GEOLOGY

Deposit No.1 occurs at the nose of a syncline plunging steeply to the north-east (Aker Kvaerner 2008). The iron formation occupies the nose and two limbs of this feature with a ~1,300 m long northern portion and a ~700 m long southern portion. The footwall to the iron formation mainly consists of gneiss with minor schist, psammitic gneiss (psammite) and amphibolite. The hanging wall is primarily composed of schist and volcanic tuff with lesser amphibolite and metasediment.

The hanging wall primarily encompasses chlorite–actinolite schist and garnetiferous amphibolites. Metavolcanic tuff is also a significant lithology identified in the hanging wall. The footwall mainly consists of quartz-feldspar-mica gneiss with lesser meta-sediment (greywacke) and quartz-mica schist. Microcline and albite are the predominant feldspars within the gneiss and biotite is generally more abundant than muscovite.

The iron ore deposits at the Mary River project represent high-grade examples of Algoma-type iron formation and are composed of hematite, magnetite and mixed hematite-magnetite-specular hematite varieties of ore (Aker Kvaerner, 2008). The iron deposits consist of a number of lensoidal bodies that vary in their proportions of the main iron oxide minerals and impurity content of sulphur and silica in the ore. The massive hematite ore is the highest grade ore and also has the fewest impurities, which may indicate it was derived from relatively pure magnetite or that chert, quartzite and sulphides were leached and oxidized during alteration of the iron formation.

Intense deformation and lack of outcrop limit the ability to subdivide by lithology on the basis of future mined tonnages.

3.0 REGULATORY REQUIREMENTS

All mining operations at Baffinland are carried out under applicable regulations and the requirements will be reflected in Baffinland procedures.

The Mary River Operation is permitted under Nunavut Impact Review Board Project Certificate #005 and Nunavut Water Board Type A Water Licence, 2AM-MRY1325. The specific environmental requirements related to the WRF is for runoff to be collected in a downstream pond with capacity sized to reduce suspended solids in the discharge to meet discharge requirements of <30 mg/L (maximum concentration of any grab sample) and 15 mg/L maximum average concentration, as well as the effluent quality discharge limits set out in Part F, Item 24 in Type A Water License 2AM-MR1325.

In addition, discharge from the runoff collection pond is established as a monitoring and discharge point under the Metal and Diamond Mining Effluent Regulations (MDMER) SOR/2002-222.

4.0 GEOCHEMISTRY SUMMARY

For the BIM Mary River Deposit 1 the current field methodology for geochemical characterization involves testing of drillhole cuttings from each blasthole and measuring the paste pH and total sulphur content. A field classification system was developed in 2019 to consider the possible presence of soluble sulphate minerals (e.g., melanterite) that were observed in portions of the deposit (Golder 2019b) by adding paste pH as an additional criterion. Material where total S is greater than or equal to 0.2 wt. % Total S and if paste pH is less than 6 the material is treated as PAG. Table 1 provides a summary of the current field classification criteria.

Table 1: Acid Generation Potential Criteria Field Classification – Baffinland Mary River Site

Acid Generation Potential	Criteria
Treat as Potentially Acid Generating (PAG)	Total sulphur >= 0.20 wt% as S
Treat as Potentially Acid Generating (PAG)	Total sulphur < 0.20 wt% as S and paste pH <=6
Treat as Non-Potentially Acid Generating (Non-PAG)	Total sulphur < 0.20 wt% as S and paste pH > 6

The 2023 geochemistry update report provides a review of results of geochemical sampling completed from 2020 through 2022 (Appendix A1). The current evaluation includes review of 8603 blasthole drill cutting samples with measurements of total sulphur and paste pH from on-site as well as review of results from a subset of 395 split samples that underwent both field testing (pH and total sulphur) and analytical laboratory testing which also included acid-base accounting (ABA) analysis. In particular the use of total sulphur, as well as the combination of total sulphur plus sample pH (or paste pH) was evaluated for use in on site classification as compared to the Neutralization Potential Ratio (NPR) developed through full ABA test work. Site water quality measurements were also reviewed for potential metal leaching and acidity trends.

Key conclusions from the completed review and analysis are as follows:

Field vs. Analytical results:

- A review of sample results from on-site analysis and analytical laboratory testing shows very good agreement for total sulphur analysis and paste pH analysis between field analysis and off-site analytical analysis, indicating that the results of field analysis of total sulphur and paste pH are reasonable for decision making purposes. It is also considered that x-ray fluorescence (XRF) for analysis of total sulphur is a valid method for use in classifying the waste materials in the field.

Total Sulphur and ABA results / review of sample representativeness / uncertainty:

- Considering the dataset of 8603 on-site analysis of paste pH, of the 8603 samples 0.4% of samples (33 samples) had some associated acidity (paste pH values of less than 6) and were distributed near the ore zones. Possible causes of low pH in the absence of elevated total sulphur include stored oxidation products, or soluble sulphate minerals.

- Baffinland currently segregates waste rock material as PAG and Non-AG using a total sulphur cut-off of 0.20 wt% as S and paste pH greater than 6. The uncertainty when using 0.2% S as an analogue for NPR of less than or equal to 2 is approximately 0.5%, with 0.51% of samples being incorrectly categorized as Non-PAG based on the recent ABA data collected. This recent ABA data continues to support the use of the 0.2 wt% Total Sulphur criteria (and the recently added paste pH criteria of 6) as being a suitable analogue for NPR of less than or equal to 2.
- When further considering potential soluble sulphate mineral misclassification, when considering that only about 0.38% of materials contain soluble sulphate based on overall paste pH measurements, and a misclassification rate of 0.51%, only 0.002% of rock placed in the WRF with soluble sulphate minerals has some potential of being incorrectly managed.
- A review of the available on site water quality data indicates that misclassification and misplacement of materials with stored acidity in areas where this material should not be placed is not appreciable, as is exemplified by the improvement in WRF water quality observed on site.

Leachate Chemistry from lab testing and on-site site runoff and seepage measurements:

- There has been an observed improvement in on site water quality with an observed increase in pH and decrease in metals concentrations from 2018 through 2022. All 2022 measurements of on-site runoff and seepage were of neutral pH with no exceedances of the MDMER guideline values with the exception of total suspended solids.
- It is considered that the proper use of the waste rock screening criteria coupled with updated rock management practices is resulting in the observed improvement in water quality on-site.
- The on site testing shows that a very small proportion (<0.4%) of waste materials have stored acidity or potential for acidification due to oxidation.
- Operational procedures currently appear to be effective in reducing and managing ARD/ML on site based on the 2022 observed on-site runoff and seepage chemistry.

The geochemical results from SFE testing and on site water quality analysis indicate that the overall waste rock pile design and placement, as presented in the previous WRMPs (including use of thin lifts to promote freezing and placement of Non-AG material around the edges of the pile), are reasonable and appropriate to reduce potential for acid generation and metal leaching. Regular operational monitoring and material segregation is still required to confirm the future geochemical performance of the WR, however based on low potential rock misclassification rates, coupled with on-site observations of seepage and runoff water quality from 2020 through 2022 that show improving water quality over time, the current waste rock segregation criteria is considered reasonable and appropriate.

5.0 THERMAL ASSESSMENT SUMMARY

Thermal assessments are periodically undertaken to characterize the freezing patterns of deposited waste rock and assess the WRF thermal performance. The assessment involves interpretation of instrumentation data and preparation of transient two-dimensional (2D) thermal modelling.

Results of the latest WRF instrumentation data and thermal modelling are summarized in the following sections. Refer to Appendix A2 for further details on the thermal model and instrumentation results to date, including a discussion on the model limitations.

5.1 Instrumentation Program

A field program was undertaken from December 2018 to February 2019 to characterize the waste rock deposited at the WRF and to assess the WRF's thermal performance. Instrumentation installed as part of this program are summarized below and their location presented in Figure 1:

- Vertical thermistor strings at BH1, BH2, and BH3, with sensors located within the WRF and underlying overburden.
- Vertical oxygen sensor strings installed at BH1 and BH2, with sensors located within the WRF fill.
- Vertical thermistor strings installed at T1 and T2 to monitor the WRF Pond liner south anchor trench (T2) and WRF Pond Berm foundation performance (T1).
- Horizontal thermistor strings at T3, T4, and T5, extending 40 m interior from the WRF edge and buried approximately 1.5 m below the stockpile crest at the time of installation, with additional waste rock being deposited on top after that.
- A barometer installed at BH1.
- Vibrating wire piezometers installed at the base of the WRF at BH1 and BH2.

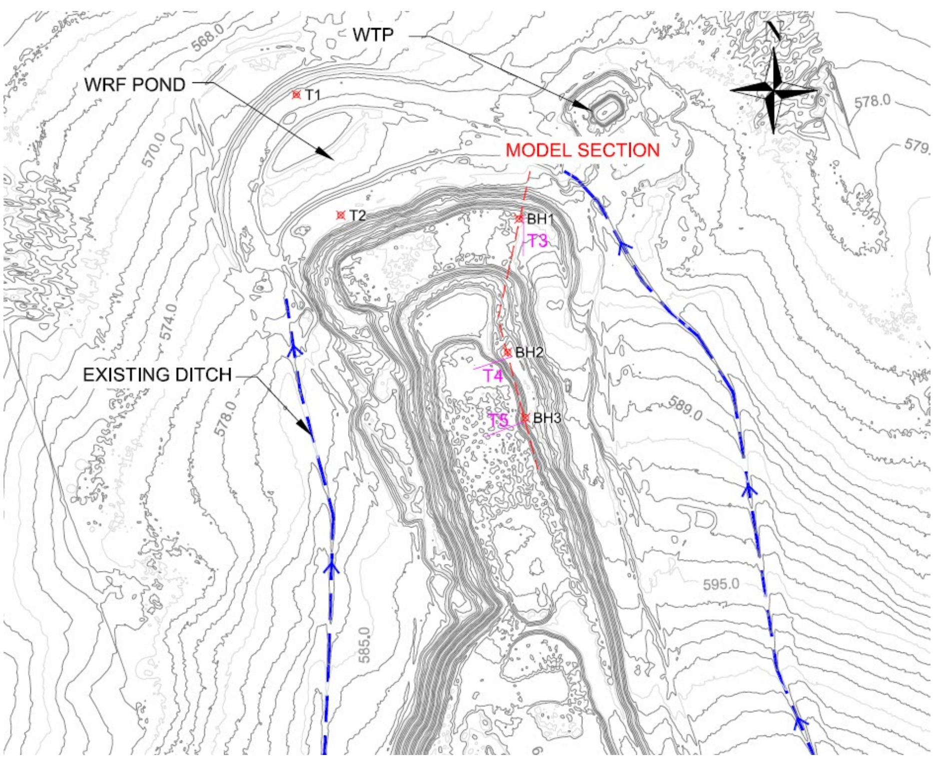

Figure 1: Instrumentation and thermal model alignment location

The combined data from the installed sensors supports review of the WRF thermal performance.

All instruments are currently functional except for the oxygen sensors at BH2 (damaged in August 2019) and 8 of the 26 thermistor nodes at BH2 (damaged September 2019). Baffinland will continue to maintain the installed instrumentation to the extent practical. Supplemental instrumentation is planned to be installed in 2024 to expand the monitored area and monitor temperature conditions in waste rock deposited after 2019. The instrumentation requirements will be reviewed regularly based on the results of site observations and measurements.

The portions of the pile monitored by the temperature probes in BH1, BH2, and BH3 remained entirely frozen throughout the monitoring period, except for the active zone within 2 to 3 m in depth, which is subject to seasonal freeze and thaw cycles (as observed at BH1, where limited additional rock was placed on top of the string).

The thermal regime of the pile is likely effected by a combination of seasonal variations in air temperature, preferential air flow through the pile, and localized heat generation associated with sulphide oxidation and/or mineral dissolution, but the fact that the pile remained mostly frozen during all times with a progressive cooling trend continues to indicate that the site cold climatic condition is the prevailing mechanism governing the thermal regime in the pile, as intended in the design.

5.2 Thermal Model Calibration

An update of the thermal model calibration was conducted for the same waste rock pile cross-section defined in 2019 along the alignment of boreholes BH1, BH2, and BH3, with the model geometry being adjusted to incorporate rockfill placed on the pile after June 2020, based on ground survey data provided by Baffinland for different dates from 2020 through 2022.

BH1 had little change in waste rock elevation over time and was used as the primary reference for calibration of the thermal model. Overall, the temperatures at surface and depth within BH1 were calibrated well. Deviations of measured results from predicted temperatures at certain depths along BH1 were due to the propagation of heat from a localized event observed in July 2020 that could not be captured in the model.

Difficulty calibrating surface nodes at BH2 and BH3 was due to the sensitivity of the thermal models to the exact date of material placement (i.e., progressive placement in the field vs. instantaneous placement in the models). In general, the models predicted warmer ground temperature compared to measured values along BH2 and BH3, but the model was able to replicate the cooling trend measured by the deepest nodes of thermistors installed along BH2 and BH3, as well as a slightly warming trend measured by the deepest node at the base of BH1.

5.3 Thermal Model Results

The thermal model update was run to assess the time for waste rock placed during summer and the subsequent winter to freeze back. Several model scenarios were tested to assess the impacts on the thermal regime when lift thicknesses and deposition timing were varied. The detailed model results are discussed under Appendix A2, and the main trends summarized below:

- All conceptual deposition schedules modelled eventually achieved and sustained sub-zero temperatures at the base of the waste rock lift. Ground temperatures at depth within both BH2 and BH3 continued to cool over time irrespective of the deposition schedule.
- The models suggest that between 5 m and 7 m of waste rock could be placed in summer and the entire thickness of material would freeze during the following winter.

- Waste rock placed in 5 m lifts during late summer (August and September), would still freeze in winter and allow for the deposition of more waste rock to the pile during winter of the following year (January to March), but early winter deposition on top of thicker lifts deposited in late summer should be avoided.
- Placing thicker lifts in early summer, and thinner lifts in late summer promotes faster cooling and allows for material deposited in late summer to freeze in the subsequent winter.

Updates to the thermal model will be carried out, as appropriate, to incorporate improved understanding of the WRF gained by the ongoing review of the WRF instrumentation data and as required to inform the waste rock deposition.

6.0 WATER BALANCE SUMMARY

The existing water balance for the WRF was updated in 2023 to consider new deposition to 2023 and in support of the water quality model (Section 7.0). The water balance was developed using the computer software package GoldSim (version 14.0). GoldSim is a graphical, object-oriented mathematical code where all input components and functions are defined by the user and are built as individual objects or elements linked together by mathematical expressions.

The water balance has been set to run various climatic conditions and considers WRF catchment areas changes over time to estimate the flows reporting the WRF Pond on a daily basis. WRF runoff was estimated for the following surfaces:

- unclassified waste rock (existing placed waste rock where survey is not available to differentiate PAG and non-AG materials)
- non-AG waste rock
- PAG waste rock
- direct precipitation to the WRF Pond
- runoff generated by precipitation on the WRF Pond walls; and
- prepared ground from the Water Treatment Plant (WTP) pad.

Inflow from the Deposit 1 sump was included in the water balance based on monitoring data collected and provided by Baffinland. The surface water flows reporting to the WRF Pond are the primary output from the water balance and provide input into the WRF water quality model.

The baseline dataset developed for the site was based on a combination of on-site monitoring data, Environment Canada and Climate Change (ECCC) meteorological stations and reanalysis data from the European Centre for Medium Range Weather Forecasts (ECMWF) Re Analysis (ERA5) dataset. ERA5 provides hourly estimates of atmospheric, land and oceanic climate variables by combining observations and atmospheric modelling to represent the current climate on a gridded basis.

These data sources were assessed based on data availability and geographical siting (i.e., elevation, distance from site, proximity to water bodies and land features) and compared to each other to develop the long-term dataset.

The Pond Inlet stations were considered the base station to represent the Mary River mine site. Other regional climate stations and ERA5 data were used to infill and extend the daily gapless dataset for period between 1940 to 2022. This long-term climate data set was used as input into the water balance.

Snow Runoff Model (SRM) was used to compute runoff and evaluate snow accumulation at the site. The SRM is a semi-distributed-conceptual model designed to simulate daily streamflow that support snow cover and associated snowmelt processes on a seasonal basis. The primary input variables for the model are temperature, precipitation, and snow cover area. The model uses this information, along with several other input parameters (i.e., temperature lapse rate, runoff coefficient [for rain and snow], degree-day factor, recession coefficient, critical temperature, rainfall-contributing area, and lag time) to calculate runoff (Abudu et al. 2012).

Runoff is estimated through the SRM hydrology module for the following land types:

- Natural Ground: The natural land type category includes natural and undisturbed areas.
- Prepared Ground: The prepared ground land cover includes hard-packed areas such as roads and plant site area.
- Waste rock: Includes the unclassified, non-AG and PAG waste rock types. Additional considerations are included in the water balance to calculate toe seepage within the waste rock that contributes to the flow reporting to the WRF Pond.

Lake evaporation is used in the water balance model to represent losses from pond surfaces. Lake evaporation was estimated using the Hargreaves-Samani (1982) method using daily minimum and maximum air temperature and site latitude (with the day of the year) to approximate radiation,

6.1 Water Balance Results and Recommendations

The water balance model was calibrated using the data collected from Baffinland between June 2020 until September 2022. The WRF Pond observed water levels recorded by Baffinland were used to adjust runoff coefficients for prepared ground and waste rock land types to match observed water levels. The simulated and observed WRF Pond water levels are shown in Figure 2.

For 2021, the predicted water levels are below the observed water levels. This is attributed to the Deposit 1 sump inflow reported by Baffinland by month instead of daily values. In the water balance a constant pumping rate was assumed for each month in 2021, therefore missing some of the peak inflows from the Deposit 1. For 2022, the water balance predicts water levels below the observed water levels during the summer with a similar trend.

The primary output from the water balance is the volume of runoff generated over each of the aforementioned surface types with time. The surface flows were calculated based on the conceptual waste rock deposition plans presented in Appendix A3. The results from the water balance under the three climate scenarios considered (100-yr wet, average and 100-yr dry) are presented as monthly flows in Figure 3, Figure 4 and Figure 5 respectively.

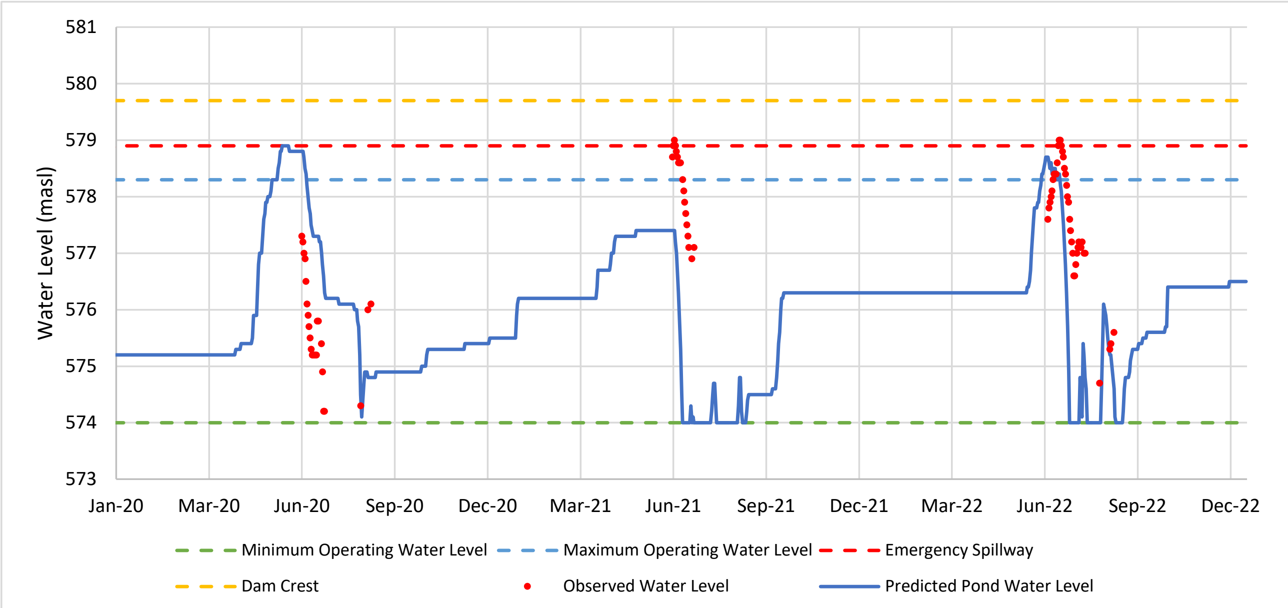

Figure 2: Predicted water balance water levels in WRF Pond (2020-2022)

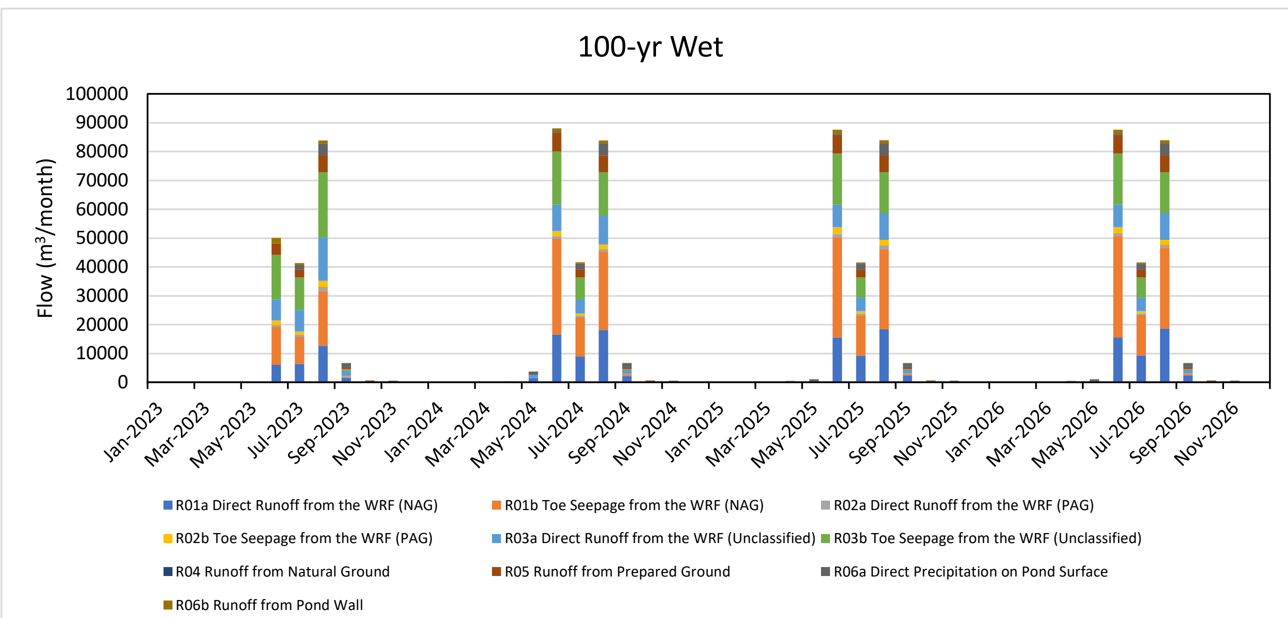

Figure 3: Monthly inflow to the WRF Pond by catchment type for the 100-yr wet scenario (2023 – 2026)

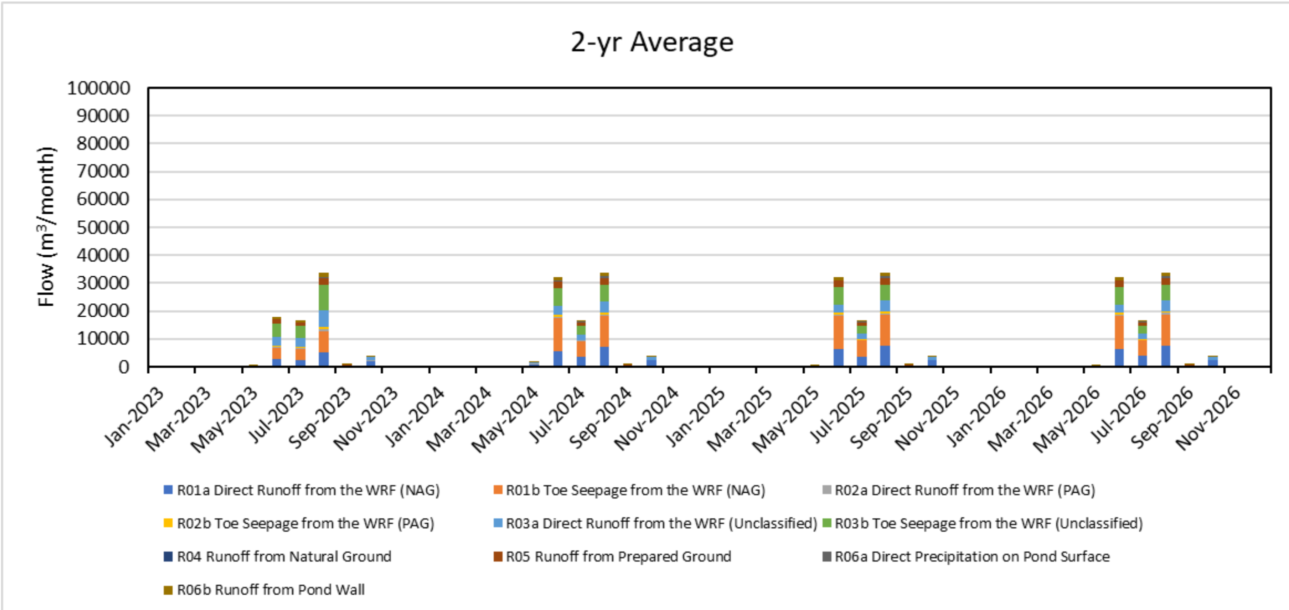

Figure 4: Monthly inflow to the WRF Pond by catchment type for the 2-yr average scenario (2023 – 2026)

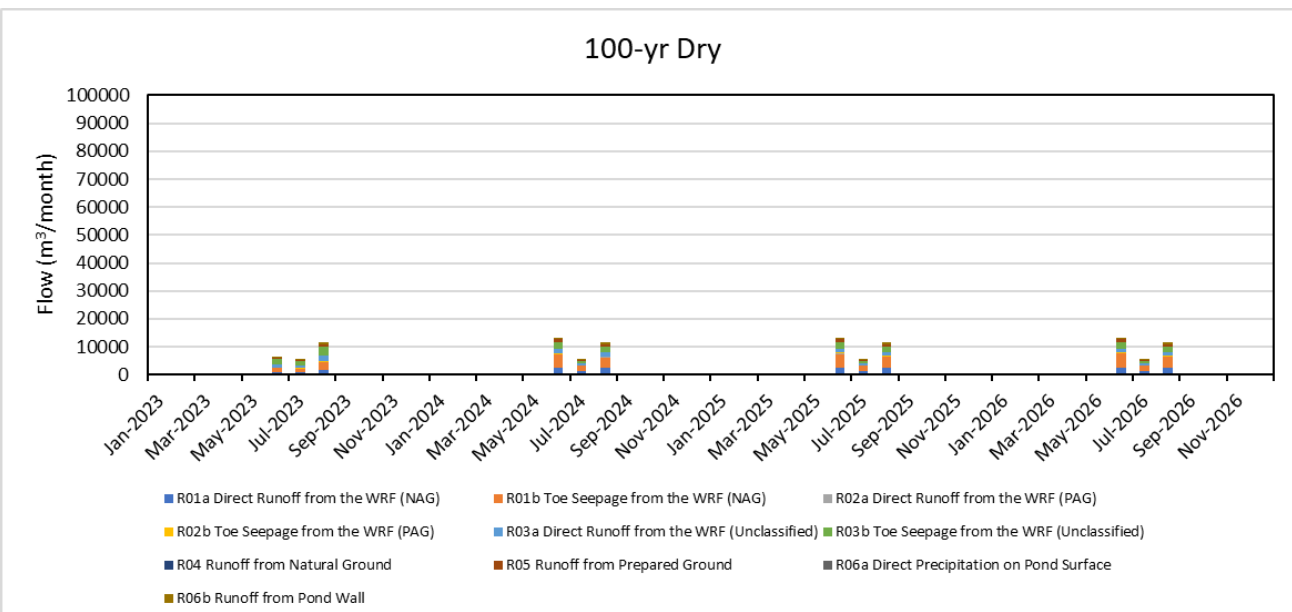

Figure 5: Monthly inflow to the WRF Pond by catchment type for the 100-yr dry scenario (2023 – 2026)

Overall, the updated water balance model was able to capture general trends and patterns with the WRF pond given the predicted waste rock deposition plan for the short future. The results predicted flow patterns and magnitudes from 2023 to 2026 under different climate scenarios.

Recommendations for the future include the following:

- Continue collection of monitoring data from the WRF water management system.
- Continue collection of climate data at the Mary River station.
- Collection of hydrometric data (ex. Staff gauge) for the east and west ditches for development of ditch rating curves.
- Investigate methods for collecting snowfall and snowpack within the WRF pond catchment and then implement.

7.0 WATER QUALITY MODEL SUMMARY

This 2023 water quality model update report (Appendix A4) includes discussion on the assumptions, inputs, and results related to integration of the 2023 water balance update (WSP 2023a) and 2023 geochemistry waste rock investigation results (WSP 2023b). The mitigation strategy defined for prevention of acid generation and metal leaching from the pile centers around freezing of the PAG waste rock during winter, with deposition of additional rock in summer to keep the frozen rock isolated from the active zone, which is subject to seasonal freeze and thaw. The water quality model assumes that flow from the WRF only occurs via direct runoff or as shallow interflow within the waste rock active layer. Updated catchment areas and land type proportions as provided by Baffinland and estimated from survey were included as was an update of the waste rock material balance to reflect the 2023 through 2026 Depositional Plan for the Project.

The purpose of the model is to forecast future WRF pond chemistry from 2023 through 2026 based on recent water balance model updates, geochemical source term updates and mine planning information. The model does not consider closure conditions, downstream water discharge toxicity, or environmental assimilative capacity, with addition assumptions and limitations as provided in Appendix A4.

Key results from the model are:

- The range of pH of the materials is assigned based on observed site conditions, considering the available neutralization potential and acidification potential of the relevant rock component blends (WSP, 2023b). The pH in the Expected Case ranges from 6.6 to 7.4 whereas in the conservative case a lower pH range of 4.5 to 6.5 is more likely. The actual pH values will vary substantially based on mitigation practices and site conditions, in particular mitigation measures in place to segregate and freeze the PAG rock and soluble sulphate minerals.
- Nickel is the most relevant parameter with respect to potential for exceedance of MDMER, however remains below the MDMER (2021) value of 0.25 mg/L for expected condition, with an expected median value of 0.1 mg/L.
- In general, WRF chemistry improves as a function of the proportion of available Non-AG rock, thus as the proportion of non-AG rock increases over time the water quality improves.

- Assuming up to 5% of material is misclassified as Non-AG rock when it is actually PAG rock (all other conditions remaining as expected) results in a median predicted Nickel value of 0.14 mg/L which is still below the MDMER guideline values.
- Nickel is the limiting parameter with respect to MDMER exceedances, with the next-most important/driving parameter being Copper. The conservative loading case is the only sensitivity analysis that exceeds the more recent 2021 MDMER guideline value of 0.25 mg/L Nickel, with a median Nickel concentration of 0.4 mg/L. The current operational limit of 0.5 mg/L is only exceeded for brief periods of time under this conservative scenario.
- Results indicate that the model is sensitive to the acidity and elevated metals that resulting from PAG materials, should strongly acidic conditions develop in all of the exposed PAG materials (not currently observed ore expected under current mitigation practices). Under those acidic conditions for all PAG materials, then the 2021 MDMER guideline for nickel will be exceeded, with a predicted median nickel concentration of 0.4 mg/L.
- The model results suggest additional consideration should be given to parameters Sulphate, Be, Cd, Co, Cu in order to demonstrate no acute toxicity, as is necessary under MDMER prior to environmental release to a water body.

The conclusions based on the 2023 water quality model update are:

- Key drivers of WRF Pond chemistry are the quantity and quality of the runoff and seepage of the WRF, particularly the acidity and metal loading. Nickel concentration is a key driver with respect to MDMER potential for exceedance and requirement for treatment prior to discharge.
- The WRF pond chemistry was evaluated as a function of expected non-AG vs PAG material placement over time and indicates that the requirement to treat to meet MDMER guideline values diminishes with the reduction in the amount of PAG materials available to react or provide source term loading in the pile. The required reductions in availability of PAG materials are expected to be achievable through ongoing mitigation efforts that primarily involve material segregation and freezing in the pile as demonstrated by improving observed conditions in ongoing water quality monitoring as presented in WSP 2023b.
- The potential uncertainty within the model was investigated through use of conservative assumptions and by performing sensitivity analyses. The results of these analysis show that it is necessary to limit the potential for development of strongly acidic conditions in the pile through material segregation and freezing. Provided strongly acidic conditions are not allowed to develop, some misclassification of PAG materials as non-AG (up to 5%) and placement of PAG materials in non-AG areas is not expected to result in MDMER exceedances for specified parameters.
- Based on the conservative case assessment it is necessary to limit the potential for generation of acidity within the pile through continued mitigation measures. Further, the possibility of generation of acidity, particularly within the thermally active zone at the final edges and surface of the pile must be minimized through strict adherence to operational guidelines that consider the geochemistry of the placed materials.
- Treatment is not predicted to be required when strictly considering the MDMER defined parameters arsenic, copper, nickel, lead and zinc. Although the model results are compared to MDMER, the results are not representative of discharge to the receiving environment or the final discharge point regulated under MDMER. Additional review of the assimilative capacity of the environment and desktop evaluation and/or to confirm no

acute toxicity would be required under MDMER prior to environmental release to a water body or receiving environment.

8.0 WRF WATER MANAGEMENT

The following section discusses the current WRF water management practices and related construction activities carried out since the December 2019 WRMP (Golder, 2019c).

8.1 Runoff Management and Water Treatment

In compliance with Baffinland's Type A Water License, runoff from the WRF and surrounding disturbed area are collected in a network of ditches and directed towards the WRF Pond. Dewatering from Deposit 1 is also discharged into the WRF Pond . Clean, non-contact water from upstream of the WRF is diverted around the WRF by diversion berms. In addition, as part of Baffinland's snow management plan, clean snow is stockpiled in designated areas outside of the WRF Pond catchment to limit clean melt water from reporting into the WRF Pond.

Baffinland continues to maintain and operate a WTP to allow for treatment of surface runoff collected at the WRF Pond prior to discharge to the receiving environment.

Discharge from the WTP and/or WRF shall not exceed the effluent quality limits set-out in Part F, Item 24 in Type A Water License 2AM-MRY1325 and site-specific indicators shown in Table 2 below.

Table 2: Discharge Performance Indicators and Thresholds

Indicator	Units	Maximum Concentration of Any Grab Sample
pH		6.0 < pH < 9.5
Arsenic	mg/L	0.5
Copper	mg/L	0.30
Lead	mg/L	0.20
Nickel	mg/L	0.50
Zinc	mg/L	0.5
TSS	mg/L	15
Oil and Grease		No visible sheen
Toxicity		Non-Acutely Toxic

Any contaminants of potential concern identified from on-going testing will be measured to provide temporal data on effluent quality that could potentially affect the receiving water quality.

Baffinland has implemented an Aquatic Effects Monitoring Plan (AEMP) to monitor environmental effects of effluent discharge to the receiving environment at Mary River. Results of the AEMP can trigger additional adaptive management actions such as further treatment of the WRF Pond effluent, if required.

9.0 WRF DESIGN CRITERIA

The following design criteria have been developed giving consideration to the criteria established under the LOM WRMP (Baffinland, 2014):

- Runoff and seepage from the WRF will be collected at the WRF Pond. Collected flows can be treated if required to comply with requirements of the Type A Water License 2AM-MRY1325 and MDMER.
- The WRF will be developed in a manner conducive to permafrost aggradation.
- The following conditions define the WRF geometry (Baffinland, 2014):
  - Overall external side slopes of 2H:1V. Exterior slopes will be benched with inter bench slopes of 1.5H:1V.
  - Minimum crest width of 25 m.
  - The perimeter of the WRF will be a minimum of 31 m from any water body.

Additional criteria are necessary to achieve the WRF development strategy to minimize release of acidity and limit ARD production as described in Section 4.0.

10.0 WRF DEVELOPMENT STRATEGY

The primary objectives of WRF development are safety of personnel and the environment, and long-term physical and chemical stability. Thin lift deposition of waste rock is expected to create a more homogenous stockpile and reduce segregation that may create preferential air and water flow paths throughout the stockpile (i.e., reduce flow channelization and potential for oxygen supply to PAG materials). Waste rock placement locations and lift thickness also focus on the continuous development and raising of permafrost within the WRF. It is expected that permafrost aggradation will provide an effective barrier to acid-forming reactions as absence of oxygen and water supply limits potential for sulphide oxidation and ARD transport, and the rate of sulphide oxidation is greatly reduced at low temperatures.

The following WRF development strategies were initially presented in the Interim Waste Rock Management Plan in March 2019 (Golder, 2019a) and remain mostly applicable, with adjustments and additions made based on the experience gained since then:

- **Footprint expansion:** The first lift of the WRF on native ground shall be Non-AG waste rock. Waste rock placement over native ground shall be carried out in the winter to the extent practicable. As a minimum, the lift should be allowed to freeze prior to layering activities. Maintaining a frozen base and perimeter is expected to reduce potential for seepage.
- **Stockpile expansion construction:** Waste rock placed over an area of new WRF expansion shall be carried out in a manner conducive to aggrading permafrost, to limit potential for further development of ARD.
- **Material separation:** PAG and Non-AG waste rock placement locations at the WRF shall be documented. Non-AG material that may be intermixed with PAG material shall follow the waste rock deposition strategies for PAG material.

- **Stockpile exterior face**: PAG waste rock shall be placed 4 m (minimum) interior from ultimate and temporary stockpile faces to conservatively maintain the PAG material interior from the permafrost active zone which has been measured up to 2.9 m in thickness.
- **Lift thickness:** Waste rock placement to target a maximum 5 m lift thickness during a single deposition event. This lift thickness has been established to reduce the potential for waste rock segregation during placement while remaining operationally feasible with the available equipment. Reducing the segregation of deposited waste rock is expected to reduce the potential for the development of preferential water and air flow paths that can deliver water and oxygen to PAG waste rock.
- **Successive lift placement:** Placement of successive waste rock lifts shall consider the waste rock and environment conditions as described below:
  - When the waste rock temperature at the time of placement is below 0°C, successive lifts may be continuously placed over a given footprint.
  - During summer deposition, when the waste rock temperature is greater than 0°C, a total maximum of 7 m of successive lifts should be placed at a given location. To the extent practical, thicker lifts should be placed in early summer, and thinner lifts should be placed during late summer to promote faster cooling, and to allow for material deposited in late summer to freeze faster in the subsequent winter.
  - When the waste rock temperature is above 0°C and the air temperature below 0°C, to the extent possible, the surface of the waste rock should be kept clear of snow as required to promote freezing prior to placement of the subsequent lift.
  - To the extent possible, the deposition of successive lifts should occur in such a way that prevents the formation of depressions or low points with a difference in elevation between adjacent areas greater than 7 m. End-dumping waste rock to fill depressions will typically cause waste rock segregation that could potentially serve as a preferential flow path for air and water.
- **Capping winter PAG placement:** To the extent practicable, PAG waste rock shall be covered with a minimum of 3 m of waste (PAG or Non-AG) before the next summer.
- **Capping PAG placement:** To the extent practicable, PAG waste rock, irrespective of winter or summer deposition, shall be covered with a minimum of 3 m of waste (preferably non-AG) within 12 months of initial placement. In all cases, PAG waste rock <u>must</u> be covered with a minimum of 3 m of waste (preferably non-AG) within 24 months of initial placement.

11.0 WASTE ROCK VOLUMES AND DEPOSITION PLAN

The WRF development considers winter (October through May) and summer (June through September) deposition. These periods have been defined based on climatic records from the Mary River meteorological station (Golder 2018). The projected quantities of waste rock to be stored at the WRF during each deposition period based on the mine plan provided by Baffinland are summarized in Table 3. The total waste rock volume for disposal at the WRF from June 2023 through September 2026 is estimated to be 6.65 Mm^3. These values may change as the mining plan may be revised to reflect operational requirements.

Table 3: Summary of waste rock volumes by deposition season

Deposition Period	Total Waste Rock Loose Volume (Mm^3)	Total Non-AG Loose Volume (Mm^3)	Total PAG Loose Volume (Mm^3)
June through September 2023	0.68	0.61	0.07
October 2023 through May 2024	1.2	1.10	0.10
June through September 2024	0.55	0.51	0.04
October 2024 through May 2025	1.19	1.09	0.10
June through September 2025	0.62	0.57	0.05
October 2025 through May 2026	1.54	1.41	0.14
June through September 2026	0.86	0.79	0.08

Conceptual waste rock deposition plans were prepared by Baffinland for each season presented in Table 3, and are presented in Appendix C. The conceptual waste rock deposition plans were used as input into the water balance (Section 6.0) and water quality (Section 7.0) models. The actual waste rock deposition locations are expected to vary, and will be determined by Baffinland based on operational requirements, following the design criteria and development strategies presented under Sections 9.0 and 10.0.

12.0 DISCUSSION AND RECOMMENDATIONS

It is acknowledged that, while Baffinland has undertaken recent actions to address the occurrence of ARD and ML at the WRF, operation of a WRF water treatment plant will continue for the interim, until it's clear that there is negligible risk for required water treatment. In general, as discussed in Section 7.0, WRF chemistry improves as a function of the proportion of available Non-AG rock, thus as the proportion of non-AG rock increases over time the water quality improves. Nickel is the most relevant parameter with respect to potential for exceedance of MDMER. Assuming up to 5% of material is misclassified as Non-AG rock when it is actually PAG rock (all other conditions remaining as expected) results in a median predicted Nickel value of 0.14 mg/L which is still below the MDMER guideline values. It is noted that the PAG rock from the existing WRF comprises a small percentage of the total expected tonnage of waste rock to be deposited over the life of mine and will be fully encapsulated prior to closure. The lessons learned from the early stages of the WRF development have been applied and will continue going forward to reduce potential for further ARD and ML development as the WRF expands.

It is Baffinland's intent to construct the WRF in a manner that results in freeze back of summer placed waste rock by the following winter. Additional expansions of the WRF will be required to allow for optimal waste rock placement for short-term permafrost aggradation. It is recommended, that planning of subsequent WRF and water management expansions should be advanced to provide increased flexibility for waste rock deposition.

While it is desirable to achieve freeze back of waste rock within 1 year following placement, it is not a strict requirement to achieve geochemical stability. As noted under Appendix A1, the results of humidity cell testing indicates that sulphide oxidation and onset of strong acidic conditions may be delayed under the proper conditions (AMEC 2017). To the extent possible, PAG waste rock placed during winter should be covered with a 3.0 m thick (minimum) layer of waste rock (preferably non-AG) before the next summer. PAG rock, irrespective of winter or summer deposition, should be covered within 12 months of initial placement, and no longer than two years after deposition with a minimum of 3 m of waste rock (preferably non-AG). Alternating PAG and Non-AG layers will increase buffering, and the Non-AG cover will reduce runoff from PAG waste rock which, as noted in Section 7.0, is the primary contributor of low pH and elevated metal loadings runoff from the WRF.

Ongoing thermal and water quality performance evaluation of the WRF will continue in order to confirm the long-term waste rock deposition strategy and improve the understanding of the WRF thermal performance. The installation of additional instrumentation will be considered as the WRF expands to verify the WRF performance. A longer-term review of the waste rock deposition, integrated with construction of the life of mine water management structures, expansion of the WRF ditch network, and the life of mine waste rock production schedule is recommended to be able to continue to develop and refine the WRF management strategy.

13.0 LIMITATIONS

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14.0 CLOSURE

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APPENDIX A1

2020 to 2022 Waste Rock Geochemistry Report

REPORT

2020 to 2022 Waste Rock Geochemistry

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Sample Locations and Results of On-Site Analysis of Blasthole Cuttings (BIM 2023)

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1.0 INTRODUCTION

Baffinland Iron Mines Corporation's (Baffinland) Mary River Project (the Site) is an operational iron mine on Baffin Island in Nunavut, Canada. Baffinland has retained WSP Canada Inc. (WSP) to assist with developing an updated Waste Rock Management Plan (WRMP) for deposition of Potential Acid Generating (PAG) and Non-potentially Acid Generating (Non-PAG) waste rock at their Waste Rock Facility (WRF).

This geochemical monitoring update report provides a review of results of geochemical sampling completed from 2020 through 2022. Results were collected following guidelines developed subsequent to geochemical test work and review completed in 2018 which identified dissolution of soluble sulphate minerals as a potential cause of observed acidity within the waste rock material. The current investigation includes review of 8603 samples that included measurements of total sulphur and paste pH from on site as well as review of results from a subset of 396 supplemental samples sent for additional analysis. Site water quality measurements were also reviewed for potential metal leaching and acidity trends.

2.0 GEOCHEMISTRY BACKGROUND

Geochemical characterization to assess the potential for metal leaching and acid rock drainage in waste rock at the Baffinland Mary River site has been addressed in multiple reports since 2006.

Previous geochemical characterization reports are summarized in Table 1.

Table 1: Previous Geochemical Reports

Document	Date
Environmental Characterization of Deposit No. 1 Waste Rock, Ore & Construction Materials (Knight Piésold 2008)	18 December 2008
Mine Rock ML ARD Characterization Report Deposit 1 Mary River Project (BIM 2014)	26 March 2014
Waste Rock Geological and Geochemical Characterization Program (2012 to 2014) [January 2012] - Appendix 3 to Life-of-Mine Waste Rock Management Plan Rev 0 (BIM 2012)	30 April 2014
Mary River Deposit 1,5-Year Pit ML/ARD Characterization Rev 1 – Issued for Phase 1, WRMP [April 2014] (AMEC 2014)	30 April 2014
2016 Review of Mine Rock Humidity Cell Program (AMEC 2016)	24 March 2016
2017 Review of Mine Rock Humidity Cell Program (AMEC 2017)	15 March 2017
Ongoing Humidity Cell Testing – Review and Recommendations for Path Forward (Golder 2018)	08 May 2018
2019 Geochemistry Waste Rock Investigation Results – Baffinland Iron Mines Mary River Project (Golder 2019)	31 December 2019

Of the several previous geochemical studies, the report from 2014 (BIM 2014) is considered to be reasonably representative of the overall Deposit 1 characteristics, whereas the 2018 and 2019 data and report were focused on specific aspects of the deposit related to more clearly defining ARD criteria. When comparing the current dataset to background data, the 2014 dataset is used to represent historical data. Each of the key study periods is briefly described below.

2006 to 2008

The historical geochemical context prior to 2014 is summarized in the BIM 2014 document. Between 2006 and 2008 a total of 125 samples of waste rock, ore and overburden were collected, analyzed and reported by Knight Piezold (Knight Piesold 2008). The 2008 study results showed 9% of footwall, and 12% of hanging wall samples had an NPR of less than 2 and that several parameters were susceptible for leaching, in particular aluminum, barium, iron and manganese in some footwall samples. Ten humidity cell tests were operated during this period as discussed in later reports.

2008 to 2014

The BIM 2014 ML/ARD report on Deposit 1 considers and discusses results form 776 waste rock samples collected between 2010 and 2012 subdivided between the structural and lithological distributions on site. Static testing completed on these samples included ABA, NAG, pH, and elemental analysis, with a subset of testing submitted for short term leach tests, mineralogical analysis and kinetic testing.

Kinetic testing was completed on 27 waste rock samples including the 10 samples from 2008 and 17 additional samples initiated in 2011. The kinetic test results presented in BIM (2014) included nine standard humidity cell tests and eight humidity cells that used NP depleted samples (to assess mineral reaction rates and acid buffering capacity in the absence of carbonate NP).

The static testing results noted that waste rock generally has low neutralization potential (NP). Sulphur is primarily in the form of sulphide and the deposit typically had low acid potential (AP). Samples classified as potentially acid generating (NP/AP ratio less than 2) typically had sulphide content greater than 0.5%. It was observed that sulphide content was typically greater in the HWS and FWS which are located in closer proximity to the ore zones.

The 2014 study results showed, based on an NPR of less than 2, that approximately 10% of samples classified as PAG and 5% as uncertain, whereas this number was considerably higher (up to 52%) when considering carbonate NPR (CaNPR). The study concluded that the NAG pH results support the use if an NPR threshold of <2 as reasonable to define Non-PAG materials. When considering the waste rock model, the 2014 study indicated approximately 11% of rock could be expected to be PAG based on NPR less than 2. The study did identify a “short term risk of ML/ARD” occurring with upper regions or just above the High-Grade Magnetite Iron Formation however failed to identify the cause, which was later identified as observation of the presence of soluble sulphate minerals (e.g., melanterite) (Golder 2019).

Guidance on PAG waste rock management was also detailed in BIM (2014) which indicated that a total Sulphur cut-off of <0.2% to define Non-PAG material was the most appropriate approach to prevent PAG waste rock being identified as Non-PAG. Using the sulphur cut-off, opposed to NPR <2, was considered conservative in that it would result in greater in life of mine projected PAG quantities while still correctly classifying material as PAG or Non-PAG.

2014 through 2019

Humidity Cell Testing (HCT) updates were presented in several technical memorandums (AMEC 2016; AMEC 2017; and Golder 2018). Humidity cell tests are long-term kinetic tests in which leachate from subsequent wetting and drying cycles on samples of waste rock is collected and analysed to evaluate potential for geochemical weathering and resulting drainage quality. Ten HCTs were run for 53 weeks in 2008 and 2009. Nineteen were initiated in 2011 and 2014, including nine standard humidity cells, two standard humidity cells with mineralized waste, and eight carbonate depleted humidity cells. These HCTs were run between 170 and 356 weeks.

Humidity cells initiated in 2011 and 2014 mostly exhibited pH between 5.5 and 7, though 3 had slowly declining pH to minimums of 4.5 and 5 after about two years. Metal and sulphate release were found to be low, though concentrations of Cd, Co, Cu, Ni, Pb and Zn were highest in HCTs with pH less than 5. Most PAG HCTs presented weakly acidic leaching (e.g., 6 > pH > 4.5) within 20 to 30 weeks of initiation suggesting that PAG material could produce weakly acidic runoff within the first of year of placement if stored within the active zone. However, the onset of moderate to strongly acidic conditions (e.g., pH < 4.5) was estimated by AMEC (2017a) to take at least 20 years in the absence of other mitigating factors (e.g., temperature).

Observed metals that produced elevated concentrations in the HCTs were consistent with the observed elevated metals in the WRF runoff water quality at Site between 2017 and 2019, however the concentrations are not in agreement with concentrations of some metals (e.g., Nickel) being higher in the WRF runoff compared to the HCT results. In addition, the WRF runoff was observed to have elevated sulphate and iron that has not been observed in the HCT data. Due to the inconsistencies, the remaining active HCTs were terminated, and a field-based monitoring approach was developed in 2019 as detailed in Golder (2019).

A geochemical investigation was completed in 2019 with the sampling consisting of the collection of 29 borehole samples from four boreholes and one test pit from the WRF and 40 blasthole samples from the standard production blasthole sampling program in Deposit 1. The blasthole investigation focused on samples with total sulphur contents <0.25% to determine if these low sulphur samples contained soluble sulphate minerals that would release acidity. The purpose of the sampling was to better characterize the waste material in the WRF in the vicinity of poor runoff water quality and to assess the presence and effect of soluble sulphate minerals in waste rock classified as Non-PAG. All samples were sent for static geochemical analysis, including elemental analysis (by ICP-MS), acid-base accounting (ABA) and shake flask extraction (SFE).

From the 2019 samples, a total of seven samples including four samples classified as Non-PAG and three samples classified as PAG (based on current segregation criteria) had either paste or SFE pH values below 6 suggesting some stored acidity within these samples. In terms of metal leaching potential, samples with higher levels of total sulphur (>0.25 wt%) tended to have lower pH, higher Ni and higher Cd in SFE when compared to samples with lower sulphur content. Nickel concentrations show a general increase in concentrations with decreasing pH values in SFE results while other parameters had no discernible trends.

The 2019 program concluded that classification of PAG waste should consider both total sulphur evaluation coupled with paste pH evaluation, and that waste should be encapsulated within frozen portions of the WRF to reduce the potential for release of acidic water resulting from the presence of soluble sulphate minerals.

3.0 GEOCHEMISTRY UPDATE

BIM continues to sample the expected waste materials and conduct analysis for paste pH and total sulphur routinely as part of ongoing operations. Geochemical sampling is conducted by BIM staff on blasthole cuttings at regular intervals prior to blasting and hauling. A subset of these operational samples are also sent off-site for additional analysis at a rate of one blasthole sample per 40,000 tonnes of blasted waste material. The current geochemistry update includes a review of data collected by Baffinland from 2020 through to the end of 2022. The data contemplated in this report were provided electronically by BIM in March of 2023 and includes:

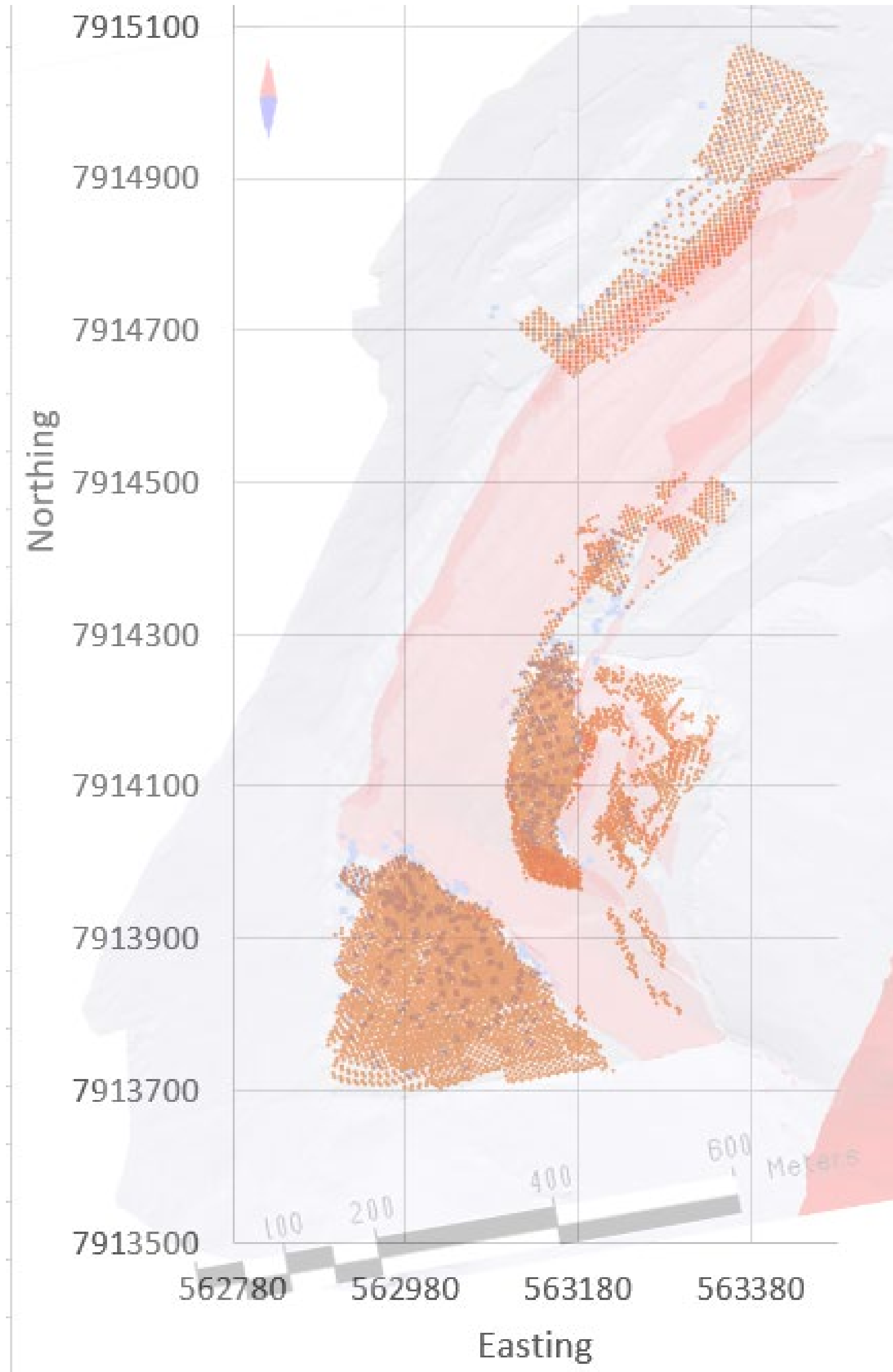
- On-site test results from the 8603 blasthole samples that included paste pH results and XRF results for total sulphur and several parameters reported as oxides (Al_2O_3, CaO, Fe, FeO, K2O, MgO, Mn, Na2O, TiO2, P, SiO_2, Fe_2O_3) as available from 2020 through to the end of 2022 (Appendix A).

- Analytical laboratory test results on 396 samples (a subset of the above samples) that were submitted for additional off-site laboratory analysis between 2020 and the end of 2022 (Appendix B).
- Results of seepage and runoff water quality from the vicinity of the WRF from 2018 through 2022 (Appendix C).

The Laboratory certificates for the 396 split samples analysed off-site are presented in Appendix D.

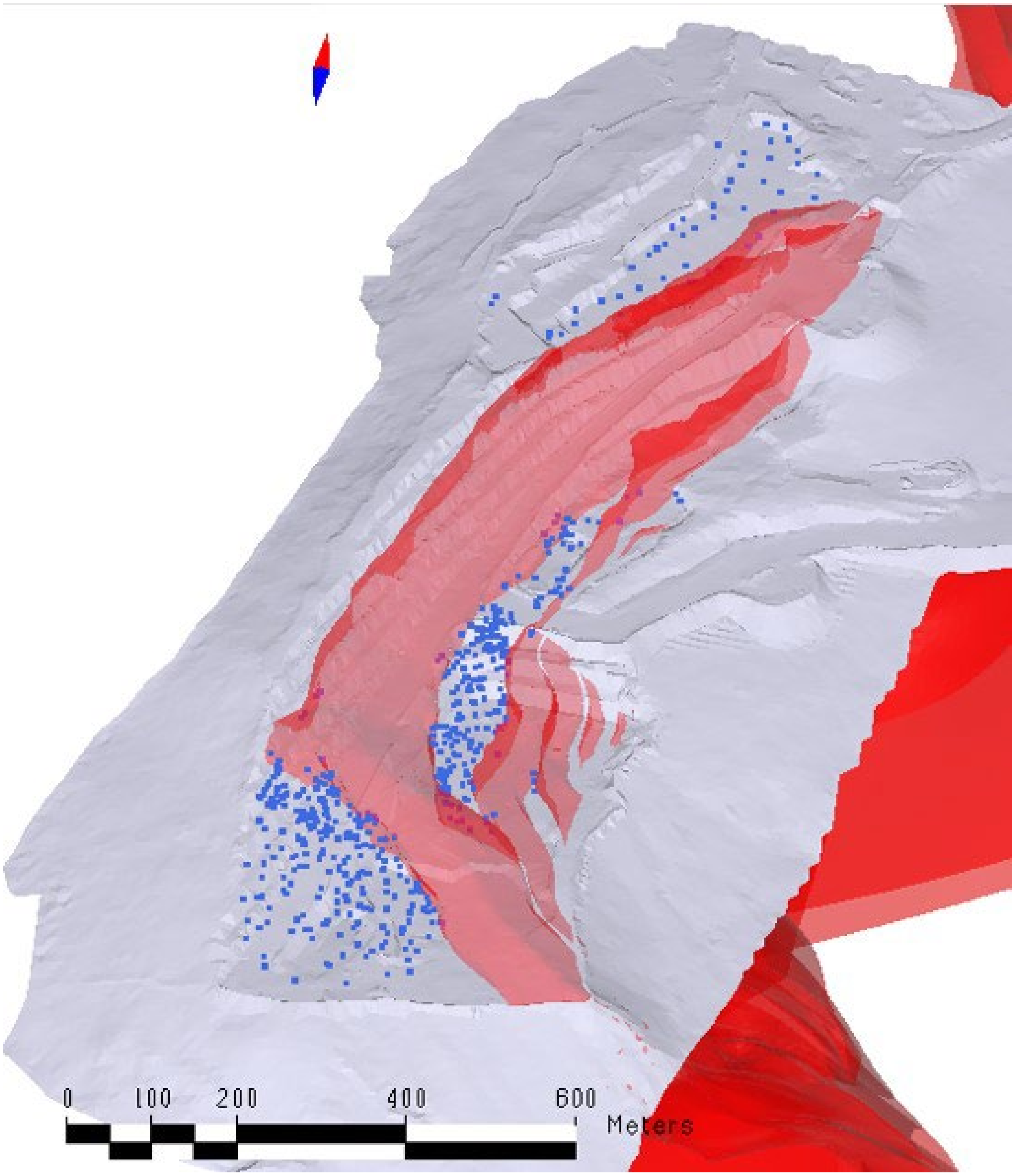
3.1 Sample Distribution

Testing of the larger set of 8603 operational samples was completed for decision making on site, as such lithological information for these samples is not included in the database, however it is considered that the 396 supplemental samples submitted for additional laboratory analysis provide a reasonable representation of materials encountered for each year contemplated. Figure 1 presents the spatial distribution of the 8603 geochemical samples where paste pH data was available in relation to the current Deposit 1 mining area ore solids shown in red. The location of the 396 supplemental samples is provided in Figure 2 and a summary by lithology is presented in Table 2, and the details for these samples are provided in Table B1 in Appendix B.



Note: Not to scale – provided for illustration only, paste pH locations are shown in orange overlying ore and split sample locations (blue).

Figure 1: Spatial Distribution of 2020 to 2022 On-Site Analysis Locations



Note: Ore solids are shows in red with transparency for reference; sample locations are in blue

Figure 2: Spatial Distribution of 2020 to 2022 Blasthole Samples Submitted for Off-Site Analysis

Table 2: Number of Split Samples Based on the Sample Lithology and Collection Year

Lithology	2020	2021	2022	Total
Footwall schist	7	16	3	26 (7%)
Footwall waste	28	86	66	180 (45%)
High grade iron oxide	5	8	0	13 (3%)
Overburden	13	5	9	27 (7%)
Unclassified	6	8	1	15 (4%)
Undifferentiated gneiss/schist/ amphibolite/ultramafics	28	66	41	135 (34%)
Total	**87**	**189**	**120**	**396 (100%)**

Note: Percentages provided are percentage of samples from a lithology relative to total number of samples

3.2 Laboratory Analysis Methods

On-site testing was completed by Australian Laboratory Services (ALS) and included paste pH as well as, total S and whole rock analysis by XRF and a subset of total carbon and total S by LECO furnace. The splits from the on-site testing as identified in Section 3.1 they were sent to ALS in Vancouver for analysis using test methods as described in this section.

These samples underwent testing to determine acid generation potential, short term acidity and metal leaching potential which included the following:

- Acid base accounting (ABA – paste pH, sulphur species, (including total sulphur, sulphate sulphur, and sulphide sulphur), bulk NP, inorganic carbon) to inventory the AP and NP present in each sample, and
- Shake Flask Extraction (SFE) leach test performed according to the method described in Price (1997) and MEND (2009) and is used to assess short-term metal leaching potential.

3.2.1 Acid-Base Accounting

Acid-base accounting was performed to evaluate the acid generation potential. As part of ABA, the bulk quantities of acid generating minerals (e.g., sulphide minerals) and acid neutralizing minerals (e.g., carbonate minerals) are measured to assess whether the materials tested will have sufficient capacity to neutralize acidity or if the materials have the potential to generate acidity. The methodology performed on the samples is a modified Sobek method (Sobek et al., 1978) that includes analysis for paste pH, sulphur species, acid potential (AP), neutralization potential (NP) and inorganic carbon.

Paste pH

On-site paste pH was conducted as per the GARD guidelines and consisted of mixing approximately equal quantities of solids and water and measuring the resulting pH of the liquid.

Acid Potential (AP)

The acid potential (AP) represents the bulk amount of acidity that can be produced. The AP is based on sulphur content and determined by calculating the amount of acid that could be produced if all sulphur is converted to sulphuric acid (H_2SO_4). It is used as a predictive tool to determine the total amount of acid that could be generated through oxidation reactions during weathering, however, in reality - under natural conditions - not all sulphur will necessarily oxidize to produce acid due to limiting factors such as oxygen availability or mineral availability within the rock. The AP for the data is calculated from the total sulphur content opposed to sulphide-sulphur since it is known at Baffinland that total sulphur concentrations also include reactive forms of sulphate. It should be noted that although the dissolution of sulphate minerals can contribute some AP in the short-term, sulphate minerals do not generally contribute to the long-term acid generation potential of a material. Therefore, calculation of AP using the total sulphur content is considered a reasonably conservative estimate.

Neutralization Potential (NP) and Carbonate Neutralization Potential (CaNP)

The neutralization potential (NP) represents the bulk amount of acidity that the sample can potentially consume or neutralize. The “bulk” NP is determined by acidifying the sample with sulphuric acid. Following the acidification of the sample, the amount of acid that is consumed during the test period is determined by a reverse titration. Negative NP values indicate that samples that contain stored acidity in the form of soluble phases that contribute acidity upon dissolution.

The carbonate neutralization potential (CaNP) is a calculated value that represents the bulk amount of acidity that the sample can potentially consume through the dissolution of carbonate minerals. The CaNP is calculated from the carbonate content (wt % as CO_3). The effectiveness of CaNP can be influenced by some carbonate minerals such as siderite that contribute to the carbonate content of the sample but do not contribute to the buffering capacity of the material.

The NP and CaNP are typically compared for the purpose of evaluating the mineralogical source of NP in a sample. The difference between the NP and CaNP is that the NP represents the ‘bulk’ neutralization potential, whereas CaNP is solely based on the carbonate content of a sample. Thus, in addition to the consumption of acid by readily soluble carbonate minerals, the ‘bulk’ NP incorporates the consumption of acid by less soluble, slower reacting, aluminosilicate, silicate and/or other minerals. If the NP is approximately equal to the CaNP, the NP is likely attributable to the dissolution of carbonate minerals. In cases where the NP is significantly greater than CaNP, the NP could be overestimated due to the partial dissolution of the less soluble, non-carbonate minerals. The rate of aluminosilicate or silicate mineral dissolution may be too slow to provide effective neutralizing capacity depending on the ambient field conditions. However, aluminosilicate and silicates can be the predominant neutralizing mineral phases under low-pH conditions or where water-rock interaction times are long.

3.2.2 Short-Term Leach Tests

Short-term leach tests are commonly used as a qualitative screening tool to identify elements of potential environmental concern and to assist with the selection of samples for additional testing if required. The results of short-term leach tests do not directly translate to the expected environmental behaviour of materials due to:

- relatively small sample size and volume;
- the short duration of the test that may not be sufficient to account for representative water-rock interaction times and mineral reaction rates (i.e., sulphide oxidation);
- the enhanced dissolution of some mineral phases due to lab-imposed conditions (i.e., pH, redox, agitation); and
- ambient conditions that differ from laboratory conditions.

Although there are limitations with the testing, it is a useful indication of the soluble metals that can be readily leached from the test materials; as such, it is intended to be used as a screening tool to identify metals of potential concern.

The short-term leach test used in this case was shake flash extraction (SFE) leach testing. This testing was completed to measure the concentrations of constituents in the sample leachate that are readily soluble in water.

The SFE leach method is described in Price (1997) and MEND (2009). Samples are mixed with DI water at a 3:1 liquid to solid ratio in an extraction vessel. The vessel is shaken immediately, and an initial pH is recorded. The slurry is then shaken for twenty-four hours, after which a final pH is measured, and the supernatant water is extracted for analysis including the following parameters:

- Alkalinity, acidity, conductivity, sulphate, sulphur, silver, aluminium, antimony, arsenic, barium, boron, beryllium, bismuth, calcium, cadmium, cesium, cobalt, chromium, copper, iron, mercury, potassium, phosphorus lithium, magnesium, manganese, molybdenum, sodium, nickel, lead, antimony, selenium, silicon, tin, rubidium, strontium, tellurium, titanium, thallium, thorium, uranium, vanadium, tungsten, zirconium, and zinc.

4.0 GEOCHEMICAL RESULTS

A description of the results and tabulated summaries are presented below with analysis and interpretation of the results in relation to on-site conditions provided within the respective subsections.

4.1 Analysis of on-site laboratory

Results from the on-site laboratory are labelled as on-site ALS lab are in Appendix A (available electronically on request). This section provides a review of on-site vs. analytical laboratory results for total sulphur and paste pH to assess the validity of the on-site measurements for continued use.

4.1.1 Sulphur Analysis (Total S – XRF vs. LECO)

The sulphur content of the 2020 through 2022 blasthole dataset (395 samples) was reviewed to compare and assess potential impacts to Baffinland's PAG and Non-PAG classification criteria that would result from use of on-site XRF analyses in lieu of LECO analysis. Of note is that there were initially 396 samples in the dataset with one sample (S660936) considered an outlier as it was the only sample with a difference greater than one order of magnitude and was removed from the dataset, with the resulting dataset having 395 samples. The review focused on differences between on-site determinations of total Sulphur from blasthole cuttings using XRF methodology with laboratory data total sulphur content using the LECO Method (Table 3). There were 332 split samples where the sulphur analysis was completed using both methods, with the LECO analysis being completed at an off-site analytical laboratory. Of the remaining 331 samples only a single sample (S662722) was misclassified as Non-PAG using the XRF method (Total S% = 0.198) relative to the LECO method (Total S% = 0.22).

As can be observed in Figures 3 and 4 the total sulphur and sulphate sulphur values when plotted against each other generally ascribe to a 1:1 line indicating limited bias in the dataset in one method over the other. The average difference between the two methods for the entire dataset is 0.012 with a standard deviation on the differences of 0.020, and a 95th percentile value of 0.04. The highest differences between the two methods occurs at elevated sulphur concentrations (above 0.5 %S, which results in a trendline slightly above the 1:1 line but does not result in misclassification of samples.

Considering a subset of the data with values less than or equal to 0.25 total S (LECO) the average difference in the datasets is 0.008 with a standard deviation of 0.007 and a 95th percentile difference of 0.021.

As can be observed in Figure 4, Considering only the values below 0.25 % S, the XRF analysis results are very close to those of the LECO analysis. It is considered that the XRF is a valid method of classifying the waste materials in the field and may be used in place of LECO analysis.

Table 3: Difference between Total Sulphur by XRF (Field) and Total Sulphur by LECO (Lab)

Statistical Values related to Absolute Difference of Total Sulphur Values (XRF vs. LECO)	Full Dataset 2020 - 2022	Where LECO Total S less than 0.25 % by weight
Count	331	307
Average Difference	0.012	0.008
Standard Deviation	0.020	0.007
median	0.007	0.007
95th percentile	0.04	0.021

Notes: Difference = absolute difference

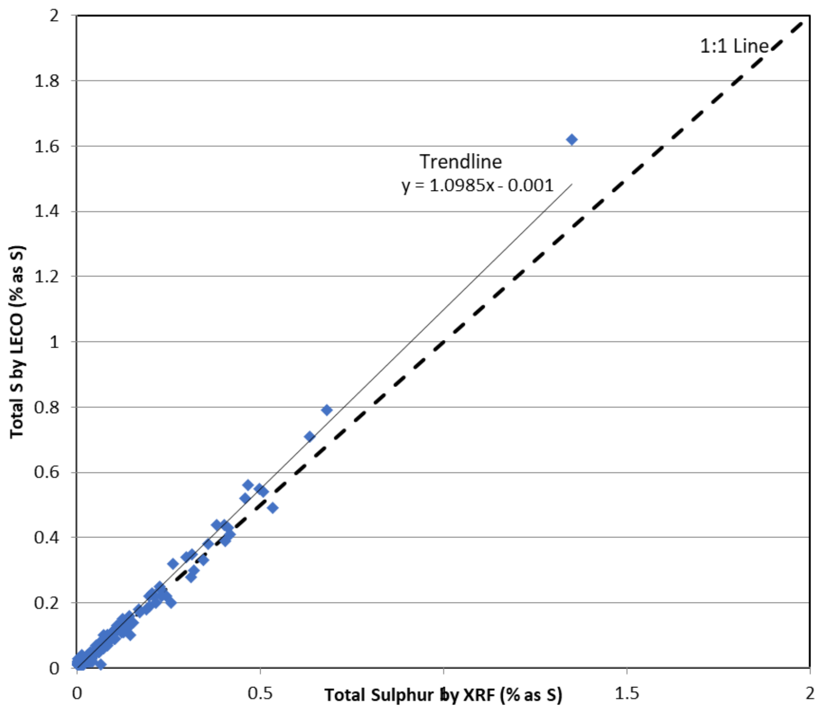


Figure 3: Total Sulphur by XRF vs. Total Sulphur by LECO, 2020 to 2022 Split Sample Dataset

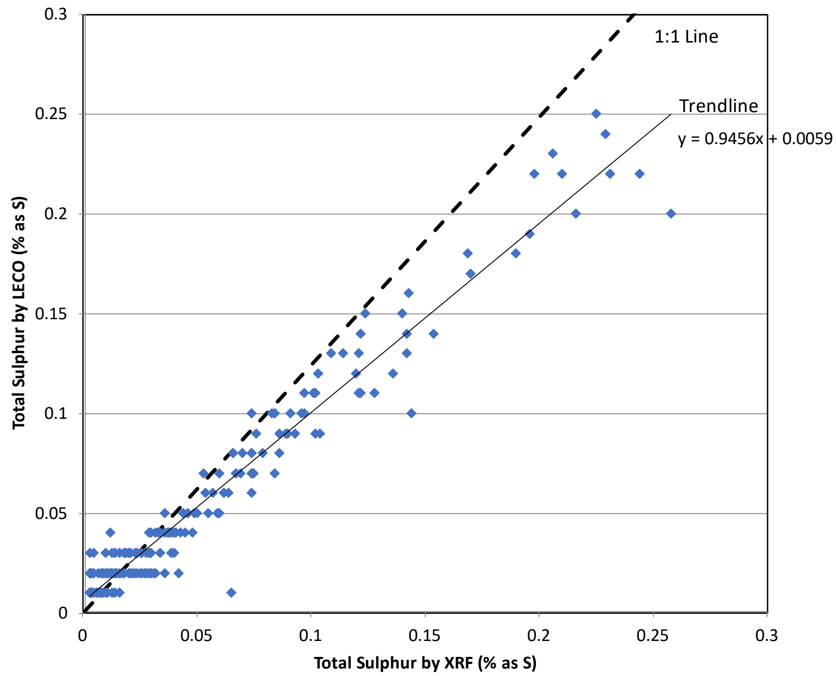


Figure 4: Total Sulphur by XRF vs. Total sulphur by LECO, 2020 to 2022 split sample dataset where LECO Total Sulphur less than 0.25 % by weight

4.1.2 Field Lab pH vs. Analytical Lab pH

When considering the 395 split samples the paste-pH and analytical laboratory pH values shows a pH range of 6.1 to 10, with a median value of 8.4. The overall field pH conditions as measured in 8603 samples were similar, however the range was slightly wider from 4.2 to 10.2 with a median value of 8.7 as described in Section 4.2. The pH values show slightly alkaline conditions in general.

A further review of the pH values was conducted for 307 split samples where data from the field laboratory and the off-site analytical laboratory was available. As can be observed in Figure 5 when the field and laboratory data are plotted against each other the results generally ascribe to a 1:1 line with differences ranging from 0 to 1.4 pH units. The trendline shows a slight bias towards higher values being observed in the field data, generally by less than 0.7 pH units, with an average difference between the two methods for the entire dataset of 0.3 units, standard deviation on the differences of 0.2, and a 95th percentile difference value of 0.7.

Given the observed pH values it is considered that field pH measurements are reasonable for decision making purposes.

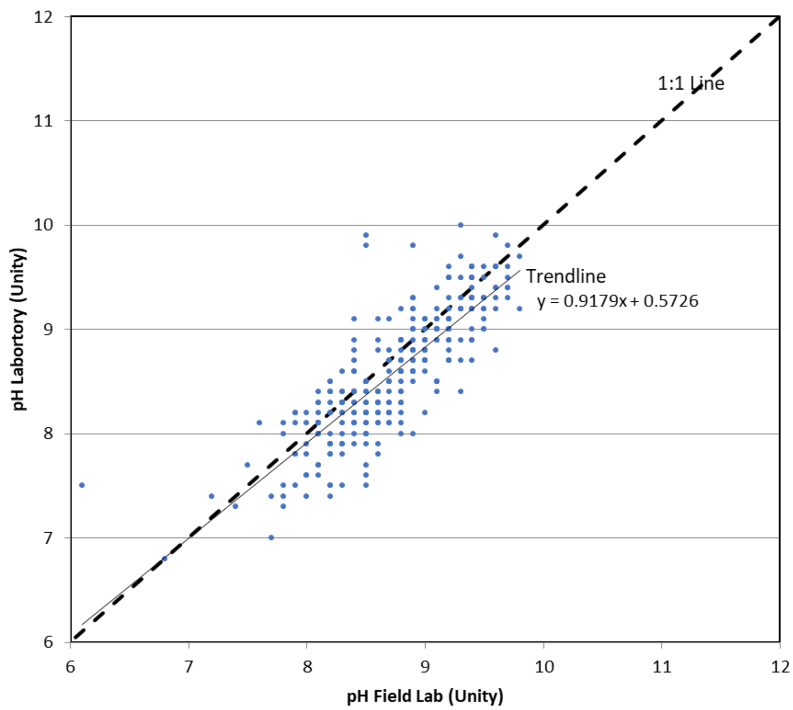


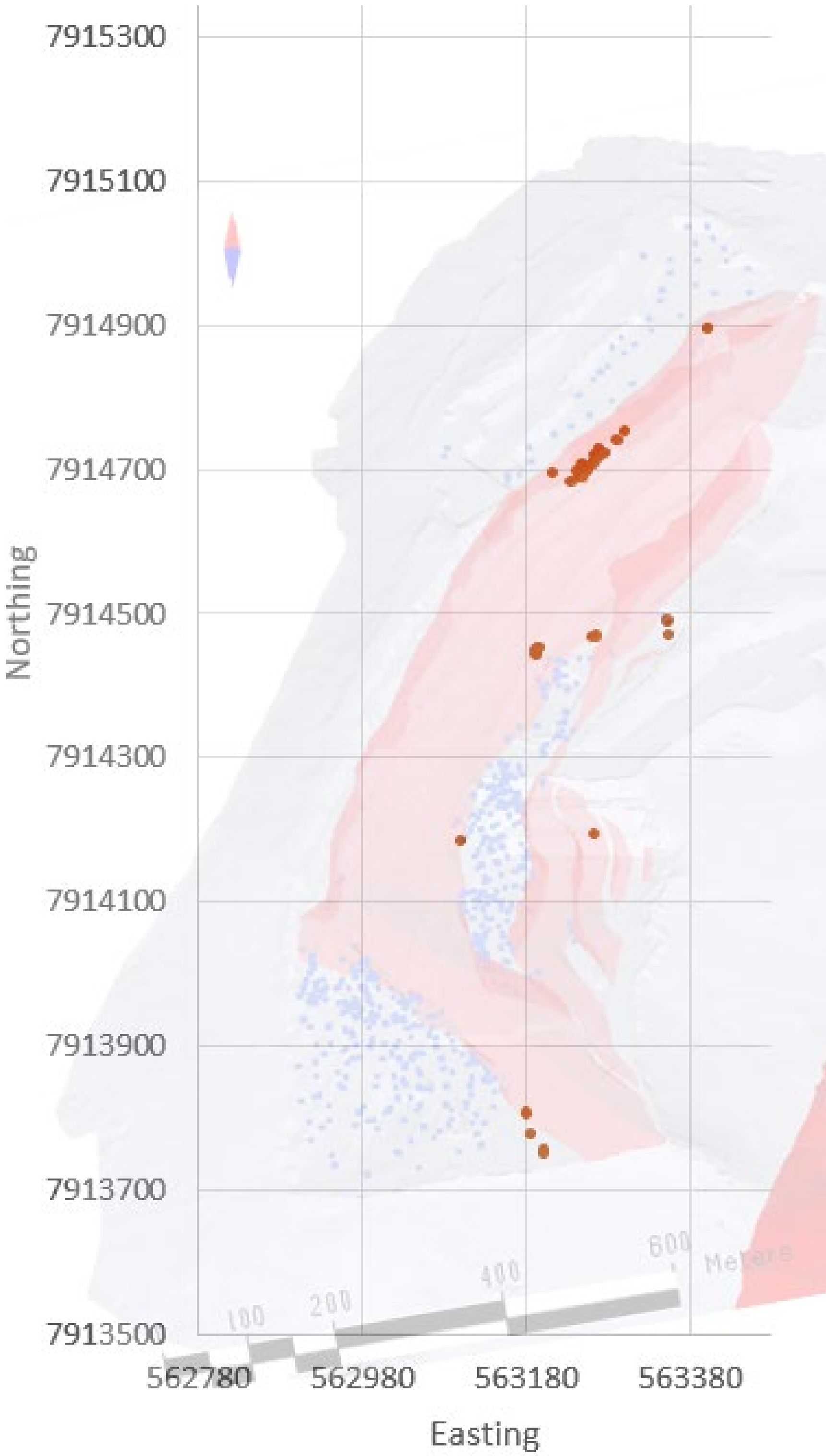
Figure 5: Field Lab pH vs. Analytical Lab pH, 2020 to 2022 Dataset

4.2 Results of on-site Paste pH and Total Sulphur by XRF

When considering the dataset of 8603 samples the paste pH ranges from 4.2 to 10.2 with a median of 8.7. Of the 8603 samples 0.4 % of samples (33 samples) had some associated acidity (paste pH values of less than 6) and were distributed near the ore zones (Figure 6).

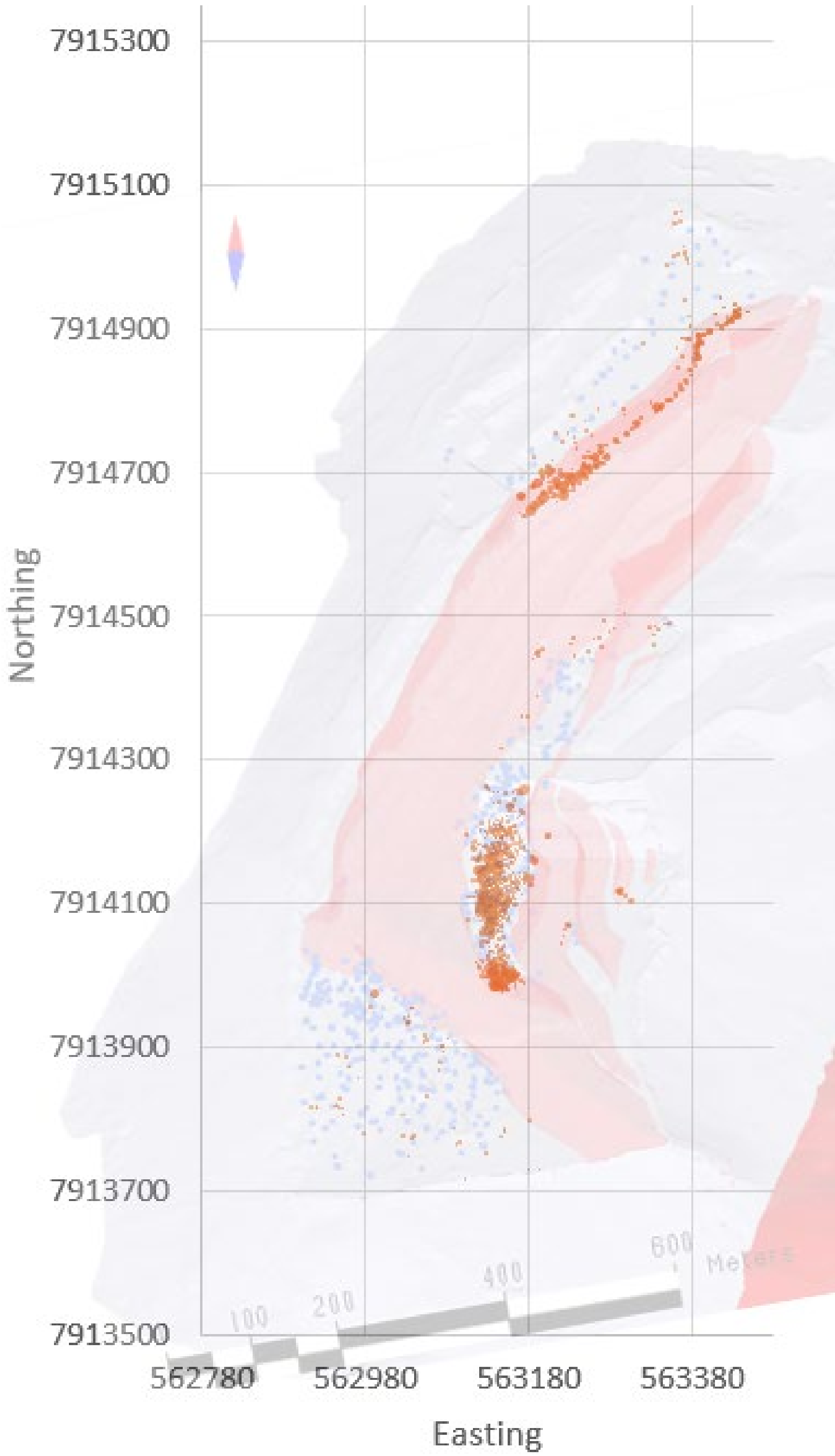
Although additional samples for total sulphur are available in the database the analysis of the broader database is limited to 8602 samples where both total sulphur and paste pH were available. The results of these analyses show a range of sulphur content from a detection limit of 0.003 wt. % to 3.74 wt. %, with a median value of 0.019 wt. % and an average value of 0.09 wt. %. Spatially samples with the highest total sulphur values appear to be focused near the ore zones, whereas further from the ore zone areas samples only sporadically had values of greater than 0.2 wt. % sulphide, up to about 0.5 wt. % S. Figure 7 shows the distribution of samples with total S greater than 0.2 Wt. %.

When considering paste pH and total sulphur content together, Of the 33 samples with lower paste pH, 25 were associated with total sulphur values above 0.2 weight percent and would otherwise have been classified as acid generating, one sample did not have an associated sulphur analysis result, and eight samples were characterized by low pH with no associated elevated sulphur content. Possible causes of low pH in the absence of elevated total sulphur include stored oxidation products, or soluble sulphate minerals.



Note: Not to scale – provided for illustration only, paste pH locations are shown in orange overlying ore and split sample locations.

Figure 6: Spatial Distribution of 2020 to 2022 On-Site Analysis Locations with Paste pH of less than 6



Note: Not to scale – provided for illustration only, Total sulphur locations where values are greater than 0.2 are shown in orange overlying ore (solid shading) and split sample (in blue) locations. Marker size varies, with larger marker size indicative of higher total sulphur values.

Figure 7 Spatial Distribution of 2020 to 2022 On-Site Analysis Locations with Total Sulphur Values Greater than 0.2 Percent by Weight

4.3 Acid Base Accounting Results

Acid base accounting was performed on all split samples submitted for off-site analysis. The ABA results are summarized in Table 4 (detailed in Table B2 in Appendix B) and plotted in Figures 8, 9 and B3 (in Appendix B). The results are discussed below.

Table 4: Summary of ABA Results by Year

7.5	2020					2021					2022				
	Count	Min	Max	Median	Average	Count	Min	Max	Median	Average	Count	Min	Max	Median	Average
pH (s.u.)	87	6.1	9.1	7.9	-	188	6.8	9.8	8.45	-	120	7	10	8.7	-
Total Sulphur (%)	87	0.01	1.34	0.03	0.10	188	0.01	1.62	0.02	0.06	120	0.01	0.54	0.035	0.091
Sulphide Sulphur (%)	87	0.01	1.32	0.03	0.09	188	0.01	1.6	0.02	0.06	120	0.01	0.54	0.03	0.086
AP (kg $CaCO_3$/tonne)	87	0.3	41.9	0.9	3.1	188	0.3	50.6	0.6	2.0	120	0.3	16.9	1.1	2.8
NP (kg $CaCO_3$/tonne)	87	3	22	13	12.8	188	5	71	18	20.3	120	3	76	17	18.2
NNP (kg $CaCO_3$/tonne)	87	-32	18	11	9.7	188	-23	70	17	18.4	120	-5	75	14	15.4
NPR (NP:AP ratio)	87	0.24	115.2	14.93	4.1	188	0.55	403.2	32	10.3	120	0.68	128	14.4	6.4

Note: Averages for NNP and NPR, are calculated based on average AP and average NP.

Sulphur Species

The concentrations of total sulphur, sulphide-sulphur and sulphate-sulphur were analysed as part of the ABA analyses. Total sulphur on the split samples ranged from 0.01 to 1.62 wt% as S, sulphide-sulphur ranged from 0.01 to 1.62 wt% as S and sulphate-sulphur ranged from 0.01 to 0.3 wt% as S.

For the 395 split samples, a plot of total sulphur content versus sulphide-sulphur content is presented in Figure 8. The reference lines on the plots indicate a 1:1 ratio of the plotted parameters. In Figure 8, the majority of the data falls on to the 1:1 line indicating that majority the sulphur content contained in most samples is in sulphide form. There are about 20 blasthole sample results which plot below the line, particularly at the lower sulphur contents suggesting that these samples are contain more sulphate sulphur, which may be indicative of previous oxidation products being present.

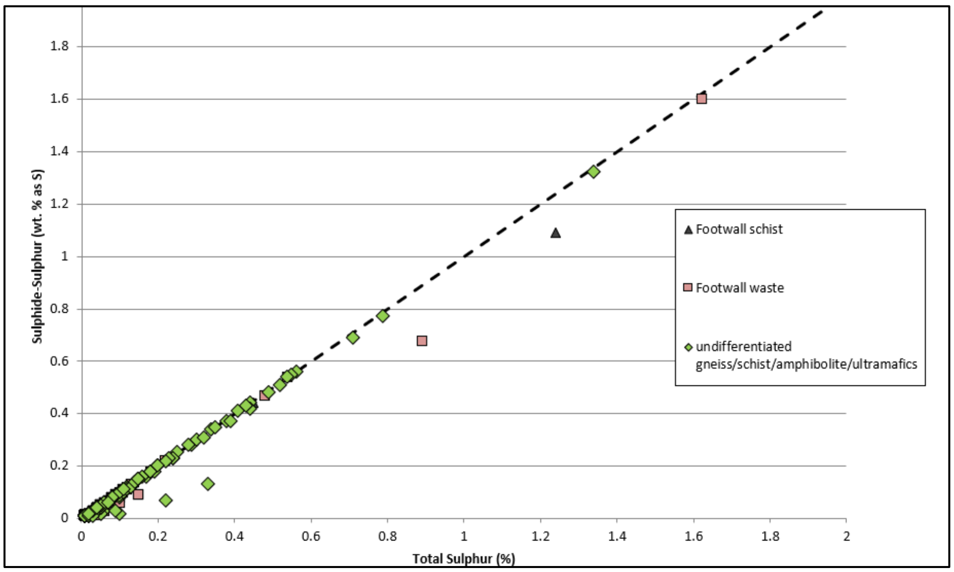


Figure 8: Total Sulphur Plotted Against Sulphide-sulphur (dashed line represents 1 to 1 ratio)

Acid Production Potential (AP)

The AP (described in section 2.3.2) ranges from 0.3 to 51 kg $CaCO_3$ /tonne within the split sample dataset, with the highest values tending to be from undifferentiated gneiss/schist/amphibolite/ultramafic lithologies, followed by random samples from footwall waste (one sample), overburden (two samples), and high-grade iron oxide lithologies (one sample). The AP is directly associated with sulphide content, which is very strongly correlated with total sulphur. As such, spatially, higher AP values appear to be focused near the ore zones, whereas further from the ore zone areas samples only sporadically had AP values of greater than 6.2 kg/t as $CaCO_3$, up to about 15.6 kg/t as $CaCO_3$. This lower AP is found through a full range lithologies. The overall average AP is 2.75 when calculated based on the average total sulphur content from on-site measurements and 2.5 when considering only the 395 split samples (including values below detection limit at the detection limit value).

Neutralization Potential (NP)

The NP (described in section 2.3.2) was measured for 395 samples with values range between 3.0 and 76 kg $CaCO_3$/tonne in the split sample dataset. A review of carbonate data from the 2020 through 2022 data set shows that most samples were below detection, which does not allow for appropriate evaluation of the carbonate component of NP for this dataset. Of note is that the detection limit values are higher than those of historical data from BIM (2014).

ABA Classification - Neutralization Potential Ratio (NPR)

Acid generation potential can be interpreted according to the ratio of NP to AP, referred to as the neutralization potential ratio (NPR), according to the guidelines recommended by MEND (2009) (Table 5). These guidelines are not the only measure of potential for acid generation and should be taken within the context of the overall evaluation. An initial review of NPR values on the split sample set is provided below with additional discussion considering the full dataset and observations on site provided in Section 4.4.

Table 5: Acid Generation Potential Criteria based on NPR (MEND, 2009)

Acid Generation Potential	Criteria	Comments
Potentially Acid Generating (PAG)	NPR < 1	Potentially acid generating unless sulphide minerals are non-reactive.
Uncertain	1 ≤ NPR ≤ 2	Possibly acid generating if NP is insufficiently reactive or is depleted at a rate faster than sulphides.
Non-potentially Acid Generating (Non-PAG)	NPR > 2	Not expected to generate acidity.

Figure 9 presents the results of ABA classification considering only the NPR criteria. Of the 395 split samples, a total of 369 samples (93%) had NPR values greater than 2 and are classified as Non-PAG. There were 19 samples (5%) with NPR values between (or equal to) 1 and 2 and are classified as “uncertain” (i.e., having unknown acid generation potential). Nine samples (2%) had NPR values less than 1 and are therefore classified as PAG. In practice materials represented by NPR less than or equal to 2 (7% of the overall samples) are treated as though they were PAG. The PAG samples tended to be from undifferentiated gneiss/schist/amphibolite/ultramafic lithologies, followed by one sample from footwall, two samples from overburden, and one sample from high grade iron oxide lithologies, whereas uncertain and Non-PAG samples are found in a wide range of lithologies including chlorite schist lithologies.

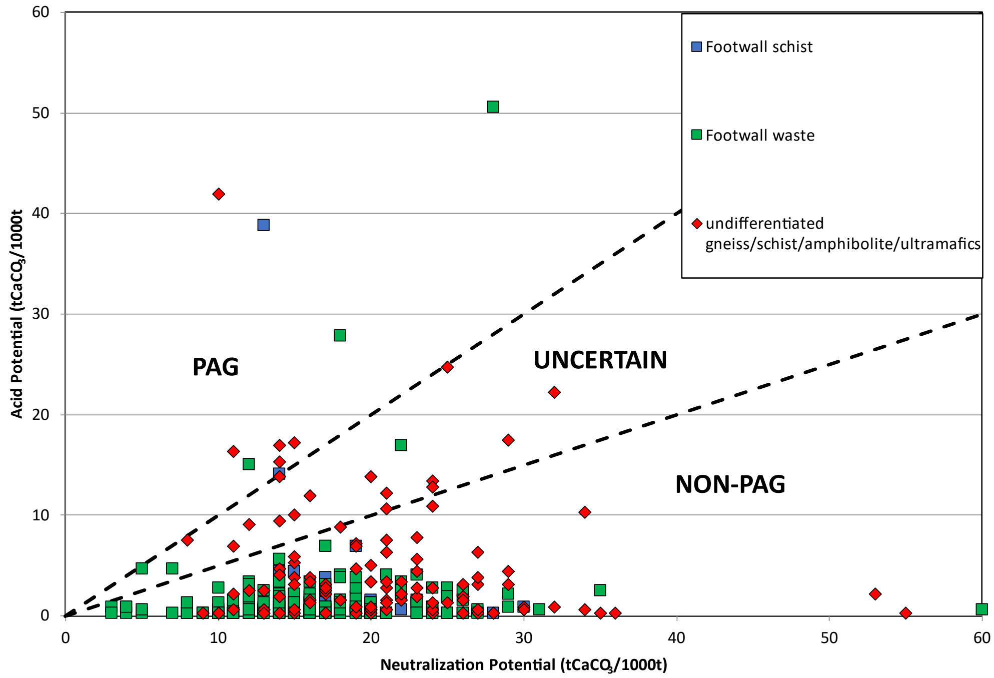


Figure 9: ABA Classification of Split Samples Based on Acid-Neutralization vs Acid-Producing Potential

4.3.1 ABA comparison to historical data

In Figure 10 the current split sample data set is overlain on the historical 2014 BIM dataset from Deposit 1. Table 6 provides the statistical results from each data set. As can be observed from the data, the 2020 through 2022 data is generally consistent with, and falls within the range of results, of the 2014 data. The data grouping from the more recent data set appears to be somewhat tighter with more samples from the historical 2014 dataset being considered PAG. NPR comparison shows that the NPR in 2020 through 2022 (average of 21.3) was higher than that observed in the 2014 dataset (average of 11.8), but again, falls within the range of results of the 2014 data. These differences are likely due to the sample distribution of the 2020-2022 data relative to the broader deposit coverage of the 2014 dataset, with some possible influence due to the discrete samples used in the 2014 dataset. The 2020-2022 data set is limited to those zones mined during that time and would not be expected to be completely representative of the overall 2014 dataset.

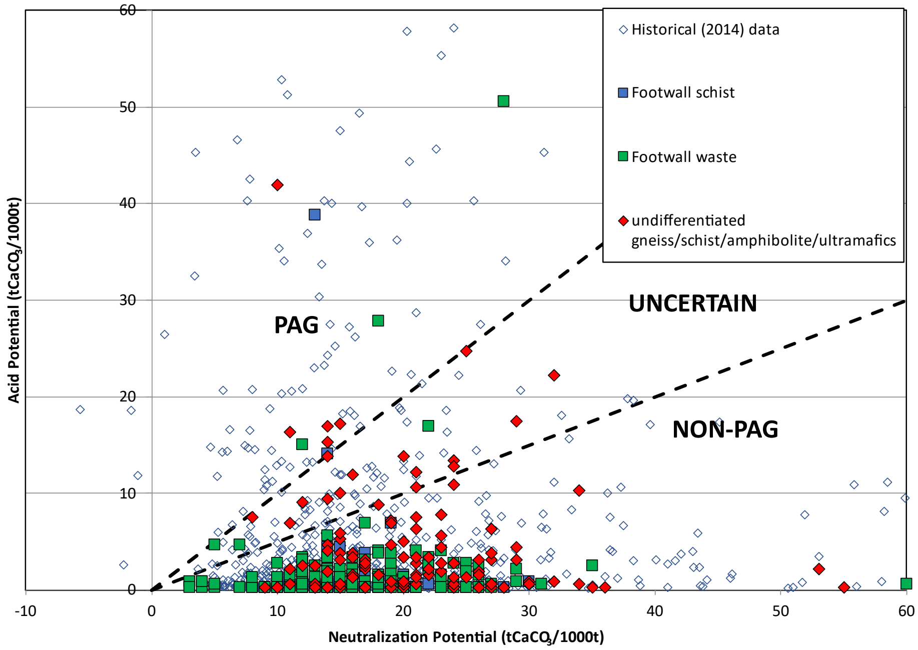


Figure 10: ABA Classification of Split Samples Overlying Historical Data from BIM (2014)

Table 6: Summary Comparison of ABA Results from Deposit 1 Historical Data (BIM 2014) and 2020-2022 Data

Parameter	Historical (BIM 2014)					2020-2022				
	Count	Min	Max	Median	Average	Count	Min	Max	Median	Average
pH (s.u.)	780	3.8	10	9.0	-	395	6.1	10	8.4	-
Total Sulphur (%)	780	0.005	22	0.04	0.32	395	0.01	1.62	0.02	0.08
Sulphide Sulphur (%)	780	0.01	23	0.02	0.25	395	0.01	1.6	0.02	0.07
AP (kg $CaCO_3$/tonne)	780	0.2	694	1.4	10	395	0.3	50.6	0.6	2.5
NP (kg $CaCO_3$/tonne)	780	-18	487	15	21	395	3.0	76	16	18
NNP (kg $CaCO_3$/tonne)	780	-660	481	12	11	395	-32	75	15	16
NPR (NP:AP ratio)	780	-0.9	388	11.8	2.1	395	0.2	403	21.3	7.3
CaNP (kg $CaCO_3$/tonne)	780	0.04	514	0.417	10.2	-	-	-	-	-
Carb-NNP (kg $CaCO_3$/tonne)	780	-692	508	-0.333	0.27	-	-	-	-	-
CaNPR (CarbNP:APratio)	780	0.0002	357	0.291	1.03	-	-	-	-	-

Note: Averages for NNP, NPR, Carb-NNP and Carb-NPR are calculated based on averages of AG, NP and CaNP.

In the historical data the carbonate detection limit was 0.005 relative to a detection limit of 0.05 in the 2020 through 2022 data. While most of the more recent data was below the detection limit of 0.05, for the historical dataset of 780 samples, 557 contained measurable carbonate minerals which, even when assuming that the remaining 223 samples had no CaNP, resulted in an average CaNP value of 10.2 kg $CaCO_3$/tonne and a CaNP/AP ratio of 1. This indicates that only about 9% of the overall NP in Deposit 1 originates from carbonate minerals. Although the CaNP/AP ration suggests there is sufficient carbonate minerals to neutralize acidity produced, the iron carbonate siderite is present in the deposit but does not contribute to buffering of acidity, therefore the actual CaNP availability is expected to be somewhat less than observed. Feldspar, biotite, and muscovite are some of the silicate minerals present in the rock matrix (BIM, 2014) and are however expected to provide buffering capacity as measured in the NP of the samples.

4.4 Field Classification of Waste Rock

There are several laboratory test methods used to assist in classification of waste rock as PAG or Non-acid generating (Non-AG), including ABA, NAGpH, Humidity cell testing, and mineralogical assessment. All of these methods were used in the initial and subsequent geochemical classification of potential waste rock at the BIM Mary River Deposit 1 as summarized above and in BIM 2014.

When considering how to address waste rock classification in a field setting, it is necessary to use this information gathered in a laboratory setting to develop a system of waste rock classification that can be applied rapidly in a field setting to develop a reasonable and consistent method of correctly identifying which materials must be treated or mitigated due to acid generation potential. Further it is necessary to monitor, review and update the classification as necessary based on observed field conditions.

For the BIM Mary River Deposit 1 the current the field the methodology involves testing of drillhole cuttings from each blasthole and measuring the paste pH and total sulphur content. A field classification system was developed for waste rock as summarized in BIM 2014 whereby materials with greater than 0.2 wt. % Total S would be considered PAG for the purposes of material management and materials with less than or equal to 0.2 wt% Total S were considered suitable for use as capping material or for other purposes on site. This criterion was refined in 2019 to consider the possible presence of soluble sulphate minerals (e.g., melanterite) that were observed in portions of the deposit and that appeared to be influencing the water quality of the waste rock pile (Golder 2019) by adding paste pH as an addition criterion. Currently where total S is greater than or equal to 0.2 wt% Total S or if paste pH is <6 the material is treated as PAG. Table 7 provides a summary of the current field classification criteria.

Table 7: Acid Generation Potential Criteria Field Classification – Baffinland Mary River Site

Acid Generation Potential	Criteria
Treat as Potentially Acid Generating (PAG)	Total sulphur >= 0.20 wt% as S
Treat as Potentially Acid Generating (PAG)	Total sulphur < 0.20 wt% as S and paste pH <=6
Treat as Non-Potentially Acid Generating (Non-PAG)	Total sulphur < 0.20 wt% as S and paste pH > 6

4.4.1 Waste Rock Classification Citeria Review

As part of ongoing geochemical review, the current test samples from 2020 through 2022 were reviewed based on laboratory testing and field criteria observations to determine if there were differences in classifications using field data relative to those as observed in the laboratory. The use of total sulphur, as well as the combination of total sulphur plus sample pH (or paste pH) was evaluated as compared to the NPR developed through full ABA test work. This review took place on 395 split samples that underwent both field testing (pH and total S) and analytical laboratory testing which also included ABA analysis.

Based on the existing criteria, of the 395 samples a total of 35 samples have total sulphur greater than >0.20 wt% and are classified as PAG, whereas 360 samples classified as Non-PAG using based on total sulphur less or equal to 0.20 wt%. Of the 35 PAG samples NPR ratios confirm that 26 samples are correctly categorized whereas nine samples are incorrectly categorized as PAG when ABA results indicate they are Non-PAG. Only two samples out of the 395 samples (0.51%) were incorrectly classified as Non-PAG based on the use of total sulphur criteria.

Table 5 provides a summary of the review of the use of total sulphur criteria of greater than 0.2 wt% as an analogue for NPR of 2 is shown in Table 8. Table 8 shows that the uncertainty when using 0.2% S as an analogue for NPR of less than or equal to 2 is approximately 0.5%, with 0.51% of samples being incorrectly categorized as Non-PAG based on the recent ABA data collected. This recent ABA data continues to support the use of the 0.2 wt. % Total Sulphur criteria (and the recently added paste pH criteria of 6) as being a suitable analogue for NPR of less than or equal to 2.

Table 8: Assessment of Sample ABA Categorization using Total Sulphur as a Surrogate for NPR

2020-2022 Dataset								
Description	Correctly Categorized using Total S				Incorrectly Categorized using Total S			
	NPR > 2 as Non-PAG	NPR ≤ 2 as PAG	*1 ≤ NPR ≤ 2 as PAG*	*NPR < 1 as PAG*	NPR > 2 as PAG	NPR ≤ 2 as Non-PAG	*1 ≤ NPR ≤ 2 as Non-PAG*	*NPR < 1 as Non-PAG*
Total in dataset	395	395	*395*	*395*	395	395	*395*	*395*
Subset categorized correct/incorrect	386	386	*386*	*386*	9	9	*9*	*9*
Number of Samples	360	26	*17*	*9*	9	2	*2*	*0*
Percent of overall dataset	91.1%	6.6%	*4.3%*	*2%*	2%	0.51%	*0.51%*	*0%*

Note: of total of 395 samples 386 were correctly categorized using total Sulphur as a surrogate for NPR, whereas 9 samples were incorrectly categorized based on total Sulphur.

4.4.2 Mineral Forms and Implications of Misclassification on Design and Operation of WRF

In Baffinland Mary River Deposit 1 the primary buffering minerals are less soluble, slower reacting silicate minerals with only approximately 10% of the NP from carbonate minerals. Iron carbonate minerals as well as calcium/magnesium carbonates make up this component of the NP, with the iron carbonate component (e.g., Siderite) not supplying buffering capacity. The soluble sulphate mineral melanterite which has the potential to release acidity upon interaction with water, even in the absence of oxygen, was observed in very minor quantities as described in Golder 2019. No additional mineralogy data was provided in the 2020 through 2022 dataset, however the 2014 mineralogical data shows that feldspar, biotite and muscovite are some of the silicate minerals present in the rock matrix (BIM 2014) and are expected to provide buffering capacity as measured in the NP of the samples.

The presence of soluble sulphate minerals (e.g., melanterite) has the possibility of confounding interpretation of ABA results. Of note is that soluble sulphate minerals would be expected to result in observations of negative NP values if present. Within the current dataset of 395 split samples, the minimum NP value observed was 3 mg/kg as $CaCO_3$ with a median of 16 mg/kg as $CaCO_3$ and an average of 18 mg/kg as $CaCO_3$, indicating that soluble sulphates are unlikely present in significant quantities in the subset of samples submitted for ABA analysis. This is consistent with the observed neutral pH values from this dataset.

When considering paste pH in addition to total sulphur values for the 395 split samples no differences were observed in classification criteria due to the elevated paste pH values, however, when we consider the entire field dataset of 8603 samples where paste pH was recorded only 33 samples (0.38%) had paste pH values of less than 6, were treated as acid generating and may be considered as having some potential for presence of soluble sulphate minerals. Of these 33 samples 26 would have otherwise been classified as PAG based on total sulphur content alone.

Assuming an overall misclassification rate of 0.51% based on comparisons with NPR for the split samples (Table 8) and providing for 0.38% of these samples containing some soluble sulphate minerals results, only 0.002% of rock placed in the WRF with soluble sulphate minerals has some potential of being incorrectly managed, the volumes of which are provided in Table 9.

Table 9: Assessment Rock Quantities Potentially Misclassified

Waste Dump Deposition Period	Waste Volumes by Depositional Season - 2023-2026 Plan			Volumes based on 2020-2022 Uncertainty (reported as Loose Volumes in 1000 m^3)					
	Total Waste Loose Volume (k m^3)	Total NAG Loose Volume (k m^3)	Total PAG Loose Volume (k m^3)	Total	PAG classified as PAG	PAG classified as Non-PAG	Non-PAG classified as Non-PAG	Non-PAG classified as PAG	Rock with SS Classified as Non-PAG
Jun 2023 through Sept 2023	678	621	60	678	45	3	618	15	0.01
Oct 2023 through May 2024	1202	1102	107	1202	79	6	1095	27	0.02
Jun 2024 through Sept 2024	554	508	49	554	36	3	505	13	0.01
Oct 2024 through May 2025	1192	1092	106	1192	78	6	1086	27	0.02
Jun 2025 through Sept 2025	621	569	55	621	41	3	566	14	0.01
Oct 2025 through May 2026	1543	1414	137	1543	102	8	1406	35	0.03
Jun 2026 through Sept 2026	862	790	76	862	57	4	786	20	0.02

The mineralogical makeup of the deposit must be considered in the context of the overall geochemical data set. The humidity cell data indicates that in the absence of soluble sulphate minerals the minimum time to acidification due to acid generation will be on the order of years based on the available silicate and carbonate minerals whereas the on-site and supplemental geochemical evaluations show that only a very small proportion of the overall rock would be misclassified as Non-PAG.

When considering the existing laboratory and field data, including historical minerology, humidity cell data and static test data, as well as current on-site analysis it is expected that the current waste rock management plan of thin lift deposition to promote freezing and only Non-PAG materials placed near the pile edge will be effective in minimizing the potential for acid generation. Implications of potential misclassification of waste rock at the rates expected on water quality are expected to be minor as such there are not expected to be any further implications to the design and operation of the WRF, provided appropriate placement and mitigation measures continue to be followed. Should the volume of misclassified material or amount of materials with soluble sulphate increase based on ongoing monitoring or continued acidic seepage be observed then the potential implications would need to be re-assessed.

4.5 Leachate Potential

The potential for metal leaching was evaluated based on data from SFE testing on the solids collected as well as evaluation of on-site water quality analysis of runoff and seepage collected around the WRF. Observed values were compared to Schedule 4, Table 1 of the Metal and Diamonds Mining Effluent Regulations Schedule 4 (MDMER 2023) for purposes of determining parameters that may need to be further evaluated as part of an overall site water quality prediction. Although the SFE results are compared to regulatory criteria, it is important to note that these regulatory criteria do not apply to short-term leach test results and therefore should not be interpreted within a regulatory context. Rather, these comparisons are conducted herein to qualitatively identify parameters that are leachable from test materials at concentrations that may require further evaluation in the context of the ambient environment or conditions under which the materials will be stored or exposed.

4.5.1 Shake Flask Extraction

SFE testing was performed on the 396 split samples submitted to the analytical laboratory, with one sample considered an outlier due to inconsistent total sulphur results for a dataset of 395 samples. A summary of values for selected parameters is provided in Table 10 with the full dataset provided in Table A3. Additional discussion of the SFE results in the context of the observed site water quality is provided in Section 4.5.2. A summary of the results for key parameters from the SFE testing is as follows:

- The pH values ranged from 5.9 to 9.6, with sulphate concentrations ranging from 0.5 to 996 mg/L and a median value of 7.3. In general, the SFE results show slightly higher sulphate sulphur concentrations at lower pH values, more prevalent as the pH decreases below about 7.5 (Figure 11).
- Arsenic (As) concentrations ranged from <0.001 to 0.1 mg/L. No samples were greater than the MDMER criteria of 0.1 mg/L.
- Copper (Cu) concentrations ranged from <0.001 to 0.57 mg/L. Only one sample was greater than the MDMER criteria of 0.1 mg/L.
- Nickel (Ni) concentrations ranged from <0.0005 to 0.21 mg/L, with all but one sample having nickel concentration of less than 0.05 mg/L. No samples had concentration greater than the MDMER criteria of 0.25 mg/L. There was a slight increase in concentrations with increasing pH in the samples (Figure 11).
- Lead (Pb) concentrations ranged from <0.0001 to 0.39 mg/L. Four samples were greater than the MDMER criteria of 0.08 mg/L.
- Zinc (Zn) concentrations ranged from <0.01 to 2.1 mg/L. Three samples were found above the MDMER criteria of 0.4 mg/L.

Overall SFE data indicate relatively low concentrations of most parameters. Figure 11 provides an example of sulphate and nickel concentrations as a function of pH whereas Figure 12 provides these same parameters as a function of sample date. As can be observed concentration of sulphate appeared to decrease slightly with pH and remained consistent from 2020 through 2022, whereas concentrations of nickel are slightly higher at higher pH, and in samples from 2021 and 2022, possibly as a function of slight spatial differences in deposit chemistry. These differences are not considered significant for the purposes of overall deposit characterization.

Of note is that there is little in way of positive correlation between the total sulphur values observed in the ABA testing and the observed SFE results as exemplified for iron and nickel in Figure 13, suggesting that the samples did not undergo secondary oxidation prior to analysis, and that for fresh samples there is little correlation between PAG/Non-AG designation and leachate quality. Generally, it would be expected that other parameters concentrations would be influenced by the sulphide content or pH of the samples if samples were allowed to oxidize. These parameters include sulphate as well as metals such as iron, nickel and copper which often have higher concentrations observed when pH values are lower. Given the near neutral or alkaline pH of the SFE sample results this was not observed in SFE results from 2020 through 2022.

It is necessary to consider these results within the context of the overall site water quality as discussed in Section 4.5.3 since the geochemical conditions (e.g., pH, redox, alkalinity) will differ on a broader scale relative to those observed from individual test samples in the laboratory.

Table 10: Summary of pH and Selected Parameter Concentrations from SFE Results (by Year)

Parameter (Unit)	2020			2021			2022		
	Min	Max	Average	Min	Max	Average	Min	Max	Average
pH (s.u.)	5.9	9.2	-	6.1	9.5	-	6.7	9.6	-
Arsenic (mg/L)	<0.001	0.003	0.0018	<0.001	0.1	0.013	<0.001	0.012	0.0066
Calcium (mg/L)	0.1	43	2.5	0.1	55	1.4	0.2	19	2.2
Copper (mg/L)	<0.001	0.047	0.0075	<0.001	0.57	0.027	<0.001	0.19	0.024
Iron(mg/L)	0.03	9.3	3.9	0.03	50	8.1	0.03	61	8.8
Lead (mg/L)	<0.0001	0.014	0.0019	<0.0001	0.11	0.0054	<0.0001	0.39	0.022
Nickel (mg/L)	<0.0005	0.028	0.0025	0.0006	0.21	0.0076	<0.0005	0.025	0.0064
Sulphate (mg/L)	0.5	996	72	0.5	856	34	0.6	454	27
Zinc (mg/L)	<0.01	0.03	0.022	<0.01	2.1	0.092	<0.01	0.59	0.096

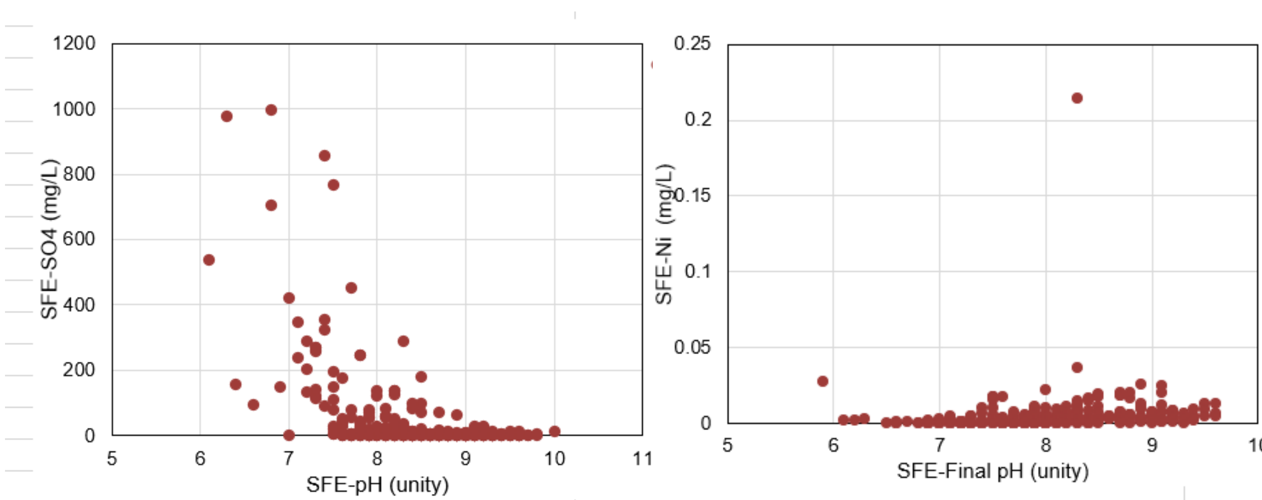


Figure 11: pH vs. Sulphate and pH vs. Nickel - SFE Data from 2020 through 2022

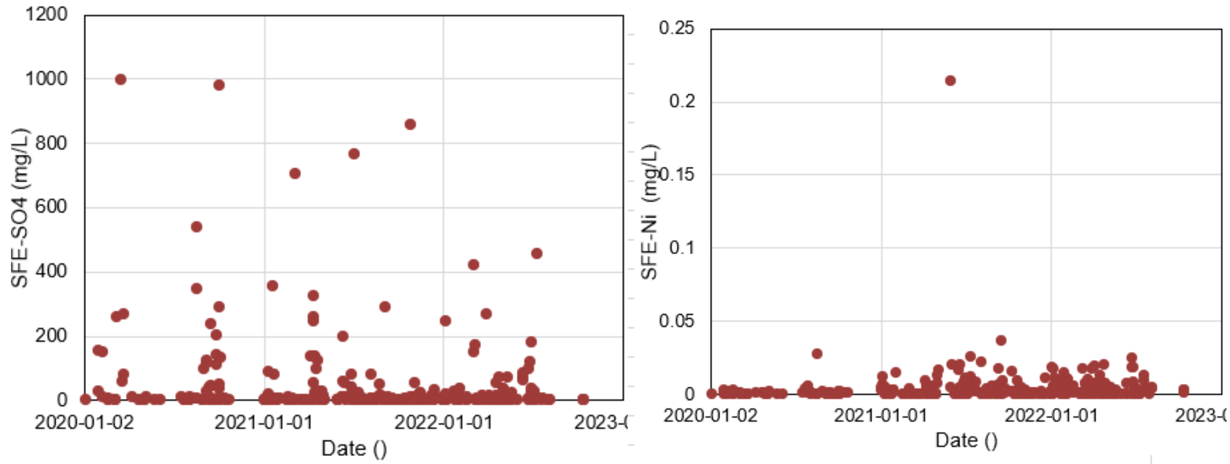


Figure 12: Sulphate and Nickel Over Time - SFE Data from 2020 through 2022

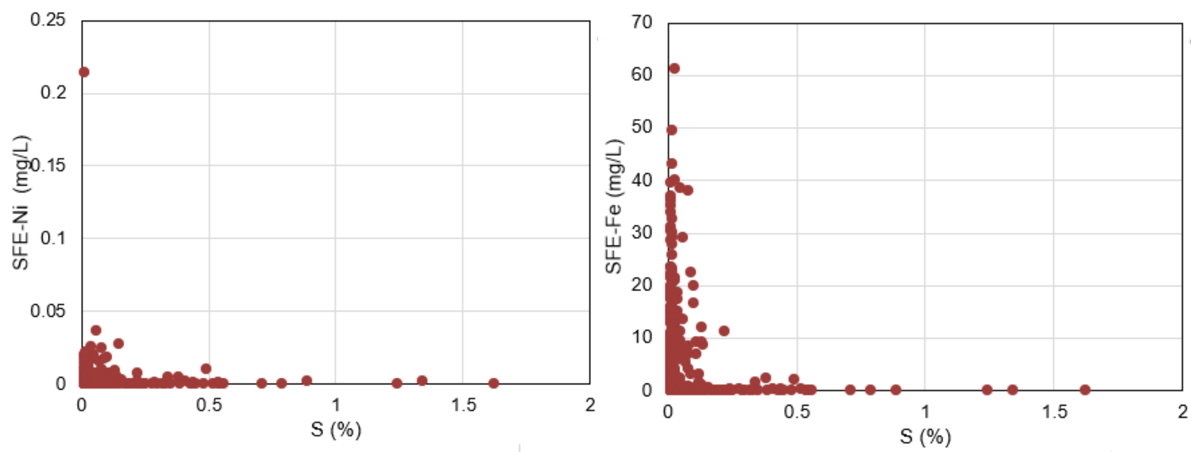


Figure 13: Total S (solid) vs. Ni (SFE leachate), and Total S (solid) vs. Fe (SFE leachate) - from 2020 through 2022

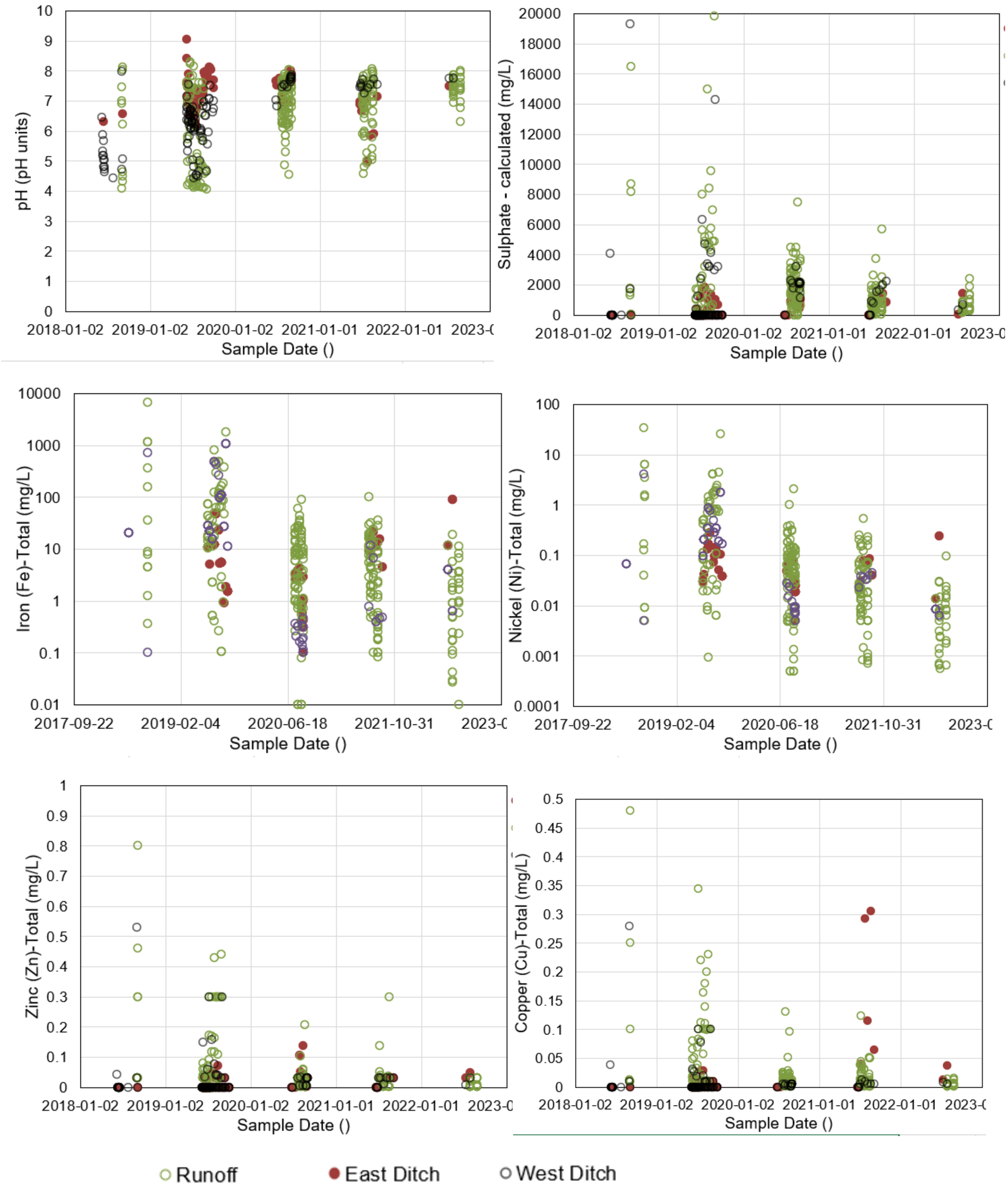
4.5.2 Summary of on-site water quality measurements

BIM has setup an internal mechanism and schedule for collection of waste rock pile run-off and seepage water samples to monitor water quality coming from the waste rock deposit. BIM provided data on a total of 239 samples of runoff and seepage from collection ditches collected between 2020 and the end of 2022. The data originates from general locations: runoff (83 samples in 2020,69 in 2021,31 in 2022), west ditch seepage (14 samples in 2020,10 in 2021,2 in 2022) and east ditch seepage (17 samples in 2020,11 in 2021, two in 2022). Some additional data is available from 2018 and 2019 and is shown in Figure 14 for context but is not otherwise considered as part of this report due to differing WRF conditions during this time period. Table 11 provides the average concentrations in each year for selected parameters. Appendix C provides a more detailed summary table for each year and location, whereas the full dataset from which the summary is derived is provided as part of Appendix A (electronic available upon request). Of note is that the 2022 water quality to the east ditch was influenced by pumping from the pit. Figures 14 shows the water quality observed over time from leachate and seepage collection ditches from 2018 through 2022.

Results of the on-site water quality measurements (Figure 14) demonstrate improvement in observed runoff and seepage water quality from 2018 through to 2022. The range of values observed between 2020 and 2022 for some of the key parameters are as follows:

- pH ranged from 4.6 to 8.1 overall, improving to more neutral conditions, with near neutral to alkaline values observed in all seepage and runoff locations in 2022.
- Sulphate concentrations ranged from 1.5 to 7.5 g/L overall and decreased substantially from 2020 and 2022.
- Iron concentrations (shown in log scale in Figure 14) decrease substantially staring in 2020. In 2022 the concentrations in the east ditch were higher than those from the West Ditch or Runoff, potentially reflecting the influence of the addition of water from the pit.
- Nickel concentrations ranged from 0.0005 to 2.1 mg/L between 2020 and 2022, decreasing substantially over time with the 2022 runoff values all below 0.1 mg/L. Concentrations in the west ditch which are more indicative of seepage were below 0.01 mg/L in 2022.
- zinc concentrations ranged from 0.003 to 0.3 mg/L between 2020 and 2022, with all concentrations observed in 2022 less than 0.05 mg/L.
- copper ranged from 0.0005 to 0.13 mg L^{-1}, between 2020 and 2022, with all concentrations observed in 2022 less than 0.04 mg/L. The concentrations in the East Ditch appear to be elevated relative to the runoff, potentially reflecting the influence of the addition of water from the pit.

When considering the dataset from 2018 onwards a trend of increasing pH values and associated decreasing concentrations of key parameters can be observed (Figures 14). The figure shows that pH values below 4.5 were not observed following 2019. Lower concentrations were observed in the last full year of data (2022) for the seepage and runoff from the WRF: the pH ranged from 6.3 to 8; zinc and nickel concentrations ranged from 0.00056 to 0.24 mg L^{-1} and from 0.003 to 0.048 mg L^{-1}, respectively (both below MDMER limits); and the sulphate concentrations were between 15 to 2413 mg L^{-1}.



Note: Some data from 2018 and 2019 plots above y axis range; Iron and Nickel Y-axis in Logarithmic scale

Figure 14: Concentrations Over Time in WRF Runoff and Seepage for Selected Parameters

Table 11: Average and Peak Water Quality Values of WRF Runoff and Seepage for Selected Parameters

Parameter	Average Values			Maximum Values		
	2020	2021	2022	2020	2021	2022
WRF Runoff						
pH (s.u.)-range	4.5 – 8.0	4.6 – 8.1	6.3 – 8.0	8.0	8.1	8.0
Conductivity (umhos/cm)	2662	1699	1227	8270	7230	3720
Aluminum (mg/L)	4.2	3.6	1.4	35	68	11
Arsenic (mg/L)	0.0012	0.0013	0.0005	0.0056	0.0143	0.0015
Calcium (mg/L)	90.4	57.4	46.2	210	142	104
Cobalt (mg/L)	0.084	0.041	0.009	1.71	0.32	0.12
Copper (mg/L)	0.011	0.014	0.005	0.13	0.12	0.015
Iron (mg/L)	10.1	8.6	2.6	91	100	18.7
Lead (mg/L)	0.0017	0.0023	0.0007	0.014	0.037	0.003
Magnesium (mg/L)	415	224	152	1610	1420	623
Nickel (mg/L)	0.12	0.05	0.01	2.1	0.54	0.10
Sulphate (mg/L); Calculated	1809	954	617	7455	5688	2413
Zinc (mg/L)	0.03	0.03	0.02	0.21	0.30	0.03
WRF West Ditch Seepage						
pH (s.u.)-range	6.8 – 7.9	7.2 - 7.7	7.7	7.9	7.7	7.7
Conductivity (umhos/cm)	3,131	2,588	1,051	4190	3560	1430
Aluminum (mg/L)	0.11	1.81	1.50	0.3	6.3	2.6
Arsenic (mg/L)	0.0007	0.001	0.0007	0.001	0.0015	0.001
Calcium (mg/L)	212	112	46	306	165	67
Cobalt (mg/L)	0.012	0.033	0.0052	0.02	0.05	0.01
Copper (mg/L)	0.0037	0.0072	0.0063	0.01	0.01	0.008
Iron (mg/L)	0.24	3.45	2.35	0.47	11.8	4.1
Lead (mg/L)	0.0003	0.0018	0.0008	0.0005	0.005	0.001
Magnesium (mg/L)	415	351	113	631	529	155
Nickel (mg/L)	0.012	0.036	0.007	0.029	0.046	0.008
Sulphate (mg/L); Calculated	2,086	1,526	482	3203	2221	650
Zinc (mg/L)	0.02	0.03	0.02	0.03	0.03	0.03
WRF East Ditch Seepage						
pH (s.u.)-range	6.9 – 8.0	5.0 - 7.1	7.5	8.0	7.1	7.5
Conductivity (umhos/cm)	1,819	1,529	1,178	2310	2320	2270
Aluminum (mg/L)	0.19	3.87	8.21	0.79	10.4	8.8
Arsenic (mg/L)	0.0007	0.001	0.001	0.001	0.002	0.001
Calcium (mg/L)	103	59	20	124	91	35
Cobalt (mg/L)	0.035	0.063	0.097	0.08	0.11	0.19
Copper (mg/L)	0.005	0.142	0.025	0.007	0.31	0.037
Iron (mg/L)	1.9	13.0	50.3	4.4	21.2	89
Lead (mg/L)	0.0004	0.0027	0.0033	0.0005	0.009	0.0037
Magnesium (mg/L)	206	190	154	318	308	296
Nickel (mg/L)	0.037	0.055	0.126	0.08	0.085	0.24
Sulphate (mg/L); Calculated	941	868	716	1371	1416	1416
Zinc (mg/L)	0.04	0.03	0.04	0.14	0.03	0.05

4.5.3 Site Water Quality Comparison to SFE and Linkages to ARD/ML on site

In general, SFE testing is completed on fresh samples with limited potential for oxidation, thus the pH results are neutral to alkaline and metal concentrations are generally low. In contrast, the on-site materials have been exposed to weathering, some release of acidity and metals which have been buffered or mitigated either through freezing of the pile or though interaction with neutralizing minerals.

There is a link between the observed water quality in the WRF ditches, the nature of the ARD/ML stored in the WRF and the conditions under which it is stored which is not reflected in the SFE results. As described in Golder (2019) Past management practices allowed for some materials that were PAG (or contained soluble sulphate minerals) to be placed near the edges of the pile in lifts of sufficient height that they could remain above freezing conditions long enough to produce acidity and leach metals which reported as runoff or in the collection ditches. This contributed to the lower pH water with elevated metals concentrations that was observed in places from 2018 and 2019. Following a review and update of the management procedures to focus on thin lift placement and isolation of ML/ARD materials near the centre of the pile to promote freezing an improvement in water quality has been observed. Current water quality results from 2020 through 2022 show that the mitigation measures put in place are reducing release of metals and acidity. The runoff and seepage samples from 2022 had neutral pH values and do not contain any metal values above MDMER criteria. Observations show that sulphate, iron and nickel concentrations are all correlated with pH measurements and decreasing over time. It is not possible to determine based on the results if the cause of the previously observed conditions are soluble sulphate minerals, or minor amounts of oxidation as the mitigation measures in place are designed to deal with both conditions by limiting release of water as well as limiting oxidation rates.

5.0 CONCLUSIONS

This current geochemical monitoring update report provides a review of results of geochemical sampling completed from 2020 through 2022 and includes review of 8603 on-site samples that contained measurements of total sulphur and paste pH from on site as well as review of results from a subset of 396 supplemental samples sent for additional analysis. Site water quality measurements were also reviewed for potential metal leaching and acidity trends. Key conclusions from the completed review and analysis are as follows:

Field vs. Analytical results:

- A review of samples where both on-site analysis and analytical laboratory results shows very good agreement for total sulphur analysis and paste pH analysis between field analysis and off-site analytical analysis, indicating that the results of field analysis of total sulphur and paste pH are reasonable for decision making purposes. For total sulphur analysis, the XRF analysis results are very close to those of the LECO analysis. It is considered that the XRF is a valid method of classifying the waste materials in the field and may be used in place of LECO analysis.

Total Sulphur and ABA results:

- Considering the dataset of 8603 on-site analysis of paste pH of the 8603 samples 0.4 % of samples (33 samples) had some associated acidity (paste pH values of less than 6) and were distributed near the ore zones. Of the 33 samples with lower paste pH, 25 were associated with total sulphur values above 0.2 weight percent and would otherwise have been classified as acid generating, one sample did not have an associated sulphur analysis result, and eight samples were characterized by low pH with no associated elevated sulphur content. Possible causes of low pH in the absence of elevated total sulphur include stored oxidation products, or soluble sulphate minerals.

- When considering the ABA data from 395 split samples Relative to historical data the 2020 through 2022 dataset appeared to have a somewhat narrower range of results and fewer samples being considered PAG (9 of 395 or 2%), with an additional 19 samples (5%) considered uncertain. Spatially samples with the highest total sulphur values appear to be focused near the ore zones.
- In the historical data the carbonate detection limit was 0.005 relative to a detection limit of 0.05 in the 2020 through 2022 data. While most of the more recent data was below the detection limit of 0.05, for the historical dataset only about 9% of the overall NP in Deposit 1 originates from carbonate minerals.

Review of sample representativeness / uncertainty:

- Baffinland currently segregates waste rock material as PAG and Non-AG using a total sulphur cut-off of 0.20 wt% as S and paste pH greater than 6. The uncertainty when using 0.2% S as an analogue for NPR of less than or equal to 2 is approximately 0.5%, with 0.51% of samples being incorrectly categorized as Non-PAG based on the recent ABA data collected. This recent ABA data continues to support the use of the 0.2 wt. % Total Sulphur criteria (and the recently added paste pH criteria of 6) as being a suitable analogue for NPR of less than or equal to 2.
- When further considering potential soluble sulphate mineral misclassification, when considering that only about 0.38% of materials contain soluble sulphate based on overall paste pH measurements, and a misclassification rate of 0.51%, only 0.002% of rock placed in the WRF with soluble sulphate minerals has some potential of being incorrectly managed.
- A review of the available on-site water quality data indicates that misclassification and placement of materials with stored acidity in areas it should not be placed is not appreciable, as is exemplified by the improvement in WRF water quality observed on site.

Leachate Chemistry from lab testing and on-site site runoff and seepage measurements:

- The laboratory short term leach testing was completed on fresh samples with limited oxidation; thus, the pH results are neutral to alkaline and metal concentrations are generally low relative to what has previously been observed under field conditions.
- There has been an observed improvement in on site water quality with an observed increase in pH and decrease in metals concentrations from 2018 through 2022. All 2022 measurements of on-site runoff and seepage were of neutral pH with no exceedances of the MDMER guideline values with the exception of total suspended solids.
- It is considered that the proper use of the waste rock screening criteria coupled with updated rock management practices is resulting in the observed improvement in water quality on-site.
- The on-site testing shows that a very small proportion (<0.4%) of waste materials have stored acidity or potential for acidification due to oxidation.

Operational procedures currently appear to be effective in reducing and managing ARD/ML on site. The geochemical results from SFE testing and on-site water quality analysis indicate that the overall waste rock pile design and placement, as presented in the previous WRMPs (including use of thin lifts to promote freezing and placement of Non-AG material around the edges of the pile), are reasonable and appropriate to reduce potential for acid generation and metal leaching. Regular operational monitoring and material segregation is still required to confirm the future geochemical performance of the WR, however based on low potential rock misclassification rates, coupled with on-site observations of seepage and runoff water quality from 2020 through 2022 that show improving water quality over time, the current waste rock segregation criteria is considered reasonable and appropriate.

6.0 CLOSURE

We trust that this report meets your current needs. Should you have any comments or questions this document, please do not hesitate to contact the undersigned.

WSP Canada Inc.

ORIGINAL SIGNED	**ORIGINAL SIGNED**
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Senior Water Resources Engineer, Project Manager	*Fellow, Senior Geochemist, Project Director*

AQ/AP/KDV/jr

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APPENDIX A

Sample Locations and Results of On-Site Analysis of Blasthole Cuttings (BIM 2023)

(Data Available Electronically on Request)

APPENDIX B

Sample Summary and Analytical Results of Split Sample Off-Site Analyses (2020 through 2022)

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	Field Classification[1]
R797878+R797990	600	Uncalssified	NAG
S113810+S113784	580	high grade iron oxide	NAG
S113836+S113783	580	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S112288+S112259	580	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S112280+S112286	600	Uncalssified	NAG
S112537+S112538	590	high grade iron oxide	NAG
S112540+S112545	640	Footwall waste	NAG
S112539+S112546	640	Footwall waste	NAG
S112798+S112794	640	Footwall waste	NAG
S112790+S112840	640	Footwall waste	NAG
S112816+S112809	640	Footwall waste	NAG
S112908+S112011	580	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S111556+S111776	640	Footwall waste	PAG
S111761+S113462	640	Footwall waste	NAG
S111789+S111739	-	Footwall schist	NAG
S111773+S111762	640	Footwall schist	PAG
S113100+S113466	640	Footwall waste	NAG
S113233+S113268	590	Footwall waste	NAG
S113294+S109197	590	Footwall waste	NAG
S109071+S109185	590	Footwall waste	NAG
S109138+S109163	590	Footwall waste	NAG
S109161+S109204	590	Footwall waste	NAG
S109272+S109295	580	Overburden	NAG
S109266+S109325	580	Overburden	NAG
S109415+S109423	-	Footwall waste	NAG
S110078+S110013	580	Overburden	NAG
S110286+S110293	580	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S108739+S108760	580	Footwall schist	NAG
S108881+S108885	580	Footwall waste	NAG
S108886+S666176	580	Footwall waste	NAG
S108960+S108965	580	Footwall waste	NAG
S108977+S108979	580	Footwall waste	NAG
S108991+S108995	580	Uncalssified	NAG
S666051+S666054	580	Footwall waste	NAG
S666084+S666089	580	Footwall waste	NAG
S666113+S666119	580	Footwall waste	NAG
S666123+S666125	580	Footwall waste	NAG
S666131+S666132	580	Footwall waste	NAG
S666144+S666146	580	Footwall waste	NAG
S666147+S666148	580	Footwall waste	NAG
S666151+S666153	580	Footwall waste	NAG
S666301+S666299	580	Footwall schist	NAG
S666302+S666300	580	high grade iron oxide	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
S666542+S666557	580	Uncalssified	NAG
S666613+S666610	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S666640+S666641	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S666663+S666664	660	Uncalssified	NAG
S666909+S666954	580	Footwall schist	NAG
S666939+S666964	580	Footwall waste	NAG
S666947+S666948	580	Footwall waste	NAG
S666974+S667165	580	high grade iron oxide	NAG
S667190+S667145	580	Overburden	NAG
S667217+S667058	580	Overburden	NAG
S667236+S667275	580	high grade iron oxide	NAG
S667367+S667371	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667379+S667378	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667404+S667429	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667408+S667411	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667453+S667451	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667446+S667445	570	Overburden	NAG
S667442+S667495	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667470+S667498	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667483+S667488	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667485+S667494	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667491+S667487	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667555+S667554	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667557+S667497	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667496+S667500	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667765+S667790	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667772+S667770	570	Overburden	NAG
S668169+S667791	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S668162+S668208	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S668186+S667869	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667810+S667808	570	Overburden	PAG
S668211+S668212	570	Overburden	NAG
S668222+S668223	570	Overburden	NAG
S667864+S667825	570	Overburden	PAG
S667892+S667898	570	Overburden	NAG
S667928+S667908	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667905+S667977	570	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S667902+S667900	570	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S667922+S667950	570	Overburden	PAG
S667963+S667907	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S667949+S667933	570	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S668537+S668538	570	Footwall schist	NAG
S668536+S668539	570	Footwall schist	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
S668744+S668745	580	Uncalssified	NAG
S670694	570	Footwall waste	NAG
S670709	570	Footwall waste	NAG
S670764	570	Footwall waste	NAG
S670765	570	Footwall waste	NAG
S670766	570	Footwall waste	NAG
S670792	570	Footwall waste	NAG
S670793	570	Footwall waste	NAG
S670794	570	Footwall waste	NAG
S670795	570	Footwall waste	NAG
S670818	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S670829	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S670963	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S670964	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S670965	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S670966	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S670967	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S671194	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S671195	570	high grade iron oxide	NAG
S671196	570	high grade iron oxide	NAG
S671197	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S671356	570	high grade iron oxide	NAG
S671528	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S671586	560	Footwall waste	NAG
S671587	560	Footwall waste	NAG
S671588	560	Footwall waste	NAG
S671725	560	high grade iron oxide	NAG
S671961	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S660109	560	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S660121	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S660658	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S660208	560	Footwall waste	NAG
S660269	560	Footwall waste	NAG
S660377	570	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S660389	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S660390	570	high grade iron oxide	NAG
S660854	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S660866	560	Overburden	NAG
S660912	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S660936	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S661046	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S661056	560	Footwall schist	NAG
S661691	560	Footwall waste	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
S661692	560	Footwall waste	NAG
S661726	560	Footwall waste	NAG
S661733	560	Footwall waste	NAG
S661737	560	Footwall waste	NAG
S661738	560	Footwall waste	NAG
S661812	570	Overburden	NAG
S661813	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S661845	640	Overburden	NAG
S661858	570	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S661960	570	high grade iron oxide	NAG
S662027	640	Overburden	NAG
S662028	640	Footwall waste	NAG
S662177	640	Footwall waste	NAG
S662201	640	Overburden	NAG
S662286	640	high grade iron oxide	PAG
S662320	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S662548	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S662578	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S662621	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S662638	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S662722	560	Footwall waste	PAG
S662738	560	Footwall waste	NAG
S662770	560	Footwall waste	NAG
S662854	560	Footwall waste	NAG
S662857	560	Footwall waste	NAG
S662890	560	Footwall waste	NAG
S662963	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S663190	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S663211	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S663274	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S663348	550	Footwall schist	NAG
S663368	550	Footwall schist	NAG
S663375	-	Uncalssified	NAG
S663397	550	Footwall schist	NAG
S663410	550	Footwall waste	NAG
S663467	560	Uncalssified	NAG
S663730	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S663721	550	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S663743	550	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S663775	550	Footwall waste	NAG
S663824	550	Footwall waste	NAG
S663873	550	Footwall waste	NAG
S663928	550	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
S664110	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S664157	550	Footwall waste	NAG
S664194	550	Footwall waste	NAG
S664195	550	Footwall waste	NAG
S664240	550	Footwall waste	NAG
S664258	550	Footwall waste	NAG
S664259	550	Footwall waste	NAG
S664416	550	Footwall waste	NAG
S664431	550	Footwall waste	NAG
S664454	550	Footwall waste	NAG
S664485	550	Footwall waste	NAG
S664492	550	Uncalssified	NAG
S664605	550	Footwall waste	NAG
S664636	550	Footwall waste	NAG
S664915	-	Footwall schist	NAG
S664943	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S664954	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S664967	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S665012	-	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S665038	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S665045	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S665358	550	Footwall waste	NAG
S665425	550	Footwall waste	NAG
S665426	550	Footwall waste	NAG
S665451	550	Footwall waste	NAG
S665656	540	Footwall schist	NAG
S665657	540	Footwall waste	NAG
S665658	540	Footwall waste	NAG
S665659	540	Footwall schist	NAG
S665734	540	Footwall waste	NAG
S665786	540	Footwall schist	NAG
S665811	540	Footwall waste	NAG
S665963	540	Footwall schist	NAG
S672059	550	Footwall schist	NAG
S672156	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S672171	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S672187	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S672220	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S672238	560	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S672403	-	Footwall schist	NAG
S672420	-	Uncalssified	NAG
S672569	-	Uncalssified	NAG
S672674	-	Footwall waste	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
S672675	-	Footwall waste	NAG
S672676	-	Footwall waste	NAG
S672730	-	Footwall waste	NAG
S672758	-	Footwall waste	NAG
S672789	-	Footwall waste	NAG
S673035	-	Footwall waste	NAG
S673054	-	Footwall waste	NAG
S673102	-	Footwall waste	NAG
S673406	540	Footwall waste	NAG
S673408	540	Footwall schist	NAG
S673438	540	Footwall waste	NAG
S673508	540	Footwall waste	NAG
S673512	540	Footwall waste	NAG
S673728	-	Footwall schist	NAG
S673746	-	Footwall waste	NAG
S673754	-	Footwall waste	NAG
S673815	-	Uncalssified	NAG
S673925	540	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S673949	-	Footwall waste	NAG
S673972	540	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674155	540	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674161	-	Footwall waste	NAG
S674385	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674392	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674400	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674410	550	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S674412	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674484	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674492	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674544	550	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674802	540	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S674793	540	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S674806	530	Footwall waste	NAG
S674825	530	Footwall waste	NAG
S674837	530	Footwall waste	NAG
S674887	530	Footwall waste	NAG
S674930	530	Footwall waste	NAG
S674947	530	Footwall waste	NAG
S674966	530	Footwall waste	NAG
S675033	540	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S675150	-	Uncalssified	NAG
S675175	540	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S675222	540	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
S675314	530	Footwall waste	NAG
S675341	530	Footwall waste	NAG
S675367	530	Footwall waste	NAG
S675385	530	Footwall waste	NAG
S675398	530	Footwall waste	NAG
S675420	530	Footwall waste	NAG
S675763	530	Footwall schist	NAG
S675861	530	Footwall schist	NAG
S675948	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S675964	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S676113	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S676166	530	high grade iron oxide	NAG
S676460	530	Footwall waste	NAG
S676472	530	Footwall schist	NAG
S676779	530	Footwall waste	NAG
S676794	530	Footwall waste	NAG
S676804	530	Uncalssified	NAG
S676839	530	Footwall waste	NAG
S676895	530	Footwall waste	NAG
S676945	530	Footwall waste	NAG
S676978	530	Footwall waste	NAG
S676989	530	Footwall waste	NAG
S677027	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S677049	-	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S677100	530	Footwall waste	NAG
S677142	530	Footwall waste	NAG
S677607	-	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S677624	-	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
S677653	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S677668	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S677688	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
S677808	520	Footwall waste	NAG
S677827	520	Footwall waste	NAG
S677887	520	Footwall waste	NAG
S677900	520	Footwall waste	NAG
S677906	520	Footwall waste	NAG
B625662	540	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B625663	540	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B625664	520	Footwall waste	NAG
B625676	520	Footwall schist	NAG
B625683	520	Footwall waste	NAG
B625906	530	Overburden	NAG
B626264	520	Footwall waste	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
B626265	520	Footwall waste	NAG
B626302	520	Footwall waste	NAG
B626314	520	Footwall waste	NAG
B626326	520	Footwall waste	NAG
B626952	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B626972	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B627000	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B627106	530	Overburden	NAG
B627271	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B627356	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B627389	520	Overburden	NAG
B627414	520	Footwall waste	NAG
B627591	520	Footwall waste	NAG
B627592	520	Footwall waste	NAG
B627851	530	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B627842	530	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B628011	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B627997	530	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B627992	530	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B628037	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B628293	520	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B628297	520	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B628303	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B628533	-	Footwall waste	NAG
B628558	-	Footwall waste	NAG
B628690	520	Footwall waste	NAG
B628727	520	Footwall waste	NAG
B628752	520	Footwall waste	NAG
B628776	520	Footwall waste	NAG
B628790	520	Footwall waste	NAG
B628821	520	Footwall waste	NAG
B628884	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B628940	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B629329	520	Footwall schist	NAG
B629344	520	Footwall waste	NAG
B629378	520	Footwall waste	NAG
B629391	520	Footwall waste	NAG
B629510	-	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B629533	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B629584	530	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B629819	510	Footwall waste	NAG
B629821	510	Footwall waste	NAG
B629846	510	Footwall waste	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
B629849	510	Footwall waste	NAG
B629919	510	Footwall waste	NAG
B630004	510	Overburden	NAG
B630005	510	Footwall waste	NAG
B630061	510	Footwall waste	NAG
B630226	520	Footwall waste	NAG
B630627	510	Footwall waste	NAG
B630629	510	Footwall waste	NAG
B630605	520	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B630829	520	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B630842	520	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B630868	520	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B630915	520	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B631209	520	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B631232	520	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B631245	520	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B631297	520	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B631901	520	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B632258	650	Footwall waste	NAG
B632287	650	Footwall waste	NAG
B632288	650	Footwall waste	NAG
B632721	640	Footwall waste	NAG
B632731	640	Footwall waste	NAG
B632739	640	Footwall waste	NAG
B632769	640	Footwall waste	NAG
B632800	640	Footwall waste	NAG
B632806	640	Footwall waste	NAG
B632821	640	Footwall waste	NAG
B632831	640	Footwall waste	PAG
B632856	640	Footwall waste	NAG
B632906	640	Overburden	NAG
B633053	640	Footwall waste	NAG
B633077	640	Footwall waste	NAG
B633122	640	Overburden	NAG
B633141	640	Overburden	NAG
B633168	640	Overburden	NAG
B633242	640	Uncalssified	NAG
B633308	640	Overburden	NAG
B633459	510	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B633565	510	undifferentiated gneiss/schist/amphibolite/ultramafics	PAG
B633859	510	Footwall waste	NAG
B633860	510	Footwall waste	NAG
B633925	510	Footwall waste	NAG

Notes:

[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <= 0.20 wt% and pH >=6.

Table B1
Blasthole Database Sample Information

Blasthole	Bench	Lithology Description	ABA Classification[1]
B633929	510	Footwall waste	NAG
B633971	510	Footwall waste	NAG
B634381	510	undifferentiated gneiss/schist/amphibolite/ultramafics	NAG
B634433	510	Footwall waste	NAG
B634434	510	Footwall waste	NAG
B636102	500	Footwall schist	NAG
B636103	500	Footwall waste	NAG
B636150	500	Footwall waste	NAG
B636151	500	Footwall waste	NAG

Notes:
Data extracted from electronic data file "SFE ABA Results_forGolderv2" supplied electronically from BIM
in email from T. Brisco to K. DeVos and A. Parada, March 24, 2023
[1] Field Classification based on total sulphur content and pH. Material considered PAG if S-total > 0.20 wt% or S-total <= 0.20 wt% and pH <6, and Non-PAG if S-total <=

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP(3)	AP(4)	Net NP(5)	NPR(5)
			s.u.	%								ratio
R797878+R797990	Blasthole	Uncalssified	7.6	<0.01	<0.01	<0.01	<0.05	<0.2	14.0	0.31	13.69	44.8
S113810+S113784	Blasthole	high grade iron oxide	6.4	0.15	0.09	0.12	<0.05	<0.2	7.0	4.69	2.31	1.49
S113836+S113783	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	0.01	0.01	<0.01	<0.05	<0.2	9.0	0.31	8.69	28.8
S112288+S112259	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	6.9	0.04	0.04	0.01	<0.05	<0.2	8.0	1.25	6.75	6.4
S112280+S112286	Blasthole	Uncalssified	7.8	0.04	0.04	<0.01	<0.05	<0.2	13.0	1.25	11.75	10.4
S112537+S112538	Blasthole	high grade iron oxide	7.0	<0.01	<0.01	0.01	<0.05	<0.2	8.0	0.31	7.69	25.6
S112540+S112545	Blasthole	Footwall waste	7.9	<0.01	<0.01	<0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S112539+S112546	Blasthole	Footwall waste	8.0	0.06	0.06	<0.01	<0.05	<0.2	14.0	1.88	12.13	7.47
S112798+S112794	Blasthole	Footwall waste	8.7	<0.01	<0.01	<0.01	<0.05	<0.2	12.0	0.31	11.69	38.4
S112790+S112840	Blasthole	Footwall waste	8.5	0.06	0.06	<0.01	<0.05	<0.2	16.0	1.88	14.13	8.53
S112816+S112809	Blasthole	Footwall waste	9.1	0.03	0.03	<0.01	<0.05	<0.2	14.0	0.94	13.06	14.93
S112908+S112011	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.3	0.05	0.05	0.02	<0.05	<0.2	18.0	1.56	16.44	11.52
S111556+S111776	Blasthole	Footwall waste	6.8	1.24	1.09	0.16	<0.05	<0.2	13.0	38.75	-25.75	0.34
S111761+S113462	Blasthole	Footwall waste	8.1	0.03	0.03	<0.01	<0.05	<0.2	14.0	0.94	13.06	14.93
S111789+S111739	Blasthole	Footwall schist	7.7	0.04	0.04	<0.01	<0.05	<0.2	12.0	1.25	10.75	9.6
S111773+S111762	Blasthole	Footwall schist	7.3	0.45	0.44	0.03	<0.05	<0.2	14.0	14.06	-0.06	1.0
S113100+S113466	Blasthole	Footwall waste	8.7	0.04	0.04	<0.01	<0.05	<0.2	15.0	1.25	13.75	12.0
S113233+S113268	Blasthole	Footwall waste	8.4	0.02	0.02	0.01	<0.05	<0.2	15.0	0.63	14.38	24.0
S113294+S109197	Blasthole	Footwall waste	8.6	0.02	0.02	<0.01	<0.05	<0.2	14.0	0.63	13.38	22.4
S109071+S109185	Blasthole	Footwall waste	8.8	0.02	0.02	<0.01	<0.05	<0.2	16.0	0.63	15.38	25.6
S109138+S109163	Blasthole	Footwall waste	8.3	0.02	0.02	<0.01	<0.05	<0.2	17.0	0.63	16.38	27.2
S109161+S109204	Blasthole	Footwall waste	8.5	0.03	0.03	0.01	<0.05	<0.2	14.0	0.94	13.06	14.93
S109272+S109295	Blasthole	Overburden	7.7	0.03	0.03	0.02	<0.05	<0.2	17.0	0.94	16.06	18.13
S109266+S109325	Blasthole	Overburden	7.7	0.07	0.07	<0.01	<0.05	<0.2	16.0	2.19	13.81	7.31
S109415+S109423	Blasthole	Footwall waste	8.8	0.03	0.03	<0.01	<0.05	<0.2	14.0	0.94	13.06	14.93
S110078+S110013	Blasthole	Overburden	7.8	<0.01	<0.01	<0.01	<0.05	<0.2	17.0	0.31	16.69	54.4
S110286+S110293	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	0.05	0.05	0.02	<0.05	<0.2	16.0	1.56	14.44	10.24
S108739+S108760	Blasthole	Footwall schist	8.2	0.01	0.01	<0.01	<0.05	<0.2	11.0	0.31	10.69	35.2
S108881+S108885	Blasthole	Footwall waste	8.6	0.01	0.01	0.01	<0.05	<0.2	12.0	0.31	11.69	38.4
S108886+S666176	Blasthole	Footwall waste	8.5	0.01	0.01	<0.01	<0.05	<0.2	11.0	0.31	10.69	35.2
S108960+S108965	Blasthole	Footwall waste	8.1	0.14	0.14	<0.01	<0.05	<0.2	14.0	4.38	9.63	3.2
S108977+S108979	Blasthole	Footwall waste	8.5	0.05	0.05	<0.01	<0.05	<0.2	12.0	1.56	10.44	7.68
S108991+S108995	Blasthole	Uncalssified	8.9	<0.01	<0.01	<0.01	<0.05	<0.2	13.0	0.31	12.69	41.6
S666051+S666054	Blasthole	Footwall waste	9.1	<0.01	<0.01	<0.01	<0.05	<0.2	11.0	0.31	10.69	35.2
S666084+S666089	Blasthole	Footwall waste	8.7	0.01	0.01	<0.01	<0.05	<0.2	12.0	0.31	11.69	38.4
S666113+S666119	Blasthole	Footwall waste	8.7	0.02	0.02	<0.01	<0.05	<0.2	12.0	0.63	11.38	19.2
S666123+S666125	Blasthole	Footwall waste	8.5	<0.01	<0.01	<0.01	<0.05	<0.2	11.0	0.31	10.69	35.2
S666131+S666132	Blasthole	Footwall waste	8.2	0.01	0.01	<0.01	<0.05	<0.2	11.0	0.31	10.69	35.2
S666144+S666146	Blasthole	Footwall waste	8.4	0.01	0.01	<0.01	<0.05	<0.2	12.0	0.31	11.69	38.4
S666147+S666148	Blasthole	Footwall waste	8.6	0.01	0.01	<0.01	<0.05	<0.2	9.0	0.31	8.69	28.8
S666151+S666153	Blasthole	Footwall waste	8.3	<0.01	<0.01	<0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S666301+S666299	Blasthole	Footwall schist	8.8	0.01	0.01	<0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S666302+S666300	Blasthole	high grade iron oxide	7.7	0.01	0.01	<0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S666542+S666557	Blasthole	Uncalssified	7.6	0.01	0.01	<0.01	<0.05	<0.2	9.0	0.31	8.69	28.8
S666613+S666610	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.1	0.1	0.06	0.02	<0.05	<0.2	12.0	3.13	8.88	3.84
S666640+S666641	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	6.1	0.15	0.09	0.04	<0.05	<0.2	5.0	4.69	0.31	1.07
S666663+S666664	Blasthole	Uncalssified	8.4	0.01	0.01	<0.01	0.06	0.2	15.0	0.31	14.69	48.0
S666909+S666954	Blasthole	Footwall schist	8.5	<0.01	<0.01	<0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S666939+S666964	Blasthole	Footwall waste	8.4	0.01	0.01	0.02	<0.05	<0.2	12.0	0.31	11.69	38.4
S666947+S666948	Blasthole	Footwall waste	8.5	<0.01	<0.01	<0.01	<0.05	<0.2	10.0	0.31	9.69	32.0

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP[3]	AP[4]	Net NP[5]	NPR[5]
			s.u.	%								ratio
S666974+S667165	Blasthole	high grade iron oxide	6.6	0.03	0.03	<0.01	<0.05	<0.2	4.0	0.94	3.06	4.27
S667190+S667145	Blasthole	Overburden	7.3	0.04	0.04	0.01	<0.05	<0.2	14.0	1.25	12.75	11.2
S667217+S667058	Blasthole	Overburden	7.8	0.04	0.04	<0.01	<0.05	<0.2	15.0	1.25	13.75	12.0
S667236+S667275	Blasthole	high grade iron oxide	7.3	0.05	0.05	<0.01	<0.05	<0.2	12.0	1.56	10.44	7.68
S667367+S667371	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.7	0.05	0.05	0.02	<0.05	<0.2	11.0	1.56	9.44	7.04
S667379+S667378	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.7	0.06	0.06	0.02	<0.05	<0.2	12.0	1.88	10.13	6.4
S667404+S667429	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.1	0.1	0.02	<0.05	<0.2	12.0	3.13	8.88	3.84
S667408+S667411	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.02	0.02	0.02	<0.05	<0.2	16.0	0.63	15.38	25.6
S667453+S667451	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.02	0.02	0.01	<0.05	<0.2	18.0	0.63	17.38	28.8
S667446+S667445	Blasthole	Overburden	7.9	0.12	0.11	0.01	<0.05	<0.2	19.0	3.75	15.25	5.07
S667442+S667495	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.18	0.18	0.04	<0.05	<0.2	14.0	5.63	8.38	2.49
S667470+S667498	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	0.09	0.09	<0.01	<0.05	<0.2	10.0	2.81	7.19	3.56
S667483+S667488	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.02	0.02	0.01	<0.05	<0.2	16.0	0.63	15.38	25.6
S667485+S667494	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.12	0.12	0.01	<0.05	<0.2	18.0	3.75	14.25	4.8
S667491+S667487	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.08	0.08	0.01	<0.05	<0.2	17.0	2.5	14.5	6.8
S667555+S667554	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.11	0.11	0.02	<0.05	<0.2	14.0	3.44	10.56	4.07
S667557+S667497	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.04	0.04	0.02	<0.05	<0.2	18.0	1.25	16.75	14.4
S667496+S667500	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.11	0.1	0.02	<0.05	<0.2	16.0	3.44	12.56	4.65
S667765+S667790	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.1	0.08	0.08	0.02	<0.05	<0.2	13.0	2.5	10.5	5.2
S667772+S667770	Blasthole	Overburden	8.0	0.01	0.01	0.02	<0.05	<0.2	3.0	0.31	2.69	9.6
S668169+S667791	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.3	0.06	0.03	0.08	<0.05	<0.2	14.0	1.88	12.13	7.47
S668162+S668208	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.2	0.05	0.02	0.06	<0.05	<0.2	16.0	1.56	14.44	10.24
S668186+S667869	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.7	0.01	0.01	0.03	<0.05	<0.2	13.0	0.31	12.69	41.6
S667810+S667808	Blasthole	Overburden	7.5	0.54	0.54	0.05	<0.05	<0.2	22.0	16.88	5.13	1.3
S668211+S668212	Blasthole	Overburden	8.0	0.01	0.01	0.01	<0.05	<0.2	11.0	0.31	10.69	35.2
S668222+S668223	Blasthole	Overburden	7.5	<0.01	<0.01	0.01	<0.05	<0.2	7.0	0.31	6.69	22.4
S667864+S667825	Blasthole	Overburden	6.3	0.89	0.68	0.27	<0.05	<0.2	18.0	27.81	-9.81	0.65
S667892+S667898	Blasthole	Overburden	7.9	<0.01	<0.01	0.02	<0.05	<0.2	18.0	0.31	17.69	57.6
S667928+S667908	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.02	0.01	0.02	<0.05	<0.2	13.0	0.63	12.38	20.8
S667905+S667977	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	0.24	0.23	0.01	<0.05	<0.2	8.0	7.5	0.5	1.07
S667902+S667900	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	0.29	0.28	0.01	<0.05	<0.2	12.0	9.06	2.94	1.32
S667922+S667950	Blasthole	Overburden	7.2	0.48	0.47	0.03	<0.05	<0.2	12.0	15.0	-3.0	0.8
S667963+S667907	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.02	0.02	0.04	<0.05	<0.2	11.0	0.63	10.38	17.6
S667949+S667933	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.2	1.34	1.32	0.01	<0.05	<0.2	10.0	41.88	-31.88	0.24
S668537+S668538	Blasthole	Footwall schist	8.3	0.01	0.01	<0.01	<0.05	<0.2	14.0	0.31	13.69	44.8
S668536+S668539	Blasthole	Footwall schist	8.3	0.02	0.02	<0.01	<0.05	<0.2	13.0	0.63	12.38	20.8
S668744+S668745	Blasthole	Uncalssified	8.2	<0.01	<0.01	0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S670694	Blasthole	Footwall waste	9.3	0.03	0.03	0.04	<0.05	<0.2	12.0	0.94	11.06	12.8
S670709	Blasthole	Footwall waste	9.1	0.05	0.04	0.05	<0.05	<0.2	12.0	1.56	10.44	7.68
S670764	Blasthole	Footwall waste	9.4	0.02	0.02	0.01	<0.05	<0.2	12.0	0.63	11.38	19.2
S670765	Blasthole	Footwall waste	9.3	<0.01	<0.01	0.02	<0.05	<0.2	14.0	0.31	13.69	44.8
S670766	Blasthole	Footwall waste	9.3	<0.01	<0.01	0.02	<0.05	<0.2	11.0	0.31	10.69	35.2
S670792	Blasthole	Footwall waste	9.6	0.02	0.01	0.02	<0.05	<0.2	12.0	0.63	11.38	19.2
S670793	Blasthole	Footwall waste	9.0	0.03	0.03	0.05	<0.05	<0.2	13.0	0.94	12.06	13.87
S670794	Blasthole	Footwall waste	9.6	<0.01	<0.01	0.02	<0.05	<0.2	15.0	0.31	14.69	48.0
S670795	Blasthole	Footwall waste	8.4	0.02	0.02	0.02	<0.05	<0.2	14.0	0.63	13.38	22.4
S670818	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	<0.01	<0.01	0.02	<0.05	<0.2	9.0	0.31	8.69	28.8
S670829	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.5	0.02	0.01	0.04	<0.05	<0.2	13.0	0.63	12.38	20.8
S670963	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	<0.01	<0.01	0.02	<0.05	<0.2	15.0	0.31	14.69	48.0
S670964	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.7	0.01	<0.01	0.01	<0.05	<0.2	14.0	0.31	13.69	44.8

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP[3]	AP[4]	Net NP[5]	NPR[5]
			s.u.	%								ratio
S670965	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	<0.01	<0.01	0.01	<0.05	<0.2	19.0	0.31	18.69	60.8
S670966	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.5	0.17	0.16	<0.01	<0.05	<0.2	15.0	5.31	9.69	2.82
S670967	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.4	0.03	0.02	0.03	<0.05	<0.2	20.0	0.94	19.06	21.33
S671194	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	<0.01	<0.01	0.03	<0.05	<0.2	17.0	0.31	16.69	54.4
S671195	Blasthole	high grade iron oxide	7.4	0.06	0.03	0.09	<0.05	<0.2	14.0	1.88	12.13	7.47
S671196	Blasthole	high grade iron oxide	8.1	<0.01	<0.01	0.02	<0.05	<0.2	14.0	0.31	13.69	44.8
S671197	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	<0.01	<0.01	0.02	<0.05	<0.2	13.0	0.31	12.69	41.6
S671356	Blasthole	high grade iron oxide	7.5	0.02	0.01	0.04	<0.05	<0.2	12.0	0.63	11.38	19.2
S671528	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.7	<0.01	<0.01	0.02	<0.05	<0.2	10.0	0.31	9.69	32.0
S671586	Blasthole	Footwall waste	9.1	<0.01	<0.01	0.02	<0.05	<0.2	11.0	0.31	10.69	35.2
S671587	Blasthole	Footwall waste	9.4	<0.01	<0.01	0.02	<0.05	<0.2	11.0	0.31	10.69	35.2
S671588	Blasthole	Footwall waste	9.3	<0.01	<0.01	0.02	<0.05	<0.2	10.0	0.31	9.69	32.0
S671725	Blasthole	high grade iron oxide	8.7	<0.01	<0.01	0.02	<0.05	<0.2	11.0	0.31	10.69	35.2
S671961	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.07	0.07	0.08	<0.05	<0.2	11.0	2.19	8.81	5.03
S660109	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.4	0.3	0.3	0.04	<0.05	<0.2	14.0	9.38	4.63	1.49
S660121	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.4	0.02	0.02	0.01	<0.05	<0.2	15.0	0.63	14.38	24.0
S660658	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.4	0.09	0.09	0.05	<0.05	<0.2	21.0	2.81	18.19	7.47
S660208	Blasthole	Footwall waste	8.6	<0.01	<0.01	0.01	<0.05	<0.2	14.0	0.31	13.69	44.8
S660269	Blasthole	Footwall waste	9.6	<0.01	<0.01	0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S660377	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	6.8	0.22	0.07	0.22	<0.05	<0.2	11.0	6.88	4.13	1.6
S660389	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.6	0.01	0.01	0.02	<0.05	<0.2	20.0	0.31	19.69	64.0
S660390	Blasthole	high grade iron oxide	8.4	0.02	0.02	0.01	<0.05	<0.2	13.0	0.63	12.38	20.8
S660854	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	<0.01	<0.01	0.01	<0.05	<0.2	20.0	0.31	19.69	64.0
S660866	Blasthole	Overburden	8.3	<0.01	<0.01	0.02	<0.05	<0.2	16.0	0.31	15.69	51.2
S660912	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.1	0.1	0.04	<0.05	<0.2	27.0	3.13	23.88	8.64
S660936	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	<0.01	<0.01	0.02	<0.05	<0.2	36.0	0.31	35.69	115.2
S661046	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.03	0.03	0.03	<0.05	<0.2	71.0	0.94	70.06	75.73
S661056	Blasthole	Footwall schist	9.1	0.03	0.03	0.03	<0.05	<0.2	30.0	0.94	29.06	32.0
S661691	Blasthole	Footwall waste	9.4	0.02	0.02	0.02	<0.05	<0.2	22.0	0.63	21.38	35.2
S661692	Blasthole	Footwall waste	8.2	0.12	0.12	0.02	<0.05	<0.2	17.0	3.75	13.25	4.53
S661726	Blasthole	Footwall waste	9.1	0.02	0.02	0.03	<0.05	<0.2	19.0	0.63	18.38	30.4
S661733	Blasthole	Footwall waste	9.0	0.01	0.01	0.01	<0.05	<0.2	14.0	0.31	13.69	44.8
S661737	Blasthole	Footwall waste	9.0	0.02	0.02	0.01	<0.05	<0.2	16.0	0.63	15.38	25.6
S661738	Blasthole	Footwall waste	9.2	0.02	0.02	0.01	<0.05	<0.2	15.0	0.63	14.38	24.0
S661812	Blasthole	Overburden	7.8	0.08	0.07	0.08	<0.05	<0.2	35.0	2.5	32.5	14.0
S661813	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.07	0.06	0.07	<0.05	<0.2	53.0	2.19	50.81	24.23
S661845	Blasthole	Overburden	8.2	0.04	0.04	0.04	<0.05	<0.2	15.0	1.25	13.75	12.0
S661858	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.4	0.07	0.06	0.06	<0.05	<0.2	17.0	2.19	14.81	7.77
S661960	Blasthole	high grade iron oxide	7.3	0.07	0.06	0.05	0.09	0.3	15.0	2.19	12.81	6.86
S662027	Blasthole	Overburden	7.9	0.03	0.03	0.04	<0.05	<0.2	17.0	0.94	16.06	18.13
S662028	Blasthole	Footwall waste	8.0	0.04	0.04	0.05	<0.05	<0.2	23.0	1.25	21.75	18.4
S662177	Blasthole	Footwall waste	8.5	0.14	0.14	0.02	<0.05	<0.2	15.0	4.38	10.63	3.43
S662201	Blasthole	Overburden	8.4	<0.01	<0.01	0.02	<0.05	<0.2	13.0	0.31	12.69	41.6
S662286	Blasthole	high grade iron oxide	8.2	1.62	1.6	0.09	<0.05	<0.2	28.0	50.63	-22.63	0.55
S662320	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.5	0.05	0.05	0.04	<0.05	<0.2	21.0	1.56	19.44	13.44
S662548	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.03	0.03	0.03	<0.05	<0.2	32.0	0.94	31.06	34.13
S662578	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.01	0.01	0.03	<0.05	<0.2	28.0	0.31	27.69	89.6
S662621	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.02	0.02	0.03	<0.05	<0.2	20.0	0.63	19.38	32.0
S662638	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.01	0.01	0.01	<0.05	<0.2	27.0	0.31	26.69	86.4
S662722	Blasthole	Footwall waste	9.3	0.22	0.22	<0.01	<0.05	<0.2	19.0	6.88	12.13	2.76

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP(3)	AP(4)	Net NP(5)	NPR(5)
			s.u.	%								ratio
S662738	Blasthole	Footwall waste	8.8	0.02	0.02	<0.01	<0.05	<0.2	16.0	0.63	15.38	25.6
S662770	Blasthole	Footwall waste	8.8	0.02	0.02	<0.01	<0.05	<0.2	18.0	0.63	17.38	28.8
S662854	Blasthole	Footwall waste	8.5	0.01	0.01	<0.01	<0.05	<0.2	18.0	0.31	17.69	57.6
S662857	Blasthole	Footwall waste	8.8	0.01	0.01	<0.01	<0.05	<0.2	17.0	0.31	16.69	54.4
S662890	Blasthole	Footwall waste	9.1	0.01	0.01	<0.01	<0.05	<0.2	16.0	0.31	15.69	51.2
S662963	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.4	0.1	0.1	0.01	<0.05	<0.2	63.0	3.13	59.88	20.16
S663190	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.03	0.03	0.01	<0.05	<0.2	30.0	0.94	29.06	32.0
S663211	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.5	0.1	0.08	0.01	<0.05	<0.2	26.0	3.13	22.88	8.32
S663274	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.04	0.04	0.01	<0.05	<0.2	25.0	1.25	23.75	20.0
S663348	Blasthole	Footwall schist	8.3	0.05	0.05	0.01	<0.05	<0.2	18.0	1.56	16.44	11.52
S663368	Blasthole	Footwall schist	8.4	0.01	0.01	0.01	<0.05	<0.2	17.0	0.31	16.69	54.4
S663375	Blasthole	Uncalssified	8.0	<0.01	<0.01	<0.01	<0.05	<0.2	23.0	0.31	22.69	73.6
S663397	Blasthole	Footwall schist	8.8	0.02	0.02	0.01	<0.05	<0.2	18.0	0.63	17.38	28.8
S663410	Blasthole	Footwall waste	9.1	0.05	0.05	0.01	<0.05	<0.2	20.0	1.56	18.44	12.8
S663467	Blasthole	Uncalssified	8.2	0.01	0.01	<0.01	<0.05	<0.2	10.0	0.31	9.69	32.0
S663730	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.06	0.06	0.01	<0.05	<0.2	23.0	1.88	21.13	12.27
S663721	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.71	0.69	<0.01	<0.05	<0.2	32.0	22.19	9.81	1.44
S663743	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.79	0.77	0.02	<0.05	<0.2	25.0	24.69	0.31	1.01
S663775	Blasthole	Footwall waste	9.3	0.02	0.02	0.01	<0.05	<0.2	17.0	0.63	16.38	27.2
S663824	Blasthole	Footwall waste	8.7	0.01	0.01	0.01	<0.05	<0.2	21.0	0.31	20.69	67.2
S663873	Blasthole	Footwall waste	8.7	0.02	0.01	0.01	<0.05	<0.2	19.0	0.63	18.38	30.4
S663928	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.5	0.33	0.13	0.3	<0.05	<0.2	34.0	10.31	23.69	3.3
S664110	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.02	0.02	0.01	<0.05	<0.2	30.0	0.63	29.38	48.0
S664157	Blasthole	Footwall waste	9.0	0.02	0.02	<0.01	<0.05	<0.2	20.0	0.63	19.38	32.0
S664194	Blasthole	Footwall waste	9.5	0.03	0.03	0.01	<0.05	<0.2	19.0	0.94	18.06	20.27
S664195	Blasthole	Footwall waste	9.2	0.04	0.04	<0.01	<0.05	<0.2	17.0	1.25	15.75	13.6
S664240	Blasthole	Footwall waste	9.3	0.02	0.02	0.01	<0.05	<0.2	16.0	0.63	15.38	25.6
S664258	Blasthole	Footwall waste	9.2	0.02	0.02	<0.01	<0.05	<0.2	17.0	0.63	16.38	27.2
S664259	Blasthole	Footwall waste	8.9	0.04	0.04	<0.01	<0.05	<0.2	20.0	1.25	18.75	16.0
S664416	Blasthole	Footwall waste	9.0	0.06	0.06	0.02	<0.05	<0.2	19.0	1.88	17.13	10.13
S664431	Blasthole	Footwall waste	8.8	0.02	0.02	<0.01	<0.05	<0.2	20.0	0.63	19.38	32.0
S664454	Blasthole	Footwall waste	8.7	0.02	0.02	0.02	<0.05	<0.2	27.0	0.63	26.38	43.2
S664485	Blasthole	Footwall waste	9.8	0.01	0.01	0.02	<0.05	<0.2	16.0	0.31	15.69	51.2
S664492	Blasthole	Uncalssified	9.2	0.04	0.04	<0.01	<0.05	<0.2	14.0	1.25	12.75	11.2
S664605	Blasthole	Footwall waste	9.0	0.04	0.04	<0.01	<0.05	<0.2	18.0	1.25	16.75	14.4
S664636	Blasthole	Footwall waste	9.6	0.01	0.01	0.02	<0.05	<0.2	20.0	0.31	19.69	64.0
S664915	Blasthole	Footwall schist	8.4	<0.01	<0.01	0.01	<0.05	<0.2	28.0	0.31	27.69	89.6
S664943	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.6	0.02	0.02	0.02	<0.05	<0.2	21.0	0.63	20.38	33.6
S664954	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	<0.01	<0.01	0.01	<0.05	<0.2	63.0	0.31	62.69	201.6
S664967	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.01	0.01	0.03	<0.05	<0.2	35.0	0.31	34.69	112.0
S665012	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.56	0.56	0.05	<0.05	<0.2	29.0	17.5	11.5	1.66
S665038	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.01	0.01	0.01	<0.05	<0.2	66.0	0.31	65.69	211.2
S665045	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.12	0.12	<0.01	<0.05	<0.2	27.0	3.75	23.25	7.2
S665358	Blasthole	Footwall waste	8.8	<0.01	<0.01	<0.01	<0.05	<0.2	12.0	0.31	11.69	38.4
S665425	Blasthole	Footwall waste	8.6	0.07	0.07	0.01	0.07	0.3	29.0	2.19	26.81	13.26
S665426	Blasthole	Footwall waste	8.8	<0.01	<0.01	<0.01	<0.05	<0.2	13.0	0.31	12.69	41.6
S665451	Blasthole	Footwall waste	8.7	<0.01	<0.01	<0.01	<0.05	<0.2	20.0	0.31	19.69	64.0
S665656	Blasthole	Footwall schist	8.2	0.02	0.02	<0.01	<0.05	<0.2	19.0	0.63	18.38	30.4
S665657	Blasthole	Footwall waste	9.5	<0.01	<0.01	<0.01	<0.05	<0.2	25.0	0.31	24.69	80.0
S665658	Blasthole	Footwall waste	9.0	0.01	0.01	0.02	<0.05	<0.2	20.0	0.31	19.69	64.0

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP(3)	AP(4)	Net NP(5)	NPR(5)
			s.u.	%								ratio
S665659	Blasthole	Footwall schist	9.5	<0.01	<0.01	0.01	<0.05	<0.2	19.0	0.31	18.69	60.8
S665734	Blasthole	Footwall waste	9.3	<0.01	<0.01	<0.01	<0.05	<0.2	16.0	0.31	15.69	51.2
S665786	Blasthole	Footwall schist	8.7	<0.01	<0.01	<0.01	<0.05	<0.2	17.0	0.31	16.69	54.4
S665811	Blasthole	Footwall waste	8.7	<0.01	<0.01	0.01	<0.05	<0.2	15.0	0.31	14.69	48.0
S665963	Blasthole	Footwall schist	8.4	<0.01	<0.01	<0.01	<0.05	<0.2	18.0	0.31	17.69	57.6
S672059	Blasthole	Footwall schist	8.6	0.02	0.02	<0.01	<0.05	<0.2	24.0	0.63	23.38	38.4
S672156	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.01	0.01	<0.01	<0.05	<0.2	17.0	0.31	16.69	54.4
S672171	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.18	0.18	<0.01	<0.05	<0.2	63.0	5.63	57.38	11.2
S672187	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	<0.01	<0.01	<0.01	<0.05	<0.2	55.0	0.31	54.69	176.0
S672220	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	0.14	0.14	0.02	<0.05	<0.2	23.0	4.38	18.63	5.26
S672238	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.02	0.02	0.01	<0.05	<0.2	34.0	0.63	33.38	54.4
S672403	Blasthole	Footwall schist	8.6	<0.01	<0.01	<0.01	<0.05	<0.2	18.0	0.31	17.69	57.6
S672420	Blasthole	Uncalssified	8.2	0.02	0.02	<0.01	<0.05	<0.2	18.0	0.63	17.38	28.8
S672569	Blasthole	Uncalssified	8.4	0.01	0.01	<0.01	<0.05	<0.2	24.0	0.31	23.69	76.8
S672674	Blasthole	Footwall waste	8.7	0.08	0.08	<0.01	<0.05	<0.2	26.0	2.5	23.5	10.4
S672675	Blasthole	Footwall waste	8.9	0.06	0.06	<0.01	<0.05	<0.2	19.0	1.88	17.13	10.13
S672676	Blasthole	Footwall waste	9.0	0.01	0.01	<0.01	<0.05	<0.2	15.0	0.31	14.69	48.0
S672730	Blasthole	Footwall waste	9.3	0.01	0.01	0.01	<0.05	<0.2	16.0	0.31	15.69	51.2
S672758	Blasthole	Footwall waste	9.0	0.13	0.13	<0.01	<0.05	<0.2	21.0	4.06	16.94	5.17
S672789	Blasthole	Footwall waste	8.0	0.01	0.01	<0.01	<0.05	<0.2	27.0	0.31	26.69	86.4
S673035	Blasthole	Footwall waste	9.0	0.01	0.01	<0.01	<0.05	<0.2	14.0	0.31	13.69	44.8
S673054	Blasthole	Footwall waste	9.0	0.02	0.02	<0.01	<0.05	<0.2	17.0	0.63	16.38	27.2
S673102	Blasthole	Footwall waste	9.4	0.03	0.02	<0.01	<0.05	<0.2	14.0	0.94	13.06	14.93
S673406	Blasthole	Footwall waste	8.6	0.01	0.01	<0.01	<0.05	<0.2	15.0	0.31	14.69	48.0
S673408	Blasthole	Footwall schist	8.6	0.02	0.02	0.01	<0.05	<0.2	17.0	0.63	16.38	27.2
S673438	Blasthole	Footwall waste	8.1	0.07	0.06	0.03	<0.05	<0.2	25.0	2.19	22.81	11.43
S673508	Blasthole	Footwall waste	8.7	0.09	0.09	0.03	<0.05	<0.2	25.0	2.81	22.19	8.89
S673512	Blasthole	Footwall waste	8.5	0.07	0.07	0.02	<0.05	<0.2	22.0	2.19	19.81	10.06
S673728	Blasthole	Footwall schist	8.5	0.05	0.05	0.01	<0.05	<0.2	23.0	1.56	21.44	14.72
S673746	Blasthole	Footwall waste	8.5	<0.01	<0.01	0.03	<0.05	<0.2	21.0	0.31	20.69	67.2
S673754	Blasthole	Footwall waste	9.0	0.04	0.04	0.03	<0.05	<0.2	20.0	1.25	18.75	16.0
S673815	Blasthole	Uncalssified	8.3	0.05	0.05	0.02	<0.05	<0.2	26.0	1.56	24.44	16.64
S673925	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	<0.01	<0.01	0.02	<0.05	<0.2	28.0	0.31	27.69	89.6
S673949	Blasthole	Footwall waste	8.8	<0.01	<0.01	0.01	<0.05	<0.2	21.0	0.31	20.69	67.2
S673972	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.4	0.1	0.02	0.12	<0.05	<0.2	29.0	3.13	25.88	9.28
S674155	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	<0.01	<0.01	0.02	<0.05	<0.2	24.0	0.31	23.69	76.8
S674161	Blasthole	Footwall waste	8.7	<0.01	<0.01	0.02	<0.05	<0.2	12.0	0.31	11.69	38.4
S674385	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.06	0.06	0.03	<0.05	<0.2	26.0	1.88	24.13	13.87
S674392	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.7	0.01	0.01	0.03	<0.05	<0.2	10.0	0.31	9.69	32.0
S674400	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.02	0.02	0.04	<0.05	<0.2	20.0	0.63	19.38	32.0
S674410	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.25	0.25	0.02	<0.05	<0.2	23.0	7.81	15.19	2.94
S674412	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.11	0.11	0.03	<0.05	<0.2	20.0	3.44	16.56	5.82
S674484	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.2	0.2	0.01	<0.05	<0.2	21.0	6.25	14.75	3.36
S674492	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.11	0.11	0.02	<0.05	<0.2	21.0	3.44	17.56	6.11
S674544	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.16	0.16	0.05	<0.05	<0.2	20.0	5.0	15.0	4.0
S674802	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.55	0.55	0.04	<0.05	<0.2	15.0	17.19	-2.19	0.87
S674793	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.02	0.02	0.02	<0.05	<0.2	20.0	0.63	19.38	32.0
S674806	Blasthole	Footwall waste	9.0	0.01	0.01	0.02	<0.05	<0.2	15.0	0.31	14.69	48.0
S674825	Blasthole	Footwall waste	9.3	0.01	0.01	0.02	<0.05	<0.2	16.0	0.31	15.69	51.2
S674837	Blasthole	Footwall waste	9.2	0.02	0.01	0.01	<0.05	<0.2	16.0	0.63	15.38	25.6

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP[3]	AP[4]	Net NP[5]	NPR[5]
			s.u.	%								ratio
S674887	Blasthole	Footwall waste	8.9	<0.01	<0.01	0.01	<0.05	<0.2	11.0	0.31	10.69	35.2
S674930	Blasthole	Footwall waste	8.7	0.02	0.02	0.04	<0.05	<0.2	20.0	0.63	19.38	32.0
S674947	Blasthole	Footwall waste	9.5	0.02	0.02	0.02	<0.05	<0.2	15.0	0.63	14.38	24.0
S674966	Blasthole	Footwall waste	9.3	<0.01	<0.01	0.02	<0.05	<0.2	13.0	0.31	12.69	41.6
S675033	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.44	0.44	<0.01	<0.05	<0.2	20.0	13.75	6.25	1.45
S675150	Blasthole	Uncalssified	8.5	<0.01	<0.01	0.01	<0.05	<0.2	17.0	0.31	16.69	54.4
S675175	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.04	0.03	0.01	<0.05	<0.2	21.0	1.25	19.75	16.8
S675222	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.5	0.11	0.11	0.02	<0.05	<0.2	20.0	3.44	16.56	5.82
S675314	Blasthole	Footwall waste	8.6	0.01	0.01	0.02	<0.05	<0.2	15.0	0.31	14.69	48.0
S675341	Blasthole	Footwall waste	8.9	0.01	0.01	<0.01	<0.05	<0.2	17.0	0.31	16.69	54.4
S675367	Blasthole	Footwall waste	8.5	0.02	0.02	0.02	<0.05	<0.2	14.0	0.63	13.38	22.4
S675385	Blasthole	Footwall waste	8.9	<0.01	<0.01	0.01	<0.05	<0.2	15.0	0.31	14.69	48.0
S675398	Blasthole	Footwall waste	8.4	<0.01	<0.01	0.01	<0.05	<0.2	16.0	0.31	15.69	51.2
S675420	Blasthole	Footwall waste	8.4	<0.01	<0.01	0.02	<0.05	<0.2	15.0	0.31	14.69	48.0
S675763	Blasthole	Footwall schist	8.3	<0.01	<0.01	0.01	<0.05	<0.2	25.0	0.31	24.69	80.0
S675861	Blasthole	Footwall schist	9.1	0.01	0.01	0.02	<0.05	<0.2	14.0	0.31	13.69	44.8
S675948	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.08	0.08	0.01	<0.05	<0.2	17.0	2.5	14.5	6.8
S675964	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	<0.01	<0.01	0.01	<0.05	<0.2	26.0	0.31	25.69	83.2
S676113	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.09	0.09	0.02	<0.05	<0.2	23.0	2.81	20.19	8.18
S676166	Blasthole	high grade iron oxide	8.3	<0.01	<0.01	<0.01	<0.05	<0.2	26.0	0.31	25.69	83.2
S676460	Blasthole	Footwall waste	8.9	0.01	0.01	0.01	<0.05	<0.2	14.0	0.31	13.69	44.8
S676472	Blasthole	Footwall schist	8.4	0.02	0.02	0.02	<0.05	<0.2	15.0	0.63	14.38	24.0
S676779	Blasthole	Footwall waste	9.2	0.01	0.01	0.03	<0.05	<0.2	10.0	0.31	9.69	32.0
S676794	Blasthole	Footwall waste	9.2	<0.01	<0.01	<0.01	<0.05	<0.2	5.0	0.31	4.69	16.0
S676804	Blasthole	Uncalssified	8.2	<0.01	<0.01	<0.01	0.06	0.2	17.0	0.31	16.69	54.4
S676839	Blasthole	Footwall waste	9.2	0.03	0.02	<0.01	<0.05	<0.2	3.0	0.94	2.06	3.2
S676895	Blasthole	Footwall waste	9.2	0.1	0.09	0.03	<0.05	<0.2	17.0	3.13	13.88	5.44
S676945	Blasthole	Footwall waste	9.4	0.08	0.08	0.04	<0.05	<0.2	22.0	2.5	19.5	8.8
S676978	Blasthole	Footwall waste	8.8	0.03	0.03	0.01	<0.05	<0.2	19.0	0.94	18.06	20.27
S676989	Blasthole	Footwall waste	9.0	0.03	0.02	0.02	<0.05	<0.2	14.0	0.94	13.06	14.93
S677027	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.5	0.1	0.09	0.03	<0.05	<0.2	17.0	3.13	13.88	5.44
S677049	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.44	0.42	0.07	<0.05	<0.2	14.0	13.75	0.25	1.02
S677100	Blasthole	Footwall waste	9.3	0.02	0.02	0.02	<0.05	<0.2	12.0	0.63	11.38	19.2
S677142	Blasthole	Footwall waste	9.0	0.02	0.02	<0.01	<0.05	<0.2	10.0	0.63	9.38	16.0
S677607	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.34	0.34	0.17	<0.05	<0.2	21.0	10.63	10.38	1.98
S677624	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.38	0.37	0.03	<0.05	<0.2	16.0	11.88	4.13	1.35
S677653	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.19	0.18	0.04	<0.05	<0.2	15.0	5.94	9.06	2.53
S677668	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.12	0.12	0.04	<0.05	<0.2	15.0	3.75	11.25	4.0
S677688	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.4	0.18	0.18	0.02	<0.05	<0.2	23.0	5.63	17.38	4.09
S677808	Blasthole	Footwall waste	8.9	0.02	0.01	0.01	<0.05	<0.2	13.0	0.63	12.38	20.8
S677827	Blasthole	Footwall waste	9.0	0.04	0.04	0.02	<0.05	<0.2	18.0	1.25	16.75	14.4
S677887	Blasthole	Footwall waste	8.9	0.01	0.01	0.03	<0.05	<0.2	15.0	0.31	14.69	48.0
S677900	Blasthole	Footwall waste	9.2	0.03	0.02	<0.01	<0.05	<0.2	24.0	0.94	23.06	25.6
S677906	Blasthole	Footwall waste	8.8	0.02	0.01	0.04	<0.05	<0.2	15.0	0.63	14.38	24.0
B625662	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.8	0.52	0.51	0.05	<0.05	<0.2	11.0	16.25	-5.25	0.68
B625663	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.15	0.15	0.05	<0.05	<0.2	14.0	4.69	9.31	2.99
B625664	Blasthole	Footwall waste	8.7	0.02	0.01	0.01	<0.05	<0.2	11.0	0.63	10.38	17.6
B625676	Blasthole	Footwall schist	9.1	0.03	0.03	0.03	<0.05	<0.2	17.0	0.94	16.06	18.13
B625683	Blasthole	Footwall waste	9.0	0.03	0.02	0.03	0.76	2.8	76.0	0.94	75.06	81.07
B625906	Blasthole	Overburden	8.1	0.08	0.08	0.03	<0.05	<0.2	22.0	2.5	19.5	8.8

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP(3)	AP(4)	Net NP(5)	NPR(5)
			s.u.	%								ratio
B626264	Blasthole	Footwall waste	8.9	0.02	0.02	0.02	<0.05	0.2	20.0	0.63	19.38	32.0
B626265	Blasthole	Footwall waste	9.4	0.03	0.02	<0.01	<0.05	<0.2	4.0	0.94	3.06	4.27
B626302	Blasthole	Footwall waste	9.2	0.08	0.07	0.04	<0.05	<0.2	17.0	2.5	14.5	6.8
B626314	Blasthole	Footwall waste	9.2	0.02	<0.01	0.02	<0.05	<0.2	5.0	0.63	4.38	8.0
B626326	Blasthole	Footwall waste	9.0	0.13	0.12	0.02	0.08	0.3	23.0	4.06	18.94	5.66
B626952	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.5	0.11	0.1	0.03	<0.05	<0.2	22.0	3.44	18.56	6.4
B626972	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.0	0.09	0.03	0.03	<0.05	<0.2	17.0	2.81	14.19	6.04
B627000	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.6	0.05	0.04	0.04	<0.05	<0.2	22.0	1.56	20.44	14.08
B627106	Blasthole	Overburden	8.0	0.02	0.01	0.03	<0.05	<0.2	24.0	0.63	23.38	38.4
B627271	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.09	0.09	0.01	<0.05	<0.2	24.0	2.81	21.19	8.53
B627356	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.05	0.04	0.04	<0.05	<0.2	18.0	1.56	16.44	11.52
B627389	Blasthole	Overburden	8.9	0.04	0.01	0.01	<0.05	<0.2	18.0	1.25	16.75	14.4
B627414	Blasthole	Footwall waste	8.7	0.02	0.01	0.01	0.19	0.7	31.0	0.63	30.38	49.6
B627591	Blasthole	Footwall waste	8.7	0.03	0.02	0.02	<0.05	<0.2	18.0	0.94	17.06	19.2
B627592	Blasthole	Footwall waste	9.2	0.02	0.01	0.01	<0.05	<0.2	15.0	0.63	14.38	24.0
B627851	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.49	0.48	0.03	<0.05	<0.2	14.0	15.31	-1.31	0.91
B627842	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.39	0.37	0.01	<0.05	<0.2	21.0	12.19	8.81	1.72
B628011	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.02	0.01	0.02	<0.05	<0.2	24.0	0.63	23.38	38.4
B627997	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.32	0.31	0.01	<0.05	<0.2	15.0	10.0	5.0	1.5
B627992	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.24	0.23	<0.01	<0.05	<0.2	21.0	7.5	13.5	2.8
B628037	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.12	0.11	0.01	<0.05	<0.2	16.0	3.75	12.25	4.27
B628293	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.3	0.1	0.1	0.02	<0.05	<0.2	15.0	3.13	11.88	4.8
B628297	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.05	0.05	0.01	<0.05	<0.2	26.0	1.56	24.44	16.64
B628303	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics		0.08	0.08	0.03	<0.05	<0.2	12.0	2.5	9.5	4.8
B628533	Blasthole	Footwall waste	9.5	0.01	<0.01	<0.01	<0.05	<0.2	4.0	0.31	3.69	12.8
B628558	Blasthole	Footwall waste	9.5	0.02	<0.01	0.01	<0.05	<0.2	12.0	0.63	11.38	19.2
B628690	Blasthole	Footwall waste	9.1	0.02	0.01	0.01	<0.05	<0.2	14.0	0.63	13.38	22.4
B628727	Blasthole	Footwall waste	9.0	0.02	0.02	0.02	<0.05	<0.2	15.0	0.63	14.38	24.0
B628752	Blasthole	Footwall waste	9.2	0.03	0.03	0.02	<0.05	<0.2	14.0	0.94	13.06	14.93
B628776	Blasthole	Footwall waste	8.9	0.13	0.13	0.02	<0.05	<0.2	18.0	4.06	13.94	4.43
B628790	Blasthole	Footwall waste	9.3	0.1	0.08	0.01	<0.05	<0.2	14.0	3.13	10.88	4.48
B628821	Blasthole	Footwall waste	8.8	0.02	0.01	0.01	<0.05	<0.2	18.0	0.63	17.38	28.8
B628884	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.04	0.04	0.01	<0.05	<0.2	16.0	1.25	14.75	12.8
B628940	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.07	0.06	0.01	<0.05	<0.2	22.0	2.19	19.81	10.06
B629329	Blasthole	Footwall schist	9.6	0.03	0.02	0.01	<0.05	<0.2	12.0	0.94	11.06	12.8
B629344	Blasthole	Footwall waste	9.5	0.01	<0.01	<0.01	<0.05	<0.2	13.0	0.31	12.69	41.6
B629378	Blasthole	Footwall waste	9.8	0.01	<0.01	0.01	<0.05	<0.2	15.0	0.31	14.69	48.0
B629391	Blasthole	Footwall waste	9.6	0.01	<0.01	<0.01	<0.05	<0.2	15.0	0.31	14.69	48.0
B629510	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.03	<0.01	0.02	<0.05	<0.2	19.0	0.94	18.06	20.27
B629533	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.13	0.12	0.01	<0.05	<0.2	14.0	4.06	9.94	3.45
B629584	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.11	0.11	0.01	<0.05	<0.2	16.0	3.44	12.56	4.65
B629819	Blasthole	Footwall waste	8.7	0.01	0.01	0.02	<0.05	<0.2	11.0	0.31	10.69	35.2
B629821	Blasthole	Footwall waste	8.6	0.01	0.01	0.02	<0.05	<0.2	16.0	0.31	15.69	51.2
B629846	Blasthole	Footwall waste	8.7	0.04	0.04	0.04	<0.05	<0.2	16.0	1.25	14.75	12.8
B629849	Blasthole	Footwall waste	9.0	0.04	0.04	0.02	<0.05	<0.2	18.0	1.25	16.75	14.4
B629919	Blasthole	Footwall waste	8.6	0.01	0.01	0.01	<0.05	<0.2	15.0	0.31	14.69	48.0
B630004	Blasthole	Overburden	8.5	0.01	0.01	0.03	<0.05	<0.2	26.0	0.31	25.69	83.2
B630005	Blasthole	Footwall waste	8.8	0.02	0.02	0.01	<0.05	<0.2	15.0	0.63	14.38	24.0
B630061	Blasthole	Footwall waste	9.1	0.04	0.04	0.02	<0.05	<0.2	23.0	1.25	21.75	18.4
B630226	Blasthole	Footwall waste	8.3	0.05	0.05	0.04	<0.05	<0.2	14.0	1.56	12.44	8.96

Table B2
ABA Results

Sample ID	Sample Type	Lithology	Final pH	Total Sulphur	Sulphide Sulphur	Sulphate Sulphur	Total Carbon	Carbonate	NP[3]	AP[4]	Net NP[5]	NPR[5]
			s.u.	%								ratio
B630627	Blasthole	Footwall waste	8.9	0.09	0.09	0.02	0.07	0.3	24.0	2.81	21.19	8.53
B630629	Blasthole	Footwall waste	9.7	0.02	0.02	0.02	<0.05	<0.2	15.0	0.63	14.38	24.0
B630605	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.43	0.43	0.03	<0.05	<0.2	24.0	13.44	10.56	1.79
B630829	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.54	0.54	0.03	<0.05	<0.2	14.0	16.88	-2.88	0.83
B630842	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.0	0.28	0.28	0.09	<0.05	<0.2	18.0	8.75	9.25	2.06
B630868	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.41	0.41	0.04	<0.05	<0.2	24.0	12.81	11.19	1.87
B630915	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.3	0.14	0.14	0.06	<0.05	<0.2	29.0	4.38	24.63	6.63
B631209	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.15	0.15	0.01	<0.05	<0.2	19.0	4.69	14.31	4.05
B631232	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.03	0.03	0.03	<0.05	<0.2	20.0	0.94	19.06	21.33
B631245	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.4	0.23	0.23	0.01	<0.05	<0.2	19.0	7.19	11.81	2.64
B631297	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.4	0.22	0.22	0.04	<0.05	<0.2	19.0	6.88	12.13	2.76
B631901	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.2	0.02	0.02	0.03	<0.05	<0.2	27.0	0.63	26.38	43.2
B632258	Blasthole	Footwall waste	8.5	0.03	0.03	0.03	<0.05	0.2	29.0	0.94	28.06	30.93
B632287	Blasthole	Footwall waste	8.4	0.06	0.06	0.02	<0.05	<0.2	25.0	1.88	23.13	13.33
B632288	Blasthole	Footwall waste	8.9	0.11	0.11	<0.01	<0.05	<0.2	12.0	3.44	8.56	3.49
B632721	Blasthole	Footwall waste	8.9	0.01	0.01	0.01	<0.05	<0.2	24.0	0.31	23.69	76.8
B632731	Blasthole	Footwall waste	9.5	0.08	0.08	0.01	<0.05	<0.2	13.0	2.5	10.5	5.2
B632739	Blasthole	Footwall waste	8.4	0.07	0.07	0.01	<0.05	<0.2	14.0	2.19	11.81	6.4
B632769	Blasthole	Footwall waste	8.7	0.02	0.02	0.02	<0.05	<0.2	13.0	0.63	12.38	20.8
B632800	Blasthole	Footwall waste	8.9	0.01	0.01	0.03	<0.05	<0.2	16.0	0.31	15.69	51.2
B632806	Blasthole	Footwall waste	9.6	0.02	0.02	0.01	<0.05	<0.2	17.0	0.63	16.38	27.2
B632821	Blasthole	Footwall waste	8.0	0.04	0.04	0.03	<0.05	<0.2	16.0	1.25	14.75	12.8
B632831	Blasthole	Footwall waste	8.5	0.22	0.22	0.03	<0.05	<0.2	17.0	6.88	10.13	2.47
B632856	Blasthole	Footwall waste	9.1	0.01	0.01	0.01	<0.05	<0.2	13.0	0.31	12.69	41.6
B632906	Blasthole	Overburden	8.2	0.03	0.03	0.01	0.17	0.6	24.0	0.94	23.06	25.6
B633053	Blasthole	Footwall waste	10.0	0.04	0.04	0.02	<0.05	<0.2	14.0	1.25	12.75	11.2
B633077	Blasthole	Footwall waste	9.2	0.11	0.11	0.03	<0.05	<0.2	22.0	3.44	18.56	6.4
B633122	Blasthole	Overburden	8.5	0.01	0.01	0.01	0.17	0.6	23.0	0.31	22.69	73.6
B633141	Blasthole	Overburden	8.6	0.01	0.01	0.03	0.07	0.3	19.0	0.31	18.69	60.8
B633168	Blasthole	Overburden	8.4	<0.01	<0.01	0.02	<0.05	0.2	20.0	0.31	19.69	64.0
B633242	Blasthole	Uncalssified	8.8	0.01	0.01	0.02	0.09	0.3	20.0	0.31	19.69	64.0
B633308	Blasthole	Overburden	8.7	0.02	0.02	0.01	0.61	2.2	60.0	0.63	59.38	96.0
B633459	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.7	0.2	0.2	0.05	<0.05	<0.2	27.0	6.25	20.75	4.32
B633565	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	7.9	0.35	0.35	0.03	<0.05	<0.2	24.0	10.94	13.06	2.19
B633859	Blasthole	Footwall waste	8.8	0.09	0.09	0.04	<0.05	<0.2	19.0	2.81	16.19	6.76
B633860	Blasthole	Footwall waste	9.0	0.01	0.01	0.02	<0.05	<0.2	8.0	0.31	7.69	25.6
B633925	Blasthole	Footwall waste	8.8	0.01	0.01	0.03	<0.05	<0.2	13.0	0.31	12.69	41.6
B633929	Blasthole	Footwall waste	9.7	0.02	0.02	0.03	<0.05	<0.2	16.0	0.63	15.38	25.6
B633971	Blasthole	Footwall waste	9.3	0.03	0.03	0.02	<0.05	<0.2	14.0	0.94	13.06	14.93
B634381	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafics	8.1	0.04	0.04	0.05	<0.05	<0.2	24.0	1.25	22.75	19.2
B634433	Blasthole	Footwall waste	9.6	0.01	0.01	0.02	<0.05	<0.2	14.0	0.31	13.69	44.8
B634434	Blasthole	Footwall waste	9.5	0.04	0.04	0.01	<0.05	<0.2	10.0	1.25	8.75	8.0
B636102	Blasthole	Footwall schist	8.9	0.01	0.01	0.02	<0.05	<0.2	20.0	0.31	19.69	64.0
B636103	Blasthole	Footwall waste	9.0	<0.01	<0.01	0.01	<0.05	<0.2	12.0	0.31	11.69	38.4
B636150	Blasthole	Footwall waste	8.7	0.01	0.01	0.01	<0.05	<0.2	13.0	0.31	12.69	41.6
B636151	Blasthole	Footwall waste	9.1	<0.01	<0.01	0.02	<0.05	<0.2	18.0	0.31	17.69	57.6

Notes: Data extracted from electronic data file "SFE ABA Results_forGolderv2" supplied electronically from BIM in email from T. Brisco to K. DeVos and A. Parada, March 24, 2023

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Final pH	pH	Alkalinity	Conductivity	Acidity	SO_4	Cl	Hg	Ag	Al	As	Ba	B	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
		Units >	no unit	no unit	mg/L as CaCO3	uS/cm	mg/L as CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Metal and Diamonds Mining Effluent Regulations (MDMER) value >			-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.1	-	-
R797878+R797990	Blasthole	Uncalssified	7.2	7.6	19	109	0	1.6	2.4	<0.00005	2.98	0.426	<0.001	0.01	0.13	<0.0005	<0.0005	0.8	<0.00005	<0.0001	<0.0005	<0.001	0.26	22.8
S113810+S113784	Blasthole	high grade iron oxide	6.3	6.4	6	1390	0	156	1.1	<0.00005	5.48	0.007	<0.001	0.002	0.07	<0.0005	<0.0005	2.6	<0.00005	0.0005	<0.0005	<0.001	<0.03	1.74
S113836+S113783	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	7.6	11	229	0	29.5	8.1	<0.00005	3.35	0.087	<0.001	0.003	0.3	<0.0005	<0.0005	1.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	23.1
S112288+S112259	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.6	6.9	5	396	0	149	4.6	<0.00005	4.68	0.022	<0.001	0.004	0.35	<0.0005	<0.0005	2.5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	15.3
S112280+S112286	Blasthole	Uncalssified	7.4	7.8	11	106	0	8.7	1.8	<0.00005	8.77	4.69	<0.001	0.096	0.05	<0.0005	<0.0005	0.5	<0.00005	0.0016	0.001	0.005	5.94	30.6
S112537+S112538	Blasthole	high grade iron oxide	6.9	7	9	97	0	1.6	4.8	<0.00005	6.59	0.027	<0.001	0.002	0.15	<0.0005	<0.0005	2.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	10.8
S112540+S112545	Blasthole	Footwall waste	7.3	7.9	19	85	0	0.8	2.1	<0.00005	8.47	1.91	<0.001	0.009	0.49	<0.0005	<0.0005	0.3	<0.00005	0.0003	<0.0005	0.001	0.66	24.2
S112539+S112546	Blasthole	Footwall waste	7.5	8	23	119	0	4.4	2.6	<0.00005	12.1	8.15	<0.001	0.064	0.1	<0.0005	<0.0005	1	0.00012	0.0032	0.0009	0.008	7.35	34.4
S112798+S112794	Blasthole	Footwall waste	8	8.7	24	100	0	1	2.1	<0.00005	7.97	3.57	<0.001	0.029	0.25	<0.0005	<0.0005	0.2	<0.00005	0.0007	<0.0005	<0.001	1.55	29.8
S112790+S112840	Blasthole	Footwall waste	8.1	8.5	41	157	0	3.4	3.5	<0.00005	7.08	1.9	<0.001	0.021	0.11	<0.0005	<0.0005	1.5	<0.00005	0.0003	0.0005	0.002	0.94	40.6
S112816+S112809	Blasthole	Footwall waste	9.2	9.1	60	187	0	3.3	2.4	<0.00005	9.4	4.77	<0.001	0.048	0.02	<0.0005	<0.0005	1.9	<0.00005	0.0011	0.0011	0.002	3.52	52.9
S112908+S112011	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	7.3	9	603	0	259	1.5	<0.00005	3.91	0.027	<0.001	0.001	0.04	<0.0005	<0.0005	2.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	9.33
S111556+S111776	Blasthole	Footwall waste	6.6	6.8	20	1670	0	996	6.3	<0.00005	3.34	0.028	<0.001	0.028	0.06	<0.0005	<0.0005	42.9	<0.00005	0.0004	<0.0005	<0.001	<0.03	31
S111761+S113462	Blasthole	Footwall waste	7.4	8.1	20	278	0	58.2	3.7	<0.00005	2.77	0.268	<0.001	0.02	0.2	<0.0005	<0.0005	0.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	69.4
S111789+S111739	Blasthole	Footwall schist	7	7.7	11	321	0	79.7	3.1	<0.00005	3.01	0.152	<0.001	0.006	0.09	<0.0005	<0.0005	3.2	<0.00005	<0.0001	<0.0005	<0.001	<0.03	60.7
S111773+S111762	Blasthole	Footwall schist	6.8	7.3	9	627	0	268	4.4	<0.00005	3.56	0.059	<0.001	0.038	0.21	<0.0005	<0.0005	15.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	51.2
S113100+S113466	Blasthole	Footwall waste	7.9	8.7	23	135	0	12.4	2.1	<0.00005	5.71	3.89	<0.001	0.058	0.07	<0.0005	<0.0005	<0.1	<0.00005	0.0008	<0.0005	<0.001	2.6	40.8
S113233+S113268	Blasthole	Footwall waste	7.9	8.4	25	129	0	3.3	1.9	<0.00005	5.88	3.86	<0.001	0.036	0.09	<0.0005	<0.0005	0.1	<0.00005	0.0006	<0.0005	0.002	2.91	39.7
S113294+S109197	Blasthole	Footwall waste	7.9	8.6	21	134	0	1.6	2.4	<0.00005	6.39	3.82	<0.001	0.031	0.09	<0.0005	<0.0005	0.1	<0.00005	0.0007	0.001	0.001	2.43	40.1
S109071+S109185	Blasthole	Footwall waste	8.2	8.8	20	134	0	2.2	1.7	<0.00005	5.62	3.74	<0.001	0.035	0.06	<0.0005	<0.0005	<0.1	<0.00005	0.0006	0.0008	<0.001	2.87	41.4
S109138+S109163	Blasthole	Footwall waste	7.7	8.3	16	136	0	<0.5	2.1	<0.00005	3.38	1.35	<0.001	0.008	0.13	<0.0005	<0.0005	0.2	<0.00005	0.0002	0.0024	<0.001	0.5	39.6
S109161+S109204	Blasthole	Footwall waste	7.9	8.5	17	127	0	1.2	1.6	<0.00005	6.24	3.64	<0.001	0.027	0.16	<0.0005	<0.0005	0.1	<0.00005	0.0004	<0.0005	0.001	2.03	39.5
S109272+S109295	Blasthole	Overburden	7.2	7.7	14	149	0	0.9	2.3	<0.00005	2.54	0.112	<0.001	0.001	0.04	<0.0005	<0.0005	1.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	16.4
S109266+S109325	Blasthole	Overburden	7.6	7.7	24	187	0	2.7	2.4	<0.00005	2.31	0.096	<0.001	0.003	0.02	<0.0005	<0.0005	2.8	<0.00005	<0.0001	0.0006	<0.001	<0.03	9.06
S109415+S109423	Blasthole	Footwall waste	8	8.8	23	134	0	10.3	1.1	<0.00005	11.8	7.48	<0.001	0.166	0.04	<0.0005	<0.0005	0.3	<0.00005	0.0018	0.001	0.005	9.04	42
S110078+S110013	Blasthole	Overburden	7.2	7.8	14	174	0	<0.5	13.3	<0.00005	2.7	0.097	<0.001	0.002	0.19	<0.0005	<0.0005	1.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	7.43
S110286+S110293	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	7.6	14	144	0	1.3	2.4	<0.00005	2.32	0.066	<0.001	<0.001	0.03	<0.0005	<0.0005	0.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	3.99
S108739+S108760	Blasthole	Footwall schist	7.6	8.2	20	121	0	8.7	2	<0.00005	12.9	7.92	<0.001	0.076	0.07	<0.0005	<0.0005	0.2	<0.00005	0.0009	0.0007	0.004	4.52	36.8
S108881+S108885	Blasthole	Footwall waste	8	8.6	23	80	0	2	2	<0.00005	19.9	15.5	0.002	0.348	0.16	0.0013	<0.0005	0.3	<0.00005	0.0018	0.0015	0.008	8.27	27.6
S108886+S666176	Blasthole	Footwall waste	7.9	8.5	30	102	0	1.6	2	<0.00005	21.5	15.9	<0.001	0.26	0.19	0.0014	<0.0005	0.3	<0.00005	0.0029	0.0013	0.011	9.31	30.1
S108960+S108965	Blasthole	Footwall waste	7.5	8.1	23	99	0	4.6	1.6	<0.00005	20.2	15.9	0.001	0.209	0.3	0.0013	<0.0005	0.5	<0.00005	0.0048	0.0019	0.047	8.79	30.1
S108977+S108979	Blasthole	Footwall waste	8	8.5	24	91	0	3.6	1.7	<0.00005	20.5	16.2	0.003	0.54	0.18	0.0014	<0.0005	0.4	<0.00005	0.0032	0.002	0.021	7.38	31
S108991+S108995	Blasthole	Uncalssified	8.9	8.9	28	131	0	1.9	1.3	<0.0003	15.1	13	<0.001	0.18	0.12	0.0006	<0.0005	0.3	<0.00005	0.002	0.0031	0.005	5.83	45
S666051+S666054	Blasthole	Footwall waste	9.1	9.1	33	142	0	1.6	0.9	<0.0003	16.1	12.9	<0.001	0.228	0.04	<0.0005	<0.0005	0.2	<0.00005	0.0016	0.0011	0.006	5.85	49.5
S666084+S666089	Blasthole	Footwall waste	8	8.7	22	98	0	<0.5	1.3	<0.0003	13.5	10.3	<0.001	0.106	0.22	0.0006	<0.0005	0.3	<0.00005	0.0016	0.001	0.005	4.57	31.5
S666113+S666119	Blasthole	Footwall waste	8	8.7	20	99	0	2.4	1.7	<0.0003	12.6	8.31	<0.001	0.109	0.11	0.0005	0.0008	0.3	<0.00005	0.0016	0.0024	0.01	4.87	31.5
S666123+S666125	Blasthole	Footwall waste	7.7	8.5	17	86	0	<0.5	1.7	<0.0003	12.9	8.8	<0.001	0.083	0.2	0.0011	<0.0005	0.2	<0.00005	0.0014	0.0009	0.003	4.03	26.9
S666131+S666132	Blasthole	Footwall waste	7.8	8.2	17	90	0	0.6	1.9	<0.0003	13.8	10.3	<0.001	0.099	0.2	0.0013	<0.0005	0.3	<0.00005	0.0017	0.001	0.004	5.13	28.4
S666144+S666146	Blasthole	Footwall waste	7.7	8.4	16	90	0	1.1	2.3	<0.0003	11.6	7.85	<0.001	0.081	0.08	0.0005	<0.0005	0.2	<0.00005	0.0013	0.0013	0.007	4.27	28.8
S666147+S666148	Blasthole	Footwall waste	8	8.6	18	96	0	1.5	2.8	<0.0003	13	8.78	<0.001	0.115	0.07	<0.0005	<0.0005	0.2	<0.00005	0.0014	0.0014	0.007	4.17	30.8
S666151+S666153	Blasthole	Footwall waste	7.6	8.3	16	78	0	<0.5	1.5	<0.0003	11.5	7.49	<0.001	0.065	0.18	0.001	<0.0005	0.2	<0.00005	0.0013	0.0011	0.004	3.66	24
S666301+S666299	Blasthole	Footwall schist	8	8.8	21	122	0	10.9	1.4	<0.0003	12.8	8.96	0.001	0.094	0.03	<0.0005	<0.0005	0.2	<0.00005	0.0016	0.0011	0.013	6.2	39.5
S666302+S666300	Blasthole	high grade iron oxide	7.1	7.7	14	120	0	1.7	4	<0.00005	2.42	0.203	<0.001	0.002	0.06	<0.0005	<0.0005	0.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	27.4
S666542+S666557	Blasthole	Uncalssified	7.4	7.6	19	95	0	5.2	4.4	<0.00005	4.07	0.091	<0.001	0.002	0.06	<0.0005	<0.0005	3	<0.00005	<0.0001	<0.0005	<0.001	0.07	3.28
S666613+S666610	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.6	7.1	8	770	0	346	2.9	<0.00005	3.78	0.024	<0.001	0.003	0.07	<0.0005	<0.0005	9.6	<0.00005	0.0002	<0.0005	<0.001	<0.03	16.1
S666640+S666641	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	5.9	6.1	2	1060	0	537	9.1	<0.00005	9.98	<0.005	<0.001	0.008	0.39	<0.0005	<0.0005	4.6	<0.00005	0.0152	<0.0005	<0.001	<0.03	6.28
S666663+S666664	Blasthole	Uncalssified	8.2	8.4	58	183	0	4.5	5.7	<0.0003	5.37	0.841	<0.001	0.012	0.05	<0.0005	<0.0005	10.7	<0.00005	0.0001	0.0005	0.004	0.4	17.4
S666909+S666954	Blasthole	Footwall schist	7.5	8.5	14	95	0	2.1	1.5	<0.0003	14.1	8.43	<0.001	0.074	0.12	0.0009	<0.0005	0.1	<0.00005	0.0012	0.0006	0.006	3.98	29.4
S666939+S666964	Blasthole	Footwall waste	7.5	8.4	17	108	0	1.8	1.9	<0.0003	11.5	7.54	<0.001	0.066	0.21	0.001	<0.0005	0.4	<0.00005	0.0013	0.002	0.003	3.71	32.1
S666947+S666948	Blasthole	Footwall waste	7.7	8.5	16	88	0	<0.5	1.5	<0.0003	11.8	7.18	<0.001	0.067	0.14	0.0009	<0.0005	0.2	<0.00005	0.0011	0.0008	0.003	3.49	28.4
S666974+S667165	Blasthole	high grade iron oxide	6.6	6.6	5	270	0	95.6	11.1	<0.00005	6.21	0.007	<0.001	0.003	0.17	<0.0005	<0.0005	1.8	<0.00005	0.0003	<0.0005	<0.001	<0.03	1.72
S667190+S667145	Blasthole	Overburden	6.9	7.3	11	384	0	123	4.4	<0.00005	3.04	0.038	<0.001	0.01	0.23	<0.0005	<0.0005	1.2	<0.00005	<0.0001	<0.0005	<0.001	<0.03	18.6
S667217+S667058	Blasthole	Overburden	7.2	7.8	11	168	0	27.7	3.9	<0.00005	3.06	0.104	<0.001	0.003	0.07	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0021	<0.001	<0.03	23.2
S667236+S667275	Blasthole	high grade iron oxide	7.1	7.3	11	333	0	114	8.4	<0.00005	3.72	0.04	<0.001	0.009	0.32	<0.0005	<0.0005	1.5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	10.5
S667367+S667371	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	7.7	24	162	0	<0.5	1.6	<0.00005	1.66	0.136	<0.001	<0.001	0.03	<0.0005	<0.0005	0.5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	5.33
S667379+S667378	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.7	25	177	0	1	1.5	<0.00005	2.08	0.109	<0.001	0.001	0.05	<0.0005	<0.0005	0.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	6.99
S667404+S667429	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	7.8	22	141	0	2	1.7	<0.00005	2.18	0.16	<0.001	0.001	0.03	<0.0005	<0.0005	0.9	<0.00005	<0.0001	0.0008	<0.001	<0.03	9.1
S667408+S667411	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	7.9	28	165	0	0.7	2.6	<0.00005	2.31	0.142	<0.001	0.002	0.03	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0024	<0.001	<0.03	9.79
S667453+S667451	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.8	20	136	0	2.9	2	<0.00005	3.17	0.09	<0.001	0.002	0.02	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	8.09
S667446+S667445	Blasthole	Overburden	7.4	7.9	23	196	0	5.5	2.3	<0.00005	4.85	0.042	<0.001	0.002	0.04	<0.0005	<0.0005	2.8	<0.00005	<0.0001	0.0029	<0.001	<0.03	7.12
S667442+S667495	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	7.9	21	134	0	4.5	2.2	<0.00005	2.44	0.114	<0.001	0.002	0.04	<0.0005	<0.0005	1.5	<0.00005	<0.0001	0.0017	<0.001	<0.03	7.91
S667470+S667498	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.6	11	202	0	40.4	4.7	<0.00005	4.91	0.032	<0.001	0.002	0.31	<0.0005	<0.0005	2	<0.00005	<0.0001	<0.0005	<0.001	<0.03	4.29
S667483+S667488	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8	21	116	0	2.1	3.3	<0.00005	2.89	0.129	<0.001	0.002	0.04	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0009	<0.001	<0.03	11.5
S667485+S667494	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8	22	124	0	4.5	2.7	<0.00005	2.82	0.112	<0.001	0.003	0.09	<0.0005	<0.0005	1.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	10.8
S667491+S667487	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8	20	119	0	5.4	2.6	<0.00005	2.84	0.089	<0.001	0.001	0.02	<0.0005	<0.0005	1.5	<0.00005	<0.0001	0.0012	<0.001	<0.03	6.91
S667555+S667554	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	7.9	20	121	0	3.2	2	<0.00005	2.56	0.118	<0.001	0.002	0.04	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0019	<0.001	<0.03	6.28
S667557+S667497	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	7.8	19	215	0	3.7	2	<0.00005	3.21	0.048	<0.001	0.003	0.03	<0.0005	<0.0005	2.2	<0.00005	<0.0001	0.003	<0.001	<0.03	5.62
S667496+S667500	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.8	19	212	0	43.3	2	<0.00005	3.14	0.051	<0.001	0.002	0.03	<0.0005	<0.0005	3	<0.00005	<0.0001	0.0033	<0.001	<0.03	6.18
S667765+S667790	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7	7.1	9	524	0	239	2.2	<0.00005	3.7	0.045	<0.001	0.002	0.04	<0.0005	<0.0005	6.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	5.63
S667772+S667770	Blasthole	Overburden	7.7	8	30	114	0	3.2	9	<0.00005	3.8	0.151	<0.001	0.002	0.07	<0.0005	<0.0005	5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	3.28
S668169+S667791	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7	7.3	9	388	0	141	1.6	<0.00005	3.55	0.063	<0.001	0.002	0.03	<0.0005	<0.0005	4.2	<0.00005	<0.0001	<0.0005	<0.001	<0.03	11.6
S668162+S668208	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	7.2	8	476	0	202	1.4	<0.00005	3.82	0.046	<0.001	0.001	0.05	<0.0005	<0.0005	3	<0.00005	<0.0001	0.0007	<0.001	<0.03	7.92
S668186+S667869	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	7.7	24	136	0	1.7	1.1	<0.00005	1.43	0.273	<0.001	<0.001	<0.01	<0.0005	<0.0005	0.5	<0.00005	<0.0001	0.002	<0.001	<0.03	2.61
S667810+S667808	Blasthole	Overburden	7.6	7.5	26	335	0	110	3.5	<0.00005	4.45	0.036	<0.001	0.003	0.05	<0.0005	<0.0005	4.7	<0.00005	<0.0001	<0.0005	<0.001	<0.03	5.64
S668211+S668212	Blasthole	Overburden	7.9	8	40	144	0	7.3	7.6	<0.00005	3.45	0.079	<0.001	0.001	0.12	<0.0005	<0.0005	7.2	<0.00005	<0.0001	0.0021	<0.001	<0.03	2.47
S668222+S668223	Blasthole	Overburden	7.2	7.5	10	115	0	2.9	3.4	<0.00005	7.89	0.03	<0.001	<0.001	0.04	<0.0005	<0.0005	1.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	1.58
S667864+S667825	Blasthole	Overburden	6.2	6.3	4	1580	0	979	6.4	<0.00005	6.82	<0.005	<0.001	0.004	0.09	<0.0005	<0.0005	16.8	<0.00005	0.0004	<0.0005	<0.001	<0.03	7
S667892+S667898	Blasthole	Overburden	7.6	7.9	26	117	0	<0.5	7.4	<0.00005	4.3	0.123	<0.001	<0.001	0.35	<0.0005	<0.0005	2.3	<0.00005	<0.0001	0.0011	<0.001	0.13	2.23
S667928+S667908	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	7.9	22	156	0	1	9.4	<0.00005	2.77	0.118	0.002	0.001	0.24	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0009	<0.001	<0.03	10
S667905+S667977	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	7.6	18	192	0	36.6	4.3	<0.00005	6.76	0.06	<0.001	0.001	0.24	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0005	<0.001	0.03	5.66
S667902+S667900	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.6	20	213	0	49.3	3.6	<0.00005	6.41	0.038	<0.001	<0.001	0.09	<0.0005	<0.0005	2.1	<0.00005	<0.0001	0.0007	<0.001	<0.03	2.03
S667922+S667950	Blasthole	Overburden	6.9	7.2	8	628	0	289	3.1	<0.00005	5.03	0.019	<0.001	<0.002	0.07	<0.0005	<0.0005	5.1	<0.00005	0.0001	<0.0005	<0.001	<0.03	4.89
S667963+S667907	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.8	21	168	0	4.5	13.6	<0.00005	2.9	0.098	<0.001	<0.001	0.24	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0007	<0.001	<0.03	9.04
S667949+S667933	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	7.2	11	362	0	133	2.7	<0.00005	10.2	0.009	<0.001	<0.001	0.08	<0.0005	<0.0005	1.7	<0.00005	0.0003	<0.0005	<0.001	<0.03	2.28
S668537+S668538	Blasthole	Footwall schist	7.9	8.3	27	159	0	3.4	2.2	<0.00005	8.51	5.33	<0.001	0.059	0.07	<0.0005	<0.0005	0.2	<0.00005	0.0009	0.0009	0.002	4.47	47.9
S668536+S668539	Blasthole	Footwall schist	7.8	8.3	26	158	0	5.9	2.2	<0.00005	7.26	4.35	<0.001	0.07	0.07	<0.0005	<0.0005	0.2	<0.00005	0.0008	0.0006	0.002	4.07	45.9
S668744+S668745	Blasthole	Uncalssified	7.4	8.2	13	98	0	0.5	4.4	<0.0003	16.7	12.6	<0.001	0.04	0.16	0.0007	0.0025	0.6	0.00007	0.001	0.0007	0.03	3.43	31.1
S670694	Blasthole	Footwall waste	8.5	9.3	46	122	0	1.6	1.5	<0.00005	22.9	16.6	<0.002	0.156	0.11	<0.001	<0.001	0.3	<0.0001	0.003	0.0018	0.058	12.8	43.7
S670709	Blasthole	Footwall waste	8.3	9.1	41	104	0	2.2	1.6	<0.0005	16	15.6	<0.002	0.128	0.27	0.003	0.0027	0.5	<0.0001	0.0048	0.0075	**0.185**	11.3	34.3
S670764	Blasthole	Footwall waste	8.8	9.4	53	123	0	1.2	1	<0.0005	21.1	21.6	<0.002	0.309	0.25	<0.001	<0.001	0.9	<0.0001	0.0045	0.004	0.007	16.3	46.4
S670765	Blasthole	Footwall waste	8.9	9.3	68	144	0	0.7	1.4	<0.0005	25.5	24.6	<0.002	0.456	0.33	0.0019	<0.001	1.1	<0.0001	0.0039	0.0015	0.059	16	54.9
S670766	Blasthole	Footwall waste	8.5	9.3	44	106	0	<0.5	1.6	<0.0005	17.8	15.2	<0.002	0.146	0.15	0.0011	<0.001	0.5	<0.0001	0.0028	0.0034	0.007	9.09	38.8
S670792	Blasthole	Footwall waste	9.1	9.6	63	148	0	1.3	1.1	<0.0005	15.5	15.9	<0.002	0.194	0.24	<0.001	<0.001	0.5	0.00075	0.0031	0.0017	0.011	11.4	51.7
S670793	Blasthole	Footwall waste	8.3	9	46	108	0	0.9	1.2	<0.0005	18.9	15.3	<0.002	0.116	0.34	0.0017	<0.001	0.6	<0.0001	0.0035	0.0061	0.006	12.1	35

Notes:

Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Final pH	pH	Alkalinity	Conductivity	Acidity	SO_4	Cl	Hg	Ag	Al	As	Ba	B	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
		Units >	no unit	no unit	mg/L as CaCO3	uS/cm	mg/L as CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		Metal and Diamonds Mining Effluent Regulations (MDMER) value >	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.1	-	-
S670794	Blasthole	Footwall waste	9	9.6	74	177	0	1.1	1.5	<0.0005	26.5	22.5	<0.002	0.468	0.23	<0.001	<0.001	0.9	<0.0001	0.0052	0.0034	0.067	21.6	64.9
S670795	Blasthole	Footwall waste	8.3	8.4	43	106	0	0.9	1.2	<0.0005	45.8	35.4	<0.001	0.178	0.36	0.0021	<0.0005	0.5	<0.00005	0.0059	0.011	0.008	20.4	37.5
S670818	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	7.6	31	122	0	3.6	9.3	<0.0005	9.53	5.16	0.002	0.009	0.93	<0.0005	<0.0005	0.3	<0.00005	0.0018	0.0085	0.002	2.58	26.7
S670829	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	7.5	27	121	0	4.5	6.8	<0.00005	7.05	3.12	<0.001	0.005	0.95	<0.0005	<0.0005	0.6	<0.00005	0.0008	0.006	<0.001	2.19	18.7
S670963	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8	36	127	0	6.2	2.9	<0.00005	4.95	2.23	<0.001	0.007	0.07	<0.0005	<0.0005	0.2	<0.0003	0.0011	0.016	0.003	3.58	22.6
S670964	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	7.7	34	103	0	2.6	2.1	<0.00005	1.71	0.145	<0.001	<0.001	0.03	<0.0005	<0.0005	0.3	<0.001	<0.0001	0.0011	<0.001	0.07	5.92
S670965	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	7.6	44	122	0	3.7	1.6	<0.00005	3.36	0.119	<0.001	<0.001	0.04	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0023	<0.001	0.23	0.59
S670966	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	7.5	34	152	0	18.8	2.4	<0.0005	5.26	0.074	<0.001	<0.001	0.07	<0.0005	<0.0005	0.3	<0.00005	<0.0001	<0.0005	<0.001	0.16	0.69
S670967	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	7.4	30	304	0	90.1	5.7	<0.00005	2.98	0.059	<0.001	0.003	0.16	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0012	<0.001	<0.03	13.6
S671194	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8.1	37	116	0	<0.5	5.5	<0.00005	1.36	0.217	<0.001	<0.001	0.03	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0028	<0.001	<0.03	2.94
S671195	Blasthole	high grade iron oxide	7.3	7.4	15	720	0	356	2.7	<0.00005	2.08	0.085	<0.001	0.002	0.12	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0009	<0.001	<0.03	0.6
S671196	Blasthole	high grade iron oxide	7.8	8.1	41	107	0	3.4	1.3	<0.00005	1.86	0.173	<0.001	<0.001	0.02	<0.0005	<0.0005	0.1	<0.00005	<0.0001	0.0067	<0.001	<0.03	0.37
S671197	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	7.8	36	127	0	0.8	8.2	<0.00005	1.66	0.213	<0.001	<0.001	0.2	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0065	<0.001	<0.03	9.5
S671356	Blasthole	high grade iron oxide	7.4	7.5	22	252	0	79.6	4.4	<0.00005	1.85	0.124	<0.001	0.002	0.19	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0025	<0.001	<0.03	3.54
S671528	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	7.7	27	120	0	5.6	8.4	<0.00005	1.62	0.225	<0.001	<0.001	0.41	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0012	<0.001	<0.03	12.8
S671586	Blasthole	Footwall waste	8.7	9.1	46	114	0	0.6	1.4	<0.0005	16.7	16.1	<0.002	0.209	0.26	<0.001	<0.001	0.6	<0.0001	0.0029	0.0016	<0.002	10.9	42.5
S671587	Blasthole	Footwall waste	9.2	9.4	75	175	0	0.8	1.9	<0.0005	21.2	21.9	<0.002	0.386	0.12	0.0014	<0.001	0.6	<0.0001	0.0042	0.0015	0.006	17.8	64.3
S671588	Blasthole	Footwall waste	8.9	9.3	49	114	0	0.6	1.5	<0.0005	19.1	18.3	<0.002	0.268	0.15	0.0013	<0.001	0.3	<0.0001	0.0036	<0.001	0.007	13.8	44.7
S671725	Blasthole	high grade iron oxide	8.3	8.7	46	137	0	4.5	2.1	<0.0005	84.8	54.3	0.001	0.265	0.21	0.0033	0.0008	0.4	<0.00005	0.0098	0.0075	0.037	37	54.3
S671961	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	7.9	33	92	0	1.1	1.4	<0.00005	1.42	0.192	<0.001	<0.001	0.02	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0016	<0.001	<0.03	2.5
S660109	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8.4	39	116	0	9.9	2.2	<0.00005	2.09	0.137	<0.001	<0.001	0.03	<0.0005	<0.0005	1.4	<0.00005	<0.0001	0.0065	<0.001	<0.03	0.64
S660121	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	8.4	44	110	0	<0.5	1.7	<0.00005	1.58	0.207	<0.001	<0.001	0.03	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0062	<0.001	<0.03	7.04
S660658	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.4	47	134	0	3.6	3.2	<0.00005	2.89	0.083	<0.001	0.002	0.03	<0.0005	<0.0005	1.5	<0.00005	<0.0001	0.0148	<0.001	0.03	10.1
S660208	Blasthole	Footwall waste	7.9	8.6	33	113	0	4.3	2.3	<0.00005	9.44	5.68	<0.001	0.037	0.37	<0.0005	<0.0005	0.5	<0.00005	0.0007	<0.0005	0.002	4.72	28.2
S660269	Blasthole	Footwall waste	9.2	9.6	68	157	0	0.6	1.9	<0.00005	21.8	20.2	<0.002	0.257	0.17	<0.001	<0.001	0.2	<0.0001	0.0034	0.0038	0.003	15.3	55.2
S660377	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.1	6.8	3	1210	0	705	2.8	<0.0005	6.98	0.006	<0.001	0.003	0.2	<0.0005	<0.0005	7.1	<0.00005	0.0006	<0.0005	<0.001	<0.03	9.81
S660389	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.6	52	130	0	1.3	2	<0.00005	1.78	0.164	<0.001	<0.001	0.06	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0134	<0.001	<0.03	1.34
S660390	Blasthole	high grade iron oxide	7.8	8.4	40	100	0	1	2.7	<0.00005	1.99	0.13	<0.001	<0.001	0.12	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0031	<0.001	0.04	0.86
S660854	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8.2	48	120	0	3.7	1.6	<0.00005	4.54	0.059	<0.001	<0.001	0.01	<0.0005	<0.0005	1.9	<0.00005	<0.0001	0.0106	<0.001	0.1	2.04
S660866	Blasthole	Overburden	7.8	8.3	41	115	0	1	3.6	<0.00005	3.74	0.118	<0.001	<0.001	0.15	<0.0005	<0.0005	2.6	<0.00005	<0.0001	0.0014	<0.001	0.12	3.53
S660912	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8.1	8.2	63	152	0	2.6	3.7	<0.00005	2.16	0.166	<0.001	<0.001	0.02	<0.0005	<0.0005	0.9	<0.00005	<0.0001	0.0017	<0.001	<0.03	0.17
S660936	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	8.2	85	182	0	0.7	1.8	<0.00005	3.48	0.08	<0.001	<0.001	<0.01	<0.0005	<0.0005	0.5	<0.00005	<0.0001	0.001	<0.001	0.04	<0.05
S661046	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8.3	8.3	141	282	0	1.3	2.9	<0.00005	5.65	0.054	<0.001	<0.001	0.01	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0035	<0.001	0.05	0.08
S661056	Blasthole	Footwall schist	9	9.1	117	293	0	1.6	5.9	<0.00005	2.79	0.999	<0.001	0.006	0.04	<0.0005	<0.0005	0.2	<0.0001	0.0001	<0.0005	<0.001	0.65	79.1
S661691	Blasthole	Footwall waste	9.5	9.4	86	227	0	1.9	1.9	<0.00005	39.2	31.5	<0.001	0.493	0.23	0.0019	<0.0005	0.5	<0.00005	0.0069	0.006	0.007	25.7	82.3
S661692	Blasthole	Footwall waste	7.7	8.2	21	406	0	136	1.8	<0.00005	2.34	0.418	<0.001	0.021	0.14	<0.0005	<0.0005	3.3	<0.00005	<0.0001	<0.0005	<0.001	0.06	82.8
S661726	Blasthole	Footwall waste	9.2	9.1	55	157	0	1.5	2.2	<0.00005	27.5	19.9	<0.001	0.219	0.31	0.0016	<0.0005	0.5	<0.00005	0.0038	0.0128	0.005	12.5	52.4
S661733	Blasthole	Footwall waste	8.9	9	41	91	0	1.1	1.1	<0.00005	19.7	14.4	0.001	0.126	0.14	0.0016	<0.0005	0.3	<0.00005	0.0033	0.0014	0.009	8.05	29.4
S661737	Blasthole	Footwall waste	9.1	9	27	100	0	1.8	2.6	<0.00005	75.4	42.2	0.001	0.203	0.22	0.0015	<0.0005	0.4	<0.00005	0.0035	0.0032	0.031	13.5	47.1
S661738	Blasthole	Footwall waste	8.7	9.2	45	101	0	0.8	0.8	<0.00005	24.1	18.2	<0.001	0.192	0.16	<0.0005	<0.0005	0.3	<0.00005	0.0029	0.0046	0.003	8.59	32.8
S661812	Blasthole	Overburden	7.6	7.8	57	627	0	245	1.9	<0.00005	4.42	0.032	<0.001	<0.001	<0.01	<0.0005	<0.0005	2.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	3.86
S661813	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	8.1	85	300	0	55.8	2.6	<0.00005	1.54	0.322	<0.001	<0.001	<0.01	<0.0005	<0.0005	<0.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.05
S661845	Blasthole	Overburden	7.7	8.2	43	498	0	138	4.2	<0.00005	2.04	0.375	<0.001	0.01	0.04	<0.0005	<0.0005	2.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	99.4
S661858	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.4	28	1050	0	324	120	<0.00005	2.2	0.098	<0.001	0.014	0.02	<0.0005	<0.0005	54.7	<0.00005	0.0002	<0.0005	<0.001	<0.03	4.98
S661960	Blasthole	high grade iron oxide	7.1	7.3	22	597	0	261	2.4	<0.00005	2.96	0.064	<0.001	0.004	0.08	<0.0005	<0.0005	0.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	3.59
S662027	Blasthole	Overburden	7.7	7.9	45	231	0	21.6	16.2	<0.00005	4.36	0.997	<0.001	0.018	0.09	<0.0005	<0.0005	4.5	<0.00005	0.0003	<0.0005	0.002	0.85	28.2
S662028	Blasthole	Footwall waste	7.7	8	47	432	0	137	3	<0.00005	1.73	0.293	<0.001	0.027	0.1	<0.0005	<0.0005	5.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	37.8
S662177	Blasthole	Footwall waste	7.9	8.5	41	387	0	96.2	3.9	<0.00005	3.5	1.43	<0.001	0.036	0.24	<0.0005	<0.0005	0.6	<0.00005	0.0002	<0.0005	<0.001	0.71	87.9
S662201	Blasthole	Overburden	7.9	8.4	47	133	0	2.1	4.8	<0.00005	18.5	12.7	<0.001	0.081	0.25	0.0008	<0.0005	1.2	<0.00005	0.0025	0.0034	0.001	6.94	26.3
S662286	Blasthole	high grade iron oxide	7.9	8.2	61	417	0	125	6.3	<0.00005	1.27	0.501	<0.001	0.008	0.02	<0.0005	<0.0005	1.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	21.4
S662320	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	7.5	49	233	0	27.8	2.7	<0.00005	4.2	0.074	<0.001	0.004	0.17	<0.0005	<0.0005	0.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	16.9
S662548	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	8.2	82	263	0	26.7	4.9	<0.00005	1.65	0.287	<0.001	0.001	0.06	<0.0005	<0.0005	<0.1	<0.00005	<0.0001	0.0027	<0.001	<0.03	5.54
S662578	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	7.9	55	176	0	<0.5	13.5	<0.00005	1.64	0.194	<0.001	<0.001	0.12	<0.0005	<0.0005	1	<0.00005	<0.0001	0.0007	<0.001	<0.03	7.97
S662621	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	7.8	54	258	0	23.7	11.3	<0.00005	2.42	0.234	<0.001	0.003	0.59	<0.0005	<0.0005	0.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	42.2
S662638	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8.1	8.3	79	241	0	<0.5	17.4	<0.00005	1.99	0.164	<0.001	0.001	0.09	<0.0005	<0.0005	1.9	<0.00005	<0.0001	0.0039	<0.001	<0.03	14.1
S662722	Blasthole	Footwall waste	8.7	9.3	72	228	0	14.2	2.5	<0.00005	19.5	14	0.001	0.148	0.09	0.0011	0.0057	0.3	<0.00005	0.0038	0.0135	0.065	11.3	63.3
S662738	Blasthole	Footwall waste	8.9	8.8	31	114	0	2.1	2.8	<0.00005	26.2	18	<0.001	0.186	0.28	0.0009	<0.0005	0.4	<0.00005	0.0034	0.0421	0.01	8.47	35.9
S662770	Blasthole	Footwall waste	8.4	8.8	61	207	0	2.2	3.2	<0.00005	123	95	<0.01	0.283	0.5	0.0053	<0.005	1.3	<0.0005	0.0086	0.0136	<0.01	29.1	99.9
S662854	Blasthole	Footwall waste	8.1	8.5	40	136	0	1.5	2.8	<0.00005	56.1	40	<0.005	0.134	0.42	<0.003	<0.003	0.8	<0.0003	0.0038	0.0059	0.055	14.5	53.1
S662857	Blasthole	Footwall waste	8.3	8.8	43	151	0	1.9	2.9	<0.00005	106	40.5	**0.103**	0.54	0.87	0.233	0.0512	21.7	0.0202	0.105	0.215	**0.129**	31.1	80.2
S662890	Blasthole	Footwall waste	8.7	9.1	59	155	0	1.1	2	<0.00005	135	90	<0.01	0.382	0.43	0.0056	0.0085	<1	<0.0005	0.011	0.028	**0.175**	36.2	84.8
S662963	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8.4	8.4	97	248	0	10.7	2.8	<0.00005	2.55	0.314	<0.001	0.001	0.01	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0092	<0.001	<0.03	14.9
S663190	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.1	46	331	0	58	19.5	<0.00005	3.05	0.064	<0.001	0.001	0.11	<0.0005	<0.0005	1.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	12.7
S663211	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	7.5	22	505	0	197	5.4	<0.00005	3.42	0.045	<0.001	0.005	0.09	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	18.9
S663274	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	7.9	47	266	0	54	3.1	<0.00005	2.24	0.13	<0.001	0.001	0.05	<0.0005	<0.0005	0.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	11.5
S663348	Blasthole	Footwall schist	8	8.3	50	216	0	5	3.3	<0.00005	2.06	0.301	<0.001	0.003	0.06	<0.0005	<0.0005	0.9	<0.00005	<0.0001	<0.0005	<0.001	0.04	45
S663368	Blasthole	Footwall schist	8.4	8.4	55	224	0	11.7	4.1	<0.00005	30.8	21.3	<0.002	0.152	0.17	0.0011	<0.001	0.2	<0.0001	0.0033	0.0023	0.005	19.4	72.5
S663375	Blasthole	Uncalssified	8	8	58	143	0	<0.5	5.7	<0.00005	1.57	0.227	<0.001	<0.001	0.07	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0014	<0.001	<0.03	1.58
S663397	Blasthole	Footwall schist	8.8	8.8	61	190	0	8.7	3.4	<0.00005	66.2	50.2	<0.005	0.377	0.27	0.0025	<0.003	0.5	<0.0003	0.0099	0.006	0.015	49.6	72.4
S663410	Blasthole	Footwall waste	9.1	9.1	73	246	0	7.6	2.2	<0.00005	42.2	29.5	<0.005	0.413	0.15	<0.003	<0.003	0.7	<0.0003	0.0088	0.0083	0.009	38.5	89.7
S663467	Blasthole	Uncalssified	8	8.2	29	127	0	10.9	5.2	<0.00005	29.1	15.4	<0.002	0.156	0.07	0.0012	0.0014	1.4	0.00036	0.0031	0.0067	0.04	11	25.2
S663730	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	7.9	53	155	0	1.2	2.5	<0.00005	1.09	0.408	<0.001	<0.001	0.05	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.001	<0.001	<0.03	4.01
S663721	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	7.9	66	373	0	80.3	7.6	<0.00005	2.04	0.137	<0.001	0.002	0.02	<0.0005	<0.0005	5.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	16.1
S663743	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	7.8	49	227	0	38.8	2.7	<0.00005	1.76	0.268	<0.001	<0.001	0.02	<0.0005	<0.0005	<0.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	5.09
S663775	Blasthole	Footwall waste	9.2	9.3	63	179	0	4.6	1.2	<0.00005	43.9	32.3	<0.005	0.439	0.14	<0.003	<0.003	0.5	<0.0003	0.0057	0.0059	0.01	20.4	68
S663824	Blasthole	Footwall waste	8.3	8.7	53	187	0	1.5	3.5	<0.00005	6.53	4.03	<0.001	0.033	0.1	<0.0005	<0.0005	0.3	<0.00005	0.0012	0.0361	0.003	2.66	54
S663873	Blasthole	Footwall waste	8.5	8.7	52	198	0	3.7	1.8	<0.00005	47.8	34	<0.005	0.294	0.3	<0.003	<0.003	0.7	<0.0003	0.0047	0.006	0.01	17.5	75.4
S663928	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	7.5	53	1380	0	767	7.2	<0.00005	2.13	0.16	<0.001	<0.001	0.29	<0.0005	<0.0005	1.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	8.89
S664110	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8.3	8.3	102	228	0	1.8	5.9	<0.00005	1.32	0.427	<0.001	<0.001	0.16	<0.0005	<0.0005	0.1	<0.00005	<0.0001	0.0012	<0.001	<0.03	3.81
S664157	Blasthole	Footwall waste	9.1	9	64	186	0	2.7	3.3	<0.00005	47.5	36.2	<0.001	0.651	0.22	0.0019	<0.0005	0.7	<0.00005	0.0058	0.0115	0.006	27.9	64.8
S664194	Blasthole	Footwall waste	9.5	9.5	88	228	0	4.6	0.6	<0.00005	28.8	24.1	<0.001	0.492	0.06	0.0007	<0.0005	0.5	<0.00005	0.0051	0.0033	0.005	17.6	78.7
S664195	Blasthole	Footwall waste	9.1	9.2	67	188	0	4.5	2.2	<0.00005	27	23.5	<0.001	0.336	0.14	0.0007	<0.0005	0.4	<0.00005	0.0036	0.0057	0.009	10.8	63.4
S664240	Blasthole	Footwall waste	9.2	9.3	60	154	0	2.8	1.7	<0.00005	22.9	17.8	<0.001	0.318	0.2	0.0009	<0.0005	0.3	<0.00005	0.0031	0.0028	0.003	13.6	50.8
S664258	Blasthole	Footwall waste	9.2	9.2	68	243	0	23.7	1.7	<0.00005	26.9	21.6	<0.001	0.38	0.12	0.0007	<0.0005	0.5	<0.00005	0.0038	0.0026	0.005	17.8	76.5
S664259	Blasthole	Footwall waste	8.9	8.9	59	151	0	3	1.6	<0.00005	30.2	26.4	<0.001	0.267	0.16	0.0016	<0.0005	0.4	<0.00005	0.006	0.0296	0.008	17.5	49.8
S664416	Blasthole	Footwall waste	8.3	9	63	183	0	5.5	2.9	<0.00005	33.5	20.6	<0.002	0.211	0.16	0.0013	0.002	1.1	0.0002	0.0048	0.0161	0.028	13.6	53.9
S664431	Blasthole	Footwall waste	8.2	8.8	74	203	0	3.3	5.8	<0.00005	15.6	6.88	<0.001	0.042	0.13	<0.0005	<0.0005	3.3	<0.0001	0.0016	0.0051	0.013	4.17	40.4
S664454	Blasthole	Footwall waste	8.1	8.7	79	223	0	1.3	4.9	<0.00005	9.65	4.82	<0.001	0.022	0.21	<0.0005	<0.0005	1.3	<0.00005	0.0016	0.0114	0.002	4.01	53
S664485	Blasthole	Footwall waste	9.4	9.8	127	306	0	2.7	3.6	<0.00005	32.9	21.8	0.002	0.294	0.08	<0.001	<0.001	1.6	0.0005	0.004	0.0023	0.024	15.9	92.4
S664492	Blasthole	Uncalssified	8.6	9.2	66	196	0	4.6	9.5	<0.00005	17.7	9.54	0.004	0.047	0.08	0.0009	0.0007	1.2	0.00019	0.0029	0.0091	0.034	6.82	36.3
S664605	Blasthole	Footwall waste	8.3	9	51	172	0	2.4	3.4	<0.00005	37.1	21.1	<0.002	0.1	0.47	0.002	0.0011	0.5	<0.0001	0.0034	0.0036	0.02	11.5	55.3
S664636	Blasthole	Footwall waste	9.2	9.6	104	273	0	3.5	3.5	<0.00005	30.7	18.8	<0.002	0.192	0.1	0.0017	<0.001	1	0.00042	0.0053	0.0072	0.016	13.1	78.3
S664915	Blasthole	Footwall schist	7.9	8.4	51	157	0	<0.5	8.2	<0.00005	2.11	0.221	<0.001	0.005	0.06	<0.0005	<0.0005	1	<0.00005	<0.0001	<0.0005	<0.001	0.04	26.6
S664943	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	8.6	46	137	0	3.4	3	<0.00005	12.8	7.37	<0.002	0.035	0.04	<0.001	<0.001	<0.2	<0.001	0.0074	0.0369	0.007	12.1	38.3

Notes:

Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Final pH	pH	Alkalinity	Conductivity	Acidity	SO_4	Cl	Hg	Ag	Al	As	Ba	B	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
		Units >	no unit	no unit	mg/L as CaCO3	uS/cm	mg/L as CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Metal and Diamonds Mining Effluent Regulations (MDMER) value >			-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.1	-	-
S664954	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8.1	8.3	79	191	0	1.5	4.3	<0.00005	2.83	0.158	<0.002	<0.002	<0.02	<0.001	<0.001	0.3	<0.0001	<0.0002	0.0079	<0.002	<0.06	0.83
S664967	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8.1	51	116	0	1.8	3.6	<0.00005	3.12	0.372	<0.001	<0.001	0.03	<0.0005	<0.0005	0.2	<0.00005	0.0002	0.0034	<0.001	0.82	0.44
S665012	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	8.1	30	256	0	81.2	4.2	<0.00005	5.91	0.088	<0.001	<0.001	0.05	<0.0005	<0.0005	0.2	<0.00005	<0.0001	<0.0005	<0.001	0.07	0.36
S665038	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.1	73	201	0	5.3	4.6	<0.00005	3.93	0.105	<0.001	<0.001	0.02	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0011	<0.001	0.12	1.82
S665045	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	7.9	30	107	0	4	4.7	<0.00005	3.82	0.11	<0.001	<0.001	0.05	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0005	<0.001	0.21	2.42
S665358	Blasthole	Footwall waste	8.1	8.8	32	80	0	2.1	2.5	<0.00005	21.8	11.8	<0.001	0.024	0.19	0.0005	<0.0005	0.2	<0.00005	0.0008	0.0006	0.004	3.38	21.9
S665425	Blasthole	Footwall waste	8.4	8.6	99	255	0	5.8	3.9	<0.00005	2.78	0.212	<0.001	0.029	0.24	<0.0005	<0.0005	3.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	50.1
S665426	Blasthole	Footwall waste	8.3	8.8	49	132	0	4.3	2.6	<0.00005	23.8	16.1	<0.001	0.128	0.09	0.0005	0.0024	0.2	<0.00005	0.0029	0.0057	**0.218**	12.9	43.3
S665451	Blasthole	Footwall waste	8.1	8.7	44	138	0	0.9	4.3	<0.00005	8.27	4.73	<0.001	0.031	0.19	<0.0005	<0.0005	0.2	<0.00005	0.0008	0.0099	<0.001	4.05	32.6
S665656	Blasthole	Footwall schist	7.7	8.2	32	243	0	50.4	4.1	<0.00005	2.96	0.942	<0.001	0.01	0.17	<0.0005	<0.0005	0.9	<0.00005	0.0001	<0.0005	<0.001	0.54	56.9
S665657	Blasthole	Footwall waste	8.9	9.5	70	214	0	12.6	2.1	<0.00005	14	11.8	<0.001	0.133	0.21	<0.0005	<0.0005	0.3	<0.00005	0.0016	0.0011	<0.001	8.37	64.2
S665658	Blasthole	Footwall waste	8.5	9	46	130	0	5.8	1.9	<0.00005	20.4	15.4	<0.002	0.154	0.31	0.0013	<0.001	0.4	<0.0001	0.0029	0.0017	0.01	13.3	43.8
S665659	Blasthole	Footwall schist	9	9.5	68	172	0	6.2	1.2	<0.00005	27.6	20.5	<0.005	0.213	0.18	<0.003	<0.003	<0.5	<0.0003	0.0038	0.0026	<0.005	17.5	60.3
S665734	Blasthole	Footwall waste	8.7	9.3	48	139	0	7.9	2.4	<0.00005	38.7	25.2	<0.005	0.316	0.11	<0.003	<0.003	<0.5	<0.0003	0.0035	<0.003	0.006	16	52.2
S665786	Blasthole	Footwall schist	8.1	8.7	36	133	0	16	1.7	<0.00005	29.6	19.9	<0.005	0.26	0.15	<0.003	<0.003	<0.5	<0.0003	0.0045	0.0027	0.013	15.2	46.9
S665811	Blasthole	Footwall waste	7.8	8.7	37	138	0	6	4.3	<0.00005	14.1	8.44	<0.001	0.045	0.12	<0.0005	<0.0005	0.2	<0.00005	0.0033	0.0013	0.003	8.89	38.2
S665963	Blasthole	Footwall schist	8.1	8.4	35	99	0	1.7	2.6	<0.00005	17	10.5	<0.001	0.096	0.23	0.0006	<0.0005	0.1	<0.00005	0.0013	0.0009	0.001	5.13	30.4
S672059	Blasthole	Footwall schist	7.9	8.6	39	122	0	1.7	6.2	<0.00005	2.83	1.01	<0.001	0.006	0.04	<0.0005	<0.0005	0.3	<0.00005	0.0002	<0.0005	<0.001	1.1	27.7
S672156	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	7.8	29	81	0	1	2.2	<0.00005	3.54	0.119	<0.001	<0.001	0.02	<0.0005	<0.0005	0.4	<0.00005	0.0001	0.0026	<0.001	0.2	0.36
S672171	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8.2	60	168	0	6.7	5.9	<0.00005	3.57	0.122	<0.001	<0.001	0.02	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0011	<0.001	0.07	<0.05
S672187	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	8.3	23	627	0	290	4.4	<0.00005	2.43	0.079	<0.001	0.005	0.07	<0.0005	<0.0005	8.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	37.1
S672220	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	7.6	60	127	0	1	3.9	<0.00005	2.83	0.277	<0.001	<0.001	0.1	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0057	<0.001	0.08	1.25
S672238	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8.1	8.1	71	154	0	1.3	4.7	<0.00005	2.28	0.159	<0.001	<0.001	0.02	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0116	<0.001	<0.03	2.34
S672403	Blasthole	Footwall schist	8	8.6	49	119	0	2.2	3.1	<0.00005	34.9	27.6	<0.002	0.267	0.07	<0.001	<0.001	0.3	<0.0001	0.0038	0.0029	0.004	23.6	40.7
S672420	Blasthole	Uncalssified	7.6	8.2	33	109	0	9.7	2.6	<0.00005	62.6	42.7	<0.005	0.298	0.17	0.0026	0.0085	1.6	<0.0003	0.0084	0.0112	**0.573**	32.7	41.8
S672569	Blasthole	Uncalssified	7.9	8.4	48	123	0	<0.5	7	<0.00005	1.84	0.498	<0.001	0.005	0.06	<0.0005	<0.0005	2	<0.00005	<0.0001	<0.0005	<0.001	0.25	22
S672674	Blasthole	Footwall waste	8.2	8.7	64	203	0	4.3	4.2	<0.00005	14.2	9.15	<0.001	0.044	0.18	<0.0005	<0.0005	0.6	<0.00005	0.0032	0.0125	0.01	7.06	55.7
S672675	Blasthole	Footwall waste	8.3	8.9	45	113	0	3.1	2.7	<0.00005	57.8	41.9	<0.005	0.453	0.19	<0.003	<0.003	0.7	<0.0003	0.0098	0.0813	0.017	29.1	47.3
S672676	Blasthole	Footwall waste	8.4	9	44	99	0	1.4	1.5	<0.00005	35.9	27.6	<0.002	0.384	0.29	0.0015	<0.001	0.4	<0.0001	0.0037	0.003	0.008	13.3	39.4
S672730	Blasthole	Footwall waste	8.8	9.3	51	118	0	1.8	1.5	<0.00005	53.9	39.1	<0.002	0.522	0.11	0.0027	0.0085	0.4	<0.0002	0.0043	0.0026	0.066	18.2	49.3
S672758	Blasthole	Footwall waste	8.9	9	70	208	0	6.7	2	<0.00005	19.1	13.5	<0.001	0.123	0.25	0.0006	0.0011	0.3	0.00012	0.0035	0.0123	0.02	12.1	67.4
S672789	Blasthole	Footwall waste	7.9	8	44	94	0	0.7	3.3	<0.00005	3	0.212	<0.001	<0.001	0.02	<0.0005	<0.0005	1.8	<0.00005	<0.0001	0.0014	<0.001	0.44	1.82
S673035	Blasthole	Footwall waste	8.9	9	46	111	0	1.3	2.4	<0.00005	17.4	12.5	<0.001	0.124	0.11	0.0011	0.0012	0.2	<0.00005	0.0023	0.0009	0.019	9.5	35.4
S673054	Blasthole	Footwall waste	8.9	9	50	127	0	1.7	2.9	<0.00005	19.9	10.6	<0.001	0.063	0.26	0.0012	<0.0005	0.6	0.00012	0.0024	0.002	0.025	7.98	30.5
S673102	Blasthole	Footwall waste	9.4	9.4	58	141	0	2.4	4.2	<0.00005	19.8	11.7	<0.001	0.101	0.04	0.0007	0.0009	0.9	0.00068	0.0038	0.0045	0.039	10.4	28.4
S673406	Blasthole	Footwall waste	8.2	8.6	33	110	0	3	6.2	<0.00005	8.95	5.92	<0.001	0.037	0.17	<0.0005	<0.0005	0.1	<0.00005	0.0008	0.0014	<0.001	4.56	31
S673408	Blasthole	Footwall schist	8.2	8.6	38	129	0	2.1	6.8	<0.00005	5.68	2.6	<0.001	0.015	0.06	<0.0005	<0.0005	0.2	<0.0002	0.0005	<0.0005	0.002	2.76	28.9
S673438	Blasthole	Footwall waste	7.5	8.1	12	41	0	2.6	1.1	<0.00005	11.4	6.84	<0.001	0.016	0.05	<0.0005	<0.0005	0.8	<0.00005	0.002	0.0077	0.022	5.34	5.92
S673508	Blasthole	Footwall waste	8.7	8.7	35	104	0	2.8	4.3	<0.00005	4.98	0.638	<0.001	0.003	0.03	<0.0005	<0.0005	3.9	<0.0001	0.0002	0.001	0.001	0.35	15.1
S673512	Blasthole	Footwall waste	8.2	8.5	33	101	0	4.2	4.4	<0.00005	3.07	0.23	<0.001	0.002	0.03	<0.0005	<0.0005	4.3	<0.00005	<0.0001	<0.0005	<0.001	0.08	10.7
S673728	Blasthole	Footwall schist	7.5	8.5	9	42	0	2.7	1.6	<0.00005	5.58	2.04	<0.001	0.013	0.02	<0.0005	<0.0005	0.2	<0.00005	0.0008	<0.0005	<0.001	2.44	8.36
S673746	Blasthole	Footwall waste	7.9	8.5	12	31	0	0.5	1.4	<0.00005	27.2	16.6	<0.001	0.033	0.08	0.0007	<0.0005	0.3	<0.00005	0.0024	0.0244	0.003	6.73	12.1
S673754	Blasthole	Footwall waste	8.2	9	13	41	0	1.8	2.2	<0.00005	22	14.4	<0.001	0.126	0.11	<0.0005	<0.0005	0.5	<0.00005	0.0026	0.0026	0.014	9.96	14.4
S673815	Blasthole	Uncalssified	7.2	8.3	10	53	0	2.4	3.6	<0.00005	3.48	0.843	<0.001	0.005	0.03	<0.0005	<0.0005	1.1	<0.00005	0.0003	<0.0005	<0.001	1.32	6.1
S673925	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8.2	13	64	0	8.5	2.2	<0.00005	2.84	0.124	0.005	<0.001	0.03	<0.0005	<0.0005	0.3	<0.0003	<0.0001	<0.0005	<0.001	0.07	2.84
S673949	Blasthole	Footwall waste	7.9	8.8	10	35	0	<0.5	1.8	<0.00005	4.33	2.16	<0.001	0.015	0.04	<0.0005	<0.0005	0.2	<0.00005	0.0004	<0.0005	<0.001	2.3	7.09
S673972	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.5	7.4	5	1420	0	856	<3	<0.00005	3.75	0.005	<0.001	0.011	0.09	<0.0005	<0.0005	7.8	<0.00005	0.0001	<0.0005	<0.001	<0.03	14.8
S674155	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	8.1	9	21	0	<0.5	0.5	<0.00005	5.06	1.21	<0.001	<0.001	0.02	<0.0005	<0.0005	<0.1	<0.00005	0.0012	0.0057	<0.001	2.37	0.48
S674161	Blasthole	Footwall waste	7.7	8.7	7	21	0	<0.5	0.9	<0.00005	4.05	1.64	<0.001	0.005	0.04	<0.0005	0.0006	<0.1	<0.00005	0.0002	<0.0005	0.002	0.52	5.4
S674385	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	8.2	8	56	0	12.4	1.3	<0.00005	1.76	0.13	<0.001	<0.001	0.02	<0.0005	<0.0005	0.7	<0.00005	<0.0001	<0.0005	<0.001	0.07	3.94
S674392	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.8	7.7	6	154	0	55.5	1.7	<0.00005	2.3	0.025	<0.001	0.002	0.21	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	4.4
S674400	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8.3	8	24	0	1.3	0.7	<0.00005	2.17	0.473	<0.001	<0.001	0.01	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.0089	<0.001	0.44	2.21
S674410	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	8.3	9	58	0	11.3	1.3	<0.00005	2.2	0.168	<0.001	0.001	0.02	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0007	<0.001	0.11	4.05
S674412	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7	8.2	7	44	0	6.6	0.9	<0.00005	1.7	0.089	<0.001	<0.001	<0.01	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0017	<0.001	0.06	1.74
S674484	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7	8.2	8	57	0	9.9	1.6	<0.00005	2.11	0.079	<0.001	<0.001	<0.01	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0025	<0.001	<0.03	1.19
S674492	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	8.3	7	40	0	4.4	1.1	<0.00005	1.93	0.16	<0.001	<0.001	<0.01	<0.0005	<0.0005	0.4	<0.00005	<0.0001	<0.0005	<0.001	0.06	4.05
S674544	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7	8.2	8	55	0	8.4	1.2	<0.00005	2.52	0.318	<0.001	0.002	0.02	<0.0005	<0.0005	0.5	<0.00005	0.0003	0.0017	<0.001	0.5	4.42
S674802	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	8.1	8	85	0	18.9	1.4	<0.00005	4.13	0.028	<0.001	<0.001	0.02	<0.0005	<0.0005	0.3	<0.00005	0.0001	<0.0005	<0.001	<0.03	0.7
S674793	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	8.2	9	39	0	5.8	1.1	<0.00005	2	0.123	<0.001	<0.001	0.01	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0055	<0.001	0.09	2.38
S674806	Blasthole	Footwall waste	8.1	9	16	45	0	0.9	0.8	<0.00005	4.37	1.58	<0.001	0.005	0.09	<0.0005	<0.0005	0.3	<0.00005	0.0001	<0.0005	0.002	0.45	12.7
S674825	Blasthole	Footwall waste	8.2	9.3	11	30	0	<0.5	<0.5	<0.00005	5.16	2.42	<0.001	0.019	0.05	<0.0005	<0.0005	<0.1	<0.00005	0.0003	<0.0005	0.001	0.95	9.33
S674837	Blasthole	Footwall waste	8.1	9.2	11	34	0	1.1	<0.5	<0.00005	5.61	2.32	<0.001	0.018	0.05	<0.0005	<0.0005	<0.1	<0.00005	0.0003	<0.0005	0.005	0.75	10.1
S674887	Blasthole	Footwall waste	7.6	8.9	11	30	0	1.1	0.5	<0.00005	3.72	1.51	<0.001	0.006	0.04	<0.0005	<0.0005	0.4	<0.00005	0.0003	<0.0005	<0.001	0.57	5.55
S674930	Blasthole	Footwall waste	7.2	8.7	7	33	0	2.1	0.8	<0.00005	2.36	0.686	<0.001	0.002	0.03	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.0008	<0.001	0.24	6.07
S674947	Blasthole	Footwall waste	8	9.5	11	31	0	1.4	<0.5	<0.00005	4.65	2.1	<0.001	0.018	0.01	<0.0005	<0.0005	<0.1	<0.00005	0.0004	<0.0005	0.003	0.92	9.32
S674966	Blasthole	Footwall waste	8	9.3	10	26	0	<0.5	0.7	<0.00005	5.49	2.91	<0.001	0.017	0.01	<0.0005	<0.0005	<0.1	<0.00005	0.0004	<0.0005	0.002	1.07	8.21
S675033	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	8	8	86	0	22.5	0.7	<0.00005	7.59	0.107	<0.001	<0.001	0.02	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.0012	<0.001	0.4	1.42
S675150	Blasthole	Uncalssified	7	8.5	7	30	0	<0.5	0.9	<0.00005	9.61	4.69	<0.001	0.025	0.06	<0.0005	<0.0005	1.3	<0.00005	0.0012	0.0016	0.011	3.17	4.76
S675175	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	8.3	9	36	0	2.9	0.7	<0.00005	2.29	0.226	<0.001	<0.001	0.01	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0016	<0.001	0.29	2.99
S675222	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	8.5	11	46	0	4.4	0.6	<0.00005	3.82	0.094	<0.001	<0.001	<0.01	<0.0005	<0.0005	1.4	<0.00005	<0.0001	0.0164	<0.001	0.13	0.48
S675314	Blasthole	Footwall waste	7.2	8.6	9	34	0	0.7	0.7	<0.00005	12.5	6.36	<0.001	0.013	0.09	<0.0005	<0.0005	0.3	<0.0002	0.0007	0.0021	0.02	1.6	9.51
S675341	Blasthole	Footwall waste	8.5	8.9	36	88	0	0.7	1.2	<0.00005	4.62	0.474	<0.001	0.004	0.03	<0.0005	<0.0005	4.8	<0.0002	<0.0001	<0.0005	<0.001	0.16	11.7
S675367	Blasthole	Footwall waste	7	8.5	7	29	0	0.7	0.7	<0.00005	7.79	3.33	<0.001	0.011	0.06	<0.0005	0.0006	0.4	<0.0003	0.0004	<0.0005	0.007	1.05	6.84
S675385	Blasthole	Footwall waste	8.4	8.9	22	59	0	1	2.4	<0.00005	5.19	1.39	<0.001	0.006	0.02	<0.0005	<0.0005	1.5	<0.00005	0.0002	<0.0005	0.001	0.5	12.5
S675398	Blasthole	Footwall waste	7.3	8.4	8	35	0	1	2	<0.00005	6.39	1.53	<0.001	0.004	0.08	<0.0005	<0.0005	0.4	<0.00005	0.0002	<0.0005	0.003	0.75	6.16
S675420	Blasthole	Footwall waste	7.5	8.4	9	25	0	0.6	0.8	<0.00005	10.2	4.36	<0.001	0.015	0.03	<0.0005	0.0006	0.4	<0.0002	0.001	0.0005	0.019	3.2	5.77
S675763	Blasthole	Footwall schist	7.5	8.3	12	42	0	2	2.7	<0.00005	2.19	0.144	<0.001	<0.001	0.02	<0.0005	<0.0005	0.6	<0.00005	<0.0001	<0.0005	<0.001	0.13	2.23
S675861	Blasthole	Footwall schist	7.6	9.1	7	62	0	13.5	0.7	<0.00005	5.29	2.13	<0.001	0.021	0.02	<0.0005	<0.0005	0.2	<0.00005	0.0005	<0.0005	<0.001	2.02	15.5
S675948	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	8.1	8	44	0	4.6	0.5	<0.00005	2.41	0.112	<0.001	<0.001	<0.01	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0075	<0.001	0.19	0.58
S675964	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	8.2	8	26	0	1.2	0.8	<0.00005	6.02	1.2	<0.001	<0.001	0.01	<0.0005	<0.0005	0.4	<0.00005	0.0007	0.0011	<0.001	2.14	0.96
S676113	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7	8.3	6	110	0	33.5	1.6	<0.00005	2.3	0.061	<0.001	0.003	0.01	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.001	<0.001	<0.03	10.1
S676166	Blasthole	high grade iron oxide	7.6	8.3	19	52	0	0.8	1.3	<0.00005	3.01	0.206	<0.001	<0.001	0.02	<0.0005	<0.0005	1.2	<0.00005	<0.0001	<0.0005	<0.001	0.29	2.54
S676460	Blasthole	Footwall waste	7.9	8.9	35	180	0	7.3	2.1	<0.00005	24	15.5	0.007	0.296	0.07	<0.001	<0.001	0.4	<0.0001	0.0051	0.0076	0.008	30.5	55.5
S676472	Blasthole	Footwall schist	8	8.4	36	174	0	4.9	2.6	<0.00005	4.81	2.12	<0.001	0.02	0.06	<0.0005	<0.0005	0.5	<0.00005	0.0004	0.0006	0.001	1.49	46.2
S676779	Blasthole	Footwall waste	8.2	9.2	13	33	0	0.6	1.4	<0.00005	9.72	4.23	<0.001	0.022	0.01	<0.0005	0.0008	0.3	0.0002	0.0017	0.0013	0.02	2.95	6.36
S676794	Blasthole	Footwall waste	7.6	9.2	10	37	0	1.3	1.8	<0.00005	8.6	2.71	<0.001	0.003	0.02	0.0006	<0.0005	0.2	<0.0004	0.0003	<0.0005	0.011	0.69	7.28
S676804	Blasthole	Uncalssified	7.9	8.2	30	101	0	1.2	6.7	<0.00005	3.8	0.27	<0.001	0.002	0.02	<0.0005	<0.0005	8	0.00007	<0.0001	0.0005	0.002	0.08	4.49
S676839	Blasthole	Footwall waste	8.7	9.2	46	122	0	1.9	8.9	<0.00005	76.4	23.5	0.012	0.018	0.31	0.012	0.0017	1.2	0.00202	0.0023	0.0035	**0.117**	3.9	27.1
S676895	Blasthole	Footwall waste	8.7	9.2	88	230	0	7.6	6	<0.00005	45.6	21	<0.002	0.068	0.16	0.0013	<0.001	4.2	0.00014	0.0094	0.0412	0.018	16.7	61.8
S676945	Blasthole	Footwall waste	9	9.4	104	309	0	4.8	5.9	<0.00005	4.78	1.3	<0.001	0.015	0.14	<0.0005	<0.0005	1.9	<0.00005	0.0004	0.0067	<0.001	0.95	76.1
S676978	Blasthole	Footwall waste	8.1	8.8	54	153	0	<0.5	4.9	<0.00005	8.1	4.61	<0.001	0.035	0.09	<0.0005	<0.0005	0.7	<0.00005	0.0011	0.0326	0.001	2.6	39.6
S676989	Blasthole	Footwall waste	8.5	9	73	130	0	1.1	3.3	<0.00005	292	189	<0.02	0.55	0.79	0.0102	0.012	2.3	<0.001	0.0147	0.0206	**0.186**	61.2	124
S677027	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8.5	34	134	0	19.6	2	<0.00005	3.81	0.179	0.003	<0.001	0.03	<0.0005	<0.0005	0.2	<0.00005	0.0001	0.0024	<0.001	0.19	2.39
S677049	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	7.8	14	601	0	244	4.4	<0.00005	3.04	0.098	<0.001	0.008	0.13	<0.0005	<0.0005	8.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	54.6

Notes:
Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Final pH	pH	Alkalinity	Conductivity	Acidity	SO_4	Cl	Hg	Ag	Al	As	Ba	B	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
		Units >	no unit	no unit	mg/L as CaCO3	uS/cm	mg/L as CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		Metal and Diamonds Mining Effluent Regulations (MDMER) value >	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.1	-	-
S677100	Blasthole	Footwall waste	9	9.3	74	148	0	1.8	2.1	<0.00005	22.4	16.6	<0.002	0.155	0.12	<0.001	<0.001	<0.2	<0.0001	0.0024	0.0039	0.003	9.12	53.6
S677142	Blasthole	Footwall waste	8.2	9	42	126	0	6.3	2.6	<0.00005	57.7	37.4	<0.005	0.458	0.12	<0.003	<0.003	<0.5	<0.0003	0.0058	0.008	<0.005	23.2	51.1
S677607	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	8.3	34	169	0	19.3	3.7	<0.00005	4.65	0.898	<0.001	0.008	0.06	<0.0005	<0.0005	0.9	<0.00005	0.0004	0.0083	<0.001	1.66	26.7
S677624	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	8	16	146	0	29.4	1.7	<0.00005	5.03	0.79	<0.001	0.003	0.03	<0.0005	<0.0005	1.1	0.00011	0.0005	0.0056	0.002	2.35	12.8
S677653	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.9	29	128	0	10.3	2.4	<0.00005	2.38	0.211	<0.001	0.002	0.02	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0006	<0.001	0.17	10.6
S677668	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	8.2	23	127	0	18.1	1.4	<0.00005	5.08	0.523	<0.001	0.003	0.02	<0.0005	<0.0005	0.4	<0.00005	0.0006	0.0041	0.002	1.57	11.1
S677688	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	8.4	41	141	0	12.1	2.9	<0.00005	2.66	0.182	<0.001	<0.001	0.02	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0043	<0.001	0.13	14.2
S677808	Blasthole	Footwall waste	8	8.9	37	93	0	1.6	4	<0.00005	77.7	38.8	<0.005	0.287	0.63	<0.003	<0.003	1	<0.0003	0.0065	0.0189	0.018	22.8	36.4
S677827	Blasthole	Footwall waste	8.4	9	82	200	0	1.8	4.3	<0.00005	53.3	25.3	<0.001	0.147	0.17	0.001	0.0056	5.1	<0.0006	0.0054	0.0093	0.052	18.6	52.7
S677887	Blasthole	Footwall waste	8.3	8.9	36	92	0	1	2.8	<0.00005	52.4	32.7	<0.005	0.286	0.16	<0.003	<0.003	0.7	<0.0003	0.0083	0.0046	<0.005	35.3	33
S677900	Blasthole	Footwall waste	9	9.2	81	220	0	2.7	4	<0.00005	13.6	4.04	<0.001	0.044	0.14	<0.0005	<0.0005	2.6	<0.00005	0.0016	0.0461	0.002	3.16	52.4
S677906	Blasthole	Footwall waste	8.4	8.8	45	110	0	0.7	2.4	<0.00005	85.3	55	<0.002	0.536	0.05	0.0014	0.0032	1.2	0.00019	0.0162	0.0101	**0.164**	43.2	49.5
B625662	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7	7.8	18	160	0	36.6	2.6	<0.00005	3.51	0.203	<0.001	0.003	0.14	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0006	<0.001	0.23	10.4
B625663	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	8.2	30	118	0	4.7	2	<0.00005	1.46	0.469	<0.001	<0.001	0.1	<0.0005	<0.0005	0.2	<0.00005	0.0002	0.0019	<0.001	0.14	12
B625664	Blasthole	Footwall waste	7.9	8.7	38	74	0	0.6	2.8	<0.00005	57.3	40.6	<0.005	0.11	0.28	0.003	<0.003	0.7	<0.0003	0.0049	<0.003	0.008	14.6	27.8
B625676	Blasthole	Footwall schist	8.9	9.1	51	145	0	1.6	4	<0.00005	31.3	20.5	<0.001	0.138	0.1	<0.0005	<0.0005	0.3	<0.00005	0.0048	0.004	0.004	21.1	50
B625683	Blasthole	Footwall waste	8.8	9	77	218	0	1.4	6.9	<0.00005	4.94	0.192	<0.001	0.003	0.17	<0.0005	<0.0005	5.5	<0.0003	<0.0001	<0.0005	<0.001	<0.03	51.6
B625906	Blasthole	Overburden	7.5	8.1	18	69	0	4.9	3.2	<0.00005	10.4	4.12	<0.001	<0.001	0.06	<0.0005	<0.0005	0.7	<0.00005	0.0031	0.0024	0.002	8.39	3.58
B626264	Blasthole	Footwall waste	8.8	8.9	88	213	0	1.4	4	<0.00005	16.9	7.64	<0.001	0.054	0.06	0.0007	0.0006	3.3	0.00021	0.0034	0.0066	0.038	7.58	45.3
B626265	Blasthole	Footwall waste	9.3	9.4	70	181	0	3.3	10.8	<0.00005	92.8	21.6	0.011	0.03	0.07	0.0078	0.0013	1.9	0.00277	0.0022	0.0029	0.067	6.56	33.9
B626302	Blasthole	Footwall waste	8.8	9.2	67	189	0	5.4	6.1	<0.00005	14.8	5.9	<0.001	0.023	0.08	<0.0005	<0.0005	3.6	<0.0002	0.0023	0.0125	0.014	4.2	39.4
B626314	Blasthole	Footwall waste	9.1	9.2	64	155	0	1.3	6.5	<0.00005	107	25.3	0.011	0.032	0.04	0.0083	0.0024	1.7	<0.01	0.0022	0.0038	0.011	6.22	32.5
B626326	Blasthole	Footwall waste	8.9	9	72	221	0	8.3	6.2	<0.00005	7.12	1.87	<0.001	0.006	0.22	<0.0005	<0.0005	4.3	<0.00005	0.0006	0.0105	0.002	1.03	44.6
B626952	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.5	16	396	0	148	5.3	<0.00005	3.58	0.12	<0.001	0.008	0.16	<0.0005	<0.0005	1.8	<0.00005	<0.0001	<0.0005	<0.001	0.13	25.5
B626972	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.7	7	7	804	0	421	2.9	<0.00005	3.78	0.042	<0.001	0.007	0.23	<0.0005	<0.0005	7.8	<0.00005	0.0004	<0.0005	<0.001	0.06	12.3
B627000	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.3	7.6	16	409	0	174	4	<0.00005	3.14	0.076	<0.001	0.001	0.2	<0.0005	<0.0005	1.1	<0.00005	0.0001	<0.0005	<0.001	0.06	7.81
B627106	Blasthole	Overburden	7.5	8	30	99	0	<0.5	3.1	<0.00005	3.99	0.443	<0.001	<0.001	0.07	<0.0005	<0.0005	2.2	<0.00005	0.0003	<0.0005	<0.001	0.86	2.39
B627271	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	8	25	74	0	4.7	3.2	<0.00005	18.3	5.76	<0.001	0.002	0.04	<0.0005	<0.0005	0.2	<0.00005	0.0061	0.0041	0.006	22.6	0.35
B627356	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	7.9	26	86	0	1.1	2.9	<0.00005	2.04	0.218	<0.001	<0.001	0.02	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0016	<0.001	0.29	4.86
B627389	Blasthole	Overburden	8.4	8.9	71	201	0	2.9	6	<0.00005	20.7	10.7	<0.001	0.055	0.2	0.0007	<0.0005	3.2	<0.0001	0.0024	0.0069	0.009	8.24	51.7
B627414	Blasthole	Footwall waste	8.4	8.7	79	228	0	1.1	6.4	<0.00005	3.1	0.239	<0.001	0.004	0.08	<0.0005	<0.0005	6.3	<0.0001	<0.0001	0.0048	<0.001	0.06	43
B627591	Blasthole	Footwall waste	8.2	8.7	60	152	0	0.9	3.8	<0.00005	16.4	7.32	<0.001	0.033	0.16	<0.0005	0.0005	2.8	<0.0001	0.0033	0.0153	0.013	5.58	38.1
B627592	Blasthole	Footwall waste	8.7	9.2	57	131	0	1.2	2.2	<0.00005	47	29.1	<0.002	0.16	0.08	<0.001	0.0029	0.5	<0.002	0.0059	0.0023	0.058	21.6	51.8
B627851	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8.2	18	108	0	16.7	5.2	<0.00005	4.13	0.607	<0.001	<0.001	0.04	<0.0005	<0.0005	<0.1	<0.00005	0.0004	0.01	<0.001	2.07	2.18
B627842	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	8	33	134	0	6.5	6.9	<0.00005	2.82	0.131	<0.001	<0.001	0.04	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0027	<0.001	0.16	3.14
B628011	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	8.1	34	96	0	1.6	3.2	<0.00005	7.04	1.19	<0.001	0.001	0.02	<0.0005	<0.0005	1.4	<0.00005	0.0007	0.01	<0.001	2.94	4.34
B627997	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	8.1	27	84	0	4.7	3	<0.00005	1.51	0.278	<0.001	<0.001	0.01	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0025	<0.001	0.16	1.21
B627992	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	8	23	97	0	11.2	4.1	<0.00005	2.99	0.21	<0.001	<0.001	0.02	<0.0005	<0.0005	0.9	<0.00005	<0.0001	0.0006	<0.001	0.43	3.46
B628037	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.4	8.1	17	63	0	4.2	1.8	<0.00005	4.7	1.22	<0.001	<0.001	0.01	<0.0005	<0.0005	0.5	<0.00005	0.001	0.0091	0.005	3.26	0.64
B628293	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	6.9	7.3	7	543	0	268	5.9	<0.00005	4.66	0.033	<0.001	<0.001	0.12	<0.0005	<0.0005	8.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	2.63
B628297	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.5	8	24	74	0	4.3	4	<0.00005	11.6	3.42	0.001	<0.001	0.05	<0.0005	<0.0005	1	<0.00005	0.0028	0.0214	0.002	9.63	0.72
B628303	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B628533	Blasthole	Footwall waste	9.1	9.5	48	160	0	3.3	11.2	<0.00005	42	14.6	0.011	0.029	0.07	0.0027	<0.001	0.8	<0.001	0.0015	0.0017	0.012	3.11	31.9
B628558	Blasthole	Footwall waste	9	9.5	111	270	0	2.5	7.8	<0.00005	36.3	16.4	0.004	0.064	0.08	0.0028	0.001	1.5	<0.001	0.0037	0.0164	0.027	8.95	48.2
B628690	Blasthole	Footwall waste	8.5	9.1	58	139	0	2	1.9	<0.00005	51.2	38.3	<0.005	0.161	0.33	<0.003	0.0067	<0.5	<0.0003	0.0101	0.0735	**0.16**	18.8	57.3
B628727	Blasthole	Footwall waste	8.1	9	83	260	0	3.9	18.4	<0.00005	4.56	0.931	<0.001	0.021	0.11	<0.0005	<0.0005	10.6	<0.00005	0.0002	0.0007	0.003	0.52	27.7
B628752	Blasthole	Footwall waste	9.1	9.2	63	191	0	16.7	1.7	<0.00005	40.2	28.2	<0.005	0.351	0.33	<0.003	<0.003	0.6	0.0019	0.0048	0.0051	0.019	15.1	68.4
B628776	Blasthole	Footwall waste	8.7	8.9	65	183	0	5.3	4.1	<0.00005	15.8	11.5	<0.001	0.053	0.22	<0.0005	0.0008	0.4	<0.00005	0.0029	0.0069	0.021	9.39	47.6
B628790	Blasthole	Footwall waste	9.1	9.3	48	136	0	3.9	4.5	<0.00005	49.6	34.3	<0.005	0.366	0.08	<0.003	<0.003	<0.5	<0.0003	0.0061	0.0065	0.016	20	47.1
B628821	Blasthole	Footwall waste	8.4	8.8	45	136	0	1.4	9.6	<0.00005	6.23	3.19	<0.001	0.012	0.11	<0.0005	<0.0005	0.3	<0.00005	0.0006	0.0006	0.001	3.58	29.1
B628884	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.3	33	83	0	0.6	3.2	<0.00005	2.37	0.738	<0.001	<0.001	0.06	<0.0005	<0.0005	0.4	<0.00005	0.0002	0.0043	<0.001	0.71	8.8
B628940	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.3	46	117	0	2.9	3.2	<0.00005	3	0.209	<0.001	<0.001	0.02	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0008	<0.001	0.36	3.15
B629329	Blasthole	Footwall schist	9.5	9.6	57	164	0	11.1	1	<0.00005	43	27.6	<0.005	0.671	<0.05	<0.003	<0.003	<0.5	<0.0003	0.0055	0.0033	0.012	40.2	59.2
B629344	Blasthole	Footwall waste	9.3	9.5	61	150	0	2.5	1.7	<0.00005	39.9	30.5	<0.005	0.411	0.14	<0.003	<0.003	0.5	<0.0003	0.0052	0.0061	0.014	34	64.2
B629378	Blasthole	Footwall waste	9.6	9.8	70	164	0	0.9	0.6	<0.00005	38.3	29.4	<0.005	0.633	<0.05	<0.003	<0.003	0.8	<0.0003	0.0053	0.005	0.009	28.6	66.7
B629391	Blasthole	Footwall waste	9.4	9.6	64	145	0	1	0.8	<0.00005	53.6	40	<0.005	0.561	0.12	<0.003	<0.003	0.7	<0.0003	0.0072	0.0112	0.027	22.3	61.5
B629510	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	8.2	31	123	0	8.5	5.5	<0.00005	8.48	4.33	<0.001	0.003	0.15	<0.0005	<0.0005	0.8	<0.00005	0.0006	0.0011	<0.001	3.36	20
B629533	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.9	15	196	0	53.7	2.2	<0.00005	3.48	0.342	<0.001	<0.001	0.11	<0.0005	<0.0005	0.5	<0.00005	<0.0001	<0.0005	<0.001	0.11	18.2
B629584	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	8.1	30	110	0	13.4	1.9	<0.00005	1.77	0.26	0.002	<0.001	0.02	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0019	<0.001	<0.03	1.81
B629819	Blasthole	Footwall waste	8.2	8.7	32	85	0	<0.5	3.4	<0.00005	24.1	14.4	<0.002	0.059	0.09	<0.001	<0.001	0.3	<0.0001	0.003	0.0011	0.004	9.29	26.2
B629821	Blasthole	Footwall waste	8.1	8.6	33	82	0	1.3	2.4	<0.00005	22.7	14.5	<0.002	0.122	0.08	<0.001	<0.001	0.4	0.00026	0.0033	0.006	0.016	10	24.5
B629846	Blasthole	Footwall waste	8.1	8.7	45	292	0	72.2	5.8	<0.00005	5.62	0.798	<0.001	0.026	0.07	<0.0005	<0.0005	6.3	0.0009	0.0001	0.0014	0.001	0.26	32.4
B629849	Blasthole	Footwall waste	8.8	9	62	148	0	3.4	2.6	<0.00005	31.4	16.1	<0.002	0.17	0.08	<0.001	<0.001	2.6	0.0001	0.0075	0.063	0.057	15.2	37
B629919	Blasthole	Footwall waste	8.3	8.6	42	85	0	0.6	2.6	<0.00005	62.9	42	<0.005	0.138	0.26	<0.003	<0.003	0.6	<0.0003	0.005	0.0038	0.015	18.8	35
B630004	Blasthole	Overburden	8.3	8.5	71	184	0	0.6	7.1	<0.00005	4.7	0.524	<0.001	0.005	0.19	<0.0005	<0.0005	5.8	<0.0001	0.0002	0.0039	<0.001	0.4	28.7
B630005	Blasthole	Footwall waste	8.2	8.8	45	119	0	2.5	3.1	<0.00005	28.6	17.7	<0.002	0.145	0.06	<0.001	0.0048	0.6	<0.0002	0.0036	0.0017	0.027	13	39.7
B630061	Blasthole	Footwall waste	8.9	9.1	86	220	0	4.3	4.7	<0.00005	20.6	8.58	<0.001	0.037	0.18	<0.0005	<0.0005	4.6	<0.0001	0.0039	0.0135	0.019	6.62	53.1
B630226	Blasthole	Footwall waste	7.6	8.3	25	175	0	36.2	1.9	<0.00005	16.6	8.59	<0.001	0.072	0.27	<0.0005	<0.0005	0.4	<0.00005	0.002	0.0009	0.005	7.48	48
B630627	Blasthole	Footwall waste	8.7	8.9	93	255	0	3.7	7.8	<0.00005	4.79	1.12	<0.001	0.007	0.16	<0.0005	<0.0005	4.3	<0.00005	0.0003	0.0039	0.001	0.61	55.8
B630629	Blasthole	Footwall waste	9.4	9.7	119	273	0	2	4.8	<0.00005	37.5	18.2	<0.001	0.153	0.09	0.0019	0.0009	2.4	<0.0002	0.0037	0.0049	0.019	9.85	61.2
B630605	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.3	42	127	0	6	6.6	<0.00005	2.06	0.224	<0.001	<0.001	0.06	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0015	<0.001	0.17	1.77
B630829	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.2	7.9	14	230	0	70.2	1.3	<0.00005	7.06	0.053	<0.001	<0.001	0.05	<0.0005	<0.0005	0.5	<0.00005	0.0002	<0.0005	<0.001	0.15	2.12
B630842	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	8	28	109	0	11.1	3	<0.00005	2.68	0.208	<0.001	<0.001	0.01	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0008	<0.001	0.33	3.23
B630868	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8.1	47	161	0	15	2.8	<0.00005	4.92	0.218	<0.001	<0.001	0.03	<0.0005	<0.0005	0.5	<0.00005	0.0002	0.0052	<0.001	0.47	0.4
B630915	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	8	8.3	56	128	0	3.2	2.2	<0.00005	3.94	0.105	<0.001	<0.001	0.02	<0.0005	<0.0005	3.8	<0.00005	<0.0001	0.001	<0.001	0.13	0.2
B631209	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.6	8.1	28	134	0	22.4	4.3	<0.00005	3.66	0.237	<0.001	0.001	0.05	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.001	<0.001	0.25	12
B631232	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.8	8.2	33	96	0	3.3	4.2	<0.00005	6.87	2.89	<0.001	0.003	0.17	<0.0005	<0.0005	0.7	<0.00005	0.0009	0.0049	0.001	4.18	13.9
B631245	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.4	37	118	0	8	2.1	<0.00005	1.65	0.414	<0.001	0.002	0.02	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0022	<0.001	0.11	12.6
B631297	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.4	43	131	0	6.5	3.5	<0.00005	2.07	0.318	<0.001	0.003	0.03	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0017	<0.001	0.16	14
B631901	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.9	8.2	49	132	0	<0.5	3.9	<0.00005	3.04	0.192	<0.001	0.001	0.03	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.001	<0.001	0.21	3.45
B632258	Blasthole	Footwall waste	8.4	8.5	73	327	0	71.5	2.8	<0.00005	2.92	0.14	<0.001	0.018	0.02	<0.0005	<0.0005	5.7	<0.00005	<0.0001	0.014	<0.001	<0.03	30.8
B632287	Blasthole	Footwall waste	8	8.4	46	303	0	82.7	5.1	<0.00005	2.46	0.156	<0.001	0.008	<0.01	<0.0005	<0.0005	7.8	<0.00005	<0.0001	0.0026	<0.001	<0.03	22.8
B632288	Blasthole	Footwall waste	8.5	8.9	52	272	0	62.5	1.4	<0.00005	21	15.1	<0.001	0.12	0.02	<0.0005	<0.0005	0.3	<0.00005	0.003	0.0057	0.006	9.16	71.9
B632721	Blasthole	Footwall waste	8.5	8.9	71	175	0	1	3.1	<0.00005	15	10	<0.001	0.051	0.18	0.0012	<0.0005	0.6	<0.00005	0.003	0.034	0.003	5.87	48.8
B632731	Blasthole	Footwall waste	9.1	9.5	66	148	0	4.6	2	<0.00005	72.3	46.9	<0.005	0.841	0.06	<0.003	<0.003	0.8	<0.0003	0.0135	0.0146	0.053	38	70
B632739	Blasthole	Footwall waste	7.7	8.4	38	370	0	96.8	5.5	<0.00005	3.25	0.895	<0.001	0.017	0.41	<0.0005	<0.0005	2	<0.00005	0.0001	0.0028	<0.001	0.33	89.5
B632769	Blasthole	Footwall waste	8.3	8.7	52	113	0	3.6	4.9	<0.00005	40	34	<0.005	0.345	0.54	0.0059	<0.003	1.3	<0.0003	0.0121	0.0032	0.062	30.1	45
B632800	Blasthole	Footwall waste	8.7	8.9	71	130	0	1.2	3.8	<0.00005	52.3	46.5	<0.005	0.298	0.51	0.0052	<0.003	0.9	<0.0003	0.0138	0.008	0.051	39.7	57.2
B632806	Blasthole	Footwall waste	9.3	9.6	98	211	0	2.4	1.4	<0.00005	5.11	5.45	<0.001	0.015	0.09	<0.0005	<0.0005	<0.1	<0.00005	0.0004	0.001	<0.001	1.14	72.9
B632821	Blasthole	Footwall waste	7.2	8	18	373	0	121	3.3	<0.00005	2.43	0.306	<0.001	0.015	0.28	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	0.05	81.6
B632831	Blasthole	Footwall waste	7.6	8.5	30	557	0	180	2.6	<0.00005	2.4	0.679	<0.001	0.021	0.15	<0.0005	<0.0005	3.1	<0.00005	<0.0001	<0.0005	<0.001	0.15	153
B632856	Blasthole	Footwall waste	8.6	9.1	53	193	0	27.7	2.4	<0.00005	29.8	26.2	<0.002	0.278	0.13	0.0015	<0.001	0.4	<0.0001	0.0058	0.0029	0.005	23.5	64.6
B632906	Blasthole	Overburden	7.9	8.2	70	293	0	36.3	15.3	<0.00005	3.82	0.216	<0.001	0.014	0.17	<0.0005	<0.0005	12	<0.00005	<0.0001	<0.0005	0.001	0.05	32.8
B633053	Blasthole	Footwall waste	9.4	10	126	300	0	12.4	1.2	<0.00005	17.2	16.4	0.004	0.209	0.03	<0.001	<0.001	0.3	<0.0001	0.0032	0.0021	0.008	8.92	110
B633077	Blasthole	Footwall waste	8.3	9.2	74	247	0	26	2.3	<0.00005	11.5	8.72	<0.001	0.062	0.04	0.0005	<0.0005	0.2	<0.00005	0.0014	0.0011	0.002	7.06	74.7
B633122	Blasthole	Overburden	8	8.5	77	243	0	3.9	18.7	<0.00005	4.46	1.04	<0.001	0.021	0.11	<0.0005	<0.0005	10.7	<0.00005	0.0003	0.0006	0.003	0.65	27.5
B633141	Blasthole	Overburden	8	8.6	63	180	0	2.9	7.2	<0.00005	6.03	2.14	<0.001	0.036	0.08	<0.0005	<0.0005	6.1	<0.00005	0.0008	0.0007	0.003	1.45	27
B633168	Blasthole	Overburden	7.9	8.4	53	180	0	1.2	13.2	<0.00005	2.87	0.541	<0.001	0.009	0.07	<0.0005	<0.0005	4.3	<0.00005	0.0001	<0.0005	<0.001	0.38	23.3
B633242	Blasthole	Uncalssified	8	8.8	60	175	0	3.5	6.7	<0.00005	6.92	3.77	<0.001	0.058	0.06	<0.0005	<0.0005	5	<0.00005	0.0014	0.0015	0.003	3.05	32.2
B633308	Blasthole	Overburden	8.2	8.7	99	326	0	5.5	30.8	<0.00005	5.37	0.151	<0.001	0.013	0.17	<0.0005	<0.0005	18.6	<0.00005	<0.0001	<0.0005	0.005	0.03	20.7
B633459	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.1	7.7	14	865	0	454	5.8	<0.00005	3.7	0.027	<0.001	0.017	0.17	<0.0005	<0.0005	4.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	25.3
B633565	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	7.9	39	133	0	4.4	6.1	<0.00005	1.96	0.203	<0.001	<0.001	0.05	<0.0005	<0.0005	0.3	<0.00005	<0.0001	<0.0005	<0.001	0.12	0.77
B633859	Blasthole	Footwall waste	8	8.8	44	149	0	6.7	3.2	<0.00005	6.87	4.04	<0.001	0.03	0.31	<0.0005	<0.0005	0.3	<0.00005	0.0011	0.0091	0.007	3.13	40.3
B633860	Blasthole	Footwall waste	8.1	9	45	138	0	3.9	2.1	<0.00005	30.3	20.9	<0.001	0.126	0.11	0.0007	0.0041	0.2	<0.00005	0.0035	0.0064	0.03	10.8	48.1
B633925	Blasthole	Footwall waste	8.6	8.8	43	124	0	4.9	2.6	<0.00005	28.2	21.3	<0.005	0.244	0.22	<0.003	<0.003	0.6	<0.0003	0.003	<0.003	0.017	10.2	42.7
B633929	Blasthole	Footwall waste	9.6	9.7	107	275	0	1.1	2.5	<0.00005	28	16.2	<0.002	0.128	0.1	<0.001	<0.001	2.9	<0.0001	0.0069	0.018	0.014	16.7	82.8
B633971	Blasthole	Footwall waste	9.2	9.3	66	174	0	5.6	2.4	<0.00005	35	26.6	<0.005	0.245	0.14	<0.003	<0.003	<0.5	<0.0003	0.0041	0.0032	0.054	21.6	62.4
B634381	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	7.7	8.1	45	129	0	1.3	1.2	<0.00005	3.24	0.137	<0.001	<0.001	0.02	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0062	<0.001	0.19	0.67
B634433	Blasthole	Footwall waste	9.6	9.6	70	154	0	1.2	0.8	<0.00005	33.3	25.7	<0.005	0.451	0.19	<0.003	<0.003	0.9	<0.0003	0.005	0.0033	0.019	19.9	59.4
B634434	Blasthole	Footwall waste	9.3	9.5	56	143	0	2.1	0.7	<0.00005	21.7	18.3	<0.002	0.388	0.05	<0.001	<0.001	0.6	<0.0001	0.0042	0.003	0.015	14.1	48.7
B636102	Blasthole	Footwall schist	8.4	8.9	52	167	0	2.5	5.1	<0.00005	7.6	4.96	<0.001	0.032	0.06	<0.0005	<0.0005	0.2	<0.00005	0.0012	0.0007	<0.001	6.21	43.2
B636103	Blasthole	Footwall waste	8.6	9	44	109	0	0.7	3.3	<0.00005	23.4	17.5	<0.005	0.073	0.12	<0.003	<0.003	<0.5	<0.0003	0.0029	<0.003	0.016	7.3	35.1
B636150	Blasthole	Footwall waste	8.3	8.7	42	115	0	2	2.1	<0.00005	24.3	19.6	<0.005	0.066	0.35	<0.003	<0.003	1	<0.0003	0.0032	<0.003	<0.005	9.63	32.7
B636151	Blasthole	Footwall waste	8.7	9.1	51	144	0	0.9	4.2	<0.00005	12.1	8.77	<0.002	0.066	0.06	<0.001	<0.001	0.4	<0.0001	0.0019	0.0011	0.003	6.94	40.8

Notes:

Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

(Data extracted from electronic data file "SFE ABA Results forGolderv2" supplied electronically from BIM in email from T. Brisco to K. DeVos and A. Parada, March 24, 2023)

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	U	V	Zn
		Units >	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		Metal and Diamonds Mining Effluent Regulations (MDMER) value >	-	-	-	-	-	0.25	0.08	-	-	-	-	-	-	-	-	0.4
R797878+R797990	Blasthole	Uncalssified	0.014	3.43	0.0035	0.0134	3.1	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0042	<0.01	<0.0001	0.00002	<0.001	<0.01
S113810+S113784	Blasthole	high grade iron oxide	0.018	210	0.108	0.0001	0.38	0.0028	<0.0001	<0.0001	0.0038	<0.0005	0.0067	<0.01	<0.0001	<0.00001	<0.001	<0.01
S113836+S113783	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.018	16	0.0016	0.0011	4.27	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0128	<0.01	<0.0001	0.00001	<0.001	<0.01
S112288+S112259	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.037	40.2	0.0188	0.0008	3.35	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0112	<0.01	<0.0001	<0.00001	<0.001	<0.01
S112280+S112286	Blasthole	Uncalssified	0.007	2.36	0.0302	0.0181	3.5	0.0022	0.0009	0.0001	0.0008	<0.0005	0.0029	0.24	<0.0001	0.0003	0.006	<0.01
S112537+S112538	Blasthole	high grade iron oxide	0.026	5.32	0.014	0.0568	2.37	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.009	<0.01	<0.0001	<0.00001	<0.001	<0.01
S112540+S112545	Blasthole	Footwall waste	0.011	1.03	0.0142	0.0033	2.42	<0.0005	0.0001	<0.0001	<0.0005	<0.0005	0.0011	0.03	<0.0001	0.00043	0.004	<0.01
S112539+S112546	Blasthole	Footwall waste	0.031	4.98	0.224	0.0131	3.71	0.0033	0.014	0.0001	<0.0005	<0.0005	0.0078	0.26	<0.0001	0.00377	0.007	0.03
S112798+S112794	Blasthole	Footwall waste	0.013	1.13	0.032	0.0027	4.26	0.001	0.0003	<0.0001	<0.0005	<0.0005	0.0018	0.09	<0.0001	0.00057	0.014	<0.01
S112790+S112840	Blasthole	Footwall waste	0.024	1.83	0.0259	0.0348	5.76	<0.0005	0.0004	0.0001	<0.0005	<0.0005	0.0062	0.05	<0.0001	0.00053	0.004	<0.01
S112816+S112809	Blasthole	Footwall waste	0.017	1.57	0.0776	0.0221	7.86	0.0014	0.0021	0.0003	<0.0005	<0.0005	0.005	0.27	<0.0001	0.00212	0.015	<0.01
S112908+S112011	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	74.3	0.0231	0.0061	2.48	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	0.0054	<0.01	<0.0001	<0.00001	<0.001	<0.01
S111556+S111776	Blasthole	Footwall waste	0.008	232	0.407	0.0099	1.57	0.0005	<0.0001	<0.0001	0.0025	<0.0005	0.0074	<0.01	<0.0001	0.00003	<0.001	<0.01
S111761+S113462	Blasthole	Footwall waste	0.058	3.57	0.0025	0.0115	4.85	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0057	<0.01	<0.0001	0.00004	0.001	<0.01
S111789+S111739	Blasthole	Footwall schist	0.023	10.7	0.0038	0.009	6.4	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0072	<0.01	<0.0001	0.00002	<0.001	<0.01
S111773+S111762	Blasthole	Footwall schist	0.08	49.8	0.0588	0.0078	3.34	<0.0005	<0.0001	<0.0001	0.0016	<0.0005	0.0318	<0.01	<0.0001	0.00004	<0.001	<0.01
S113100+S113466	Blasthole	Footwall waste	0.013	1.27	0.026	0.0075	3.7	0.0009	0.0004	<0.0001	<0.0005	<0.0005	0.0007	0.12	<0.0001	0.00044	0.009	<0.01
S113233+S113268	Blasthole	Footwall waste	0.012	1.6	0.0137	0.0361	2.97	0.0009	0.0004	<0.0001	<0.0005	<0.0005	0.0013	0.11	<0.0001	0.00014	0.005	<0.01
S113294+S109197	Blasthole	Footwall waste	0.015	1.38	0.0144	0.008	3.66	0.0011	0.0005	<0.0001	<0.0005	<0.0005	0.0012	0.09	<0.0001	0.00022	0.007	<0.01
S109071+S109185	Blasthole	Footwall waste	0.01	1.05	0.0081	0.0057	3.7	0.0014	0.0005	<0.0001	<0.0005	<0.0005	0.0007	0.13	<0.0001	0.00013	0.01	<0.01
S109138+S109163	Blasthole	Footwall waste	0.018	1.25	0.0033	0.0047	3.16	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0016	0.02	<0.0001	0.00004	0.004	<0.01
S109161+S109204	Blasthole	Footwall waste	0.029	1.35	0.0093	0.0043	3.16	<0.0005	0.0004	0.0002	<0.0005	<0.0005	0.0021	0.09	<0.0001	0.00021	0.006	<0.01
S109272+S109295	Blasthole	Overburden	<0.005	11.1	0.0026	0.0043	2.96	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0032	<0.01	<0.0001	<0.00001	<0.001	<0.01
S109266+S109325	Blasthole	Overburden	<0.005	18.3	0.0065	0.0055	1.53	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.004	<0.01	<0.0001	<0.00001	<0.001	<0.01
S109415+S109423	Blasthole	Footwall waste	0.008	2.83	0.0268	0.0112	3.99	0.0023	0.0013	<0.0001	0.0013	<0.0005	0.0025	0.39	0.0001	0.00066	0.012	<0.01
S110078+S110013	Blasthole	Overburden	0.105	14.9	0.0048	0.0005	5.83	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0103	<0.01	<0.0001	<0.00001	<0.001	<0.01
S110286+S110293	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	15.9	0.0049	0.004	1.34	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0043	<0.01	<0.0001	<0.00001	<0.001	<0.01
S108739+S108760	Blasthole	Footwall schist	0.008	2.89	0.0234	0.0365	2.82	0.001	0.0004	0.0002	<0.0005	<0.0005	0.0039	0.17	<0.0001	0.00027	0.006	<0.01
S108881+S108885	Blasthole	Footwall waste	0.046	4.39	0.0511	0.0126	2.53	0.002	0.0012	<0.0001	<0.0005	<0.0005	0.004	0.33	0.0001	0.00096	0.011	<0.01
S108886+S666176	Blasthole	Footwall waste	0.044	5.88	0.0899	0.0083	3.6	0.0043	0.0015	<0.0001	<0.0005	<0.0005	0.0065	0.25	0.0001	0.00134	0.013	<0.01
S108960+S108965	Blasthole	Footwall waste	0.106	6.36	0.0597	0.014	2.79	0.0057	0.0019	0.0001	0.0011	<0.0005	0.0127	0.22	<0.0001	0.0007	0.009	0.03
S108977+S108979	Blasthole	Footwall waste	0.051	5.34	0.0566	0.0021	3	0.0029	0.0032	0.0001	<0.0005	<0.0005	0.0087	0.28	0.0001	0.00161	0.013	0.03
S108991+S108995	Blasthole	Uncalssified	0.035	4.52	0.0544	0.0052	3.83	0.004	0.0041	<0.0001	<0.0005	<0.0005	0.0062	0.28	<0.0001	0.00085	0.019	0.01
S666051+S666054	Blasthole	Footwall waste	0.01	3.71	0.0563	0.0081	3.46	0.0015	0.007	<0.0001	<0.0005	<0.0005	0.0037	0.33	0.0001	0.00126	0.019	0.02
S666084+S666089	Blasthole	Footwall waste	0.066	3.66	0.0447	0.0011	3.73	0.0019	0.0008	<0.0001	<0.0005	<0.0005	0.0081	0.18	<0.0001	0.00048	0.012	<0.01
S666113+S666119	Blasthole	Footwall waste	0.017	2.9	0.0397	0.0066	3.23	0.002	0.0034	<0.0001	<0.0005	<0.0005	0.0033	0.21	<0.0001	0.00053	0.015	0.01
S666123+S666125	Blasthole	Footwall waste	0.049	2.61	0.0268	0.0009	3.41	0.0024	0.0009	<0.0001	<0.0005	<0.0005	0.0036	0.12	<0.0001	0.00066	0.008	<0.01
S666131+S666132	Blasthole	Footwall waste	0.052	3.42	0.0354	0.001	3.43	0.0022	0.001	<0.0001	<0.0005	<0.0005	0.0044	0.16	<0.0001	0.00084	0.008	<0.01
S666144+S666146	Blasthole	Footwall waste	0.014	2.65	0.032	0.0035	2.5	0.0017	0.0016	<0.0001	<0.0005	<0.0005	0.0023	0.14	<0.0001	0.00074	0.009	<0.01
S666147+S666148	Blasthole	Footwall waste	0.011	2.22	0.0266	0.0033	2.98	0.0019	0.0009	0.0001	<0.0005	<0.0005	0.0024	0.17	<0.0001	0.00058	0.016	<0.01
S666151+S666153	Blasthole	Footwall waste	0.043	2.83	0.0285	0.0014	2.84	0.0017	0.0015	<0.0001	<0.0005	<0.0005	0.0037	0.08	<0.0001	0.00113	0.006	<0.01
S666301+S666299	Blasthole	Footwall schist	0.009	3.1	0.0499	0.0088	3.23	0.0012	0.0039	0.0001	<0.0005	<0.0005	0.0059	0.24	0.0001	0.00172	0.013	<0.01
S666302+S666300	Blasthole	high grade iron oxide	0.006	3.98	0.0017	0.0128	2.18	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0032	<0.01	<0.0001	0.00002	<0.001	<0.01
S666542+S666557	Blasthole	Uncalssified	0.005	7.58	0.0024	0.0041	1.55	<0.0005	<0.0001	<0.0001	0.0005	<0.0005	0.007	<0.01	<0.0001	0.00001	<0.001	<0.01
S666613+S666610	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.006	86.8	0.0674	0.0029	2.75	<0.0005	<0.0001	<0.0001	0.0022	<0.0005	0.0085	<0.01	<0.0001	<0.00001	<0.001	<0.01
S666640+S666641	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.136	136	1.56	<0.0001	1.02	0.0277	<0.0001	<0.0001	0.0024	<0.0005	0.0299	<0.01	<0.0001	0.00001	<0.001	<0.01
S666663+S666664	Blasthole	Uncalssified	0.006	3.24	0.0115	0.0188	15.7	0.0006	0.0009	0.0001	0.0009	<0.0005	0.0119	0.02	<0.0001	0.00941	0.003	<0.01
S666909+S666954	Blasthole	Footwall schist	0.026	2.47	0.03	0.0055	3.43	0.0014	0.0013	<0.0001	<0.0005	<0.0005	0.0034	0.11	<0.0001	0.00211	0.007	<0.01
S666939+S666964	Blasthole	Footwall waste	0.034	3.53	0.0365	0.0025	4.1	0.0026	0.0023	<0.0001	<0.0005	<0.0005	0.0056	0.12	<0.0001	0.00079	0.007	<0.01
S666947+S666948	Blasthole	Footwall waste	0.025	2.21	0.028	0.0012	3.38	0.0014	0.0013	<0.0001	<0.0005	<0.0005	0.0031	0.12	<0.0001	0.00098	0.008	<0.01
S666974+S667165	Blasthole	high grade iron oxide	0.112	29.7	0.119	0.0046	1.3	0.0015	<0.0001	<0.0001	0.0021	<0.0005	0.0151	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667190+S667145	Blasthole	Overburden	0.036	41.4	0.0065	0.0369	2.53	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	0.0144	<0.01	<0.0001	0.00001	<0.001	<0.01
S667217+S667058	Blasthole	Overburden	0.008	9.69	0.0028	0.0258	3.9	<0.0005	<0.0001	0.0002	0.0006	<0.0005	0.0042	<0.01	<0.0001	0.00003	<0.001	<0.01
S667236+S667275	Blasthole	high grade iron oxide	0.182	35	0.0108	0.0336	2.03	<0.0005	<0.0001	<0.0001	0.0017	<0.0005	0.0119	<0.01	<0.0001	0.00002	<0.001	<0.01
S667367+S667371	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	16.8	0.004	0.0073	0.6	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0039	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667379+S667378	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	18.3	0.0037	0.0048	0.87	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0066	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667404+S667429	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	12.6	0.0028	0.0062	1.05	<0.0005	<0.0001	0.0001	<0.0005	<0.0005	0.0057	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667408+S667411	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	14.7	0.0023	0.0065	0.99	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0042	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667453+S667451	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.9	0.0052	0.0072	2.27	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0029	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667446+S667445	Blasthole	Overburden	<0.005	15.7	0.0034	0.0112	1.63	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	0.0046	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667442+S667495	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.4	0.0038	0.0073	1.39	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0044	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667470+S667498	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.101	19.3	0.0075	0.0199	0.67	0.0016	<0.0001	<0.0001	0.001	<0.0005	0.0101	<0.01	<0.0001	0.00003	<0.001	<0.01
S667483+S667488	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	7.66	0.0027	0.0073	2.05	0.0014	<0.0001	<0.0001	<0.0005	<0.0005	0.0045	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667485+S667494	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	9.01	0.0033	0.0044	1.8	<0.0005	<0.0001	<0.0001	0.0006	<0.0005	0.0048	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667491+S667487	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	9.48	0.0024	0.0259	1.73	<0.0005	<0.0001	<0.0001	0.0006	<0.0005	0.0029	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667555+S667554	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.4	0.002	0.0081	1.02	<0.0005	<0.0001	0.0002	0.0005	<0.0005	0.003	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667557+S667497	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	17.2	0.005	0.0061	1.02	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0046	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667496+S667500	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	19	0.0037	0.0205	0.96	<0.0005	<0.0001	<0.0001	0.0018	<0.0005	0.0041	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667765+S667790	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	61.8	0.0286	0.005	3.37	<0.0005	<0.0001	<0.0001	0.001	<0.0005	0.0046	<0.01	<0.0001	0.00001	<0.001	<0.01
S667772+S667770	Blasthole	Overburden	0.007	8.75	0.001	0.0061	1.81	<0.0005	<0.0001	<0.0001	0.0009	<0.0005	0.0197	<0.01	<0.0001	0.00003	<0.001	<0.01
S668169+S667791	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	40	0.0205	0.0095	3.23	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0066	<0.01	<0.0001	<0.00001	<0.001	<0.01
S668162+S668208	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.007	56.3	0.0166	0.0037	1.9	<0.0005	<0.0001	<0.0001	0.001	<0.0005	0.0058	<0.01	<0.0001	0.00002	<0.001	<0.01
S668186+S667869	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	15.9	0.0012	0.0015	0.49	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.003	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667810+S667808	Blasthole	Overburden	0.01	36.4	0.0069	0.0181	2.04	<0.0005	<0.0001	<0.0001	0.0058	<0.0005	0.0209	<0.01	<0.0001	0.00002	<0.001	<0.01
S668211+S668212	Blasthole	Overburden	0.01	10.8	0.0021	0.0036	2.57	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0119	<0.01	<0.0001	<0.00001	<0.001	<0.01
S668222+S668223	Blasthole	Overburden	0.023	9.52	0.0008	0.0038	0.59	<0.0005	<0.0001	<0.0001	0.0023	<0.0005	0.0077	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667864+S667825	Blasthole	Overburden	0.04	240	0.321	0.0001	1.48	0.002	<0.0001	<0.0001	0.0058	<0.0005	0.0508	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667892+S667898	Blasthole	Overburden	0.027	11	0.0014	0.0004	2.34	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0058	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667928+S667908	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.029	12.9	0.0018	0.003	2.85	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0068	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667905+S667977	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.033	18.5	0.0064	0.0027	1.33	<0.0005	<0.0001	0.0001	0.0014	<0.0005	0.0065	<0.01	<0.0001	0.00002	<0.001	<0.01
S667902+S667900	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.014	21.6	0.0172	0.0059	1.04	0.001	<0.0001	<0.0001	0.0025	<0.0005	0.0062	<0.01	<0.0001	0.00002	<0.001	<0.01
S667922+S667950	Blasthole	Overburden	0.012	79.6	0.0392	0.0016	1.58	0.0006	<0.0001	<0.0001	0.0129	<0.0005	0.0368	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667963+S667907	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.022	13.9	0.0016	0.0038	3.25	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0087	<0.01	<0.0001	<0.00001	<0.001	<0.01
S667949+S667933	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.012	45.4	0.0481	0.0027	0.81	0.0019	<0.0001	<0.0001	0.0081	<0.0005	0.0068	<0.01	<0.0001	0.00001	<0.001	<0.01
S668537+S668538	Blasthole	Footwall schist	0.006	3.32	0.0286	0.05	3.29	0.0011	0.0004	0.0002	<0.0005	<0.0005	0.004	0.17	<0.0001	0.00022	0.006	<0.01
S668536+S668539	Blasthole	Footwall schist	0.006	3.17	0.0255	0.0438	3.91	0.0009	0.0003	<0.0001	<0.0005	<0.0005	0.0033	0.13	<0.0001	0.00019	0.004	<0.01
S668744+S668745	Blasthole	Uncalssified	0.008	4.2	0.0224	0.0022	2.05	0.0014	0.0021	<0.0001	<0.0005	<0.0005	0.0035	0.05	<0.0001	0.00161	0.004	<0.01
S670694	Blasthole	Footwall waste	0.018	7.89	0.116	0.0063	2.32	0.0028	0.0042	0.0003	<0.001	0.002	0.0064	0.45	<0.0002	0.00073	0.021	0.02
S670709	Blasthole	Footwall waste	0.033	7.39	0.102	0.0138	4.4	0.0049	0.0034	<0.0002	<0.001	<0.001	0.0061	0.44	<0.0002	0.00207	0.037	0.03
S670764	Blasthole	Footwall waste	0.056	10.7	0.14	0.0034	3.59	0.0061	0.0067	<0.0002	<0.001	<0.001	0.021	0.69	0.0002	0.00118	0.033	0.04
S670765	Blasthole	Footwall waste	0.076	12.3	0.174	0.0044	3.56	0.0032	0.0078	<0.0002	<0.001	<0.001	0.0289	0.59	0.0003	0.00203	0.025	0.03
S670766	Blasthole	Footwall waste	0.016	6.08	0.092	0.0025	2.14	0.0049	0.0026	0.0002	<0.001	<0.001	0.0067	0.27	<0.0002	0.0009	0.024	<0.02
S670792	Blasthole	Footwall waste	0.03	7.09	0.0985	0.0036	3.19	0.0026	0.0054	<0.0002	<0.001	<0.001	0.0104	0.55	<0.0002	0.00087	0.038	0.05
S670793	Blasthole	Footwall waste	0.072	8.45	0.0963	0.0126	2.39	0.0069	0.003	<0.0002	<0.001	<0.001	0.0177	0.37	<0.0002	0.00072	0.017	0.05

Notes:
Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	U	V	Zn
		Units >	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		Metal and Diamonds Mining Effluent Regulations (MDMER) value >	-	-	-	-	-	0.25	0.08	-	-	-	-	-	-	-	-	0.4
S670794	Blasthole	Footwall waste	0.027	13.2	0.184	0.0118	4.04	0.0048	0.0304	<0.0002	<0.001	0.0016	0.0134	0.78	0.0003	0.00147	0.036	0.05
S670795	Blasthole	Footwall waste	0.129	15.1	0.159	0.0176	2.58	0.0126	0.0032	0.0001	<0.0005	0.0009	0.0178	0.76	0.0002	0.00088	0.028	0.08
S670818	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.037	5.57	0.0309	0.0024	4.23	0.0047	<0.0001	0.0001	<0.0005	<0.0005	0.0021	0.04	<0.0001	0.00028	0.005	<0.01
S670829	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.06	8.17	0.008	0.0083	1.92	0.0042	0.0002	<0.0001	0.0011	<0.0005	0.0047	0.02	<0.0001	0.00013	0.002	<0.01
S670963	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	8.33	0.0387	0.495	3.83	0.0051	0.0002	<0.0001	<0.0005	<0.0005	0.002	0.05	<0.0001	0.00016	0.004	<0.01
S670964	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.1	0.0029	2.08	1.53	<0.0005	<0.0001	<0.0001	0.0011	<0.0005	0.0015	<0.01	<0.0001	<0.00001	<0.001	<0.01
S670965	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	15.4	0.0074	0.0429	0.29	<0.0005	<0.0001	<0.0001	0.0009	<0.0005	<0.0005	<0.01	<0.0001	<0.00001	<0.001	<0.01
S670966	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.006	18.8	0.0052	0.0138	0.21	<0.0005	<0.0001	<0.0001	0.0011	<0.0005	0.0011	<0.01	<0.0001	<0.00001	<0.001	<0.01
S670967	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	29.4	0.0068	0.0743	4.05	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0066	<0.01	<0.0001	<0.00001	<0.001	<0.01
S671194	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	12.5	0.0011	0.0007	2.24	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0045	<0.01	<0.0001	<0.00001	<0.001	<0.01
S671195	Blasthole	high grade iron oxide	<0.005	92.7	0.007	0.0009	0.21	<0.0005	<0.0001	<0.0001	0.0007	<0.0005	0.0057	<0.01	<0.0001	0.00002	<0.001	<0.01
S671196	Blasthole	high grade iron oxide	<0.005	13.2	0.0007	0.0005	0.15	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0012	<0.01	<0.0001	<0.00001	<0.001	<0.01
S671197	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.6	0.0015	0.0014	2.92	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0046	<0.01	<0.0001	<0.00001	<0.001	<0.01
S671356	Blasthole	high grade iron oxide	0.013	26.7	0.0022	0.0003	0.78	<0.0005	0.0002	<0.0001	<0.0005	<0.0005	0.0028	<0.01	<0.0001	<0.00001	<0.001	<0.01
S671528	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.027	8.68	0.0012	0.0063	1.87	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0041	<0.01	<0.0001	<0.00001	<0.001	<0.01
S671586	Blasthole	Footwall waste	0.031	6.07	0.0992	0.0041	3.71	0.0034	0.0025	<0.0002	<0.001	<0.001	0.0146	0.46	<0.0002	0.0009	0.031	<0.02
S671587	Blasthole	Footwall waste	0.014	8.1	0.104	0.003	4.48	0.0029	0.0026	<0.0002	<0.001	<0.001	0.0077	0.71	0.0002	0.00416	0.049	<0.02
S671588	Blasthole	Footwall waste	0.019	7.4	0.0905	0.0018	3.39	0.0034	0.0017	<0.0002	<0.001	<0.001	0.008	0.49	0.0002	0.00149	0.035	<0.02
S671725	Blasthole	high grade iron oxide	0.078	22.2	0.19	0.0521	3.64	0.0151	0.0046	0.0003	0.0005	0.0016	0.019	1.36	0.0004	0.00222	0.037	0.03
S671961	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	9.95	0.0013	0.0079	0.37	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0014	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660109	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	13.4	0.0022	0.0173	0.25	<0.0005	<0.0001	<0.0001	0.0015	<0.0005	0.0013	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660121	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.1	0.0016	0.0067	0.61	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0017	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660658	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.4	0.0026	0.009	2.34	<0.0005	<0.0001	<0.0001	0.0014	<0.0005	0.004	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660208	Blasthole	Footwall waste	0.039	4.26	0.0289	0.0402	2.99	0.0011	0.0007	0.0001	<0.0005	<0.0005	0.0086	0.08	<0.0001	0.00008	0.004	<0.01
S660269	Blasthole	Footwall waste	0.014	5.44	0.0645	0.0111	3.2	0.0037	0.0043	<0.0002	<0.001	<0.001	0.0036	0.54	0.0002	0.00163	0.046	<0.02
S660377	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.016	161	0.299	0.0003	1.33	0.002	<0.0001	<0.0001	0.0039	<0.0005	0.003	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660389	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	15.8	<0.0005	0.0083	0.3	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0006	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660390	Blasthole	high grade iron oxide	<0.005	11.6	0.0017	0.0408	0.9	<0.0005	<0.0001	0.0003	0.0018	<0.0005	0.0015	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660854	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	13.1	0.0032	0.0024	0.49	<0.0005	<0.0001	<0.0001	0.0006	<0.0005	0.0055	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660866	Blasthole	Overburden	<0.005	11.2	0.0014	0.0021	0.7	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0047	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660912	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	19.9	0.001	0.0107	0.16	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0013	<0.01	<0.0001	<0.00001	<0.001	<0.01
S660936	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	24.8	0.0018	0.0029	<0.05	<0.0005	<0.0001	<0.0001	0.0005	<0.0005	<0.0005	<0.01	<0.0001	<0.00001	<0.001	<0.01
S661046	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.005	40.4	0.0063	0.0049	<0.05	<0.0005	<0.0001	<0.0001	0.0011	<0.0005	<0.0005	<0.01	<0.0001	<0.00001	0.001	<0.01
S661056	Blasthole	Footwall schist	<0.005	6.29	0.0015	0.128	6.76	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0027	<0.01	<0.0001	0.00014	<0.001	<0.01
S661691	Blasthole	Footwall waste	0.039	14.8	0.219	0.0056	5.88	0.0095	0.003	0.0002	<0.0005	<0.0005	0.0066	1.14	0.0004	0.00099	0.045	0.03
S661692	Blasthole	Footwall waste	0.055	9.67	0.0026	0.0184	7.54	<0.0005	<0.0001	0.0002	0.0007	<0.0005	0.0144	<0.01	<0.0001	0.0001	0.002	<0.01
S661726	Blasthole	Footwall waste	0.042	8.42	0.0914	0.0015	5.47	0.0065	0.0018	0.0001	<0.0005	<0.0005	0.0073	0.51	0.0002	0.00113	0.027	0.02
S661733	Blasthole	Footwall waste	0.019	6.6	0.126	0.0016	3.98	0.0036	0.0033	0.0002	<0.0005	<0.0005	0.0054	0.13	0.0001	0.00526	0.011	0.02
S661737	Blasthole	Footwall waste	0.01	13	0.144	0.0023	3.25	0.0034	0.0038	0.0001	<0.0005	0.0005	0.0067	0.53	0.0003	0.00319	0.04	0.01
S661738	Blasthole	Footwall waste	0.043	5.57	0.0963	0.0031	2.96	0.0037	0.0057	0.0002	<0.0005	<0.0005	0.0104	0.38	0.0001	0.00094	0.024	0.01
S661812	Blasthole	Overburden	<0.005	72.8	0.0316	0.0141	0.57	<0.0005	<0.0001	<0.0001	0.0039	<0.0005	0.0019	<0.01	<0.0001	<0.00001	<0.001	<0.01
S661813	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	36.6	0.0047	0.052	<0.05	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.01	<0.0001	0.00002	<0.001	<0.01
S661845	Blasthole	Overburden	0.006	12.4	0.0073	0.0047	7.1	<0.0005	<0.0001	0.0001	<0.0005	<0.0005	0.0062	<0.01	<0.0001	0.00007	<0.001	<0.01
S661858	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	89.9	0.033	0.0121	1.07	0.0006	<0.0001	<0.0001	<0.0005	<0.0005	0.522	<0.01	<0.0001	0.00003	<0.001	<0.01
S661960	Blasthole	high grade iron oxide	<0.005	67.8	0.0184	0.0087	0.95	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0038	<0.01	<0.0001	<0.00001	<0.001	<0.01
S662027	Blasthole	Overburden	0.011	9.7	0.0151	0.0081	7.54	0.0012	0.0001	<0.0001	0.0007	<0.0005	0.0059	0.02	<0.0001	0.0003	0.002	<0.01
S662028	Blasthole	Footwall waste	0.009	28.5	0.0098	0.0151	4.78	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0078	<0.01	<0.0001	0.00008	<0.001	<0.01
S662177	Blasthole	Footwall waste	0.061	3.97	0.0056	0.0056	7.74	<0.0005	<0.0001	<0.0001	0.001	<0.0005	0.0032	0.04	<0.0001	0.00011	0.011	<0.01
S662201	Blasthole	Overburden	0.035	8.31	0.0395	0.003	5.13	0.0058	0.0013	<0.0001	<0.0005	<0.0005	0.0042	0.11	<0.0001	0.00074	0.006	<0.01
S662286	Blasthole	high grade iron oxide	<0.005	38.8	0.0032	0.0145	0.55	<0.0005	<0.0001	<0.0001	0.0007	<0.0005	0.0015	<0.01	<0.0001	0.00012	<0.001	<0.01
S662320	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.014	19.9	0.0058	0.0096	3.64	<0.0005	<0.0001	<0.0001	0.0022	<0.0005	0.0047	<0.01	<0.0001	0.00001	<0.001	<0.01
S662548	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	29.1	0.0017	0.0005	0.42	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0009	<0.01	<0.0001	<0.00001	<0.001	<0.01
S662578	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.006	14.5	0.0026	0.0006	5.03	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0081	<0.01	<0.0001	<0.00001	<0.001	<0.01
S662621	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.018	12.2	0.0033	0.0007	3.56	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0032	<0.01	<0.0001	<0.00001	<0.001	<0.01
S662638	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	16.5	0.0062	0.0004	11.4	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.012	<0.01	<0.0001	<0.00001	<0.001	<0.01
S662722	Blasthole	Footwall waste	0.021	5.92	0.078	0.052	6.73	0.0078	0.0036	0.0003	0.0012	0.0018	0.0027	0.57	0.0002	0.00407	0.035	0.02
S662738	Blasthole	Footwall waste	0.074	7.98	0.074	0.0119	2.86	0.0129	0.0027	0.0001	<0.0005	<0.0005	0.0081	0.3	0.0001	0.00076	0.021	0.02
S662770	Blasthole	Footwall waste	0.053	30.4	0.192	0.035	5.29	0.0166	0.0107	<0.001	<0.005	<0.005	0.0135	0.83	<0.001	0.00281	0.03	<0.1
S662854	Blasthole	Footwall waste	0.052	12.1	0.0964	0.005	2.72	0.0047	0.0018	<0.0005	<0.003	<0.003	0.0097	0.34	<0.0005	0.0016	0.018	<0.05
S662857	Blasthole	Footwall waste	0.679	20.8	0.271	0.108	14.8	0.214	**0.114**	0.103	0.199	0.0986	0.117	1.1	0.0196	0.0232	0.535	**2.11**
S662890	Blasthole	Footwall waste	0.109	29	0.445	0.0512	5.64	0.0204	0.0082	<0.001	<0.005	<0.005	0.0142	1.22	<0.001	0.00556	0.071	0.1
S662963	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.011	28	0.0057	0.0177	0.4	<0.0005	<0.0001	<0.0001	0.0009	<0.0005	0.001	<0.01	<0.0001	<0.00001	0.002	<0.01
S663190	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.007	29.7	0.007	0.0122	10.4	<0.0005	<0.0001	<0.0001	0.001	<0.0005	0.0091	<0.01	<0.0001	<0.00001	<0.001	<0.01
S663211	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.01	52.4	0.0259	0.0158	6.14	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	0.0086	<0.01	<0.0001	<0.00001	<0.001	<0.01
S663274	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	29.4	0.0027	0.0365	1.12	<0.0005	<0.0001	<0.0001	0.0007	<0.0005	0.0021	<0.01	<0.0001	0.00001	<0.001	<0.01
S663348	Blasthole	Footwall schist	<0.005	10.6	0.0013	0.0565	2.69	<0.0005	<0.0001	<0.0001	0.0005	<0.0005	0.0065	<0.01	<0.0001	<0.00001	<0.001	<0.01
S663368	Blasthole	Footwall schist	0.02	11	0.12	0.0462	5.51	0.0039	0.0012	<0.0002	<0.001	<0.001	0.0105	0.51	<0.0002	0.0006	0.014	<0.02
S663375	Blasthole	Uncalssified	<0.005	16.7	0.0023	0.0021	0.93	<0.0005	<0.0001	<0.0001	0.0041	<0.0005	0.0017	<0.01	<0.0001	<0.00001	<0.001	<0.01
S663397	Blasthole	Footwall schist	0.069	22.3	0.151	0.0464	5.2	0.0168	0.0032	<0.0005	<0.003	<0.003	0.0147	1.64	<0.0005	0.00194	0.042	<0.05
S663410	Blasthole	Footwall waste	0.03	12.8	0.0865	0.0149	6.55	0.0205	0.0062	<0.0005	<0.003	<0.003	0.0054	1.5	<0.0005	0.00127	0.043	<0.05
S663467	Blasthole	Uncalssified	0.024	5.86	0.219	0.0439	13.6	0.0051	0.0155	<0.0002	<0.001	0.0029	0.008	0.55	<0.0002	0.00432	0.021	0.05
S663730	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	18.4	0.0009	0.0135	0.43	<0.0005	<0.0001	<0.0001	0.0009	<0.0005	0.0011	<0.01	<0.0001	<0.00001	<0.001	<0.01
S663721	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	36.2	0.009	0.0175	3.15	<0.0005	<0.0001	<0.0001	0.0011	<0.0005	0.0069	<0.01	<0.0001	0.00001	<0.001	<0.01
S663743	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	27.4	0.0008	0.0081	0.09	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0006	<0.01	<0.0001	<0.00001	<0.001	<0.01
S663775	Blasthole	Footwall waste	0.038	11.8	0.181	0.0051	4.26	0.0086	0.0116	<0.0005	<0.003	<0.003	0.0102	0.98	<0.0005	0.00198	0.044	<0.05
S663824	Blasthole	Footwall waste	<0.005	5.9	0.0313	0.0034	3.14	0.0062	0.0008	<0.0001	<0.0005	<0.0005	0.0027	0.09	<0.0001	0.00013	0.008	<0.01
S663873	Blasthole	Footwall waste	0.046	12.6	0.147	0.0039	3.86	0.0114	0.0036	<0.0005	<0.003	<0.003	0.0089	0.76	<0.0005	0.00107	0.027	<0.05
S663928	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.068	211	0.0055	0.0212	<0.05	<0.0005	<0.0001	<0.0001	0.0013	<0.0005	<0.0005	<0.01	<0.0001	0.00002	<0.001	<0.01
S664110	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.047	28.4	0.001	0.0052	<0.05	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	<0.0005	<0.01	<0.0001	<0.00001	<0.001	<0.01
S664157	Blasthole	Footwall waste	0.077	13.9	0.155	0.0027	4.64	0.0121	0.0017	<0.0001	<0.0005	0.0007	0.0097	1.54	0.0003	0.00139	0.039	0.02
S664194	Blasthole	Footwall waste	0.018	9.32	0.174	0.0084	6.79	0.0049	0.0028	<0.0001	0.0006	<0.0005	0.0035	1.01	0.0003	0.00173	0.058	0.03
S664195	Blasthole	Footwall waste	0.038	8.46	0.15	0.0038	5.16	0.0075	0.007	<0.0001	0.0005	<0.0005	0.0108	0.61	0.0002	0.00105	0.036	0.02
S664240	Blasthole	Footwall waste	0.037	6.72	0.0868	0.0059	4.63	0.0043	0.0019	<0.0001	<0.0005	<0.0005	0.0039	0.73	0.0002	0.00061	0.038	<0.01
S664258	Blasthole	Footwall waste	0.029	7.36	0.0781	0.0064	6.38	0.0039	0.0014	<0.0001	<0.0005	<0.0005	0.0045	0.96	0.0002	0.00096	0.043	<0.01
S664259	Blasthole	Footwall waste	0.06	12	0.176	0.012	5.39	0.0259	0.0024	<0.0001	0.0006	<0.0005	0.0048	0.83	0.0003	0.00099	0.033	0.02
S664416	Blasthole	Footwall waste	0.04	8.28	0.201	0.054	11.1	0.008	0.0129	0.0004	<0.001	0.0019	0.0091	0.78	0.0003	0.00307	0.05	0.05
S664431	Blasthole	Footwall waste	0.028	5.53	0.0684	0.103	12.5	0.0026	0.0025	0.0003	<0.0005	0.0005	0.0086	0.25	0.0001	0.00158	0.024	<0.01
S664454	Blasthole	Footwall waste	0.013	6.98	0.0353	0.0115	9.1	0.003	0.0002	<0.0001	0.0007	<0.0005	0.0095	0.08	<0.0001	0.00007	0.017	<0.01
S664485	Blasthole	Footwall waste	0.051	8.31	0.389	0.0755	11.5	0.0023	0.0176	0.0004	<0.001	0.0027	0.009	1.19	0.0005	0.0112	0.049	0.08
S664492	Blasthole	Uncalssified	0.026	4.84	0.136	0.05	19.9	0.005	0.0285	0.0005	0.0007	0.0008	0.0064	0.3	0.0002	0.0203	0.048	0.05
S664605	Blasthole	Footwall waste	0.029	9.22	0.186	0.102	7.2	0.0033	0.0032	<0.0002	<0.001	0.0047	0.0084	0.55	0.0003	0.00149	0.028	0.04
S664636	Blasthole	Footwall waste	0.03	8.72	0.248	0.0497	16.9	0.0081	0.0142	0.0002	<0.001	0.0019	0.0065	0.8	0.0003	0.00329	0.083	0.07
S664915	Blasthole	Footwall schist	<0.005	7.34	<0.0005	0.0311	4.99	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0062	<0.01	<0.0001	<0.00001	<0.001	<0.01
S664943	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.01	7.16	0.14	2.86	4.54	0.0224	0.0014	<0.0002	0.0011	<0.001	0.0024	0.3	<0.0002	0.0003	0.016	<0.02

Notes:
Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	U	V	Zn
		Units >	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Metal and Diamonds Mining Effluent Regulations (MDMER) value >			-	-	-	-	-	0.25	0.08	-	-	-	-	-	-	-	-	0.4
S664954	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.01	24.8	0.003	0.0103	0.21	<0.001	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.02	<0.0002	<0.00002	<0.002	<0.02
S664967	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	14.2	0.0113	0.041	0.15	0.0012	<0.0001	<0.0001	0.001	<0.0005	<0.0005	<0.01	<0.0001	<0.00001	<0.001	<0.01
S665012	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.02	30	0.0041	0.0106	0.07	<0.0005	<0.0001	0.0002	0.0023	<0.0005	0.0006	<0.01	<0.0001	0.00002	<0.001	<0.01
S665038	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.008	26	0.003	0.0059	0.2	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	0.0005	<0.01	<0.0001	<0.00001	<0.001	<0.01
S665045	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.9	0.0042	0.0037	0.62	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0026	<0.01	<0.0001	<0.00001	<0.001	<0.01
S665358	Blasthole	Footwall waste	0.01	3.76	0.0299	0.0031	3.31	0.001	0.0012	<0.0001	<0.0005	<0.0005	0.0019	0.04	<0.0001	0.00151	0.009	<0.01
S665425	Blasthole	Footwall waste	0.017	9.47	0.0021	0.0115	5.29	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0245	<0.01	<0.0001	<0.00001	0.002	<0.01
S665426	Blasthole	Footwall waste	0.005	5.66	0.0662	0.0523	1.78	0.0043	0.0031	0.0002	0.0018	0.0042	0.0021	0.32	0.0002	0.00196	0.018	0.02
S665451	Blasthole	Footwall waste	0.008	4.1	0.021	0.0014	5.98	0.0024	0.0004	<0.0001	<0.0005	<0.0005	0.0024	0.08	<0.0001	0.0002	0.006	<0.01
S665656	Blasthole	Footwall schist	0.009	4.82	0.0032	0.0248	4.11	<0.0005	<0.0001	0.0001	0.0011	<0.0005	0.0068	0.02	<0.0001	0.00006	0.001	<0.01
S665657	Blasthole	Footwall waste	0.01	3.78	0.0306	0.0156	5.86	0.0042	0.0015	<0.0001	<0.0005	<0.0005	0.0045	0.41	0.0001	0.00017	0.034	<0.01
S665658	Blasthole	Footwall waste	0.041	6.33	0.0586	0.0702	4.13	0.0033	0.0017	<0.0002	<0.001	<0.001	0.0104	0.52	<0.0002	0.00235	0.024	<0.02
S665659	Blasthole	Footwall schist	0.029	7	0.0767	0.0436	4.2	0.0044	0.0016	<0.0005	<0.003	<0.003	0.0093	0.83	<0.0005	0.00208	0.059	<0.05
S665734	Blasthole	Footwall waste	<0.03	7.53	0.0877	0.0193	3.32	0.0041	0.0025	<0.0005	<0.003	<0.003	0.0065	0.54	<0.0005	0.00356	0.03	<0.05
S665786	Blasthole	Footwall schist	<0.03	4.88	0.062	0.0404	3.27	0.0044	0.0033	<0.0005	<0.003	<0.003	0.0111	0.69	<0.0005	0.0009	0.029	<0.05
S665811	Blasthole	Footwall waste	0.017	5.19	0.0469	0.0299	3.75	0.0062	0.0009	0.0002	0.0006	<0.0005	0.0038	0.25	<0.0001	0.00109	0.008	<0.01
S665963	Blasthole	Footwall schist	0.015	3.2	0.0391	0.005	2.18	0.0017	0.003	0.0003	<0.0005	0.0007	0.0024	0.14	<0.0001	0.00047	0.01	<0.01
S672059	Blasthole	Footwall schist	<0.005	2.47	0.0023	0.0144	3.94	0.0009	<0.0001	<0.0001	<0.0005	<0.0005	0.0018	0.02	<0.0001	0.00004	0.001	<0.01
S672156	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	9.88	0.0026	0.0027	0.13	0.001	<0.0001	<0.0001	0.0005	<0.0005	0.0007	<0.01	<0.0001	<0.00001	<0.001	<0.01
S672171	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	21.3	0.0017	0.0084	<0.05	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	<0.0005	<0.01	<0.0001	<0.00001	<0.001	<0.01
S672187	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.012	64.6	0.0325	0.0134	3.78	<0.0005	<0.0001	<0.0001	0.0015	<0.0005	0.0087	<0.01	<0.0001	0.00001	<0.001	<0.01
S672220	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.009	17	0.0022	0.0052	<0.05	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	0.0013	<0.01	<0.0001	<0.00001	0.002	<0.01
S672238	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	19.6	0.0025	0.0215	0.97	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0015	<0.01	<0.0001	<0.00001	<0.001	<0.01
S672403	Blasthole	Footwall schist	<0.01	14.3	0.132	0.016	3.08	0.0064	0.0013	0.0003	0.0011	<0.001	0.0084	0.28	<0.0002	0.00093	0.019	<0.02
S672420	Blasthole	Uncalssified	0.032	15.1	0.194	0.0598	4.64	0.018	0.0162	<0.0005	<0.003	0.0035	0.0089	0.96	<0.0005	0.00279	0.033	<0.05
S672569	Blasthole	Uncalssified	<0.005	4.49	0.0009	0.0124	4.91	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0044	<0.01	<0.0001	0.00001	<0.001	<0.01
S672674	Blasthole	Footwall waste	0.009	7.25	0.0372	0.017	5.59	0.0074	0.001	<0.0001	0.0011	0.0009	0.006	0.15	<0.0001	0.00026	0.03	0.01
S672675	Blasthole	Footwall waste	0.058	15.5	0.256	0.0086	4.4	0.0368	0.0054	<0.0005	<0.003	<0.003	0.0094	1.21	<0.0005	0.00214	0.057	<0.05
S672676	Blasthole	Footwall waste	0.095	8.86	0.117	0.0031	3.67	0.004	0.003	0.0004	<0.001	<0.001	0.0104	0.72	0.0002	0.00075	0.031	<0.02
S672730	Blasthole	Footwall waste	0.024	14.8	0.267	0.074	3.95	0.0032	0.0096	<0.0002	<0.001	<0.001	0.007	0.88	0.0004	0.00332	0.02	0.08
S672758	Blasthole	Footwall waste	0.023	8.73	0.0956	0.0278	3.47	0.0091	0.0033	0.0002	0.0012	0.0009	0.0074	0.37	0.0002	0.00048	0.023	0.05
S672789	Blasthole	Footwall waste	<0.005	10.2	0.0065	0.0044	0.58	0.0007	<0.0001	<0.0001	0.0006	<0.0005	0.0036	<0.01	<0.0001	<0.00001	<0.001	<0.01
S673035	Blasthole	Footwall waste	0.015	6.9	0.0891	0.0105	3.35	0.0015	0.0021	<0.0001	<0.0005	<0.0005	0.0031	0.26	0.0002	0.00189	0.007	0.03
S673054	Blasthole	Footwall waste	0.026	5.7	0.11	0.0219	10.3	0.0019	0.0024	0.0001	<0.0005	0.0009	0.0031	0.38	0.0001	0.00209	0.029	0.03
S673102	Blasthole	Footwall waste	0.026	6.42	0.23	0.109	15.7	0.0039	0.0204	0.0001	0.0007	0.0009	0.0038	0.53	0.0002	0.00766	0.049	0.15
S673406	Blasthole	Footwall waste	0.011	2.48	0.0134	0.0137	3.19	0.0021	0.0004	<0.0001	<0.0005	<0.0005	0.0022	0.14	<0.0001	0.0004	0.006	<0.01
S673408	Blasthole	Footwall schist	<0.005	4.34	0.0072	0.237	4.68	0.0019	0.0002	<0.0001	0.0011	<0.0005	0.0022	0.03	<0.0001	0.00068	0.001	<0.01
S673438	Blasthole	Footwall waste	0.011	6.34	0.0431	0.004	0.84	0.0162	0.0004	<0.0001	0.0006	<0.0005	0.0066	0.02	<0.0001	0.00027	0.004	<0.01
S673508	Blasthole	Footwall waste	0.011	2.74	0.0054	0.0716	4.58	<0.0005	0.0008	0.0001	<0.0005	<0.0005	0.0058	0.01	<0.0001	0.00079	0.016	<0.01
S673512	Blasthole	Footwall waste	0.007	3.8	0.0039	0.0179	4.42	<0.0005	<0.0001	0.0001	<0.0005	<0.0005	0.0069	<0.01	<0.0001	0.00053	0.005	<0.01
S673728	Blasthole	Footwall schist	<0.005	2.24	0.0059	0.0243	1.45	0.0022	0.0002	<0.0001	<0.0005	<0.0005	0.0016	0.04	<0.0001	0.00051	0.002	<0.01
S673746	Blasthole	Footwall waste	0.014	6.44	0.07	0.0067	1.48	0.009	0.0004	<0.0001	<0.0005	<0.0005	0.0033	0.11	0.0001	0.00073	0.011	<0.01
S673754	Blasthole	Footwall waste	0.025	6.13	0.0791	0.0057	1.43	0.0032	0.0018	<0.0001	<0.0005	0.0006	0.0091	0.38	<0.0001	0.00066	0.013	0.03
S673815	Blasthole	Uncalssified	<0.005	3.25	0.0044	0.0504	1.95	0.0011	<0.0001	<0.0001	<0.0005	<0.0005	0.0044	0.01	<0.0001	0.00011	0.001	<0.01
S673925	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	6.26	0.0023	0.41	0.84	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0018	<0.01	<0.0001	<0.00001	<0.001	<0.01
S673949	Blasthole	Footwall waste	<0.005	1.45	0.0096	0.0049	1.95	0.0008	0.0002	<0.0001	<0.0005	<0.0005	0.0014	0.04	<0.0001	0.00025	0.003	<0.01
S673972	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.013	213	0.035	0.001	1.47	0.0006	<0.0001	<0.0001	0.0007	<0.0005	0.0286	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674155	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	4.19	0.0127	0.001	0.25	0.0045	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.01	<0.0001	0.00002	0.002	<0.01
S674161	Blasthole	Footwall waste	<0.005	0.48	0.0032	0.0114	0.68	<0.0005	0.0001	<0.0001	<0.0005	<0.0005	0.0005	0.02	<0.0001	0.00011	0.003	<0.01
S674385	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	3.85	0.0031	0.0053	0.67	<0.0005	<0.0001	<0.0001	0.0007	<0.0005	0.0016	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674392	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.087	15.1	0.0071	0.0013	0.33	<0.0005	<0.0001	<0.0001	0.0009	<0.0005	0.0064	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674400	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	2.07	0.0049	0.0047	0.32	0.0012	<0.0001	<0.0001	<0.0005	<0.0005	0.0008	<0.01	<0.0001	0.00002	0.001	<0.01
S674410	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	4.28	0.0035	0.0049	0.8	<0.0005	<0.0001	<0.0001	0.0029	<0.0005	0.0038	<0.01	<0.0001	0.00001	<0.001	<0.01
S674412	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	4.49	0.0047	0.0074	0.35	<0.0005	<0.0001	<0.0001	0.0022	<0.0005	0.0029	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674484	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	6.25	0.0035	0.0036	0.3	<0.0005	<0.0001	<0.0001	0.0015	<0.0005	0.0028	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674492	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	2.92	0.0025	0.0069	0.56	<0.0005	<0.0001	<0.0001	0.0008	<0.0005	0.0035	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674544	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	5.02	0.0113	0.0048	0.48	0.0029	<0.0001	<0.0001	0.0008	<0.0005	0.0028	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674802	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.1	0.0177	0.0024	0.2	<0.0005	<0.0001	<0.0001	0.0025	<0.0005	0.0029	<0.01	<0.0001	0.00001	<0.001	<0.01
S674793	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	3.34	0.0021	0.0053	0.45	<0.0005	<0.0001	<0.0001	0.0015	<0.0005	0.0016	<0.01	<0.0001	<0.00001	<0.001	<0.01
S674806	Blasthole	Footwall waste	0.013	0.77	0.004	0.0038	1.2	<0.0005	0.0003	<0.0001	<0.0005	<0.0005	0.0037	0.02	<0.0001	0.00032	0.004	<0.01
S674825	Blasthole	Footwall waste	0.006	0.53	0.0077	0.0041	1.01	<0.0005	0.0007	<0.0001	<0.0005	<0.0005	0.0012	0.04	<0.0001	0.00018	0.004	<0.01
S674837	Blasthole	Footwall waste	0.01	0.74	0.009	0.0052	1.11	<0.0005	0.0003	<0.0001	<0.0005	<0.0005	0.0016	0.03	<0.0001	0.00072	0.005	<0.01
S674887	Blasthole	Footwall waste	0.01	1.34	0.0049	0.002	0.78	0.0007	<0.0001	<0.0001	<0.0005	<0.0005	0.0032	<0.01	<0.0001	0.00032	0.001	<0.01
S674930	Blasthole	Footwall waste	<0.005	1.39	0.0015	0.0032	0.67	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0018	<0.01	<0.0001	0.00007	0.001	<0.01
S674947	Blasthole	Footwall waste	0.007	0.5	0.0077	0.0051	0.97	<0.0005	0.0002	<0.0001	<0.0005	<0.0005	0.0008	0.04	<0.0001	0.00024	0.005	<0.01
S674966	Blasthole	Footwall waste	<0.005	0.64	0.0079	0.0004	1.15	<0.0005	0.0003	<0.0001	<0.0005	<0.0005	0.0006	0.03	<0.0001	0.001	0.004	<0.01
S675033	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	9.64	0.0182	0.0033	0.31	0.0014	<0.0001	<0.0001	0.0034	<0.0005	0.002	<0.01	<0.0001	0.00002	<0.001	<0.01
S675150	Blasthole	Uncalssified	0.006	2.44	0.0244	0.0013	1.22	0.0017	0.0008	<0.0001	<0.0005	<0.0005	0.0017	0.05	<0.0001	0.00032	0.003	0.03
S675175	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	2.95	0.0028	0.0041	0.39	0.0009	<0.0001	<0.0001	<0.0005	<0.0005	0.0011	<0.01	<0.0001	<0.00001	<0.001	<0.01
S675222	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	4.28	0.0032	0.0015	0.53	0.0006	<0.0001	<0.0001	<0.0005	<0.0005	0.0015	<0.01	<0.0001	<0.00001	<0.001	<0.01
S675314	Blasthole	Footwall waste	0.015	1.93	0.0148	0.205	1.26	0.0014	0.0002	<0.0001	<0.0005	<0.0005	0.0032	0.03	<0.0001	0.00056	0.005	<0.01
S675341	Blasthole	Footwall waste	<0.005	2.73	0.0068	0.22	3.12	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.009	<0.01	<0.0001	0.00055	0.003	<0.01
S675367	Blasthole	Footwall waste	0.007	1.48	0.0122	0.355	0.92	<0.0005	0.0002	<0.0001	<0.0005	<0.0005	0.0021	0.02	<0.0001	0.00024	0.003	<0.01
S675385	Blasthole	Footwall waste	<0.005	1.02	0.0079	0.0213	2.8	<0.0005	0.0006	0.0001	<0.0005	<0.0005	0.002	0.02	<0.0001	0.00168	0.005	<0.01
S675398	Blasthole	Footwall waste	0.006	1.26	0.0123	0.0345	1.9	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0011	0.01	<0.0001	0.00031	0.005	<0.01
S675420	Blasthole	Footwall waste	0.008	3.44	0.0684	0.159	0.85	0.001	0.001	<0.0001	<0.0005	<0.0005	0.0014	0.08	<0.0001	0.00085	0.006	0.01
S675763	Blasthole	Footwall schist	<0.005	3.15	<0.0005	0.0191	1.21	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0017	<0.01	<0.0001	0.00002	<0.001	<0.01
S675861	Blasthole	Footwall schist	<0.005	1.12	0.0061	0.0325	1.12	0.0012	0.0004	<0.0001	<0.0005	<0.0005	0.0028	0.06	<0.0001	0.00044	0.002	<0.01
S675948	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	4.61	0.0038	0.0025	0.2	0.0009	<0.0001	<0.0001	<0.0005	<0.0005	0.0017	<0.01	<0.0001	<0.00001	<0.001	<0.01
S675964	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	4.08	0.0264	0.0018	0.48	0.002	<0.0001	<0.0001	<0.0005	<0.0005	0.0011	<0.01	<0.0001	0.00006	0.002	<0.01
S676113	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	7.65	0.0049	0.0023	1.16	<0.0005	<0.0001	<0.0001	0.0007	<0.0005	0.004	<0.01	<0.0001	<0.00001	<0.001	<0.01
S676166	Blasthole	high grade iron oxide	<0.005	4.31	0.0007	0.0228	0.75	0.0007	<0.0001	<0.0001	<0.0005	<0.0005	0.0059	<0.01	<0.0001	0.00003	<0.001	<0.01
S676460	Blasthole	Footwall waste	0.018	6.04	0.124	0.0462	4.05	0.011	0.004	0.0002	0.0013	<0.001	0.0056	0.96	<0.0002	0.00128	0.018	<0.02
S676472	Blasthole	Footwall schist	0.007	2.65	0.0092	0.0351	4.01	0.0007	0.0004	0.0002	0.0006	<0.0005	0.0038	0.09	<0.0001	0.00048	0.004	<0.01
S676779	Blasthole	Footwall waste	0.008	2.03	0.0685	0.0415	3.33	0.0019	0.0143	<0.0001	<0.0005	0.0006	0.0015	0.11	<0.0001	0.00401	0.008	0.03
S676794	Blasthole	Footwall waste	0.01	0.68	0.0185	0.214	3.08	<0.0005	0.0291	0.0004	<0.0005	0.0006	0.0008	0.01	<0.0001	0.0111	<0.001	0.06
S676804	Blasthole	Uncalssified	<0.005	3.18	0.0128	0.0147	4.5	<0.0005	0.0012	<0.0001	<0.0005	<0.0005	0.0068	<0.01	<0.0001	0.019	0.002	<0.01
S676839	Blasthole	Footwall waste	0.038	4.02	0.125	0.869	18.2	0.0009	**0.378**	0.0007	<0.0005	0.0069	0.0071	0.1	0.0005	0.0857	0.023	**0.59**
S676895	Blasthole	Footwall waste	0.044	19.2	0.231	0.0459	11.6	0.0184	0.0206	0.0004	<0.001	<0.001	0.0184	0.73	0.0003	0.00555	0.099	0.05
S676945	Blasthole	Footwall waste	0.012	2.12	0.0122	0.0303	13.8	0.0008	0.0004	0.0001	<0.0005	<0.0005	0.0051	0.06	<0.0001	0.00014	0.031	<0.01
S676978	Blasthole	Footwall waste	<0.005	6.26	0.035	0.0059	3.1	0.0056	0.0003	<0.0001	<0.0005	<0.0005	0.006	0.05	<0.0001	0.00017	0.008	<0.01
S676989	Blasthole	Footwall waste	<0.1	43	0.392	0.0712	3.1	0.0173	0.0185	<0.002	<0.01	<0.01	0.0261	1.61	<0.002	0.00421	0.085	<0.2
S677027	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	15.8	0.0013	0.021	0.89	0.0014	<0.0001	0.0002	0.0009	<0.0005	0.0016	<0.01	<0.0001	<0.00001	0.002	<0.01
S677049	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	48.2	0.0244	0.0307	4.43	<0.0005	<0.0001	<0.0001	0.0039	<0.0005	0.017	<0.01	<0.0001	0.00003	<0.001	<0.01

Notes:

Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

Table B3
Shake Flask Extraction Results

Sample ID	Sample Type	Lithology	Li	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	U	V	Zn
		Units >	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Metal and Diamonds Mining Effluent Regulations (MDMER) value >			-	-	-	-	-	0.25	0.08	-	-	-	-	-	-	-	-	0.4
S677100	Blasthole	Footwall waste	0.012	5.06	0.0512	0.0088	3.12	0.0047	0.0006	0.0002	<0.001	<0.001	0.0025	0.3	<0.0002	0.00068	0.022	<0.02
S677142	Blasthole	Footwall waste	<0.03	11.6	0.18	0.0033	2.34	0.0111	0.0072	<0.0005	<0.003	<0.003	0.0067	0.66	<0.0005	0.00141	0.031	<0.05
S677607	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.7	0.022	0.0138	3.14	0.0052	0.0002	0.0003	0.0023	<0.0005	0.0065	0.01	<0.0001	0.00004	0.002	<0.01
S677624	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	12.2	0.0184	0.015	1.56	0.005	0.0041	0.0003	0.0016	<0.0005	0.0075	0.01	<0.0001	0.00007	0.002	0.01
S677653	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	12.5	0.0066	0.0166	1.64	<0.0005	<0.0001	<0.0001	0.0014	<0.0005	0.0059	<0.01	<0.0001	<0.00001	<0.001	<0.01
S677668	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.9	0.007	0.0326	0.95	0.0042	0.0004	0.0002	0.0017	<0.0005	0.0028	<0.01	<0.0001	0.00004	0.002	<0.01
S677688	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.3	0.0047	0.0205	2.28	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0039	<0.01	<0.0001	<0.00001	<0.001	<0.01
S677808	Blasthole	Footwall waste	<0.03	16.8	0.258	0.0106	9.33	0.0105	0.0029	<0.0005	<0.003	<0.003	0.0125	0.81	<0.0005	0.00282	0.029	<0.05
S677827	Blasthole	Footwall waste	0.037	18.8	0.405	0.222	8.77	0.0087	0.0249	0.0004	<0.0005	0.0019	0.0187	0.86	0.0003	0.00291	0.028	0.07
S677887	Blasthole	Footwall waste	0.03	19	0.206	0.0028	5.02	0.0114	0.0097	<0.0005	<0.003	<0.003	0.0083	0.62	<0.0005	0.002	0.028	<0.05
S677900	Blasthole	Footwall waste	0.007	6.24	0.0817	0.0087	7.86	0.0075	0.0005	<0.0001	<0.0005	<0.0005	0.0126	0.12	<0.0001	0.00037	0.026	<0.01
S677906	Blasthole	Footwall waste	0.035	32.8	0.702	0.0252	4.32	0.015	0.0075	<0.0002	<0.001	0.0041	0.0116	1.73	0.0005	0.0055	0.062	0.1
B625662	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.01	14.3	0.004	0.01	1.26	0.0007	<0.0001	0.0001	0.0016	<0.0005	0.0056	<0.01	<0.0001	0.00004	<0.001	<0.01
B625663	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.1	0.0008	0.0117	0.7	0.0005	<0.0001	<0.0001	0.0009	<0.0005	0.002	<0.01	<0.0001	0.00001	<0.001	<0.01
B625664	Blasthole	Footwall waste	0.046	15.5	0.111	0.0035	4.98	0.0077	0.0036	<0.0005	<0.003	<0.003	0.0103	0.24	<0.0005	0.00536	0.016	<0.05
B625676	Blasthole	Footwall schist	0.012	13	0.0596	0.0804	5.14	0.0114	0.0014	<0.0001	0.001	<0.0005	0.0047	0.64	0.0002	0.00232	0.02	<0.01
B625683	Blasthole	Footwall waste	0.012	3.32	0.0037	0.629	4.24	<0.0005	<0.0001	0.0002	<0.0005	<0.0005	0.0143	<0.01	<0.0001	0.00059	0.003	<0.01
B625906	Blasthole	Overburden	0.006	11.3	0.0591	0.0208	1.11	0.0103	0.0004	<0.0001	0.0008	<0.0005	0.0033	0.03	<0.0001	0.00017	0.004	<0.01
B626264	Blasthole	Footwall waste	0.017	6.81	0.198	0.0478	14.2	0.0058	0.0093	0.0001	<0.0005	0.001	0.0125	0.32	0.0001	0.00202	0.03	0.05
B626265	Blasthole	Footwall waste	0.051	2.79	0.274	0.12	28.2	0.0016	**0.388**	0.0016	0.0008	0.0015	0.0141	0.14	0.0012	0.129	0.009	**0.52**
B626302	Blasthole	Footwall waste	0.023	5.18	0.0792	0.217	12.4	0.0057	0.0107	0.0005	0.0009	<0.0005	0.0101	0.22	0.0001	0.0103	0.054	0.02
B626314	Blasthole	Footwall waste	0.06	2.25	0.12	0.472	28.2	0.0035	**0.301**	0.0009	<0.0005	0.0156	0.0099	0.16	0.0018	0.131	0.009	0.21
B626326	Blasthole	Footwall waste	0.011	3.27	0.0155	0.0122	11.7	0.0018	0.001	0.0005	0.0011	<0.0005	0.013	0.04	<0.0001	0.00013	0.04	<0.01
B626952	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.011	30.5	0.0135	0.02	5.26	<0.0005	<0.0001	<0.0001	0.0006	<0.0005	0.0124	<0.01	<0.0001	0.00001	<0.001	<0.01
B626972	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.016	94.7	0.121	0.0071	1.33	0.0009	<0.0001	<0.0001	0.0008	<0.0005	0.0054	<0.01	<0.0001	<0.00001	<0.001	<0.01
B627000	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.006	49.7	0.0043	0.0748	1.66	<0.0005	<0.0001	<0.0001	0.001	<0.0005	0.004	<0.01	<0.0001	0.00003	<0.001	<0.01
B627106	Blasthole	Overburden	<0.005	10.6	0.0049	0.0064	1.04	0.0014	<0.0001	<0.0001	0.0007	<0.0005	0.0056	<0.01	<0.0001	0.00001	<0.001	<0.01
B627271	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.008	16.8	0.136	0.007	0.14	0.0179	0.0001	<0.0001	0.0007	<0.0005	0.0009	<0.01	<0.0001	0.00008	0.001	<0.01
B627356	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.1	0.0053	0.0054	0.78	0.0007	<0.0001	<0.0001	<0.0005	<0.0005	0.0018	<0.01	<0.0001	<0.00001	<0.001	<0.01
B627389	Blasthole	Overburden	0.022	8.33	0.0982	0.138	11	0.0025	0.0018	0.0002	<0.0005	0.001	0.0103	0.3	0.0002	0.00113	0.027	0.02
B627414	Blasthole	Footwall waste	<0.005	5.37	0.0029	0.149	4.3	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.014	<0.01	<0.0001	0.00004	0.008	<0.01
B627591	Blasthole	Footwall waste	0.029	8.3	0.0793	0.0758	5.29	0.0073	0.0031	0.0002	<0.0005	0.0005	0.0091	0.14	0.0001	0.00062	0.023	<0.01
B627592	Blasthole	Footwall waste	0.027	17.5	0.292	0.327	3.34	0.0079	0.0031	<0.0002	<0.001	0.002	0.0049	0.58	0.0005	0.00435	0.032	0.04
B627851	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.9	0.0112	0.0072	0.66	0.0107	<0.0001	0.0002	<0.0005	<0.0005	0.001	<0.01	<0.0001	0.00004	0.002	<0.01
B627842	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	14.6	0.0023	0.0219	2.72	0.0006	<0.0001	0.0001	0.0007	<0.0005	0.0028	<0.01	<0.0001	<0.00001	<0.001	<0.01
B628011	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10.5	0.0201	0.0046	0.98	0.0073	0.0001	<0.0001	0.001	<0.0005	0.0048	<0.01	<0.0001	0.00003	0.002	<0.01
B627997	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	8.95	0.0039	0.0366	0.52	<0.0005	<0.0001	<0.0001	0.0039	<0.0005	0.001	<0.01	<0.0001	<0.00001	<0.001	<0.01
B627992	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	9.38	0.0096	0.0067	0.95	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0034	<0.01	<0.0001	<0.00001	<0.001	<0.01
B628037	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	8.28	0.0286	0.0085	0.25	0.0063	0.0001	<0.0001	0.0019	<0.0005	0.0031	<0.01	<0.0001	0.00004	0.002	<0.01
B628293	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.078	59.1	0.0165	0.0061	0.18	<0.0005	<0.0001	<0.0001	0.0035	<0.0005	0.0025	<0.01	<0.0001	<0.00001	<0.001	<0.01
B628297	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.006	13.7	0.0279	0.015	1.02	0.0179	0.0001	<0.0001	0.0005	<0.0005	0.001	<0.01	<0.0001	0.00015	0.005	<0.01
B628303	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B628533	Blasthole	Footwall waste	0.035	1.76	0.0717	1.18	19.3	<0.001	**0.202**	0.0006	<0.001	0.0086	0.0071	0.1	0.0006	0.0659	0.007	**0.41**
B628558	Blasthole	Footwall waste	0.039	7.03	0.145	1.34	30.6	0.0077	**0.103**	0.0008	<0.001	0.0061	0.0064	0.28	0.0005	0.0297	0.051	0.09
B628690	Blasthole	Footwall waste	0.045	11.9	0.151	0.0175	3.52	0.0195	0.0043	<0.0005	<0.003	<0.003	0.0069	0.83	<0.0005	0.00187	0.086	<0.05
B628727	Blasthole	Footwall waste	0.015	8.55	0.0167	0.0167	12.6	0.0019	0.0002	<0.0001	<0.0005	<0.0005	0.0144	0.02	<0.0001	0.00269	0.003	<0.01
B628752	Blasthole	Footwall waste	0.062	12.8	0.193	0.0115	5.46	0.0072	0.0092	<0.0005	<0.003	<0.003	0.0133	0.67	<0.0005	0.00088	0.029	0.13
B628776	Blasthole	Footwall waste	0.028	8.55	0.071	0.0286	4.48	0.0045	0.0022	0.0001	0.0014	0.0011	0.0071	0.24	<0.0001	0.00077	0.014	0.02
B628790	Blasthole	Footwall waste	<0.03	12.7	0.173	0.0286	7.09	0.0075	0.0081	<0.0005	<0.003	<0.003	0.006	0.95	<0.0005	0.00417	0.034	<0.05
B628821	Blasthole	Footwall waste	0.006	3.98	0.0094	0.0084	6.16	0.0025	0.0002	<0.0001	<0.0005	<0.0005	0.0038	0.05	<0.0001	0.00026	0.002	<0.01
B628884	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	7.46	0.008	0.0101	1.28	0.0009	<0.0001	<0.0001	<0.0005	<0.0005	0.0024	0.01	<0.0001	<0.00001	0.002	<0.01
B628940	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.7	0.0086	0.0087	0.89	<0.0005	<0.0001	<0.0001	0.0015	<0.0005	0.0037	<0.01	<0.0001	<0.00001	<0.001	<0.01
B629329	Blasthole	Footwall schist	<0.03	9.52	0.0484	0.0189	3.26	0.0133	0.01	<0.0005	<0.003	<0.003	0.0232	1.08	<0.0005	0.00492	0.034	<0.05
B629344	Blasthole	Footwall waste	<0.03	10.1	0.0842	0.0461	3.77	0.0071	0.0038	<0.0005	<0.003	<0.003	0.0108	0.93	<0.0005	0.0061	0.038	<0.05
B629378	Blasthole	Footwall waste	<0.03	8.4	0.112	0.0072	3.88	0.0063	0.0041	<0.0005	<0.003	<0.003	0.0117	1.36	<0.0005	0.0011	0.072	<0.05
B629391	Blasthole	Footwall waste	0.042	12.7	0.239	0.0097	3.93	0.0093	0.0043	<0.0005	<0.003	<0.003	0.012	1.2	<0.0005	0.00166	0.059	<0.05
B629510	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	8.83	0.0485	0.0044	3.55	0.0017	<0.0001	<0.0001	<0.0005	<0.0005	0.0022	0.01	<0.0001	0.00006	<0.001	<0.01
B629533	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	14.6	0.0082	0.0175	2.82	<0.0005	<0.0001	<0.0001	0.0024	<0.0005	0.0028	<0.01	<0.0001	0.00005	<0.001	<0.01
B629584	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	13	<0.0005	0.0182	0.43	<0.0005	<0.0001	0.0002	0.0009	<0.0005	0.0026	<0.01	<0.0001	<0.00001	<0.001	<0.01
B629819	Blasthole	Footwall waste	0.01	8.64	0.107	0.004	3.83	0.0048	0.0027	<0.0002	<0.001	<0.001	0.0032	0.11	<0.0002	0.00354	0.009	0.02
B629821	Blasthole	Footwall waste	0.011	8.73	0.106	0.0165	5.2	0.0047	0.0041	<0.0002	<0.001	<0.001	0.0047	0.4	<0.0002	0.00156	0.016	0.03
B629846	Blasthole	Footwall waste	0.012	5.04	0.0085	0.0259	28.1	<0.0005	0.0006	0.0004	<0.0005	<0.0005	0.0276	0.02	<0.0001	0.00098	0.01	<0.01
B629849	Blasthole	Footwall waste	0.022	11.3	0.294	0.011	13.5	0.0201	0.0061	<0.0002	<0.001	0.0018	0.0154	0.97	0.0003	0.00158	0.063	0.04
B629919	Blasthole	Footwall waste	0.043	14.7	0.21	0.0567	3.82	0.0076	0.0021	<0.0005	<0.003	<0.003	0.0121	0.21	<0.0005	0.00328	0.017	<0.05
B630004	Blasthole	Overburden	0.021	6.95	0.006	0.0894	6.78	0.0006	0.0007	0.0002	<0.0005	<0.0005	0.0134	<0.01	<0.0001	0.00001	0.007	<0.01
B630005	Blasthole	Footwall waste	0.013	11.3	0.22	0.102	2.48	0.004	0.0054	<0.0002	<0.001	0.0013	0.0042	0.26	<0.0002	0.00878	0.014	0.03
B630061	Blasthole	Footwall waste	0.034	9	0.0764	0.0748	9.8	0.0041	0.0007	0.0003	0.0007	<0.0005	0.013	0.29	0.0001	0.00032	0.041	0.01
B630226	Blasthole	Footwall waste	0.018	3.99	0.025	0.013	3.41	0.0032	0.0015	0.0002	0.0011	<0.0005	0.0067	0.24	<0.0001	0.00053	0.007	<0.01
B630627	Blasthole	Footwall waste	0.016	4.65	0.0081	0.0287	8.57	0.0008	0.0003	0.0003	0.0006	<0.0005	0.0127	0.02	<0.0001	0.00006	0.017	<0.01
B630629	Blasthole	Footwall waste	0.04	7.44	0.215	0.099	27.5	0.0053	0.0081	0.0007	0.0009	0.0027	0.0114	0.72	0.0003	0.006	0.058	0.05
B630605	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	14.2	0.0024	0.0041	2.69	<0.0005	<0.0001	0.0001	0.0008	<0.0005	0.0016	<0.01	<0.0001	<0.00001	<0.001	<0.01
B630829	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.022	28.2	0.0099	0.0049	0.75	0.0015	<0.0001	0.0004	0.0021	<0.0005	0.0046	<0.01	<0.0001	0.00005	<0.001	<0.01
B630842	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.6	0.0084	0.007	0.71	<0.0005	<0.0001	<0.0001	0.0012	<0.0005	0.0045	<0.01	<0.0001	<0.00001	<0.001	<0.01
B630868	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	21.1	0.0036	0.0075	0.33	0.0021	<0.0001	<0.0001	0.0035	<0.0005	0.0024	<0.01	<0.0001	<0.00001	<0.001	<0.01
B630915	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	14.2	0.0027	0.0063	0.15	<0.0005	<0.0001	<0.0001	0.0009	<0.0005	0.0022	<0.01	<0.0001	<0.00001	<0.001	<0.01
B631209	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.7	0.012	0.032	2.45	<0.0005	<0.0001	<0.0001	0.0018	<0.0005	0.0021	<0.01	<0.0001	<0.00001	<0.001	<0.01
B631232	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.007	8.13	0.0537	0.0146	2.25	0.0033	0.0001	<0.0001	0.0007	<0.0005	0.0021	0.02	<0.0001	0.00006	0.001	<0.01
B631245	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	10	0.0012	0.0118	1.05	<0.0005	<0.0001	0.0005	0.0007	<0.0005	0.0027	<0.01	<0.0001	<0.00001	<0.001	<0.01
B631297	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	11.5	0.0037	0.012	1.88	<0.0005	<0.0001	0.0001	0.0011	<0.0005	0.0041	<0.01	<0.0001	<0.00001	<0.001	<0.01
B631901	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	14.8	0.0027	0.0071	1.25	<0.0005	<0.0001	0.0002	0.0006	<0.0005	0.0062	<0.01	<0.0001	0.00002	<0.001	<0.01
B632258	Blasthole	Footwall waste	<0.005	23.5	0.0029	0.023	2.9	<0.0005	<0.0001	0.0004	<0.0005	<0.0005	0.0065	<0.01	<0.0001	0.00004	0.002	<0.01
B632287	Blasthole	Footwall waste	<0.005	22.1	0.0014	0.0327	2.02	<0.0005	<0.0001	0.0001	<0.0005	<0.0005	0.0077	<0.01	<0.0001	0.00003	0.002	<0.01
B632288	Blasthole	Footwall waste	0.008	4.85	0.105	0.0135	9.88	0.0075	0.0106	0.001	0.001	<0.0005	0.0037	0.43	0.0001	0.00172	0.019	0.02
B632721	Blasthole	Footwall waste	0.024	7.85	0.0828	0.0051	5.59	0.0186	0.0007	<0.0001	<0.0005	<0.0005	0.0086	0.2	0.0001	0.00057	0.014	<0.01
B632731	Blasthole	Footwall waste	<0.03	15.5	0.586	0.0932	4.12	0.0245	0.0094	<0.0005	<0.003	<0.003	0.0121	1.97	0.0007	0.00852	0.078	0.05
B632739	Blasthole	Footwall waste	0.028	6.26	0.0036	0.0097	5.59	<0.0005	<0.0001	<0.0001	0.0018	<0.0005	0.0076	0.02	<0.0001	0.00013	0.007	<0.01
B632769	Blasthole	Footwall waste	0.074	17.1	0.23	0.0077	4.01	0.0088	0.0085	<0.0005	<0.003	<0.003	0.0202	0.71	<0.0005	0.00686	0.046	<0.05
B632800	Blasthole	Footwall waste	0.071	24.2	0.341	0.0155	4.21	0.0187	0.0064	<0.0005	<0.003	<0.003	0.0196	1.24	<0.0005	0.0042	0.096	<0.05
B632806	Blasthole	Footwall waste	<0.005	1.08	0.0117	0.0397	4.99	0.0006	0.0026	0.0002	<0.0005	<0.0005	0.001	0.06	<0.0001	0.0002	0.032	<0.01
B632821	Blasthole	Footwall waste	0.016	12.5	0.0034	0.0787	3.17	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0027	<0.01	<0.0001	0.00007	<0.001	<0.01
B632831	Blasthole	Footwall waste	0.066	9.53	0.0045	0.0586	9.07	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0252	<0.01	<0.0001	0.00016	0.001	<0.01
B632856	Blasthole	Footwall waste	0.018	9.73	0.135	0.002	4.82	0.0051	0.0071	<0.0002	<0.001	<0.001	0.0035	0.88	0.0003	0.00195	0.031	0.02
B632906	Blasthole	Overburden	0.021	13	0.0063	0.0149	7.72	<0.0005	<0.0001	<0.0001	0.0007	<0.0005	0.0186	<0.01	<0.0001	0.00098	0.002	<0.01
B633053	Blasthole	Footwall waste	0.013	4.87	0.207	0.0366	4.33	0.0044	0.0153	0.0004	<0.001	<0.001	0.0028	0.49	0.0002	0.00699	0.046	<0.02
B633077	Blasthole	Footwall waste	0.005	8.87	0.0996	0.0185	4.71	0.0016	0.0026	0.0001	<0.0005	<0.0005	0.0015	0.21	0.0001	0.0013	0.008	<0.01
B633122	Blasthole	Overburden	0.013	8.35	0.0192	0.0182	12.6	0.002	0.0002	0.0001	<0.0005	<0.0005	0.0139	0.02	<0.0001	0.00214	0.002	<0.01
B633141	Blasthole	Overburden	0.009	7.52	0.0158	0.0058	7.1	0.0012	0.0006	<0.0001	<0.0005	<0.0005	0.0079	0.07	<0.0001	0.0026	0.005	<0.01
B633168	Blasthole	Overburden	<0.005	8.74	0.0037	0.0037	6.91	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0074	<0.01	<0.0001	0.00006	0.001	<0.01
B633242	Blasthole	Uncalssified	0.006	6.48	0.0318	0.0038	6.2	0.002	0.0011	<0.0001	<0.0005	<0.0005	0.0064	0.11	<0.0001	0.00208	0.005	<0.01
B633308	Blasthole	Overburden	0.019	16.5	0.0059	0.0113	16.6	0.0017	<0.0001	0.0001	0.0005	<0.0005	0.0394	<0.01	<0.0001	0.00548	0.004	<0.01
B633459	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	0.016	104	0.0231	0.0134	3.93	<0.0005	<0.0001	<0.0001	0.0033	<0.0005	0.0201	<0.01	<0.0001	0.00002	<0.001	<0.01
B633565	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	16	0.0049	0.003	1.38	<0.0005	<0.0001	<0.0001	<0.0005	<0.0005	0.0019	<0.01	<0.0001	<0.00001	<0.001	<0.01
B633859	Blasthole	Footwall waste	0.022	4.46	0.0381	0.0144	5.46	0.0023	0.0013	<0.0001	0.001	<0.0005	0.0061	0.07	<0.0001	0.00035	0.009	0.01
B633860	Blasthole	Footwall waste	0.008	6.28	0.0885	0.0303	4.59	0.0093	0.0032	<0.0001	<0.0005	0.0006	0.0044	0.44	0.0002	0.00147	0.029	0.02
B633925	Blasthole	Footwall waste	0.027	9.22	0.137	0.0076	4.54	0.003	0.0082	<0.0005	<0.003	<0.003	0.0087	0.33	<0.0005	0.00122	0.017	<0.05
B633929	Blasthole	Footwall waste	0.032	10.6	0.381	0.063	14.8	0.0128	0.0067	0.0002	<0.001	<0.001	0.0148	1.03	0.0008	0.00416	0.1	0.05
B633971	Blasthole	Footwall waste	<0.03	9.91	0.105	0.346	3.51	0.0051	0.0058	<0.0005	<0.003	<0.003	0.0041	0.81	<0.0005	0.00458	0.028	<0.05
B634381	Blasthole	undifferentiated gneiss/schist/amphibolite/ultramafi	<0.005	17.6	0.0041	0.0053	0.33	<0.0005	<0.0001	<0.0001	0.0006	<0.0005	0.0017	<0.01	<0.0001	<0.00001	<0.001	<0.01
B634433	Blasthole	Footwall waste	0.063	10.1	0.165	0.0142	4.55	0.0047	0.0021	<0.0005	<0.003	<0.003	0.0176	1.06	<0.0005	0.00152	0.06	<0.05
B634434	Blasthole	Footwall waste	0.012	6.94	0.144	0.0072	5.65	0.0044	0.0059	<0.0002	0.0013	<0.001	0.0055	0.57	0.0002	0.0019	0.047	0.02
B636102	Blasthole	Footwall schist	<0.005	6.05	0.0193	0.0238	5.64	0.0034	0.0002	<0.0001	<0.0005	<0.0005	0.0026	0.12	<0.0001	0.00026	0.005	<0.01
B636103	Blasthole	Footwall waste	<0.03	7.96	0.103	0.0036	6.09	0.0035	0.0022	<0.0005	<0.003	<0.003	0.0049	0.15	<0.0005	0.00329	0.02	<0.05
B636150	Blasthole	Footwall waste	0.039	9.48	0.0798	0.0042	5.36	0.0031	0.0018	<0.0005	<0.003	<0.003	0.0154	0.14	<0.0005	0.00352	0.01	<0.05
B636151	Blasthole	Footwall waste	<0.01	7.61	0.0787	0.002	7.16	0.0017	0.0014	<0.0002	<0.001	<0.001	0.004	0.15	<0.0002	0.00099	0.01	<0.02

Notes:

Value (e.g., 0.7) - Denotes a value exceeding the Metal and Diamonds Mining Effluent Regulations (MDMER) criterion

(Data extracted from electronic data file "SFE ABA Results_forGolderv2" supplied electronically from BIM in email from T. Brisco to K. DeVos and A. Para

APPENDIX C

Summary Seepage and Runoff Water Quality Sampling Results from the WRF (2018 through 2022)

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Conductivity	Hardness (as CaCO3)	pH	Total Suspended Solids	Total Dissolved Solids	Turbidity	Acidity (as CaCO3)	Alkalinity, Total (as CaCO3)	Ammonia, Total (as N)	Chloride (Cl)	Fluoride (F)	Nitrate (as N)	Total Kjeldahl Nitrogen
			Units>		umhos/cm	mg/L	pH units	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2603974-2	MS-08-EAST_2021-06-21_1110	2021-06-21	2021-06-21	-	-	6.88	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301632-1	MS-08-EAST-DITCH	2019-07-01	2019-07-01	-	-	6.88	-	-	-	-	-	-	-	-	-	-
East Ditch	L2312016-1	MS-08-EAST-INFLOW	2019-07-17	2019-07-17	2660	-	6.15	-	-	-	-	-	89	-	-	-	-
East Ditch	L2309549-3	MS-08-EAST-INFLOW	2019-07-14	2019-07-14	-	-	6.28	-	-	-	-	-	-	-	-	-	-
East Ditch	L2306761-1	MS-08-EAST-INFLOW	2019-07-09	2019-07-09	2330	-	6.45	-	-	-	-	-	1.06	-	-	-	-
East Ditch	L2305224-1	MS-08-EAST-INFLOW	2019-07-06	2019-07-06	-	-	6.52	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-13	2019-07-13	-	-	6.53	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305072-1	MS-08-EAST-INFLOW	2019-07-05	2019-07-05	-	-	6.56	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296973-3	MS-08-EAST-INFLOW	2019-06-23	2019-06-23	-	-	6.58	-	-	-	-	-	-	-	-	-	-
East Ditch	L2298617-3	MS-08-EAST-INFLOW	2019-06-25	2019-06-25	-	-	6.58	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300534-3	MS-08-EAST-INFLOW	2019-06-27	2019-06-27	-	-	6.58	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305805-1	MS-08-EAST-INFLOW	2019-07-08	2019-07-08	-	-	6.58	-	-	-	-	-	-	-	-	-	-
East Ditch	L2308636-1	MS-08-EAST-INFLOW	2019-07-11	2019-07-11	-	-	6.6	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305269-1	MS-08-EAST-INFLOW	2019-07-07	2019-07-07	-	-	6.62	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300513-3	MS-08-EAST-INFLOW	2019-06-26	2019-06-26	-	-	6.64	-	-	-	-	-	-	-	-	-	-
East Ditch	L2307801-1	MS-08-EAST-INFLOW	2019-07-10	2019-07-10	-	-	6.65	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301572-3	MS-08-EAST-INFLOW	2019-06-29	2019-06-29	-	-	6.67	-	-	-	-	-	-	-	-	-	-
East Ditch	L2313935-4	MS-08-EAST-INFLOW	2019-07-20	2019-07-20	-	-	6.67	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-12	2019-07-12	-	-	6.7	-	-	-	-	-	-	-	-	-	-
East Ditch	L2315508-4	MS-08-EAST-INFLOW	2019-07-23	2019-07-23	-	-	6.82	-	-	-	-	-	-	-	-	-	-
East Ditch	L2295991-3	MS-08-EAST-INFLOW	2019-06-20	2019-06-20	-	-	6.83	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304339-1	MS-08-EAST-INFLOW	2019-07-03	2019-07-03	-	-	6.83	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296969-3	MS-08-EAST-INFLOW	2019-06-22	2019-06-22	-	-	6.85	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301607-3	MS-08-EAST-INFLOW	2019-06-30	2019-06-30	-	-	6.85	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304338-1	MS-08-EAST-INFLOW	2019-07-04	2019-07-04	-	-	6.86	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301467-3	MS-08-EAST-INFLOW	2019-06-28	2019-06-28	-	-	6.88	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318395-4	MS-08-EAST-INFLOW	2019-07-28	2019-07-28	-	-	6.89	-	-	-	-	-	-	-	-	-	-
East Ditch	L2482854-4	MS-08-EAST-INFLOW	2020-08-03	2020-08-03	2170	-	6.9	-	-	-	-	-	2.55	-	-	-	-
East Ditch	L2297625-3	MS-08-EAST-INFLOW	2019-06-24	2019-06-24	-	-	6.93	-	-	-	-	-	-	-	-	-	-
East Ditch	L2488588-1	MS-08-EAST-INFLOW	2020-08-12	2020-08-12	2310	-	6.94	-	-	-	-	-	2.21	-	-	-	-
East Ditch	L2481535-2	MS-08-EAST-INFLOW	2020-07-29	2020-07-29	2090	-	6.98	-	-	-	-	-	3.14	-	-	-	-
East Ditch	L2303578-3	MS-08-EAST-INFLOW	2019-07-02	2019-07-02	1810	-	7.01	-	-	-	-	-	1.24	-	-	-	-
East Ditch	L2295155-3	MS-08-EAST-INFLOW	2019-06-19	2019-06-19	-	-	7.03	-	-	-	-	-	-	-	-	-	-
East Ditch	L2322461-1	MS-08-EAST-INFLOW	2019-08-02	2019-08-02	-	-	7.03	-	-	-	-	-	-	-	-	-	-
East Ditch	L2291173-3	MS-08-EAST-INFLOW	2019-06-13	2019-06-13	-	-	7.06	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-3	MS-08-EAST-INFLOW	2020-07-21	2020-07-21	1850	-	7.07	-	-	-	-	-	3.15	-	-	-	-
East Ditch	L2294118-3	MS-08-EAST-INFLOW	2019-06-18	2019-06-18	753	-	7.12	-	-	-	-	-	0.615	-	-	-	-
East Ditch	L2290598-3	MS-08-EAST-INFLOW	2019-06-12	2019-06-12	316	-	7.16	-	-	-	-	-	0.335	-	-	-	-
East Ditch	L2296841-3	MS-08-EAST-INFLOW	2019-06-21	2019-06-21	-	-	7.19	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318249-4	MS-08-EAST-INFLOW	2019-07-25	2019-07-25	-	-	7.22	-	-	-	-	-	-	-	-	-	-
East Ditch	L2330905-5	MS-08-EAST-INFLOW	2019-08-18	2019-08-18	-	-	7.24	-	-	-	-	-	-	-	-	-	-
East Ditch	L2325445-7	MS-08-EAST-INFLOW	2019-08-08	2019-08-08	-	-	7.28	-	-	-	-	-	-	-	-	-	-
East Ditch	L2323296-1	MS-08-EAST-INFLOW	2019-08-06	2019-08-06	1610	-	7.31	-	-	-	-	-	0.68	-	-	-	-
East Ditch	L2320850-1	MS-08-EAST-INFLOW	2019-07-31	2019-07-31	697	-	7.38	-	-	-	-	-	0.322	-	-	-	-
East Ditch	L2326464-5	MS-08-EAST-INFLOW	2019-08-11	2019-08-11	-	-	7.38	-	-	-	-	-	-	-	-	-	-
East Ditch	L2327989-6	MS-08-EAST-INFLOW	2019-08-13	2019-08-13	2200	-	7.38	-	-	-	-	-	1.12	-	-	-	-
East Ditch	L2330756-5	MS-08-EAST-INFLOW	2019-08-16	2019-08-16	-	-	7.38	-	-	-	-	-	-	-	-	-	-
East Ditch	L2357383-6	MS-08-EAST-INFLOW	2019-10-01	2019-10-01	-	-	7.43	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288447-3	MS-08-EAST-INFLOW	2019-06-10	2019-06-10	-	-	7.47	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292234-3	MS-08-EAST-INFLOW	2019-06-14	2019-06-14	-	-	7.47	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292454-3	MS-08-EAST-INFLOW	2019-06-15	2019-06-15	-	-	7.5	-	-	-	-	-	-	-	-	-	-
East Ditch	L2468307-2	MS-08-EAST-INFLOW	2020-06-30	2020-06-30	-	-	7.52	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292486-3	MS-08-EAST-INFLOW	2019-06-16	2019-06-16	-	-	7.54	-	-	-	-	-	-	-	-	-	-
East Ditch	L2287932-3	MS-08-EAST-INFLOW	2019-06-07	2019-06-07	-	-	7.59	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496104-1	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	1920	-	7.6	-	-	-	-	-	1.68	-	-	-	-
East Ditch	L2496103-2	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	2040	-	7.64	-	-	-	-	-	1.75	-	-	-	-
East Ditch	L2339733-5	MS-08-EAST-INFLOW	2019-08-31	2019-08-31	-	-	7.65	-	-	-	-	-	-	-	-	-	-
East Ditch	L2467060-4	MS-08-EAST-INFLOW	2020-06-25	2020-06-25	-	-	7.66	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496705-2	MS-08-EAST-INFLOW	2020-08-31	2020-08-31	1390	-	7.66	-	-	-	-	-	1.17	-	-	-	-
East Ditch	L2496140-2	MS-08-EAST-INFLOW	2020-08-30	2020-08-30	1980	-	7.68	-	-	-	-	-	1.9	-	-	-	-
East Ditch	L2358842-5	MS-08-EAST-INFLOW	2019-10-02	2019-10-02	-	-	7.7	-	-	-	-	-	-	-	-	-	-
East Ditch	L2340461-5	MS-08-EAST-INFLOW	2019-09-03	2019-09-03	1700	-	7.74	-	-	-	-	-	0.88	-	-	-	-
East Ditch	L2496047-3	MS-08-EAST-INFLOW	2020-08-27	2020-08-27	1560	-	7.81	-	-	-	-	-	1	-	-	-	-
East Ditch	L2496120-2	MS-08-EAST-INFLOW	2020-08-29	2020-08-29	1700	-	7.81	-	-	-	-	-	0.965	-	-	-	-
East Ditch	L2342313-5	MS-08-EAST-INFLOW	2019-09-05	2019-09-05	-	-	7.83	-	-	-	-	-	-	-	-	-	-
East Ditch	L2335475-3	MS-08-EAST-INFLOW	2019-08-25	2019-08-25	-	-	7.87	-	-	-	-	-	-	-	-	-	-
East Ditch	L2293024-3	MS-08-EAST-INFLOW	2019-06-17	2019-06-17	-	-	7.88	-	-	-	-	-	-	-	-	-	-
East Ditch	L2497356-2	MS-08-EAST-INFLOW	2020-09-01	2020-09-01	1430	-	7.88	-	-	-	-	-	1.16	-	-	-	-
East Ditch	L2335451-4	MS-08-EAST-INFLOW	2019-08-23	2019-08-23	-	-	7.96	-	-	-	-	-	-	-	-	-	-
East Ditch	L2337960-3	MS-08-EAST-INFLOW	2019-08-27	2019-08-27	1310	-	7.99	-	-	-	-	-	0.416	-	-	-	-
East Ditch	L2496049-2	MS-08-EAST-INFLOW	2020-08-28	2020-08-28	1200	-	8	-	-	-	-	-	0.127	-	-	-	-
East Ditch	L2350914-2	MS-08-EAST-INFLOW	2019-09-19	2019-09-19	-	-	8.05	-	-	-	-	-	-	-	-	-	-
East Ditch	L2346689-2	MS-08-EAST-INFLOW	2019-09-12	2019-09-12	-	-	8.1	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Conductivity	Hardness (as CaCO3)	pH	Total Suspended Solids	Total Dissolved Solids	Turbidity	Acidity (as CaCO3)	Alkalinity, Total (as CaCO3)	Ammonia, Total (as N)	Chloride (Cl)	Fluoride (F)	Nitrate (as N)	Total Kjeldahl Nitrogen
			Units>		umhos/cm	mg/L	pH units	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2348201-1	MS-08-EAST-INFLOW	2019-09-16	2019-09-16	-	-	8.1	-	-	-	-	-	-	-	-	-	-
East Ditch	L2345723-3	MS-08-EAST-INFLOW	2019-09-11	2019-09-11	1400	-	8.13	-	-	-	-	-	0.327	-	-	-	-
East Ditch	L2288069-3	MS-08-EAST-INFLOW	2019-06-09	2019-06-09	-	-	8.41	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288035-3	MS-08-EAST-INFLOW	2019-06-08	2019-06-08	-	-	9.05	-	-	-	-	-	-	-	-	-	-
East Ditch	L2472902-3	MS-08-EAST-INFLOW	2020-07-10	2020-07-10	-	-	7.74	-	-	-	-	-	-	-	-	-	-
East Ditch	L2605651-3	MS-08-EAST-INFLOW_2021-06-23_1415	2021-06-23	2021-06-23	-	-	6.98	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606859-2	MS-08-EAST-INFLOW_2021-06-26_0910	2021-06-26	2021-06-26	-	-	6.86	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606871-2	MS-08-EAST-INFLOW_2021-06-27_0840	2021-06-27	2021-06-27	-	-	6.95	-	-	-	-	-	-	-	-	-	-
East Ditch	L2609262-2	MS-08-EAST-INFLOW_2021-07-01_0955	2021-07-01	2021-07-01	-	-	6.64	-	-	-	-	-	-	-	-	-	-
East Ditch	L2610945-4	MS-08-EAST-INFLOW_2021-07-05_1445	2021-07-05	2021-07-05	674	-	6.94	-	-	-	-	-	0.88	-	-	-	-
East Ditch	L2612337-1	MS-08-EAST-INFLOW_2021-07-11_1355	2021-07-11	2021-07-11	462	-	7	-	-	-	-	-	0.394	-	-	-	-
East Ditch	L2618285-2	MS-08-EAST-INFLOW_2021-07-24	2021-07-24	2021-07-24	2010	-	4.99	-	-	-	-	-	1.67	-	-	-	-
East Ditch	L2623788-4	MS-08-EAST-INFLOW_2021-08-06_0920	2021-08-06	2021-08-06	2060	-	5.86	-	-	-	-	-	1.54	-	-	-	-
East Ditch	L2629919-2	MS-08-EAST-INFLOW_2021-08-22_1130	2021-08-22	2021-08-22	2320	-	5.91	-	-	-	-	-	1.72	-	-	-	-
East Ditch	L2635846-2	MS-08-EAST-INFLOW_2021-09-05	2021-09-05	2021-09-05	1650	-	7.13	-	-	-	-	-	0.627	-	-	-	-
East Ditch	L2725730-5	MS-08-EAST-INFLOW_2022-07-29	2022-07-28	2022-07-28	2270	-		-	-	-	-	-	2.82	-	-	-	-
East Ditch	L2322461-2	MS-08-EAST-INFLOW01	2019-08-02	2019-08-02	-	-	7.04	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-4	MS-08-EAST-INFLOW01	2020-07-21	2020-07-21	1850	-	7.11	-	-	-	-	-	3.16	-	-	-	-
East Ditch	L2496140-3	MS-08-EAST-INFLOW01	2020-08-30	2020-08-30	1980	-	7.7	-	-	-	-	-	1.92	-	-	-	-
East Ditch	L2343354-4	MS-08-EAST-INLFOW	2019-09-08	2019-09-08	-	-	8.02	-	-	-	-	-	-	-	-	-	-
East Ditch	L2722749-1	MS-08-EXPLORE-EASTDITCH_2022-07-10	2022-07-10	2022-07-10	85.4	-	7.48	-	-	-	-	-	0.158	-	-	-	-
East Ditch	L2113626-4	MS-08-INFLOW-EAST	2018-06-16	2018-06-16	-	-	6.3	-	-	-	-	-	-	-	-	-	-
East Ditch	L2160094-4	MS-08-INFLOW-EAST	2018-09-06	2018-09-06	-	-	6.57	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-1	CENTRAL-KEY-IN	2019-07-23	2019-07-23	-	-	7.36	426	1160	223	-	-	-	-	-	-	-
Runoff	L2312012-3	CENTRAL-KEY-IN	2019-07-17	2019-07-17	1530	-	7.39	425	1300	160	-	-	2.26	-	-	-	-
Runoff	L2328009-6	INFLUENT-CENTRAL-KEYIN	2019-08-13	2019-08-13	2610	-	6.6	14	2540	24.3	-	-	3.6	-	-	-	-
Runoff	L2287151-3	MS-08-EMERGENCY-DITCH	2019-06-06	2019-06-06	-	-	7.63	-	-	-	-	-	-	-	-	-	-
Runoff	L2340467-1	MS-SP-02	2019-09-03	2019-09-03	40800	-	4.05	337	110000	318	-	-	23.1	-	-	-	-
Runoff	PAG WR (max)	MS-SP-02	2018-09-01	2018-09-01	-	-	4.08	62.5	128000	127	-	-	-	-	-	-	-
Runoff	L2303565-5	MS-SP-02	2019-07-02	2019-07-02	2870	-	4.18	7.7	2920	13.2	-	-	2.1	-	-	-	-
Runoff	L2337954-1	MS-SP-02	2019-08-27	2019-08-27	16600	-	4.64	74.4	27300	87.5	-	-	11.4	-	-	-	-
Runoff	L2320849-3	MS-SP-02	2019-07-30	2019-07-30	13800	-	4.88	148	18900	105	-	-	4.76	-	-	-	-
Runoff	L2298517-8	MS-SP-02	2019-06-24	2019-06-24	-	-	5.03	7.2	2200	22.8	-	-	-	-	-	-	-
Runoff	L2315510-3	MS-SP-02	2019-07-23	2019-07-23	-	-	5.13	213	14500	158	-	-	-	-	-	-	-
Runoff	L2328009-2	MS-SP-02	2019-08-13	2019-08-13	10000	-	5.67	121	14300	104	-	-	4.85	-	-	-	-
Runoff	L2290620-5	MS-SP-02	2019-06-12	2019-06-12	965	-	5.72	16	663	31.3	-	-	1.03	-	-	-	-
Runoff	L2323304-3	MS-SP-02	2019-08-06	2019-08-06	8670	-	5.81	63.2	11800	53.6	-	-	4.01	-	-	-	-
Runoff	L2306749-3	MS-SP-04	2019-07-09	2019-07-09	3400	-	4.13	7.6	3790	9.55	-	-	2.4	-	-	-	-
Runoff	L2328009-1	MS-SP-04	2019-08-13	2019-08-13	6710	-	4.13	6	8640	9.04	-	-	4.67	-	-	-	-
Runoff	L2333401-1	MS-SP-04	2019-08-20	2019-08-20	6850	-	4.13	17.8	10000	7.43	-	-	4.72	-	-	-	-
Runoff	L2312012-1	MS-SP-04	2019-07-17	2019-07-17	4060	-	4.14	2.8	4450	11.5	-	-	3.07	-	-	-	-
Runoff	L2320849-4	MS-SP-04	2019-07-30	2019-07-30	5300	-	4.14	7.2	6560	13.4	-	-	3.77	-	-	-	-
Runoff	L2290620-6	MS-SP-04	2019-06-12	2019-06-12	2500	-	4.19	4	2330	10.3	-	-	1.28	-	-	-	-
Runoff	L2315510-4	MS-SP-04	2019-07-23	2019-07-23	-	-	4.23	9.6	5890	14	-	-	-	-	-	-	-
Runoff	L2323304-4	MS-SP-04	2019-08-06	2019-08-06	5940	-	4.26	5.2	7560	8.05	-	-	3.67	-	-	-	-
Runoff	L2298517-9	MS-SP-04	2019-06-24	2019-06-24	-	-	6.08	3.2	1930	7.12	-	-	-	-	-	-	-
Runoff	L2158115-6	MS-SP-04	2018-09-04	2018-09-04	-	-	6.22	3.2	12800	19.4	-	-	-	-	-	-	-
Runoff	L2294129-9	MS-SP-0401	2019-06-18	2019-06-18	2450	-	4.25	4	2340	8.37	-	-	2.01	-	-	-	-
Runoff	L2730435-1	MS-WRF-22-01_2022-08-28	2022-08-28	2022-08-28	768	-	8.02	2	540	1.06	-	-	0.026	-	-	-	-
Runoff	L2730435-2	MS-WRF-22-02_2022-08-28	2022-08-28	2022-08-28	745	-	7.94	9.1	516	2.27	-	-	0.051	-	-	-	-
Runoff	L2730426-1	MS-WRF-22-05_2022-08-27	2022-08-27	2022-08-27	960	-	7.78	77.3	690	21.3	-	-	0.178	-	-	-	-
Runoff	L2730426-2	MS-WRF-22-05A_2022-08-27	2022-08-27	2022-08-27	963	-	7.79	75.9	689	41.7	-	-	0.154	-	-	-	-
Runoff	L2730426-3	MS-WRF-22-05B_2022-08-27	2022-08-27	2022-08-27	938	-	7.6	37.4	666	9.85	-	-	0.077	-	-	-	-
Runoff	L2730426-4	MS-WRF-22-06A_2022-08-27	2022-08-27	2022-08-27	3100	-	7.36	12.3	2890	7.05	-	-	4.58	-	-	-	-
Runoff	L2730426-5	MS-WRF-22-09_2022-08-27	2022-08-27	2022-08-27	1930	-	7.41	116	1590	55.4	-	-	1.81	-	-	-	-
Runoff	L2730426-6	MS-WRF-22-09A_2022-08-27	2022-08-27	2022-08-27	2270	-	7.42	196	2020	73	-	-	2.14	-	-	-	-
Runoff	L2730426-7	MS-WRF-22-10_2022-08-27	2022-08-27	2022-08-27	2310	-	7.5	14.9	2030	4.77	-	-	2.31	-	-	-	-
Runoff	L2730426-8	MS-WRF-22-12_2022-08-27	2022-08-27	2022-08-27	3720	-	6.32	64.5	3520	59.2	-	-	2.95	-	-	-	-
Runoff	L2730426-9	MS-WRF-22-12A_2022-08-27	2022-08-27	2022-08-27	1540	-	6.77	2.2	1200	0.5	-	-	0.279	-	-	-	-
Runoff	L2730426-10	MS-WRF-22-18_2022-08-27	2022-08-27	2022-08-27	1020	-	6.98	32	766	32.9	-	-	0.156	-	-	-	-
Runoff	L2730426-11	MS-WRF-22-18A_2022-08-27	2022-08-27	2022-08-27	1020	-	7.4	35	785	43.5	-	-	0.159	-	-	-	-
Runoff	L2478363-1	WRP-20-01	2020-07-22	2020-07-22	1430	-	7.73	7.3	1150	1.9	-	-	0.141	-	-	-	-
Runoff	L2488602-1	WRP-20-01	2020-08-12	2020-08-12	1170	-	7.75	252	872	33.8	-	-	0.0586	-	-	-	-
Runoff	L2482855-1	WRP-20-01	2020-08-03	2020-08-03	1040	-	7.88	237	781	19.1	-	-	0.098	-	-	-	-
Runoff	L2482855-2	WRP-20-01A	2020-08-03	2020-08-03	1380	-	7.71	576	1140	24.6	-	-	0.231	-	-	-	-
Runoff	L2488602-2	WRP-20-01A	2020-08-12	2020-08-12	1330	-	7.72	121	1030	7.02	-	-	0.136	-	-	-	-
Runoff	L2478363-2	WRP-20-02	2020-07-22	2020-07-22	2220	-	7.66	72.4	2030	11.2	-	-	0.282	-	-	-	-
Runoff	L2495466-4	WRP-20-03	2020-08-21	2020-08-21	545	-	8.03	20.1	461	7.94	-	-	0.005	-	-	-	-
Runoff	L2478363-3	WRP-20-04	2020-07-22	2020-07-22	2310	-	7.63	267	2160	23.8	-	-	0.381	-	-	-	-
Runoff	L2496722-5	WRP-20-04	2020-08-31	2020-08-31	1220	-	7.76	2	940	4.94	-	-	0.067	-	-	-	-
Runoff	L2488602-3	WRP-20-04	2020-08-12	2020-08-12	1660	-	7.81	52.2	1390	11.1	-	-	0.0937	-	-	-	-
Runoff	L2495466-2	WRP-20-04	2020-08-21	2020-08-21	1390	-	7.81	27.2	1210	35.5	-	-	0.107	-	-	-	-
Runoff	L2482855-3	WRP-20-04	2020-08-03	2020-08-03	1650	-	7.82	9.4	1370	3.21	-	-	0.219	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Conductivity	Hardness (as CaCO3)	pH	Total Suspended Solids	Total Dissolved Solids	Turbidity	Acidity (as CaCO3)	Alkalinity, Total (as CaCO3)	Ammonia, Total (as N)	Chloride (Cl)	Fluoride (F)	Nitrate (as N)	Total Kjeldahl Nitrogen
			Units>		umhos/cm	mg/L	pH units	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2495466-1	WRP-20-04A	2020-08-21	2020-08-21	1600	-	7.71	5.2	1430	1.78	-	-	0.202	-	-	-	-
Runoff	L2478363-4	WRP-20-05	2020-07-22	2020-07-22	4370	-	7.4	40.9	4740	10.6	-	-	1.47	-	-	-	-
Runoff	L2482855-4	WRP-20-05	2020-08-03	2020-08-03	3980	-	7.73	48.2	4230	16.7	-	-	1.77	-	-	-	-
Runoff	L2495466-3	WRP-20-05	2020-08-21	2020-08-21	1820	-	7.83	5	1660	5.11	-	-	0.149	-	-	-	-
Runoff	L2488602-4	WRP-20-05A	2020-08-12	2020-08-12	5120	-	7.47	266	5450	23.3	-	-	1.24	-	-	-	-
Runoff	L2496722-6	WRP-20-05A	2020-08-31	2020-08-31	4490	-	7.47	18.4	5300	227	-	-	1.61	-	-	-	-
Runoff	L2482855-5	WRP-20-05A	2020-08-03	2020-08-03	3600	-	7.55	62.4	3760	15.8	-	-	1.49	-	-	-	-
Runoff	L2478363-5	WRP-20-07	2020-07-22	2020-07-22	4150	-	7.2	234	4460	32	-	-	1.94	-	-	-	-
Runoff	L2488602-5	WRP-20-07	2020-08-12	2020-08-12	5220	-	7.35	330	5920	18.8	-	-	1.76	-	-	-	-
Runoff	L2482855-6	WRP-20-07	2020-08-03	2020-08-03	4080	-	7.38	233	4320	14.3	-	-	1.66	-	-	-	-
Runoff	L2495466-7	WRP-20-07	2020-08-21	2020-08-21	3820	-	7.4	19.2	4290	11.8	-	-	1.43	-	-	-	-
Runoff	L2496722-7	WRP-20-07	2020-08-31	2020-08-31	4660	-	7.53	68.8	4780	17.8	-	-	1.69	-	-	-	-
Runoff	L2495466-8	WRP-20-0702	2020-08-21	2020-08-21	2	-	6.14	2	10	0.1	-	-	0.005	-	-	-	-
Runoff	L2496722-8	WRP-20-07A	2020-08-31	2020-08-31	2980	-	7.27	4.4	3270	40	-	-	1.47	-	-	-	-
Runoff	L2478363-6	WRP-20-08	2020-07-22	2020-07-22	5590	-	6.6	180	6270	137	-	-	3.39	-	-	-	-
Runoff	L2495466-6	WRP-20-08	2020-08-21	2020-08-21	4440	-	6.97	115	5060	30	-	-	2.38	-	-	-	-
Runoff	L2478363-7	WRP-20-09	2020-07-22	2020-07-22	3950	-	6.77	5.6	4220	4.35	-	-	2.61	-	-	-	-
Runoff	L2495466-5	WRP-20-10	2020-08-21	2020-08-21	8270	-	4.55	32.7	11000	31.3	-	-	7.6	-	-	-	-
Runoff	L2478363-8	WRP-20-10	2020-07-22	2020-07-22	4170	-	7	13.7	4430	1.62	-	-	3.95	-	-	-	-
Runoff	L2482855-7	WRP-20-11	2020-08-03	2020-08-03	5370	-	4.87	162	6160	78.7	-	-	5.36	-	-	-	-
Runoff	L2478363-9	WRP-20-11	2020-07-22	2020-07-22	3770	-	6.68	447	3810	41.9	-	-	5.59	-	-	-	-
Runoff	L2478363-10	WRP-20-12	2020-07-22	2020-07-22	4140	-	6.57	46.2	4260	20.7	-	-	6.29	-	-	-	-
Runoff	L2495466-16	WRP-20-12	2020-08-22	2020-08-22	1320	-	7.24	215	1110	447	-	-	2.31	-	-	-	-
Runoff	L2495466-20	WRP-20-1203	2020-08-22	2020-08-22	2	-	6.6	2	10	0.1	-	-	0.005	-	-	-	-
Runoff	L2478363-11	WRP-20-13	2020-07-22	2020-07-22	4120	-	6.25	60.2	4110	19.5	-	-	6.33	-	-	-	-
Runoff	L2495466-12	WRP-20-13	2020-08-22	2020-08-22	1980	-	7.21	167	1760	471	-	-	6.12	-	-	-	-
Runoff	L2485429-1	WRP-20-14	2020-08-04	2020-08-04	4730	-	5.31	35.8	4780	31.9	-	-	5.47	-	-	-	-
Runoff	L2488602-6	WRP-20-14	2020-08-12	2020-08-12	5360	-	6.19	121	5520	11.5	-	-	4.92	-	-	-	-
Runoff	L2478363-12	WRP-20-14	2020-07-22	2020-07-22	3	-	6.28	138	4100	27.5	-	-	6.71	-	-	-	-
Runoff	L2495466-21	WRP-20-14	2020-08-22	2020-08-22	2310	-	6.61	109	2170	303	-	-	7.2	-	-	-	-
Runoff	L2488602-7	WRP-20-1401	2020-08-12	2020-08-12	5360	-	6.24	111	5790	13.1	-	-	4.92	-	-	-	-
Runoff	L2485429-2	WRP-20-1403	2020-08-04	2020-08-04	3	-	5.85	3	10	0.48	-	-	0.01	-	-	-	-
Runoff	L2478363-13	WRP-20-15	2020-07-22	2020-07-22	2240	-	6.4	40.5	2040	29.7	-	-	3.57	-	-	-	-
Runoff	L2485429-3	WRP-20-15	2020-08-04	2020-08-04	2200	-	6.61	20.8	2070	10.8	-	-	3.33	-	-	-	-
Runoff	L2495466-19	WRP-20-15	2020-08-22	2020-08-22	2000	-	6.81	4.4	1960	4.86	-	-	2.5	-	-	-	-
Runoff	L2496722-9	WRP-20-15	2020-08-31	2020-08-31	2350	-	6.99	14	2250	0.92	-	-	2.93	-	-	-	-
Runoff	L2488602-8	WRP-20-15	2020-08-12	2020-08-12	2480	-	7.05	14.5	2580	2.83	-	-	3.23	-	-	-	-
Runoff	L2485429-4	WRP-20-1501	2020-08-04	2020-08-04	2190	-	6.71	5.2	2040	3.6	-	-	3.32	-	-	-	-
Runoff	PAG WR (75th)	WRP-20-17	2020-08-22	2020-08-22	2900	-	6.51	2.6	3010	5.26	-	-	2.45	-	-	-	-
Runoff	L2485429-5	WRP-20-17	2020-08-04	2020-08-04	3040	-	6.64	34.2	3080	8.27	-	-	2.45	-	-	-	-
Runoff	L2496722-4	WRP-20-17	2020-08-31	2020-08-31	3050	-	6.79	45.6	2920	4.33	-	-	2.85	-	-	-	-
Runoff	L2478363-14	WRP-20-17	2020-07-22	2020-07-22	2920	-	6.87	37.7	2790	15.2	-	-	2.42	-	-	-	-
Runoff	L2485429-6	WRP-20-1702	2020-08-04	2020-08-04	3	-	5.61	3	10	0.56	-	-	0.01	-	-	-	-
Runoff	L2485429-7	WRP-20-18	2020-08-04	2020-08-04	3420	-	6.33	39.2	3360	48.5	-	-	2.39	-	-	-	-
Runoff	L2479665-1	WRP-20-18	2020-07-24	2020-07-24	3260	-	6.67	5.8	3280	4.55	-	-	1.91	-	-	-	-
Runoff	L2495466-14	WRP-20-18	2020-08-22	2020-08-22	2780	-	6.75	21.2	2850	23.9	-	-	2.4	-	-	-	-
Runoff	L2496722-3	WRP-20-18	2020-08-31	2020-08-31	3140	-	6.94	26.8	3090	60.3	-	-	2.82	-	-	-	-
Runoff	L2488602-9	WRP-20-18	2020-08-12	2020-08-12	3700	-	7.23	43.6	3790	17	-	-	1.75	-	-	-	-
Runoff	L2479665-2	WRP-20-1801	2020-07-24	2020-07-24	3220	-	6.68	4.7	3240	3.62	-	-	1.9	-	-	-	-
Runoff	L2485429-8	WRP-20-19	2020-08-04	2020-08-04	2410	-	6.22	41.2	2150	65.3	-	-	3.51	-	-	-	-
Runoff	L2488602-10	WRP-20-19	2020-08-12	2020-08-12	2600	-	6.24	22	2330	50.3	-	-	3.59	-	-	-	-
Runoff	L2479665-3	WRP-20-19	2020-07-24	2020-07-24	2450	-	6.32	22.9	2340	34.5	-	-	3.9	-	-	-	-
Runoff	L2495466-15	WRP-20-19	2020-08-22	2020-08-22	1240	-	7.16	162	1030	314	-	-	1.65	-	-	-	-
Runoff	L2496722-1	WRP-20-19	2020-08-31	2020-08-31	2430	-	7.43	6	2160	2.79	-	-	3.47	-	-	-	-
Runoff	L2479665-4	WRP-20-1901	2020-07-24	2020-07-24	2470	-	6.3	24.9	2340	35.5	-	-	3.9	-	-	-	-
Runoff	L2485429-9	WRP-20-20	2020-08-04	2020-08-04	2590	-	5.85	14.4	2430	67.4	-	-	3.36	-	-	-	-
Runoff	L2479665-5	WRP-20-20	2020-07-24	2020-07-24	2520	-	6.1	28.7	2380	56.3	-	-	3.73	-	-	-	-
Runoff	L2496722-2	WRP-20-20	2020-08-31	2020-08-31	2960	-	6.38	570	2830	45.4	-	-	5.46	-	-	-	-
Runoff	L2495466-17	WRP-20-20	2020-08-22	2020-08-22	883	-	7	216	692	414	-	-	1.37	-	-	-	-
Runoff	L2495466-9	WRP-20-20A	2020-08-22	2020-08-22	1200	-	6.25	181	1010	365	-	-	1.73	-	-	-	-
Runoff	L2485429-10	WRP-20-20A	2020-08-04	2020-08-04	3430	-	6.32	22.6	3130	70.6	-	-	4.32	-	-	-	-
Runoff	L2479665-6	WRP-20-21	2020-07-24	2020-07-24	2300	-	7.19	206	2030	32.5	-	-	4.18	-	-	-	-
Runoff	L2479665-7	WRP-20-22	2020-07-24	2020-07-24	2390	-	7.1	388	2120	45.1	-	-	3.7	-	-	-	-
Runoff	L2495466-18	WRP-20-22	2020-08-22	2020-08-22	2180	-	7.39	22.8	2010	38	-	-	3.69	-	-	-	-
Runoff	L2479665-8	WRP-20-2201	2020-07-24	2020-07-24	2380	-	7.12	232	2180	26.7	-	-	3.72	-	-	-	-
Runoff	L2485429-11	WRP-20-23	2020-08-04	2020-08-04	1580	-	6.99	35.2	1220	11.3	-	-	1.91	-	-	-	-
Runoff	L2479665-9	WRP-20-23	2020-07-24	2020-07-24	1700	-	7.22	12	1370	1.84	-	-	2.07	-	-	-	-
Runoff	L2479665-10	WRP-20-24	2020-07-24	2020-07-24	1820	-	7.48	17.2	1270	0.62	-	-	8.97	-	-	-	-
Runoff	L2495466-10	WRP-20-24	2020-08-22	2020-08-22	1340	-	7.63	25.3	1030	4.8	-	-	6.53	-	-	-	-
Runoff	L2479665-11	WRP-20-25	2020-07-24	2020-07-24	720	-	7.57	471	466	43.3	-	-	3.87	-	-	-	-
Runoff	L2495466-11	WRP-20-25	2020-08-22	2020-08-22	375	-	8.03	9	236	12.7	-	-	0.391	-	-	-	-
Runoff	L2627498-16	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	712	-	7.89	2	470	1.7	-	-	0.267	-	-	-	-
Runoff	L2627498-26	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	728	-	7.97	2	511	0.77	-	-	0.238	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Conductivity	Hardness (as CaCO3)	pH	Total Suspended Solids	Total Dissolved Solids	Turbidity	Acidity (as CaCO3)	Alkalinity, Total (as CaCO3)	Ammonia, Total (as N)	Chloride (Cl)	Fluoride (F)	Nitrate (as N)	Total Kjeldahl Nitrogen
			Units>		umhos/cm	mg/L	pH units	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2610912-9	WRP-21-01_2021-07-05_1410	2021-07-05	2021-07-05	727	-	7.84	613	485	246	-	-	0.88	-	-	-	-
Runoff	L2612335-1	WRP-21-01_2021-07-11_0910	2021-07-11	2021-07-11	2150	-	7.51	230	1880	11.3	-	-	2.53	-	-	-	-
Runoff	L2627498-25	WRP-21-02_16-08-2021_1345	2021-08-16	2021-08-16	1140	-	7.88	2	838	0.16	-	-	0.762	-	-	-	-
Runoff	L2610912-8	WRP-21-02_2021-07-05_1350	2021-07-05	2021-07-05	915	-	7.7	1350	642	1300	-	-	0.7	-	-	-	-
Runoff	L2612335-2	WRP-21-02_2021-07-11_0930	2021-07-11	2021-07-11	1390	-	7.47	65.6	1050	10.2	-	-	0.892	-	-	-	-
Runoff	L2612335-3	WRP-21-02A_2021-07-11_0945	2021-07-11	2021-07-11	3160	-	7.61	41.1	2840	6.34	-	-	5.65	-	-	-	-
Runoff	L2618284-11	WRP-21-02A_2021-07-23	2021-07-23	2021-07-23	1940	-	7.38	33.3	1640	1.14	-	-	3.47	-	-	-	-
Runoff	L2627498-24	WRP-21-03_16-08-2021_1320	2021-08-16	2021-08-16	1290	-	7.73	2	982	0.32	-	-	2.57	-	-	-	-
Runoff	L2610912-7	WRP-21-03_2021-07-05_1340	2021-07-05	2021-07-05	2300	-	7.68	179	2040	29	-	-	3.79	-	-	-	-
Runoff	L2610912-6	WRP-21-04_2021-07-05_1320	2021-07-05	2021-07-05	2760	-	7.52	2150	2490	3910	-	-	4.85	-	-	-	-
Runoff	L2627498-17	WRP-21-04A_16-08-2021_1240	2021-08-16	2021-08-16	7230	-	6.23	17.1	8840	30.4	-	-	8.16	-	-	-	-
Runoff	L2612335-4	WRP-21-04A_2021-07-11_1005	2021-07-11	2021-07-11	4440	-	6	88.9	4560	42.6	-	-	10.9	-	-	-	-
Runoff	L2627498-18	WRP-21-04B_16-08-2021_1300	2021-08-16	2021-08-16	1860	-	7.59	9.9	1580	4.13	-	-	3.77	-	-	-	-
Runoff	L2627498-19	WRP-21-05_16-08-2021_1205	2021-08-16	2021-08-16	1960	-	7.62	3	1740	2.49	-	-	2.89	-	-	-	-
Runoff	L2610912-5	WRP-21-05_2021-07-05_1300	2021-07-05	2021-07-05	1530	-	7.52	260	1210	26.4	-	-	4.19	-	-	-	-
Runoff	L2612335-5	WRP-21-05_2021-07-11_1025	2021-07-11	2021-07-11	1010	-	7.48	5.9	743	3.35	-	-	1.87	-	-	-	-
Runoff	L2610912-4	WRP-21-06_2021-07-05_1245	2021-07-05	2021-07-05	1550	-	7.21	415	1280	54.7	-	-	3.07	-	-	-	-
Runoff	L2612335-7	WRP-21-06_2021-07-11_1040	2021-07-11	2021-07-11	1080	-	7.54	111	779	11.5	-	-	2.37	-	-	-	-
Runoff	L2627498-21	WRP-21-07_16-08-2021_1140	2021-08-16	2021-08-16	3110	-	6.93	24.7	3120	7.17	-	-	3.68	-	-	-	-
Runoff	L2610912-3	WRP-21-07_2021-07-05_1155	2021-07-05	2021-07-05	2860	-	7.11	149	2780	59.5	-	-	2.15	-	-	-	-
Runoff	L2612335-8	WRP-21-07A_2021-07-11_1110	2021-07-11	2021-07-11	1230	-	6.79	160	974	36.1	-	-	0.799	-	-	-	-
Runoff	L2627498-22	WRP-21-07B_16-08-2021_1130	2021-08-16	2021-08-16	2010	-	7.38	2	1840	0.79	-	-	3.19	-	-	-	-
Runoff	L2612335-9	WRP-21-07B_2021-07-11_1125	2021-07-11	2021-07-11	333	-	7.11	139	210	86.5	-	-	0.426	-	-	-	-
Runoff	L2627498-23	WRP-21-08_16-08-2021_1115	2021-08-16	2021-08-16	3160	-	7.14	14	3040	2.82	-	-	4.77	-	-	-	-
Runoff	L2610912-2	WRP-21-08_2021-07-05_1125	2021-07-05	2021-07-05	1660	-	6.87	242	1450	80.7	-	-	1.55	-	-	-	-
Runoff	L2612335-10	WRP-21-08_2021-07-11_1140	2021-07-11	2021-07-11	522	-	6.83	69.1	331	22.2	-	-	0.48	-	-	-	-
Runoff	L2618284-10	WRP-21-08_2021-07-23	2021-07-23	2021-07-23	1490	-	6.84	53.5	1300	8.01	-	-	1.43	-	-	-	-
Runoff	L2627498-20	WRP-21-09_16-08-2021_1050	2021-08-16	2021-08-16	3740	-	7.55	34	3920	23.2	-	-	3.75	-	-	-	-
Runoff	L2610912-1	WRP-21-09_2021-07-05_1110	2021-07-05	2021-07-05	2550	-	5.91	238	2440	91.7	-	-	2.32	-	-	-	-
Runoff	L2612335-11	WRP-21-09_2021-07-11_1200	2021-07-11	2021-07-11	1590	-	5.82	91.7	1330	17	-	-	1.43	-	-	-	-
Runoff	L2618284-9	WRP-21-09A_2021-07-23	2021-07-23	2021-07-23	4730	-	5.02	12.2	5420	12.5	-	-	3.37	-	-	-	-
Runoff	L2627498-9	WRP-21-10_15-08-2021_1500	2021-08-15	2021-08-15	1080	-	7.2	9.5	775	8.97	-	-	0.789	-	-	-	-
Runoff	L2610912-14	WRP-21-10_2021-07-05_1550	2021-07-05	2021-07-05	850	-	7.2	108	647	82.7	-	-	0.266	-	-	-	-
Runoff	L2612335-12	WRP-21-10_2021-07-11_1240	2021-07-11	2021-07-11	874	-	7.23	136	643	41	-	-	0.317	-	-	-	-
Runoff	L2618284-7	WRP-21-10_2021-07-23	2021-07-23	2021-07-23	1630	-	7.08	2	1420	0.74	-	-	0.613	-	-	-	-
Runoff	L2627498-11	WRP-21-10A_15-08-2021_1435	2021-08-15	2021-08-15	630	-	7.31	8.1	420	13.7	-	-	0.531	-	-	-	-
Runoff	L2612335-13	WRP-21-10A_2021-07-11_1255	2021-07-11	2021-07-11	249	-	6.73	59.5	150	31.9	-	-	0.228	-	-	-	-
Runoff	L2627498-8	WRP-21-11_15-08-2021_1415	2021-08-15	2021-08-15	1330	-	6.98	7.8	1090	4.28	-	-	1.01	-	-	-	-
Runoff	L2610912-13	WRP-21-11_2021-07-05_1530	2021-07-05	2021-07-05	949	-	6.84	4260	694	1070	-	-	0.9	-	-	-	-
Runoff	L2612335-14	WRP-21-11_2021-07-11_1310	2021-07-11	2021-07-11	286	-	6.76	62.3	176	11.3	-	-	0.232	-	-	-	-
Runoff	L2618284-6	WRP-21-11_2021-07-23	2021-07-23	2021-07-23	1260	-	6.96	91.2	1030	41.6	-	-	1.02	-	-	-	-
Runoff	L2610912-11	WRP-21-12_2021-07-05_1520	2021-07-05	2021-07-05	1080	-	6.98	892	855	320	-	-	1.04	-	-	-	-
Runoff	L2627498-10	WRP-21-13_15-08-2021_1400	2021-08-15	2021-08-15	2090	-	6.64	9.5	1940	34.4	-	-	1.37	-	-	-	-
Runoff	L2610912-10	WRP-21-13_2021-07-05_1505	2021-07-05	2021-07-05	1800	-	4.57	69.4	1520	60.1	-	-	1.67	-	-	-	-
Runoff	L2612335-15	WRP-21-13_2021-07-11_1320	2021-07-11	2021-07-11	1930	-	5.92	128	1640	47.6	-	-	1.29	-	-	-	-
Runoff	L2618284-5	WRP-21-13_2021-07-23	2021-07-23	2021-07-23	2750	-	5.26	10	2780	32.1	-	-	2.44	-	-	-	-
Runoff	L2627498-12	WRP-21-14_15-08-2021_1255	2021-08-15	2021-08-15	2960	-	5.16	169	2970	139	-	-	2.5	-	-	-	-
Runoff	L2612842-1	WRP-21-14_2021-07-12_1300	2021-07-12	2021-07-12	2020	-	4.8	110	1670	52.7	-	-	1.89	-	-	-	-
Runoff	L2618284-4	WRP-21-14_2021-07-22	2021-07-22	2021-07-22	2770	-	4.91	29	2760	19.6	-	-	2.49	-	-	-	-
Runoff	L2627498-1	WRP-21-14A_15-08-2021_1150	2021-08-15	2021-08-15	2120	-	5.04	14.5	1920	21.1	-	-	2.45	-	-	-	-
Runoff	L2627498-13	WRP-21-14B_15-08-2021_1225	2021-08-15	2021-08-15	2240	-	5.42	18.3	2100	32.7	-	-	2.4	-	-	-	-
Runoff	L2627498-14	WRP-21-14C_15-08-2021_1240	2021-08-15	2021-08-15	2230	-	6.29	20.5	2100	56.5	-	-	2.05	-	-	-	-
Runoff	L2627498-3	WRP-21-15_15-08-2021_1125	2021-08-15	2021-08-15	2960	-	5.79	69.5	2930	115	-	-	2.07	-	-	-	-
Runoff	L2612842-2	WRP-21-15_2021-07-12_1325	2021-07-12	2021-07-12	1590	-	6.41	29.5	1280	45.4	-	-	1.52	-	-	-	-
Runoff	L2612842-3	WRP-21-16_2021-07-12_1340	2021-07-12	2021-07-12	1280	-	6.66	59.5	1010	54.6	-	-	1.3	-	-	-	-
Runoff	L2618284-3	WRP-21-16_2021-07-22	2021-07-22	2021-07-22	1140	-	7.45	101	915	29	-	-	2.69	-	-	-	-
Runoff	L2627498-2	WRP-21-17_15-08-2021_1105	2021-08-15	2021-08-15	1110	-	7.52	8.2	862	6.93	-	-	1.18	-	-	-	-
Runoff	L2612842-4	WRP-21-17_2021-07-12_1350	2021-07-12	2021-07-12	1230	-	6.57	63.5	923	43.1	-	-	1.54	-	-	-	-
Runoff	L2627498-4	WRP-21-18_15-08-2021_1055	2021-08-15	2021-08-15	1040	-	7.67	4	783	2.63	-	-	0.749	-	-	-	-
Runoff	L2612842-5	WRP-21-18_2021-07-12_1435	2021-07-12	2021-07-12	619	-	7.18	184	403	129	-	-	0.599	-	-	-	-
Runoff	L2627498-7	WRP-21-19_15-08-2021_1030	2021-08-15	2021-08-15	959	-	7.53	10.2	667	14.3	-	-	3.81	-	-	-	-
Runoff	L2612842-6	WRP-21-19_2021-07-12_1450	2021-07-12	2021-07-12	762	-	7.42	67.5	473	53.7	-	-	2.87	-	-	-	-
Runoff	L2618284-2	WRP-21-19_2021-07-22	2021-07-22	2021-07-22	1710	-	7.08	32.7	1390	30.1	-	-	7.15	-	-	-	-
Runoff	L2627498-5	WRP-21-19A_15-08-2021_1020	2021-08-15	2021-08-15	258	-	7.97	12.9	88	12.1	-	-	0.517	-	-	-	-
Runoff	L2627498-6	WRP-21-20_15-08-2021_1005	2021-08-15	2021-08-15	245	-	8.08	3.9	80	8.82	-	-	0.073	-	-	-	-
Runoff	L2612842-7	WRP-21-20_2021-07-12_1510	2021-07-12	2021-07-12	155	-	7.47	30.3	90	45.3	-	-	0.0512	-	-	-	-
Runoff	L2618284-1	WRP-21-20_2021-07-22	2021-07-22	2021-07-22	222	-	7.88	2	135	4	-	-	0.0838	-	-	-	-
Runoff	L2725732-1	WRP-22-01_2022-07-28	2022-07-28	2022-07-28	494	-	7.86	106	313	41.4	-	-	0.066	-	-	-	-
Runoff	L2725732-2	WRP-22-02_2022-07-28	2022-07-28	2022-07-28	508	-	7.86	4.8	319	2.5	-	-	0.089	-	-	-	-
Runoff	L2725732-3	WRP-22-03_2022-07-28	2022-07-28	2022-07-28	671	-	7.7	2	451	0.35	-	-	0.279	-	-	-	-
Runoff	L2725732-4	WRP-22-04_2022-07-28	2022-07-28	2022-07-28	642	-	7.78	2	432	0.65	-	-	0.23	-	-	-	-
Runoff	L2725732-5	WRP-22-05_2022-07-28	2022-07-28	2022-07-28	644	-	7.75	23.7	433	17.7	-	-	0.219	-	-	-	-
Runoff	L2725732-6	WRP-22-06_2022-07-28	2022-07-28	2022-07-28	976	-	7.51	5.2	687	3.3	-	-	1.47	-	-	-	-

Appendix C: Water Quality Data

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Conductivity	Hardness (as CaCO3)	pH	Total Suspended Solids	Total Dissolved Solids	Turbidity	Acidity (as CaCO3)	Alkalinity, Total (as CaCO3)	Ammonia, Total (as N)	Chloride (Cl)	Fluoride (F)	Nitrate (as N)	Total Kjeldahl Nitrogen
			Units>		umhos/cm	mg/L	pH units	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2725732-7	WRP-22-07_2022-07-28	2022-07-28	2022-07-28	1730	-	7.52	41.4	1450	36.5	-	-	2.98	-	-	-	-
Runoff	L2725732-8	WRP-22-08_2022-07-28	2022-07-28	2022-07-28	1550	-	7.52	28	1250	36.4	-	-	2.07	-	-	-	-
Runoff	L2725732-9	WRP-22-09_2022-07-28	2022-07-28	2022-07-28	952	-	7.47	51.2	702	16	-	-	1.21	-	-	-	-
Runoff	L2725732-10	WRP-22-10_2022-07-28	2022-07-28	2022-07-28	1200	-	7.6	5.7	900	3.71	-	-	1.49	-	-	-	-
Runoff	L2725732-11	WRP-22-11_2022-07-28	2022-07-28	2022-07-28	1300	-	7.59	339	1000	173	-	-	1.74	-	-	-	-
Runoff	L2725732-12	WRP-22-12_2022-07-28	2022-07-28	2022-07-28	1930	-	7.14	8.3	1590	7.94	-	-	1.69	-	-	-	-
Runoff	L2725732-13	WRP-22-13_2022-07-29	2022-07-29	2022-07-29	987	-	7.36	7.1	729	6.23	-	-	0.305	-	-	-	-
Runoff	L2725732-14	WRP-22-14_2022-07-29	2022-07-29	2022-07-29	717	-	7.3	12	527	10.4	-	-	0.16	-	-	-	-
Runoff	L2725732-15	WRP-22-15_2022-07-29	2022-07-29	2022-07-29	494	-	7.39	194	369	245	-	-	0.067	-	-	-	-
Runoff	L2725732-16	WRP-22-16_2022-07-29	2022-07-29	2022-07-29	494	-	7.23	7.2	322	5.37	-	-	0.02	-	-	-	-
Runoff	L2725732-17	WRP-22-17_2022-07-29	2022-07-29	2022-07-29	886	-	6.95	4.7	683	3.64	-	-	0.364	-	-	-	-
Runoff	L2725732-18	WRP-22-18_2022-07-29	2022-07-29	2022-07-29	583	-	7.33	22.7	414	16.7	-	-	0.207	-	-	-	-
Runoff	L2157407-6	WRP-DD-E1	2018-09-01	2018-09-01	-	-	6.92	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-4	WRPP	2018-09-04	2018-09-04	-	-	4.63	61	29100	81.6	-	-	-	-	-	-	-
Runoff	L2306749-1	WRP-S10	2019-07-09	2019-07-09	6330	-	4.24	22.4	8260	29	-	-	3.88	-	-	-	-
Runoff	L2158115-3	WRP-S10	2018-09-04	2018-09-04	-	-	4.32	22	42100	32.1	-	-	-	-	-	-	-
Runoff	L2298517-5	WRP-S10	2019-06-24	2019-06-24	-	-	4.38	2	2960	6.17	-	-	-	-	-	-	-
Runoff	L2320849-1	WRP-S10	2019-07-30	2019-07-30	2340	-	4.91	397	2290	2.93	-	-	1.27	-	-	-	-
Runoff	L2290620-2	WRP-S10	2019-06-12	2019-06-12	1730	-	4.98	10.4	1500	12.2	-	-	1.5	-	-	-	-
Runoff	L2290620-3	WRP-S11	2019-06-12	2019-06-12	127	-	6.9	111	162	273	-	-	0.125	-	-	-	-
Runoff	L2298517-7	WRP-S11	2019-06-24	2019-06-24	-	-	7.23	2	391	2.68	-	-	-	-	-	-	-
Runoff	L2315510-2	WRP-S12	2019-07-23	2019-07-23	-	-	5.24	43.2	4280	45.4	-	-	-	-	-	-	-
Runoff	L2303565-4	WRP-S12	2019-07-02	2019-07-02	1320	-	6.71	3.9	1140	5.35	-	-	1.59	-	-	-	-
Runoff	L2298517-6	WRP-S12	2019-06-24	2019-06-24	-	-	7.23	2	430	2.67	-	-	-	-	-	-	-
Runoff	L2290620-4	WRP-S12	2019-06-12	2019-06-12	252	-	7.47	29.2	250	129	-	-	0.102	-	-	-	-
Runoff	L2320849-2	WRP-S12	2019-07-30	2019-07-30	1640	-	7.61	6.4	1550	5.47	-	-	1.03	-	-	-	-
Runoff	L2157407-16	WRP-S14	2018-09-01	2018-09-01	-	-	7.45	2	2180	3.89	-	-	-	-	-	-	-
Runoff	L2303565-3	WRP-S15	2019-07-02	2019-07-02	3120	-	4.57	72	3240	89.9	-	-	2.27	-	-	-	-
Runoff	L2337954-2	WRP-S15	2019-08-27	2019-08-27	5600	-	4.71	22.7	6880	29.2	-	-	3.59	-	-	-	-
Runoff	L2323304-1	WRP-S15	2019-08-06	2019-08-06	5390	-	4.82	28.4	6890	39.7	-	-	2.73	-	-	-	-
Runoff	L2306749-2	WRP-S15	2019-07-09	2019-07-09	2530	-	6.19	99.2	2630	137	-	-	1.22	-	-	-	-
Runoff	L2298517-3	WRP-S15	2019-06-24	2019-06-24	-	-	6.31	54	880	82.4	-	-	-	-	-	-	-
Runoff	L2294129-8	WRP-S15	2019-06-18	2019-06-18	611	-	7.1	30	441	285	-	-	0.041	-	-	-	-
Runoff	L2158115-7	WRP-S15NEW	2018-09-04	2018-09-04	-	-	8.03	12.4	250	27.2	-	-	-	-	-	-	-
Runoff	L2312012-4	WRP-S16	2019-07-17	2019-07-17	6040	-	4.42	30	7500	50.2	-	-	3.01	-	-	-	-
Runoff	L2333401-3	WRP-S16	2019-08-20	2019-08-20	5320	-	4.58	57.6	7370	62.4	-	-	3.54	-	-	-	-
Runoff	L2328009-4	WRP-S16	2019-08-13	2019-08-13	5190	-	4.83	40	6260	29	-	-	3.53	-	-	-	-
Runoff	L2323304-2	WRP-S16	2019-08-06	2019-08-06	5340	-	4.96	21.2	6390	20.1	-	-	2.76	-	-	-	-
Runoff	L2290620-8	WRP-S16	2019-06-12	2019-06-12	1670	-	5.81	72	1410	59.8	-	-	1.34	-	-	-	-
Runoff	L2298517-4	WRP-S16	2019-06-24	2019-06-24	-	-	7.42	90	120	229	-	-	-	-	-	-	-
Runoff	L2158115-8	WRP-S16NEW	2018-09-04	2018-09-04	-	-	4.5	22.4	12000	26.1	-	-	-	-	-	-	-
Runoff	L2290620-7	WRP-S17	2019-06-12	2019-06-12	200	-	6.99	71.2	195	145	-	-	0.181	-	-	-	-
Runoff	L2303565-1	WRP-S17	2019-07-02	2019-07-02	92.7	-	7.85	127	75	237	-	-	0.17	-	-	-	-
Runoff	L2306749-5	WRP-S17	2019-07-09	2019-07-09	249	-	8.16	36.4	174	19.7	-	-	0.01	-	-	-	-
Runoff	L2306749-4	WRP-S18	2019-07-09	2019-07-09	8750	-	4.28	139	12400	129	-	-	14	-	-	-	-
Runoff	L2312012-2	WRP-S18	2019-07-17	2019-07-17	5460	-	4.36	181	6310	180	-	-	9.4	-	-	-	-
Runoff	L2303565-6	WRP-S18	2019-07-02	2019-07-02	645	-	7.42	102	498	67.8	-	-	0.488	-	-	-	-
Runoff	L2298517-10	WRP-S18	2019-06-24	2019-06-24	-	-	7.82	56.1	289	138	-	-	-	-	-	-	-
Runoff	L2303565-2	WRP-S4	2019-07-02	2019-07-02	124	-	7.44	170	103	319	-	-	0.17	-	-	-	-
Runoff	L2328009-5	WRP-S4	2019-08-13	2019-08-13	1060	-	7.61	3.6	798	1.73	-	-	1.77	-	-	-	-
Runoff	L2298517-2	WRP-S4	2019-06-24	2019-06-24	-	-	8.25	4.4	90	32.2	-	-	-	-	-	-	-
Runoff	L2328009-3	WRP-S5	2019-08-13	2019-08-13	1440	-	6.97	14.8	1190	18.8	-	-	3	-	-	-	-
Runoff	L2333401-2	WRP-S5	2019-08-20	2019-08-20	1220	-	7.41	5.4	1130	13.8	-	-	1.39	-	-	-	-
Runoff	L2290620-1	WRP-S5	2019-06-12	2019-06-12	-	-	7.52	80	180	248	-	-	0.06	-	-	-	-
Runoff	L2158115-5	WRP-S5	2018-09-04	2018-09-04	-	-	8.13	-	-	-	-	-	-	-	-	-	-
Runoff	L2298517-1	WRP-S5	2019-06-24	2019-06-24	-	-	8.31	9.2	168	111	-	-	-	-	-	-	-
Runoff	L2157407-10	WRP-S6	2018-09-01	2018-09-01	-	-	7	-	-	-	-	-	-	-	-	-	-
West Ditch	L2722749-4	MS-08-EXPLORE-WESTDITCH_2022-07-10	2022-07-10	2022-07-10	672	-	7.74	-	-	-	-	-	0.74	-	-	-	-
West Ditch	L2115219-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	4.63	-	-	-	-	-	-	-	-	-	-
West Ditch	L2115893-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	4.71	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114971-3	MS-08-INFLOW-WEST	2018-06-19	2018-06-19	-	-	4.8	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113672-2	MS-08-INFLOW-WEST	2018-06-17	2018-06-17	-	-	4.81	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113576-3	MS-08-INFLOW-WEST	2018-06-15	2018-06-15	-	-	5.03	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114098-3	MS-08-INFLOW-WEST	2018-06-18	2018-06-18	-	-	5.03	-	-	-	-	-	-	-	-	-	-
West Ditch	L2160094-1	MS-08-INFLOW-WEST	2018-09-06	2018-09-06	-	-	5.07	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110885-3	MS-08-INFLOW-WEST	2018-06-12	2018-06-12	-	-	5.17	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113626-3	MS-08-INFLOW-WEST	2018-06-16	2018-06-16	-	-	5.18	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110060-3	MS-08-INFLOW-WEST	2018-06-10	2018-06-10	-	-	5.34	80.9	650	86.1	-	-	-	-	-	-	-
West Ditch	L2112194-3	MS-08-INFLOW-WEST	2018-06-14	2018-06-14	-	-	5.67	-	-	-	-	-	-	-	-	-	-
West Ditch	L2111853-3	MS-08-INFLOW-WEST	2018-06-13	2018-06-13	-	-	5.88	-	-	-	-	-	-	-	-	-	-
West Ditch	L2108641-2	MS-08-INFLOW-WEST	2018-06-07	2018-06-07	-	-	6.44	560	309	230	-	-	-	-	-	-	-
West Ditch	L2288069-4	MS-08-WEST INFLOW	2019-06-09	2019-06-09	-	-	6.36	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301632-4	MS-08-WEST-DITCH	2019-07-01	2019-07-01	-	-	6.33	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Conductivity	Hardness (as CaCO3)	pH	Total Suspended Solids	Total Dissolved Solids	Turbidity	Acidity (as CaCO3)	Alkalinity, Total (as CaCO3)	Ammonia, Total (as N)	Chloride (Cl)	Fluoride (F)	Nitrate (as N)	Total Kjeldahl Nitrogen
			Units>		umhos/cm	mg/L	pH units	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2335451-5	MS08-WEST-INFLOW	2019-08-23	2019-08-23	-	-	6.97	-	-	-	-	-	-	-	-	-	-
West Ditch	L2318395-5	MS-08-WEST-INFLOW	2018-07-28	2018-07-28	-	-	4.42	-	-	-	-	-	-	-	-	-	-
West Ditch	L2306761-4	MS-08-WEST-INFLOW	2019-07-09	2019-07-09	7500	-	4.44	-	-	-	-	-	10	-	-	-	-
West Ditch	L2318249-5	MS-08-WEST-INFLOW	2019-07-25	2019-07-25	-	-	4.48	-	-	-	-	-	-	-	-	-	-
West Ditch	L2313935-5	MS-08-WEST-INFLOW	2019-07-20	2019-07-20	-	-	4.53	-	-	-	-	-	-	-	-	-	-
West Ditch	L2312016-4	MS-08-WEST-INFLOW	2019-07-17	2019-07-17	5470	-	4.55	-	-	-	-	-	9.21	-	-	-	-
West Ditch	L2320850-4	MS-08-WEST-INFLOW	2019-07-31	2019-07-31	4160	-	4.65	-	-	-	-	-	3.14	-	-	-	-
West Ditch	L2340461-4	MS-08-WEST-INFLOW	2019-09-03	2019-09-03	14100	-	4.67	-	-	-	-	-	22.9	-	-	-	-
West Ditch	L2305805-4	MS-08-WEST-INFLOW	2019-07-08	2019-07-08	-	-	4.81	-	-	-	-	-	-	-	-	-	-
West Ditch	L2322461-5	MS-08-WEST-INFLOW	2019-08-02	2019-08-02	-	-	5.02	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305072-5	MS-08-WEST-INFLOW	2019-07-05	2019-07-05	-	-	5.04	-	-	-	-	-	-	-	-	-	-
West Ditch	L2290598-4	MS-08-WEST-INFLOW	2019-06-12	2019-06-12	790	-	5.34	-	-	-	-	-	0.482	-	-	-	-
West Ditch	L2342313-4	MS-08-WEST-INFLOW	2019-09-05	2019-09-05	-	-	5.55	-	-	-	-	-	-	-	-	-	-
West Ditch	L2291173-4	MS-08-WEST-INFLOW	2019-06-13	2019-06-13	-	-	5.58	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330905-2	MS-08-WEST-INFLOW	2019-08-18	2019-08-18	-	-	5.68	-	-	-	-	-	-	-	-	-	-
West Ditch	L2327989-3	MS-08-WEST-INFLOW	2019-08-13	2019-08-13	4980	-	5.78	-	-	-	-	-	3.31	-	-	-	-
West Ditch	L2295991-4	MS-08-WEST-INFLOW	2019-06-20	2019-06-20	-	-	5.82	-	-	-	-	-	-	-	-	-	-
West Ditch	L2343354-1	MS-08-WEST-INFLOW	2019-09-08	2019-09-08	-	-	5.95	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305224-5	MS-08-WEST-INFLOW	2019-07-06	2019-07-06	-	-	5.99	-	-	-	-	-	-	-	-	-	-
West Ditch	L2326464-3	MS-08-WEST-INFLOW	2019-08-11	2019-08-11	-	-	6.02	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309409-5	MS-08-WEST-INFLOW	2019-07-12	2019-07-12	-	-	6.04	-	-	-	-	-	-	-	-	-	-
West Ditch	L2325445-3	MS-08-WEST-INFLOW	2019-08-08	2019-08-08	-	-	6.07	-	-	-	-	-	-	-	-	-	-
West Ditch	L2298617-4	MS-08-WEST-INFLOW	2019-06-25	2019-06-25	-	-	6.09	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301467-4	MS-08-WEST-INFLOW	2019-06-28	2019-06-28	-	-	6.1	-	-	-	-	-	-	-	-	-	-
West Ditch	L2307801-4	MS-08-WEST-INFLOW	2019-07-10	2019-07-10	-	-	6.11	-	-	-	-	-	-	-	-	-	-
West Ditch	L2315508-5	MS-08-WEST-INFLOW	2019-07-23	2019-07-23	-	-	6.14	-	-	-	-	-	-	-	-	-	-
West Ditch	L2295155-4	MS-08-WEST-INFLOW	2019-06-19	2019-06-19	-	-	6.2	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301572-4	MS-08-WEST-INFLOW	2019-06-29	2019-06-29	-	-	6.26	-	-	-	-	-	-	-	-	-	-
West Ditch	L2308636-4	MS-08-WEST-INFLOW	2019-07-11	2019-07-11	-	-	6.26	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301607-4	MS-08-WEST-INFLOW	2019-06-30	2019-06-30	-	-	6.3	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-4	MS-08-WEST-INFLOW	2019-06-15	2019-06-15	-	-	6.31	-	-	-	-	-	-	-	-	-	-
West Ditch	L2303578-4	MS-08-WEST-INFLOW	2019-07-02	2019-07-02	3260	-	6.32	-	-	-	-	-	1.5	-	-	-	-
West Ditch	L2292234-4	MS-08-WEST-INFLOW	2019-06-14	2019-06-14	-	-	6.39	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309549-4	MS-08-WEST-INFLOW	2019-07-14	2019-07-14	-	-	6.4	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305269-5	MS-08-WEST-INFLOW	2019-07-07	2019-07-07	-	-	6.41	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300534-4	MS-08-WEST-INFLOW	2019-06-27	2019-06-27	-	-	6.44	-	-	-	-	-	-	-	-	-	-
West Ditch	L2337960-4	MS-08-WEST-INFLOW	2019-08-27	2019-08-27	3670	-	6.5	-	-	-	-	-	1.29	-	-	-	-
West Ditch	L2296973-4	MS-08-WEST-INFLOW	2019-06-23	2019-06-23	-	-	6.52	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309510-5	MS-08-WEST-INFLOW	2019-07-13	2019-07-13	-	-	6.52	-	-	-	-	-	-	-	-	-	-
West Ditch	L2293024-4	MS-08-WEST-INFLOW	2019-06-17	2019-06-17	-	-	6.54	-	-	-	-	-	-	-	-	-	-
West Ditch	L2294118-4	MS-08-WEST-INFLOW	2019-06-18	2019-06-18	1920	-	6.55	-	-	-	-	-	1.11	-	-	-	-
West Ditch	L2304339-4	MS-08-WEST-INFLOW	2019-07-03	2019-07-03	-	-	6.59	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287932-4	MS-08-WEST-INFLOW	2019-06-07	2019-06-07	-	-	6.63	-	-	-	-	-	-	-	-	-	-
West Ditch	L2355516-2	MS-08-WEST-INFLOW	2019-09-27	2019-09-27	-	-	6.63	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296841-4	MS-08-WEST-INFLOW	2019-06-21	2019-06-21	-	-	6.64	-	-	-	-	-	-	-	-	-	-
West Ditch	L2297625-4	MS-08-WEST-INFLOW	2019-06-24	2019-06-24	-	-	6.65	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296969-4	MS-08-WEST-INFLOW	2019-06-22	2019-06-22	-	-	6.72	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300513-4	MS-08-WEST-INFLOW	2019-06-26	2019-06-26	-	-	6.72	-	-	-	-	-	-	-	-	-	-
West Ditch	L2357383-3	MS-08-WEST-INFLOW	2019-10-01	2019-10-01	-	-	6.75	-	-	-	-	-	-	-	-	-	-
West Ditch	L2288447-4	MS-08-WEST-INFLOW	2019-06-10	2019-06-10	-	-	6.76	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-6	MS-08-WEST-INFLOW	2019-08-31	2019-08-31	-	-	6.79	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287151-4	MS-08-WEST-INFLOW	2019-06-06	2019-06-06	-	-	6.81	-	-	-	-	-	-	-	-	-	-
West Ditch	L2304338-5	MS-08-WEST-INFLOW	2019-07-04	2019-07-04	-	-	6.81	-	-	-	-	-	-	-	-	-	-
West Ditch	L2468307-1	MS-08-WEST-INFLOW	2020-06-30	2020-06-30	-	-	6.82	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330756-2	MS-08-WEST-INFLOW	2019-08-16	2019-08-16	-	-	6.84	-	-	-	-	-	-	-	-	-	-
West Ditch	L2358842-2	MS-08-WEST-INFLOW	2019-10-02	2019-10-02	-	-	6.99	-	-	-	-	-	-	-	-	-	-
West Ditch	L2467060-3	MS-08-WEST-INFLOW	2020-06-25	2020-06-25	-	-	7.03	-	-	-	-	-	-	-	-	-	-
West Ditch	L2346689-1	MS-08-WEST-INFLOW	2019-09-12	2019-09-12	-	-	7.05	-	-	-	-	-	-	-	-	-	-
West Ditch	L2345723-2	MS-08-WEST-INFLOW	2019-09-11	2019-09-11	4180	-	7.1	-	-	-	-	-	0.81	-	-	-	-
West Ditch	L2288035-4	MS-08-WEST-INFLOW	2019-06-08	2019-06-08	-	-	7.15	-	-	-	-	-	-	-	-	-	-
West Ditch	L2477770-6	MS-08-WEST-INFLOW	2020-07-21	2020-07-21	3430	-	7.47	-	-	-	-	-	1.19	-	-	-	-
West Ditch	L2488588-3	MS-08-WEST-INFLOW	2020-08-12	2020-08-12	4190	-	7.47	-	-	-	-	-	0.613	-	-	-	-
West Ditch	L2482854-5	MS-08-WEST-INFLOW	2020-08-03	2020-08-03	3120	-	7.51	-	-	-	-	-	0.771	-	-	-	-
West Ditch	L2348201-2	MS-08-WEST-INFLOW	2019-09-16	2019-09-16	-	-	7.52	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292486-4	MS-08-WEST-INFLOW	2019-06-16	2019-06-16	-	-	7.54	-	-	-	-	-	-	-	-	-	-
West Ditch	L2481535-1	MS-08-WEST-INFLOW	2020-07-29	2020-07-29	3220	-	7.54	-	-	-	-	-	0.783	-	-	-	-
West Ditch	L2496104-4	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	3070	-	7.62	-	-	-	-	-	0.46	-	-	-	-
West Ditch	L2496103-1	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	3180	-	7.68	-	-	-	-	-	0.466	-	-	-	-
West Ditch	L2496140-1	MS-08-WEST-INFLOW	2020-08-30	2020-08-30	3220	-	7.72	-	-	-	-	-	0.333	-	-	-	-
West Ditch	L2496120-1	MS-08-WEST-INFLOW	2020-08-29	2020-08-29	3170	-	7.75	-	-	-	-	-	0.318	-	-	-	-
West Ditch	L2496049-1	MS-08-WEST-INFLOW	2020-08-28	2020-08-28	3070	-	7.77	-	-	-	-	-	0.408	-	-	-	-
West Ditch	L2496047-1	MS-08-WEST-INFLOW	2020-08-27	2020-08-27	2730	-	7.8	-	-	-	-	-	0.35	-	-	-	-
West Ditch	L2496705-1	MS-08-WEST-INFLOW	2020-08-31	2020-08-31	1980	-	7.82	-	-	-	-	-	0.214	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Conductivity	Hardness (as CaCO3)	pH	Total Suspended Solids	Total Dissolved Solids	Turbidity	Acidity (as CaCO3)	Alkalinity, Total (as CaCO3)	Ammonia, Total (as N)	Chloride (Cl)	Fluoride (F)	Nitrate (as N)	Total Kjeldahl Nitrogen
			Units>		umhos/cm	mg/L	pH units	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2497356-1	MS-08-WEST-INFLOW	2020-09-01	2020-09-01	3190	-	7.86	-	-	-	-	-	0.54	-	-	-	-
West Ditch	L2323296-5	MS-08-WEST-INFLOW	2019-08-06	2019-08-06	4140	-	5.93	-	-	-	-	-	2.15	-	-	-	-
West Ditch	L2603974-4	MS-08-WEST-INFLOW_2021-06-21_1225	2021-06-21	2021-06-21	-	-	7.47	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606859-5	MS-08-WEST-INFLOW_2021-06-26_1130	2021-06-26	2021-06-26	-	-	7.51	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606871-5	MS-08-WEST-INFLOW_2021-06-27_0920	2021-06-27	2021-06-27	-	-	7.57	-	-	-	-	-	-	-	-	-	-
West Ditch	L2609262-5	MS-08-WEST-INFLOW_2021-07-01_1035	2021-07-01	2021-07-01	-	-	7.46	-	-	-	-	-	-	-	-	-	-
West Ditch	L2610945-3	MS-08-WEST-INFLOW_2021-07-05_1030	2021-07-05	2021-07-05	1770	-	7.71	-	-	-	-	-	1.68	-	-	-	-
West Ditch	L2612337-6	MS-08-WEST-INFLOW_2021-07-11_1520	2021-07-11	2021-07-11	1550	-	7.25	-	-	-	-	-	1.27	-	-	-	-
West Ditch	L2618285-7	MS-08-WEST-INFLOW_2021-07-24	2021-07-24	2021-07-24	2620	-	7.42	-	-	-	-	-	2.64	-	-	-	-
West Ditch	L2629919-4	MS-08-WEST-INFLOW_2021-08-22_0915	2021-08-22	2021-08-22	3240	-	7.72	-	-	-	-	-	2.94	-	-	-	-
West Ditch	L2635846-3	MS-08-WEST-INFLOW_2021-09-05_1615	2021-09-05	2021-09-05	3560	-	7.55	-	-	-	-	-	2.37	-	-	-	-
West Ditch	L2725730-1	MS-08-WEST-INFLOW_2022-07-28	2022-07-28	2022-07-28	1430	-	7.76	-	-	-	-	-	0.809	-	-	-	-
West Ditch	L2291173-5	MS-08-WEST-INFLOW01	2019-06-13	2019-06-13	-	-	5.58	-	-	-	-	-	-	-	-	-	-
West Ditch	L2323296-2	MS-08-WEST-INFLOW01	2019-08-06	2019-08-06	4130	-	5.98	-	-	-	-	-	2.13	-	-	-	-
West Ditch	L2307801-5	MS-08-WEST-INFLOW01	2019-07-10	2019-07-10	-	-	6.12	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-5	MS-08-WEST-INFLOW01	2019-06-15	2019-06-15	-	-	6.31	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-7	MS-08-WEST-INFLOW01	2019-08-31	2019-08-31	-	-	6.8	-	-	-	-	-	-	-	-	-	-
West Ditch	L2623788-3	MS-08-WEST-INLFOW_2021-08-06_1015	2021-08-06	2021-08-06	2790	-	7.54	-	-	-	-	-	3.01	-	-	-	-
West Ditch	L2335475-4	MS-08-WEST-INLOW	2019-08-25	2019-08-25	-	-	6.51	-	-	-	-	-	-	-	-	-	-
West Ditch	L2157407-14	WRP-B7	2018-09-01	2018-09-01	-	-	4.72	-	-	-	-	-	-	-	-	-	-
West Ditch	L2157407-9	WRPT-2	2018-09-01	2018-09-01	-	-	7.99	-	-	-	-	-	-	-	-	-	-

Notes: Based on data supplied by BIM, April 2023. Certificates of Analysis avialable upon request from BIM.
Hightlighed values are presented at detection limit values

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Phosphorus, Total	Sulfate (SO4)	Cyanide, Total	Dissolved Organic Carbon	Total Organic Carbon	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2603974-2	MS-08-EAST_2021-06-21_1110	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301632-1	MS-08-EAST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2312016-1	MS-08-EAST-INFLOW	2019-07-17	2019-07-17	-	-	-	-	-	5.98	0.001	0.001	0.0535	0.001	0.0005	0.1
East Ditch	L2309549-3	MS-08-EAST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2306761-1	MS-08-EAST-INFLOW	2019-07-09	2019-07-09	-	-	-	-	-	1.24	0.001	0.001	0.0304	0.001	0.0005	0.1
East Ditch	L2305224-1	MS-08-EAST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305072-1	MS-08-EAST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296973-3	MS-08-EAST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2298617-3	MS-08-EAST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300534-3	MS-08-EAST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305805-1	MS-08-EAST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2308636-1	MS-08-EAST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305269-1	MS-08-EAST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300513-3	MS-08-EAST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2307801-1	MS-08-EAST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301572-3	MS-08-EAST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2313935-4	MS-08-EAST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2315508-4	MS-08-EAST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2295991-3	MS-08-EAST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304339-1	MS-08-EAST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296969-3	MS-08-EAST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301607-3	MS-08-EAST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304338-1	MS-08-EAST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301467-3	MS-08-EAST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318395-4	MS-08-EAST-INFLOW	2019-07-28	2019-07-28	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2482854-4	MS-08-EAST-INFLOW	2020-08-03	2020-08-03	-	-	-	-	-	0.05	0.001	0.001	0.0403	0.001	0.0005	0.1
East Ditch	L2297625-3	MS-08-EAST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2488588-1	MS-08-EAST-INFLOW	2020-08-12	2020-08-12	-	-	-	-	-	0.1	0.0005	0.0005	0.0361	0.0005	0.00025	0.05
East Ditch	L2481535-2	MS-08-EAST-INFLOW	2020-07-29	2020-07-29	-	-	-	-	-	0.263	0.0001	0.00012	0.0383	0.0001	0.00005	0.045
East Ditch	L2303578-3	MS-08-EAST-INFLOW	2019-07-02	2019-07-02	-	-	-	-	-	4.69	0.001	0.001	0.0371	0.001	0.0005	0.1
East Ditch	L2295155-3	MS-08-EAST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2322461-1	MS-08-EAST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2291173-3	MS-08-EAST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-3	MS-08-EAST-INFLOW	2020-07-21	2020-07-21	-	-	-	-	-	0.207	0.001	0.001	0.0366	0.001	0.0005	0.1
East Ditch	L2294118-3	MS-08-EAST-INFLOW	2019-06-18	2019-06-18	-	-	-	-	-	2.2	0.001	0.001	0.0211	0.001	0.0005	0.1
East Ditch	L2290598-3	MS-08-EAST-INFLOW	2019-06-12	2019-06-12	-	-	-	-	-	6.05	0.001	0.001	0.0278	0.001	0.0005	0.1
East Ditch	L2296841-3	MS-08-EAST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318249-4	MS-08-EAST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2330905-5	MS-08-EAST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2325445-7	MS-08-EAST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2323296-1	MS-08-EAST-INFLOW	2019-08-06	2019-08-06	-	-	-	-	-	0.374	0.001	0.001	0.0196	0.001	0.0005	0.1
East Ditch	L2320850-1	MS-08-EAST-INFLOW	2019-07-31	2019-07-31	-	-	-	-	-	13.8	0.001	0.0021	0.0886	0.001	0.0005	0.1
East Ditch	L2326464-5	MS-08-EAST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2327989-6	MS-08-EAST-INFLOW	2019-08-13	2019-08-13	-	-	-	-	-	1.12	0.001	0.001	0.0255	0.001	0.0005	0.1
East Ditch	L2330756-5	MS-08-EAST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2357383-6	MS-08-EAST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288447-3	MS-08-EAST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292234-3	MS-08-EAST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292454-3	MS-08-EAST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2468307-2	MS-08-EAST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292486-3	MS-08-EAST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2287932-3	MS-08-EAST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496104-1	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	-	-	-	-	-	0.133	0.0001	0.00013	0.0444	0.0001	0.00005	0.03
East Ditch	L2496103-2	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	-	-	-	-	-	0.145	0.0001	0.00014	0.0463	0.0001	0.00005	0.031
East Ditch	L2339733-5	MS-08-EAST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2467060-4	MS-08-EAST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496705-2	MS-08-EAST-INFLOW	2020-08-31	2020-08-31	-	-	-	-	-	0.788	0.001	0.001	0.0348	0.001	0.0005	0.1
East Ditch	L2496140-2	MS-08-EAST-INFLOW	2020-08-30	2020-08-30	-	-	-	-	-	0.281	0.001	0.001	0.0506	0.001	0.0005	0.1
East Ditch	L2358842-5	MS-08-EAST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2340461-5	MS-08-EAST-INFLOW	2019-09-03	2019-09-03	-	-	-	-	-	0.212	0.001	0.001	0.0186	0.001	0.0005	0.1
East Ditch	L2496047-3	MS-08-EAST-INFLOW	2020-08-27	2020-08-27	-	-	-	-	-	0.081	0.001	0.001	0.0408	0.001	0.0005	0.1
East Ditch	L2496120-2	MS-08-EAST-INFLOW	2020-08-29	2020-08-29	-	-	-	-	-	0.0583	0.0001	0.00012	0.0426	0.0001	0.00005	0.027
East Ditch	L2342313-5	MS-08-EAST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2335475-3	MS-08-EAST-INFLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2293024-3	MS-08-EAST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2497356-2	MS-08-EAST-INFLOW	2020-09-01	2020-09-01	-	-	-	-	-	0.082	0.001	0.001	0.0309	0.001	0.0005	0.1
East Ditch	L2335451-4	MS-08-EAST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2337960-3	MS-08-EAST-INFLOW	2019-08-27	2019-08-27	-	-	-	-	-	0.394	0.001	0.001	0.0184	0.001	0.0005	0.1
East Ditch	L2496049-2	MS-08-EAST-INFLOW	2020-08-28	2020-08-28	-	-	-	-	-	0.05	0.001	0.001	0.0435	0.001	0.0005	0.1
East Ditch	L2350914-2	MS-08-EAST-INFLOW	2019-09-19	2019-09-19	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2346689-2	MS-08-EAST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Phosphorus, Total	Sulfate (SO4)	Cyanide, Total	Dissolved Organic Carbon	Total Organic Carbon	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2348201-1	MS-08-EAST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2345723-3	MS-08-EAST-INFLOW	2019-09-11	2019-09-11	-	-	-	-	-	0.859	0.001	0.001	0.0246	0.001	0.0005	0.1
East Ditch	L2288069-3	MS-08-EAST-INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288035-3	MS-08-EAST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2472902-3	MS-08-EAST-INFLOW	2020-07-10	2020-07-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2605651-3	MS-08-EAST-INFLOW_2021-06-23_1415	2021-06-23	2021-06-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606859-2	MS-08-EAST-INFLOW_2021-06-26_0910	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606871-2	MS-08-EAST-INFLOW_2021-06-27_0840	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2609262-2	MS-08-EAST-INFLOW_2021-07-01_0955	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2610945-4	MS-08-EAST-INFLOW_2021-07-05_1445	2021-07-05	2021-07-05	-	-	-	-	-	5.16	0.001	0.001	0.0374	0.001	0.0005	0.1
East Ditch	L2612337-1	MS-08-EAST-INFLOW_2021-07-11_1355	2021-07-11	2021-07-11	-	-	-	-	-	10.4	0.001	0.002	0.0744	0.001	0.0005	0.1
East Ditch	L2618285-2	MS-08-EAST-INFLOW_2021-07-24	2021-07-24	2021-07-24	-	-	-	-	-	3.32	0.0002	0.00028	0.0292	0.00146	0.0001	0.036
East Ditch	L2623788-4	MS-08-EAST-INFLOW_2021-08-06_0920	2021-08-06	2021-08-06	-	-	-	-	-	0.701	0.001	0.001	0.0259	0.001	0.0005	0.1
East Ditch	L2629919-2	MS-08-EAST-INFLOW_2021-08-22_1130	2021-08-22	2021-08-22	-	-	-	-	-	2.65	0.001	0.001	0.0271	0.0011	0.0005	0.1
East Ditch	L2635846-2	MS-08-EAST-INFLOW_2021-09-05	2021-09-05	2021-09-05	-	-	-	-	-	0.987	0.001	0.001	0.0292	0.001	0.0005	0.1
East Ditch	L2725730-5	MS-08-EAST-INFLOW_2022-07-29	2022-07-28	2022-07-28	-	-	-	-	-	8.81	0.001	0.001	0.0897	0.0023	0.0005	0.1
East Ditch	L2322461-2	MS-08-EAST-INFLOW01	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-4	MS-08-EAST-INFLOW01	2020-07-21	2020-07-21	-	-	-	-	-	0.212	0.001	0.001	0.0352	0.001	0.0005	0.1
East Ditch	L2496140-3	MS-08-EAST-INFLOW01	2020-08-30	2020-08-30	-	-	-	-	-	0.257	0.001	0.001	0.0482	0.001	0.0005	0.1
East Ditch	L2343354-4	MS-08-EAST-INLFOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2722749-1	MS-08-EXPLORE-EASTDITCH_2022-07-10	2022-07-10	2022-07-10	-	-	-	-	-	7.61	0.001	0.001	0.0381	0.001	0.0005	0.1
East Ditch	L2113626-4	MS-08-INFLOW-EAST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2160094-4	MS-08-INFLOW-EAST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-1	CENTRAL-KEY-IN	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2312012-3	CENTRAL-KEY-IN	2019-07-17	2019-07-17	-	-	-	-	-	15.7	0.001	0.0012	0.12	0.001	0.0005	0.1
Runoff	L2328009-6	INFLUENT-CENTRAL-KEYIN	2019-08-13	2019-08-13	-	-	-	-	-	0.832	0.001	0.001	0.0298	0.001	0.0005	0.1
Runoff	L2287151-3	MS-08-EMERGENCY-DITCH	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2340467-1	MS-SP-02	2019-09-03	2019-09-03	-	-	-	-	-	289	0.1	0.1	0.11	0.1	0.05	10
Runoff	PAG WR (max)	MS-SP-02	2018-09-01	2018-09-01	-	-	-	-	-	165	0.1	0.1	0.1	0.1	0.05	10
Runoff	L2303565-5	MS-SP-02	2019-07-02	2019-07-02	-	-	-	-	-	7.36	0.001	0.0018	0.0158	0.0028	0.0005	0.1
Runoff	L2337954-1	MS-SP-02	2019-08-27	2019-08-27	-	-	-	-	-	13.1	0.01	0.01	0.035	0.01	0.005	1
Runoff	L2320849-3	MS-SP-02	2019-07-30	2019-07-30	-	-	-	-	-	21.8	0.01	0.01	0.085	0.01	0.005	1
Runoff	L2298517-8	MS-SP-02	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-3	MS-SP-02	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-2	MS-SP-02	2019-08-13	2019-08-13	-	-	-	-	-	3.34	0.01	0.01	0.028	0.01	0.005	1
Runoff	L2290620-5	MS-SP-02	2019-06-12	2019-06-12	-	-	-	-	-	1.96	0.001	0.001	0.0196	0.001	0.0005	0.1
Runoff	L2323304-3	MS-SP-02	2019-08-06	2019-08-06	-	-	-	-	-	3.27	0.01	0.01	0.018	0.01	0.005	1
Runoff	L2306749-3	MS-SP-04	2019-07-09	2019-07-09	-	-	-	-	-	8.98	0.001	0.0024	0.017	0.0039	0.0005	0.1
Runoff	L2328009-1	MS-SP-04	2019-08-13	2019-08-13	-	-	-	-	-	22.8	0.01	0.01	0.024	0.011	0.005	1
Runoff	L2333401-1	MS-SP-04	2019-08-20	2019-08-20	-	-	-	-	-	26.3	0.01	0.01	0.025	0.013	0.005	1
Runoff	L2312012-1	MS-SP-04	2019-07-17	2019-07-17	-	-	-	-	-	12.4	0.001	0.0019	0.0192	0.0055	0.0005	0.1
Runoff	L2320849-4	MS-SP-04	2019-07-30	2019-07-30	-	-	-	-	-	18.4	0.001	0.0035	0.0218	0.0089	0.0005	0.1
Runoff	L2290620-6	MS-SP-04	2019-06-12	2019-06-12	-	-	-	-	-	4.7	0.001	0.001	0.0071	0.0021	0.0005	0.1
Runoff	L2315510-4	MS-SP-04	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2323304-4	MS-SP-04	2019-08-06	2019-08-06	-	-	-	-	-	20.8	0.01	0.01	0.024	0.01	0.005	1
Runoff	L2298517-9	MS-SP-04	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-6	MS-SP-04	2018-09-04	2018-09-04	-	-	-	-	-	0.5	0.01	0.01	0.03	0.01	0.005	1
Runoff	L2294129-9	MS-SP-0401	2019-06-18	2019-06-18	-	-	-	-	-	4.92	0.001	0.0012	0.0123	0.002	0.0005	0.1
Runoff	L2730435-1	MS-WRF-22-01_2022-08-28	2022-08-28	2022-08-28	-	-	-	-	-	0.126	0.0001	0.0001	0.0249	0.0001	0.00005	0.01
Runoff	L2730435-2	MS-WRF-22-02_2022-08-28	2022-08-28	2022-08-28	-	-	-	-	-	0.536	0.0001	0.00012	0.0266	0.0001	0.00005	0.01
Runoff	L2730426-1	MS-WRF-22-05_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	1.12	0.0001	0.00029	0.0369	0.0001	0.00005	0.01
Runoff	L2730426-2	MS-WRF-22-05A_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	0.635	0.0001	0.00016	0.0353	0.0001	0.00005	0.01
Runoff	L2730426-3	MS-WRF-22-05B_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	2.14	0.0001	0.00028	0.0415	0.0001	0.000076	0.01
Runoff	L2730426-4	MS-WRF-22-06A_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	1.49	0.001	0.001	0.0181	0.001	0.0005	0.1
Runoff	L2730426-5	MS-WRF-22-09_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	4.79	0.001	0.001	0.0484	0.001	0.0005	0.1
Runoff	L2730426-6	MS-WRF-22-09A_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	6.44	0.001	0.001	0.0501	0.001	0.0005	0.1
Runoff	L2730426-7	MS-WRF-22-10_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	0.296	0.001	0.001	0.0191	0.001	0.0005	0.1
Runoff	L2730426-8	MS-WRF-22-12_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	1.8	0.001	0.001	0.0273	0.001	0.0005	0.1
Runoff	L2730426-9	MS-WRF-22-12A_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	0.0079	0.0001	0.0001	0.0133	0.0001	0.00005	0.057
Runoff	L2730426-10	MS-WRF-22-18_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	2.31	0.0001	0.00027	0.0297	0.00017	0.00005	0.064
Runoff	L2730426-11	MS-WRF-22-18A_2022-08-27	2022-08-27	2022-08-27	-	-	-	-	-	1.36	0.0001	0.0002	0.0207	0.00011	0.00005	0.039
Runoff	L2478363-1	WRP-20-01	2020-07-22	2020-07-22	-	-	-	-	-	0.161	0.001	0.001	0.0232	0.001	0.0005	0.1
Runoff	L2488602-1	WRP-20-01	2020-08-12	2020-08-12	-	-	-	-	-	21.1	0.0002	0.00557	0.0794	0.00069	0.00021	0.02
Runoff	L2482855-1	WRP-20-01	2020-08-03	2020-08-03	-	-	-	-	-	1.59	0.001	0.001	0.0248	0.001	0.0005	0.1
Runoff	L2482855-2	WRP-20-01A	2020-08-03	2020-08-03	-	-	-	-	-	17	0.001	0.004	0.0939	0.001	0.0005	0.1
Runoff	L2488602-2	WRP-20-01A	2020-08-12	2020-08-12	-	-	-	-	-	19.5	0.0002	0.0038	0.0976	0.0007	0.00021	0.02
Runoff	L2478363-2	WRP-20-02	2020-07-22	2020-07-22	-	-	-	-	-	2.12	0.001	0.001	0.0403	0.001	0.0005	0.1
Runoff	L2495466-4	WRP-20-03	2020-08-21	2020-08-21	-	-	-	-	-	0.387	0.0001	0.00015	0.0322	0.0001	0.00005	0.01
Runoff	L2478363-3	WRP-20-04	2020-07-22	2020-07-22	-	-	-	-	-	3.73	0.001	0.001	0.0701	0.001	0.0005	0.1
Runoff	L2496722-5	WRP-20-04	2020-08-31	2020-08-31	-	-	-	-	-	0.519	0.001	0.001	0.0267	0.001	0.0005	0.1
Runoff	L2488602-3	WRP-20-04	2020-08-12	2020-08-12	-	-	-	-	-	2.74	0.0002	0.00049	0.0462	0.0002	0.0001	0.02
Runoff	L2495466-2	WRP-20-04	2020-08-21	2020-08-21	-	-	-	-	-	2.05	0.0001	0.00046	0.0317	0.0001	0.00005	0.01
Runoff	L2482855-3	WRP-20-04	2020-08-03	2020-08-03	-	-	-	-	-	0.652	0.001	0.001	0.0356	0.001	0.0005	0.1

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Phosphorus, Total	Sulfate (SO4)	Cyanide, Total	Dissolved Organic Carbon	Total Organic Carbon	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2495466-1	WRP-20-04A	2020-08-21	2020-08-21	-	-	-	-	-	0.0593	0.0001	0.0001	0.0247	0.0001	0.00005	0.01
Runoff	L2478363-4	WRP-20-05	2020-07-22	2020-07-22	-	-	-	-	-	1.02	0.001	0.001	0.0299	0.001	0.0005	0.1
Runoff	L2482855-4	WRP-20-05	2020-08-03	2020-08-03	-	-	-	-	-	1.65	0.001	0.001	0.0446	0.001	0.0005	0.1
Runoff	L2495466-3	WRP-20-05	2020-08-21	2020-08-21	-	-	-	-	-	0.312	0.0001	0.00013	0.0381	0.0001	0.00005	0.01
Runoff	L2488602-4	WRP-20-05A	2020-08-12	2020-08-12	-	-	-	-	-	15.9	0.0005	0.00214	0.14	0.00068	0.00037	0.05
Runoff	L2496722-6	WRP-20-05A	2020-08-31	2020-08-31	-	-	-	-	-	5.13	0.001	0.001	0.0601	0.001	0.0005	0.1
Runoff	L2482855-5	WRP-20-05A	2020-08-03	2020-08-03	-	-	-	-	-	0.922	0.001	0.001	0.03	0.001	0.0005	0.1
Runoff	L2478363-5	WRP-20-07	2020-07-22	2020-07-22	-	-	-	-	-	11.3	0.001	0.0016	0.0613	0.001	0.0005	0.1
Runoff	L2488602-5	WRP-20-07	2020-08-12	2020-08-12	-	-	-	-	-	23.8	0.0005	0.00313	0.139	0.00108	0.00046	0.05
Runoff	L2482855-6	WRP-20-07	2020-08-03	2020-08-03	-	-	-	-	-	5.72	0.001	0.001	0.0507	0.001	0.0005	0.1
Runoff	L2495466-7	WRP-20-07	2020-08-21	2020-08-21	-	-	-	-	-	0.674	0.0005	0.0005	0.0402	0.0005	0.00025	0.05
Runoff	L2496722-7	WRP-20-07	2020-08-31	2020-08-31	-	-	-	-	-	3.41	0.001	0.001	0.0394	0.001	0.0005	0.1
Runoff	L2495466-8	WRP-20-0702	2020-08-21	2020-08-21	-	-	-	-	-	0.003	0.0001	0.0001	0.0001	0.0001	0.00005	0.01
Runoff	L2496722-8	WRP-20-07A	2020-08-31	2020-08-31	-	-	-	-	-	3.96	0.001	0.001	0.0187	0.001	0.0005	0.1
Runoff	L2478363-6	WRP-20-08	2020-07-22	2020-07-22	-	-	-	-	-	3.66	0.001	0.0015	0.0333	0.001	0.0005	0.1
Runoff	L2495466-6	WRP-20-08	2020-08-21	2020-08-21	-	-	-	-	-	4.63	0.0005	0.00099	0.0275	0.0005	0.00025	0.062
Runoff	L2478363-7	WRP-20-09	2020-07-22	2020-07-22	-	-	-	-	-	0.704	0.001	0.001	0.0212	0.001	0.0005	0.1
Runoff	L2495466-5	WRP-20-10	2020-08-21	2020-08-21	-	-	-	-	-	13.5	0.002	0.0034	0.0491	0.0054	0.001	0.2
Runoff	L2478363-8	WRP-20-10	2020-07-22	2020-07-22	-	-	-	-	-	0.877	0.001	0.001	0.0994	0.001	0.0005	0.1
Runoff	L2482855-7	WRP-20-11	2020-08-03	2020-08-03	-	-	-	-	-	34.9	0.001	0.0056	0.0641	0.0111	0.0005	0.1
Runoff	L2478363-9	WRP-20-11	2020-07-22	2020-07-22	-	-	-	-	-	5.08	0.001	0.0011	0.127	0.001	0.0005	0.1
Runoff	L2478363-10	WRP-20-12	2020-07-22	2020-07-22	-	-	-	-	-	3.89	0.001	0.0015	0.0587	0.0018	0.0005	0.1
Runoff	L2495466-16	WRP-20-12	2020-08-22	2020-08-22	-	-	-	-	-	11.4	0.0001	0.00434	0.0313	0.0005	0.000122	0.03
Runoff	L2495466-20	WRP-20-1203	2020-08-22	2020-08-22	-	-	-	-	-	0.003	0.0001	0.0001	0.0001	0.0001	0.00005	0.01
Runoff	L2478363-11	WRP-20-13	2020-07-22	2020-07-22	-	-	-	-	-	0.765	0.001	0.001	0.0344	0.001	0.0005	0.1
Runoff	L2495466-12	WRP-20-13	2020-08-22	2020-08-22	-	-	-	-	-	6.73	0.0001	0.00242	0.0216	0.00036	0.000085	0.06
Runoff	L2485429-1	WRP-20-14	2020-08-04	2020-08-04	-	-	-	-	-	1.39	0.001	0.001	0.0316	0.0013	0.0005	0.1
Runoff	L2488602-6	WRP-20-14	2020-08-12	2020-08-12	-	-	-	-	-	1.73	0.0005	0.00069	0.0319	0.0005	0.00025	0.087
Runoff	L2478363-12	WRP-20-14	2020-07-22	2020-07-22	-	-	-	-	-	8.72	0.001	0.0014	0.079	0.0019	0.00058	0.1
Runoff	L2495466-21	WRP-20-14	2020-08-22	2020-08-22	-	-	-	-	-	5.05	0.0001	0.00191	0.0201	0.00031	0.000062	0.061
Runoff	L2488602-7	WRP-20-1401	2020-08-12	2020-08-12	-	-	-	-	-	1.9	0.0005	0.00068	0.0307	0.00058	0.00025	0.088
Runoff	L2485429-2	WRP-20-1403	2020-08-04	2020-08-04	-	-	-	-	-	0.005	0.0001	0.0001	0.0001	0.0001	0.00005	0.01
Runoff	L2478363-13	WRP-20-15	2020-07-22	2020-07-22	-	-	-	-	-	0.626	0.001	0.001	0.0246	0.001	0.0005	0.1
Runoff	L2485429-3	WRP-20-15	2020-08-04	2020-08-04	-	-	-	-	-	0.692	0.001	0.001	0.0217	0.001	0.0005	0.1
Runoff	L2495466-19	WRP-20-15	2020-08-22	2020-08-22	-	-	-	-	-	0.13	0.0001	0.0001	0.0157	0.0001	0.00005	0.067
Runoff	L2496722-9	WRP-20-15	2020-08-31	2020-08-31	-	-	-	-	-	0.143	0.001	0.001	0.017	0.001	0.0005	0.1
Runoff	L2488602-8	WRP-20-15	2020-08-12	2020-08-12	-	-	-	-	-	1.24	0.0002	0.0002	0.027	0.0002	0.0001	0.063
Runoff	L2485429-4	WRP-20-1501	2020-08-04	2020-08-04	-	-	-	-	-	0.144	0.001	0.001	0.0187	0.001	0.0005	0.1
Runoff	PAG WR (75th)	WRP-20-17	2020-08-22	2020-08-22	-	-	-	-	-	0.0282	0.0002	0.0002	0.0187	0.0002	0.0001	0.053
Runoff	L2485429-5	WRP-20-17	2020-08-04	2020-08-04	-	-	-	-	-	0.219	0.001	0.001	0.0254	0.001	0.0005	0.1
Runoff	L2496722-4	WRP-20-17	2020-08-31	2020-08-31	-	-	-	-	-	0.572	0.001	0.001	0.0231	0.001	0.0005	0.1
Runoff	L2478363-14	WRP-20-17	2020-07-22	2020-07-22	-	-	-	-	-	0.759	0.001	0.001	0.0301	0.001	0.0005	0.1
Runoff	L2485429-6	WRP-20-1702	2020-08-04	2020-08-04	-	-	-	-	-	0.005	0.0001	0.0001	0.0001	0.0001	0.00005	0.01
Runoff	L2485429-7	WRP-20-18	2020-08-04	2020-08-04	-	-	-	-	-	1.13	0.001	0.001	0.0263	0.001	0.0005	0.1
Runoff	L2479665-1	WRP-20-18	2020-07-24	2020-07-24	-	-	-	-	-	0.131	0.0002	0.0002	0.026	0.0002	0.0001	0.061
Runoff	L2495466-14	WRP-20-18	2020-08-22	2020-08-22	-	-	-	-	-	0.236	0.0002	0.0002	0.0198	0.0002	0.0001	0.051
Runoff	L2496722-3	WRP-20-18	2020-08-31	2020-08-31	-	-	-	-	-	2.4	0.001	0.001	0.0309	0.001	0.0005	0.1
Runoff	L2488602-9	WRP-20-18	2020-08-12	2020-08-12	-	-	-	-	-	4.19	0.0002	0.00059	0.0515	0.00045	0.0001	0.057
Runoff	L2479665-2	WRP-20-1801	2020-07-24	2020-07-24	-	-	-	-	-	0.0723	0.0002	0.0002	0.0255	0.0002	0.0001	0.06
Runoff	L2485429-8	WRP-20-19	2020-08-04	2020-08-04	-	-	-	-	-	0.54	0.001	0.001	0.0259	0.001	0.0005	0.1
Runoff	L2488602-10	WRP-20-19	2020-08-12	2020-08-12	-	-	-	-	-	0.269	0.0002	0.0002	0.0222	0.0002	0.0001	0.046
Runoff	L2479665-3	WRP-20-19	2020-07-24	2020-07-24	-	-	-	-	-	0.488	0.0002	0.00022	0.0332	0.0002	0.0001	0.052
Runoff	L2495466-15	WRP-20-19	2020-08-22	2020-08-22	-	-	-	-	-	9.12	0.00011	0.00156	0.0538	0.0004	0.000143	0.035
Runoff	L2496722-1	WRP-20-19	2020-08-31	2020-08-31	-	-	-	-	-	0.058	0.001	0.001	0.0245	0.001	0.0005	0.1
Runoff	L2479665-4	WRP-20-1901	2020-07-24	2020-07-24	-	-	-	-	-	0.447	0.0002	0.0002	0.0316	0.0002	0.0001	0.05
Runoff	L2485429-9	WRP-20-20	2020-08-04	2020-08-04	-	-	-	-	-	0.407	0.001	0.001	0.026	0.001	0.0005	0.1
Runoff	L2479665-5	WRP-20-20	2020-07-24	2020-07-24	-	-	-	-	-	1.71	0.0002	0.0004	0.0398	0.0002	0.0001	0.047
Runoff	L2496722-2	WRP-20-20	2020-08-31	2020-08-31	-	-	-	-	-	0.462	0.001	0.001	0.0261	0.001	0.0005	0.1
Runoff	L2495466-17	WRP-20-20	2020-08-22	2020-08-22	-	-	-	-	-	12.6	0.00013	0.00205	0.0679	0.00058	0.000201	0.034
Runoff	L2495466-9	WRP-20-20A	2020-08-22	2020-08-22	-	-	-	-	-	10.6	0.00012	0.00173	0.0612	0.0005	0.000163	0.037
Runoff	L2485429-10	WRP-20-20A	2020-08-04	2020-08-04	-	-	-	-	-	2.87	0.001	0.001	0.0532	0.001	0.0005	0.1
Runoff	L2479665-6	WRP-20-21	2020-07-24	2020-07-24	-	-	-	-	-	11.3	0.0002	0.00232	0.0759	0.00055	0.00016	0.063
Runoff	L2479665-7	WRP-20-22	2020-07-24	2020-07-24	-	-	-	-	-	10.6	0.0002	0.00161	0.0733	0.0004	0.00011	0.056
Runoff	L2495466-18	WRP-20-22	2020-08-22	2020-08-22	-	-	-	-	-	1.49	0.0001	0.00071	0.0299	0.0001	0.00005	0.058
Runoff	L2479665-8	WRP-20-2201	2020-07-24	2020-07-24	-	-	-	-	-	7.45	0.0002	0.00112	0.0653	0.0003	0.0001	0.053
Runoff	L2485429-11	WRP-20-23	2020-08-04	2020-08-04	-	-	-	-	-	0.75	0.001	0.001	0.0379	0.001	0.0005	0.1
Runoff	L2479665-9	WRP-20-23	2020-07-24	2020-07-24	-	-	-	-	-	0.962	0.0001	0.00038	0.0443	0.0001	0.00005	0.048
Runoff	L2479665-10	WRP-20-24	2020-07-24	2020-07-24	-	-	-	-	-	0.401	0.0001	0.00016	0.0673	0.0001	0.00005	0.047
Runoff	L2495466-10	WRP-20-24	2020-08-22	2020-08-22	-	-	-	-	-	0.359	0.00013	0.00016	0.0347	0.0001	0.00005	0.061
Runoff	L2479665-11	WRP-20-25	2020-07-24	2020-07-24	-	-	-	-	-	12.2	0.0001	0.00197	0.0755	0.00054	0.000195	0.03
Runoff	L2495466-11	WRP-20-25	2020-08-22	2020-08-22	-	-	-	-	-	0.29	0.0001	0.00014	0.0112	0.0001	0.00005	0.01
Runoff	L2627498-16	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	-	-	-	-	-	0.103	0.0001	0.0001	0.0252	0.0001	0.00005	0.01
Runoff	L2627498-26	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	-	-	-	-	-	0.0492	0.0001	0.0001	0.0246	0.0001	0.00005	0.01

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Phosphorus, Total	Sulfate (SO4)	Cyanide, Total	Dissolved Organic Carbon	Total Organic Carbon	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2610912-9	WRP-21-01_2021-07-05_1410	2021-07-05	2021-07-05	-	-	-	-	-	6.64	0.001	0.0016	0.0548	0.001	0.0005	0.1
Runoff	L2612335-1	WRP-21-01_2021-07-11_0910	2021-07-11	2021-07-11	-	-	-	-	-	0.575	0.001	0.001	0.0582	0.001	0.0005	0.1
Runoff	L2627498-25	WRP-21-02_16-08-2021_1345	2021-08-16	2021-08-16	-	-	-	-	-	0.05	0.001	0.001	0.0315	0.001	0.0005	0.1
Runoff	L2610912-8	WRP-21-02_2021-07-05_1350	2021-07-05	2021-07-05	-	-	-	-	-	19.8	0.001	0.0044	0.142	0.001	0.0005	0.1
Runoff	L2612335-2	WRP-21-02_2021-07-11_0930	2021-07-11	2021-07-11	-	-	-	-	-	3.78	0.001	0.001	0.0697	0.001	0.0005	0.1
Runoff	L2612335-3	WRP-21-02A_2021-07-11_0945	2021-07-11	2021-07-11	-	-	-	-	-	0.198	0.001	0.001	0.0709	0.001	0.0005	0.1
Runoff	L2618284-11	WRP-21-02A_2021-07-23	2021-07-23	2021-07-23	-	-	-	-	-	0.224	0.0001	0.00016	0.1	0.0001	0.00005	0.029
Runoff	L2627498-24	WRP-21-03_16-08-2021_1320	2021-08-16	2021-08-16	-	-	-	-	-	0.05	0.001	0.001	0.0424	0.001	0.0005	0.1
Runoff	L2610912-7	WRP-21-03_2021-07-05_1340	2021-07-05	2021-07-05	-	-	-	-	-	6.55	0.001	0.0012	0.0958	0.001	0.0005	0.1
Runoff	L2610912-6	WRP-21-04_2021-07-05_1320	2021-07-05	2021-07-05	-	-	-	-	-	68.4	0.001	0.0143	0.26	0.0028	0.00072	0.1
Runoff	L2627498-17	WRP-21-04A_16-08-2021_1240	2021-08-16	2021-08-16	-	-	-	-	-	0.63	0.01	0.01	0.024	0.01	0.005	1
Runoff	L2612335-4	WRP-21-04A_2021-07-11_1005	2021-07-11	2021-07-11	-	-	-	-	-	1.98	0.001	0.001	0.0218	0.001	0.0005	0.1
Runoff	L2627498-18	WRP-21-04B_16-08-2021_1300	2021-08-16	2021-08-16	-	-	-	-	-	0.513	0.001	0.001	0.0252	0.001	0.0005	0.1
Runoff	L2627498-19	WRP-21-05_16-08-2021_1205	2021-08-16	2021-08-16	-	-	-	-	-	0.072	0.001	0.001	0.0175	0.001	0.0005	0.1
Runoff	L2610912-5	WRP-21-05_2021-07-05_1300	2021-07-05	2021-07-05	-	-	-	-	-	7.81	0.001	0.002	0.0929	0.001	0.0005	0.1
Runoff	L2612335-5	WRP-21-05_2021-07-11_1025	2021-07-11	2021-07-11	-	-	-	-	-	0.281	0.001	0.001	0.0147	0.001	0.0005	0.1
Runoff	L2610912-4	WRP-21-06_2021-07-05_1245	2021-07-05	2021-07-05	-	-	-	-	-	5.95	0.001	0.0011	0.0573	0.001	0.0005	0.1
Runoff	L2612335-7	WRP-21-06_2021-07-11_1040	2021-07-11	2021-07-11	-	-	-	-	-	2.62	0.001	0.001	0.0335	0.001	0.0005	0.1
Runoff	L2627498-21	WRP-21-07_16-08-2021_1140	2021-08-16	2021-08-16	-	-	-	-	-	1.07	0.001	0.001	0.012	0.001	0.0005	0.1
Runoff	L2610912-3	WRP-21-07_2021-07-05_1155	2021-07-05	2021-07-05	-	-	-	-	-	3.14	0.001	0.001	0.0359	0.001	0.0005	0.1
Runoff	L2612335-8	WRP-21-07A_2021-07-11_1110	2021-07-11	2021-07-11	-	-	-	-	-	3.73	0.001	0.001	0.0153	0.001	0.0005	0.1
Runoff	L2627498-22	WRP-21-07B_16-08-2021_1130	2021-08-16	2021-08-16	-	-	-	-	-	0.07	0.001	0.001	0.0404	0.001	0.0005	0.1
Runoff	L2612335-9	WRP-21-07B_2021-07-11_1125	2021-07-11	2021-07-11	-	-	-	-	-	2.79	0.001	0.001	0.0203	0.001	0.0005	0.1
Runoff	L2627498-23	WRP-21-08_16-08-2021_1115	2021-08-16	2021-08-16	-	-	-	-	-	2.33	0.001	0.001	0.024	0.001	0.0005	0.1
Runoff	L2610912-2	WRP-21-08_2021-07-05_1125	2021-07-05	2021-07-05	-	-	-	-	-	1.48	0.001	0.001	0.0215	0.001	0.0005	0.1
Runoff	L2612335-10	WRP-21-08_2021-07-11_1140	2021-07-11	2021-07-11	-	-	-	-	-	0.865	0.001	0.001	0.0084	0.001	0.0005	0.1
Runoff	L2618284-10	WRP-21-08_2021-07-23	2021-07-23	2021-07-23	-	-	-	-	-	0.812	0.0001	0.00024	0.0173	0.0001	0.00005	0.027
Runoff	L2627498-20	WRP-21-09_16-08-2021_1050	2021-08-16	2021-08-16	-	-	-	-	-	0.598	0.001	0.001	0.0188	0.001	0.0005	0.1
Runoff	L2610912-1	WRP-21-09_2021-07-05_1110	2021-07-05	2021-07-05	-	-	-	-	-	9.11	0.001	0.0031	0.0386	0.001	0.0005	0.1
Runoff	L2612335-11	WRP-21-09_2021-07-11_1200	2021-07-11	2021-07-11	-	-	-	-	-	11.2	0.001	0.0038	0.0531	0.001	0.0005	0.1
Runoff	L2618284-9	WRP-21-09A_2021-07-23	2021-07-23	2021-07-23	-	-	-	-	-	1.56	0.0005	0.0005	0.0237	0.00092	0.00025	0.088
Runoff	L2627498-9	WRP-21-10_15-08-2021_1500	2021-08-15	2021-08-15	-	-	-	-	-	0.328	0.001	0.001	0.0141	0.001	0.0005	0.1
Runoff	L2610912-14	WRP-21-10_2021-07-05_1550	2021-07-05	2021-07-05	-	-	-	-	-	4.76	0.001	0.001	0.0461	0.001	0.0005	0.1
Runoff	L2612335-12	WRP-21-10_2021-07-11_1240	2021-07-11	2021-07-11	-	-	-	-	-	3.02	0.001	0.001	0.0506	0.001	0.0005	0.1
Runoff	L2618284-7	WRP-21-10_2021-07-23	2021-07-23	2021-07-23	-	-	-	-	-	0.0546	0.0002	0.0002	0.0169	0.0002	0.0001	0.044
Runoff	L2627498-11	WRP-21-10A_15-08-2021_1435	2021-08-15	2021-08-15	-	-	-	-	-	0.206	0.0001	0.0001	0.00849	0.0001	0.00005	0.042
Runoff	L2612335-13	WRP-21-10A_2021-07-11_1255	2021-07-11	2021-07-11	-	-	-	-	-	1.15	0.001	0.001	0.0124	0.001	0.0005	0.1
Runoff	L2627498-8	WRP-21-11_15-08-2021_1415	2021-08-15	2021-08-15	-	-	-	-	-	0.235	0.001	0.001	0.0119	0.001	0.0005	0.1
Runoff	L2610912-13	WRP-21-11_2021-07-05_1530	2021-07-05	2021-07-05	-	-	-	-	-	12.7	0.001	0.0026	0.103	0.0012	0.0005	0.1
Runoff	L2612335-14	WRP-21-11_2021-07-11_1310	2021-07-11	2021-07-11	-	-	-	-	-	0.769	0.001	0.001	0.0096	0.001	0.0005	0.1
Runoff	L2618284-6	WRP-21-11_2021-07-23	2021-07-23	2021-07-23	-	-	-	-	-	1.43	0.0001	0.00022	0.0242	0.0001	0.00005	0.052
Runoff	L2610912-11	WRP-21-12_2021-07-05_1520	2021-07-05	2021-07-05	-	-	-	-	-	10.4	0.001	0.0019	0.0876	0.0012	0.0005	0.1
Runoff	L2627498-10	WRP-21-13_15-08-2021_1400	2021-08-15	2021-08-15	-	-	-	-	-	0.258	0.001	0.001	0.0206	0.001	0.0005	0.1
Runoff	L2610912-10	WRP-21-13_2021-07-05_1505	2021-07-05	2021-07-05	-	-	-	-	-	1.61	0.001	0.001	0.0334	0.001	0.0005	0.1
Runoff	L2612335-15	WRP-21-13_2021-07-11_1320	2021-07-11	2021-07-11	-	-	-	-	-	4.56	0.001	0.001	0.0487	0.001	0.0005	0.1
Runoff	L2618284-5	WRP-21-13_2021-07-23	2021-07-23	2021-07-23	-	-	-	-	-	0.515	0.0005	0.0005	0.0282	0.0005	0.00025	0.05
Runoff	L2627498-12	WRP-21-14_15-08-2021_1255	2021-08-15	2021-08-15	-	-	-	-	-	8.25	0.001	0.0015	0.0407	0.001	0.0005	0.1
Runoff	L2612842-1	WRP-21-14_2021-07-12_1300	2021-07-12	2021-07-12	-	-	-	-	-	5.39	0.001	0.001	0.0385	0.001	0.0005	0.1
Runoff	L2618284-4	WRP-21-14_2021-07-22	2021-07-22	2021-07-22	-	-	-	-	-	1.78	0.0001	0.00018	0.0263	0.001	0.00005	0.043
Runoff	L2627498-1	WRP-21-14A_15-08-2021_1150	2021-08-15	2021-08-15	-	-	-	-	-	0.732	0.001	0.001	0.0285	0.001	0.0005	0.1
Runoff	L2627498-13	WRP-21-14B_15-08-2021_1225	2021-08-15	2021-08-15	-	-	-	-	-	0.565	0.001	0.001	0.04	0.001	0.0005	0.1
Runoff	L2627498-14	WRP-21-14C_15-08-2021_1240	2021-08-15	2021-08-15	-	-	-	-	-	0.696	0.001	0.001	0.0367	0.001	0.0005	0.1
Runoff	L2627498-3	WRP-21-15_15-08-2021_1125	2021-08-15	2021-08-15	-	-	-	-	-	1.42	0.001	0.001	0.0138	0.001	0.0005	0.1
Runoff	L2612842-2	WRP-21-15_2021-07-12_1325	2021-07-12	2021-07-12	-	-	-	-	-	2.27	0.001	0.001	0.0146	0.001	0.0005	0.1
Runoff	L2612842-3	WRP-21-16_2021-07-12_1340	2021-07-12	2021-07-12	-	-	-	-	-	4.27	0.001	0.001	0.0331	0.001	0.0005	0.1
Runoff	L2618284-3	WRP-21-16_2021-07-22	2021-07-22	2021-07-22	-	-	-	-	-	2.24	0.0001	0.00037	0.0208	0.0001	0.00005	0.042
Runoff	L2627498-2	WRP-21-17_15-08-2021_1105	2021-08-15	2021-08-15	-	-	-	-	-	0.168	0.001	0.001	0.0131	0.001	0.0005	0.1
Runoff	L2612842-4	WRP-21-17_2021-07-12_1350	2021-07-12	2021-07-12	-	-	-	-	-	1.63	0.001	0.001	0.0162	0.001	0.0005	0.1
Runoff	L2627498-4	WRP-21-18_15-08-2021_1055	2021-08-15	2021-08-15	-	-	-	-	-	0.22	0.001	0.001	0.0343	0.001	0.0005	0.1
Runoff	L2612842-5	WRP-21-18_2021-07-12_1435	2021-07-12	2021-07-12	-	-	-	-	-	4.67	0.001	0.001	0.0341	0.001	0.0005	0.1
Runoff	L2627498-7	WRP-21-19_15-08-2021_1030	2021-08-15	2021-08-15	-	-	-	-	-	1.41	0.0001	0.00041	0.0217	0.00015	0.00005	0.06
Runoff	L2612842-6	WRP-21-19_2021-07-12_1450	2021-07-12	2021-07-12	-	-	-	-	-	1.45	0.001	0.001	0.021	0.001	0.0005	0.1
Runoff	L2618284-2	WRP-21-19_2021-07-22	2021-07-22	2021-07-22	-	-	-	-	-	0.288	0.0001	0.00019	0.0287	0.0001	0.00005	0.066
Runoff	L2627498-5	WRP-21-19A_15-08-2021_1020	2021-08-15	2021-08-15	-	-	-	-	-	0.344	0.0001	0.00016	0.0111	0.0001	0.00005	0.01
Runoff	L2627498-6	WRP-21-20_15-08-2021_1005	2021-08-15	2021-08-15	-	-	-	-	-	0.173	0.0001	0.0001	0.01	0.0001	0.00005	0.01
Runoff	L2612842-7	WRP-21-20_2021-07-12_1510	2021-07-12	2021-07-12	-	-	-	-	-	1.27	0.001	0.001	0.0107	0.001	0.0005	0.1
Runoff	L2618284-1	WRP-21-20_2021-07-22	2021-07-22	2021-07-22	-	-	-	-	-	0.357	0.0001	0.00013	0.00903	0.0001	0.00005	0.01
Runoff	L2725732-1	WRP-22-01_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	1.07	0.0001	0.00025	0.0242	0.0001	0.00005	0.01
Runoff	L2725732-2	WRP-22-02_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.0703	0.0001	0.0001	0.018	0.0001	0.00005	0.01
Runoff	L2725732-3	WRP-22-03_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.0135	0.0001	0.0001	0.0288	0.0001	0.00005	0.013
Runoff	L2725732-4	WRP-22-04_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.0229	0.0001	0.0001	0.0251	0.0001	0.00005	0.01
Runoff	L2725732-5	WRP-22-05_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.058	0.0001	0.0001	0.0238	0.0001	0.00005	0.01
Runoff	L2725732-6	WRP-22-06_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.287	0.0001	0.00012	0.0233	0.0001	0.00005	0.036

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Phosphorus, Total	Sulfate (SO4)	Cyanide, Total	Dissolved Organic Carbon	Total Organic Carbon	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2725732-7	WRP-22-07_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	1.04	0.001	0.001	0.0068	0.001	0.0005	0.1
Runoff	L2725732-8	WRP-22-08_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	2.06	0.001	0.001	0.0195	0.001	0.0005	0.1
Runoff	L2725732-9	WRP-22-09_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.48	0.001	0.001	0.0147	0.001	0.0005	0.1
Runoff	L2725732-10	WRP-22-10_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.254	0.001	0.001	0.0105	0.001	0.0005	0.1
Runoff	L2725732-11	WRP-22-11_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	10.9	0.001	0.0015	0.0625	0.001	0.0005	0.1
Runoff	L2725732-12	WRP-22-12_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.213	0.001	0.001	0.0133	0.001	0.0005	0.1
Runoff	L2725732-13	WRP-22-13_2022-07-29	2022-07-29	2022-07-29	-	-	-	-	-	0.122	0.001	0.001	0.0147	0.001	0.0005	0.1
Runoff	L2725732-14	WRP-22-14_2022-07-29	2022-07-29	2022-07-29	-	-	-	-	-	0.302	0.0001	0.0001	0.0122	0.0001	0.00005	0.036
Runoff	L2725732-15	WRP-22-15_2022-07-29	2022-07-29	2022-07-29	-	-	-	-	-	1.12	0.0001	0.0002	0.0165	0.0001	0.00005	0.024
Runoff	L2725732-16	WRP-22-16_2022-07-29	2022-07-29	2022-07-29	-	-	-	-	-	0.0244	0.0001	0.0001	0.00729	0.0001	0.00005	0.035
Runoff	L2725732-17	WRP-22-17_2022-07-29	2022-07-29	2022-07-29	-	-	-	-	-	0.125	0.001	0.001	0.0112	0.001	0.0005	0.1
Runoff	L2725732-18	WRP-22-18_2022-07-29	2022-07-29	2022-07-29	-	-	-	-	-	3.41	0.0001	0.00029	0.0422	0.00026	0.00005	0.041
Runoff	L2157407-6	WRP-DD-E1	2018-09-01	2018-09-01	-	-	-	-	-	0.284	0.001	0.001	0.0267	0.001	0.0005	0.1
Runoff	L2158115-4	WRPP	2018-09-04	2018-09-04	-	-	-	-	-	43.5	0.01	0.013	0.041	0.027	0.005	1
Runoff	L2306749-1	WRP-S10	2019-07-09	2019-07-09	-	-	-	-	-	21.1	0.001	0.0034	0.0392	0.0126	0.0005	0.14
Runoff	L2158115-3	WRP-S10	2018-09-04	2018-09-04	-	-	-	-	-	55.2	0.01	0.015	0.033	0.021	0.005	1
Runoff	L2298517-5	WRP-S10	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2320849-1	WRP-S10	2019-07-30	2019-07-30	-	-	-	-	-	20.3	0.001	0.0032	0.069	0.0015	0.00053	0.1
Runoff	L2290620-2	WRP-S10	2019-06-12	2019-06-12	-	-	-	-	-	4.08	0.001	0.001	0.0143	0.0056	0.0005	0.1
Runoff	L2290620-3	WRP-S11	2019-06-12	2019-06-12	-	-	-	-	-	31.3	0.001	0.0042	0.122	0.0022	0.00061	0.1
Runoff	L2298517-7	WRP-S11	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-2	WRP-S12	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-4	WRP-S12	2019-07-02	2019-07-02	-	-	-	-	-	0.13	0.001	0.001	0.017	0.001	0.0005	0.1
Runoff	L2298517-6	WRP-S12	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2290620-4	WRP-S12	2019-06-12	2019-06-12	-	-	-	-	-	11.1	0.001	0.0015	0.0585	0.001	0.0005	0.1
Runoff	L2320849-2	WRP-S12	2019-07-30	2019-07-30	-	-	-	-	-	0.219	0.001	0.001	0.0163	0.001	0.0005	0.1
Runoff	L2157407-16	WRP-S14	2018-09-01	2018-09-01	-	-	-	-	-	0.05	0.001	0.001	0.0268	0.001	0.0005	0.1
Runoff	L2303565-3	WRP-S15	2019-07-02	2019-07-02	-	-	-	-	-	2.99	0.001	0.001	0.0243	0.0013	0.0005	0.1
Runoff	L2337954-2	WRP-S15	2019-08-27	2019-08-27	-	-	-	-	-	1.95	0.01	0.01	0.022	0.01	0.005	1
Runoff	L2323304-1	WRP-S15	2019-08-06	2019-08-06	-	-	-	-	-	5.24	0.01	0.01	0.028	0.01	0.005	1
Runoff	L2306749-2	WRP-S15	2019-07-09	2019-07-09	-	-	-	-	-	0.777	0.001	0.001	0.0269	0.001	0.0005	0.1
Runoff	L2298517-3	WRP-S15	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2294129-8	WRP-S15	2019-06-18	2019-06-18	-	-	-	-	-	6.57	0.001	0.0011	0.0351	0.001	0.0005	0.1
Runoff	L2158115-7	WRP-S15NEW	2018-09-04	2018-09-04	-	-	-	-	-	0.991	0.001	0.001	0.0178	0.001	0.0005	0.1
Runoff	L2312012-4	WRP-S16	2019-07-17	2019-07-17	-	-	-	-	-	11.1	0.01	0.01	0.036	0.01	0.005	1
Runoff	L2333401-3	WRP-S16	2019-08-20	2019-08-20	-	-	-	-	-	4.3	0.01	0.01	0.025	0.01	0.005	1
Runoff	L2328009-4	WRP-S16	2019-08-13	2019-08-13	-	-	-	-	-	4.31	0.001	0.001	0.0202	0.0023	0.0005	0.1
Runoff	L2323304-2	WRP-S16	2019-08-06	2019-08-06	-	-	-	-	-	5.82	0.01	0.01	0.021	0.01	0.005	1
Runoff	L2290620-8	WRP-S16	2019-06-12	2019-06-12	-	-	-	-	-	5.84	0.001	0.001	0.0232	0.001	0.0005	0.1
Runoff	L2298517-4	WRP-S16	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-8	WRP-S16NEW	2018-09-04	2018-09-04	-	-	-	-	-	14	0.01	0.01	0.021	0.01	0.005	1
Runoff	L2290620-7	WRP-S17	2019-06-12	2019-06-12	-	-	-	-	-	12.3	0.001	0.0015	0.0604	0.001	0.0005	0.1
Runoff	L2303565-1	WRP-S17	2019-07-02	2019-07-02	-	-	-	-	-	7.27	0.001	0.001	0.0305	0.001	0.0005	0.1
Runoff	L2306749-5	WRP-S17	2019-07-09	2019-07-09	-	-	-	-	-	0.31	0.0001	0.0001	0.0119	0.0001	0.00005	0.01
Runoff	L2306749-4	WRP-S18	2019-07-09	2019-07-09	-	-	-	-	-	2.35	0.01	0.01	0.046	0.01	0.005	1
Runoff	L2312012-2	WRP-S18	2019-07-17	2019-07-17	-	-	-	-	-	12.8	0.001	0.0026	0.0522	0.0038	0.0005	0.1
Runoff	L2303565-6	WRP-S18	2019-07-02	2019-07-02	-	-	-	-	-	1.37	0.001	0.001	0.0279	0.001	0.0005	0.1
Runoff	L2298517-10	WRP-S18	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-2	WRP-S4	2019-07-02	2019-07-02	-	-	-	-	-	9.53	0.001	0.0017	0.0578	0.001	0.0005	0.1
Runoff	L2328009-5	WRP-S4	2019-08-13	2019-08-13	-	-	-	-	-	0.0764	0.0001	0.00014	0.0353	0.0001	0.00005	0.036
Runoff	L2298517-2	WRP-S4	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-3	WRP-S5	2019-08-13	2019-08-13	-	-	-	-	-	0.802	0.001	0.001	0.0446	0.001	0.0005	0.1
Runoff	L2333401-2	WRP-S5	2019-08-20	2019-08-20	-	-	-	-	-	0.433	0.001	0.001	0.0256	0.001	0.0005	0.1
Runoff	L2290620-1	WRP-S5	2019-06-12	2019-06-12	-	-	-	-	-	8.57	0.001	0.0014	0.0515	0.001	0.0005	0.1
Runoff	L2158115-5	WRP-S5	2018-09-04	2018-09-04	-	-	-	-	-	3.49	0.001	0.001	0.0354	0.001	0.0005	0.1
Runoff	L2298517-1	WRP-S5	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2157407-10	WRP-S6	2018-09-01	2018-09-01	-	-	-	-	-	0.554	0.001	0.001	0.0254	0.001	0.0005	0.1
West Ditch	L2722749-4	MS-08-EXPLORE-WESTDITCH_2022-07-10	2022-07-10	2022-07-10	-	-	-	-	-	2.58	0.0001	0.00039	0.0206	0.00011	0.000172	0.019
West Ditch	L2115219-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2115893-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114971-3	MS-08-INFLOW-WEST	2018-06-19	2018-06-19	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113672-2	MS-08-INFLOW-WEST	2018-06-17	2018-06-17	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113576-3	MS-08-INFLOW-WEST	2018-06-15	2018-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114098-3	MS-08-INFLOW-WEST	2018-06-18	2018-06-18	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2160094-1	MS-08-INFLOW-WEST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110885-3	MS-08-INFLOW-WEST	2018-06-12	2018-06-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113626-3	MS-08-INFLOW-WEST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110060-3	MS-08-INFLOW-WEST	2018-06-10	2018-06-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2112194-3	MS-08-INFLOW-WEST	2018-06-14	2018-06-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2111853-3	MS-08-INFLOW-WEST	2018-06-13	2018-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2108641-2	MS-08-INFLOW-WEST	2018-06-07	2018-06-07	-	-	-	-	-	11.3	0.001	0.0021	0.0649	0.001	0.0005	0.1
West Ditch	L2288069-4	MS-08-WEST INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301632-4	MS-08-WEST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Phosphorus, Total	Sulfate (SO4)	Cyanide, Total	Dissolved Organic Carbon	Total Organic Carbon	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2335451-5	MS08-WEST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2318395-5	MS-08-WEST-INFLOW	2018-07-28	2018-07-28	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2306761-4	MS-08-WEST-INFLOW	2019-07-09	2019-07-09	-	-	-	-	-	2.84	0.01	0.01	0.046	0.01	0.005	1
West Ditch	L2318249-5	MS-08-WEST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2313935-5	MS-08-WEST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2312016-4	MS-08-WEST-INFLOW	2019-07-17	2019-07-17	-	-	-	-	-	12.3	0.001	0.0022	0.0652	0.0036	0.0005	0.1
West Ditch	L2320850-4	MS-08-WEST-INFLOW	2019-07-31	2019-07-31	-	-	-	-	-	3.39	0.001	0.001	0.0347	0.001	0.0005	0.1
West Ditch	L2340461-4	MS-08-WEST-INFLOW	2019-09-03	2019-09-03	-	-	-	-	-	18.6	0.01	0.01	0.088	0.01	0.005	1
West Ditch	L2305805-4	MS-08-WEST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2322461-5	MS-08-WEST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305072-5	MS-08-WEST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2290598-4	MS-08-WEST-INFLOW	2019-06-12	2019-06-12	-	-	-	-	-	2.46	0.001	0.001	0.0176	0.0017	0.0005	0.1
West Ditch	L2342313-4	MS-08-WEST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2291173-4	MS-08-WEST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330905-2	MS-08-WEST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2327989-3	MS-08-WEST-INFLOW	2019-08-13	2019-08-13	-	-	-	-	-	0.195	0.001	0.001	0.0343	0.001	0.0005	0.1
West Ditch	L2295991-4	MS-08-WEST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2343354-1	MS-08-WEST-INFLOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305224-5	MS-08-WEST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2326464-3	MS-08-WEST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309409-5	MS-08-WEST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2325445-3	MS-08-WEST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2298617-4	MS-08-WEST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301467-4	MS-08-WEST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2307801-4	MS-08-WEST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2315508-5	MS-08-WEST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2295155-4	MS-08-WEST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301572-4	MS-08-WEST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2308636-4	MS-08-WEST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301607-4	MS-08-WEST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-4	MS-08-WEST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2303578-4	MS-08-WEST-INFLOW	2019-07-02	2019-07-02	-	-	-	-	-	2.2	0.001	0.001	0.0319	0.001	0.0005	0.1
West Ditch	L2292234-4	MS-08-WEST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309549-4	MS-08-WEST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305269-5	MS-08-WEST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300534-4	MS-08-WEST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2337960-4	MS-08-WEST-INFLOW	2019-08-27	2019-08-27	-	-	-	-	-	1.88	0.001	0.001	0.0348	0.001	0.0005	0.1
West Ditch	L2296973-4	MS-08-WEST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309510-5	MS-08-WEST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2293024-4	MS-08-WEST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2294118-4	MS-08-WEST-INFLOW	2019-06-18	2019-06-18	-	-	-	-	-	5.4	0.001	0.001	0.0406	0.0011	0.0005	0.1
West Ditch	L2304339-4	MS-08-WEST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287932-4	MS-08-WEST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2355516-2	MS-08-WEST-INFLOW	2019-09-27	2019-09-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296841-4	MS-08-WEST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2297625-4	MS-08-WEST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296969-4	MS-08-WEST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300513-4	MS-08-WEST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2357383-3	MS-08-WEST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2288447-4	MS-08-WEST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-6	MS-08-WEST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287151-4	MS-08-WEST-INFLOW	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2304338-5	MS-08-WEST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2468307-1	MS-08-WEST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330756-2	MS-08-WEST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2358842-2	MS-08-WEST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2467060-3	MS-08-WEST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2346689-1	MS-08-WEST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2345723-2	MS-08-WEST-INFLOW	2019-09-11	2019-09-11	-	-	-	-	-	0.843	0.001	0.001	0.0412	0.001	0.0005	0.1
West Ditch	L2288035-4	MS-08-WEST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2477770-6	MS-08-WEST-INFLOW	2020-07-21	2020-07-21	-	-	-	-	-	0.08	0.001	0.001	0.0477	0.001	0.0005	0.1
West Ditch	L2488588-3	MS-08-WEST-INFLOW	2020-08-12	2020-08-12	-	-	-	-	-	0.0447	0.0002	0.0002	0.0441	0.0002	0.0001	0.026
West Ditch	L2482854-5	MS-08-WEST-INFLOW	2020-08-03	2020-08-03	-	-	-	-	-	0.21	0.001	0.001	0.0357	0.001	0.0005	0.1
West Ditch	L2348201-2	MS-08-WEST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292486-4	MS-08-WEST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2481535-1	MS-08-WEST-INFLOW	2020-07-29	2020-07-29	-	-	-	-	-	0.0949	0.0002	0.0002	0.0452	0.0002	0.0001	0.025
West Ditch	L2496104-4	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	-	-	-	-	-	0.157	0.0002	0.0002	0.0376	0.0002	0.0001	0.02
West Ditch	L2496103-1	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	-	-	-	-	-	0.0684	0.0002	0.0002	0.0369	0.0002	0.0001	0.02
West Ditch	L2496140-1	MS-08-WEST-INFLOW	2020-08-30	2020-08-30	-	-	-	-	-	0.15	0.001	0.001	0.0393	0.001	0.0005	0.1
West Ditch	L2496120-1	MS-08-WEST-INFLOW	2020-08-29	2020-08-29	-	-	-	-	-	0.0452	0.0002	0.0002	0.0354	0.0002	0.0001	0.02
West Ditch	L2496049-1	MS-08-WEST-INFLOW	2020-08-28	2020-08-28	-	-	-	-	-	0.05	0.001	0.001	0.0375	0.001	0.0005	0.1
West Ditch	L2496047-1	MS-08-WEST-INFLOW	2020-08-27	2020-08-27	-	-	-	-	-	0.055	0.001	0.001	0.0338	0.001	0.0005	0.1
West Ditch	L2496705-1	MS-08-WEST-INFLOW	2020-08-31	2020-08-31	-	-	-	-	-	0.296	0.001	0.001	0.024	0.001	0.0005	0.1

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Phosphorus, Total	Sulfate (SO4)	Cyanide, Total	Dissolved Organic Carbon	Total Organic Carbon	Aluminum (Al)-Total	Antimony (Sb)-Total	Arsenic (As)-Total	Barium (Ba)-Total	Beryllium (Be)-Total	Bismuth (Bi)-Total	Boron (B)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2497356-1	MS-08-WEST-INFLOW	2020-09-01	2020-09-01	-	-	-	-	-	0.104	0.001	0.001	0.0353	0.001	0.0005	0.1
West Ditch	L2323296-5	MS-08-WEST-INFLOW	2019-08-06	2019-08-06	-	-	-	-	-	1.21	0.001	0.001	0.0283	0.001	0.0005	0.1
West Ditch	L2603974-4	MS-08-WEST-INFLOW_2021-06-21_1225	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606859-5	MS-08-WEST-INFLOW_2021-06-26_1130	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606871-5	MS-08-WEST-INFLOW_2021-06-27_0920	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2609262-5	MS-08-WEST-INFLOW_2021-07-01_1035	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2610945-3	MS-08-WEST-INFLOW_2021-07-05_1030	2021-07-05	2021-07-05	-	-	-	-	-	0.347	0.001	0.001	0.0497	0.001	0.0005	0.1
West Ditch	L2612337-6	MS-08-WEST-INFLOW_2021-07-11_1520	2021-07-11	2021-07-11	-	-	-	-	-	6.32	0.001	0.0015	0.0608	0.001	0.0005	0.1
West Ditch	L2618285-7	MS-08-WEST-INFLOW_2021-07-24	2021-07-24	2021-07-24	-	-	-	-	-	3.87	0.0002	0.00077	0.0696	0.0002	0.0001	0.036
West Ditch	L2629919-4	MS-08-WEST-INFLOW_2021-08-22_0915	2021-08-22	2021-08-22	-	-	-	-	-	0.091	0.001	0.001	0.0311	0.001	0.0005	0.1
West Ditch	L2635846-3	MS-08-WEST-INFLOW_2021-09-05_1615	2021-09-05	2021-09-05	-	-	-	-	-	0.126	0.001	0.001	0.0366	0.001	0.0005	0.1
West Ditch	L2725730-1	MS-08-WEST-INFLOW_2022-07-28	2022-07-28	2022-07-28	-	-	-	-	-	0.417	0.001	0.001	0.025	0.001	0.0005	0.1
West Ditch	L2291173-5	MS-08-WEST-INFLOW01	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2323296-2	MS-08-WEST-INFLOW01	2019-08-06	2019-08-06	-	-	-	-	-	0.797	0.001	0.001	0.0281	0.001	0.0005	0.1
West Ditch	L2307801-5	MS-08-WEST-INFLOW01	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-5	MS-08-WEST-INFLOW01	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-7	MS-08-WEST-INFLOW01	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2623788-3	MS-08-WEST-INLFOW_2021-08-06_1015	2021-08-06	2021-08-06	-	-	-	-	-	0.096	0.001	0.001	0.0362	0.001	0.0005	0.1
West Ditch	L2335475-4	MS-08-WEST-INLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2157407-14	WRP-B7	2018-09-01	2018-09-01	-	-	-	-	-	31.4	0.01	0.01	0.035	0.013	0.005	1
West Ditch	L2157407-9	WRPT-2	2018-09-01	2018-09-01	-	-	-	-	-	0.05	0.001	0.001	0.0326	0.001	0.0005	0.1

Notes: Based on data supplied by BIM, April 2023. Certificates of Analysis avialable upon request from BIM.
Hightlighed values are presented at detection limit values

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2603974-2	MS-08-EAST_2021-06-21_1110	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301632-1	MS-08-EAST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2312016-1	MS-08-EAST-INFLOW	2019-07-17	2019-07-17	0.000434	86.3	0.00046	0.0157	0.327	0.029	48.1	0.00538	0.036	394	17	-
East Ditch	L2309549-3	MS-08-EAST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2306761-1	MS-08-EAST-INFLOW	2019-07-09	2019-07-09	0.000296	77.7	0.0001	0.005	0.238	0.013	12.1	0.00118	0.027	325	14.5	-
East Ditch	L2305224-1	MS-08-EAST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305072-1	MS-08-EAST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296973-3	MS-08-EAST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2298617-3	MS-08-EAST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300534-3	MS-08-EAST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305805-1	MS-08-EAST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2308636-1	MS-08-EAST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305269-1	MS-08-EAST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300513-3	MS-08-EAST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2307801-1	MS-08-EAST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301572-3	MS-08-EAST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2313935-4	MS-08-EAST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2315508-4	MS-08-EAST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2295991-3	MS-08-EAST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304339-1	MS-08-EAST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296969-3	MS-08-EAST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301607-3	MS-08-EAST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304338-1	MS-08-EAST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301467-3	MS-08-EAST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318395-4	MS-08-EAST-INFLOW	2019-07-28	2019-07-28	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2482854-4	MS-08-EAST-INFLOW	2020-08-03	2020-08-03	0.000086	87.5	0.0001	0.005	0.0715	0.005	3.86	0.0005	0.01	277	5.71	-
East Ditch	L2297625-3	MS-08-EAST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2488588-1	MS-08-EAST-INFLOW	2020-08-12	2020-08-12	0.000086	105	0.00005	0.0005	0.0757	0.0025	4.41	0.00025	0.0164	318	6.55	-
East Ditch	L2481535-2	MS-08-EAST-INFLOW	2020-07-29	2020-07-29	0.000121	89.8	0.000036	0.00041	0.0628	0.007	2.74	0.000349	0.0162	283	5.26	-
East Ditch	L2303578-3	MS-08-EAST-INFLOW	2019-07-02	2019-07-02	0.000285	60.2	0.00033	0.0135	0.182	0.014	12.8	0.00502	0.024	254	12.8	-
East Ditch	L2295155-3	MS-08-EAST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2322461-1	MS-08-EAST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2291173-3	MS-08-EAST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-3	MS-08-EAST-INFLOW	2020-07-21	2020-07-21	0.000084	83.6	0.0001	0.005	0.0459	0.0059	3.28	0.0005	0.01	214	3.65	-
East Ditch	L2294118-3	MS-08-EAST-INFLOW	2019-06-18	2019-06-18	0.000119	25.1	0.00023	0.0065	0.0639	0.01	5.12	0.00363	0.01	83.5	4.36	-
East Ditch	L2290598-3	MS-08-EAST-INFLOW	2019-06-12	2019-06-12	0.00005	11.4	0.00048	0.0212	0.015	0.015	10.9	0.00355	0.01	32.8	0.826	-
East Ditch	L2296841-3	MS-08-EAST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318249-4	MS-08-EAST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2330905-5	MS-08-EAST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2325445-7	MS-08-EAST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2323296-1	MS-08-EAST-INFLOW	2019-08-06	2019-08-06	0.000153	67.2	0.0001	0.005	0.125	0.01	5.4	0.0005	0.013	216	8.68	-
East Ditch	L2320850-1	MS-08-EAST-INFLOW	2019-07-31	2019-07-31	0.000115	36.3	0.0016	0.0405	0.0613	0.029	23.6	0.0113	0.03	86.8	3.06	-
East Ditch	L2326464-5	MS-08-EAST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2327989-6	MS-08-EAST-INFLOW	2019-08-13	2019-08-13	0.000263	89.4	0.0001	0.005	0.172	0.011	5.43	0.00138	0.018	300	11.7	-
East Ditch	L2330756-5	MS-08-EAST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2357383-6	MS-08-EAST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288447-3	MS-08-EAST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292234-3	MS-08-EAST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292454-3	MS-08-EAST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2468307-2	MS-08-EAST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292486-3	MS-08-EAST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2287932-3	MS-08-EAST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496104-1	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	0.0000395	110	0.000026	0.00036	0.0309	0.00234	0.877	0.000109	0.0114	196	3.07	-
East Ditch	L2496103-2	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	0.0000442	109	0.000026	0.00037	0.033	0.00234	1.09	0.000104	0.0117	198	3.24	-
East Ditch	L2339733-5	MS-08-EAST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2467060-4	MS-08-EAST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496705-2	MS-08-EAST-INFLOW	2020-08-31	2020-08-31	0.00005	80.6	0.0001	0.005	0.0172	0.005	2.87	0.0005	0.01	143	1.54	-
East Ditch	L2496140-2	MS-08-EAST-INFLOW	2020-08-30	2020-08-30	0.00005	124	0.0001	0.005	0.0247	0.005	1.09	0.0005	0.01	223	2.47	-
East Ditch	L2358842-5	MS-08-EAST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2340461-5	MS-08-EAST-INFLOW	2019-09-03	2019-09-03	0.00016	76.5	0.0001	0.005	0.118	0.01	1.85	0.0005	0.01	230	8.66	-
East Ditch	L2496047-3	MS-08-EAST-INFLOW	2020-08-27	2020-08-27	0.00005	115	0.0001	0.005	0.0199	0.005	0.59	0.0005	0.01	167	1.88	-
East Ditch	L2496120-2	MS-08-EAST-INFLOW	2020-08-29	2020-08-29	0.0000322	124	0.000012	0.00017	0.0189	0.0032	0.316	0.00005	0.0084	185	1.97	-
East Ditch	L2342313-5	MS-08-EAST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2335475-3	MS-08-EAST-INFLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2293024-3	MS-08-EAST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2497356-2	MS-08-EAST-INFLOW	2020-09-01	2020-09-01	0.00005	87.6	0.0001	0.005	0.0173	0.005	0.43	0.0005	0.01	157	1.65	-
East Ditch	L2335451-4	MS-08-EAST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2337960-3	MS-08-EAST-INFLOW	2019-08-27	2019-08-27	0.000082	64	0.0001	0.005	0.0602	0.01	0.93	0.0005	0.01	162	4.93	-
East Ditch	L2496049-2	MS-08-EAST-INFLOW	2020-08-28	2020-08-28	0.00005	120	0.0001	0.005	0.0039	0.005	0.1	0.0005	0.01	84.1	0.316	-
East Ditch	L2350914-2	MS-08-EAST-INFLOW	2019-09-19	2019-09-19	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2346689-2	MS-08-EAST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2348201-1	MS-08-EAST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2345723-3	MS-08-EAST-INFLOW	2019-09-11	2019-09-11	0.000059	71.3	0.00011	0.005	0.0382	0.01	1.52	0.00088	0.01	156	4.04	-
East Ditch	L2288069-3	MS-08-EAST-INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288035-3	MS-08-EAST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2472902-3	MS-08-EAST-INFLOW	2020-07-10	2020-07-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2605651-3	MS-08-EAST-INFLOW_2021-06-23_1415	2021-06-23	2021-06-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606859-2	MS-08-EAST-INFLOW_2021-06-26_0910	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606871-2	MS-08-EAST-INFLOW_2021-06-27_0840	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2609262-2	MS-08-EAST-INFLOW_2021-07-01_0955	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2610945-4	MS-08-EAST-INFLOW_2021-07-05_1445	2021-07-05	2021-07-05	0.000119	22.2	0.00048	0.0114	0.0194	0.0396	9.45	0.00393	0.01	71.9	1.69	-
East Ditch	L2612337-1	MS-08-EAST-INFLOW_2021-07-11_1355	2021-07-11	2021-07-11	0.000072	17.1	0.00137	0.0294	0.0163	0.0391	15.6	0.00947	0.015	45.4	1.08	-
East Ditch	L2618285-2	MS-08-EAST-INFLOW_2021-07-24	2021-07-24	2021-07-24	0.000591	63.4	0.000129	0.00246	0.0984	0.292	21.2	0.00131	0.0177	252	7.15	-
East Ditch	L2623788-4	MS-08-EAST-INFLOW_2021-08-06_0920	2021-08-06	2021-08-06	0.000387	75.8	0.0001	0.005	0.0781	0.115	11.5	0.0005	0.017	270	6.36	-
East Ditch	L2629919-2	MS-08-EAST-INFLOW_2021-08-22_1130	2021-08-22	2021-08-22	0.000606	90.6	0.0001	0.005	0.114	0.305	15.8	0.0005	0.016	308	7.39	-
East Ditch	L2635846-2	MS-08-EAST-INFLOW_2021-09-05	2021-09-05	2021-09-05	0.000265	86	0.0001	0.005	0.0538	0.0642	4.5	0.0005	0.01	193	4.3	-
East Ditch	L2725730-5	MS-08-EAST-INFLOW_2022-07-29	2022-07-28	2022-07-28	0.00037	35.2	0.00059	0.016	0.189	0.0365	89	0.00297	0.031	296	9.97	-
East Ditch	L2322461-2	MS-08-EAST-INFLOW01	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-4	MS-08-EAST-INFLOW01	2020-07-21	2020-07-21	0.00007	84.5	0.0001	0.005	0.046	0.006	3.28	0.0005	0.01	218	3.68	-
East Ditch	L2496140-3	MS-08-EAST-INFLOW01	2020-08-30	2020-08-30	0.00005	124	0.0001	0.005	0.0245	0.005	1.02	0.0005	0.011	221	2.45	-
East Ditch	L2343354-4	MS-08-EAST-INLFOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2722749-1	MS-08-EXPLORE-EASTDITCH_2022-07-10	2022-07-10	2022-07-10	0.00005	5.55	0.00048	0.0147	0.0046	0.0132	11.6	0.00369	0.01	11.6	0.161	-
East Ditch	L2113626-4	MS-08-INFLOW-EAST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2160094-4	MS-08-INFLOW-EAST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-1	CENTRAL-KEY-IN	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2312012-3	CENTRAL-KEY-IN	2019-07-17	2019-07-17	0.000122	38.6	0.00168	0.0217	0.0344	0.022	24.8	0.0136	0.045	220	4.92	-
Runoff	L2328009-6	INFLUENT-CENTRAL-KEYIN	2019-08-13	2019-08-13	0.000217	79	0.0001	0.0067	0.0802	0.01	1.89	0.00272	0.026	391	11.1	-
Runoff	L2287151-3	MS-08-EMERGENCY-DITCH	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2340467-1	MS-SP-02	2019-09-03	2019-09-03	0.0272	388	0.01	0.5	18.1	1	1800	0.05	1	16100	753	-
Runoff	PAG WR (max)	MS-SP-02	2018-09-01	2018-09-01	0.0205	444	0.01	0.5	29.7	1	6870	0.05	1	18800	919	-
Runoff	L2303565-5	MS-SP-02	2019-07-02	2019-07-02	0.000668	42.4	0.0001	0.005	0.542	0.069	36.8	0.0005	0.076	444	-	-
Runoff	L2337954-1	MS-SP-02	2019-08-27	2019-08-27	0.00373	243	0.001	0.05	3.87	0.1	385	0.005	0.1	4420	195	-
Runoff	L2320849-3	MS-SP-02	2019-07-30	2019-07-30	0.00297	199	0.0022	0.05	3.22	0.1	477	0.0126	0.12	3280	143	-
Runoff	L2298517-8	MS-SP-02	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-3	MS-SP-02	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-2	MS-SP-02	2019-08-13	2019-08-13	0.00163	236	0.001	0.05	1.32	0.1	66.7	0.005	0.1	2110	88.2	-
Runoff	L2290620-5	MS-SP-02	2019-06-12	2019-06-12	0.00005	26.2	0.0001	0.005	0.0323	0.029	11	0.0006	0.025	85.6	2.87	-
Runoff	L2323304-3	MS-SP-02	2019-08-06	2019-08-06	0.00151	223	0.001	0.05	1.11	0.1	65.7	0.005	0.1	1940	82.6	-
Runoff	L2306749-3	MS-SP-04	2019-07-09	2019-07-09	0.000699	53.3	0.0001	0.005	0.673	0.083	50.4	0.0005	0.115	511	-	-
Runoff	L2328009-1	MS-SP-04	2019-08-13	2019-08-13	0.00275	110	0.001	0.05	1.65	0.2	165	0.005	0.16	1240	68.8	-
Runoff	L2333401-1	MS-SP-04	2019-08-20	2019-08-20	0.0038	126	0.001	0.05	1.87	0.23	189	0.005	0.17	1450	75.6	-
Runoff	L2312012-1	MS-SP-04	2019-07-17	2019-07-17	0.00108	68.5	0.00012	0.005	0.867	0.112	62.3	0.0005	0.143	686	39.1	-
Runoff	L2320849-4	MS-SP-04	2019-07-30	2019-07-30	0.00182	96.5	0.00016	0.005	1.3	0.164	119	0.0005	0.209	973	53.2	-
Runoff	L2290620-6	MS-SP-04	2019-06-12	2019-06-12	0.000538	34.1	0.0001	0.005	0.413	0.048	43.3	0.0005	0.032	365	17.1	-
Runoff	L2315510-4	MS-SP-04	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2323304-4	MS-SP-04	2019-08-06	2019-08-06	0.0021	102	0.001	0.05	1.41	0.18	143	0.005	0.16	1130	66.3	-
Runoff	L2298517-9	MS-SP-04	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-6	MS-SP-04	2018-09-04	2018-09-04	0.0023	310	0.001	0.05	1.65	0.1	36	0.005	0.1	1780	115	-
Runoff	L2294129-9	MS-SP-0401	2019-06-18	2019-06-18	0.000552	33.9	0.0001	0.005	0.422	0.051	39.6	0.00058	0.036	348	-	-
Runoff	L2730435-1	MS-WRF-22-01_2022-08-28	2022-08-28	2022-08-28	0.000005	49.3	0.00001	0.00063	0.00064	0.00054	0.231	0.00005	0.0012	71.8	0.0144	0.000005
Runoff	L2730435-2	MS-WRF-22-02_2022-08-28	2022-08-28	2022-08-28	0.000005	49.1	0.000024	0.00248	0.001	0.001	0.911	0.000181	0.0016	68.4	0.02	0.000005
Runoff	L2730426-1	MS-WRF-22-05_2022-08-27	2022-08-27	2022-08-27	0.0000132	62.9	0.000113	0.00513	0.00202	0.00327	1.68	0.00107	0.0031	94.4	0.0407	0.000005
Runoff	L2730426-2	MS-WRF-22-05A_2022-08-27	2022-08-27	2022-08-27	0.0000071	61.3	0.000049	0.00212	0.00229	0.0018	0.997	0.000312	0.0022	93.9	0.0316	0.000005
Runoff	L2730426-3	MS-WRF-22-05B_2022-08-27	2022-08-27	2022-08-27	0.0000116	61.2	0.000093	0.0108	0.00347	0.00706	3.73	0.000894	0.0033	89.6	0.0649	0.000005
Runoff	L2730426-4	MS-WRF-22-06A_2022-08-27	2022-08-27	2022-08-27	0.00005	67.1	0.0001	0.0125	0.0122	0.005	2.74	0.0005	0.01	513	0.717	0.000005
Runoff	L2730426-5	MS-WRF-22-09_2022-08-27	2022-08-27	2022-08-27	0.00005	62.6	0.00021	0.015	0.0113	0.0123	8.19	0.00153	0.011	268	0.814	0.000005
Runoff	L2730426-6	MS-WRF-22-09A_2022-08-27	2022-08-27	2022-08-27	0.00005	58.2	0.00023	0.0193	0.0135	0.0149	11.4	0.00323	0.012	361	0.71	0.000005
Runoff	L2730426-7	MS-WRF-22-10_2022-08-27	2022-08-27	2022-08-27	0.00005	61	0.0001	0.005	0.0125	0.005	0.6	0.0005	0.016	353	1.41	0.000005
Runoff	L2730426-8	MS-WRF-22-12_2022-08-27	2022-08-27	2022-08-27	0.000323	104	0.00015	0.005	0.115	0.0129	6.68	0.00067	0.037	623	13.6	0.000005
Runoff	L2730426-9	MS-WRF-22-12A_2022-08-27	2022-08-27	2022-08-27	0.0000401	75	0.00001	0.0005	0.00228	0.0012	0.01	0.00005	0.0144	178	0.69	0.000005
Runoff	L2730426-10	MS-WRF-22-18_2022-08-27	2022-08-27	2022-08-27	0.000113	44.3	0.000197	0.00184	0.00704	0.00695	3.58	0.00169	0.0141	107	1.9	0.000005
Runoff	L2730426-11	MS-WRF-22-18A_2022-08-27	2022-08-27	2022-08-27	0.0000548	36.6	0.00011	0.00153	0.00557	0.00447	2.23	0.00119	0.0099	115	1.2	0.000005
Runoff	L2478363-1	WRP-20-01	2020-07-22	2020-07-22	0.00005	50.9	0.0001	0.005	0.0026	0.005	0.26	0.0005	0.01	189	0.177	-
Runoff	L2488602-1	WRP-20-01	2020-08-12	2020-08-12	0.00003	61.3	0.000573	0.0931	0.0231	0.0234	36.5	0.00469	0.02	164	0.622	-
Runoff	L2482855-1	WRP-20-01	2020-08-03	2020-08-03	0.00005	41.7	0.0001	0.0066	0.003	0.005	2.74	0.00057	0.01	114	0.173	-
Runoff	L2482855-2	WRP-20-01A	2020-08-03	2020-08-03	0.00005	55.9	0.00094	0.0504	0.0234	0.023	28.7	0.0078	0.015	172	0.684	-
Runoff	L2488602-2	WRP-20-01A	2020-08-12	2020-08-12	0.000069	66.1	0.000945	0.0733	0.0214	0.0221	33.1	0.00768	0.0225	185	0.616	-
Runoff	L2478363-2	WRP-20-02	2020-07-22	2020-07-22	0.00005	64.4	0.00016	0.0067	0.016	0.005	3.36	0.00107	0.01	333	0.697	-
Runoff	L2495466-4	WRP-20-03	2020-08-21	2020-08-21	0.000005	53.7	0.000023	0.00162	0.00057	0.00122	0.648	0.00022	0.0024	40	0.0121	-
Runoff	L2478363-3	WRP-20-04	2020-07-22	2020-07-22	0.00005	87.5	0.00041	0.0085	0.0084	0.0057	5.92	0.00208	0.01	339	0.454	-
Runoff	L2496722-5	WRP-20-04	2020-08-31	2020-08-31	0.00005	56	0.0001	0.005	0.0015	0.005	0.73	0.0005	0.01	151	0.0666	-
Runoff	L2488602-3	WRP-20-04	2020-08-12	2020-08-12	0.000012	82.2	0.000224	0.0113	0.00346	0.0036	4.37	0.00113	0.0067	213	0.114	-
Runoff	L2495466-2	WRP-20-04	2020-08-21	2020-08-21	0.0000073	67	0.000076	0.00905	0.00345	0.00238	3.67	0.000457	0.006	176	0.22	-
Runoff	L2482855-3	WRP-20-04	2020-08-03	2020-08-03	0.00005	68.6	0.0001	0.005	0.0029	0.005	0.97	0.0005	0.01	207	0.151	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2495466-1	WRP-20-04A	2020-08-21	2020-08-21	0.000006	71.6	0.00001	0.00027	0.00328	0.0005	0.08	0.00005	0.004	206	0.179	-
Runoff	L2478363-4	WRP-20-05	2020-07-22	2020-07-22	0.000116	89.9	0.0001	0.005	0.04	0.005	1.84	0.00071	0.014	848	4.13	-
Runoff	L2482855-4	WRP-20-05	2020-08-03	2020-08-03	0.000078	98.1	0.00015	0.005	0.027	0.005	2.56	0.0012	0.01	675	3.32	-
Runoff	L2495466-3	WRP-20-05	2020-08-21	2020-08-21	0.0000055	89.1	0.00003	0.00107	0.00229	0.00088	0.415	0.000165	0.0047	235	0.128	-
Runoff	L2488602-4	WRP-20-05A	2020-08-12	2020-08-12	0.000178	210	0.00109	0.0665	0.0198	0.0283	27	0.00964	0.0229	841	1.66	-
Runoff	L2496722-6	WRP-20-05A	2020-08-31	2020-08-31	0.000179	139	0.00057	0.0192	0.0332	0.0127	9.03	0.00434	0.013	836	5.82	-
Runoff	L2482855-5	WRP-20-05A	2020-08-03	2020-08-03	0.00015	116	0.0001	0.005	0.0231	0.005	1.71	0.00062	0.01	539	4.24	-
Runoff	L2478363-5	WRP-20-07	2020-07-22	2020-07-22	0.000246	131	0.00068	0.0463	0.0422	0.025	20.7	0.00599	0.027	703	8.41	-
Runoff	L2488602-5	WRP-20-07	2020-08-12	2020-08-12	0.000287	120	0.00169	0.086	0.0634	0.0515	43.9	0.0144	0.0383	979	8.24	-
Runoff	L2482855-6	WRP-20-07	2020-08-03	2020-08-03	0.000169	109	0.00044	0.0206	0.0317	0.0134	10.5	0.00337	0.016	687	6.33	-
Runoff	L2495466-7	WRP-20-07	2020-08-21	2020-08-21	0.000093	112	0.00006	0.00242	0.0235	0.0025	1.07	0.00055	0.0132	648	6.31	-
Runoff	L2496722-7	WRP-20-07	2020-08-31	2020-08-31	0.000162	141	0.00024	0.0148	0.0315	0.0079	6.36	0.00263	0.012	883	6.89	-
Runoff	L2495466-8	WRP-20-0702	2020-08-21	2020-08-21	0.000005	0.05	0.00001	0.0001	0.0001	0.0005	0.01	0.00005	0.001	0.005	0.0001	-
Runoff	L2496722-8	WRP-20-07A	2020-08-31	2020-08-31	0.000127	74.4	0.00016	0.0147	0.0212	0.0059	7.97	0.00115	0.011	513	4.68	-
Runoff	L2478363-6	WRP-20-08	2020-07-22	2020-07-22	0.0004	204	0.00011	0.0103	0.0677	0.007	9.1	0.0008	0.03	1020	12.3	-
Runoff	L2495466-6	WRP-20-08	2020-08-21	2020-08-21	0.000325	148	0.00013	0.0257	0.0521	0.0066	8.9	0.00067	0.02	734	11.1	-
Runoff	L2478363-7	WRP-20-09	2020-07-22	2020-07-22	0.000209	141	0.0001	0.005	0.0543	0.005	1.91	0.0005	0.01	662	6.73	-
Runoff	L2495466-5	WRP-20-10	2020-08-21	2020-08-21	0.00344	156	0.0002	0.002	1.71	0.096	90.5	0.001	0.154	1610	86.6	-
Runoff	L2478363-8	WRP-20-10	2020-07-22	2020-07-22	0.000139	204	0.0001	0.005	0.0487	0.005	2.04	0.00081	0.012	664	13.9	-
Runoff	L2482855-7	WRP-20-11	2020-08-03	2020-08-03	0.00191	126	0.00044	0.0531	0.63	0.131	59.5	0.0032	0.106	934	34.9	-
Runoff	L2478363-9	WRP-20-11	2020-07-22	2020-07-22	0.0005	152	0.00032	0.0147	0.0886	0.0081	9.78	0.00217	0.039	562	14.8	-
Runoff	L2478363-10	WRP-20-12	2020-07-22	2020-07-22	0.0007	138	0.00016	0.0091	0.188	0.0227	8.3	0.0008	0.067	662	15.9	-
Runoff	L2495466-16	WRP-20-12	2020-08-22	2020-08-22	0.0000356	38.5	0.00044	0.0519	0.0247	0.0242	19	0.00335	0.0293	153	0.866	-
Runoff	L2495466-20	WRP-20-1203	2020-08-22	2020-08-22	0.000005	0.05	0.00001	0.0001	0.0001	0.0005	0.01	0.00005	0.001	0.005	0.0001	-
Runoff	L2478363-11	WRP-20-13	2020-07-22	2020-07-22	0.00056	126	0.0001	0.005	0.2	0.0133	7.66	0.0005	0.043	625	11.3	-
Runoff	L2495466-12	WRP-20-13	2020-08-22	2020-08-22	0.0000544	55.4	0.000264	0.0289	0.025	0.0113	14.3	0.00199	0.0276	249	1.45	-
Runoff	L2485429-1	WRP-20-14	2020-08-04	2020-08-04	0.000768	147	0.0001	0.005	0.27	0.0108	8.1	0.0005	0.067	730	15.9	-
Runoff	L2488602-6	WRP-20-14	2020-08-12	2020-08-12	0.000396	161	0.000083	0.00474	0.232	0.0074	7.93	0.00029	0.0446	827	15	-
Runoff	L2478363-12	WRP-20-14	2020-07-22	2020-07-22	0.000514	122	0.00039	0.0093	0.193	0.0262	20.8	0.00208	0.051	586	10.4	-
Runoff	L2495466-21	WRP-20-14	2020-08-22	2020-08-22	0.000135	55	0.000203	0.0203	0.0804	0.00802	12.4	0.00149	0.0296	284	4.22	-
Runoff	L2488602-7	WRP-20-1401	2020-08-12	2020-08-12	0.000396	165	0.000094	0.00442	0.235	0.0075	8.02	0.00028	0.0443	820	14.8	-
Runoff	L2485429-2	WRP-20-1403	2020-08-04	2020-08-04	0.000005	0.05	0.00001	0.0005	0.0001	0.0005	0.01	0.00005	0.001	0.006	0.0005	-
Runoff	L2478363-13	WRP-20-15	2020-07-22	2020-07-22	0.000213	88.5	0.0001	0.005	0.083	0.0157	5.97	0.0005	0.027	283	7.14	-
Runoff	L2485429-3	WRP-20-15	2020-08-04	2020-08-04	0.000185	85.6	0.0001	0.005	0.0595	0.0054	1.75	0.0005	0.027	295	7.16	-
Runoff	L2495466-19	WRP-20-15	2020-08-22	2020-08-22	0.000185	95.5	0.000031	0.00032	0.0591	0.00381	0.403	0.00013	0.0232	260	7.59	-
Runoff	L2496722-9	WRP-20-15	2020-08-31	2020-08-31	0.000135	101	0.0001	0.005	0.0416	0.005	0.25	0.0005	0.024	323	6.92	-
Runoff	L2488602-8	WRP-20-15	2020-08-12	2020-08-12	0.000166	112	0.000131	0.00258	0.044	0.0043	2.4	0.00063	0.0241	372	7.31	-
Runoff	L2485429-4	WRP-20-1501	2020-08-04	2020-08-04	0.000174	85.6	0.0001	0.005	0.0592	0.005	0.73	0.0005	0.025	292	7.3	-
Runoff	PAG WR (75th)	WRP-20-17	2020-08-22	2020-08-22	0.000249	82.2	0.000031	0.0002	0.0972	0.0014	0.857	0.0002	0.0352	403	8.96	-
Runoff	L2485429-5	WRP-20-17	2020-08-04	2020-08-04	0.000322	93.5	0.0001	0.005	0.0967	0.005	0.83	0.0005	0.039	477	9.42	-
Runoff	L2496722-4	WRP-20-17	2020-08-31	2020-08-31	0.000251	96.8	0.0001	0.005	0.0747	0.005	1.11	0.00099	0.032	481	8.22	-
Runoff	L2478363-14	WRP-20-17	2020-07-22	2020-07-22	0.000224	91.2	0.0001	0.005	0.0744	0.005	1.4	0.00131	0.028	447	8.16	-
Runoff	L2485429-6	WRP-20-1702	2020-08-04	2020-08-04	0.000005	0.05	0.00001	0.0005	0.0001	0.0005	0.01	0.00005	0.001	0.005	0.0005	-
Runoff	L2485429-7	WRP-20-18	2020-08-04	2020-08-04	0.000382	97.4	0.0001	0.005	0.131	0.0085	3.22	0.00136	0.045	535	10.9	-
Runoff	L2479665-1	WRP-20-18	2020-07-24	2020-07-24	0.000312	91.7	0.000027	0.0002	0.112	0.0038	1.09	0.00023	0.0399	511	10	-
Runoff	L2495466-14	WRP-20-18	2020-08-22	2020-08-22	0.000224	80.2	0.000037	0.00044	0.0908	0.0028	0.536	0.00034	0.0346	408	8.43	-
Runoff	L2496722-3	WRP-20-18	2020-08-31	2020-08-31	0.000232	96.2	0.00019	0.005	0.0809	0.0099	3.91	0.00218	0.032	501	8.22	-
Runoff	L2488602-9	WRP-20-18	2020-08-12	2020-08-12	0.000298	112	0.000323	0.00785	0.0723	0.0141	7.65	0.00428	0.034	563	9.43	-
Runoff	L2479665-2	WRP-20-1801	2020-07-24	2020-07-24	0.000321	93.8	0.000022	0.0002	0.113	0.0037	1.01	0.00016	0.041	519	9.97	-
Runoff	L2485429-8	WRP-20-19	2020-08-04	2020-08-04	0.000091	73.5	0.0001	0.005	0.083	0.005	9.92	0.0005	0.019	347	6.53	-
Runoff	L2488602-10	WRP-20-19	2020-08-12	2020-08-12	0.000084	83	0.000045	0.00061	0.0952	0.0032	13.5	0.00024	0.0206	356	7.26	-
Runoff	L2479665-3	WRP-20-19	2020-07-24	2020-07-24	0.000131	89.1	0.000056	0.00127	0.0879	0.0061	8.67	0.00025	0.0209	363	7.37	-
Runoff	L2495466-15	WRP-20-19	2020-08-22	2020-08-22	0.0000477	32.5	0.000474	0.0275	0.0204	0.014	16.1	0.00462	0.0269	149	2.06	-
Runoff	L2496722-1	WRP-20-19	2020-08-31	2020-08-31	0.00005	75.4	0.0001	0.005	0.027	0.005	0.47	0.0005	0.017	347	3.69	-
Runoff	L2479665-4	WRP-20-1901	2020-07-24	2020-07-24	0.000114	90.5	0.000062	0.00133	0.0867	0.0059	8.32	0.00023	0.0192	353	7.12	-
Runoff	L2485429-9	WRP-20-20	2020-08-04	2020-08-04	0.000131	78	0.0001	0.005	0.143	0.005	25.2	0.0005	0.021	370	9.28	-
Runoff	L2479665-5	WRP-20-20	2020-07-24	2020-07-24	0.000126	87.9	0.000111	0.00495	0.0985	0.0083	13.8	0.0007	0.0198	348	7.69	-
Runoff	L2496722-2	WRP-20-20	2020-08-31	2020-08-31	0.000079	95.8	0.0001	0.005	0.0993	0.005	10.5	0.0005	0.022	444	8.18	-
Runoff	L2495466-17	WRP-20-20	2020-08-22	2020-08-22	0.000045	26.3	0.000653	0.0395	0.0225	0.0187	22.7	0.00639	0.0264	103	1.74	-
Runoff	L2495466-9	WRP-20-20A	2020-08-22	2020-08-22	0.0000609	32.8	0.000537	0.0329	0.0436	0.0161	22.9	0.00527	0.0261	148	3.35	-
Runoff	L2485429-10	WRP-20-20A	2020-08-04	2020-08-04	0.000096	122	0.00016	0.0097	0.103	0.0067	22.6	0.00078	0.023	484	6.77	-
Runoff	L2479665-6	WRP-20-21	2020-07-24	2020-07-24	0.000093	87.3	0.000609	0.0334	0.0369	0.0209	25.1	0.00455	0.029	307	3.43	-
Runoff	L2479665-7	WRP-20-22	2020-07-24	2020-07-24	0.000082	97.7	0.000505	0.038	0.0337	0.0175	20.2	0.00214	0.0268	344	3.38	-
Runoff	L2495466-18	WRP-20-22	2020-08-22	2020-08-22	0.0000264	81.2	0.000094	0.0042	0.0137	0.00347	2.59	0.000325	0.0138	287	0.945	-
Runoff	L2479665-8	WRP-20-2201	2020-07-24	2020-07-24	0.000184	97.1	0.000386	0.0267	0.0297	0.0134	14.9	0.00164	0.0222	310	3.14	-
Runoff	L2485429-11	WRP-20-23	2020-08-04	2020-08-04	0.00005	60.6	0.0001	0.005	0.0164	0.005	2.78	0.00057	0.012	181	0.542	-
Runoff	L2479665-9	WRP-20-23	2020-07-24	2020-07-24	0.0000252	70	0.000075	0.00266	0.0167	0.00273	2.63	0.00033	0.0147	178	0.68	-
Runoff	L2479665-10	WRP-20-24	2020-07-24	2020-07-24	0.00002	92	0.000069	0.00096	0.0219	0.00117	0.973	0.000213	0.0138	142	0.357	-
Runoff	L2495466-10	WRP-20-24	2020-08-22	2020-08-22	0.00003	66	0.000056	0.00083	0.0153	0.00103	0.761	0.000306	0.0125	120	0.42	-
Runoff	L2479665-11	WRP-20-25	2020-07-24	2020-07-24	0.0000277	35.8	0.000684	0.0341	0.0172	0.0161	19.3	0.00515	0.0219	56.5	0.349	-
Runoff	L2495466-11	WRP-20-25	2020-08-22	2020-08-22	0.000005	26.1	0.000022	0.00096	0.00101	0.00099	0.41	0.000139	0.0034	28.4	0.0141	-
Runoff	L2627498-16	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	0.000005	43.8	0.000011	0.00063	0.00109	0.00051	0.187	0.000057	0.0019	65	0.019	-
Runoff	L2627498-26	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	0.000005	44.1	0.00001	0.0005	0.00109	0.0005	0.083	0.00005	0.0027	69.6	0.0199	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2610912-9	WRP-21-01_2021-07-05_1410	2021-07-05	2021-07-05	0.00005	48.1	0.00059	0.0239	0.0085	0.0113	10.9	0.00382	0.01	72.5	0.28	-
Runoff	L2612335-1	WRP-21-01_2021-07-11_0910	2021-07-11	2021-07-11	0.00005	82.8	0.0001	0.005	0.0087	0.005	1.14	0.0005	0.01	248	0.447	-
Runoff	L2627498-25	WRP-21-02_16-08-2021_1345	2021-08-16	2021-08-16	0.00005	55.3	0.0001	0.005	0.0025	0.005	0.1	0.0005	0.01	122	0.0128	-
Runoff	L2610912-8	WRP-21-02_2021-07-05_1350	2021-07-05	2021-07-05	0.000076	66	0.00204	0.0895	0.0182	0.0442	29.5	0.0158	0.027	93.4	0.577	-
Runoff	L2612335-2	WRP-21-02_2021-07-11_0930	2021-07-11	2021-07-11	0.00005	83.9	0.00037	0.0173	0.0085	0.0299	6.07	0.00229	0.01	124	0.123	-
Runoff	L2612335-3	WRP-21-02A_2021-07-11_0945	2021-07-11	2021-07-11	0.00005	103	0.0001	0.005	0.011	0.005	0.61	0.0005	0.01	402	1.01	-
Runoff	L2618284-11	WRP-21-02A_2021-07-23	2021-07-23	2021-07-23	0.0000164	104	0.000032	0.00075	0.00651	0.00104	0.533	0.000085	0.0046	199	0.12	-
Runoff	L2627498-24	WRP-21-03_16-08-2021_1320	2021-08-16	2021-08-16	0.00005	50.7	0.0001	0.005	0.0043	0.005	0.1	0.0005	0.01	139	0.0871	-
Runoff	L2610912-7	WRP-21-03_2021-07-05_1340	2021-07-05	2021-07-05	0.00005	104	0.00041	0.0333	0.0154	0.0132	11.5	0.00225	0.01	292	0.566	-
Runoff	L2610912-6	WRP-21-04_2021-07-05_1320	2021-07-05	2021-07-05	0.00024	106	0.0049	0.208	0.0719	0.124	100	0.0367	0.118	393	2.21	-
Runoff	L2627498-17	WRP-21-04A_16-08-2021_1240	2021-08-16	2021-08-16	0.0005	140	0.001	0.05	0.238	0.05	35.9	0.005	0.1	1420	12.8	-
Runoff	L2612335-4	WRP-21-04A_2021-07-11_1005	2021-07-11	2021-07-11	0.000117	87.7	0.0001	0.0097	0.1	0.008	17.5	0.0005	0.011	663	5.99	-
Runoff	L2627498-18	WRP-21-04B_16-08-2021_1300	2021-08-16	2021-08-16	0.00005	53.3	0.0001	0.005	0.0107	0.005	1.16	0.0005	0.01	237	0.355	-
Runoff	L2627498-19	WRP-21-05_16-08-2021_1205	2021-08-16	2021-08-16	0.00005	45	0.0001	0.005	0.0093	0.005	0.18	0.0005	0.012	277	0.924	-
Runoff	L2610912-5	WRP-21-05_2021-07-05_1300	2021-07-05	2021-07-05	0.000079	61.7	0.00129	0.025	0.0145	0.0139	11.7	0.00755	0.026	171	0.91	-
Runoff	L2612335-5	WRP-21-05_2021-07-11_1025	2021-07-11	2021-07-11	0.00005	27.6	0.0001	0.005	0.0051	0.005	0.49	0.0005	0.01	100	0.565	-
Runoff	L2610912-4	WRP-21-06_2021-07-05_1245	2021-07-05	2021-07-05	0.000062	40.9	0.00068	0.0184	0.0114	0.0081	9.1	0.00407	0.02	197	1.07	-
Runoff	L2612335-7	WRP-21-06_2021-07-11_1040	2021-07-11	2021-07-11	0.00005	33.5	0.00011	0.0069	0.0066	0.0058	4.3	0.0006	0.01	103	0.453	-
Runoff	L2627498-21	WRP-21-07_16-08-2021_1140	2021-08-16	2021-08-16	0.000093	73.2	0.00012	0.005	0.0433	0.005	2.16	0.0005	0.017	467	4.93	-
Runoff	L2610912-3	WRP-21-07_2021-07-05_1155	2021-07-05	2021-07-05	0.000098	82.3	0.00017	0.0096	0.016	0.0069	5.6	0.00131	0.013	442	2.63	-
Runoff	L2612335-8	WRP-21-07A_2021-07-11_1110	2021-07-11	2021-07-11	0.00005	30.3	0.00011	0.0126	0.0115	0.0057	7.27	0.00091	0.01	144	1.36	-
Runoff	L2627498-22	WRP-21-07B_16-08-2021_1130	2021-08-16	2021-08-16	0.000134	82	0.0001	0.005	0.0236	0.005	0.19	0.0005	0.01	264	3.34	-
Runoff	L2612335-9	WRP-21-07B_2021-07-11_1125	2021-07-11	2021-07-11	0.00005	10.6	0.00019	0.0072	0.0035	0.0062	4.56	0.00222	0.01	27.2	0.321	-
Runoff	L2627498-23	WRP-21-08_16-08-2021_1115	2021-08-16	2021-08-16	0.000323	142	0.00017	0.016	0.0463	0.0087	4.13	0.00094	0.017	420	6.44	-
Runoff	L2610912-2	WRP-21-08_2021-07-05_1125	2021-07-05	2021-07-05	0.000184	59.7	0.0001	0.0076	0.0183	0.005	2.87	0.00061	0.01	210	3.83	-
Runoff	L2612335-10	WRP-21-08_2021-07-11_1140	2021-07-11	2021-07-11	0.00005	14.9	0.0001	0.005	0.0055	0.005	1.47	0.0005	0.01	45.7	1.11	-
Runoff	L2618284-10	WRP-21-08_2021-07-23	2021-07-23	2021-07-23	0.000143	38.9	0.000058	0.00187	0.0145	0.00408	1.3	0.000656	0.0102	180	2.88	-
Runoff	L2627498-20	WRP-21-09_16-08-2021_1050	2021-08-16	2021-08-16	0.000276	73.4	0.0001	0.005	0.195	0.005	1.33	0.0005	0.015	627	13.6	-
Runoff	L2610912-1	WRP-21-09_2021-07-05_1110	2021-07-05	2021-07-05	0.000921	69.3	0.00028	0.0404	0.171	0.0382	16.4	0.00729	0.034	381	14.5	-
Runoff	L2612335-11	WRP-21-09_2021-07-11_1200	2021-07-11	2021-07-11	0.000486	40.4	0.00044	0.0492	0.0888	0.0391	20.9	0.00388	0.023	188	6.95	-
Runoff	L2618284-9	WRP-21-09A_2021-07-23	2021-07-23	2021-07-23	0.000604	108	0.000057	0.0005	0.323	0.0064	11.8	0.00025	0.0503	793	18.1	-
Runoff	L2627498-9	WRP-21-10_15-08-2021_1500	2021-08-15	2021-08-15	0.000145	39.5	0.0001	0.005	0.0393	0.0086	0.59	0.0005	0.019	113	3.18	-
Runoff	L2610912-14	WRP-21-10_2021-07-05_1550	2021-07-05	2021-07-05	0.000115	39.1	0.00042	0.0112	0.0252	0.0113	7.47	0.00312	0.014	88.2	2.03	-
Runoff	L2612335-12	WRP-21-10_2021-07-11_1240	2021-07-11	2021-07-11	0.000055	37.2	0.00028	0.0063	0.0135	0.007	4.51	0.00286	0.01	78	1.36	-
Runoff	L2618284-7	WRP-21-10_2021-07-23	2021-07-23	2021-07-23	0.000131	77.5	0.00002	0.0002	0.0322	0.0034	0.101	0.0001	0.0158	174	3.63	-
Runoff	L2627498-11	WRP-21-10A_15-08-2021_1435	2021-08-15	2021-08-15	0.0000122	23.9	0.000027	0.0005	0.00181	0.00079	0.313	0.000186	0.0072	62	0.467	-
Runoff	L2612335-13	WRP-21-10A_2021-07-11_1255	2021-07-11	2021-07-11	0.00005	7.98	0.0001	0.005	0.0063	0.005	1.84	0.00091	0.01	18.3	0.461	-
Runoff	L2627498-8	WRP-21-11_15-08-2021_1415	2021-08-15	2021-08-15	0.00005	81.3	0.0001	0.005	0.0059	0.005	0.32	0.0005	0.01	137	1.6	-
Runoff	L2610912-13	WRP-21-11_2021-07-05_1530	2021-07-05	2021-07-05	0.000072	61.1	0.00093	0.0142	0.016	0.0378	18.6	0.0128	0.023	92.3	1.37	-
Runoff	L2612335-14	WRP-21-11_2021-07-11_1310	2021-07-11	2021-07-11	0.00005	13.5	0.0001	0.005	0.0017	0.0052	1.4	0.00065	0.01	20.5	0.267	-
Runoff	L2618284-6	WRP-21-11_2021-07-23	2021-07-23	2021-07-23	0.0000605	71.9	0.000104	0.00154	0.00542	0.00314	1.95	0.00144	0.0109	118	1.25	-
Runoff	L2610912-11	WRP-21-12_2021-07-05_1520	2021-07-05	2021-07-05	0.000056	74.2	0.00076	0.0132	0.0139	0.0249	16	0.00738	0.02	104	1.53	-
Runoff	L2627498-10	WRP-21-13_15-08-2021_1400	2021-08-15	2021-08-15	0.000282	75.9	0.0001	0.005	0.0538	0.0079	4.8	0.0005	0.014	298	5.05	-
Runoff	L2610912-10	WRP-21-13_2021-07-05_1505	2021-07-05	2021-07-05	0.000462	66.3	0.00015	0.005	0.0714	0.024	19.6	0.00147	0.012	218	6.17	-
Runoff	L2612335-15	WRP-21-13_2021-07-11_1320	2021-07-11	2021-07-11	0.000275	66.2	0.00037	0.005	0.0433	0.023	16.5	0.00402	0.012	217	4.49	-
Runoff	L2618284-5	WRP-21-13_2021-07-23	2021-07-23	2021-07-23	0.000504	89.3	0.00005	0.0005	0.0998	0.0297	14.5	0.00029	0.0207	381	8.13	-
Runoff	L2627498-12	WRP-21-14_15-08-2021_1255	2021-08-15	2021-08-15	0.000499	88.7	0.00027	0.0467	0.116	0.0517	28.8	0.00178	0.026	454	8.8	-
Runoff	L2612842-1	WRP-21-14_2021-07-12_1300	2021-07-12	2021-07-12	0.000339	43.5	0.00032	0.0097	0.099	0.0341	32.2	0.0018	0.035	261	6.82	-
Runoff	L2618284-4	WRP-21-14_2021-07-22	2021-07-22	2021-07-22	0.000491	79.6	0.000061	0.00152	0.125	0.0313	24.2	0.000263	0.0253	391	9.14	-
Runoff	L2627498-1	WRP-21-14A_15-08-2021_1150	2021-08-15	2021-08-15	0.000341	67.2	0.0001	0.005	0.0906	0.0233	9.17	0.0005	0.021	292	7.99	-
Runoff	L2627498-13	WRP-21-14B_15-08-2021_1225	2021-08-15	2021-08-15	0.00035	75.4	0.0001	0.005	0.0927	0.0168	8.91	0.0005	0.018	310	8.25	-
Runoff	L2627498-14	WRP-21-14C_15-08-2021_1240	2021-08-15	2021-08-15	0.000298	73.5	0.0001	0.005	0.0807	0.013	8.34	0.0005	0.016	309	6.99	-
Runoff	L2627498-3	WRP-21-15_15-08-2021_1125	2021-08-15	2021-08-15	0.000286	71.8	0.00011	0.005	0.0698	0.0507	13.5	0.0005	0.028	471	4.35	-
Runoff	L2612842-2	WRP-21-15_2021-07-12_1325	2021-07-12	2021-07-12	0.000056	30.2	0.00011	0.0072	0.0197	0.0056	4.76	0.00052	0.012	201	2.27	-
Runoff	L2612842-3	WRP-21-16_2021-07-12_1340	2021-07-12	2021-07-12	0.000061	28.5	0.0003	0.0136	0.0222	0.0125	8.19	0.00154	0.013	154	2.25	-
Runoff	L2618284-3	WRP-21-16_2021-07-22	2021-07-22	2021-07-22	0.0000213	26.9	0.000228	0.00929	0.00797	0.00525	3.48	0.0013	0.0144	135	0.592	-
Runoff	L2627498-2	WRP-21-17_15-08-2021_1105	2021-08-15	2021-08-15	0.00005	26.4	0.0001	0.005	0.0074	0.005	0.35	0.0005	0.01	139	0.681	-
Runoff	L2612842-4	WRP-21-17_2021-07-12_1350	2021-07-12	2021-07-12	0.00006	25.2	0.0001	0.005	0.0184	0.0068	4.21	0.0005	0.01	147	2.02	-
Runoff	L2627498-4	WRP-21-18_15-08-2021_1055	2021-08-15	2021-08-15	0.00005	54.2	0.0001	0.005	0.005	0.005	0.45	0.0005	0.01	100	0.296	-
Runoff	L2612842-5	WRP-21-18_2021-07-12_1435	2021-07-12	2021-07-12	0.00005	26.6	0.00022	0.0233	0.01	0.0107	9.09	0.00164	0.01	55.3	0.76	-
Runoff	L2627498-7	WRP-21-19_15-08-2021_1030	2021-08-15	2021-08-15	0.00014	42.7	0.000124	0.00167	0.0216	0.0123	2.41	0.000928	0.0125	84.6	1.26	-
Runoff	L2612842-6	WRP-21-19_2021-07-12_1450	2021-07-12	2021-07-12	0.00005	33.9	0.00016	0.005	0.0068	0.005	2.05	0.00153	0.01	58.4	0.212	-
Runoff	L2618284-2	WRP-21-19_2021-07-22	2021-07-22	2021-07-22	0.0000736	71.2	0.000071	0.00031	0.0674	0.00385	2.75	0.000205	0.0213	168	3.5	-
Runoff	L2627498-5	WRP-21-19A_15-08-2021_1020	2021-08-15	2021-08-15	0.000005	17.7	0.000025	0.00104	0.0006	0.00098	0.531	0.000152	0.0026	18.8	0.0203	-
Runoff	L2627498-6	WRP-21-20_15-08-2021_1005	2021-08-15	2021-08-15	0.000005	18.1	0.000014	0.00061	0.00027	0.00064	0.252	0.000102	0.0021	17.5	0.0061	-
Runoff	L2612842-7	WRP-21-20_2021-07-12_1510	2021-07-12	2021-07-12	0.00005	9.52	0.0001	0.005	0.0012	0.005	1.94	0.00082	0.01	11.8	0.0444	-
Runoff	L2618284-1	WRP-21-20_2021-07-22	2021-07-22	2021-07-22	0.000005	16.1	0.000027	0.00106	0.00039	0.00084	0.53	0.000186	0.0024	15.8	0.00952	-
Runoff	L2725732-1	WRP-22-01_2022-07-28	2022-07-28	2022-07-28	0.000005	31.6	0.000055	0.00436	0.00144	0.00186	1.77	0.000396	0.0027	39	0.0507	-
Runoff	L2725732-2	WRP-22-02_2022-07-28	2022-07-28	2022-07-28	0.000005	32.6	0.00001	0.0007	0.00043	0.0005	0.111	0.00005	0.0018	41.6	0.0158	-
Runoff	L2725732-3	WRP-22-03_2022-07-28	2022-07-28	2022-07-28	0.0000266	45	0.00001	0.0005	0.00164	0.0005	0.027	0.00005	0.002	49.2	0.802	-
Runoff	L2725732-4	WRP-22-04_2022-07-28	2022-07-28	2022-07-28	0.000011	42.2	0.00001	0.0005	0.00083	0.0005	0.042	0.00005	0.0017	50.6	0.18	-
Runoff	L2725732-5	WRP-22-05_2022-07-28	2022-07-28	2022-07-28	0.0000092	42.5	0.00001	0.0005	0.00074	0.0005	0.093	0.00005	0.0017	51.8	0.103	-
Runoff	L2725732-6	WRP-22-06_2022-07-28	2022-07-28	2022-07-28	0.0000103	40.5	0.000023	0.00095	0.00189	0.00163	0.494	0.000126	0.0031	80	0.0157	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2725732-7	WRP-22-07_2022-07-28	2022-07-28	2022-07-28	0.00005	29.7	0.0001	0.0083	0.0072	0.005	2.16	0.0005	0.01	219	0.316	-
Runoff	L2725732-8	WRP-22-08_2022-07-28	2022-07-28	2022-07-28	0.00005	56.8	0.0001	0.0079	0.0041	0.005	3.47	0.00089	0.01	179	0.662	-
Runoff	L2725732-9	WRP-22-09_2022-07-28	2022-07-28	2022-07-28	0.00005	18.4	0.0001	0.005	0.0055	0.005	0.93	0.0005	0.01	112	0.486	-
Runoff	L2725732-10	WRP-22-10_2022-07-28	2022-07-28	2022-07-28	0.00005	27.2	0.0001	0.005	0.004	0.005	0.24	0.0005	0.01	149	0.489	-
Runoff	L2725732-11	WRP-22-11_2022-07-28	2022-07-28	2022-07-28	0.00005	32.3	0.00037	0.0298	0.0111	0.014	18.7	0.00244	0.028	160	0.744	-
Runoff	L2725732-12	WRP-22-12_2022-07-28	2022-07-28	2022-07-28	0.000074	45.7	0.0001	0.005	0.0322	0.005	0.9	0.0005	0.013	248	4.18	-
Runoff	L2725732-13	WRP-22-13_2022-07-29	2022-07-29	2022-07-29	0.00005	46	0.0001	0.005	0.0074	0.005	0.17	0.0005	0.01	99.3	1.62	-
Runoff	L2725732-14	WRP-22-14_2022-07-29	2022-07-29	2022-07-29	0.0000276	27.4	0.000032	0.00051	0.00144	0.00123	0.474	0.000181	0.0086	69.1	0.667	-
Runoff	L2725732-15	WRP-22-15_2022-07-29	2022-07-29	2022-07-29	0.0000181	16.6	0.000104	0.00138	0.00143	0.00319	1.62	0.00147	0.0061	42.5	0.11	-
Runoff	L2725732-16	WRP-22-16_2022-07-29	2022-07-29	2022-07-29	0.0000199	27.2	0.00001	0.0005	0.00042	0.0005	0.03	0.00005	0.0056	37	0.0989	-
Runoff	L2725732-17	WRP-22-17_2022-07-29	2022-07-29	2022-07-29	0.00005	51.5	0.0001	0.005	0.0033	0.005	0.18	0.0005	0.01	83.6	0.949	-
Runoff	L2725732-18	WRP-22-18_2022-07-29	2022-07-29	2022-07-29	0.0000422	26	0.000445	0.00217	0.00414	0.00652	5.8	0.00163	0.0117	52.8	0.653	-
Runoff	L2157407-6	WRP-DD-E1	2018-09-01	2018-09-01	0.000166	126	0.0001	0.005	0.159	0.013	9.03	0.0005	0.018	381	11.6	-
Runoff	L2158115-4	WRPP	2018-09-04	2018-09-04	0.00248	162	0.001	0.05	3.04	0.6	366	0.005	0.2	3500	152	-
Runoff	L2306749-1	WRP-S10	2019-07-09	2019-07-09	0.0015	122	0.00034	0.0146	1.4	0.344	124	0.00229	0.257	1150	-	-
Runoff	L2158115-3	WRP-S10	2018-09-04	2018-09-04	0.00627	288	0.001	0.05	5.76	0.48	1190	0.005	0.33	5770	250	-
Runoff	L2298517-5	WRP-S10	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2320849-1	WRP-S10	2019-07-30	2019-07-30	0.000362	30.2	0.00126	0.042	0.728	0.057	115	0.00733	0.077	325	24.8	-
Runoff	L2290620-2	WRP-S10	2019-06-12	2019-06-12	0.000364	37.3	0.0001	0.005	0.276	0.066	17.9	0.0005	0.077	226	10.8	-
Runoff	L2290620-3	WRP-S11	2019-06-12	2019-06-12	0.000072	8.63	0.00331	0.0996	0.0291	0.08	74.7	0.0188	0.051	29.9	0.643	-
Runoff	L2298517-7	WRP-S11	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-2	WRP-S12	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-4	WRP-S12	2019-07-02	2019-07-02	0.000069	53.9	0.0001	0.005	0.0483	0.01	0.52	0.0005	0.012	167	-	-
Runoff	L2298517-6	WRP-S12	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2290620-4	WRP-S12	2019-06-12	2019-06-12	0.00005	12.7	0.00168	0.0379	0.0088	0.019	14.2	0.00735	0.02	32	0.296	-
Runoff	L2320849-2	WRP-S12	2019-07-30	2019-07-30	0.000051	86.7	0.0001	0.005	0.0205	0.01	0.26	0.0005	0.019	214	3.73	-
Runoff	L2157407-16	WRP-S14	2018-09-01	2018-09-01	0.00005	78.1	0.0001	0.005	0.0675	0.01	0.37	0.0005	0.014	285	5.75	-
Runoff	L2303565-3	WRP-S15	2019-07-02	2019-07-02	0.000818	95	0.00013	0.0086	0.606	0.038	26.9	0.00076	0.062	499	-	-
Runoff	L2337954-2	WRP-S15	2019-08-27	2019-08-27	0.00152	179	0.001	0.05	1.05	0.1	47.9	0.005	0.1	1070	57.9	-
Runoff	L2323304-1	WRP-S15	2019-08-06	2019-08-06	0.00109	161	0.001	0.05	1.12	0.11	107	0.005	0.1	999	62.9	-
Runoff	L2306749-2	WRP-S15	2019-07-09	2019-07-09	0.000454	101	0.0001	0.005	0.412	0.021	17.9	0.0005	0.039	356	-	-
Runoff	L2298517-3	WRP-S15	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2294129-8	WRP-S15	2019-06-18	2019-06-18	0.000126	23	0.00064	0.0237	0.0788	0.012	11.6	0.00418	0.011	65.8	-	-
Runoff	L2158115-7	WRP-S15NEW	2018-09-04	2018-09-04	0.00005	23.5	0.00011	0.005	0.001	0.01	1.25	0.00178	0.01	18.2	0.0344	-
Runoff	L2312012-4	WRP-S16	2019-07-17	2019-07-17	0.00143	146	0.001	0.05	1.52	0.22	302	0.005	0.1	1070	64.3	-
Runoff	L2333401-3	WRP-S16	2019-08-20	2019-08-20	0.00153	173	0.001	0.05	1.13	0.1	87.1	0.005	0.1	1040	56.9	-
Runoff	L2328009-4	WRP-S16	2019-08-13	2019-08-13	0.0014	156	0.00011	0.005	1.1	0.099	85.6	0.0005	0.074	893	52.5	-
Runoff	L2323304-2	WRP-S16	2019-08-06	2019-08-06	0.0014	152	0.001	0.05	1.21	0.14	122	0.005	0.1	962	63.2	-
Runoff	L2290620-8	WRP-S16	2019-06-12	2019-06-12	0.000132	46.7	0.00017	0.0344	0.0819	0.01	17.1	0.00177	0.023	222	4.52	-
Runoff	L2298517-4	WRP-S16	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-8	WRP-S16NEW	2018-09-04	2018-09-04	0.00259	159	0.001	0.05	1.55	0.25	158	0.005	0.1	1750	80.9	-
Runoff	L2290620-7	WRP-S17	2019-06-12	2019-06-12	0.00005	9.29	0.00117	0.034	0.0195	0.019	18.6	0.00726	0.015	27.6	1.08	-
Runoff	L2303565-1	WRP-S17	2019-07-02	2019-07-02	0.00005	8.67	0.00048	0.022	0.0061	0.012	11.2	0.00471	0.011	12.1	-	-
Runoff	L2306749-5	WRP-S17	2019-07-09	2019-07-09	0.000005	22.1	0.000028	0.00082	0.00033	0.001	0.406	0.000272	0.0021	17.4	-	-
Runoff	L2306749-4	WRP-S18	2019-07-09	2019-07-09	0.00073	147	0.001	0.05	1.17	0.1	799	0.005	0.1	1500	-	-
Runoff	L2312012-2	WRP-S18	2019-07-17	2019-07-17	0.00112	104	0.00071	0.0423	0.904	0.08	467	0.0044	0.13	869	60.5	-
Runoff	L2303565-6	WRP-S18	2019-07-02	2019-07-02	0.00005	37.8	0.00014	0.005	0.0058	0.01	2.26	0.00095	0.01	63.9	-	-
Runoff	L2298517-10	WRP-S18	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-2	WRP-S4	2019-07-02	2019-07-02	0.000051	9.5	0.00072	0.0074	0.0076	0.033	13.9	0.0288	0.014	14.1	-	-
Runoff	L2328009-5	WRP-S4	2019-08-13	2019-08-13	0.0000868	95.5	0.000017	0.0005	0.00454	0.0032	0.105	0.000198	0.0052	74.1	2.26	-
Runoff	L2298517-2	WRP-S4	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-3	WRP-S5	2019-08-13	2019-08-13	0.00005	102	0.0001	0.005	0.0205	0.011	2.9	0.00076	0.01	131	3.08	-
Runoff	L2333401-2	WRP-S5	2019-08-20	2019-08-20	0.000065	47.7	0.0001	0.005	0.0199	0.01	0.95	0.0012	0.01	165	2.41	-
Runoff	L2290620-1	WRP-S5	2019-06-12	2019-06-12	0.00005	5.76	0.00127	0.0265	0.0048	0.016	10.4	0.00918	0.011	8.52	0.13	-
Runoff	L2158115-5	WRP-S5	2018-09-04	2018-09-04	0.00005	21.8	0.00058	0.011	0.0023	0.01	4.44	0.00401	0.01	15.9	0.0523	-
Runoff	L2298517-1	WRP-S5	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2157407-10	WRP-S6	2018-09-01	2018-09-01	0.000137	126	0.0001	0.005	0.119	0.012	7.85	0.0005	0.016	309	8.6	-
West Ditch	L2722749-4	MS-08-EXPLORE-WESTDITCH_2022-07-10	2022-07-10	2022-07-10	0.0000314	25.3	0.000125	0.00766	0.00461	0.00769	4.06	0.00115	0.0073	71.3	0.557	-
West Ditch	L2115219-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2115893-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114971-3	MS-08-INFLOW-WEST	2018-06-19	2018-06-19	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113672-2	MS-08-INFLOW-WEST	2018-06-17	2018-06-17	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113576-3	MS-08-INFLOW-WEST	2018-06-15	2018-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114098-3	MS-08-INFLOW-WEST	2018-06-18	2018-06-18	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2160094-1	MS-08-INFLOW-WEST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110885-3	MS-08-INFLOW-WEST	2018-06-12	2018-06-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113626-3	MS-08-INFLOW-WEST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110060-3	MS-08-INFLOW-WEST	2018-06-10	2018-06-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2112194-3	MS-08-INFLOW-WEST	2018-06-14	2018-06-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2111853-3	MS-08-INFLOW-WEST	2018-06-13	2018-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2108641-2	MS-08-INFLOW-WEST	2018-06-07	2018-06-07	0.000112	22.9	0.0014	0.0399	0.031	0.039	20.8	0.00917	0.021	46.1	1.78	-
West Ditch	L2288069-4	MS-08-WEST INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301632-4	MS-08-WEST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2335451-5	MS08-WEST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2318395-5	MS-08-WEST-INFLOW	2018-07-28	2018-07-28	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2306761-4	MS-08-WEST-INFLOW	2019-07-09	2019-07-09	0.00058	178	0.001	0.05	0.858	0.1	480	0.005	0.1	1270	57.3	-
West Ditch	L2318249-5	MS-08-WEST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2313935-5	MS-08-WEST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2312016-4	MS-08-WEST-INFLOW	2019-07-17	2019-07-17	0.0011	107	0.00096	0.0358	0.861	0.077	435	0.00648	0.117	846	55.6	-
West Ditch	L2320850-4	MS-08-WEST-INFLOW	2019-07-31	2019-07-31	0.000488	130	0.00023	0.0104	0.433	0.02	265	0.00199	0.049	647	25.6	-
West Ditch	L2340461-4	MS-08-WEST-INFLOW	2019-09-03	2019-09-03	0.0012	208	0.0011	0.077	1.75	0.1	1080	0.0068	0.1	2990	102	-
West Ditch	L2305805-4	MS-08-WEST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2322461-5	MS-08-WEST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305072-5	MS-08-WEST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2290598-4	MS-08-WEST-INFLOW	2019-06-12	2019-06-12	0.000199	15.6	0.00012	0.005	0.108	0.031	28.2	0.00262	0.018	82.6	4.9	-
West Ditch	L2342313-4	MS-08-WEST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2291173-4	MS-08-WEST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330905-2	MS-08-WEST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2327989-3	MS-08-WEST-INFLOW	2019-08-13	2019-08-13	0.000451	223	0.0001	0.005	0.344	0.01	111	0.0005	0.033	838	32.4	-
West Ditch	L2295991-4	MS-08-WEST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2343354-1	MS-08-WEST-INFLOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305224-5	MS-08-WEST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2326464-3	MS-08-WEST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309409-5	MS-08-WEST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2325445-3	MS-08-WEST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2298617-4	MS-08-WEST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301467-4	MS-08-WEST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2307801-4	MS-08-WEST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2315508-5	MS-08-WEST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2295155-4	MS-08-WEST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301572-4	MS-08-WEST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2308636-4	MS-08-WEST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301607-4	MS-08-WEST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-4	MS-08-WEST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2303578-4	MS-08-WEST-INFLOW	2019-07-02	2019-07-02	0.000475	101	0.00017	0.005	0.308	0.018	15.9	0.00188	0.039	532	21.7	-
West Ditch	L2292234-4	MS-08-WEST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309549-4	MS-08-WEST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305269-5	MS-08-WEST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300534-4	MS-08-WEST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2337960-4	MS-08-WEST-INFLOW	2019-08-27	2019-08-27	0.000248	200	0.00014	0.0054	0.177	0.01	27.8	0.00133	0.011	584	20.9	-
West Ditch	L2296973-4	MS-08-WEST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309510-5	MS-08-WEST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2293024-4	MS-08-WEST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2294118-4	MS-08-WEST-INFLOW	2019-06-18	2019-06-18	0.00032	53.7	0.00046	0.0131	0.165	0.027	22.5	0.004	0.029	275	10.2	-
West Ditch	L2304339-4	MS-08-WEST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287932-4	MS-08-WEST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2355516-2	MS-08-WEST-INFLOW	2019-09-27	2019-09-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296841-4	MS-08-WEST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2297625-4	MS-08-WEST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296969-4	MS-08-WEST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300513-4	MS-08-WEST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2357383-3	MS-08-WEST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2288447-4	MS-08-WEST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-6	MS-08-WEST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287151-4	MS-08-WEST-INFLOW	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2304338-5	MS-08-WEST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2468307-1	MS-08-WEST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330756-2	MS-08-WEST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2358842-2	MS-08-WEST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2467060-3	MS-08-WEST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2346689-1	MS-08-WEST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2345723-2	MS-08-WEST-INFLOW	2019-09-11	2019-09-11	0.000179	249	0.0001	0.005	0.177	0.01	11.5	0.0009	0.01	621	24.7	-
West Ditch	L2288035-4	MS-08-WEST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2477770-6	MS-08-WEST-INFLOW	2020-07-21	2020-07-21	0.000096	201	0.0001	0.005	0.0235	0.005	0.36	0.0005	0.01	478	3.26	-
West Ditch	L2488588-3	MS-08-WEST-INFLOW	2020-08-12	2020-08-12	0.000062	306	0.00002	0.0002	0.0126	0.002	0.161	0.0001	0.0102	631	2.72	-
West Ditch	L2482854-5	MS-08-WEST-INFLOW	2020-08-03	2020-08-03	0.00009	179	0.0001	0.005	0.0201	0.005	0.32	0.0005	0.01	372	2.82	-
West Ditch	L2348201-2	MS-08-WEST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292486-4	MS-08-WEST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2481535-1	MS-08-WEST-INFLOW	2020-07-29	2020-07-29	0.000066	214	0.000022	0.00029	0.0151	0.0024	0.212	0.0001	0.0095	461	2.87	-
West Ditch	L2496104-4	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	0.000044	225	0.00002	0.00079	0.00977	0.0017	0.34	0.0001	0.0074	362	2.15	-
West Ditch	L2496103-1	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	0.000059	214	0.00002	0.00038	0.00964	0.0015	0.176	0.0001	0.0073	350	2.15	-
West Ditch	L2496140-1	MS-08-WEST-INFLOW	2020-08-30	2020-08-30	0.00005	229	0.0001	0.005	0.0085	0.005	0.31	0.0005	0.01	440	2.07	-
West Ditch	L2496120-1	MS-08-WEST-INFLOW	2020-08-29	2020-08-29	0.000047	233	0.00002	0.00027	0.00828	0.0013	0.114	0.0001	0.0063	405	1.82	-
West Ditch	L2496049-1	MS-08-WEST-INFLOW	2020-08-28	2020-08-28	0.00005	212	0.0001	0.005	0.0089	0.005	0.1	0.0005	0.01	421	1.87	-
West Ditch	L2496047-1	MS-08-WEST-INFLOW	2020-08-27	2020-08-27	0.00005	207	0.0001	0.005	0.0077	0.005	0.14	0.0005	0.01	345	1.57	-
West Ditch	L2496705-1	MS-08-WEST-INFLOW	2020-08-31	2020-08-31	0.00005	129	0.0001	0.005	0.0045	0.005	0.47	0.0005	0.01	241	1.14	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Cadmium (Cd)-Total	Calcium (Ca)-Total	Cesium (Cs)-Total	Chromium (Cr)-Total	Cobalt (Co)-Total	Copper (Cu)-Total	Iron (Fe)-Total	Lead (Pb)-Total	Lithium (Li)-Total	Magnesium (Mg)-Total	Manganese (Mn)-Total	Mercury (Hg)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2497356-1	MS-08-WEST-INFLOW	2020-09-01	2020-09-01	0.000069	190	0.0001	0.005	0.0106	0.005	0.19	0.0005	0.01	471	2.49	-
West Ditch	L2323296-5	MS-08-WEST-INFLOW	2019-08-06	2019-08-06	0.000351	175	0.00013	0.005	0.267	0.01	98.7	0.00071	0.026	636	24.2	-
West Ditch	L2603974-4	MS-08-WEST-INFLOW_2021-06-21_1225	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606859-5	MS-08-WEST-INFLOW_2021-06-26_1130	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606871-5	MS-08-WEST-INFLOW_2021-06-27_0920	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2609262-5	MS-08-WEST-INFLOW_2021-07-01_1035	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2610945-3	MS-08-WEST-INFLOW_2021-07-05_1030	2021-07-05	2021-07-05	0.000055	94.5	0.0001	0.005	0.0236	0.005	0.78	0.0005	0.01	200	1.82	-
West Ditch	L2612337-6	MS-08-WEST-INFLOW_2021-07-11_1520	2021-07-11	2021-07-11	0.000059	65.5	0.00079	0.0191	0.0247	0.0127	11.8	0.0051	0.015	171	1.69	-
West Ditch	L2618285-7	MS-08-WEST-INFLOW_2021-07-24	2021-07-24	2021-07-24	0.000079	126	0.00047	0.012	0.0303	0.0095	6.74	0.00395	0.0169	324	2.42	-
West Ditch	L2629919-4	MS-08-WEST-INFLOW_2021-08-22_0915	2021-08-22	2021-08-22	0.000061	118	0.0001	0.005	0.0395	0.005	0.47	0.0005	0.015	482	2.85	-
West Ditch	L2635846-3	MS-08-WEST-INFLOW_2021-09-05_1615	2021-09-05	2021-09-05	0.000066	165	0.0001	0.005	0.0481	0.0061	0.48	0.0005	0.01	529	3.66	-
West Ditch	L2725730-1	MS-08-WEST-INFLOW_2022-07-28	2022-07-28	2022-07-28	0.00005	67.4	0.0001	0.005	0.0057	0.005	0.64	0.0005	0.01	155	0.668	-
West Ditch	L2291173-5	MS-08-WEST-INFLOW01	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2323296-2	MS-08-WEST-INFLOW01	2019-08-06	2019-08-06	0.000366	178	0.0001	0.005	0.27	0.01	96.6	0.00052	0.028	660	24.8	-
West Ditch	L2307801-5	MS-08-WEST-INFLOW01	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-5	MS-08-WEST-INFLOW01	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-7	MS-08-WEST-INFLOW01	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2623788-3	MS-08-WEST-INLFOW_2021-08-06_1015	2021-08-06	2021-08-06	0.000066	102	0.0001	0.005	0.0306	0.005	0.4	0.0005	0.015	400	2.16	-
West Ditch	L2335475-4	MS-08-WEST-INLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2157407-14	WRP-B7	2018-09-01	2018-09-01	0.004	314	0.001	0.05	3.61	0.28	712	0.005	0.21	4050	168	-
West Ditch	L2157407-9	WRPT-2	2018-09-01	2018-09-01	0.00005	356	0.0001	0.005	0.0022	0.01	0.1	0.0005	0.01	250	0.0781	-

Notes: Based on data supplied by BIM, April 2023. Certificates of Analysis avialable upon request from BIM.
Hightlighed values are presented at detection limit values

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Sulphate - calculated
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2603974-2	MS-08-EAST_2021-06-21_1110	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301632-1	MS-08-EAST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2312016-1	MS-08-EAST-INFLOW	2019-07-17	2019-07-17	0.00254	0.288	0.5	6.51	0.0168	0.00522	10.1	0.0005	3.39	0.076	618	1850.241697
East Ditch	L2309549-3	MS-08-EAST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2306761-1	MS-08-EAST-INFLOW	2019-07-09	2019-07-09	0.00144	0.172	0.5	4.71	0.0092	0.00492	3.6	0.0005	2.76	0.065	529	1583.782941
East Ditch	L2305224-1	MS-08-EAST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305072-1	MS-08-EAST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296973-3	MS-08-EAST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2298617-3	MS-08-EAST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300534-3	MS-08-EAST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305805-1	MS-08-EAST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2308636-1	MS-08-EAST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305269-1	MS-08-EAST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300513-3	MS-08-EAST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2307801-1	MS-08-EAST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301572-3	MS-08-EAST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2313935-4	MS-08-EAST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2315508-4	MS-08-EAST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2295991-3	MS-08-EAST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304339-1	MS-08-EAST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296969-3	MS-08-EAST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301607-3	MS-08-EAST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304338-1	MS-08-EAST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301467-3	MS-08-EAST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318395-4	MS-08-EAST-INFLOW	2019-07-28	2019-07-28	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2482854-4	MS-08-EAST-INFLOW	2020-08-03	2020-08-03	0.00146	0.0717	0.5	8.36	0.0081	0.00482	2.2	0.0005	6.27	0.118	402	1203.555278
East Ditch	L2297625-3	MS-08-EAST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2488588-1	MS-08-EAST-INFLOW	2020-08-12	2020-08-12	0.00167	0.0804	0.25	8.94	0.008	0.00489	2.37	0.00005	6.83	0.144	458	1371.21472
East Ditch	L2481535-2	MS-08-EAST-INFLOW	2020-07-29	2020-07-29	0.0018	0.0684	0.071	9.65	0.00888	0.00567	2.36	0.00001	7.61	0.119	407	1218.524871
East Ditch	L2303578-3	MS-08-EAST-INFLOW	2019-07-02	2019-07-02	0.00206	0.135	0.5	5.16	0.0134	0.00401	8.1	0.0005	2.82	0.054	384	1149.664743
East Ditch	L2295155-3	MS-08-EAST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2322461-1	MS-08-EAST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2291173-3	MS-08-EAST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-3	MS-08-EAST-INFLOW	2020-07-21	2020-07-21	0.00267	0.0487	0.5	9.33	0.0085	0.00456	2.4	0.0005	6.45	0.115	311	931.1086855
East Ditch	L2294118-3	MS-08-EAST-INFLOW	2019-06-18	2019-06-18	0.00132	0.0413	0.5	2.99	0.0079	0.00183	4.5	0.0005	1.23	0.023	130	389.2094184
East Ditch	L2290598-3	MS-08-EAST-INFLOW	2019-06-12	2019-06-12	0.00175	0.03	0.5	3.43	0.013	0.00063	9.9	0.0005	0.96	0.015	39.3	117.6610011
East Ditch	L2296841-3	MS-08-EAST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318249-4	MS-08-EAST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2330905-5	MS-08-EAST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2325445-7	MS-08-EAST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2323296-1	MS-08-EAST-INFLOW	2019-08-06	2019-08-06	0.00158	0.0982	0.5	3.92	0.005	0.00296	2.6	0.0005	3.13	0.05	321	961.0478715
East Ditch	L2320850-1	MS-08-EAST-INFLOW	2019-07-31	2019-07-31	0.00168	0.072	0.5	7.61	0.0424	0.00122	24.8	0.0005	1.53	0.032	110	329.3310463
East Ditch	L2326464-5	MS-08-EAST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2327989-6	MS-08-EAST-INFLOW	2019-08-13	2019-08-13	0.002	0.143	0.5	5.11	0.0069	0.00452	3.3	0.0005	4.58	0.073	465	1392.17215
East Ditch	L2330756-5	MS-08-EAST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2357383-6	MS-08-EAST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288447-3	MS-08-EAST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292234-3	MS-08-EAST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292454-3	MS-08-EAST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2468307-2	MS-08-EAST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292486-3	MS-08-EAST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2287932-3	MS-08-EAST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496104-1	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	0.00261	0.0321	0.05	8	0.00587	0.00526	2.48	0.00001	6.47	0.143	368	1101.762046
East Ditch	L2496103-2	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	0.00254	0.0335	0.05	8.4	0.00593	0.00572	2.46	0.00001	6.61	0.132	368	1101.762046
East Ditch	L2339733-5	MS-08-EAST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2467060-4	MS-08-EAST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496705-2	MS-08-EAST-INFLOW	2020-08-31	2020-08-31	0.00277	0.0191	0.5	6.29	0.0053	0.00314	3	0.0005	4.87	0.093	206	616.7472322
East Ditch	L2496140-2	MS-08-EAST-INFLOW	2020-08-30	2020-08-30	0.00256	0.0255	0.5	8.18	0.0064	0.00468	2.7	0.0005	7.41	0.151	336	1005.956651
East Ditch	L2358842-5	MS-08-EAST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2340461-5	MS-08-EAST-INFLOW	2019-09-03	2019-09-03	0.00158	0.105	0.5	4.21	0.0055	0.0028	2.6	0.0005	5.25	0.063	335	1002.962732
East Ditch	L2496047-3	MS-08-EAST-INFLOW	2020-08-27	2020-08-27	0.00246	0.0199	0.5	6.95	0.0051	0.00368	2.5	0.0005	6.23	0.118	250	748.4796507
East Ditch	L2496120-2	MS-08-EAST-INFLOW	2020-08-29	2020-08-29	0.0028	0.0187	0.05	7.48	0.00498	0.00402	2.48	0.00001	6.74	0.138	281	841.2911274
East Ditch	L2342313-5	MS-08-EAST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2335475-3	MS-08-EAST-INFLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2293024-3	MS-08-EAST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2497356-2	MS-08-EAST-INFLOW	2020-09-01	2020-09-01	0.00273	0.0185	0.5	6.25	0.0046	0.00327	2.1	0.0005	5.33	0.098	221	661.6560112
East Ditch	L2335451-4	MS-08-EAST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2337960-3	MS-08-EAST-INFLOW	2019-08-27	2019-08-27	0.0022	0.0514	0.5	4.28	0.0047	0.00174	2.8	0.0005	4.11	0.05	233	697.5830345
East Ditch	L2496049-2	MS-08-EAST-INFLOW	2020-08-28	2020-08-28	0.00206	0.005	0.5	4.6	0.0028	0.00187	2.4	0.0005	5.1	0.104	142	425.1364416
East Ditch	L2350914-2	MS-08-EAST-INFLOW	2019-09-19	2019-09-19	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2346689-2	MS-08-EAST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Sulphate - calculated
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2348201-1	MS-08-EAST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2345723-3	MS-08-EAST-INFLOW	2019-09-11	2019-09-11	0.00213	0.0393	0.5	4.75	0.0063	0.00155	4.2	0.0005	5.67	0.061	220	658.6620926
East Ditch	L2288069-3	MS-08-EAST-INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288035-3	MS-08-EAST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2472902-3	MS-08-EAST-INFLOW	2020-07-10	2020-07-10	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2605651-3	MS-08-EAST-INFLOW_2021-06-23_1415	2021-06-23	2021-06-23	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606859-2	MS-08-EAST-INFLOW_2021-06-26_0910	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606871-2	MS-08-EAST-INFLOW_2021-06-27_0840	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2609262-2	MS-08-EAST-INFLOW_2021-07-01_0955	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2610945-4	MS-08-EAST-INFLOW_2021-07-05_1445	2021-07-05	2021-07-05	0.00109	0.0238	0.5	4.88	0.0143	0.00173	8.8	0.0005	1.4	0.029	102	305.3796975
East Ditch	L2612337-1	MS-08-EAST-INFLOW_2021-07-11_1355	2021-07-11	2021-07-11	0.00137	0.031	0.5	6.39	0.0352	0.00111	18.6	0.0005	1	0.026	54.1	161.9709964
East Ditch	L2618285-2	MS-08-EAST-INFLOW_2021-07-24	2021-07-24	2021-07-24	0.00063	0.0805	0.1	6.86	0.0088	0.00657	4.19	0.00002	3.19	0.0703	392	1173.616092
East Ditch	L2623788-4	MS-08-EAST-INFLOW_2021-08-06_0920	2021-08-06	2021-08-06	0.00124	0.0692	0.5	7.44	0.0066	0.00826	2.9	0.0005	4	0.089	426	1275.409325
East Ditch	L2629919-2	MS-08-EAST-INFLOW_2021-08-22_1130	2021-08-22	2021-08-22	0.00133	0.0854	0.5	7.4	0.0062	0.00896	3.5	0.0005	4.77	0.098	473	1416.123499
East Ditch	L2635846-2	MS-08-EAST-INFLOW_2021-09-05	2021-09-05	2021-09-05	0.00179	0.0406	0.5	6.75	0.0055	0.00559	2.9	0.0005	3.86	0.084	293	877.2181506
East Ditch	L2725730-5	MS-08-EAST-INFLOW_2022-07-29	2022-07-28	2022-07-28	0.00108	0.239	0.5	6.99	0.0211	0.00457	14.1	0.0005	2.28	0.066	473	1416.123499
East Ditch	L2322461-2	MS-08-EAST-INFLOW01	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-4	MS-08-EAST-INFLOW01	2020-07-21	2020-07-21	0.00266	0.0491	0.5	9.43	0.0082	0.00436	2.6	0.0005	6.73	0.116	312	934.1026041
East Ditch	L2496140-3	MS-08-EAST-INFLOW01	2020-08-30	2020-08-30	0.00283	0.0247	0.5	8.06	0.0065	0.00467	2.7	0.0005	7.2	0.143	339	1014.938406
East Ditch	L2343354-4	MS-08-EAST-INLFOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2722749-1	MS-08-EXPLORE-EASTDITCH_2022-07-10	2022-07-10	2022-07-10	0.00124	0.0134	0.5	3.02	0.0137	0.0005	10.7	0.0005	0.5	0.01	5	14.96959301
East Ditch	L2113626-4	MS-08-INFLOW-EAST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-	-	-
East Ditch	L2160094-4	MS-08-INFLOW-EAST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-1	CENTRAL-KEY-IN	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2312012-3	CENTRAL-KEY-IN	2019-07-17	2019-07-17	0.014	0.0648	0.5	13.2	0.0589	0.00289	26.3	0.0005	6.13	0.064	286	856.2607204
Runoff	L2328009-6	INFLUENT-CENTRAL-KEYIN	2019-08-13	2019-08-13	0.00452	0.108	0.5	5.83	0.009	0.00443	2.9	0.0005	7.73	0.084	594	1778.38765
Runoff	L2287151-3	MS-08-EMERGENCY-DITCH	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2340467-1	MS-SP-02	2019-09-03	2019-09-03	0.05	25.9	50	50	0.2	0.1	100	0.05	50	1	24100	72153.43833
Runoff	PAG WR (max)	MS-SP-02	2018-09-01	2018-09-01	0.05	34.6	50	50	0.2	0.079	100	0.05	50	1	31100	93110.86855
Runoff	L2303565-5	MS-SP-02	2019-07-02	2019-07-02	0.0005	0.725	0.5	2.4	0.0064	0.00471	2.6	0.0005	1.99	0.059	713	2134.663964
Runoff	L2337954-1	MS-SP-02	2019-08-27	2019-08-27	0.005	4.52	5	9.6	0.02	0.0285	10	0.005	13.4	0.25	6620	19819.74115
Runoff	L2320849-3	MS-SP-02	2019-07-30	2019-07-30	0.005	4.05	5	9.4	0.049	0.0192	28	0.005	8.9	0.19	5000	14969.59301
Runoff	L2298517-8	MS-SP-02	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-3	MS-SP-02	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-2	MS-SP-02	2019-08-13	2019-08-13	0.005	1.95	5	10.9	0.02	0.0233	10	0.005	8.6	0.2	3190	9550.600343
Runoff	L2290620-5	MS-SP-02	2019-06-12	2019-06-12	0.0005	0.0812	0.5	2.21	0.0053	0.00166	4.3	0.0005	1.2	0.022	130	389.2094184
Runoff	L2323304-3	MS-SP-02	2019-08-06	2019-08-06	0.005	1.6	5	9	0.02	0.0155	10	0.005	7.9	0.16	2810	8412.911274
Runoff	L2306749-3	MS-SP-04	2019-07-09	2019-07-09	0.0005	0.896	0.5	2.74	0.0073	0.00563	3.3	0.0005	2.25	0.073	853	2553.812568
Runoff	L2328009-1	MS-SP-04	2019-08-13	2019-08-13	0.005	2.22	5	5.3	0.02	0.0154	10	0.005	5	0.14	1930	5778.262903
Runoff	L2333401-1	MS-SP-04	2019-08-20	2019-08-20	0.005	2.49	5	6.3	0.02	0.0152	10	0.005	5.6	0.15	2320	6945.891159
Runoff	L2312012-1	MS-SP-04	2019-07-17	2019-07-17	0.0005	1.2	0.5	3.91	0.0085	0.00832	4.6	0.0005	2.86	0.097	1080	3233.432091
Runoff	L2320849-4	MS-SP-04	2019-07-30	2019-07-30	0.0005	1.74	0.5	4.45	0.0107	0.0108	6.5	0.0005	3.86	0.125	1560	4670.51302
Runoff	L2290620-6	MS-SP-04	2019-06-12	2019-06-12	0.0005	0.493	0.5	1.31	0.0034	0.00353	1.7	0.0005	1.72	0.033	564	1688.570092
Runoff	L2315510-4	MS-SP-04	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2323304-4	MS-SP-04	2019-08-06	2019-08-06	0.005	1.89	5	5	0.02	0.0103	10	0.005	5	0.13	1750	5239.357555
Runoff	L2298517-9	MS-SP-04	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-6	MS-SP-04	2018-09-04	2018-09-04	0.005	1.59	5	7.7	0.023	0.0181	10	0.005	9.2	0.2	2900	8682.363948
Runoff	L2294129-9	MS-SP-0401	2019-06-18	2019-06-18	0.0005	0.521	0.5	1.56	0.0039	0.0038	1.9	0.0005	1.71	0.037	552	1652.643069
Runoff	L2730435-1	MS-WRF-22-01_2022-08-28	2022-08-28	2022-08-28	0.000611	0.00066	0.05	2.02	0.00275	0.00242	1.21	0.00005	1.57	0.0309	105	314.3614533
Runoff	L2730435-2	MS-WRF-22-02_2022-08-28	2022-08-28	2022-08-28	0.000724	0.00179	0.05	2.18	0.00315	0.00253	1.7	0.00005	1.68	0.0296	93.4	279.6319975
Runoff	L2730426-1	MS-WRF-22-05_2022-08-27	2022-08-27	2022-08-27	0.00415	0.00383	0.055	3.45	0.00679	0.00397	2.72	0.00005	2.76	0.0463	135	404.1790114
Runoff	L2730426-2	MS-WRF-22-05A_2022-08-27	2022-08-27	2022-08-27	0.00411	0.00197	0.05	3.1	0.00518	0.00408	1.9	0.00005	2.64	0.0462	135	404.1790114
Runoff	L2730426-3	MS-WRF-22-05B_2022-08-27	2022-08-27	2022-08-27	0.00469	0.00635	0.103	3.47	0.00611	0.00412	3.94	0.00005	2.68	0.0458	134	401.1850928
Runoff	L2730426-4	MS-WRF-22-06A_2022-08-27	2022-08-27	2022-08-27	0.00237	0.0085	0.5	4.91	0.0067	0.0123	3.8	0.0005	4.76	0.083	637	1907.12615
Runoff	L2730426-5	MS-WRF-22-09_2022-08-27	2022-08-27	2022-08-27	0.0188	0.0143	0.5	10.3	0.0126	0.0145	8.4	0.0005	11	0.186	332	993.9809761
Runoff	L2730426-6	MS-WRF-22-09A_2022-08-27	2022-08-27	2022-08-27	0.00786	0.0206	0.5	7.17	0.0122	0.0166	10.8	0.0005	7.44	0.133	455	1362.232964
Runoff	L2730426-7	MS-WRF-22-10_2022-08-27	2022-08-27	2022-08-27	0.0192	0.0161	0.5	9.61	0.0089	0.0144	2.6	0.0005	6.2	0.209	440	1317.324185
Runoff	L2730426-8	MS-WRF-22-12_2022-08-27	2022-08-27	2022-08-27	0.00336	0.096	0.5	9.08	0.0118	0.0164	4.8	0.0005	14.8	0.22	806	2413.098394
Runoff	L2730426-9	MS-WRF-22-12A_2022-08-27	2022-08-27	2022-08-27	0.000873	0.0241	0.05	12.6	0.00413	0.00778	2.91	0.00005	8.41	0.0777	283	847.2789646
Runoff	L2730426-10	MS-WRF-22-18_2022-08-27	2022-08-27	2022-08-27	0.00233	0.0108	0.083	12.7	0.012	0.00485	6.14	0.00005	2.71	0.0508	160	479.0269765
Runoff	L2730426-11	MS-WRF-22-18A_2022-08-27	2022-08-27	2022-08-27	0.00384	0.0081	0.05	9.56	0.00733	0.00552	3.77	0.00005	4.44	0.0612	164	491.0026509
Runoff	L2478363-1	WRP-20-01	2020-07-22	2020-07-22	0.0005	0.005	0.5	2.35	0.0037	0.00076	1.2	0.0005	1.09	0.032	268	802.3701856
Runoff	L2488602-1	WRP-20-01	2020-08-12	2020-08-12	0.00125	0.0722	0.28	4.51	0.0188	0.00093	28.1	0.000122	1.22	0.0375	208	622.7350694
Runoff	L2482855-1	WRP-20-01	2020-08-03	2020-08-03	0.0005	0.0069	0.5	2.41	0.0047	0.00062	3.2	0.0005	0.99	0.027	156	467.051302
Runoff	L2482855-2	WRP-20-01A	2020-08-03	2020-08-03	0.00116	0.0534	0.5	6.02	0.0282	0.00109	22.4	0.0005	1.33	0.038	228	682.6134414
Runoff	L2488602-2	WRP-20-01A	2020-08-12	2020-08-12	0.00131	0.0599	0.42	6.67	0.0304	0.00114	27.1	0.000088	1.44	0.0409	241	721.5343833
Runoff	L2478363-2	WRP-20-02	2020-07-22	2020-07-22	0.0005	0.0218	0.5	3.31	0.0085	0.00148	3.9	0.0005	1.41	0.044	482	1443.068767
Runoff	L2495466-4	WRP-20-03	2020-08-21	2020-08-21	0.000379	0.00135	0.05	2.5	0.00304	0.000548	2.09	0.00001	1.04	0.0307	64.7	193.7065336
Runoff	L2478363-3	WRP-20-04	2020-07-22	2020-07-22	0.00062	0.0143	0.5	4.29	0.0146	0.00177	6.8	0.0005	2.33	0.059	499	1493.965383
Runoff	L2496722-5	WRP-20-04	2020-08-31	2020-08-31	0.00073	0.005	0.5	2.62	0.0041	0.00092	1.9	0.0005	1.59	0.035	216	646.6864182
Runoff	L2488602-3	WRP-20-04	2020-08-12	2020-08-12	0.00056	0.0093	0.1	3.44	0.00876	0.00114	5.4	0.00002	1.62	0.0531	324	970.0296273
Runoff	L2495466-2	WRP-20-04	2020-08-21	2020-08-21	0.00046	0.00876	0.05	3.07	0.00545	0.00101	4.32	0.00001	1.37	0.0432	278	832.3093716
Runoff	L2482855-3	WRP-20-04	2020-08-03	2020-08-03	0.0005	0.005	0.5	2.78	0.0048	0.00128	2	0.0005	1.79	0.042	311	931.1086855

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Sulphate - calculated
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2495466-1	WRP-20-04A	2020-08-21	2020-08-21	0.000402	0.00432	0.05	2.84	0.00405	0.00133	1.45	0.00001	1.55	0.0492	335	1002.962732
Runoff	L2478363-4	WRP-20-05	2020-07-22	2020-07-22	0.00068	0.0467	0.5	5.16	0.0073	0.00588	3	0.0005	6.5	0.087	1150	3443.006393
Runoff	L2482855-4	WRP-20-05	2020-08-03	2020-08-03	0.00076	0.0325	0.5	5.36	0.0094	0.00513	4.7	0.0005	10.3	0.092	950	2844.222673
Runoff	L2495466-3	WRP-20-05	2020-08-21	2020-08-21	0.000631	0.00305	0.05	3.26	0.00453	0.00183	1.76	0.00001	2.15	0.0583	388	1161.640418
Runoff	L2488602-4	WRP-20-05A	2020-08-12	2020-08-12	0.00204	0.0463	0.57	11.9	0.0356	0.00787	23.6	0.000102	16	0.16	1370	4101.668486
Runoff	L2496722-6	WRP-20-05A	2020-08-31	2020-08-31	0.00169	0.0429	0.5	7.85	0.0156	0.00702	8.9	0.0005	9.48	0.127	1190	3562.763137
Runoff	L2482855-5	WRP-20-05A	2020-08-03	2020-08-03	0.00146	0.0275	0.5	6.09	0.0065	0.00508	2.9	0.0005	12.3	0.097	798	2389.147045
Runoff	L2478363-5	WRP-20-07	2020-07-22	2020-07-22	0.00223	0.067	0.5	8.7	0.0183	0.0062	15.7	0.0005	13.4	0.115	1010	3023.857789
Runoff	L2488602-5	WRP-20-07	2020-08-12	2020-08-12	0.0033	0.104	0.97	10.8	0.0373	0.00925	33.5	0.000208	12.1	0.126	1490	4460.938718
Runoff	L2482855-6	WRP-20-07	2020-08-03	2020-08-03	0.0017	0.0436	0.5	7	0.0143	0.00594	9.4	0.0005	9.76	0.1	979	2931.046312
Runoff	L2495466-7	WRP-20-07	2020-08-21	2020-08-21	0.00108	0.0253	0.25	7.19	0.0058	0.00605	3.38	0.00005	7.27	0.104	1010	3023.857789
Runoff	L2496722-7	WRP-20-07	2020-08-31	2020-08-31	0.00219	0.0389	0.5	7.12	0.0093	0.00703	6.4	0.0005	8.77	0.124	1250	3742.398254
Runoff	L2495466-8	WRP-20-0702	2020-08-21	2020-08-21	0.00005	0.0005	0.05	0.05	0.0002	0.00005	0.1	0.00001	0.05	0.0002	0.5	1.496959301
Runoff	L2496722-8	WRP-20-07A	2020-08-31	2020-08-31	0.00151	0.0307	0.5	6.01	0.0071	0.00518	7.2	0.0005	6.69	0.083	719	2152.627475
Runoff	L2478363-6	WRP-20-08	2020-07-22	2020-07-22	0.00135	0.0643	0.5	10.6	0.0121	0.0129	7.4	0.0005	13.7	0.23	1500	4490.877904
Runoff	L2495466-6	WRP-20-08	2020-08-21	2020-08-21	0.00176	0.0792	0.25	9.04	0.0106	0.00877	9.16	0.00005	9.06	0.158	1160	3472.945579
Runoff	L2478363-7	WRP-20-09	2020-07-22	2020-07-22	0.00194	0.0992	0.5	7.35	0.0086	0.0104	3.6	0.0005	8.35	0.158	947	2835.240917
Runoff	L2495466-5	WRP-20-10	2020-08-21	2020-08-21	0.003	2.12	1	17.4	0.0206	0.0278	9.6	0.0002	12.2	0.315	2490	7454.857321
Runoff	L2478363-8	WRP-20-10	2020-07-22	2020-07-22	0.00249	0.0314	0.5	9.13	0.0176	0.0139	3.4	0.0005	10.4	0.23	1040	3113.675347
Runoff	L2482855-7	WRP-20-11	2020-08-03	2020-08-03	0.00845	1.01	0.5	14.6	0.0226	0.0211	21.4	0.0005	8.98	0.232	1390	4161.546858
Runoff	L2478363-9	WRP-20-11	2020-07-22	2020-07-22	0.00069	0.183	0.5	15.7	0.0267	0.0145	9.2	0.0005	9.64	0.238	810	2425.074068
Runoff	L2478363-10	WRP-20-12	2020-07-22	2020-07-22	0.0043	0.374	0.5	14.1	0.0213	0.0169	7.6	0.0005	10.2	0.222	922	2760.392952
Runoff	L2495466-16	WRP-20-12	2020-08-22	2020-08-22	0.00153	0.0531	0.218	5.5	0.014	0.00517	19	0.00004	6.76	0.0673	145	434.1181974
Runoff	L2495466-20	WRP-20-1203	2020-08-22	2020-08-22	0.00005	0.0005	0.05	0.05	0.0002	0.00005	0.1	0.00001	0.05	0.0002	0.5	1.496959301
Runoff	L2478363-11	WRP-20-13	2020-07-22	2020-07-22	0.00128	0.291	0.5	9.48	0.0096	0.0119	4.3	0.0005	9.33	0.206	778	2329.268673
Runoff	L2495466-12	WRP-20-13	2020-08-22	2020-08-22	0.00141	0.0456	0.143	7.23	0.00979	0.00423	11.5	0.000047	7.29	0.099	265	793.3884298
Runoff	L2485429-1	WRP-20-14	2020-08-04	2020-08-04	0.00211	0.396	0.5	10.6	0.0096	0.0191	5.6	0.0005	10.6	0.249	999	2990.924684
Runoff	L2488602-6	WRP-20-14	2020-08-12	2020-08-12	0.0032	0.313	0.25	12	0.0099	0.0184	5.04	0.00005	11.7	0.298	1070	3203.492905
Runoff	L2478363-12	WRP-20-14	2020-07-22	2020-07-22	0.00423	0.274	0.5	11.9	0.021	0.0121	13.6	0.0005	9.44	0.216	745	2230.469359
Runoff	L2495466-21	WRP-20-14	2020-08-22	2020-08-22	0.00227	0.113	0.103	7.86	0.00897	0.00597	8.57	0.000041	7.01	0.111	352	1053.859348
Runoff	L2488602-7	WRP-20-1401	2020-08-12	2020-08-12	0.00322	0.314	0.25	12	0.0102	0.0189	4.99	0.00005	11.6	0.292	1080	3233.432091
Runoff	L2485429-2	WRP-20-1403	2020-08-04	2020-08-04	0.00005	0.0005	0.05	0.05	0.0002	0.00005	0.1	0.00005	0.05	0.001	0.5	1.496959301
Runoff	L2478363-13	WRP-20-15	2020-07-22	2020-07-22	0.00443	0.0996	0.5	14.8	0.0115	0.00629	3.6	0.0005	14.3	0.113	444	1329.29986
Runoff	L2485429-3	WRP-20-15	2020-08-04	2020-08-04	0.0085	0.0747	0.5	14.3	0.0107	0.00689	3.8	0.0005	10.9	0.103	460	1377.202557
Runoff	L2495466-19	WRP-20-15	2020-08-22	2020-08-22	0.00725	0.074	0.05	15.4	0.00851	0.00755	3.51	0.00001	12.9	0.11	447	1338.281615
Runoff	L2496722-9	WRP-20-15	2020-08-31	2020-08-31	0.00759	0.0608	0.5	12.8	0.0084	0.00843	3.3	0.0005	11.9	0.108	506	1514.922813
Runoff	L2488602-8	WRP-20-15	2020-08-12	2020-08-12	0.0087	0.0614	0.1	17	0.0115	0.0078	4.53	0.00002	10.4	0.133	610	1826.290348
Runoff	L2485429-4	WRP-20-1501	2020-08-04	2020-08-04	0.00882	0.0753	0.5	14.6	0.0106	0.00629	2.9	0.0005	11	0.107	465	1392.17215
Runoff	PAG WR (75th)	WRP-20-17	2020-08-22	2020-08-22	0.0025	0.144	0.1	8.25	0.0088	0.0105	3.34	0.00002	5.16	0.0937	637	1907.12615
Runoff	L2485429-5	WRP-20-17	2020-08-04	2020-08-04	0.00255	0.159	0.5	9.69	0.0104	0.00975	3.6	0.0005	4.84	0.097	750	2245.438952
Runoff	L2496722-4	WRP-20-17	2020-08-31	2020-08-31	0.00309	0.125	0.5	8.15	0.0099	0.0102	3.8	0.0005	6.37	0.093	701	2098.736941
Runoff	L2478363-14	WRP-20-17	2020-07-22	2020-07-22	0.00385	0.126	0.5	10.8	0.011	0.00836	4.1	0.0005	5.06	0.104	680	2035.86465
Runoff	L2485429-6	WRP-20-1702	2020-08-04	2020-08-04	0.00005	0.0005	0.05	0.05	0.0002	0.00005	0.1	0.00005	0.05	0.001	0.5	1.496959301
Runoff	L2485429-7	WRP-20-18	2020-08-04	2020-08-04	0.0012	0.21	0.5	6.93	0.0107	0.0114	4.8	0.0005	4.72	0.083	859	2571.77608
Runoff	L2479665-1	WRP-20-18	2020-07-24	2020-07-24	0.00151	0.181	0.1	8.15	0.00866	0.00997	3.41	0.00002	5.19	0.0961	739	2212.505847
Runoff	L2495466-14	WRP-20-18	2020-08-22	2020-08-22	0.002	0.143	0.1	7.24	0.00856	0.0104	3.38	0.00002	5.65	0.0774	635	1901.138313
Runoff	L2496722-3	WRP-20-18	2020-08-31	2020-08-31	0.00208	0.135	0.5	8.28	0.0132	0.00998	6.3	0.0005	6.89	0.093	695	2080.773429
Runoff	L2488602-9	WRP-20-18	2020-08-12	2020-08-12	0.00268	0.122	0.1	12	0.018	0.0117	8.89	0.000032	6.12	0.11	877	2625.666615
Runoff	L2479665-2	WRP-20-1801	2020-07-24	2020-07-24	0.0015	0.182	0.1	8.14	0.00863	0.0105	3.25	0.00002	5.07	0.0968	756	2263.402464
Runoff	L2485429-8	WRP-20-19	2020-08-04	2020-08-04	0.002	0.0848	0.5	9.3	0.0099	0.00585	2.7	0.0005	6.8	0.118	500	1496.959301
Runoff	L2488602-10	WRP-20-19	2020-08-12	2020-08-12	0.00293	0.0936	0.1	9.56	0.00899	0.00649	2.28	0.00002	7.86	0.137	544	1628.69172
Runoff	L2479665-3	WRP-20-19	2020-07-24	2020-07-24	0.00252	0.0879	0.1	12.2	0.0106	0.00757	2.85	0.00002	8.25	0.132	572	1712.521441
Runoff	L2495466-15	WRP-20-19	2020-08-22	2020-08-22	0.00348	0.0363	0.169	11.6	0.0177	0.00323	14.7	0.000042	3.63	0.067	216	646.6864182
Runoff	L2496722-1	WRP-20-19	2020-08-31	2020-08-31	0.00612	0.0295	0.5	10.7	0.0083	0.00703	2.1	0.0005	6.69	0.144	469	1404.147825
Runoff	L2479665-4	WRP-20-1901	2020-07-24	2020-07-24	0.00244	0.0868	0.1	12.5	0.0103	0.00794	2.88	0.00002	7.77	0.131	561	1679.588336
Runoff	L2485429-9	WRP-20-20	2020-08-04	2020-08-04	0.00209	0.139	0.5	9.05	0.0086	0.00614	2.3	0.0005	6.75	0.123	567	1697.551848
Runoff	L2479665-5	WRP-20-20	2020-07-24	2020-07-24	0.00238	0.0987	0.1	11.5	0.0118	0.00738	4.39	0.00002	7.48	0.128	554	1658.630906
Runoff	L2496722-2	WRP-20-20	2020-08-31	2020-08-31	0.00345	0.1	0.5	12.1	0.0107	0.0103	2.7	0.0005	8.99	0.161	622	1862.217371
Runoff	L2495466-17	WRP-20-20	2020-08-22	2020-08-22	0.00276	0.0445	0.203	12	0.022	0.00242	19.4	0.00007	2.98	0.0517	144	431.1242788
Runoff	L2495466-9	WRP-20-20A	2020-08-22	2020-08-22	0.00293	0.0614	0.179	12.3	0.0196	0.00335	16.8	0.000042	3.88	0.0607	220	658.6620926
Runoff	L2485429-10	WRP-20-20A	2020-08-04	2020-08-04	0.00418	0.0967	0.5	12.6	0.013	0.0103	5.7	0.0005	10.8	0.177	696	2083.767348
Runoff	L2479665-6	WRP-20-21	2020-07-24	2020-07-24	0.00671	0.053	0.29	14.8	0.023	0.00767	19.3	0.000089	10.6	0.164	448	1341.275534
Runoff	L2479665-7	WRP-20-22	2020-07-24	2020-07-24	0.00642	0.0492	0.23	14.1	0.019	0.00773	17.5	0.000061	10.7	0.16	505	1511.928894
Runoff	L2495466-18	WRP-20-22	2020-08-22	2020-08-22	0.0109	0.00665	0.05	13.5	0.0106	0.0084	4.01	0.00001	11.1	0.172	440	1317.324185
Runoff	L2479665-8	WRP-20-2201	2020-07-24	2020-07-24	0.00601	0.04	0.13	12.7	0.0167	0.00742	13	0.00004	9.9	0.148	481	1440.074848
Runoff	L2485429-11	WRP-20-23	2020-08-04	2020-08-04	0.00248	0.0057	0.5	5.02	0.0068	0.00431	2.6	0.0005	4.81	0.144	226	676.6256042
Runoff	L2479665-9	WRP-20-23	2020-07-24	2020-07-24	0.00313	0.00591	0.05	6.5	0.00854	0.00495	3.03	0.00001	5.83	0.148	214	640.698581
Runoff	L2479665-10	WRP-20-24	2020-07-24	2020-07-24	0.0185	0.00481	0.05	16.6	0.0117	0.00338	2.24	0.000011	12.8	0.245	104	311.3675347
Runoff	L2495466-10	WRP-20-24	2020-08-22	2020-08-22	0.032	0.00491	0.051	17.8	0.00931	0.0034	2.72	0.00001	11.4	0.192	137	410.1668486
Runoff	L2479665-11	WRP-20-25	2020-07-24	2020-07-24	0.0074	0.0273	0.315	9.97	0.0231	0.00162	17.5	0.000042	4.73	0.0964	40.5	121.2537034
Runoff	L2495466-11	WRP-20-25	2020-08-22	2020-08-22	0.00375	0.00085	0.05	3.74	0.00319	0.000396	1.28	0.00001	1.16	0.0272	29.2	87.4224232
Runoff	L2627498-16	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	0.00109	0.00095	0.05	1.74	0.00338	0.0016	1.05	0.00005	1.66	0.0288	89.4	267.6563231
Runoff	L2627498-26	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	0.00112	0.00079	0.05	1.79	0.00333	0.00169	1	0.00005	1.72	0.0291	97.4	291.6076719

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Sulphate - calculated
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2610912-9	WRP-21-01_2021-07-05_1410	2021-07-05	2021-07-05	0.00086	0.0228	0.5	3.18	0.0186	0.00116	10.7	0.0005	1.89	0.034	82.3	246.399501
Runoff	L2612335-1	WRP-21-01_2021-07-11_0910	2021-07-11	2021-07-11	0.00068	0.0091	0.5	2.75	0.0082	0.00362	1.9	0.0005	2.02	0.075	365	1092.78029
Runoff	L2627498-25	WRP-21-02_16-08-2021_1345	2021-08-16	2021-08-16	0.00261	0.005	0.5	2.16	0.0047	0.00432	1.1	0.0005	1.96	0.043	172	514.9539997
Runoff	L2610912-8	WRP-21-02_2021-07-05_1350	2021-07-05	2021-07-05	0.00175	0.0639	0.74	6.99	0.0585	0.00234	30.6	0.0005	2.31	0.054	100	299.3918603
Runoff	L2612335-2	WRP-21-02_2021-07-11_0930	2021-07-11	2021-07-11	0.00286	0.0132	0.5	3.61	0.0161	0.00481	7	0.0005	1.96	0.063	157	470.0452206
Runoff	L2612335-3	WRP-21-02A_2021-07-11_0945	2021-07-11	2021-07-11	0.0149	0.0083	0.5	8.98	0.013	0.00802	2.2	0.0005	5.51	0.166	531	1589.770778
Runoff	L2618284-11	WRP-21-02A_2021-07-23	2021-07-23	2021-07-23	0.00967	0.00148	0.05	7.72	0.0106	0.00725	1.91	0.00001	5.15	0.127	286	856.2607204
Runoff	L2627498-24	WRP-21-03_16-08-2021_1320	2021-08-16	2021-08-16	0.0126	0.005	0.5	5.8	0.0064	0.00559	1.8	0.0005	3.94	0.076	188	562.8566973
Runoff	L2610912-7	WRP-21-03_2021-07-05_1340	2021-07-05	2021-07-05	0.00778	0.0259	0.5	7.65	0.0193	0.00792	11.3	0.0005	4.65	0.119	367	1098.768127
Runoff	L2610912-6	WRP-21-04_2021-07-05_1320	2021-07-05	2021-07-05	0.00108	0.208	1.69	16	0.125	0.00805	63.7	0.0005	6.28	0.163	428	1281.397162
Runoff	L2627498-17	WRP-21-04A_16-08-2021_1240	2021-08-16	2021-08-16	0.005	0.235	5	8.8	0.02	0.0232	10	0.005	10.7	0.23	1900	5688.445345
Runoff	L2612335-4	WRP-21-04A_2021-07-11_1005	2021-07-11	2021-07-11	0.00095	0.082	0.5	5.37	0.0101	0.00864	4.5	0.0005	4.01	0.118	888	2658.599719
Runoff	L2627498-18	WRP-21-04B_16-08-2021_1300	2021-08-16	2021-08-16	0.00461	0.0051	0.5	4.61	0.0071	0.00635	2.3	0.0005	4.14	0.068	298	892.1877436
Runoff	L2627498-19	WRP-21-05_16-08-2021_1205	2021-08-16	2021-08-16	0.0155	0.01	0.5	11.3	0.0089	0.00662	2.1	0.0005	4.52	0.137	379	1134.69515
Runoff	L2610912-5	WRP-21-05_2021-07-05_1300	2021-07-05	2021-07-05	0.0138	0.0275	0.5	16.3	0.0421	0.00515	14.8	0.0005	7.08	0.154	211	631.7168252
Runoff	L2612335-5	WRP-21-05_2021-07-11_1025	2021-07-11	2021-07-11	0.00828	0.0064	0.5	7.92	0.0079	0.00264	1.8	0.0005	2.59	0.076	139	416.1546858
Runoff	L2610912-4	WRP-21-06_2021-07-05_1245	2021-07-05	2021-07-05	0.00933	0.0198	0.5	12.2	0.024	0.00427	10.5	0.0005	4.67	0.107	254	760.4553251
Runoff	L2612335-7	WRP-21-06_2021-07-11_1040	2021-07-11	2021-07-11	0.0136	0.0084	0.5	10.7	0.0115	0.00389	5.1	0.0005	3.66	0.101	131	392.203337
Runoff	L2627498-21	WRP-21-07_16-08-2021_1140	2021-08-16	2021-08-16	0.00193	0.0346	0.5	7.44	0.0078	0.0145	3.5	0.0005	5.98	0.125	645	1931.077499
Runoff	L2610912-3	WRP-21-07_2021-07-05_1155	2021-07-05	2021-07-05	0.00183	0.0215	0.5	8.3	0.0083	0.00477	6	0.0005	4.55	0.106	642	1922.095743
Runoff	L2612335-8	WRP-21-07A_2021-07-11_1110	2021-07-11	2021-07-11	0.00079	0.0168	0.5	2.89	0.0046	0.00284	6	0.0005	1.31	0.028	212	634.7107438
Runoff	L2627498-22	WRP-21-07B_16-08-2021_1130	2021-08-16	2021-08-16	0.0082	0.0186	0.5	9.96	0.0078	0.0136	2.6	0.0005	6.35	0.127	391	1170.622174
Runoff	L2612335-9	WRP-21-07B_2021-07-11_1125	2021-07-11	2021-07-11	0.00452	0.0071	0.5	3.32	0.0059	0.00123	4.9	0.0005	1.38	0.022	33.8	101.1944488
Runoff	L2627498-23	WRP-21-08_16-08-2021_1115	2021-08-16	2021-08-16	0.0047	0.0452	0.5	14.6	0.0127	0.0148	5.9	0.0005	8.06	0.203	647	1937.065336
Runoff	L2610912-2	WRP-21-08_2021-07-05_1125	2021-07-05	2021-07-05	0.00168	0.0221	0.5	6.41	0.0062	0.00516	3.4	0.0005	3.5	0.082	318	952.0661157
Runoff	L2612335-10	WRP-21-08_2021-07-11_1140	2021-07-11	2021-07-11	0.00098	0.0084	0.5	2.43	0.0031	0.00127	2.1	0.0005	0.84	0.024	69.5	208.0773429
Runoff	L2618284-10	WRP-21-08_2021-07-23	2021-07-23	2021-07-23	0.00372	0.0176	0.05	6.34	0.00591	0.00711	2.71	0.00001	3.77	0.0828	285	853.2668018
Runoff	L2627498-20	WRP-21-09_16-08-2021_1050	2021-08-16	2021-08-16	0.0108	0.2	0.5	11.7	0.0108	0.0271	3.1	0.0005	8.04	0.209	839	2511.897708
Runoff	L2610912-1	WRP-21-09_2021-07-05_1110	2021-07-05	2021-07-05	0.00181	0.256	0.5	8.13	0.0134	0.00833	14	0.0005	3.47	0.113	561	1679.588336
Runoff	L2612335-11	WRP-21-09_2021-07-11_1200	2021-07-11	2021-07-11	0.00257	0.148	0.5	6.57	0.0168	0.00481	16.3	0.0005	1.78	0.068	278	832.3093716
Runoff	L2618284-9	WRP-21-09A_2021-07-23	2021-07-23	2021-07-23	0.00117	0.539	0.25	10.6	0.0104	0.0202	5.87	0.00005	5.86	0.147	1240	3712.459068
Runoff	L2627498-9	WRP-21-10_15-08-2021_1500	2021-08-15	2021-08-15	0.00404	0.0691	0.5	7.14	0.0056	0.00456	3.6	0.0005	8.41	0.042	177	529.9235927
Runoff	L2610912-14	WRP-21-10_2021-07-05_1550	2021-07-05	2021-07-05	0.00181	0.0486	0.5	6.22	0.0128	0.00345	9	0.0005	2.17	0.04	139	416.1546858
Runoff	L2612335-12	WRP-21-10_2021-07-11_1240	2021-07-11	2021-07-11	0.00278	0.0232	0.5	7.13	0.01	0.00347	6.1	0.0005	2.95	0.049	124	371.2459068
Runoff	L2618284-7	WRP-21-10_2021-07-23	2021-07-23	2021-07-23	0.00385	0.0551	0.1	9.28	0.00423	0.00779	2.69	0.00002	5.87	0.0747	307	919.1330111
Runoff	L2627498-11	WRP-21-10A_15-08-2021_1435	2021-08-15	2021-08-15	0.00323	0.00254	0.05	5.71	0.00387	0.00236	1.99	0.00005	3.45	0.0284	92	275.4405115
Runoff	L2612335-13	WRP-21-10A_2021-07-11_1255	2021-07-11	2021-07-11	0.00131	0.0133	0.5	2.89	0.0038	0.00079	2.8	0.0005	1.37	0.012	27.4	82.03336972
Runoff	L2627498-8	WRP-21-11_15-08-2021_1415	2021-08-15	2021-08-15	0.00481	0.013	0.5	11.2	0.0059	0.00399	2.9	0.0005	4	0.053	239	715.5465461
Runoff	L2610912-13	WRP-21-11_2021-07-05_1530	2021-07-05	2021-07-05	0.00349	0.0257	0.76	12.2	0.033	0.00381	17.6	0.0005	3.15	0.047	153	458.0695462
Runoff	L2612335-14	WRP-21-11_2021-07-11_1310	2021-07-11	2021-07-11	0.00115	0.0321	0.5	3	0.0038	0.00078	1.7	0.0005	0.59	0.01	37.1	111.0743802
Runoff	L2618284-6	WRP-21-11_2021-07-23	2021-07-23	2021-07-23	0.00402	0.0107	0.051	10.6	0.00873	0.00448	4.19	0.00001	3.67	0.0605	233	697.5830345
Runoff	L2610912-11	WRP-21-12_2021-07-05_1520	2021-07-05	2021-07-05	0.00405	0.0234	0.66	11.8	0.0236	0.0043	14.9	0.0005	3.61	0.055	186	556.8688601
Runoff	L2627498-10	WRP-21-13_15-08-2021_1400	2021-08-15	2021-08-15	0.00376	0.0674	0.5	8.46	0.0053	0.00798	3.3	0.0005	4.13	0.092	446	1335.287697
Runoff	L2610912-10	WRP-21-13_2021-07-05_1505	2021-07-05	2021-07-05	0.00114	0.0736	0.5	6.88	0.008	0.00708	4.6	0.0005	3.38	0.084	319	955.0600343
Runoff	L2612335-15	WRP-21-13_2021-07-11_1320	2021-07-11	2021-07-11	0.00154	0.05	0.5	9.62	0.0171	0.00665	7.9	0.0005	2.79	0.091	325	973.0235459
Runoff	L2618284-5	WRP-21-13_2021-07-23	2021-07-23	2021-07-23	0.00094	0.121	0.25	7.75	0.0061	0.0107	3.48	0.00005	3.91	0.116	596	1784.375487
Runoff	L2627498-12	WRP-21-14_15-08-2021_1255	2021-08-15	2021-08-15	0.00164	0.154	0.5	8	0.0121	0.0122	12.6	0.0005	4.08	0.112	650	1946.047092
Runoff	L2612842-1	WRP-21-14_2021-07-12_1300	2021-07-12	2021-07-12	0.00103	0.166	0.5	6.09	0.0146	0.00773	9.8	0.0005	2.34	0.056	375	1122.719476
Runoff	L2618284-4	WRP-21-14_2021-07-22	2021-07-22	2021-07-22	0.000445	0.156	0.05	6.76	0.0065	0.0127	4.25	0.00001	3.81	0.0997	644	1928.08358
Runoff	L2627498-1	WRP-21-14A_15-08-2021_1150	2021-08-15	2021-08-15	0.00055	0.071	0.5	9.68	0.0085	0.00728	3.3	0.0005	4.76	0.101	438	1311.336348
Runoff	L2627498-13	WRP-21-14B_15-08-2021_1225	2021-08-15	2021-08-15	0.00078	0.0721	0.5	10.3	0.0081	0.00779	3.4	0.0005	5.01	0.11	457	1368.220801
Runoff	L2627498-14	WRP-21-14C_15-08-2021_1240	2021-08-15	2021-08-15	0.00133	0.0724	0.5	9.34	0.0072	0.00815	3.7	0.0005	4.58	0.106	446	1335.287697
Runoff	L2627498-3	WRP-21-15_15-08-2021_1125	2021-08-15	2021-08-15	0.00142	0.0466	0.5	6.77	0.0085	0.0126	3.2	0.0005	6.18	0.098	658	1969.998441
Runoff	L2612842-2	WRP-21-15_2021-07-12_1325	2021-07-12	2021-07-12	0.00101	0.0179	0.5	4.55	0.0061	0.00594	5.4	0.0005	2.85	0.055	270	808.3580228
Runoff	L2612842-3	WRP-21-16_2021-07-12_1340	2021-07-12	2021-07-12	0.00128	0.0211	0.5	4.53	0.0108	0.0059	8	0.0005	2.48	0.051	204	610.759395
Runoff	L2618284-3	WRP-21-16_2021-07-22	2021-07-22	2021-07-22	0.00922	0.00741	0.085	7.74	0.0105	0.00914	5.05	0.000015	3.66	0.0642	178	532.9175113
Runoff	L2627498-2	WRP-21-17_15-08-2021_1105	2021-08-15	2021-08-15	0.00146	0.005	0.5	3.18	0.004	0.00897	2.2	0.0005	2.16	0.042	176	526.9296741
Runoff	L2612842-4	WRP-21-17_2021-07-12_1350	2021-07-12	2021-07-12	0.00119	0.0145	0.5	3.48	0.0046	0.00544	4.2	0.0005	2.32	0.043	188	562.8566973
Runoff	L2627498-4	WRP-21-18_15-08-2021_1055	2021-08-15	2021-08-15	0.00717	0.005	0.5	5.89	0.0046	0.00436	1.9	0.0005	4.08	0.061	148	443.0999532
Runoff	L2612842-5	WRP-21-18_2021-07-12_1435	2021-07-12	2021-07-12	0.00408	0.0174	0.5	5.55	0.0077	0.00224	7.7	0.0005	2.39	0.033	76.8	229.9329487
Runoff	L2627498-7	WRP-21-19_15-08-2021_1030	2021-08-15	2021-08-15	0.024	0.0179	0.076	11.7	0.00869	0.00332	4.21	0.00005	7.11	0.134	105	314.3614533
Runoff	L2612842-6	WRP-21-19_2021-07-12_1450	2021-07-12	2021-07-12	0.0255	0.005	0.5	11.3	0.0087	0.00271	4.3	0.0005	6.3	0.103	62.9	188.3174801
Runoff	L2618284-2	WRP-21-19_2021-07-22	2021-07-22	2021-07-22	0.0237	0.0587	0.05	16.5	0.0104	0.00646	2.97	0.00001	12.5	0.239	214	640.698581
Runoff	L2627498-5	WRP-21-19A_15-08-2021_1020	2021-08-15	2021-08-15	0.00404	0.00111	0.05	3.27	0.00345	0.000491	1.38	0.00005	1.05	0.0164	18	53.89053485
Runoff	L2627498-6	WRP-21-20_15-08-2021_1005	2021-08-15	2021-08-15	0.00186	0.00072	0.05	2.75	0.00277	0.000398	1.06	0.00005	0.75	0.0126	17.3	51.79479183
Runoff	L2612842-7	WRP-21-20_2021-07-12_1510	2021-07-12	2021-07-12	0.00108	0.005	0.5	2.4	0.0035	0.0005	2.4	0.0005	0.5	0.01	11.2	33.53188835
Runoff	L2618284-1	WRP-21-20_2021-07-22	2021-07-22	2021-07-22	0.00206	0.00084	0.05	2.69	0.00245	0.00017	1.28	0.00001	0.529	0.012	15.1	45.2081709
Runoff	L2725732-1	WRP-22-01_2022-07-28	2022-07-28	2022-07-28	0.000798	0.00312	0.059	2.65	0.00451	0.00123	2.35	0.00005	0.89	0.0189	59.6	178.4375487
Runoff	L2725732-2	WRP-22-02_2022-07-28	2022-07-28	2022-07-28	0.000911	0.00065	0.05	2.48	0.00295	0.00143	1.01	0.00005	0.942	0.0196	61.4	183.8266022
Runoff	L2725732-3	WRP-22-03_2022-07-28	2022-07-28	2022-07-28	0.00852	0.0014	0.05	4.08	0.00517	0.00239	1.19	0.00005	3.06	0.0387	94	281.4283487
Runoff	L2725732-4	WRP-22-04_2022-07-28	2022-07-28	2022-07-28	0.00399	0.00071	0.05	3.16	0.00456	0.00232	1.08	0.00005	2.26	0.0316	90.2	270.051458
Runoff	L2725732-5	WRP-22-05_2022-07-28	2022-07-28	2022-07-28	0.00397	0.00066	0.05	3.15	0.00433	0.00232	1.12	0.00005	2.25	0.0319	91.1	272.7459847
Runoff	L2725732-6	WRP-22-06_2022-07-28	2022-07-28	2022-07-28	0.0108	0.00112	0.05	4.99	0.00372	0.00632	1.91	0.00005	3	0.0514	123	368.2519881

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Sulphate - calculated
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2725732-7	WRP-22-07_2022-07-28	2022-07-28	2022-07-28	0.0021	0.0073	0.5	3.26	0.004	0.00926	3.1	0.0005	2.84	0.047	286	856.2607204
Runoff	L2725732-8	WRP-22-08_2022-07-28	2022-07-28	2022-07-28	0.00956	0.0079	0.5	8.27	0.0076	0.00587	4.1	0.0005	10.4	0.113	269	805.3641042
Runoff	L2725732-9	WRP-22-09_2022-07-28	2022-07-28	2022-07-28	0.00532	0.005	0.5	5.09	0.0048	0.00787	2.3	0.0005	3.29	0.057	132	395.1972556
Runoff	L2725732-10	WRP-22-10_2022-07-28	2022-07-28	2022-07-28	0.0112	0.0079	0.5	6.26	0.0058	0.00738	1.9	0.0005	3.41	0.088	171	511.9600811
Runoff	L2725732-11	WRP-22-11_2022-07-28	2022-07-28	2022-07-28	0.00571	0.0299	0.5	8.49	0.0189	0.00698	16.8	0.0005	3.79	0.1	185	553.8749415
Runoff	L2725732-12	WRP-22-12_2022-07-28	2022-07-28	2022-07-28	0.00228	0.0286	0.5	5.16	0.0058	0.00826	1.9	0.0005	8.48	0.091	307	919.1330111
Runoff	L2725732-13	WRP-22-13_2022-07-29	2022-07-29	2022-07-29	0.00393	0.0148	0.5	7.82	0.0037	0.00431	2.5	0.0005	4.39	0.044	158	473.0391392
Runoff	L2725732-14	WRP-22-14_2022-07-29	2022-07-29	2022-07-29	0.00259	0.00234	0.05	7.88	0.00441	0.00255	2.21	0.00005	3.81	0.0427	117	350.2884765
Runoff	L2725732-15	WRP-22-15_2022-07-29	2022-07-29	2022-07-29	0.00199	0.00245	0.05	6.1	0.0077	0.00138	2.81	0.00005	2.14	0.0218	61.5	184.1259941
Runoff	L2725732-16	WRP-22-16_2022-07-29	2022-07-29	2022-07-29	0.00782	0.00056	0.05	8.45	0.00436	0.00188	1.9	0.00005	2.04	0.0245	72.3	216.460315
Runoff	L2725732-17	WRP-22-17_2022-07-29	2022-07-29	2022-07-29	0.00342	0.0088	0.5	9.32	0.0046	0.00267	2.3	0.0005	2.81	0.035	144	431.1242788
Runoff	L2725732-18	WRP-22-18_2022-07-29	2022-07-29	2022-07-29	0.00436	0.00596	0.371	9.76	0.0151	0.00251	6.98	0.00005	2.09	0.0347	89	266.4587557
Runoff	L2157407-6	WRP-DD-E1	2018-09-01	2018-09-01	0.00061	0.166	0.5	3.82	0.004	0.00369	1.9	0.0005	3.26	0.103	600	1796.351162
Runoff	L2158115-4	WRPP	2018-09-04	2018-09-04	0.007	3.46	5	10.1	0.023	0.0315	10	0.005	12.4	0.28	5500	16466.55232
Runoff	L2306749-1	WRP-S10	2019-07-09	2019-07-09	0.0008	1.45	0.5	8.52	0.0187	0.0162	13.5	0.0005	4.66	0.177	1880	5628.566973
Runoff	L2158115-3	WRP-S10	2018-09-04	2018-09-04	0.005	6.39	5	12.5	0.031	0.0497	13	0.005	13.5	0.31	9710	29070.94963
Runoff	L2298517-5	WRP-S10	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2320849-1	WRP-S10	2019-07-30	2019-07-30	0.00174	0.682	0.5	6.65	0.0321	0.00223	27.3	0.0005	1.79	0.045	517	1547.855918
Runoff	L2290620-2	WRP-S10	2019-06-12	2019-06-12	0.00077	0.421	0.5	4.51	0.0051	0.00445	5.9	0.0005	1.57	0.051	353	1056.853267
Runoff	L2290620-3	WRP-S11	2019-06-12	2019-06-12	0.00096	0.0861	0.75	7.28	0.0778	0.0005	35.7	0.0005	0.82	0.017	7	20.95743022
Runoff	L2298517-7	WRP-S11	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-2	WRP-S12	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-4	WRP-S12	2019-07-02	2019-07-02	0.0005	0.0652	0.5	3.77	0.0065	0.00217	1.8	0.0005	1.47	0.045	273	817.3397786
Runoff	L2298517-6	WRP-S12	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2290620-4	WRP-S12	2019-06-12	2019-06-12	0.00057	0.0279	0.5	5.13	0.0406	0.00083	20.5	0.0005	0.77	0.016	28.6	85.62607204
Runoff	L2320849-2	WRP-S12	2019-07-30	2019-07-30	0.0005	0.033	0.5	3.92	0.0074	0.00255	1.9	0.0005	1.72	0.055	344	1029.907999
Runoff	L2157407-16	WRP-S14	2018-09-01	2018-09-01	0.00325	0.0405	0.5	6.15	0.0046	0.00237	1	0.0005	6.56	0.116	445	1332.293778
Runoff	L2303565-3	WRP-S15	2019-07-02	2019-07-02	0.0005	0.378	0.5	5.95	0.0113	0.0108	5.7	0.0005	3.53	0.065	811	2428.067987
Runoff	L2337954-2	WRP-S15	2019-08-27	2019-08-27	0.005	0.75	5	7	0.02	0.0155	10	0.005	6.8	0.12	1630	4880.087323
Runoff	L2323304-1	WRP-S15	2019-08-06	2019-08-06	0.005	0.801	5	5.8	0.02	0.0163	10	0.005	5	0.1	1570	4700.452206
Runoff	L2306749-2	WRP-S15	2019-07-09	2019-07-09	0.00067	0.242	0.5	4.36	0.0068	0.00662	2.7	0.0005	2.71	0.071	601	1799.34508
Runoff	L2298517-3	WRP-S15	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2294129-8	WRP-S15	2019-06-18	2019-06-18	0.00084	0.0515	0.5	3.22	0.0168	0.00165	11.2	0.0005	0.9	0.017	96	287.4161859
Runoff	L2158115-7	WRP-S15NEW	2018-09-04	2018-09-04	0.00332	0.005	0.5	3.32	0.004	0.0005	3	0.0005	1.14	0.021	14.3	42.81303602
Runoff	L2312012-4	WRP-S16	2019-07-17	2019-07-17	0.005	1.19	5	8.9	0.02	0.0143	10	0.005	5	0.11	1730	5179.479183
Runoff	L2333401-3	WRP-S16	2019-08-20	2019-08-20	0.005	0.846	5	7.2	0.02	0.0162	10	0.005	6.7	0.12	1630	4880.087323
Runoff	L2328009-4	WRP-S16	2019-08-13	2019-08-13	0.0005	0.755	0.5	6.39	0.0103	0.0147	4.6	0.0005	5.42	0.106	1430	4281.303602
Runoff	L2323304-2	WRP-S16	2019-08-06	2019-08-06	0.005	0.847	5	6.1	0.02	0.0125	10	0.005	5.1	0.1	1490	4460.938718
Runoff	L2290620-8	WRP-S16	2019-06-12	2019-06-12	0.00073	0.114	0.5	3.69	0.0091	0.00413	9.4	0.0005	1.34	0.031	340	1017.932325
Runoff	L2298517-4	WRP-S16	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-8	WRP-S16NEW	2018-09-04	2018-09-04	0.005	1.45	5	7.3	0.02	0.026	10	0.005	7.7	0.12	2730	8173.397786
Runoff	L2290620-7	WRP-S17	2019-06-12	2019-06-12	0.00072	0.0348	0.5	4.67	0.0294	0.0005	19.3	0.0005	0.79	0.012	22.5	67.36316856
Runoff	L2303565-1	WRP-S17	2019-07-02	2019-07-02	0.0007	0.0195	0.5	2.63	0.0131	0.0005	10.9	0.0005	0.5	0.01	5	14.96959301
Runoff	L2306749-5	WRP-S17	2019-07-09	2019-07-09	0.0012	0.00092	0.05	1.88	0.00225	0.000483	1.45	0.00005	0.661	0.0154	20.1	60.17776392
Runoff	L2306749-4	WRP-S18	2019-07-09	2019-07-09	0.005	1.13	5	8.7	0.02	0.0118	10	0.005	7.8	0.14	2680	8023.701856
Runoff	L2312012-2	WRP-S18	2019-07-17	2019-07-17	0.0009	0.829	0.5	9.83	0.0284	0.0102	16.9	0.0005	6.79	0.114	1640	4910.026509
Runoff	L2303565-6	WRP-S18	2019-07-02	2019-07-02	0.00062	0.0082	0.5	2.77	0.0067	0.00096	3.3	0.0005	1.12	0.029	95	284.4222673
Runoff	L2298517-10	WRP-S18	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-2	WRP-S4	2019-07-02	2019-07-02	0.00649	0.0097	0.5	4.94	0.021	0.0005	14.1	0.0005	1.78	0.016	5	14.96959301
Runoff	L2328009-5	WRP-S4	2019-08-13	2019-08-13	0.00603	0.00651	0.05	8.9	0.00544	0.00128	3.06	0.00005	12.4	0.0875	149	446.0938718
Runoff	L2298517-2	WRP-S4	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-3	WRP-S5	2019-08-13	2019-08-13	0.00615	0.0202	0.5	11.7	0.0071	0.00203	4.9	0.0005	16	0.108	188	562.8566973
Runoff	L2333401-2	WRP-S5	2019-08-20	2019-08-20	0.00538	0.0259	0.5	5.14	0.0042	0.00151	2.6	0.0005	5.93	0.073	226	676.6256042
Runoff	L2290620-1	WRP-S5	2019-06-12	2019-06-12	0.00075	0.0195	0.5	3.75	0.0313	0.0005	15.3	0.0005	0.57	0.01	5	14.96959301
Runoff	L2158115-5	WRP-S5	2018-09-04	2018-09-04	0.00218	0.009	0.5	3.52	0.0151	0.0005	7	0.0005	1.67	0.018	5	14.96959301
Runoff	L2298517-1	WRP-S5	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
Runoff	L2157407-10	WRP-S6	2018-09-01	2018-09-01	0.00078	0.127	0.5	3.51	0.0037	0.00298	2	0.0005	2.92	0.104	495	1481.989708
West Ditch	L2722749-4	MS-08-EXPLORE-WESTDITCH_2022-07-10	2022-07-10	2022-07-10	0.00511	0.00836	0.05	4.2	0.00685	0.00294	4.57	0.00005	1.64	0.0332	105	314.3614533
West Ditch	L2115219-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2115893-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114971-3	MS-08-INFLOW-WEST	2018-06-19	2018-06-19	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113672-2	MS-08-INFLOW-WEST	2018-06-17	2018-06-17	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113576-3	MS-08-INFLOW-WEST	2018-06-15	2018-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114098-3	MS-08-INFLOW-WEST	2018-06-18	2018-06-18	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2160094-1	MS-08-INFLOW-WEST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110885-3	MS-08-INFLOW-WEST	2018-06-12	2018-06-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113626-3	MS-08-INFLOW-WEST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110060-3	MS-08-INFLOW-WEST	2018-06-10	2018-06-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2112194-3	MS-08-INFLOW-WEST	2018-06-14	2018-06-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2111853-3	MS-08-INFLOW-WEST	2018-06-13	2018-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2108641-2	MS-08-INFLOW-WEST	2018-06-07	2018-06-07	0.00062	0.067	0.5	3.29	0.0347	0.00133	18.5	0.0005	0.83	0.018	1370	4101.668486
West Ditch	L2288069-4	MS-08-WEST INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301632-4	MS-08-WEST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Sulphate - calculated
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2335451-5	MS08-WEST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2318395-5	MS-08-WEST-INFLOW	2018-07-28	2018-07-28	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2306761-4	MS-08-WEST-INFLOW	2019-07-09	2019-07-09	0.005	0.853	5	8.1	0.025	0.0118	10	0.005	6.3	0.14	2120	6347.107438
West Ditch	L2318249-5	MS-08-WEST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2313935-5	MS-08-WEST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2312016-4	MS-08-WEST-INFLOW	2019-07-17	2019-07-17	0.0007	0.784	0.5	10	0.0333	0.00985	18.2	0.0005	6.46	0.109	1580	4730.391392
West Ditch	L2320850-4	MS-08-WEST-INFLOW	2019-07-31	2019-07-31	0.0005	0.502	0.5	5.55	0.0123	0.00645	7.2	0.0005	3.49	0.092	1130	3383.128021
West Ditch	L2340461-4	MS-08-WEST-INFLOW	2019-09-03	2019-09-03	0.005	1.77	5	12.1	0.045	0.0214	25	0.005	12.2	0.15	4770	14280.99174
West Ditch	L2305805-4	MS-08-WEST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2322461-5	MS-08-WEST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305072-5	MS-08-WEST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2290598-4	MS-08-WEST-INFLOW	2019-06-12	2019-06-12	0.00077	0.0975	0.5	2.72	0.0055	0.00209	3.7	0.0005	0.9	0.013	135	404.1790114
West Ditch	L2342313-4	MS-08-WEST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2291173-4	MS-08-WEST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330905-2	MS-08-WEST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2327989-3	MS-08-WEST-INFLOW	2019-08-13	2019-08-13	0.00071	0.346	0.5	5.99	0.0084	0.00761	3.5	0.0005	5.52	0.178	1390	4161.546858
West Ditch	L2295991-4	MS-08-WEST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2343354-1	MS-08-WEST-INFLOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305224-5	MS-08-WEST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2326464-3	MS-08-WEST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309409-5	MS-08-WEST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2325445-3	MS-08-WEST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2298617-4	MS-08-WEST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301467-4	MS-08-WEST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2307801-4	MS-08-WEST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2315508-5	MS-08-WEST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2295155-4	MS-08-WEST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301572-4	MS-08-WEST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2308636-4	MS-08-WEST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301607-4	MS-08-WEST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-4	MS-08-WEST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2303578-4	MS-08-WEST-INFLOW	2019-07-02	2019-07-02	0.00099	0.351	0.5	5.97	0.0103	0.00628	5.1	0.0005	3.03	0.078	810	2425.074068
West Ditch	L2292234-4	MS-08-WEST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309549-4	MS-08-WEST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305269-5	MS-08-WEST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300534-4	MS-08-WEST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2337960-4	MS-08-WEST-INFLOW	2019-08-27	2019-08-27	0.00082	0.188	0.5	5.44	0.0085	0.00534	5.5	0.0005	5.52	0.16	995	2978.94901
West Ditch	L2296973-4	MS-08-WEST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309510-5	MS-08-WEST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2293024-4	MS-08-WEST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2294118-4	MS-08-WEST-INFLOW	2019-06-18	2019-06-18	0.00064	0.203	0.5	4.1	0.0161	0.00362	9.2	0.0005	1.49	0.041	427	1278.403243
West Ditch	L2304339-4	MS-08-WEST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287932-4	MS-08-WEST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2355516-2	MS-08-WEST-INFLOW	2019-09-27	2019-09-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296841-4	MS-08-WEST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2297625-4	MS-08-WEST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296969-4	MS-08-WEST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300513-4	MS-08-WEST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2357383-3	MS-08-WEST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2288447-4	MS-08-WEST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-6	MS-08-WEST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287151-4	MS-08-WEST-INFLOW	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2304338-5	MS-08-WEST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2468307-1	MS-08-WEST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330756-2	MS-08-WEST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2358842-2	MS-08-WEST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2467060-3	MS-08-WEST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2346689-1	MS-08-WEST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2345723-2	MS-08-WEST-INFLOW	2019-09-11	2019-09-11	0.00089	0.167	0.5	5.44	0.0068	0.00552	4.7	0.0005	7.04	0.213	1070	3203.492905
West Ditch	L2288035-4	MS-08-WEST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2477770-6	MS-08-WEST-INFLOW	2020-07-21	2020-07-21	0.00066	0.0285	0.5	6.44	0.0067	0.00606	2.3	0.0005	7.3	0.158	757	2266.396382
West Ditch	L2488588-3	MS-08-WEST-INFLOW	2020-08-12	2020-08-12	0.00081	0.012	0.1	7.49	0.00652	0.00887	2.34	0.00002	9.8	0.231	1070	3203.492905
West Ditch	L2482854-5	MS-08-WEST-INFLOW	2020-08-03	2020-08-03	0.00071	0.0236	0.5	5.22	0.0051	0.00481	1.9	0.0005	6.14	0.136	599	1793.357243
West Ditch	L2348201-2	MS-08-WEST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292486-4	MS-08-WEST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2481535-1	MS-08-WEST-INFLOW	2020-07-29	2020-07-29	0.00091	0.0156	0.1	6.47	0.00656	0.006	2.08	0.00002	7.71	0.156	711	2128.676127
West Ditch	L2496104-4	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	0.0007	0.0095	0.1	5.63	0.00527	0.00715	2.25	0.00002	6.82	0.17	727	2176.578824
West Ditch	L2496103-1	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	0.00075	0.0089	0.1	5.45	0.00491	0.00667	2.06	0.00002	6.5	0.163	732	2191.548417
West Ditch	L2496140-1	MS-08-WEST-INFLOW	2020-08-30	2020-08-30	0.00067	0.007	0.5	5.73	0.0062	0.0066	2.2	0.0005	6.64	0.157	710	2125.682208
West Ditch	L2496120-1	MS-08-WEST-INFLOW	2020-08-29	2020-08-29	0.00062	0.0075	0.1	5.37	0.00604	0.00651	1.98	0.00002	6.13	0.158	693	2074.785592
West Ditch	L2496049-1	MS-08-WEST-INFLOW	2020-08-28	2020-08-28	0.00065	0.0087	0.5	5.33	0.0053	0.00616	1.9	0.0005	6.01	0.14	691	2068.797755
West Ditch	L2496047-1	MS-08-WEST-INFLOW	2020-08-27	2020-08-27	0.00062	0.0074	0.5	4.95	0.005	0.00536	1.9	0.0005	5.55	0.134	575	1721.503197
West Ditch	L2496705-1	MS-08-WEST-INFLOW	2020-08-31	2020-08-31	0.00073	0.005	0.5	4.04	0.0042	0.00309	1.8	0.0005	3.98	0.082	377	1128.707313

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Molybdenum (Mo)-Total	Nickel (Ni)-Total	Phosphorus (P)-Total	Potassium (K)-Total	Rubidium (Rb)-Total	Selenium (Se)-Total	Silicon (Si)-Total	Silver (Ag)-Total	Sodium (Na)-Total	Strontium (Sr)-Total	Sulfur (S)-Total	Sulphate - calculated
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2497356-1	MS-08-WEST-INFLOW	2020-09-01	2020-09-01	0.00093	0.0095	0.5	5.12	0.0056	0.0054	1.9	0.0005	6.35	0.139	717	2146.639638
West Ditch	L2323296-5	MS-08-WEST-INFLOW	2019-08-06	2019-08-06	0.00061	0.283	0.5	5.15	0.0102	0.00573	5	0.0005	3.91	0.126	1070	3203.492905
West Ditch	L2603974-4	MS-08-WEST-INFLOW_2021-06-21_1225	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606859-5	MS-08-WEST-INFLOW_2021-06-26_1130	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606871-5	MS-08-WEST-INFLOW_2021-06-27_0920	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2609262-5	MS-08-WEST-INFLOW_2021-07-01_1035	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2610945-3	MS-08-WEST-INFLOW_2021-07-05_1030	2021-07-05	2021-07-05	0.00305	0.0225	0.5	5.97	0.0075	0.00417	2.2	0.0005	3.54	0.091	309	925.1208483
West Ditch	L2612337-6	MS-08-WEST-INFLOW_2021-07-11_1520	2021-07-11	2021-07-11	0.00358	0.0381	0.5	7.5	0.0251	0.00364	12.8	0.0005	2.92	0.075	259	775.4249181
West Ditch	L2618285-7	MS-08-WEST-INFLOW_2021-07-24	2021-07-24	2021-07-24	0.00803	0.0377	0.13	11.4	0.0198	0.00833	9.08	0.000027	6.17	0.154	515	1541.86808
West Ditch	L2629919-4	MS-08-WEST-INFLOW_2021-08-22_0915	2021-08-22	2021-08-22	0.0108	0.0395	0.5	8.75	0.0076	0.0113	2.3	0.0005	6.3	0.174	671	2008.919383
West Ditch	L2635846-3	MS-08-WEST-INFLOW_2021-09-05_1615	2021-09-05	2021-09-05	0.00701	0.0459	0.5	8.28	0.0072	0.0116	2.4	0.0005	6.55	0.196	742	2221.487603
West Ditch	L2725730-1	MS-08-WEST-INFLOW_2022-07-28	2022-07-28	2022-07-28	0.00556	0.0064	0.5	5.25	0.006	0.00651	2.2	0.0005	3.76	0.076	217	649.6803368
West Ditch	L2291173-5	MS-08-WEST-INFLOW01	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2323296-2	MS-08-WEST-INFLOW01	2019-08-06	2019-08-06	0.00054	0.284	0.5	5.04	0.0082	0.00617	3.7	0.0005	3.93	0.128	1070	3203.492905
West Ditch	L2307801-5	MS-08-WEST-INFLOW01	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-5	MS-08-WEST-INFLOW01	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-7	MS-08-WEST-INFLOW01	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2623788-3	MS-08-WEST-INLFOW_2021-08-06_1015	2021-08-06	2021-08-06	0.00965	0.0327	0.5	9.31	0.0085	0.01	2.2	0.0005	5.67	0.15	562	1682.582255
West Ditch	L2335475-4	MS-08-WEST-INLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-	-	-
West Ditch	L2157407-14	WRP-B7	2018-09-01	2018-09-01	0.005	4.08	5	10.5	0.026	0.0312	10	0.005	10.3	0.25	6440	19280.8358
West Ditch	L2157407-9	WRPT-2	2018-09-01	2018-09-01	0.00068	0.005	0.5	8.46	0.0041	0.00421	3	0.0005	3.68	0.201	574	1718.509278

Notes: Based on data supplied by BIM, April 2023. Certificates of Analysis avialable upon request from BIM.
Hightligthed values are presented at detection limit values

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2603974-2	MS-08-EAST_2021-06-21_1110	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301632-1	MS-08-EAST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-
East Ditch	L2312016-1	MS-08-EAST-INFLOW	2019-07-17	2019-07-17	0.002	0.00014	0.0029	0.001	0.243	0.001	0.0127	0.0077	0.046	0.0056
East Ditch	L2309549-3	MS-08-EAST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-
East Ditch	L2306761-1	MS-08-EAST-INFLOW	2019-07-09	2019-07-09	0.002	0.0001	0.001	0.001	0.0456	0.001	0.00701	0.005	0.03	0.002
East Ditch	L2305224-1	MS-08-EAST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305072-1	MS-08-EAST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296973-3	MS-08-EAST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-
East Ditch	L2298617-3	MS-08-EAST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300534-3	MS-08-EAST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305805-1	MS-08-EAST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-
East Ditch	L2308636-1	MS-08-EAST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-
East Ditch	L2305269-1	MS-08-EAST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-
East Ditch	L2300513-3	MS-08-EAST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-
East Ditch	L2307801-1	MS-08-EAST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301572-3	MS-08-EAST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-
East Ditch	L2313935-4	MS-08-EAST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-
East Ditch	L2309409-1	MS-08-EAST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-
East Ditch	L2315508-4	MS-08-EAST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-
East Ditch	L2295991-3	MS-08-EAST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304339-1	MS-08-EAST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-
East Ditch	L2296969-3	MS-08-EAST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301607-3	MS-08-EAST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-
East Ditch	L2304338-1	MS-08-EAST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-
East Ditch	L2301467-3	MS-08-EAST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318395-4	MS-08-EAST-INFLOW	2019-07-28	2019-07-28	-	-	-	-	-	-	-	-	-	-
East Ditch	L2482854-4	MS-08-EAST-INFLOW	2020-08-03	2020-08-03	0.002	0.0001	0.001	0.001	0.003	0.001	0.00518	0.005	0.051	0.002
East Ditch	L2297625-3	MS-08-EAST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
East Ditch	L2488588-1	MS-08-EAST-INFLOW	2020-08-12	2020-08-12	0.001	0.00005	0.0005	0.0005	0.0035	0.0005	0.00639	0.0025	0.138	0.001
East Ditch	L2481535-2	MS-08-EAST-INFLOW	2020-07-29	2020-07-29	0.0002	0.000066	0.0001	0.00042	0.00667	0.0001	0.00528	0.00178	0.107	0.00027
East Ditch	L2303578-3	MS-08-EAST-INFLOW	2019-07-02	2019-07-02	0.002	0.00012	0.0022	0.001	0.173	0.001	0.00903	0.0064	0.03	0.0061
East Ditch	L2295155-3	MS-08-EAST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-
East Ditch	L2322461-1	MS-08-EAST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-
East Ditch	L2291173-3	MS-08-EAST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-3	MS-08-EAST-INFLOW	2020-07-21	2020-07-21	0.002	0.0001	0.001	0.001	0.0069	0.001	0.0081	0.005	0.03	0.002
East Ditch	L2294118-3	MS-08-EAST-INFLOW	2019-06-18	2019-06-18	0.002	0.0001	0.0017	0.001	0.0999	0.001	0.00283	0.005	0.03	0.002
East Ditch	L2290598-3	MS-08-EAST-INFLOW	2019-06-12	2019-06-12	0.002	0.0001	0.0032	0.001	0.233	0.001	0.00376	0.0091	0.03	0.002
East Ditch	L2296841-3	MS-08-EAST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-
East Ditch	L2318249-4	MS-08-EAST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-
East Ditch	L2330905-5	MS-08-EAST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-
East Ditch	L2325445-7	MS-08-EAST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-
East Ditch	L2323296-1	MS-08-EAST-INFLOW	2019-08-06	2019-08-06	0.002	0.0001	0.001	0.001	0.0102	0.001	0.00745	0.005	0.03	0.002
East Ditch	L2320850-1	MS-08-EAST-INFLOW	2019-07-31	2019-07-31	0.002	0.00029	0.0102	0.001	0.799	0.001	0.00501	0.0267	0.044	0.004
East Ditch	L2326464-5	MS-08-EAST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-
East Ditch	L2327989-6	MS-08-EAST-INFLOW	2019-08-13	2019-08-13	0.002	0.0001	0.001	0.001	0.03	0.001	0.00981	0.005	0.072	0.002
East Ditch	L2330756-5	MS-08-EAST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-
East Ditch	L2357383-6	MS-08-EAST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288447-3	MS-08-EAST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292234-3	MS-08-EAST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292454-3	MS-08-EAST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-
East Ditch	L2468307-2	MS-08-EAST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-
East Ditch	L2292486-3	MS-08-EAST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-
East Ditch	L2287932-3	MS-08-EAST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496104-1	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	0.0002	0.000033	0.0001	0.0001	0.006	0.0001	0.0122	0.0005	0.003	0.0002
East Ditch	L2496103-2	MS-08-EAST-INFLOW	2020-08-26	2020-08-26	0.0002	0.000034	0.0001	0.0001	0.00682	0.0001	0.0111	0.0005	0.003	0.0002
East Ditch	L2339733-5	MS-08-EAST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-
East Ditch	L2467060-4	MS-08-EAST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-
East Ditch	L2496705-2	MS-08-EAST-INFLOW	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.03	0.001	0.00926	0.005	0.03	0.002
East Ditch	L2496140-2	MS-08-EAST-INFLOW	2020-08-30	2020-08-30	0.002	0.0001	0.001	0.001	0.0117	0.001	0.0136	0.005	0.03	0.002
East Ditch	L2358842-5	MS-08-EAST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-
East Ditch	L2340461-5	MS-08-EAST-INFLOW	2019-09-03	2019-09-03	0.002	0.0001	0.001	0.001	0.0063	0.001	0.0101	0.005	0.03	0.002
East Ditch	L2496047-3	MS-08-EAST-INFLOW	2020-08-27	2020-08-27	0.002	0.0001	0.001	0.001	0.0032	0.001	0.0136	0.005	0.03	0.002
East Ditch	L2496120-2	MS-08-EAST-INFLOW	2020-08-29	2020-08-29	0.0002	0.000022	0.0001	0.0001	0.00295	0.0001	0.0144	0.0005	0.003	0.0002
East Ditch	L2342313-5	MS-08-EAST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-
East Ditch	L2335475-3	MS-08-EAST-INFLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-
East Ditch	L2293024-3	MS-08-EAST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-
East Ditch	L2497356-2	MS-08-EAST-INFLOW	2020-09-01	2020-09-01	0.002	0.0001	0.001	0.001	0.003	0.001	0.00993	0.005	0.03	0.002
East Ditch	L2335451-4	MS-08-EAST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-
East Ditch	L2337960-3	MS-08-EAST-INFLOW	2019-08-27	2019-08-27	0.002	0.0001	0.001	0.001	0.0232	0.001	0.0104	0.005	0.03	0.002
East Ditch	L2496049-2	MS-08-EAST-INFLOW	2020-08-28	2020-08-28	0.002	0.0001	0.001	0.001	0.003	0.001	0.0149	0.005	0.03	0.002
East Ditch	L2350914-2	MS-08-EAST-INFLOW	2019-09-19	2019-09-19	-	-	-	-	-	-	-	-	-	-
East Ditch	L2346689-2	MS-08-EAST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
East Ditch	L2348201-1	MS-08-EAST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-
East Ditch	L2345723-3	MS-08-EAST-INFLOW	2019-09-11	2019-09-11	0.002	0.0001	0.001	0.001	0.053	0.001	0.0148	0.005	0.03	0.002
East Ditch	L2288069-3	MS-08-EAST-INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-
East Ditch	L2288035-3	MS-08-EAST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-
East Ditch	L2472902-3	MS-08-EAST-INFLOW	2020-07-10	2020-07-10	-	-	-	-	-	-	-	-	-	-
East Ditch	L2605651-3	MS-08-EAST-INFLOW_2021-06-23_1415	2021-06-23	2021-06-23	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606859-2	MS-08-EAST-INFLOW_2021-06-26_0910	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-
East Ditch	L2606871-2	MS-08-EAST-INFLOW_2021-06-27_0840	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-
East Ditch	L2609262-2	MS-08-EAST-INFLOW_2021-07-01_0955	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-
East Ditch	L2610945-4	MS-08-EAST-INFLOW_2021-07-05_1445	2021-07-05	2021-07-05	0.002	0.0001	0.0028	0.001	0.225	0.001	0.00171	0.0072	0.03	0.002
East Ditch	L2612337-1	MS-08-EAST-INFLOW_2021-07-11_1355	2021-07-11	2021-07-11	0.002	0.00022	0.0084	0.001	0.571	0.001	0.00246	0.0189	0.03	0.0057
East Ditch	L2618285-2	MS-08-EAST-INFLOW_2021-07-24	2021-07-24	2021-07-24	0.0004	0.00009	0.00065	0.0002	0.0584	0.0002	0.00261	0.0019	0.025	0.00101
East Ditch	L2623788-4	MS-08-EAST-INFLOW_2021-08-06_0920	2021-08-06	2021-08-06	0.002	0.0001	0.001	0.001	0.003	0.001	0.00244	0.005	0.03	0.002
East Ditch	L2629919-2	MS-08-EAST-INFLOW_2021-08-22_1130	2021-08-22	2021-08-22	0.002	0.0001	0.001	0.001	0.0128	0.001	0.00494	0.005	0.03	0.002
East Ditch	L2635846-2	MS-08-EAST-INFLOW_2021-09-05	2021-09-05	2021-09-05	0.002	0.0001	0.001	0.001	0.0231	0.001	0.00509	0.005	0.03	0.002
East Ditch	L2725730-5	MS-08-EAST-INFLOW_2022-07-29	2022-07-28	2022-07-28	0.002	0.0003	0.0025	0.001	0.291	0.001	0.00793	0.0097	0.048	0.0029
East Ditch	L2322461-2	MS-08-EAST-INFLOW01	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-
East Ditch	L2477770-4	MS-08-EAST-INFLOW01	2020-07-21	2020-07-21	0.002	0.0001	0.001	0.001	0.007	0.001	0.00816	0.005	0.03	0.002
East Ditch	L2496140-3	MS-08-EAST-INFLOW01	2020-08-30	2020-08-30	0.002	0.0001	0.001	0.001	0.0097	0.001	0.0136	0.005	0.03	0.002
East Ditch	L2343354-4	MS-08-EAST-INLFOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-
East Ditch	L2722749-1	MS-08-EXPLORE-EASTDITCH_2022-07-10	2022-07-10	2022-07-10	0.002	0.0001	0.002	0.001	0.238	0.001	0.00139	0.0086	0.03	0.002
East Ditch	L2113626-4	MS-08-INFLOW-EAST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-
East Ditch	L2160094-4	MS-08-INFLOW-EAST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-1	CENTRAL-KEY-IN	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-
Runoff	L2312012-3	CENTRAL-KEY-IN	2019-07-17	2019-07-17	0.002	0.0004	0.0069	0.001	1.3	0.001	0.056	0.0248	0.049	0.0065
Runoff	L2328009-6	INFLUENT-CENTRAL-KEYIN	2019-08-13	2019-08-13	0.002	0.00014	0.001	0.001	0.0312	0.001	0.0183	0.005	0.03	0.0021
Runoff	L2287151-3	MS-08-EMERGENCY-DITCH	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-
Runoff	L2340467-1	MS-SP-02	2019-09-03	2019-09-03	0.2	0.01	0.1	0.1	0.3	0.1	0.388	0.5	3.3	0.2
Runoff	PAG WR (max)	MS-SP-02	2018-09-01	2018-09-01	0.2	0.01	0.1	0.1	0.3	0.1	0.106	0.5	3.5	0.3
Runoff	L2303565-5	MS-SP-02	2019-07-02	2019-07-02	0.002	0.00028	0.001	0.001	0.003	0.001	0.00892	0.005	0.072	0.002
Runoff	L2337954-1	MS-SP-02	2019-08-27	2019-08-27	0.02	0.001	0.01	0.01	0.03	0.01	0.0173	0.05	0.44	0.02
Runoff	L2320849-3	MS-SP-02	2019-07-30	2019-07-30	0.02	0.001	0.016	0.01	0.887	0.01	0.0118	0.05	0.43	0.024
Runoff	L2298517-8	MS-SP-02	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-3	MS-SP-02	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-2	MS-SP-02	2019-08-13	2019-08-13	0.02	0.001	0.01	0.01	0.133	0.01	0.0115	0.05	0.3	0.02
Runoff	L2290620-5	MS-SP-02	2019-06-12	2019-06-12	0.002	0.0001	0.001	0.001	0.0337	0.001	0.00092	0.005	0.03	0.002
Runoff	L2323304-3	MS-SP-02	2019-08-06	2019-08-06	0.02	0.001	0.01	0.01	0.095	0.01	0.0087	0.05	0.3	0.02
Runoff	L2306749-3	MS-SP-04	2019-07-09	2019-07-09	0.002	0.00038	0.001	0.001	0.003	0.001	0.0108	0.005	0.091	0.002
Runoff	L2328009-1	MS-SP-04	2019-08-13	2019-08-13	0.02	0.001	0.01	0.01	0.03	0.01	0.0294	0.05	0.3	0.02
Runoff	L2333401-1	MS-SP-04	2019-08-20	2019-08-20	0.02	0.001	0.01	0.01	0.03	0.01	0.0345	0.05	0.3	0.02
Runoff	L2312012-1	MS-SP-04	2019-07-17	2019-07-17	0.002	0.00047	0.001	0.001	0.0035	0.001	0.0138	0.005	0.118	0.002
Runoff	L2320849-4	MS-SP-04	2019-07-30	2019-07-30	0.002	0.00056	0.001	0.001	0.003	0.001	0.0226	0.005	0.165	0.002
Runoff	L2290620-6	MS-SP-04	2019-06-12	2019-06-12	0.002	0.0002	0.001	0.001	0.004	0.001	0.0064	0.005	0.059	0.002
Runoff	L2315510-4	MS-SP-04	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-
Runoff	L2323304-4	MS-SP-04	2019-08-06	2019-08-06	0.02	0.001	0.01	0.01	0.03	0.01	0.0216	0.05	0.3	0.02
Runoff	L2298517-9	MS-SP-04	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-6	MS-SP-04	2018-09-04	2018-09-04	0.02	0.001	0.01	0.01	0.03	0.01	0.001	0.05	0.3	0.03
Runoff	L2294129-9	MS-SP-0401	2019-06-18	2019-06-18	0.002	0.00015	0.001	0.001	0.007	0.001	0.00676	0.005	0.062	0.002
Runoff	L2730435-1	MS-WRF-22-01_2022-08-28	2022-08-28	2022-08-28	0.0002	0.00001	0.0001	0.0001	0.00346	0.0001	0.00191	0.0005	0.003	0.0002
Runoff	L2730435-2	MS-WRF-22-02_2022-08-28	2022-08-28	2022-08-28	0.0002	0.000011	0.0001	0.0001	0.0166	0.0001	0.0021	0.00086	0.003	0.0002
Runoff	L2730426-1	MS-WRF-22-05_2022-08-27	2022-08-27	2022-08-27	0.0002	0.000031	0.00048	0.0001	0.0638	0.0001	0.00273	0.00244	0.0085	0.00051
Runoff	L2730426-2	MS-WRF-22-05A_2022-08-27	2022-08-27	2022-08-27	0.0002	0.000024	0.00019	0.0001	0.0294	0.0001	0.00271	0.0013	0.003	0.00025
Runoff	L2730426-3	MS-WRF-22-05B_2022-08-27	2022-08-27	2022-08-27	0.0002	0.000037	0.00036	0.00012	0.0807	0.00028	0.00242	0.00378	0.0068	0.00037
Runoff	L2730426-4	MS-WRF-22-06A_2022-08-27	2022-08-27	2022-08-27	0.002	0.0001	0.001	0.001	0.0218	0.001	0.00024	0.005	0.03	0.002
Runoff	L2730426-5	MS-WRF-22-09_2022-08-27	2022-08-27	2022-08-27	0.002	0.0001	0.001	0.001	0.147	0.001	0.00392	0.0061	0.03	0.002
Runoff	L2730426-6	MS-WRF-22-09A_2022-08-27	2022-08-27	2022-08-27	0.002	0.0001	0.001	0.001	0.158	0.001	0.00182	0.0075	0.03	0.002
Runoff	L2730426-7	MS-WRF-22-10_2022-08-27	2022-08-27	2022-08-27	0.002	0.0001	0.001	0.001	0.0093	0.001	0.00947	0.005	0.03	0.002
Runoff	L2730426-8	MS-WRF-22-12_2022-08-27	2022-08-27	2022-08-27	0.002	0.0001	0.001	0.001	0.0415	0.001	0.00601	0.005	0.03	0.002
Runoff	L2730426-9	MS-WRF-22-12A_2022-08-27	2022-08-27	2022-08-27	0.0002	0.000016	0.0001	0.0001	0.0003	0.0001	0.00335	0.0005	0.003	0.0002
Runoff	L2730426-10	MS-WRF-22-18_2022-08-27	2022-08-27	2022-08-27	0.0002	0.00005	0.00113	0.0001	0.104	0.0001	0.00193	0.00289	0.0054	0.00139
Runoff	L2730426-11	MS-WRF-22-18A_2022-08-27	2022-08-27	2022-08-27	0.0002	0.000037	0.00066	0.0001	0.0607	0.0001	0.0064	0.00187	0.003	0.00116
Runoff	L2478363-1	WRP-20-01	2020-07-22	2020-07-22	0.002	0.0001	0.001	0.001	0.0057	0.001	0.00121	0.005	0.03	0.002
Runoff	L2488602-1	WRP-20-01	2020-08-12	2020-08-12	0.0004	0.000128	0.00341	0.00035	0.372	0.0002	0.00379	0.0246	0.0434	0.00292
Runoff	L2482855-1	WRP-20-01	2020-08-03	2020-08-03	0.002	0.0001	0.001	0.001	0.0554	0.001	0.00171	0.005	0.03	0.002
Runoff	L2482855-2	WRP-20-01A	2020-08-03	2020-08-03	0.002	0.0002	0.0038	0.001	0.555	0.001	0.00485	0.0202	0.032	0.0029
Runoff	L2488602-2	WRP-20-01A	2020-08-12	2020-08-12	0.0004	0.000197	0.00376	0.00033	0.576	0.0002	0.00478	0.0249	0.0587	0.00335
Runoff	L2478363-2	WRP-20-02	2020-07-22	2020-07-22	0.002	0.0001	0.001	0.001	0.0921	0.001	0.00175	0.005	0.03	0.002
Runoff	L2495466-4	WRP-20-03	2020-08-21	2020-08-21	0.0002	0.00001	0.0001	0.0001	0.0119	0.0001	0.00246	0.00079	0.003	0.00026
Runoff	L2478363-3	WRP-20-04	2020-07-22	2020-07-22	0.002	0.0001	0.0015	0.001	0.277	0.001	0.00231	0.0076	0.03	0.0021
Runoff	L2496722-5	WRP-20-04	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.0277	0.001	0.00269	0.005	0.03	0.002
Runoff	L2488602-3	WRP-20-04	2020-08-12	2020-08-12	0.0004	0.000047	0.00099	0.0002	0.12	0.0002	0.00306	0.0056	0.0074	0.00126
Runoff	L2495466-2	WRP-20-04	2020-08-21	2020-08-21	0.0002	0.000022	0.00032	0.0001	0.0498	0.0001	0.00213	0.00284	0.0043	0.0009
Runoff	L2482855-3	WRP-20-04	2020-08-03	2020-08-03	0.002	0.0001	0.001	0.001	0.0395	0.001	0.0023	0.005	0.03	0.002

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2495466-1	WRP-20-04A	2020-08-21	2020-08-21	0.0002	0.000017	0.0001	0.0001	0.0015	0.0001	0.00206	0.0005	0.003	0.0002
Runoff	L2478363-4	WRP-20-05	2020-07-22	2020-07-22	0.002	0.0001	0.001	0.001	0.0534	0.001	0.00255	0.005	0.03	0.002
Runoff	L2482855-4	WRP-20-05	2020-08-03	2020-08-03	0.002	0.0001	0.001	0.001	0.0955	0.001	0.00394	0.005	0.03	0.0028
Runoff	L2495466-3	WRP-20-05	2020-08-21	2020-08-21	0.0002	0.000019	0.00011	0.0001	0.0145	0.0001	0.00255	0.0007	0.003	0.00036
Runoff	L2488602-4	WRP-20-05A	2020-08-12	2020-08-12	0.001	0.000204	0.00613	0.0005	0.539	0.0005	0.00574	0.0255	0.045	0.0071
Runoff	L2496722-6	WRP-20-05A	2020-08-31	2020-08-31	0.002	0.00012	0.0028	0.001	0.227	0.001	0.00813	0.01	0.03	0.002
Runoff	L2482855-5	WRP-20-05A	2020-08-03	2020-08-03	0.002	0.0001	0.001	0.001	0.0314	0.001	0.00679	0.005	0.03	0.002
Runoff	L2478363-5	WRP-20-07	2020-07-22	2020-07-22	0.002	0.00016	0.0029	0.001	0.327	0.001	0.00642	0.0168	0.03	0.0043
Runoff	L2488602-5	WRP-20-07	2020-08-12	2020-08-12	0.001	0.00031	0.0093	0.0005	0.777	0.00059	0.00849	0.0364	0.057	0.0125
Runoff	L2482855-6	WRP-20-07	2020-08-03	2020-08-03	0.002	0.00011	0.0019	0.001	0.205	0.001	0.0047	0.0088	0.03	0.003
Runoff	L2495466-7	WRP-20-07	2020-08-21	2020-08-21	0.001	0.00005	0.0005	0.0005	0.0229	0.0005	0.0032	0.0025	0.015	0.001
Runoff	L2496722-7	WRP-20-07	2020-08-31	2020-08-31	0.002	0.0001	0.0013	0.001	0.106	0.001	0.00562	0.0055	0.03	0.0026
Runoff	L2495466-8	WRP-20-0702	2020-08-21	2020-08-21	0.0002	0.00001	0.0001	0.0001	0.0003	0.0001	0.00001	0.0005	0.003	0.0002
Runoff	L2496722-8	WRP-20-07A	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.073	0.001	0.00116	0.005	0.03	0.002
Runoff	L2478363-6	WRP-20-08	2020-07-22	2020-07-22	0.002	0.00012	0.001	0.001	0.071	0.001	0.00098	0.005	0.03	0.002
Runoff	L2495466-6	WRP-20-08	2020-08-21	2020-08-21	0.001	0.000084	0.0005	0.0005	0.106	0.0005	0.0018	0.0069	0.015	0.0016
Runoff	L2478363-7	WRP-20-09	2020-07-22	2020-07-22	0.002	0.0001	0.001	0.001	0.0228	0.001	0.00171	0.005	0.03	0.002
Runoff	L2495466-5	WRP-20-10	2020-08-21	2020-08-21	0.004	0.0003	0.002	0.002	0.0116	0.002	0.0228	0.01	0.207	0.004
Runoff	L2478363-8	WRP-20-10	2020-07-22	2020-07-22	0.002	0.0001	0.001	0.001	0.0382	0.001	0.00281	0.005	0.03	0.002
Runoff	L2482855-7	WRP-20-11	2020-08-03	2020-08-03	0.002	0.00029	0.0019	0.001	0.199	0.001	0.0242	0.0144	0.102	0.0047
Runoff	L2478363-9	WRP-20-11	2020-07-22	2020-07-22	0.002	0.0002	0.001	0.001	0.152	0.001	0.00155	0.0065	0.03	0.002
Runoff	L2478363-10	WRP-20-12	2020-07-22	2020-07-22	0.002	0.00022	0.001	0.001	0.0459	0.001	0.00617	0.005	0.03	0.002
Runoff	L2495466-16	WRP-20-12	2020-08-22	2020-08-22	0.0002	0.000088	0.00315	0.00021	0.215	0.0001	0.00102	0.0147	0.021	0.00441
Runoff	L2495466-20	WRP-20-1203	2020-08-22	2020-08-22	0.0002	0.00001	0.0001	0.0001	0.0003	0.0001	0.00001	0.0005	0.003	0.0002
Runoff	L2478363-11	WRP-20-13	2020-07-22	2020-07-22	0.002	0.00011	0.001	0.001	0.0143	0.001	0.00159	0.005	0.03	0.002
Runoff	L2495466-12	WRP-20-13	2020-08-22	2020-08-22	0.0002	0.000073	0.0017	0.00014	0.126	0.0001	0.000846	0.00865	0.0116	0.00299
Runoff	L2485429-1	WRP-20-14	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.029	0.001	0.00262	0.005	0.03	0.002
Runoff	L2488602-6	WRP-20-14	2020-08-12	2020-08-12	0.001	0.00009	0.0005	0.0005	0.0349	0.0005	0.00115	0.0025	0.023	0.001
Runoff	L2478363-12	WRP-20-14	2020-07-22	2020-07-22	0.002	0.00017	0.0013	0.001	0.297	0.001	0.00391	0.0093	0.03	0.0028
Runoff	L2495466-21	WRP-20-14	2020-08-22	2020-08-22	0.0002	0.000073	0.0013	0.0001	0.0878	0.0001	0.000913	0.00632	0.0134	0.00228
Runoff	L2488602-7	WRP-20-1401	2020-08-12	2020-08-12	0.001	0.000085	0.0005	0.0005	0.0355	0.0005	0.00118	0.0025	0.022	0.001
Runoff	L2485429-2	WRP-20-1403	2020-08-04	2020-08-04	0.0002	0.00001	0.0001	0.0001	0.0003	0.0001	0.00001	0.0005	0.003	0.0002
Runoff	L2478363-13	WRP-20-15	2020-07-22	2020-07-22	0.002	0.0001	0.001	0.001	0.0219	0.001	0.00963	0.005	0.03	0.002
Runoff	L2485429-3	WRP-20-15	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.0337	0.001	0.0125	0.005	0.03	0.002
Runoff	L2495466-19	WRP-20-15	2020-08-22	2020-08-22	0.0002	0.000034	0.0001	0.0001	0.00584	0.0001	0.00528	0.0005	0.0034	0.00037
Runoff	L2496722-9	WRP-20-15	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.0066	0.001	0.00657	0.005	0.03	0.002
Runoff	L2488602-8	WRP-20-15	2020-08-12	2020-08-12	0.0004	0.000055	0.00047	0.0002	0.0703	0.0002	0.0116	0.0023	0.006	0.00097
Runoff	L2485429-4	WRP-20-1501	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.0129	0.001	0.0115	0.005	0.03	0.002
Runoff	PAG WR (75th)	WRP-20-17	2020-08-22	2020-08-22	0.0004	0.000053	0.0002	0.0002	0.0006	0.0002	0.00395	0.001	0.006	0.0004
Runoff	L2485429-5	WRP-20-17	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.0129	0.001	0.00468	0.005	0.03	0.002
Runoff	L2496722-4	WRP-20-17	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.0298	0.001	0.00681	0.005	0.03	0.002
Runoff	L2478363-14	WRP-20-17	2020-07-22	2020-07-22	0.002	0.0001	0.001	0.001	0.0344	0.001	0.00769	0.005	0.03	0.002
Runoff	L2485429-6	WRP-20-1702	2020-08-04	2020-08-04	0.0002	0.00001	0.0001	0.0001	0.0003	0.0001	0.00001	0.0005	0.003	0.0002
Runoff	L2485429-7	WRP-20-18	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.0578	0.001	0.00611	0.005	0.03	0.002
Runoff	L2479665-1	WRP-20-18	2020-07-24	2020-07-24	0.0004	0.000074	0.0002	0.0002	0.00446	0.0002	0.00545	0.001	0.0092	0.0004
Runoff	L2495466-14	WRP-20-18	2020-08-22	2020-08-22	0.0004	0.000084	0.0002	0.0002	0.0101	0.0002	0.00699	0.001	0.0071	0.00041
Runoff	L2496722-3	WRP-20-18	2020-08-31	2020-08-31	0.002	0.00012	0.0012	0.001	0.0983	0.001	0.00998	0.005	0.03	0.003
Runoff	L2488602-9	WRP-20-18	2020-08-12	2020-08-12	0.0004	0.000114	0.00181	0.0002	0.187	0.0002	0.00971	0.0058	0.0128	0.00553
Runoff	L2479665-2	WRP-20-1801	2020-07-24	2020-07-24	0.0004	0.000074	0.0002	0.0002	0.00243	0.0002	0.00568	0.001	0.0096	0.0004
Runoff	L2485429-8	WRP-20-19	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.0616	0.001	0.00113	0.005	0.03	0.002
Runoff	L2488602-10	WRP-20-19	2020-08-12	2020-08-12	0.0004	0.00008	0.00025	0.0002	0.0106	0.00095	0.00139	0.001	0.0155	0.00046
Runoff	L2479665-3	WRP-20-19	2020-07-24	2020-07-24	0.0004	0.00008	0.0002	0.0002	0.0186	0.0002	0.00147	0.001	0.0083	0.0004
Runoff	L2495466-15	WRP-20-19	2020-08-22	2020-08-22	0.0002	0.000114	0.00272	0.00019	0.289	0.00022	0.00228	0.0119	0.0188	0.00361
Runoff	L2496722-1	WRP-20-19	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.003	0.001	0.00408	0.005	0.03	0.002
Runoff	L2479665-4	WRP-20-1901	2020-07-24	2020-07-24	0.0004	0.000073	0.0002	0.0002	0.0174	0.0002	0.00141	0.001	0.0079	0.0004
Runoff	L2485429-9	WRP-20-20	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.008	0.001	0.00142	0.005	0.03	0.002
Runoff	L2479665-5	WRP-20-20	2020-07-24	2020-07-24	0.0004	0.000083	0.00049	0.0002	0.0564	0.0002	0.00196	0.0022	0.0124	0.00103
Runoff	L2496722-2	WRP-20-20	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.0103	0.001	0.00165	0.005	0.03	0.002
Runoff	L2495466-17	WRP-20-20	2020-08-22	2020-08-22	0.0002	0.000136	0.00375	0.00027	0.396	0.00023	0.00247	0.0161	0.0257	0.00365
Runoff	L2495466-9	WRP-20-20A	2020-08-22	2020-08-22	0.0002	0.000123	0.0031	0.00021	0.328	0.00025	0.00222	0.015	0.0235	0.00439
Runoff	L2485429-10	WRP-20-20A	2020-08-04	2020-08-04	0.002	0.00011	0.001	0.001	0.0586	0.001	0.00285	0.005	0.03	0.002
Runoff	L2479665-6	WRP-20-21	2020-07-24	2020-07-24	0.0004	0.000148	0.00398	0.00031	0.359	0.0002	0.00554	0.0165	0.0242	0.00716
Runoff	L2479665-7	WRP-20-22	2020-07-24	2020-07-24	0.0004	0.000118	0.0017	0.00023	0.296	0.00024	0.00366	0.015	0.0207	0.00265
Runoff	L2495466-18	WRP-20-22	2020-08-22	2020-08-22	0.0002	0.000051	0.00023	0.0001	0.0447	0.0001	0.0035	0.00213	0.003	0.00085
Runoff	L2479665-8	WRP-20-2201	2020-07-24	2020-07-24	0.0004	0.0001	0.00141	0.0002	0.209	0.0002	0.00312	0.0106	0.0156	0.00288
Runoff	L2485429-11	WRP-20-23	2020-08-04	2020-08-04	0.002	0.0001	0.001	0.001	0.0393	0.001	0.00052	0.005	0.03	0.002
Runoff	L2479665-9	WRP-20-23	2020-07-24	2020-07-24	0.0002	0.00005	0.00032	0.0001	0.0428	0.0001	0.000776	0.00163	0.0043	0.00046
Runoff	L2479665-10	WRP-20-24	2020-07-24	2020-07-24	0.0002	0.00004	0.00012	0.0001	0.0179	0.0001	0.0205	0.00073	0.003	0.0002
Runoff	L2495466-10	WRP-20-24	2020-08-22	2020-08-22	0.0002	0.000029	0.00013	0.0001	0.0174	0.00014	0.0238	0.00061	0.003	0.00037
Runoff	L2479665-11	WRP-20-25	2020-07-24	2020-07-24	0.0002	0.000133	0.00383	0.00025	0.446	0.00023	0.0128	0.0153	0.0232	0.00334
Runoff	L2495466-11	WRP-20-25	2020-08-22	2020-08-22	0.0002	0.00001	0.0001	0.0001	0.008	0.0001	0.00226	0.00053	0.003	0.00022
Runoff	L2627498-16	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	0.0002	0.00001	0.0001	0.0001	0.00413	0.0001	0.00166	0.0005	0.003	0.0002
Runoff	L2627498-26	WRP-21-01_16-08-2021_1405	2021-08-16	2021-08-16	0.0002	0.00001	0.0001	0.0001	0.00189	0.0001	0.00177	0.0005	0.003	0.0002

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2610912-9	WRP-21-01_2021-07-05_1410	2021-07-05	2021-07-05	0.002	0.00012	0.0019	0.001	0.268	0.001	0.00301	0.011	0.03	0.002
Runoff	L2612335-1	WRP-21-01_2021-07-11_0910	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.0212	0.001	0.00238	0.005	0.03	0.002
Runoff	L2627498-25	WRP-21-02_16-08-2021_1345	2021-08-16	2021-08-16	0.002	0.0001	0.001	0.001	0.003	0.001	0.00144	0.005	0.03	0.002
Runoff	L2610912-8	WRP-21-02_2021-07-05_1350	2021-07-05	2021-07-05	0.002	0.0004	0.0106	0.001	1.07	0.001	0.00395	0.0424	0.051	0.0025
Runoff	L2612335-2	WRP-21-02_2021-07-11_0930	2021-07-11	2021-07-11	0.002	0.0001	0.0015	0.001	0.183	0.001	0.00231	0.0075	0.03	0.002
Runoff	L2612335-3	WRP-21-02A_2021-07-11_0945	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.003	0.001	0.00474	0.005	0.03	0.002
Runoff	L2618284-11	WRP-21-02A_2021-07-23	2021-07-23	2021-07-23	0.0002	0.000044	0.0001	0.0001	0.00835	0.0001	0.00126	0.0006	0.003	0.0002
Runoff	L2627498-24	WRP-21-03_16-08-2021_1320	2021-08-16	2021-08-16	0.002	0.0001	0.001	0.001	0.003	0.001	0.001	0.005	0.03	0.002
Runoff	L2610912-7	WRP-21-03_2021-07-05_1340	2021-07-05	2021-07-05	0.002	0.0001	0.0015	0.001	0.209	0.001	0.00344	0.0106	0.03	0.002
Runoff	L2610912-6	WRP-21-04_2021-07-05_1320	2021-07-05	2021-07-05	0.002	0.00104	0.0297	0.001	2.18	0.001	0.0146	0.0518	0.139	0.0071
Runoff	L2627498-17	WRP-21-04A_16-08-2021_1240	2021-08-16	2021-08-16	0.02	0.001	0.01	0.01	0.03	0.01	0.0013	0.05	0.3	0.02
Runoff	L2612335-4	WRP-21-04A_2021-07-11_1005	2021-07-11	2021-07-11	0.002	0.00011	0.001	0.001	0.0355	0.001	0.00031	0.005	0.03	0.002
Runoff	L2627498-18	WRP-21-04B_16-08-2021_1300	2021-08-16	2021-08-16	0.002	0.0001	0.001	0.001	0.0087	0.001	0.00073	0.005	0.03	0.002
Runoff	L2627498-19	WRP-21-05_16-08-2021_1205	2021-08-16	2021-08-16	0.002	0.0001	0.001	0.001	0.003	0.001	0.0084	0.005	0.03	0.002
Runoff	L2610912-5	WRP-21-05_2021-07-05_1300	2021-07-05	2021-07-05	0.002	0.00025	0.0024	0.001	0.519	0.001	0.00822	0.0183	0.03	0.002
Runoff	L2612335-5	WRP-21-05_2021-07-11_1025	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.0083	0.001	0.00358	0.005	0.03	0.002
Runoff	L2610912-4	WRP-21-06_2021-07-05_1245	2021-07-05	2021-07-05	0.002	0.00012	0.0015	0.001	0.247	0.001	0.00365	0.0105	0.03	0.002
Runoff	L2612335-7	WRP-21-06_2021-07-11_1040	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.0631	0.001	0.00416	0.005	0.03	0.002
Runoff	L2627498-21	WRP-21-07_16-08-2021_1140	2021-08-16	2021-08-16	0.002	0.0001	0.001	0.001	0.0192	0.001	0.00074	0.005	0.03	0.002
Runoff	L2610912-3	WRP-21-07_2021-07-05_1155	2021-07-05	2021-07-05	0.002	0.0001	0.001	0.001	0.0738	0.001	0.00072	0.005	0.03	0.002
Runoff	L2612335-8	WRP-21-07A_2021-07-11_1110	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.0676	0.001	0.00033	0.005	0.03	0.002
Runoff	L2627498-22	WRP-21-07B_16-08-2021_1130	2021-08-16	2021-08-16	0.002	0.0001	0.001	0.001	0.003	0.001	0.00188	0.005	0.03	0.002
Runoff	L2612335-9	WRP-21-07B_2021-07-11_1125	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.0938	0.001	0.00212	0.005	0.03	0.002
Runoff	L2627498-23	WRP-21-08_16-08-2021_1115	2021-08-16	2021-08-16	0.002	0.00011	0.001	0.001	0.0806	0.001	0.00673	0.005	0.03	0.002
Runoff	L2610912-2	WRP-21-08_2021-07-05_1125	2021-07-05	2021-07-05	0.002	0.0001	0.001	0.001	0.0401	0.001	0.00148	0.005	0.03	0.002
Runoff	L2612335-10	WRP-21-08_2021-07-11_1140	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.0409	0.001	0.00122	0.005	0.03	0.002
Runoff	L2618284-10	WRP-21-08_2021-07-23	2021-07-23	2021-07-23	0.0002	0.000046	0.0003	0.0001	0.0375	0.0001	0.00411	0.00139	0.0042	0.00035
Runoff	L2627498-20	WRP-21-09_16-08-2021_1050	2021-08-16	2021-08-16	0.002	0.0001	0.001	0.001	0.0115	0.001	0.00234	0.005	0.03	0.002
Runoff	L2610912-1	WRP-21-09_2021-07-05_1110	2021-07-05	2021-07-05	0.002	0.00015	0.0013	0.001	0.15	0.001	0.00299	0.0101	0.032	0.0022
Runoff	L2612335-11	WRP-21-09_2021-07-11_1200	2021-07-11	2021-07-11	0.002	0.00019	0.0014	0.001	0.24	0.001	0.00234	0.014	0.04	0.002
Runoff	L2618284-9	WRP-21-09A_2021-07-23	2021-07-23	2021-07-23	0.001	0.000145	0.0005	0.0005	0.003	0.0005	0.0014	0.0025	0.028	0.001
Runoff	L2627498-9	WRP-21-10_15-08-2021_1500	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0143	0.001	0.00389	0.005	0.03	0.002
Runoff	L2610912-14	WRP-21-10_2021-07-05_1550	2021-07-05	2021-07-05	0.002	0.0001	0.0022	0.001	0.223	0.001	0.00145	0.008	0.03	0.0024
Runoff	L2612335-12	WRP-21-10_2021-07-11_1240	2021-07-11	2021-07-11	0.002	0.0001	0.0018	0.001	0.135	0.001	0.00179	0.0053	0.03	0.0023
Runoff	L2618284-7	WRP-21-10_2021-07-23	2021-07-23	2021-07-23	0.0004	0.000027	0.0002	0.0002	0.0025	0.0002	0.00152	0.001	0.006	0.0004
Runoff	L2627498-11	WRP-21-10A_15-08-2021_1435	2021-08-15	2021-08-15	0.0002	0.000019	0.0001	0.0001	0.00874	0.0001	0.000627	0.0005	0.003	0.0002
Runoff	L2612335-13	WRP-21-10A_2021-07-11_1255	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.0408	0.001	0.00085	0.005	0.03	0.002
Runoff	L2627498-8	WRP-21-11_15-08-2021_1415	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0141	0.001	0.00097	0.005	0.03	0.002
Runoff	L2610912-13	WRP-21-11_2021-07-05_1530	2021-07-05	2021-07-05	0.002	0.00021	0.0061	0.001	0.489	0.001	0.0115	0.0177	0.03	0.0037
Runoff	L2612335-14	WRP-21-11_2021-07-11_1310	2021-07-11	2021-07-11	0.002	0.0001	0.001	0.001	0.032	0.001	0.00102	0.005	0.03	0.002
Runoff	L2618284-6	WRP-21-11_2021-07-23	2021-07-23	2021-07-23	0.0002	0.000052	0.00053	0.0001	0.0666	0.0001	0.00344	0.00216	0.0031	0.00096
Runoff	L2610912-11	WRP-21-12_2021-07-05_1520	2021-07-05	2021-07-05	0.002	0.00015	0.0038	0.001	0.341	0.001	0.00648	0.0135	0.03	0.0038
Runoff	L2627498-10	WRP-21-13_15-08-2021_1400	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0063	0.001	0.0123	0.005	0.03	0.002
Runoff	L2610912-10	WRP-21-13_2021-07-05_1505	2021-07-05	2021-07-05	0.002	0.0001	0.001	0.001	0.0648	0.001	0.0104	0.005	0.03	0.002
Runoff	L2612335-15	WRP-21-13_2021-07-11_1320	2021-07-11	2021-07-11	0.002	0.00011	0.002	0.001	0.21	0.001	0.0102	0.0055	0.03	0.0024
Runoff	L2618284-5	WRP-21-13_2021-07-23	2021-07-23	2021-07-23	0.001	0.000065	0.0005	0.0005	0.0069	0.0005	0.00942	0.0025	0.017	0.001
Runoff	L2627498-12	WRP-21-14_15-08-2021_1255	2021-08-15	2021-08-15	0.002	0.00011	0.0011	0.001	0.147	0.001	0.00175	0.0101	0.038	0.002
Runoff	L2612842-1	WRP-21-14_2021-07-12_1300	2021-07-12	2021-07-12	0.002	0.00012	0.0014	0.001	0.203	0.001	0.00262	0.0057	0.03	0.002
Runoff	L2618284-4	WRP-21-14_2021-07-22	2021-07-22	2021-07-22	0.0002	0.00009	0.00015	0.0001	0.021	0.0001	0.00192	0.00088	0.0219	0.00026
Runoff	L2627498-1	WRP-21-14A_15-08-2021_1150	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0065	0.001	0.00082	0.005	0.03	0.002
Runoff	L2627498-13	WRP-21-14B_15-08-2021_1225	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0089	0.001	0.00076	0.005	0.03	0.002
Runoff	L2627498-14	WRP-21-14C_15-08-2021_1240	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0181	0.001	0.00139	0.005	0.03	0.002
Runoff	L2627498-3	WRP-21-15_15-08-2021_1125	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0322	0.001	0.00112	0.005	0.03	0.002
Runoff	L2612842-2	WRP-21-15_2021-07-12_1325	2021-07-12	2021-07-12	0.002	0.0001	0.001	0.001	0.0542	0.001	0.00041	0.005	0.03	0.002
Runoff	L2612842-3	WRP-21-16_2021-07-12_1340	2021-07-12	2021-07-12	0.002	0.0001	0.0012	0.001	0.145	0.001	0.0007	0.0058	0.03	0.002
Runoff	L2618284-3	WRP-21-16_2021-07-22	2021-07-22	2021-07-22	0.0002	0.000055	0.00125	0.0001	0.11	0.0001	0.00126	0.00441	0.0062	0.00087
Runoff	L2627498-2	WRP-21-17_15-08-2021_1105	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0054	0.001	0.00044	0.005	0.03	0.002
Runoff	L2612842-4	WRP-21-17_2021-07-12_1350	2021-07-12	2021-07-12	0.002	0.0001	0.001	0.001	0.0359	0.001	0.00036	0.005	0.03	0.002
Runoff	L2627498-4	WRP-21-18_15-08-2021_1055	2021-08-15	2021-08-15	0.002	0.0001	0.001	0.001	0.0097	0.001	0.0021	0.005	0.03	0.002
Runoff	L2612842-5	WRP-21-18_2021-07-12_1435	2021-07-12	2021-07-12	0.002	0.0001	0.0011	0.001	0.103	0.001	0.00138	0.007	0.03	0.002
Runoff	L2627498-7	WRP-21-19_15-08-2021_1030	2021-08-15	2021-08-15	0.0002	0.000036	0.00129	0.0001	0.0574	0.0001	0.0151	0.00152	0.0055	0.00099
Runoff	L2612842-6	WRP-21-19_2021-07-12_1450	2021-07-12	2021-07-12	0.002	0.0001	0.001	0.001	0.0707	0.001	0.0179	0.005	0.03	0.002
Runoff	L2618284-2	WRP-21-19_2021-07-22	2021-07-22	2021-07-22	0.0002	0.00006	0.00032	0.0001	0.0142	0.0001	0.0187	0.00068	0.004	0.00033
Runoff	L2627498-5	WRP-21-19A_15-08-2021_1020	2021-08-15	2021-08-15	0.0002	0.000011	0.0001	0.0001	0.0117	0.0001	0.00116	0.00062	0.003	0.0002
Runoff	L2627498-6	WRP-21-20_15-08-2021_1005	2021-08-15	2021-08-15	0.0002	0.00001	0.0001	0.0001	0.00605	0.0001	0.000823	0.0005	0.003	0.0002
Runoff	L2612842-7	WRP-21-20_2021-07-12_1510	2021-07-12	2021-07-12	0.002	0.0001	0.001	0.001	0.0419	0.001	0.00047	0.005	0.03	0.002
Runoff	L2618284-1	WRP-21-20_2021-07-22	2021-07-22	2021-07-22	0.0002	0.00001	0.0001	0.0001	0.0153	0.0001	0.000792	0.00089	0.003	0.0002
Runoff	L2725732-1	WRP-22-01_2022-07-28	2022-07-28	2022-07-28	0.0002	0.00002	0.00013	0.0001	0.0373	0.0001	0.00102	0.0016	0.003	0.00024
Runoff	L2725732-2	WRP-22-02_2022-07-28	2022-07-28	2022-07-28	0.0002	0.00001	0.0001	0.0001	0.00238	0.0001	0.000966	0.0005	0.0187	0.0002
Runoff	L2725732-3	WRP-22-03_2022-07-28	2022-07-28	2022-07-28	0.0002	0.000018	0.0001	0.0001	0.00039	0.0001	0.00105	0.0005	0.003	0.0002
Runoff	L2725732-4	WRP-22-04_2022-07-28	2022-07-28	2022-07-28	0.0002	0.000014	0.0001	0.0001	0.0003	0.0001	0.00111	0.0005	0.003	0.0002
Runoff	L2725732-5	WRP-22-05_2022-07-28	2022-07-28	2022-07-28	0.0002	0.000013	0.0001	0.0001	0.00155	0.0001	0.00112	0.0005	0.003	0.0002
Runoff	L2725732-6	WRP-22-06_2022-07-28	2022-07-28	2022-07-28	0.0002	0.000016	0.0001	0.0001	0.00794	0.0001	0.00106	0.00053	0.003	0.0002

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Runoff	L2725732-7	WRP-22-07_2022-07-28	2022-07-28	2022-07-28	0.002	0.0001	0.001	0.001	0.006	0.001	0.00015	0.005	0.03	0.002
Runoff	L2725732-8	WRP-22-08_2022-07-28	2022-07-28	2022-07-28	0.002	0.0001	0.001	0.001	0.0495	0.001	0.00427	0.005	0.03	0.002
Runoff	L2725732-9	WRP-22-09_2022-07-28	2022-07-28	2022-07-28	0.002	0.0001	0.001	0.001	0.012	0.001	0.00029	0.005	0.03	0.002
Runoff	L2725732-10	WRP-22-10_2022-07-28	2022-07-28	2022-07-28	0.002	0.0001	0.001	0.001	0.004	0.001	0.00319	0.005	0.03	0.002
Runoff	L2725732-11	WRP-22-11_2022-07-28	2022-07-28	2022-07-28	0.002	0.0001	0.0019	0.001	0.26	0.001	0.00333	0.0112	0.03	0.002
Runoff	L2725732-12	WRP-22-12_2022-07-28	2022-07-28	2022-07-28	0.002	0.0001	0.001	0.001	0.003	0.001	0.00169	0.005	0.03	0.002
Runoff	L2725732-13	WRP-22-13_2022-07-29	2022-07-29	2022-07-29	0.002	0.0001	0.001	0.001	0.0061	0.001	0.00184	0.005	0.03	0.002
Runoff	L2725732-14	WRP-22-14_2022-07-29	2022-07-29	2022-07-29	0.0002	0.000014	0.0001	0.0001	0.0145	0.00013	0.00144	0.00058	0.003	0.00025
Runoff	L2725732-15	WRP-22-15_2022-07-29	2022-07-29	2022-07-29	0.0002	0.000032	0.00061	0.0001	0.0506	0.0001	0.00108	0.00161	0.003	0.00069
Runoff	L2725732-16	WRP-22-16_2022-07-29	2022-07-29	2022-07-29	0.0002	0.000011	0.0001	0.0001	0.00101	0.0001	0.000825	0.0005	0.003	0.0002
Runoff	L2725732-17	WRP-22-17_2022-07-29	2022-07-29	2022-07-29	0.002	0.0001	0.001	0.001	0.0065	0.001	0.00079	0.005	0.03	0.002
Runoff	L2725732-18	WRP-22-18_2022-07-29	2022-07-29	2022-07-29	0.0002	0.000092	0.00111	0.0001	0.21	0.0001	0.0085	0.00481	0.0071	0.00148
Runoff	L2157407-6	WRP-DD-E1	2018-09-01	2018-09-01	0.002	0.0001	0.001	0.001	0.003	0.001	0.0111	0.005	0.03	0.003
Runoff	L2158115-4	WRPP	2018-09-04	2018-09-04	0.02	0.0011	0.01	0.01	0.06	0.01	0.2	0.05	0.46	0.03
Runoff	L2306749-1	WRP-S10	2019-07-09	2019-07-09	0.002	0.00042	0.0023	0.001	0.153	0.001	0.0353	0.0062	0.172	0.0037
Runoff	L2158115-3	WRP-S10	2018-09-04	2018-09-04	0.02	0.0013	0.01	0.01	0.03	0.01	0.114	0.05	0.8	0.03
Runoff	L2298517-5	WRP-S10	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2320849-1	WRP-S10	2019-07-30	2019-07-30	0.002	0.00023	0.0123	0.001	0.648	0.001	0.00761	0.0243	0.117	0.0095
Runoff	L2290620-2	WRP-S10	2019-06-12	2019-06-12	0.002	0.00013	0.001	0.001	0.0124	0.001	0.0096	0.005	0.039	0.002
Runoff	L2290620-3	WRP-S11	2019-06-12	2019-06-12	0.002	0.00057	0.0252	0.001	1.4	0.001	0.0092	0.0503	0.079	0.0041
Runoff	L2298517-7	WRP-S11	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2315510-2	WRP-S12	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-4	WRP-S12	2019-07-02	2019-07-02	0.002	0.0001	0.001	0.001	0.005	0.001	0.00016	0.005	0.03	0.002
Runoff	L2298517-6	WRP-S12	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2290620-4	WRP-S12	2019-06-12	2019-06-12	0.002	0.00023	0.0119	0.001	0.654	0.001	0.0012	0.0229	0.035	0.0035
Runoff	L2320849-2	WRP-S12	2019-07-30	2019-07-30	0.002	0.0001	0.001	0.001	0.0127	0.001	0.00053	0.005	0.03	0.002
Runoff	L2157407-16	WRP-S14	2018-09-01	2018-09-01	0.002	0.0001	0.001	0.001	0.003	0.001	0.00652	0.005	0.03	0.003
Runoff	L2303565-3	WRP-S15	2019-07-02	2019-07-02	0.002	0.00017	0.001	0.001	0.0384	0.001	0.00253	0.005	0.056	0.002
Runoff	L2337954-2	WRP-S15	2019-08-27	2019-08-27	0.02	0.001	0.01	0.01	0.03	0.01	0.0027	0.05	0.3	0.02
Runoff	L2323304-1	WRP-S15	2019-08-06	2019-08-06	0.02	0.001	0.01	0.01	0.03	0.01	0.0056	0.05	0.3	0.02
Runoff	L2306749-2	WRP-S15	2019-07-09	2019-07-09	0.002	0.0001	0.001	0.001	0.0127	0.001	0.00628	0.005	0.033	0.002
Runoff	L2298517-3	WRP-S15	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2294129-8	WRP-S15	2019-06-18	2019-06-18	0.002	0.00012	0.0044	0.001	0.286	0.001	0.00137	0.0113	0.03	0.002
Runoff	L2158115-7	WRP-S15NEW	2018-09-04	2018-09-04	0.002	0.0001	0.001	0.001	0.0528	0.001	0.0166	0.005	0.03	0.003
Runoff	L2312012-4	WRP-S16	2019-07-17	2019-07-17	0.02	0.001	0.01	0.01	0.03	0.01	0.0142	0.05	0.3	0.02
Runoff	L2333401-3	WRP-S16	2019-08-20	2019-08-20	0.02	0.001	0.01	0.01	0.034	0.01	0.0045	0.05	0.3	0.02
Runoff	L2328009-4	WRP-S16	2019-08-13	2019-08-13	0.002	0.00019	0.001	0.001	0.02	0.001	0.0056	0.005	0.11	0.002
Runoff	L2323304-2	WRP-S16	2019-08-06	2019-08-06	0.02	0.001	0.01	0.01	0.03	0.01	0.007	0.05	0.3	0.02
Runoff	L2290620-8	WRP-S16	2019-06-12	2019-06-12	0.002	0.0001	0.0011	0.001	0.109	0.001	0.00176	0.0072	0.03	0.0021
Runoff	L2298517-4	WRP-S16	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2158115-8	WRP-S16NEW	2018-09-04	2018-09-04	0.02	0.001	0.01	0.01	0.03	0.01	0.0191	0.05	0.3	0.03
Runoff	L2290620-7	WRP-S17	2019-06-12	2019-06-12	0.002	0.0003	0.0064	0.001	0.549	0.001	0.00154	0.0206	0.03	0.002
Runoff	L2303565-1	WRP-S17	2019-07-02	2019-07-02	0.002	0.0001	0.0026	0.001	0.248	0.001	0.00172	0.01	0.03	0.002
Runoff	L2306749-5	WRP-S17	2019-07-09	2019-07-09	0.0002	0.000011	0.00014	0.0001	0.0133	0.0001	0.00232	0.00068	0.003	0.00044
Runoff	L2306749-4	WRP-S18	2019-07-09	2019-07-09	0.02	0.001	0.01	0.01	0.058	0.01	0.0038	0.05	0.3	0.02
Runoff	L2312012-2	WRP-S18	2019-07-17	2019-07-17	0.002	0.00081	0.0044	0.001	0.325	0.001	0.00827	0.0139	0.168	0.0064
Runoff	L2303565-6	WRP-S18	2019-07-02	2019-07-02	0.002	0.0001	0.001	0.001	0.0706	0.001	0.00094	0.005	0.03	0.002
Runoff	L2298517-10	WRP-S18	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2303565-2	WRP-S4	2019-07-02	2019-07-02	0.002	0.00011	0.0079	0.001	0.407	0.001	0.0162	0.0112	0.03	0.0035
Runoff	L2328009-5	WRP-S4	2019-08-13	2019-08-13	0.0002	0.000024	0.0001	0.0001	0.00447	0.0001	0.0339	0.0005	0.003	0.00028
Runoff	L2298517-2	WRP-S4	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2328009-3	WRP-S5	2019-08-13	2019-08-13	0.002	0.0001	0.001	0.001	0.0366	0.001	0.0122	0.005	0.03	0.0024
Runoff	L2333401-2	WRP-S5	2019-08-20	2019-08-20	0.002	0.0001	0.001	0.001	0.0188	0.001	0.0337	0.005	0.03	0.002
Runoff	L2290620-1	WRP-S5	2019-06-12	2019-06-12	0.002	0.0002	0.0097	0.001	0.499	0.001	0.00188	0.0179	0.03	0.0027
Runoff	L2158115-5	WRP-S5	2018-09-04	2018-09-04	0.002	0.0001	0.0043	0.001	0.205	0.001	0.00558	0.0076	0.03	0.003
Runoff	L2298517-1	WRP-S5	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
Runoff	L2157407-10	WRP-S6	2018-09-01	2018-09-01	0.002	0.0001	0.001	0.001	0.008	0.001	0.0115	0.005	0.03	0.003
West Ditch	L2722749-4	MS-08-EXPLORE-WESTDITCH_2022-07-10	2022-07-10	2022-07-10	0.0002	0.00004	0.00069	0.0001	0.0707	0.0001	0.00157	0.00335	0.0066	0.00064
West Ditch	L2115219-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-
West Ditch	L2115893-3	MS-08-INFLOW-WEST	2018-06-20	2018-06-20	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114971-3	MS-08-INFLOW-WEST	2018-06-19	2018-06-19	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113672-2	MS-08-INFLOW-WEST	2018-06-17	2018-06-17	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113576-3	MS-08-INFLOW-WEST	2018-06-15	2018-06-15	-	-	-	-	-	-	-	-	-	-
West Ditch	L2114098-3	MS-08-INFLOW-WEST	2018-06-18	2018-06-18	-	-	-	-	-	-	-	-	-	-
West Ditch	L2160094-1	MS-08-INFLOW-WEST	2018-09-06	2018-09-06	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110885-3	MS-08-INFLOW-WEST	2018-06-12	2018-06-12	-	-	-	-	-	-	-	-	-	-
West Ditch	L2113626-3	MS-08-INFLOW-WEST	2018-06-16	2018-06-16	-	-	-	-	-	-	-	-	-	-
West Ditch	L2110060-3	MS-08-INFLOW-WEST	2018-06-10	2018-06-10	-	-	-	-	-	-	-	-	-	-
West Ditch	L2112194-3	MS-08-INFLOW-WEST	2018-06-14	2018-06-14	-	-	-	-	-	-	-	-	-	-
West Ditch	L2111853-3	MS-08-INFLOW-WEST	2018-06-13	2018-06-13	-	-	-	-	-	-	-	-	-	-
West Ditch	L2108641-2	MS-08-INFLOW-WEST	2018-06-07	2018-06-07	0.002	0.00029	0.012	0.001	0.714	0.001	0.00223	0.0242	0.043	0.0096
West Ditch	L2288069-4	MS-08-WEST INFLOW	2019-06-09	2019-06-09	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301632-4	MS-08-WEST-DITCH	2019-07-01	2019-07-01	-	-	-	-	-	-	-	-	-	-

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2335451-5	MS08-WEST-INFLOW	2019-08-23	2019-08-23	-	-	-	-	-	-	-	-	-	-
West Ditch	L2318395-5	MS-08-WEST-INFLOW	2018-07-28	2018-07-28	-	-	-	-	-	-	-	-	-	-
West Ditch	L2306761-4	MS-08-WEST-INFLOW	2019-07-09	2019-07-09	0.02	0.001	0.01	0.01	0.155	0.01	0.0037	0.05	0.3	0.02
West Ditch	L2318249-5	MS-08-WEST-INFLOW	2019-07-25	2019-07-25	-	-	-	-	-	-	-	-	-	-
West Ditch	L2313935-5	MS-08-WEST-INFLOW	2019-07-20	2019-07-20	-	-	-	-	-	-	-	-	-	-
West Ditch	L2312016-4	MS-08-WEST-INFLOW	2019-07-17	2019-07-17	0.002	0.00081	0.0078	0.001	0.522	0.001	0.00826	0.0174	0.157	0.0084
West Ditch	L2320850-4	MS-08-WEST-INFLOW	2019-07-31	2019-07-31	0.002	0.00023	0.0024	0.001	0.18	0.001	0.00363	0.0055	0.077	0.002
West Ditch	L2340461-4	MS-08-WEST-INFLOW	2019-09-03	2019-09-03	0.02	0.001	0.01	0.01	0.553	0.01	0.0106	0.05	0.3	0.02
West Ditch	L2305805-4	MS-08-WEST-INFLOW	2019-07-08	2019-07-08	-	-	-	-	-	-	-	-	-	-
West Ditch	L2322461-5	MS-08-WEST-INFLOW	2019-08-02	2019-08-02	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305072-5	MS-08-WEST-INFLOW	2019-07-05	2019-07-05	-	-	-	-	-	-	-	-	-	-
West Ditch	L2290598-4	MS-08-WEST-INFLOW	2019-06-12	2019-06-12	0.002	0.0001	0.001	0.001	0.0595	0.001	0.00799	0.005	0.15	0.002
West Ditch	L2342313-4	MS-08-WEST-INFLOW	2019-09-05	2019-09-05	-	-	-	-	-	-	-	-	-	-
West Ditch	L2291173-4	MS-08-WEST-INFLOW	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330905-2	MS-08-WEST-INFLOW	2019-08-18	2019-08-18	-	-	-	-	-	-	-	-	-	-
West Ditch	L2327989-3	MS-08-WEST-INFLOW	2019-08-13	2019-08-13	0.002	0.00017	0.001	0.001	0.005	0.001	0.0102	0.005	0.04	0.002
West Ditch	L2295991-4	MS-08-WEST-INFLOW	2019-06-20	2019-06-20	-	-	-	-	-	-	-	-	-	-
West Ditch	L2343354-1	MS-08-WEST-INFLOW	2019-09-08	2019-09-08	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305224-5	MS-08-WEST-INFLOW	2019-07-06	2019-07-06	-	-	-	-	-	-	-	-	-	-
West Ditch	L2326464-3	MS-08-WEST-INFLOW	2019-08-11	2019-08-11	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309409-5	MS-08-WEST-INFLOW	2019-07-12	2019-07-12	-	-	-	-	-	-	-	-	-	-
West Ditch	L2325445-3	MS-08-WEST-INFLOW	2019-08-08	2019-08-08	-	-	-	-	-	-	-	-	-	-
West Ditch	L2298617-4	MS-08-WEST-INFLOW	2019-06-25	2019-06-25	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301467-4	MS-08-WEST-INFLOW	2019-06-28	2019-06-28	-	-	-	-	-	-	-	-	-	-
West Ditch	L2307801-4	MS-08-WEST-INFLOW	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-
West Ditch	L2315508-5	MS-08-WEST-INFLOW	2019-07-23	2019-07-23	-	-	-	-	-	-	-	-	-	-
West Ditch	L2295155-4	MS-08-WEST-INFLOW	2019-06-19	2019-06-19	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301572-4	MS-08-WEST-INFLOW	2019-06-29	2019-06-29	-	-	-	-	-	-	-	-	-	-
West Ditch	L2308636-4	MS-08-WEST-INFLOW	2019-07-11	2019-07-11	-	-	-	-	-	-	-	-	-	-
West Ditch	L2301607-4	MS-08-WEST-INFLOW	2019-06-30	2019-06-30	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-4	MS-08-WEST-INFLOW	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-
West Ditch	L2303578-4	MS-08-WEST-INFLOW	2019-07-02	2019-07-02	0.002	0.00011	0.001	0.001	0.08	0.001	0.00433	0.005	0.061	0.0023
West Ditch	L2292234-4	MS-08-WEST-INFLOW	2019-06-14	2019-06-14	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309549-4	MS-08-WEST-INFLOW	2019-07-14	2019-07-14	-	-	-	-	-	-	-	-	-	-
West Ditch	L2305269-5	MS-08-WEST-INFLOW	2019-07-07	2019-07-07	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300534-4	MS-08-WEST-INFLOW	2019-06-27	2019-06-27	-	-	-	-	-	-	-	-	-	-
West Ditch	L2337960-4	MS-08-WEST-INFLOW	2019-08-27	2019-08-27	0.002	0.0001	0.0013	0.001	0.16	0.001	0.00943	0.005	0.03	0.002
West Ditch	L2296973-4	MS-08-WEST-INFLOW	2019-06-23	2019-06-23	-	-	-	-	-	-	-	-	-	-
West Ditch	L2309510-5	MS-08-WEST-INFLOW	2019-07-13	2019-07-13	-	-	-	-	-	-	-	-	-	-
West Ditch	L2293024-4	MS-08-WEST-INFLOW	2019-06-17	2019-06-17	-	-	-	-	-	-	-	-	-	-
West Ditch	L2294118-4	MS-08-WEST-INFLOW	2019-06-18	2019-06-18	0.002	0.00014	0.0037	0.001	0.248	0.001	0.00329	0.0088	0.034	0.0036
West Ditch	L2304339-4	MS-08-WEST-INFLOW	2019-07-03	2019-07-03	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287932-4	MS-08-WEST-INFLOW	2019-06-07	2019-06-07	-	-	-	-	-	-	-	-	-	-
West Ditch	L2355516-2	MS-08-WEST-INFLOW	2019-09-27	2019-09-27	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296841-4	MS-08-WEST-INFLOW	2019-06-21	2019-06-21	-	-	-	-	-	-	-	-	-	-
West Ditch	L2297625-4	MS-08-WEST-INFLOW	2019-06-24	2019-06-24	-	-	-	-	-	-	-	-	-	-
West Ditch	L2296969-4	MS-08-WEST-INFLOW	2019-06-22	2019-06-22	-	-	-	-	-	-	-	-	-	-
West Ditch	L2300513-4	MS-08-WEST-INFLOW	2019-06-26	2019-06-26	-	-	-	-	-	-	-	-	-	-
West Ditch	L2357383-3	MS-08-WEST-INFLOW	2019-10-01	2019-10-01	-	-	-	-	-	-	-	-	-	-
West Ditch	L2288447-4	MS-08-WEST-INFLOW	2019-06-10	2019-06-10	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-6	MS-08-WEST-INFLOW	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-
West Ditch	L2287151-4	MS-08-WEST-INFLOW	2019-06-06	2019-06-06	-	-	-	-	-	-	-	-	-	-
West Ditch	L2304338-5	MS-08-WEST-INFLOW	2019-07-04	2019-07-04	-	-	-	-	-	-	-	-	-	-
West Ditch	L2468307-1	MS-08-WEST-INFLOW	2020-06-30	2020-06-30	-	-	-	-	-	-	-	-	-	-
West Ditch	L2330756-2	MS-08-WEST-INFLOW	2019-08-16	2019-08-16	-	-	-	-	-	-	-	-	-	-
West Ditch	L2358842-2	MS-08-WEST-INFLOW	2019-10-02	2019-10-02	-	-	-	-	-	-	-	-	-	-
West Ditch	L2467060-3	MS-08-WEST-INFLOW	2020-06-25	2020-06-25	-	-	-	-	-	-	-	-	-	-
West Ditch	L2346689-1	MS-08-WEST-INFLOW	2019-09-12	2019-09-12	-	-	-	-	-	-	-	-	-	-
West Ditch	L2345723-2	MS-08-WEST-INFLOW	2019-09-11	2019-09-11	0.002	0.0001	0.001	0.001	0.0607	0.001	0.0138	0.005	0.03	0.002
West Ditch	L2288035-4	MS-08-WEST-INFLOW	2019-06-08	2019-06-08	-	-	-	-	-	-	-	-	-	-
West Ditch	L2477770-6	MS-08-WEST-INFLOW	2020-07-21	2020-07-21	0.002	0.0001	0.001	0.001	0.003	0.001	0.00842	0.005	0.03	0.002
West Ditch	L2488588-3	MS-08-WEST-INFLOW	2020-08-12	2020-08-12	0.0004	0.000026	0.0002	0.0002	0.00177	0.0002	0.0111	0.001	0.006	0.0004
West Ditch	L2482854-5	MS-08-WEST-INFLOW	2020-08-03	2020-08-03	0.002	0.0001	0.001	0.001	0.005	0.001	0.00752	0.005	0.033	0.002
West Ditch	L2348201-2	MS-08-WEST-INFLOW	2019-09-16	2019-09-16	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292486-4	MS-08-WEST-INFLOW	2019-06-16	2019-06-16	-	-	-	-	-	-	-	-	-	-
West Ditch	L2481535-1	MS-08-WEST-INFLOW	2020-07-29	2020-07-29	0.0004	0.000034	0.0002	0.0002	0.0035	0.0002	0.00937	0.001	0.006	0.0004
West Ditch	L2496104-4	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	0.0004	0.00002	0.0002	0.0002	0.0039	0.0002	0.00836	0.001	0.006	0.0004
West Ditch	L2496103-1	MS-08-WEST-INFLOW	2020-08-26	2020-08-26	0.0004	0.000025	0.0002	0.0002	0.0018	0.0002	0.0082	0.001	0.006	0.0004
West Ditch	L2496140-1	MS-08-WEST-INFLOW	2020-08-30	2020-08-30	0.002	0.0001	0.001	0.001	0.0038	0.001	0.00829	0.005	0.03	0.002
West Ditch	L2496120-1	MS-08-WEST-INFLOW	2020-08-29	2020-08-29	0.0004	0.00002	0.0002	0.0002	0.0015	0.0002	0.00815	0.001	0.006	0.0004
West Ditch	L2496049-1	MS-08-WEST-INFLOW	2020-08-28	2020-08-28	0.002	0.0001	0.001	0.001	0.003	0.001	0.00755	0.005	0.03	0.002
West Ditch	L2496047-1	MS-08-WEST-INFLOW	2020-08-27	2020-08-27	0.002	0.0001	0.001	0.001	0.003	0.001	0.00737	0.005	0.03	0.002
West Ditch	L2496705-1	MS-08-WEST-INFLOW	2020-08-31	2020-08-31	0.002	0.0001	0.001	0.001	0.007	0.001	0.00531	0.005	0.03	0.002

Appendix C: Water Quality Data

General Location	Laboratory Sample ID	Location ID	Sample date/time	Sample Date	Tellurium (Te)-Total	Thallium (Tl)-Total	Thorium (Th)-Total	Tin (Sn)-Total	Titanium (Ti)-Total	Tungsten (W)-Total	Uranium (U)-Total	Vanadium (V)-Total	Zinc (Zn)-Total	Zirconium (Zr)-Total
			Units>		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
West Ditch	L2497356-1	MS-08-WEST-INFLOW	2020-09-01	2020-09-01	0.002	0.0001	0.001	0.001	0.003	0.001	0.00701	0.005	0.03	0.002
West Ditch	L2323296-5	MS-08-WEST-INFLOW	2019-08-06	2019-08-06	0.002	0.00016	0.001	0.001	0.0636	0.001	0.00714	0.005	0.043	0.002
West Ditch	L2603974-4	MS-08-WEST-INFLOW_2021-06-21_1225	2021-06-21	2021-06-21	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606859-5	MS-08-WEST-INFLOW_2021-06-26_1130	2021-06-26	2021-06-26	-	-	-	-	-	-	-	-	-	-
West Ditch	L2606871-5	MS-08-WEST-INFLOW_2021-06-27_0920	2021-06-27	2021-06-27	-	-	-	-	-	-	-	-	-	-
West Ditch	L2609262-5	MS-08-WEST-INFLOW_2021-07-01_1035	2021-07-01	2021-07-01	-	-	-	-	-	-	-	-	-	-
West Ditch	L2610945-3	MS-08-WEST-INFLOW_2021-07-05_1030	2021-07-05	2021-07-05	0.002	0.0001	0.001	0.001	0.0228	0.001	0.00343	0.005	0.03	0.002
West Ditch	L2612337-6	MS-08-WEST-INFLOW_2021-07-11_1520	2021-07-11	2021-07-11	0.002	0.00017	0.0047	0.001	0.351	0.001	0.0039	0.0126	0.03	0.0024
West Ditch	L2618285-7	MS-08-WEST-INFLOW_2021-07-24	2021-07-24	2021-07-24	0.0004	0.000113	0.0037	0.0002	0.252	0.0002	0.00928	0.0097	0.0118	0.00246
West Ditch	L2629919-4	MS-08-WEST-INFLOW_2021-08-22_0915	2021-08-22	2021-08-22	0.002	0.0001	0.001	0.001	0.004	0.001	0.00877	0.005	0.03	0.002
West Ditch	L2635846-3	MS-08-WEST-INFLOW_2021-09-05_1615	2021-09-05	2021-09-05	0.002	0.0001	0.001	0.001	0.0068	0.001	0.0102	0.005	0.03	0.002
West Ditch	L2725730-1	MS-08-WEST-INFLOW_2022-07-28	2022-07-28	2022-07-28	0.002	0.0001	0.001	0.001	0.0139	0.001	0.00397	0.005	0.03	0.002
West Ditch	L2291173-5	MS-08-WEST-INFLOW01	2019-06-13	2019-06-13	-	-	-	-	-	-	-	-	-	-
West Ditch	L2323296-2	MS-08-WEST-INFLOW01	2019-08-06	2019-08-06	0.002	0.00016	0.001	0.001	0.0315	0.001	0.00725	0.005	0.039	0.002
West Ditch	L2307801-5	MS-08-WEST-INFLOW01	2019-07-10	2019-07-10	-	-	-	-	-	-	-	-	-	-
West Ditch	L2292454-5	MS-08-WEST-INFLOW01	2019-06-15	2019-06-15	-	-	-	-	-	-	-	-	-	-
West Ditch	L2339733-7	MS-08-WEST-INFLOW01	2019-08-31	2019-08-31	-	-	-	-	-	-	-	-	-	-
West Ditch	L2623788-3	MS-08-WEST-INLFOW_2021-08-06_1015	2021-08-06	2021-08-06	0.002	0.0001	0.001	0.001	0.005	0.001	0.00664	0.005	0.03	0.002
West Ditch	L2335475-4	MS-08-WEST-INLOW	2019-08-25	2019-08-25	-	-	-	-	-	-	-	-	-	-
West Ditch	L2157407-14	WRP-B7	2018-09-01	2018-09-01	0.02	0.001	0.01	0.01	0.03	0.01	0.0613	0.05	0.53	0.03
West Ditch	L2157407-9	WRPT-2	2018-09-01	2018-09-01	0.002	0.0001	0.001	0.001	0.003	0.001	0.0201	0.005	0.03	0.003

Notes: Based on data supplied by BIM, April 2023. Certificates of Analysis avialable upon request from BIM.
Hightlighed values are presented at detection limit values

APPENDIX D

Laboratory Certificates of Analyses for Off Site Analyses of Split Samples (2020 through 2022)

ALS Canada Ltd.

2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 21-AUG-2020
Account: BIMCIO

CERTIFICATE BF20142082

Project: Pulps for ABA

This report is for 31 Drill Chip samples submitted to our lab in Baffinland, NU, Canada on 6-JUL-2020.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL DAWE	JASON DUFF
SIMON FLEURY	ELEANOR GRANT	JORDON MARSH
FRANK PILECKI	JACOB PRINCE	MATTHEW TRACEY
WARRICK WILLIAMS		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 21-AUG-2020
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS BF20142082

Sample Description	Method	WEI-21	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
	Analyte	Recvd Wt.	MPA	FIZZ RAT	NNP	NP	pH	Ratio (N	S	S	S	S	C	CO2
	Units	kg	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
	LOD	0.02	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.05	0.2
S113810 + S113784		0.31	4.7	1	2	7	6.4	1.49	0.15	0.06	0.12	0.09	<0.05	<0.2
S113836 + S113783		0.27	0.3	1	9	9	7.6	28.80	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S112288 + S112259		0.27	1.3	1	7	8	6.9	6.40	0.04	<0.01	0.01	0.04	<0.05	<0.2
S112908 + S112011		0.28	1.6	1	16	18	7.3	11.52	0.05	<0.01	0.02	0.05	<0.05	<0.2
S109272 + S109295		0.30	0.9	1	16	17	7.7	18.13	0.03	<0.01	0.02	0.03	<0.05	<0.2
S109266 + S109325		0.32	2.2	1	14	16	7.7	7.31	0.07	<0.01	<0.01	0.07	<0.05	<0.2
S110286 + S110293		0.29	1.6	1	14	16	7.6	10.24	0.05	<0.01	0.02	0.05	<0.05	<0.2
S110078 + S110013		0.32	<0.3	1	17	17	7.8	108.80	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
R797693 + R797740		0.34	0.9	1	6	7	6.8	7.47	0.03	<0.01	0.02	0.03	<0.05	<0.2
S112537 + S112538		0.31	<0.3	1	8	8	7.0	51.20	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
S111789 + S111739		0.26	1.3	1	11	12	7.7	9.60	0.04	<0.01	<0.01	0.04	<0.05	<0.2
S109161 + S109204		0.29	0.9	1	13	14	8.5	14.93	0.03	<0.01	0.01	0.03	<0.05	<0.2
S109071 + S109185		0.31	0.6	1	15	16	8.8	25.60	0.02	<0.01	<0.01	0.02	<0.05	<0.2
S113294 + S109197		0.31	0.6	1	13	14	8.6	22.40	0.02	<0.01	<0.01	0.02	<0.05	<0.2
S109138 + S109163		0.29	0.6	1	16	17	8.3	27.20	0.02	<0.01	<0.01	0.02	<0.05	<0.2
S113233 + S113268		0.31	0.6	1	14	15	8.4	24.00	0.02	<0.01	0.01	0.02	<0.05	<0.2
S109415 + S109423		0.29	0.9	1	13	14	8.8	14.93	0.03	<0.01	<0.01	0.03	<0.05	<0.2
R797578 + R797470		0.31	0.3	1	14	14	8.6	44.80	0.01	<0.01	<0.01	0.01	<0.05	<0.2
R797472 + R797508		0.31	0.3	1	13	13	7.5	41.60	0.01	<0.01	0.01	0.01	<0.05	<0.2
R797878 + R797990		0.27	<0.3	1	14	14	7.6	89.60	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S112280 + S112286		0.31	1.3	1	12	13	7.8	10.40	0.04	<0.01	<0.01	0.04	<0.05	<0.2
S112540 + S112545		0.24	<0.3	1	10	10	7.9	64.00	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S112539 + S112546		0.21	1.9	1	12	14	8.0	7.47	0.06	<0.01	<0.01	0.06	<0.05	<0.2
S112798 + S112794		0.27	<0.3	1	12	12	8.7	76.80	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S112816 + S112809		0.31	0.9	1	13	14	9.1	14.93	0.03	<0.01	<0.01	0.03	<0.05	<0.2
S112790 + S112840		0.31	1.9	1	14	16	8.5	8.53	0.06	<0.01	<0.01	0.06	<0.05	<0.2
S111556 + S111776		0.20	38.8	1	-26	13	6.8	0.34	1.24	0.15	0.16	1.09	<0.05	<0.2
S111761 + S113462		0.29	0.9	1	13	14	8.1	14.93	0.03	<0.01	<0.01	0.03	<0.05	<0.2
S111773 + S111762		0.27	14.1	1	0	14	7.3	1.00	0.45	0.01	0.03	0.44	<0.05	<0.2
S113100 + S113466		0.27	1.3	1	14	15	8.7	12.00	0.04	<0.01	<0.01	0.04	<0.05	<0.2
R797684 + R797644		0.31	0.6	1	16	17	8.0	27.20	0.02	<0.01	<0.01	0.02	0.07	0.3

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 21-AUG-2020
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS BF20142082

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:	C-GAS05	OA-ELE07	OA-VOL08	S-CAL06
	S-GRA06	S-GRA06a	S-IR08	

Processed at ALS Baffinland, Mary River, Baffin Island, Nunavut, Canada

Applies to Method:	WEI-21

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 24-FEB-2021
Account: BIMCIO

CERTIFICATE BF20289941

Project: Pulps for ABA
P.O. No.: 4500073289
This report is for 60 samples of Pulp submitted to our lab in Baffinland, NU, Canada on 9-DEC-2020.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	PAUL DAWE
JASON DUFF	SIMON FLEURY	ELEANOR GRANT
DANIEL JANUSAUSKAS	JORDON MARSH	FRANK PILECKI
HAYLEY POTHIER	JACOB PRINCE	MATTHEW TRACEY
WARRICK WILLIAMS		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
CMP-23	Pulp Login - Composite Sample
BAG-01	Bulk Master for Storage

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 24-FEB-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS BF20289941

Sample Description	WEI-21	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
Analyte	Recvd Wt.	MPA	FIZZ RAT	NNP	NP	pH	Ratio (N	S	S	S	S	C	CO2
Units	kg	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
LOD	0.02	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.05	0.2
S666640+S666641	0.49	4.7	1	0	5	6.1	1.07	0.15	0.06	0.04	0.09	<0.05	<0.2
S666613+S666610	0.46	3.1	1	9	12	7.1	3.84	0.10	0.04	0.02	0.06	<0.05	<0.2
S667367+S667371	0.32	1.6	1	9	11	7.7	7.04	0.05	<0.01	0.02	0.05	<0.05	<0.2
S667379+S667378	0.35	1.9	1	10	12	7.7	6.40	0.06	<0.01	0.02	0.06	<0.05	<0.2
S667404+S667429	0.38	3.1	1	9	12	7.8	3.84	0.10	<0.01	0.02	0.10	<0.05	<0.2
S667408+S667411	0.30	0.6	1	15	16	7.9	25.60	0.02	<0.01	0.02	0.02	<0.05	<0.2
S667453+S667451	0.44	0.6	1	17	18	7.8	28.80	0.02	<0.01	0.01	0.02	<0.05	<0.2
S667446+S667445	0.50	3.8	1	15	19	7.9	5.07	0.12	0.01	0.01	0.11	<0.05	<0.2
S667442+S667495	0.41	5.6	1	8	14	7.9	2.49	0.18	<0.01	0.04	0.18	<0.05	<0.2
S667470+S667498	0.45	2.8	1	7	10	7.6	3.56	0.09	<0.01	<0.01	0.09	<0.05	<0.2
S667483+S667488	0.40	0.6	1	15	16	8.0	25.60	0.02	<0.01	0.01	0.02	<0.05	<0.2
S667485+S667494	0.36	3.8	1	14	18	8.0	4.80	0.12	<0.01	0.01	0.12	<0.05	<0.2
S667491+S667487	0.32	2.5	1	15	17	8.0	6.80	0.08	<0.01	0.01	0.08	<0.05	<0.2
S667555+S667554	0.32	3.4	1	11	14	7.9	4.07	0.11	<0.01	0.02	0.11	<0.05	<0.2
S667557+S667497	0.35	1.3	1	17	18	7.8	14.40	0.04	<0.01	0.02	0.04	<0.05	<0.2
S667496+S667500	0.34	3.4	1	13	16	7.8	4.65	0.11	0.01	0.02	0.10	<0.05	<0.2
S667928+S667908	0.34	0.6	1	12	13	7.9	20.80	0.02	0.01	0.02	0.01	<0.05	<0.2
S667963+S667907	0.32	0.6	1	10	11	7.8	17.60	0.02	<0.01	0.04	0.02	<0.05	<0.2
S667905+S667977	0.36	7.5	1	1	8	7.6	1.07	0.24	0.01	0.01	0.23	<0.05	<0.2
S667902+S667900	0.39	9.1	1	3	12	7.6	1.32	0.29	0.01	0.01	0.28	<0.05	<0.2
S667949+S667933	0.34	41.9	1	-32	10	7.2	0.24	1.34	0.02	0.01	1.32	<0.05	<0.2
S667922+S667950	0.38	15.0	1	-3	12	7.2	0.80	0.48	0.01	0.03	0.47	<0.05	<0.2
S668211+S668212	0.35	0.3	1	11	11	8.0	35.20	0.01	<0.01	0.01	0.01	<0.05	<0.2
S667772+S667770	0.47	0.3	1	3	3	8.0	9.60	0.01	<0.01	0.02	0.01	<0.05	<0.2
S668186+S667869	0.36	0.3	1	13	13	7.7	41.60	0.01	<0.01	0.03	0.01	<0.05	<0.2
S668222+S668223	0.43	<0.3	1	7	7	7.5	44.80	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
S668169+S667791	0.40	1.9	1	12	14	7.3	7.47	0.06	0.03	0.08	0.03	<0.05	<0.2
S667892+S667898	0.40	<0.3	1	18	18	7.9	115.20	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
S667765+S667790	0.42	2.5	1	11	13	7.1	5.20	0.08	<0.01	0.02	0.08	<0.05	<0.2
S668162+S668208	0.29	1.6	1	14	16	7.2	10.24	0.05	0.03	0.06	0.02	<0.05	<0.2
S667810+S667808	0.35	16.9	1	5	22	7.5	1.30	0.54	<0.01	0.05	0.54	<0.05	<0.2
S667864+S667825	0.39	27.8	1	-10	18	6.3	0.65	0.89	0.21	0.27	0.68	<0.05	<0.2
S668537+S668538	0.38	0.3	1	14	14	8.3	44.80	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S668536+S668539	0.38	0.6	1	12	13	8.3	20.80	0.02	<0.01	<0.01	0.02	<0.05	<0.2
S666542+S666557	0.41	0.3	1	9	9	7.6	28.80	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S108739+S108760	0.38	0.3	1	11	11	8.2	35.20	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S108881+S108885	0.27	0.3	1	12	12	8.6	38.40	0.01	<0.01	0.01	0.01	<0.05	<0.2
S108886+S666176	0.27	0.3	1	11	11	8.5	35.20	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S108960+S108965	0.41	4.4	1	10	14	8.1	3.20	0.14	<0.01	<0.01	0.14	<0.05	<0.2
S108977+S108979	0.30	1.6	1	10	12	8.5	7.68	0.05	<0.01	<0.01	0.05	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 24-FEB-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS BF20289941

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
S108991+S108995		0.26	<0.3	1	13	13	8.9	83.20	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S666051+S666054		0.25	<0.3	1	11	11	9.1	70.40	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S666084+S666089		0.27	0.3	1	12	12	8.7	38.40	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S666113+S666119		0.39	0.6	1	11	12	8.7	19.20	0.02	<0.01	<0.01	0.02	<0.05	<0.2
S666123+S666125		0.29	<0.3	1	11	11	8.5	70.40	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S666131+S666132		0.30	0.3	1	11	11	8.2	35.20	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S666144+S666146		0.27	0.3	1	12	12	8.4	38.40	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S666147+S666148		0.27	0.3	1	9	9	8.6	28.80	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S666151+S666153		0.27	<0.3	1	10	10	8.3	64.00	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S666301+S666299		0.29	0.3	1	10	10	8.8	32.00	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S666302+S666300		0.27	0.3	1	10	10	7.7	32.00	0.01	<0.01	<0.01	0.01	<0.05	<0.2
S666909+S666954		0.31	<0.3	1	10	10	8.5	64.00	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S666939+S666964		0.33	0.3	1	12	12	8.4	38.40	0.01	<0.01	0.02	0.01	<0.05	<0.2
S666947+S666948		0.37	<0.3	1	10	10	8.5	64.00	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
S666974+S667165		0.44	0.9	1	3	4	6.6	4.27	0.03	<0.01	<0.01	0.03	<0.05	<0.2
S667190+S667145		0.39	1.3	1	13	14	7.3	11.20	0.04	<0.01	0.01	0.04	<0.05	<0.2
S667217+S667058		0.33	1.3	1	14	15	7.8	12.00	0.04	<0.01	<0.01	0.04	<0.05	<0.2
S667236+S667275		0.42	1.6	1	10	12	7.3	7.68	0.05	<0.01	<0.01	0.05	<0.05	<0.2
S668744+S668745		0.29	<0.3	1	10	10	8.2	64.00	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
S666663+S666664		0.38	0.3	1	15	15	8.4	48.00	0.01	<0.01	<0.01	0.01	0.06	0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 24-FEB-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS BF20289941

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method: BAG-01, C-GAS05, CMP-23, OA-ELE07, OA-VOL08, S-CAL06, S-GRA06, S-GRA06a, S-IR08

Processed at ALS Baffinland, Mary River, Baffin Island, Nunavut, Canada

Applies to Method: WEI-21

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 26-OCT-2020
Account: BIMCIO

CERTIFICATE VA20227590

Project: Pulps for ABA

This report is for 31 Drill Chip samples submitted to our lab in Baffinland, NU, Canada on 7-OCT-2020.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL DAWE	JASON DUFF
SIMON FLEURY	ELEANOR GRANT	JORDON MARSH
FRANK PILECKI	HAYLEY POTHIER	JACOB PRINCE
MATTHEW TRACEY	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.

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SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 26-OCT-2020
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA20227590

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
S113810 + S113784		<0.00005	0.007	<0.001	0.07	0.002	<0.0005	<0.0005	2.6	<0.00005	0.0005	<0.0005	<0.001	<0.03	<0.00005	1.74
S113836 + S113783		<0.00005	0.087	<0.001	0.30	0.003	<0.0005	<0.0005	1.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	23.10
S112288 + S112259		<0.00005	0.022	<0.001	0.35	0.004	<0.0005	<0.0005	2.5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	15.30
S112908 + S112011		<0.00005	0.027	<0.001	0.04	0.001	<0.0005	<0.0005	2.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	9.33
S109272 + S109295		<0.00005	0.112	<0.001	0.04	0.001	<0.0005	<0.0005	1.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	16.40
S109266 + S109325		<0.00005	0.096	<0.001	0.02	0.003	<0.0005	<0.0005	2.8	<0.00005	<0.0001	0.0006	<0.001	<0.03	<0.00005	9.06
S110286 + S110293		<0.00005	0.066	<0.001	0.03	<0.001	<0.0005	<0.0005	0.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	3.99
S110078 + S110013		<0.00005	0.097	<0.001	0.19	0.002	<0.0005	<0.0005	1.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	7.43
R797693 + R797740		<0.00005	0.015	<0.001	0.15	<0.001	<0.0005	<0.0005	0.9	<0.00005	0.0002	0.0037	<0.001	0.03	<0.00005	1.41
S112537 + S112538		<0.00005	0.027	<0.001	0.15	0.002	<0.0005	<0.0005	2.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	10.80
S111789 + S111739		<0.00005	0.152	<0.001	0.09	0.006	<0.0005	<0.0005	3.2	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	60.70
S109161 + S109204		<0.00005	3.640	<0.001	0.16	0.027	<0.0005	<0.0005	0.1	<0.00005	0.0004	<0.0005	0.001	2.03	<0.00005	39.50
S109071 + S109185		<0.00005	3.740	<0.001	0.06	0.035	<0.0005	<0.0005	<0.1	<0.00005	0.0006	0.0008	<0.001	2.87	<0.00005	41.40
S113294 + S109197		<0.00005	3.820	<0.001	0.09	0.031	<0.0005	<0.0005	0.1	<0.00005	0.0007	0.0010	0.001	2.43	<0.00005	40.10
S109138 + S109163		<0.00005	1.350	<0.001	0.13	0.008	<0.0005	<0.0005	0.2	<0.00005	0.0002	0.0024	<0.001	0.50	<0.00005	39.60
S113233 + S113268		<0.00005	3.860	<0.001	0.09	0.036	<0.0005	<0.0005	0.1	<0.00005	0.0006	<0.0005	0.002	2.91	<0.00005	39.70
S109415 + S109423		<0.00005	7.480	<0.001	0.04	0.166	<0.0005	<0.0005	0.3	<0.00005	0.0018	0.0010	0.005	9.04	<0.00005	42.00
R797578 + R797470		<0.00005	4.360	<0.001	0.05	0.056	<0.0005	<0.0005	0.1	<0.00005	0.0008	<0.0005	0.003	4.03	<0.00005	33.70
R797472 + R797508		<0.00005	0.184	<0.001	0.08	0.002	<0.0005	<0.0005	0.5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	20.80
R797878 + R797990		<0.00005	0.426	<0.001	0.13	0.010	<0.0005	<0.0005	0.8	<0.00005	<0.0001	<0.0005	<0.001	0.26	<0.00005	22.80
S112280 + S112286		<0.00005	4.690	<0.001	0.05	0.096	<0.0005	<0.0005	0.5	<0.00005	0.0016	0.0010	0.005	5.94	<0.00005	30.60
S112540 + S112545		<0.00005	1.910	<0.001	0.49	0.009	<0.0005	<0.0005	0.3	<0.00005	0.0003	<0.0005	0.001	0.66	<0.00005	24.20
S112539 + S112546		0.00005	8.150	<0.001	0.10	0.064	<0.0005	<0.0005	1.0	0.00012	0.0032	0.0009	0.008	7.35	<0.00005	34.40
S112798 + S112794		<0.00005	3.570	<0.001	0.25	0.029	<0.0005	<0.0005	0.2	<0.00005	0.0007	<0.0005	<0.001	1.55	<0.00005	29.80
S112816 + S112809		<0.00005	4.770	<0.001	0.02	0.048	<0.0005	<0.0005	1.9	<0.00005	0.0011	0.0011	0.002	3.52	<0.00005	52.90
S112790 + S112840		<0.00005	1.900	<0.001	0.11	0.021	<0.0005	<0.0005	1.5	<0.00005	0.0003	0.0005	0.002	0.94	<0.00005	40.60
S111556 + S111776		<0.00005	0.028	<0.001	0.06	0.028	<0.0005	<0.0005	42.9	<0.00005	0.0004	<0.0005	<0.001	<0.03	<0.00005	31.00
S111761 + S113462		<0.00005	0.268	<0.001	0.20	0.020	<0.0005	<0.0005	0.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	69.40
S111773 + S111762		<0.00005	0.059	<0.001	0.21	0.038	<0.0005	<0.0005	15.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	51.20
S113100 + S113466		<0.00005	3.890	<0.001	0.07	0.058	<0.0005	<0.0005	<0.1	<0.00005	0.0008	<0.0005	<0.001	2.60	<0.00005	40.80
R797684 + R797644		<0.00005	0.149	<0.001	0.05	0.010	<0.0005	<0.0005	10.3	<0.00005	<0.0001	<0.0005	0.001	<0.03	<0.00005	26.30

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 26-OCT-2020
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA20227590

Sample Description / Method / Analyte / Units / LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
S113810 + S113784	0.018	210.00	0.1080	0.0001	1.4	0.38	0.0028	<0.0001	<0.3	<0.0001	0.0038	5.48	<0.0005	0.0067	<0.01
S113836 + S113783	0.018	16.00	0.0016	0.0011	0.6	4.27	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.35	<0.0005	0.0128	<0.01
S112288 + S112259	0.037	40.20	0.0188	0.0008	0.9	3.35	<0.0005	<0.0001	<0.3	<0.0001	0.0012	4.68	<0.0005	0.0112	<0.01
S112908 + S112011	<0.005	74.30	0.0231	0.0061	1.7	2.48	<0.0005	<0.0001	<0.3	<0.0001	0.0008	3.91	<0.0005	0.0054	<0.01
S109272 + S109295	<0.005	11.10	0.0026	0.0043	0.7	2.96	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.54	<0.0005	0.0032	<0.01
S109266 + S109325	<0.005	18.30	0.0065	0.0055	0.6	1.53	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.31	<0.0005	0.0040	<0.01
S110286 + S110293	<0.005	15.90	0.0049	0.0040	0.9	1.34	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.32	<0.0005	0.0043	<0.01
S110078 + S110013	0.105	14.90	0.0048	0.0005	1.0	5.83	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.70	<0.0005	0.0103	<0.01
R797693 + R797740	0.060	17.00	0.0126	0.0052	1.0	0.68	0.0007	<0.0001	<0.3	<0.0001	0.0014	6.70	<0.0005	0.0063	<0.01
S112537 + S112538	0.026	5.32	0.0140	0.0568	1.4	2.37	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	6.59	<0.0005	0.0090	<0.01
S111789 + S111739	0.023	10.70	0.0038	0.0090	0.3	6.40	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.01	<0.0005	0.0072	<0.01
S109161 + S109204	0.029	1.35	0.0093	0.0043	0.3	3.16	<0.0005	0.0004	<0.3	0.0002	<0.0005	6.24	<0.0005	0.0021	0.09
S109071 + S109185	0.010	1.05	0.0081	0.0057	<0.3	3.70	0.0014	0.0005	0.4	<0.0001	<0.0005	5.62	<0.0005	0.0007	0.13
S113294 + S109197	0.015	1.38	0.0144	0.0080	<0.3	3.66	0.0011	0.0005	<0.3	<0.0001	<0.0005	6.39	<0.0005	0.0012	0.09
S109138 + S109163	0.018	1.25	0.0033	0.0047	0.3	3.16	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.38	<0.0005	0.0016	0.02
S113233 + S113268	0.012	1.60	0.0137	0.0361	<0.3	2.97	0.0009	0.0004	<0.3	<0.0001	<0.0005	5.88	<0.0005	0.0013	0.11
S109415 + S109423	0.008	2.83	0.0268	0.0112	<0.3	3.99	0.0023	0.0013	0.5	<0.0001	0.0013	11.80	<0.0005	0.0025	0.39
R797578 + R797470	0.008	1.57	0.0139	0.0246	<0.3	3.35	0.0008	0.0005	<0.3	<0.0001	0.0006	7.14	<0.0005	0.0015	0.17
R797472 + R797508	0.008	4.17	0.0007	0.0144	0.3	1.67	<0.0005	<0.0001	<0.3	<0.0001	0.0007	2.49	<0.0005	0.0034	<0.01
R797878 + R797990	0.014	3.43	0.0035	0.0134	0.5	3.10	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.98	<0.0005	0.0042	<0.01
S112280 + S112286	0.007	2.36	0.0302	0.0181	<0.3	3.50	0.0022	0.0009	<0.3	0.0001	0.0008	8.77	<0.0005	0.0029	0.24
S112540 + S112545	0.011	1.03	0.0142	0.0033	0.5	2.42	<0.0005	0.0001	<0.3	<0.0001	<0.0005	8.47	<0.0005	0.0011	0.03
S112539 + S112546	0.031	4.98	0.2240	0.0131	<0.3	3.71	0.0033	0.0140	<0.3	0.0001	<0.0005	12.10	<0.0005	0.0078	0.26
S112798 + S112794	0.013	1.13	0.0320	0.0027	<0.3	4.26	0.0010	0.0003	<0.3	<0.0001	<0.0005	7.97	<0.0005	0.0018	0.09
S112816 + S112809	0.017	1.57	0.0776	0.0221	<0.3	7.86	0.0014	0.0021	<0.3	0.0003	<0.0005	9.40	<0.0005	0.0050	0.27
S112790 + S112840	0.024	1.83	0.0259	0.0348	<0.3	5.76	<0.0005	0.0004	<0.3	0.0001	<0.0005	7.08	<0.0005	0.0062	0.05
S111556 + S111776	0.008	232.00	0.4070	0.0099	1.0	1.57	0.0005	<0.0001	<0.3	<0.0001	0.0025	3.34	<0.0005	0.0074	<0.01
S111761 + S113462	0.058	3.57	0.0025	0.0115	0.3	4.85	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.77	<0.0005	0.0057	<0.01
S111773 + S111762	0.080	49.80	0.0588	0.0078	0.5	3.34	<0.0005	<0.0001	<0.3	<0.0001	0.0016	3.56	<0.0005	0.0318	<0.01
S113100 + S113466	0.013	1.27	0.0260	0.0075	<0.3	3.70	0.0009	0.0004	<0.3	<0.0001	<0.0005	5.71	<0.0005	0.0007	0.12
R797684 + R797644	0.009	7.94	0.0044	0.0041	0.3	5.31	<0.0005	<0.0001	<0.3	<0.0001	0.0006	3.84	<0.0005	0.0121	<0.01

***** See Appendix Page for comments regarding this certificate *****

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To: **BAFFINLAND IRON MINES CORPORATION**
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 26-OCT-2020
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA20227590

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Tl ppm 0.0001	OA-SFE01 U mg/L 0.00001	OA-SFE01 V mg/L 0.001	OA-SFE01 Zn mg/L 0.01	OA-SFE01 Hardness mg/L 0.6	OA-SFE01 Final pH Unity 0.1	MS14L-ANPH Br mg/L 0.05	MS14L-ANPH Cl mg/L 0.5	MS14L-ANPH F mg/L 0.02	MS14L-ANPH NO3 (as mg/L 0.005	MS14L-ANPH SO4 mg/L 0.5	MS14L-ANPH TDS mg/L 3	MS14L-ANPH Conducti uS/cm 2	MS14L-ANPH Alkalini mg/L 1
S113810 + S113784		<0.0001	<0.00001	<0.001	<0.01	871	6.3	<0.05	1.1	0.03	0.129	156.0	391	1390	6
S113836 + S113783		<0.0001	0.00001	<0.001	<0.01	70.4	7.1	0.06	8.1	0.36	0.317	29.5	101	229	11
S112288 + S112259		<0.0001	<0.00001	<0.001	<0.01	172.0	6.6	0.05	4.6	0.14	0.307	149.0	232	396	5
S112908 + S112011		<0.0001	<0.00001	<0.001	<0.01	312	6.9	<0.05	1.5	0.33	0.254	259	367	603	9
S109272 + S109295		<0.0001	<0.00001	<0.001	<0.01	48.4	7.2	<0.05	2.3	0.31	0.202	0.9	52	149	14
S109266 + S109325		<0.0001	<0.00001	<0.001	<0.01	82.2	7.6	<0.05	2.4	0.30	0.300	2.7	60	187	24
S110286 + S110293		<0.0001	<0.00001	<0.001	<0.01	67.4	7.1	<0.05	2.4	0.24	0.148	1.3	42	144	14
S110078 + S110013		<0.0001	<0.00001	<0.001	<0.01	66.1	7.2	0.16	13.3	0.29	0.137	<0.5	61	174	14
R797693 + R797740		<0.0001	0.00003	<0.001	<0.01	72.1	6.7	<0.05	4.2	0.18	0.494	29.8	79	149	8
S112537 + S112538		<0.0001	<0.00001	<0.001	<0.01	28.5	6.9	<0.05	4.8	0.44	0.233	1.6	54	97	9
S111789 + S111739		<0.0001	0.00002	<0.001	<0.01	51.9	7.0	<0.05	3.1	0.52	0.474	79.7	181	321	11
S109161 + S109204		<0.0001	0.00021	0.006	<0.01	5.9	7.9	<0.05	1.6	0.62	0.275	1.2	82	127	17
S109071 + S109185		<0.0001	0.00013	0.010	<0.01	4.3	8.2	<0.05	1.7	0.75	0.385	2.2	87	134	20
S113294 + S109197		<0.0001	0.00022	0.007	<0.01	6.0	7.9	<0.05	2.4	0.75	0.304	1.6	88	134	21
S109138 + S109163		<0.0001	0.00004	0.004	<0.01	5.6	7.7	<0.05	2.1	0.60	0.320	<0.5	70	136	16
S113233 + S113268		<0.0001	0.00014	0.005	<0.01	6.8	7.9	<0.05	1.9	0.63	0.360	3.3	90	129	25
S109415 + S109423		0.0001	0.00066	0.012	<0.01	12.3	8.0	<0.05	1.1	0.79	0.327	10.3	125	134	23
R797578 + R797470		<0.0001	0.00028	0.007	<0.01	6.8	7.9	<0.05	1.2	0.63	0.544	1.9	86	106	22
R797472 + R797508		<0.0001	<0.00001	<0.001	<0.01	18.4	7.1	<0.05	2.9	0.33	0.413	0.8	50	99	17
R797878 + R797990		<0.0001	0.00002	<0.001	<0.01	16.1	7.2	<0.05	2.4	0.50	0.245	1.6	56	109	19
S112280 + S112286		<0.0001	0.00030	0.006	<0.01	10.9	7.4	<0.05	1.8	0.52	0.752	8.7	92	106	11
S112540 + S112545		<0.0001	0.00043	0.004	<0.01	5.0	7.3	<0.05	2.1	0.60	0.448	0.8	70	85	19
S112539 + S112546		<0.0001	0.00377	0.007	0.03	23.1	7.5	<0.05	2.6	0.54	0.244	4.4	115	119	23
S112798 + S112794		<0.0001	0.00057	0.014	<0.01	5.1	8.0	<0.05	2.1	0.51	0.400	1.0	82	100	24
S112816 + S112809		<0.0001	0.00212	0.015	<0.01	11.3	9.2	<0.05	2.4	0.56	0.396	3.3	143	187	60
S112790 + S112840		<0.0001	0.00053	0.004	<0.01	11.2	8.1	<0.05	3.5	0.60	0.271	3.4	105	157	41
S111556 + S111776		<0.0001	0.00003	<0.001	<0.01	1060	6.6	<0.5	6.3	0.70	0.420	996	1330	1670	20
S111761 + S113462		<0.0001	0.00004	0.001	<0.01	16.7	7.4	<0.05	3.7	0.63	0.312	58.2	162	278	20
S111773 + S111762		<0.0001	0.00004	<0.001	<0.01	245	6.8	<0.3	4.4	0.39	0.270	268	410	627	9
S113100 + S113466		<0.0001	0.00044	0.009	<0.01	5.2	7.9	<0.05	2.1	0.60	0.309	12.4	98	135	23
R797684 + R797644		<0.0001	0.00046	0.001	<0.01	58.4	7.9	<0.05	5.9	0.46	0.209	29.7	125	215	46

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 26-OCT-2020
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA20227590

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method: FND-02 SND-01

Processed at ALSE Vancouver, Burnaby, BC, Canada.

Applies to Method: MS14L-ANPH OA-SFE01

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2021
Account: BIMCIO

CERTIFICATE VA21044878

Project: Pulps for ABA

P.O. No.: 4500073289

This report is for 60 samples of Pulp submitted to our lab in Baffinland, NU, Canada on 24-FEB-2021.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	PAUL DAWE
JASON DUFF	SIMON FLEURY	ELEANOR GRANT
DANIEL JANUSAUSKAS	FRED LAWRENCE	JORDON MARSH
FRANK PILECKI	HAYLEY POTHIER	JACOB PRINCE
MATTHEW TRACEY	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, General Manager, North Vancouver

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Finalized Date: 25-MAR-2021
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Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21044878

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
	Analyte	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOD	0.00005	0.005	0.001	0.01	0.001	0.0005	0.0005	0.1	0.00005	0.0001	0.0005	0.001	0.03	0.00005	0.05
S666640+S666641		<0.00005	<0.005	<0.001	0.39	0.008	<0.0005	<0.0005	4.6	<0.00005	0.0152	<0.0005	<0.001	<0.03	<0.00005	6.28
S666613+S666610		<0.00005	0.024	<0.001	0.07	0.003	<0.0005	<0.0005	9.6	<0.00005	0.0002	<0.0005	<0.001	<0.03	<0.00005	16.10
S667367+S667371		<0.00005	0.136	<0.001	0.03	<0.001	<0.0005	<0.0005	0.5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	5.33
S667379+S667378		<0.00005	0.109	<0.001	0.05	0.001	<0.0005	<0.0005	0.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	6.99
S667404+S667429		<0.00005	0.160	<0.001	0.03	0.001	<0.0005	<0.0005	0.9	<0.00005	<0.0001	0.0008	<0.001	<0.03	<0.00005	9.10
S667408+S667411		<0.00005	0.142	<0.001	0.03	0.002	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0024	<0.001	<0.03	<0.00005	9.79
S667453+S667451		<0.00005	0.090	<0.001	0.02	0.002	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	8.09
S667446+S667445		<0.00005	0.042	<0.001	0.04	0.002	<0.0005	<0.0005	2.8	<0.00005	<0.0001	0.0029	<0.001	<0.03	<0.00005	7.12
S667442+S667495		<0.00005	0.114	<0.001	0.04	0.002	<0.0005	<0.0005	1.5	<0.00005	<0.0001	0.0017	<0.001	<0.03	<0.00005	7.91
S667470+S667498		<0.00005	0.032	<0.001	0.31	0.002	<0.0005	<0.0005	2.0	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	4.29
S667483+S667488		<0.00005	0.129	<0.001	0.04	0.002	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0009	<0.001	<0.03	<0.00005	11.50
S667485+S667494		<0.00005	0.112	<0.001	0.09	0.003	<0.0005	<0.0005	1.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	10.80
S667491+S667487		<0.00005	0.089	<0.001	0.02	0.001	<0.0005	<0.0005	1.5	<0.00005	<0.0001	0.0012	<0.001	<0.03	<0.00005	6.91
S667555+S667554		<0.00005	0.118	<0.001	0.04	0.002	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0019	<0.001	<0.03	<0.00005	6.28
S667557+S667497		<0.00005	0.048	<0.001	0.03	0.003	<0.0005	<0.0005	2.2	<0.00005	<0.0001	0.0030	<0.001	<0.03	<0.00005	5.62
S667496+S667500		<0.00005	0.051	<0.001	0.03	0.002	<0.0005	<0.0005	3.0	<0.00005	<0.0001	0.0033	<0.001	<0.03	<0.00005	6.18
S667928+S667908		<0.00005	0.118	0.002	0.24	0.001	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0009	<0.001	<0.03	<0.00005	10.00
S667963+S667907		<0.00005	0.098	<0.001	0.24	<0.001	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0007	<0.001	<0.03	<0.00005	9.04
S667905+S667977		<0.00005	0.060	<0.001	0.24	0.001	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0005	<0.001	0.03	<0.00005	5.66
S667902+S667900		<0.00005	0.038	<0.001	0.09	<0.001	<0.0005	<0.0005	2.1	<0.00005	<0.0001	0.0007	<0.001	<0.03	<0.00005	2.03
S667949+S667933		<0.00005	0.009	<0.001	0.08	<0.001	<0.0005	<0.0005	1.7	<0.00005	0.0003	<0.0005	<0.001	<0.03	<0.00005	2.28
S667922+S667950		<0.00005	0.019	<0.001	0.07	<0.002	<0.0005	<0.0005	5.1	<0.00005	0.0001	<0.0005	<0.001	<0.03	<0.00005	4.89
S668211+S668212		<0.00005	0.079	<0.001	0.12	0.001	<0.0005	<0.0005	7.2	<0.00005	<0.0001	0.0021	<0.001	<0.03	<0.00005	2.47
S667772+S667770		<0.00005	0.151	<0.001	0.07	0.002	<0.0005	<0.0005	5.0	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	3.28
S668186+S667869		<0.00005	0.273	<0.001	<0.01	<0.001	<0.0005	<0.0005	0.5	<0.00005	<0.0001	0.0020	<0.001	<0.03	<0.00005	2.61
S668222+S668223		<0.00005	0.030	<0.001	0.04	<0.001	<0.0005	<0.0005	1.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	1.58
S668169+S667791		<0.00005	0.063	<0.001	0.03	0.002	<0.0005	<0.0005	4.2	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	11.60
S667892+S667898		<0.00005	0.123	<0.001	0.35	<0.001	<0.0005	<0.0005	2.3	<0.00005	<0.0001	0.0011	<0.001	0.13	<0.00005	2.23
S667765+S667790		<0.00005	0.045	<0.001	0.04	0.002	<0.0005	<0.0005	6.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	5.63
S668162+S668208		<0.00005	0.046	<0.001	0.05	0.001	<0.0005	<0.0005	3.0	<0.00005	<0.0001	0.0007	<0.001	<0.03	<0.00005	7.92
S667810+S667808		<0.00005	0.036	<0.001	0.05	0.003	<0.0005	<0.0005	4.7	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	5.64
S667864+S667825		<0.00005	<0.005	<0.001	0.09	0.004	<0.0005	<0.0005	16.8	<0.00005	0.0004	<0.0005	<0.001	<0.03	<0.00005	7.00
S668537+S668538		<0.00005	5.330	<0.001	0.07	0.059	<0.0005	<0.0005	0.2	<0.00005	0.0009	0.0009	0.002	4.47	<0.00005	47.90
S668536+S668539		<0.00005	4.350	<0.001	0.07	0.070	<0.0005	<0.0005	0.2	<0.00005	0.0008	0.0006	0.002	4.07	<0.00005	45.90
S666542+S666557		<0.00005	0.091	<0.001	0.06	0.002	<0.0005	<0.0005	3.0	<0.00005	<0.0001	<0.0005	<0.001	0.07	<0.00005	3.28
S108739+S108760		<0.00005	7.920	<0.001	0.07	0.076	<0.0005	<0.0005	0.2	<0.00005	0.0009	0.0007	0.004	4.52	<0.00005	36.80
S108881+S108885		<0.00005	15.500	0.002	0.16	0.348	0.0013	<0.0005	0.3	<0.00005	0.0018	0.0015	0.008	8.27	<0.00005	27.60
S108886+S666176		<0.00005	15.900	<0.001	0.19	0.260	0.0014	<0.0005	0.3	<0.00005	0.0029	0.0013	0.011	9.31	<0.00005	30.10
S108960+S108965		<0.00005	15.900	0.001	0.30	0.209	0.0013	<0.0005	0.5	<0.00005	0.0048	0.0019	0.047	8.79	<0.00005	30.10
S108977+S108979		<0.00005	16.200	0.003	0.18	0.540	0.0014	<0.0005	0.4	<0.00005	0.0032	0.0020	0.021	7.38	<0.00005	31.00

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21044878

Sample Description	Method Analyte Units LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
S666640+S666641		0.136	136.00	1.5600	<0.0001	1.4	1.02	0.0277	<0.0001	<0.3	<0.0001	0.0024	9.98	<0.0005	0.0299	<0.01
S666613+S666610		0.006	86.80	0.0674	0.0029	1.1	2.75	<0.0005	<0.0001	<0.3	<0.0001	0.0022	3.78	<0.0005	0.0085	<0.01
S667367+S667371		<0.005	16.80	0.0040	0.0073	0.5	0.60	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.66	<0.0005	0.0039	<0.01
S667379+S667378		<0.005	18.30	0.0037	0.0048	0.7	0.87	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.08	<0.0005	0.0066	<0.01
S667404+S667429		<0.005	12.60	0.0028	0.0062	0.6	1.05	<0.0005	<0.0001	<0.3	0.0001	<0.0005	2.18	<0.0005	0.0057	<0.01
S667408+S667411		<0.005	14.70	0.0023	0.0065	0.8	0.99	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.31	<0.0005	0.0042	<0.01
S667453+S667451		<0.005	10.90	0.0052	0.0072	0.9	2.27	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.17	<0.0005	0.0029	<0.01
S667446+S667445		<0.005	15.70	0.0034	0.0112	1.4	1.63	<0.0005	<0.0001	<0.3	<0.0001	0.0008	4.85	<0.0005	0.0046	<0.01
S667442+S667495		<0.005	11.40	0.0038	0.0073	0.6	1.39	<0.0005	<0.0001	<0.3	<0.0001	0.0012	2.44	<0.0005	0.0044	<0.01
S667470+S667498		0.101	19.30	0.0075	0.0199	1.2	0.67	0.0016	<0.0001	<0.3	<0.0001	0.0010	4.91	<0.0005	0.0101	<0.01
S667483+S667488		<0.005	7.66	0.0027	0.0073	0.8	2.05	0.0014	<0.0001	<0.3	<0.0001	<0.0005	2.89	<0.0005	0.0045	<0.01
S667485+S667494		<0.005	9.01	0.0033	0.0044	1.0	1.80	<0.0005	<0.0001	<0.3	<0.0001	0.0006	2.82	<0.0005	0.0048	<0.01
S667491+S667487		<0.005	9.48	0.0024	0.0259	0.8	1.73	<0.0005	<0.0001	<0.3	<0.0001	0.0006	2.84	<0.0005	0.0029	<0.01
S667555+S667554		<0.005	10.40	0.0020	0.0081	0.6	1.02	<0.0005	<0.0001	<0.3	0.0002	0.0005	2.56	<0.0005	0.0030	<0.01
S667557+S667497		<0.005	17.20	0.0050	0.0061	1.1	1.02	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.21	<0.0005	0.0046	<0.01
S667496+S667500		<0.005	19.00	0.0037	0.0205	0.8	0.96	<0.0005	<0.0001	<0.3	<0.0001	0.0018	3.14	<0.0005	0.0041	<0.01
S667928+S667908		0.029	12.90	0.0018	0.0030	0.8	2.85	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.77	<0.0005	0.0068	<0.01
S667963+S667907		0.022	13.90	0.0016	0.0038	0.6	3.25	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.90	<0.0005	0.0087	<0.01
S667905+S667977		0.033	18.50	0.0064	0.0027	0.8	1.33	<0.0005	<0.0001	<0.3	0.0001	0.0014	6.76	<0.0005	0.0065	<0.01
S667902+S667900		0.014	21.60	0.0172	0.0059	1.1	1.04	0.0010	<0.0001	<0.3	<0.0001	0.0025	6.41	<0.0005	0.0062	<0.01
S667949+S667933		0.012	45.40	0.0481	0.0027	1.5	0.81	0.0019	<0.0001	<0.3	<0.0001	0.0081	10.20	<0.0005	0.0068	<0.01
S667922+S667950		0.012	79.60	0.0392	0.0016	1.4	1.58	0.0006	<0.0001	<0.3	<0.0001	0.0129	5.03	<0.0005	0.0368	<0.01
S668211+S668212		0.010	10.80	0.0021	0.0036	0.7	2.57	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.45	<0.0005	0.0119	<0.01
S667772+S667770		0.007	8.75	0.0010	0.0061	<0.3	1.81	<0.0005	<0.0001	<0.3	<0.0001	0.0009	3.80	<0.0005	0.0197	<0.01
S668186+S667869		<0.005	15.90	0.0012	0.0015	0.4	0.49	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.43	<0.0005	0.0030	<0.01
S668222+S668223		0.023	9.52	0.0008	0.0038	0.8	0.59	<0.0005	<0.0001	<0.3	<0.0001	0.0023	7.89	<0.0005	0.0077	<0.01
S668169+S667791		<0.005	40.00	0.0205	0.0095	1.0	3.23	<0.0005	<0.0001	<0.3	<0.0001	0.0012	3.55	<0.0005	0.0066	<0.01
S667892+S667898		0.027	11.00	0.0014	0.0004	1.4	2.34	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	4.30	<0.0005	0.0058	<0.01
S667765+S667790		<0.005	61.80	0.0286	0.0050	1.1	3.37	<0.0005	<0.0001	<0.3	<0.0001	0.0010	3.70	<0.0005	0.0046	<0.01
S668162+S668208		0.007	56.30	0.0166	0.0037	1.1	1.90	<0.0005	<0.0001	<0.3	<0.0001	0.0010	3.82	<0.0005	0.0058	<0.01
S667810+S667808		0.010	36.40	0.0069	0.0181	2.2	2.04	<0.0005	<0.0001	<0.3	<0.0001	0.0058	4.45	<0.0005	0.0209	<0.01
S667864+S667825		0.040	240.00	0.3210	0.0001	3.4	1.48	0.0020	<0.0001	<0.3	<0.0001	0.0058	6.82	<0.0005	0.0508	<0.01
S668537+S668538		0.006	3.32	0.0286	0.0500	0.3	3.29	0.0011	0.0004	<0.3	0.0002	<0.0005	8.51	<0.0005	0.0040	0.17
S668536+S668539		0.006	3.17	0.0255	0.0438	0.3	3.91	0.0009	0.0003	<0.3	<0.0001	<0.0005	7.26	<0.0005	0.0033	0.13
S666542+S666557		0.005	7.58	0.0024	0.0041	0.8	1.55	<0.0005	<0.0001	<0.3	<0.0001	0.0005	4.07	<0.0005	0.0070	<0.01
S108739+S108760		0.008	2.89	0.0234	0.0365	0.3	2.82	0.0010	0.0004	<0.3	0.0002	<0.0005	12.90	<0.0005	0.0039	0.17
S108881+S108885		0.046	4.39	0.0511	0.0126	0.3	2.53	0.0020	0.0012	<0.3	<0.0001	<0.0005	19.90	<0.0005	0.0040	0.33
S108886+S666176		0.044	5.88	0.0899	0.0083	0.3	3.60	0.0043	0.0015	<0.3	<0.0001	<0.0005	21.50	<0.0005	0.0065	0.25
S108960+S108965		0.106	6.36	0.0597	0.0140	0.5	2.79	0.0057	0.0019	<0.3	0.0001	0.0011	20.20	<0.0005	0.0127	0.22
S108977+S108979		0.051	5.34	0.0566	0.0021	0.3	3.00	0.0029	0.0032	<0.3	0.0001	<0.0005	20.50	<0.0005	0.0087	0.28

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21044878

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
	Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
	Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
	LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
S666640+S666641		<0.0001	0.00001	<0.001	<0.01	572	5.9	<0.3	9.1	<0.1	0.309	537	725	1060	2
S666613+S666610		<0.0001	<0.00001	<0.001	<0.01	381	6.6	<0.3	2.9	0.22	1.140	346	484	770	8
S667367+S667371		<0.0001	<0.00001	<0.001	<0.01	70.5	7.4	<0.05	1.6	0.21	0.329	<0.5	47	162	24
S667379+S667378		<0.0001	<0.00001	<0.001	<0.01	77.6	7.2	<0.05	1.5	0.26	0.721	1.0	55	177	25
S667404+S667429		<0.0001	<0.00001	<0.001	<0.01	54.1	7.4	<0.05	1.7	0.32	0.758	2.0	52	141	22
S667408+S667411		<0.0001	<0.00001	<0.001	<0.01	63.4	7.4	<0.05	2.6	0.29	0.654	0.7	58	165	28
S667453+S667451		<0.0001	<0.00001	<0.001	<0.01	48.9	7.2	<0.05	2.0	0.34	1.370	2.9	56	136	20
S667446+S667445		<0.0001	<0.00001	<0.001	<0.01	71.5	7.4	<0.05	2.3	0.39	8.03	5.5	98	196	23
S667442+S667495		<0.0001	<0.00001	<0.001	<0.01	50.6	7.3	<0.05	2.2	0.36	0.713	4.5	53	134	21
S667470+S667498		<0.0001	0.00003	<0.001	<0.01	84.5	7.2	0.06	4.7	0.23	0.290	40.4	94	202	11
S667483+S667488		<0.0001	<0.00001	<0.001	<0.01	34.6	7.4	<0.05	3.3	0.37	1.120	2.1	55	116	21
S667485+S667494		<0.0001	<0.00001	<0.001	<0.01	40.6	7.4	<0.05	2.7	0.37	1.120	4.5	58	124	22
S667491+S667487		<0.0001	<0.00001	<0.001	<0.01	42.8	7.4	<0.05	2.6	0.35	0.469	5.4	51	119	20
S667555+S667554		<0.0001	<0.00001	<0.001	<0.01	45.6	7.3	<0.05	2.0	0.47	0.643	3.2	48	121	20
S667557+S667497		<0.0001	<0.00001	<0.001	<0.01	76.2	7.3	<0.05	2.0	0.33	12.80	3.7	109	215	19
S667496+S667500		<0.0001	<0.00001	<0.001	<0.01	85.8	7.2	<0.05	2.0	0.51	1.150	43.3	101	212	19
S667928+S667908		<0.0001	<0.00001	<0.001	<0.01	55.9	7.3	0.11	9.4	0.45	0.347	1.0	61	156	22
S667963+S667907		<0.0001	<0.00001	<0.001	<0.01	60.6	7.2	0.13	13.6	0.29	0.370	4.5	69	168	21
S667905+S667977		<0.0001	0.00002	<0.001	<0.01	79.5	7.1	<0.05	4.3	0.43	0.409	36.6	100	192	18
S667902+S667900		<0.0001	0.00002	<0.001	<0.01	94.2	7.2	<0.05	3.6	0.40	0.364	49.3	111	213	20
S667949+S667933		<0.0001	0.00001	<0.001	<0.01	191.0	6.9	<0.05	2.7	0.38	0.502	133.0	222	362	11
S667922+S667950		<0.0001	<0.00001	<0.001	<0.01	340	6.9	<0.05	3.1	0.15	0.432	289	404	628	8
S668211+S668212		<0.0001	<0.00001	<0.001	<0.01	62.4	7.9	0.11	7.6	0.57	0.638	7.3	75	144	40
S667772+S667770		<0.0001	0.00003	<0.001	<0.01	48.5	7.7	0.13	9.0	0.34	0.489	3.2	62	114	30
S668186+S667869		<0.0001	<0.00001	<0.001	<0.01	66.8	7.5	<0.05	1.1	0.32	1.300	1.7	49	136	24
S668222+S668223		<0.0001	<0.00001	<0.001	<0.01	42.6	7.2	<0.05	3.4	0.61	7.17	2.9	79	115	10
S668169+S667791		<0.0001	<0.00001	<0.001	<0.01	175.0	7.0	<0.05	1.6	0.60	2.80	141.0	230	388	9
S667892+S667898		<0.0001	<0.00001	<0.001	<0.01	51.1	7.6	0.08	7.4	0.93	0.397	<0.5	57	117	26
S667765+S667790		<0.0001	0.00001	<0.001	<0.01	272	7.0	<0.05	2.2	0.43	0.226	239	337	524	9
S668162+S668208		<0.0001	0.00002	<0.001	<0.01	239	6.9	<0.05	1.4	0.38	2.21	202	298	476	8
S667810+S667808		<0.0001	0.00002	<0.001	<0.01	162.0	7.6	<0.05	3.5	0.60	1.790	110.0	199	335	26
S667864+S667825		<0.0001	<0.00001	<0.001	<0.01	1030	6.2	<0.5	6.4	<0.2	0.785	979	1280	1580	4
S668537+S668538		<0.0001	0.00022	0.006	<0.01	14.2	7.9	<0.05	2.2	0.84	0.374	3.4	113	159	27
S668536+S668539		<0.0001	0.00019	0.004	<0.01	13.6	7.8	<0.05	2.2	0.72	0.301	5.9	108	158	26
S666542+S666557		<0.0001	0.00001	<0.001	<0.01	38.8	7.4	0.05	4.4	0.33	0.455	5.2	50	95	19
S108739+S108760		<0.0001	0.00027	0.006	<0.01	12.3	7.6	<0.05	2.0	0.56	0.598	8.7	117	121	20
S108881+S108885		0.0001	0.00096	0.011	<0.01	18.7	8.0	<0.05	2.0	0.60	0.347	2.0	134	80	23
S108886+S666176		0.0001	0.00134	0.013	<0.01	25.0	7.9	<0.05	2.0	0.73	1.690	1.6	154	102	30
S108960+S108965		<0.0001	0.00070	0.009	0.03	27.5	7.5	<0.05	1.6	0.62	0.403	4.6	143	99	23
S108977+S108979		0.0001	0.00161	0.013	0.03	22.9	8.0	<0.05	1.7	0.62	0.430	3.6	142	91	24

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21044878

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
S108991+S108995		<0.00005	13.000	<0.001	0.12	0.180	0.0006	<0.0005	0.3	<0.00005	0.0020	0.0031	0.005	5.83	<0.0003	45.00
S666051+S666054		0.00010	12.900	<0.001	0.04	0.228	<0.0005	<0.0005	0.2	<0.00005	0.0016	0.0011	0.006	5.85	<0.0003	49.50
S666084+S666089		<0.00005	10.300	<0.001	0.22	0.106	0.0006	<0.0005	0.3	<0.00005	0.0016	0.0010	0.005	4.57	<0.0003	31.50
S666113+S666119		<0.00005	8.310	<0.001	0.11	0.109	0.0005	0.0008	0.3	<0.00005	0.0016	0.0024	0.010	4.87	<0.0003	31.50
S666123+S666125		<0.00005	8.800	<0.001	0.20	0.083	0.0011	<0.0005	0.2	<0.00005	0.0014	0.0009	0.003	4.03	<0.0003	26.90
S666131+S666132		<0.00005	10.300	<0.001	0.20	0.099	0.0013	<0.0005	0.3	<0.00005	0.0017	0.0010	0.004	5.13	<0.0003	28.40
S666144+S666146		<0.00005	7.850	<0.001	0.08	0.081	0.0005	<0.0005	0.2	<0.00005	0.0013	0.0013	0.007	4.27	<0.0003	28.80
S666147+S666148		<0.00005	8.780	<0.001	0.07	0.115	<0.0005	<0.0005	0.2	<0.00005	0.0014	0.0014	0.007	4.17	<0.0003	30.80
S666151+S666153		<0.00005	7.490	<0.001	0.18	0.065	0.0010	<0.0005	0.2	<0.00005	0.0013	0.0011	0.004	3.66	<0.0003	24.00
S666301+S666299		0.00010	8.960	0.001	0.03	0.094	<0.0005	<0.0005	0.2	<0.00005	0.0016	0.0011	0.013	6.20	<0.0003	39.50
S666302+S666300		<0.00005	0.203	<0.001	0.06	0.002	<0.0005	<0.0005	0.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	27.40
S666909+S666954		<0.00005	8.430	<0.001	0.12	0.074	0.0009	<0.0005	0.1	<0.00005	0.0012	0.0006	0.006	3.98	<0.0003	29.40
S666939+S666964		<0.00005	7.540	<0.001	0.21	0.066	0.0010	<0.0005	0.4	<0.00005	0.0013	0.0020	0.003	3.71	<0.0003	32.10
S666947+S666948		<0.00005	7.180	<0.001	0.14	0.067	0.0009	<0.0005	0.2	<0.00005	0.0011	0.0008	0.003	3.49	<0.0003	28.40
S666974+S667165		<0.00005	0.007	<0.001	0.17	0.003	<0.0005	<0.0005	1.8	<0.00005	0.0003	<0.0005	<0.001	<0.03	<0.00005	1.72
S667190+S667145		<0.00005	0.038	<0.001	0.23	0.010	<0.0005	<0.0005	1.2	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	18.60
S667217+S667058		<0.00005	0.104	<0.001	0.07	0.003	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0021	<0.001	<0.03	<0.00005	23.20
S667236+S667275		<0.00005	0.040	<0.001	0.32	0.009	<0.0005	<0.0005	1.5	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	10.50
S668744+S668745		0.00006	12.600	<0.001	0.16	0.040	0.0007	0.0025	0.6	0.00007	0.0010	0.0007	0.030	3.43	<0.0003	31.10
S666663+S666664		<0.00005	0.841	<0.001	0.05	0.012	<0.0005	<0.0005	10.7	<0.00005	0.0001	0.0005	0.004	0.40	<0.0003	17.40

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21044878

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
	Analyte	Li	Mg	Mn	Mo	Moisture	Na	Ni	Pb	P	Sb	Se	Si	Sn	Sr	Ti
	Units	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOD	0.005	0.05	0.0005	0.0001	0.3	0.05	0.0005	0.0001	0.3	0.0001	0.0005	0.05	0.0005	0.0005	0.01
S108991+S108995		0.035	4.52	0.0544	0.0052	0.6	3.83	0.0040	0.0041	0.3	<0.0001	<0.0005	15.10	<0.0005	0.0062	0.28
S666051+S666054		0.010	3.71	0.0563	0.0081	0.4	3.46	0.0015	0.0070	0.5	<0.0001	<0.0005	16.10	<0.0005	0.0037	0.33
S666084+S666089		0.066	3.66	0.0447	0.0011	0.7	3.73	0.0019	0.0008	<0.3	<0.0001	<0.0005	13.50	<0.0005	0.0081	0.18
S666113+S666119		0.017	2.90	0.0397	0.0066	0.4	3.23	0.0020	0.0034	<0.3	<0.0001	<0.0005	12.60	<0.0005	0.0033	0.21
S666123+S666125		0.049	2.61	0.0268	0.0009	0.6	3.41	0.0024	0.0009	<0.3	<0.0001	<0.0005	12.90	<0.0005	0.0036	0.12
S666131+S666132		0.052	3.42	0.0354	0.0010	0.6	3.43	0.0022	0.0010	<0.3	<0.0001	<0.0005	13.80	<0.0005	0.0044	0.16
S666144+S666146		0.014	2.65	0.0320	0.0035	0.5	2.50	0.0017	0.0016	<0.3	<0.0001	<0.0005	11.60	<0.0005	0.0023	0.14
S666147+S666148		0.011	2.22	0.0266	0.0033	0.4	2.98	0.0019	0.0009	<0.3	0.0001	<0.0005	13.00	<0.0005	0.0024	0.17
S666151+S666153		0.043	2.83	0.0285	0.0014	0.6	2.84	0.0017	0.0015	<0.3	<0.0001	<0.0005	11.50	<0.0005	0.0037	0.08
S666301+S666299		0.009	3.10	0.0499	0.0088	0.4	3.23	0.0012	0.0039	0.3	0.0001	<0.0005	12.80	<0.0005	0.0059	0.24
S666302+S666300		0.006	3.98	0.0017	0.0128	0.7	2.18	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.42	<0.0005	0.0032	<0.01
S666909+S666954		0.026	2.47	0.0300	0.0055	0.5	3.43	0.0014	0.0013	<0.3	<0.0001	<0.0005	14.10	<0.0005	0.0034	0.11
S666939+S666964		0.034	3.53	0.0365	0.0025	0.6	4.10	0.0026	0.0023	<0.3	<0.0001	<0.0005	11.50	<0.0005	0.0056	0.12
S666947+S666948		0.025	2.21	0.0280	0.0012	0.4	3.38	0.0014	0.0013	<0.3	<0.0001	<0.0005	11.80	<0.0005	0.0031	0.12
S666974+S667165		0.112	29.70	0.1190	0.0046	<0.3	1.30	0.0015	<0.0001	<0.3	<0.0001	0.0021	6.21	<0.0005	0.0151	<0.01
S667190+S667145		0.036	41.40	0.0065	0.0369	1.5	2.53	<0.0005	<0.0001	<0.3	<0.0001	0.0008	3.04	<0.0005	0.0144	<0.01
S667217+S667058		0.008	9.69	0.0028	0.0258	0.9	3.90	<0.0005	<0.0001	<0.3	0.0002	0.0006	3.06	<0.0005	0.0042	<0.01
S667236+S667275		0.182	35.00	0.0108	0.0336	1.4	2.03	<0.0005	<0.0001	<0.3	<0.0001	0.0017	3.72	<0.0005	0.0119	<0.01
S668744+S668745		0.008	4.20	0.0224	0.0022	0.7	2.05	0.0014	0.0021	<0.3	<0.0001	<0.0005	16.70	<0.0005	0.0035	0.05
S666663+S666664		0.006	3.24	0.0115	0.0188	0.4	15.70	0.0006	0.0009	<0.3	0.0001	0.0009	5.37	<0.0005	0.0119	0.02

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21044878

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Tl ppm 0.0001	OA-SFE01 U mg/L 0.00001	OA-SFE01 V mg/L 0.001	OA-SFE01 Zn mg/L 0.01	OA-SFE01 Hardness mg/L CaCO3e 0.6	OA-SFE01 Final pH Unity 0.1	MS14L-ANPH Br mg/L 0.05	MS14L-ANPH Cl mg/L 0.5	MS14L-ANPH F mg/L 0.02	MS14L-ANPH NO3 (as mg/L 0.005	MS14L-ANPH SO4 mg/L 0.5	MS14L-ANPH TDS mg/L 3	MS14L-ANPH Conducti uS/cm 2	MS14L-ANPH Alkalini mg/L CaCO3e 1
S108991+S108995		<0.0001	0.00085	0.019	0.01	19.4	8.9	<0.05	1.3	0.87	1.650	1.9	143	131	28
S666051+S666054		0.0001	0.00126	0.019	0.02	15.9	9.1	<0.05	0.9	0.90	1.420	1.6	150	142	33
S666084+S666089		<0.0001	0.00048	0.012	<0.01	15.8	8.0	<0.05	1.3	0.61	0.210	<0.5	108	98	22
S666113+S666119		<0.0001	0.00053	0.015	0.01	12.6	8.0	<0.05	1.7	0.72	1.060	2.4	107	99	20
S666123+S666125		<0.0001	0.00066	0.008	<0.01	11.3	7.7	<0.05	1.7	0.67	0.252	<0.5	96	86	17
S666131+S666132		<0.0001	0.00084	0.008	<0.01	14.8	7.8	<0.05	1.9	0.66	0.577	0.6	105	90	17
S666144+S666146		<0.0001	0.00074	0.009	<0.01	11.4	7.7	<0.05	2.3	0.63	0.654	1.1	95	90	16
S666147+S666148		<0.0001	0.00058	0.016	<0.01	9.6	8.0	<0.05	2.8	0.73	1.060	1.5	106	96	18
S666151+S666153		<0.0001	0.00113	0.006	<0.01	12.2	7.6	<0.05	1.5	0.60	0.455	<0.5	87	78	16
S666301+S666299		0.0001	0.00172	0.013	<0.01	13.3	8.0	<0.05	1.4	0.69	0.847	10.9	126	122	21
S666302+S666300		<0.0001	0.00002	<0.001	<0.01	17.3	7.1	<0.05	4.0	0.45	0.273	1.7	57	120	14
S666909+S666954		<0.0001	0.00211	0.007	<0.01	10.5	7.5	<0.05	1.5	0.64	0.384	2.1	102	95	14
S666939+S666964		<0.0001	0.00079	0.007	<0.01	15.5	7.5	<0.05	1.9	0.73	0.382	1.8	100	108	17
S666947+S666948		<0.0001	0.00098	0.008	<0.01	9.6	7.7	<0.05	1.5	0.60	0.461	<0.5	91	88	16
S666974+S667165		<0.0001	<0.00001	<0.001	<0.01	127.0	6.6	0.11	11.1	0.08	0.239	95.6	163	270	5
S667190+S667145		<0.0001	0.00001	<0.001	<0.01	173.0	6.9	<0.05	4.4	0.32	0.485	123.0	209	384	11
S667217+S667058		<0.0001	0.00003	<0.001	<0.01	41.6	7.2	<0.05	3.9	0.40	0.430	27.7	87	168	11
S667236+S667275		<0.0001	0.00002	<0.001	<0.01	148.0	7.1	0.05	8.4	0.22	0.723	114.0	193	333	11
S668744+S668745		<0.0001	0.00161	0.004	<0.01	18.7	7.4	<0.05	4.4	0.65	0.376	0.5	115	98	13
S666663+S666664		<0.0001	0.00941	0.003	<0.01	40.1	8.2	<0.05	5.7	0.54	0.512	4.5	111	183	58

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21044878

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.	
Applies to Method:	FND-02	SND-01
	Processed at ALSE Vancouver, Burnaby, BC, Canada.	
Applies to Method:	MS14L-ANPH	OA-SFE01

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-APR-2021
Account: BIMCIO

CERTIFICATE VA21075715

Project: Pulps for ABA

P.O. No.: 4500073289

This report is for 37 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 29-MAR-2021.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	PAUL DAWE
JASON DUFF	SIMON FLEURY	ELEANOR GRANT
DANIEL JANUSAUSKAS	FRED LAWRENCE	JORDON MARSH
FRANK PILECKI	HAYLEY POTHIER	JACOB PRINCE
MATTHEW TRACEY	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
ROL-21	Manual Sheet Rolling
PUL-32p	Pulverize 400 g - 85%<75um
SPL-34Z	Pulp (Z) Split - For send out
LOG-22	Sample login - Rcd w/o BarCode
PUL-QC	Pulverizing QC Test

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-APR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21075715

Sample Description / Method	WEI-21	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
Analyte	Recvd Wt.	MPA	FIZZ RAT	NNP	NP	pH	Ratio (N	S	S	S	S	C	CO2
Units	kg	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
LOD	0.02	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.05	0.2
S660109	0.42	9.4	1	5	14	8.4	1.49	0.30	<0.01	0.04	0.30	<0.05	<0.2
S660121	0.39	0.6	1	14	15	8.4	24.00	0.02	<0.01	0.01	0.02	<0.05	<0.2
S660208	0.42	<0.3	1	14	14	8.6	89.60	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
S660269	0.43	<0.3	1	10	10	9.6	64.00	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
S660377	0.25	6.9	1	4	11	6.8	1.60	0.22	0.15	0.22	0.07	<0.05	<0.2
S660389	0.32	0.3	1	20	20	8.6	64.00	0.01	<0.01	0.02	0.01	<0.05	<0.2
S660390	0.38	0.6	1	12	13	8.4	20.80	0.02	<0.01	0.01	0.02	<0.05	<0.2
S660658	0.45	2.8	1	18	21	8.4	7.47	0.09	<0.01	0.05	0.09	<0.05	<0.2
S660854	0.38	<0.3	1	20	20	8.2	128.00	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
S660866	0.51	<0.3	1	16	16	8.3	102.40	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S670694	0.41	0.9	1	11	12	9.3	12.80	0.03	<0.01	0.04	0.03	<0.05	<0.2
S670709	0.41	1.6	1	10	12	9.1	7.68	0.05	0.01	0.05	0.04	<0.05	<0.2
S670764	0.35	0.6	1	11	12	9.4	19.20	0.02	<0.01	0.01	0.02	<0.05	<0.2
S670765	0.32	<0.3	1	14	14	9.3	89.60	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
S670766	0.35	<0.3	1	11	11	9.3	70.40	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S670792	0.43	0.6	1	11	12	9.6	19.20	0.02	0.01	0.02	0.01	<0.05	<0.2
S670793	0.40	0.9	1	12	13	9.0	13.87	0.03	<0.01	0.05	0.03	<0.05	<0.2
S670794	0.40	<0.3	1	15	15	9.6	96.00	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S670795	0.39	0.6	1	13	14	8.4	22.40	0.02	<0.01	0.02	0.02	<0.05	<0.2
S670818	0.33	<0.3	1	9	9	7.6	57.60	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S670829	0.34	0.6	1	12	13	7.5	20.80	0.02	0.01	0.04	0.01	<0.05	<0.2
S670963	0.61	<0.3	1	15	15	8.0	96.00	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S670964	0.44	0.3	1	14	14	7.7	44.80	0.01	0.01	0.01	<0.01	<0.05	<0.2
S670965	0.52	<0.3	1	19	19	7.6	121.60	<0.01	0.01	0.01	<0.01	<0.05	<0.2
S670966	0.44	5.3	1	10	15	7.5	2.82	0.17	0.01	<0.01	0.16	<0.05	<0.2
S670967	0.38	0.9	1	19	20	7.4	21.33	0.03	0.01	0.03	0.02	<0.05	<0.2
S671194	0.37	<0.3	1	17	17	8.1	108.80	<0.01	0.01	0.03	<0.01	<0.05	<0.2
S671195	0.44	1.9	1	12	14	7.4	7.47	0.06	0.03	0.09	0.03	<0.05	<0.2
S671196	0.36	<0.3	1	14	14	8.1	89.60	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S671197	0.42	<0.3	1	13	13	7.8	83.20	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S671257	0.43	<0.3	1	10	10	7.7	64.00	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S671356	0.48	0.6	1	11	12	7.5	19.20	0.02	0.01	0.04	0.01	<0.05	<0.2
S671586	0.46	<0.3	1	11	11	9.1	70.40	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S671587	0.41	<0.3	1	11	11	9.4	70.40	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S671588	0.47	<0.3	1	10	10	9.3	64.00	<0.01	0.01	0.02	<0.01	<0.05	<0.2
S671725	0.40	<0.3	1	11	11	8.7	70.40	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
S671961	0.33	2.2	1	9	11	7.9	5.03	0.07	<0.01	0.08	0.07	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-APR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21075715

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:

C-GAS05	LOG-22	OA-ELE07	OA-VOL08
PUL-32p	PUL-QC	ROL-21	S-CAL06
S-GRA06	S-GRA06a	S-IR08	SPL-34Z
WEI-21			

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-APR-2021
Account: BIMCIO

CERTIFICATE VA21076769

Project: Pulps for ABA

P.O. No.: 4500073289

This report is for 37 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 29-MAR-2021.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	PAUL DAWE
JASON DUFF	SIMON FLEURY	ELEANOR GRANT
DANIEL JANUSAUSKAS	FRED LAWRENCE	JORDON MARSH
FRANK PILECKI	HAYLEY POTHIER	JACOB PRINCE
MATTHEW TRACEY	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, General Manager, North Vancouver

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-APR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21076769

Sample Description	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LOD	0.00005	0.005	0.001	0.01	0.001	0.0005	0.0005	0.1	0.00005	0.0001	0.0005	0.001	0.03	0.00005	0.05
S660109	<0.00005	0.137	<0.001	0.03	<0.001	<0.0005	<0.0005	1.4	<0.00005	<0.0001	0.0065	<0.001	<0.03	<0.00005	0.64
S660121	<0.00005	0.207	<0.001	0.03	<0.001	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0062	<0.001	<0.03	<0.00005	7.04
S660208	<0.00005	5.680	<0.001	0.37	0.037	<0.0005	<0.0005	0.5	<0.00005	0.0007	<0.0005	0.002	4.72	<0.00005	28.20
S660269	<0.0001	20.200	<0.002	0.17	0.257	<0.001	<0.001	0.2	<0.0001	0.0034	0.0038	0.003	15.30	<0.00005	55.20
S660377	<0.00005	0.006	<0.001	0.20	0.003	<0.0005	<0.0005	7.1	<0.00005	0.0006	<0.0005	<0.001	<0.03	<0.0005	9.81
S660389	<0.00005	0.164	<0.001	0.06	<0.001	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0134	<0.001	<0.03	<0.00005	1.34
S660390	<0.00005	0.130	<0.001	0.12	<0.001	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0031	<0.001	0.04	<0.00005	0.86
S660658	<0.00005	0.083	<0.001	0.03	0.002	<0.0005	<0.0005	1.5	<0.00005	<0.0001	0.0148	<0.001	0.03	<0.00005	10.10
S660854	<0.00005	0.059	<0.001	0.01	<0.001	<0.0005	<0.0005	1.9	<0.00005	<0.0001	0.0106	<0.001	0.10	<0.00005	2.04
S660866	<0.00005	0.118	<0.001	0.15	<0.001	<0.0005	<0.0005	2.6	<0.00005	<0.0001	0.0014	<0.001	0.12	<0.00005	3.53
S670694	0.00011	16.600	<0.002	0.11	0.156	<0.001	<0.001	0.3	<0.0001	0.0030	0.0018	0.058	12.80	<0.00005	43.70
S670709	0.00015	15.600	<0.002	0.27	0.128	0.0030	0.0027	0.5	<0.0001	0.0048	0.0075	0.185	11.30	<0.0005	34.30
S670764	<0.0001	21.600	<0.002	0.25	0.309	<0.001	<0.001	0.9	<0.0001	0.0045	0.0040	0.007	16.30	<0.0005	46.40
S670765	<0.0001	24.600	<0.002	0.33	0.456	0.0019	<0.001	1.1	<0.0001	0.0039	0.0015	0.059	16.00	<0.0005	54.90
S670766	<0.0001	15.200	<0.002	0.15	0.146	0.0011	<0.001	0.5	<0.0001	0.0028	0.0034	0.007	9.09	<0.0005	38.80
S670792	<0.0001	15.900	<0.002	0.24	0.194	<0.001	<0.001	0.5	0.00075	0.0031	0.0017	0.011	11.40	<0.0005	51.70
S670793	<0.0001	15.300	<0.002	0.34	0.116	0.0017	<0.001	0.6	<0.0001	0.0035	0.0061	0.006	12.10	<0.0005	35.00
S670794	0.00011	22.500	<0.002	0.23	0.468	<0.001	<0.001	0.9	<0.0001	0.0052	0.0034	0.067	21.60	<0.0005	64.90
S670795	<0.00005	35.400	<0.001	0.36	0.178	0.0021	<0.0005	0.5	<0.00005	0.0059	0.0110	0.008	20.40	<0.0005	37.50
S670818	<0.00005	5.160	0.002	0.93	0.009	<0.0005	<0.0005	0.3	<0.00005	0.0018	0.0085	0.002	2.58	<0.0005	26.70
S670829	<0.00005	3.120	<0.001	0.95	0.005	<0.0005	<0.0005	0.6	<0.00005	0.0008	0.0060	<0.001	2.19	<0.00005	18.70
S670963	<0.00005	2.230	<0.001	0.07	0.007	<0.0005	<0.0005	0.2	<0.0003	0.0011	0.0160	0.003	3.58	<0.00005	22.60
S670964	<0.00005	0.145	<0.001	0.03	<0.001	<0.0005	<0.0005	0.3	<0.001	<0.0001	0.0011	<0.001	0.07	<0.00005	5.92
S670965	<0.00005	0.119	<0.001	0.04	<0.001	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0023	<0.001	0.23	<0.00005	0.59
S670966	<0.00005	0.074	<0.001	0.07	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	<0.0005	<0.001	0.16	<0.0005	0.69
S670967	<0.00005	0.059	<0.001	0.16	0.003	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0012	<0.001	<0.03	<0.00005	13.60
S671194	<0.00005	0.217	<0.001	0.03	<0.001	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0028	<0.001	<0.03	<0.00005	2.94
S671195	<0.00005	0.085	<0.001	0.12	0.002	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0009	<0.001	<0.03	<0.00005	0.60
S671196	<0.00005	0.173	<0.001	0.02	<0.001	<0.0005	<0.0005	0.1	<0.00005	<0.0001	0.0067	<0.001	<0.03	<0.00005	0.37
S671197	<0.00005	0.213	<0.001	0.20	<0.001	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0065	<0.001	<0.03	<0.00005	9.50
S671257	<0.00005	0.225	<0.001	0.41	<0.001	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0012	<0.001	<0.03	<0.00005	12.80
S671356	<0.00005	0.124	<0.001	0.19	0.002	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0025	<0.001	<0.03	<0.00005	3.54
S671586	<0.0001	16.100	<0.002	0.26	0.209	<0.001	<0.001	0.6	<0.0001	0.0029	0.0016	<0.002	10.90	<0.0005	42.50
S671587	<0.0001	21.900	<0.002	0.12	0.386	0.0014	<0.001	0.6	<0.0001	0.0042	0.0015	0.006	17.80	<0.0005	64.30
S671588	<0.0001	18.300	<0.002	0.15	0.268	0.0013	<0.001	0.3	<0.0001	0.0036	<0.001	0.007	13.80	<0.0005	44.70
S671725	0.00010	54.300	0.001	0.21	0.265	0.0033	0.0008	0.4	<0.00005	0.0098	0.0075	0.037	37.00	<0.0005	54.30
S671961	<0.00005	0.192	<0.001	0.02	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0016	<0.001	<0.03	<0.00005	2.50

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-APR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21076769

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
S660109		<0.005	13.40	0.0022	0.0173	0.8	0.25	<0.0005	<0.0001	<0.3	<0.0001	0.0015	2.09	<0.0005	0.0013	<0.01
S660121		<0.005	11.10	0.0016	0.0067	0.7	0.61	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.58	<0.0005	0.0017	<0.01
S660208		0.039	4.26	0.0289	0.0402	0.5	2.99	0.0011	0.0007	<0.3	0.0001	<0.0005	9.44	<0.0005	0.0086	0.08
S660269		0.014	5.44	0.0645	0.0111	<0.3	3.20	0.0037	0.0043	<0.6	<0.0002	<0.001	21.80	<0.001	0.0036	0.54
S660377		0.016	161.00	0.2990	0.0003	1.8	1.33	0.0020	<0.0001	<0.3	<0.0001	0.0039	6.98	<0.0005	0.0030	<0.01
S660389		<0.005	15.80	<0.0005	0.0083	0.9	0.30	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.78	<0.0005	0.0006	<0.01
S660390		<0.005	11.60	0.0017	0.0408	0.9	0.90	<0.0005	<0.0001	<0.3	0.0003	0.0018	1.99	<0.0005	0.0015	<0.01
S660658		<0.005	11.40	0.0026	0.0090	0.9	2.34	<0.0005	<0.0001	<0.3	<0.0001	0.0014	2.89	<0.0005	0.0040	<0.01
S660854		<0.005	13.10	0.0032	0.0024	1.6	0.49	<0.0005	<0.0001	<0.3	<0.0001	0.0006	4.54	<0.0005	0.0055	<0.01
S660866		<0.005	11.20	0.0014	0.0021	0.8	0.70	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.74	<0.0005	0.0047	<0.01
S670694		0.018	7.89	0.1160	0.0063	<0.3	2.32	0.0028	0.0042	<0.6	0.0003	<0.001	22.90	0.0020	0.0064	0.45
S670709		0.033	7.39	0.1020	0.0138	0.3	4.40	0.0049	0.0034	<0.6	<0.0002	<0.001	16.00	<0.001	0.0061	0.44
S670764		0.056	10.70	0.1400	0.0034	<0.3	3.59	0.0061	0.0067	<0.6	<0.0002	<0.001	21.10	<0.001	0.0210	0.69
S670765		0.076	12.30	0.1740	0.0044	0.4	3.56	0.0032	0.0078	<0.6	<0.0002	<0.001	25.50	<0.001	0.0289	0.59
S670766		0.016	6.08	0.0920	0.0025	0.3	2.14	0.0049	0.0026	<0.6	0.0002	<0.001	17.80	<0.001	0.0067	0.27
S670792		0.030	7.09	0.0985	0.0036	0.3	3.19	0.0026	0.0054	<0.6	<0.0002	<0.001	15.50	<0.001	0.0104	0.55
S670793		0.072	8.45	0.0963	0.0126	0.4	2.39	0.0069	0.0030	<0.6	<0.0002	<0.001	18.90	<0.001	0.0177	0.37
S670794		0.027	13.20	0.1840	0.0118	0.3	4.04	0.0048	0.0304	<0.6	<0.0002	<0.001	26.50	0.0016	0.0134	0.78
S670795		0.129	15.10	0.1590	0.0176	0.4	2.58	0.0126	0.0032	<0.3	0.0001	<0.0005	45.80	0.0009	0.0178	0.76
S670818		0.037	5.57	0.0309	0.0024	0.8	4.23	0.0047	<0.0001	<0.3	0.0001	<0.0005	9.53	<0.0005	0.0021	0.04
S670829		0.060	8.17	0.0080	0.0083	0.8	1.92	0.0042	0.0002	<0.3	<0.0001	0.0011	7.05	<0.0005	0.0047	0.02
S670963		<0.005	8.33	0.0387	0.4950	0.4	3.83	0.0051	0.0002	<0.3	<0.0001	<0.0005	4.95	<0.0005	0.0020	0.05
S670964		<0.005	10.10	0.0029	2.0800	0.7	1.53	<0.0005	<0.0001	<0.3	<0.0001	0.0011	1.71	<0.0005	0.0015	<0.01
S670965		<0.005	15.40	0.0074	0.0429	1.2	0.29	<0.0005	<0.0001	<0.3	<0.0001	0.0009	3.36	<0.0005	<0.0005	<0.01
S670966		0.006	18.80	0.0052	0.0138	1.1	0.21	<0.0005	<0.0001	<0.3	<0.0001	0.0011	5.26	<0.0005	0.0011	<0.01
S670967		<0.005	29.40	0.0068	0.0743	1.0	4.05	<0.0005	<0.0001	<0.3	<0.0001	0.0012	2.98	<0.0005	0.0066	<0.01
S671194		<0.005	12.50	0.0011	0.0007	0.3	2.24	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.36	<0.0005	0.0045	<0.01
S671195		<0.005	92.70	0.0070	0.0009	0.5	0.21	<0.0005	<0.0001	<0.3	<0.0001	0.0007	2.08	<0.0005	0.0057	<0.01
S671196		<0.005	13.20	0.0007	0.0005	0.3	0.15	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.86	<0.0005	0.0012	<0.01
S671197		<0.005	10.60	0.0015	0.0014	0.6	2.92	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.66	<0.0005	0.0046	<0.01
S671257		0.027	8.68	0.0012	0.0063	0.4	1.87	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.62	<0.0005	0.0041	<0.01
S671356		0.013	26.70	0.0022	0.0003	0.5	0.78	<0.0005	0.0002	<0.3	<0.0001	<0.0005	1.85	<0.0005	0.0028	<0.01
S671586		0.031	6.07	0.0992	0.0041	<0.3	3.71	0.0034	0.0025	<0.6	<0.0002	<0.001	16.70	<0.001	0.0146	0.46
S671587		0.014	8.10	0.1040	0.0030	<0.3	4.48	0.0029	0.0026	0.7	<0.0002	<0.001	21.20	<0.001	0.0077	0.71
S671588		0.019	7.40	0.0905	0.0018	<0.3	3.39	0.0034	0.0017	<0.6	<0.0002	<0.001	19.10	<0.001	0.0080	0.49
S671725		0.078	22.20	0.1900	0.0521	0.3	3.64	0.0151	0.0046	<0.3	0.0003	0.0005	84.80	0.0016	0.0190	1.36
S671961		<0.005	9.95	0.0013	0.0079	0.5	0.37	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.42	<0.0005	0.0014	<0.01

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-APR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21076769

Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
Sample Description / LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
S660109	<0.0001	<0.00001	<0.001	<0.01	58.6	7.8	<0.05	2.2	0.78	0.024	9.9	58	116	39
S660121	<0.0001	<0.00001	<0.001	<0.01	47.6	8.0	<0.05	1.7	0.42	0.016	<0.5	53	110	44
S660208	<0.0001	0.00008	0.004	<0.01	18.7	7.9	<0.05	2.3	0.74	0.025	4.3	99	113	33
S660269	0.0002	0.00163	0.046	<0.02	23.0	9.2	<0.05	1.9	1.34	0.085	0.6	204	157	68
S660377	<0.0001	<0.00001	<0.001	<0.01	681	6.1	<0.3	2.8	<0.1	0.093	705	908	1210	3
S660389	<0.0001	<0.00001	<0.001	<0.01	66.1	7.9	<0.05	2.0	0.66	0.051	1.3	58	130	52
S660390	<0.0001	<0.00001	<0.001	<0.01	49.4	7.8	<0.05	2.7	0.45	0.029	1.0	48	100	40
S660658	<0.0001	<0.00001	<0.001	<0.01	50.8	7.9	<0.05	3.2	0.61	0.198	3.6	70	134	47
S660854	<0.0001	<0.00001	<0.001	<0.01	58.8	7.8	<0.05	1.6	0.47	0.026	3.7	65	120	48
S660866	<0.0001	<0.00001	<0.001	<0.01	52.7	7.8	<0.05	3.6	1.20	0.082	1.0	59	115	41
S670694	<0.0002	0.00073	0.021	0.02	33.3	8.5	<0.05	1.5	0.99	0.030	1.6	178	122	46
S670709	<0.0002	0.00207	0.037	0.03	31.7	8.3	<0.05	1.6	2.73	0.123	2.2	149	104	41
S670764	0.0002	0.00118	0.033	0.04	46.3	8.8	<0.05	1.0	1.18	0.061	1.2	193	123	53
S670765	0.0003	0.00203	0.025	0.03	53.4	8.9	<0.05	1.4	1.30	0.031	0.7	226	144	68
S670766	<0.0002	0.00090	0.024	<0.02	26.2	8.5	<0.05	1.6	1.06	0.027	<0.5	149	106	44
S670792	<0.0002	0.00087	0.038	0.05	30.5	9.1	<0.05	1.1	1.42	0.066	1.3	174	148	63
S670793	<0.0002	0.00072	0.017	0.05	36.4	8.3	<0.05	1.2	0.93	0.032	0.9	156	108	46
S670794	0.0003	0.00147	0.036	0.05	56.6	9.0	<0.05	1.5	1.49	0.143	1.1	249	177	74
S670795	0.0002	0.00088	0.028	0.08	63.5	8.3	<0.05	1.2	0.92	0.030	0.9	265	106	43
S670818	<0.0001	0.00028	0.005	<0.01	23.6	7.7	0.11	9.3	1.41	0.060	3.6	103	122	31
S670829	<0.0001	0.00013	0.002	<0.01	35.0	7.6	0.07	6.8	0.66	0.035	4.5	82	121	27
S670963	<0.0001	0.00016	0.004	<0.01	34.8	7.8	<0.05	2.9	1.05	0.038	6.2	86	127	36
S670964	<0.0001	<0.00001	<0.001	<0.01	42.2	7.8	<0.05	2.1	0.45	0.055	2.6	49	103	34
S670965	<0.0001	<0.00001	<0.001	<0.01	64.0	7.8	<0.05	1.6	0.26	0.123	3.7	58	122	44
S670966	<0.0001	<0.00001	<0.001	<0.01	78.1	7.7	<0.05	2.4	0.28	0.058	18.8	77	152	34
S670967	<0.0001	<0.00001	<0.001	<0.01	124.0	7.6	0.05	5.7	0.53	0.048	90.1	171	304	30
S671194	<0.0001	<0.00001	<0.001	<0.01	53.5	7.8	0.07	5.5	0.60	0.222	<0.5	52	116	37
S671195	<0.0001	0.00002	<0.001	<0.01	383	7.3	<0.05	2.7	0.33	0.051	356	468	720	15
S671196	<0.0001	<0.00001	<0.001	<0.01	54.6	7.8	<0.05	1.3	0.54	0.030	3.4	49	107	41
S671197	<0.0001	<0.00001	<0.001	<0.01	45.3	7.8	0.12	8.2	0.45	0.047	0.8	59	127	36
S671257	<0.0001	<0.00001	<0.001	<0.01	36.8	7.7	0.16	8.4	0.31	0.025	5.6	59	120	27
S671356	<0.0001	<0.00001	<0.001	<0.01	110.0	7.4	0.07	4.4	0.32	0.021	79.6	134	252	22
S671586	<0.0002	0.00090	0.031	<0.02	26.5	8.7	<0.05	1.4	0.95	0.628	0.6	159	114	46
S671587	0.0002	0.00416	0.049	<0.02	34.8	9.2	<0.05	1.9	1.33	0.044	0.8	224	175	75
S671588	0.0002	0.00149	0.035	<0.02	31.3	8.9	<0.05	1.5	0.84	0.075	0.6	173	114	49
S671725	0.0004	0.00222	0.037	0.03	92.3	8.3	<0.05	2.1	1.47	0.029	4.5	437	137	46
S671961	<0.0001	<0.00001	<0.001	<0.01	41.8	7.6	<0.05	1.4	0.32	0.023	1.1	40	92	33

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-APR-2021
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21076769

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.	
Applies to Method:	FND-02	SND-01
	Processed at ALSE Vancouver, Burnaby, BC, Canada.	
Applies to Method:	MS14L-ANPH	OA-SFE01

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 18-JAN-2022
Account: BIMCIO

CERTIFICATE VA21319699

Project: Pulps for ABA
P.O. No.: 4500092191
This report is for 56 samples of Pulp submitted to our lab in Vancouver, BC, Canada on 21-OCT-2021.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON CHIASSON
PAUL DAWE	JASON DUFF	SIMON FLEURY
FRED LAWRENCE	JORDON MARSH	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	MATTHEW TRACEY
JUSTIN TUPPER	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-32p	Pulverize 400 g - 85%<75um
SPL-34	Pulp Splitting Charge
BAG-01	Bulk Master for Storage
PUL-QC	Pulverizing QC Test
LOG-23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 18-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21319699

Sample Description	Method	WEI-21	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
	Analyte	Recvd Wt.	MPA	FIZZ RAT	NNP	NP	pH	Ratio (N	S	S	S	S	C	CO2
	Units	kg	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
	LOD	0.02	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.05	0.2
B625001		0.30	0.9	2	70	71	8.3	75.73	0.03	<0.01	0.03	0.03	<0.05	<0.2
B625002		0.38	0.9	1	29	30	9.1	32.00	0.03	<0.01	0.03	0.03	<0.05	<0.2
B625003		0.48	3.1	1	24	27	8.2	8.64	0.10	<0.01	0.04	0.10	<0.05	<0.2
B625004		0.42	<0.3	1	36	36	8.2	230.4	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
B625005		0.32	0.6	1	21	22	9.4	35.20	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625006		0.38	3.8	1	13	17	8.2	4.53	0.12	<0.01	0.02	0.12	<0.05	<0.2
B625007		0.40	0.6	1	18	19	9.1	30.40	0.02	<0.01	0.03	0.02	<0.05	<0.2
B625008		0.36	0.3	1	14	14	9.0	44.80	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625009		0.54	0.6	1	15	16	9.0	25.60	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625010		0.64	0.6	1	14	15	9.2	24.00	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625011		0.36	2.5	1	33	35	7.8	14.00	0.08	0.01	0.08	0.07	<0.05	<0.2
B625012		0.36	2.2	2	51	53	8.1	24.23	0.07	0.01	0.07	0.06	<0.05	<0.2
B625013		0.36	1.3	1	14	15	8.2	12.00	0.04	<0.01	0.04	0.04	<0.05	<0.2
B625014		0.38	2.2	1	15	17	7.4	7.77	0.07	0.01	0.06	0.06	<0.05	<0.2
B625015		0.36	0.6	1	19	20	8.6	32.00	0.02	<0.01	0.03	0.02	<0.05	<0.2
B625016		0.36	0.9	1	16	17	7.9	18.13	0.03	<0.01	0.04	0.03	<0.05	<0.2
B625017		0.36	1.3	1	22	23	8.0	18.40	0.04	<0.01	0.05	0.04	<0.05	<0.2
B625018		0.62	2.2	1	13	15	7.3	6.86	0.07	0.01	0.05	0.06	0.09	0.3
B625019		0.38	4.4	1	11	15	8.5	3.43	0.14	<0.01	0.02	0.14	<0.05	<0.2
B625020		0.36	<0.3	1	13	13	8.4	83.20	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
B625021		0.42	50.6	1	-23	28	8.2	0.55	1.62	0.02	0.09	1.60	<0.05	<0.2
B625022		0.44	1.6	1	19	21	7.5	13.44	0.05	<0.01	0.04	0.05	<0.05	<0.2
B625023		0.42	0.9	1	31	32	8.2	34.13	0.03	<0.01	0.03	0.03	<0.05	<0.2
B625024		0.46	0.3	1	28	28	7.9	89.60	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625025		0.32	0.6	1	19	20	7.8	32.00	0.02	<0.01	0.03	0.02	<0.05	<0.2
B625026		0.42	0.3	1	27	27	8.3	86.40	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625027		0.36	6.9	1	12	19	9.3	2.76	0.22	<0.01	<0.01	0.22	<0.05	<0.2
B625028		0.46	0.6	1	15	16	8.8	25.60	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625029		0.36	0.6	1	17	18	8.8	28.80	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625039		0.44	0.3	1	18	18	8.5	57.60	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625040		0.44	0.3	1	17	17	8.8	54.40	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625041		0.38	0.3	1	16	16	9.1	51.20	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625042		0.30	3.1	2	60	63	8.4	20.16	0.10	<0.01	0.01	0.10	<0.05	<0.2
B625043		0.42	0.9	1	29	30	8.1	32.00	0.03	<0.01	0.01	0.03	<0.05	<0.2
B625044		0.34	3.1	1	23	26	7.5	8.32	0.10	0.02	0.01	0.08	<0.05	<0.2
B625045		0.38	1.3	1	24	25	7.9	20.00	0.04	<0.01	0.01	0.04	<0.05	<0.2
B625046		0.32	1.6	1	16	18	8.3	11.52	0.05	<0.01	0.01	0.05	<0.05	<0.2
B625047		0.28	0.3	1	17	17	8.4	54.40	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625048		0.40	<0.3	1	23	23	8.0	147.20	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625049		0.40	0.6	1	17	18	8.8	28.80	0.02	<0.01	0.01	0.02	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 18-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21319699

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625050		0.46	1.6	1	18	20	9.1	12.80	0.05	<0.01	0.01	0.05	<0.05	<0.2
B625051		0.42	0.3	1	10	10	8.2	32.00	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625052		0.34	1.9	1	21	23	7.9	12.27	0.06	<0.01	0.01	0.06	<0.05	<0.2
B625053		0.42	22.2	1	10	32	7.9	1.44	0.71	0.02	<0.01	0.69	<0.05	<0.2
B625054		0.36	24.7	1	0	25	7.8	1.01	0.79	0.02	0.02	0.77	<0.05	<0.2
B625055		0.36	0.6	1	16	17	9.3	27.20	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625056		0.36	0.6	1	18	19	8.7	30.40	0.02	0.01	0.01	0.01	<0.05	<0.2
B625057		0.36	0.3	1	21	21	8.7	67.20	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625058		0.40	10.3	1	24	34	7.5	3.30	0.33	0.20	0.30	0.13	<0.05	<0.2
B625059		0.40	0.6	1	29	30	8.3	48.00	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625060		0.42	0.6	1	19	20	9.0	32.00	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625061		0.38	0.9	1	18	19	9.5	20.27	0.03	<0.01	0.01	0.03	<0.05	<0.2
B625062		0.38	1.3	1	16	17	9.2	13.60	0.04	<0.01	<0.01	0.04	<0.05	<0.2
B625063		0.40	0.6	1	15	16	9.3	25.60	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625064		0.36	0.6	1	16	17	9.2	27.20	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625065		0.36	1.3	1	19	20	8.9	16.00	0.04	<0.01	<0.01	0.04	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 18-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21319699

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:				
	BAG-01	C-GAS05	LOG-23	OA-ELE07
	OA-VOL08	PUL-32p	PUL-QC	S-CAL06
	S-GRA06	S-GRA06a	S-IR08	SPL-34
	WEI-21			

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 12-JAN-2022
Account: BIMCIO

CERTIFICATE VA21319700

Project: Pulps for ABA
P.O. No.: 4500092191
This report is for 46 samples of Pulp submitted to our lab in Vancouver, BC, Canada on 21-OCT-2021.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON CHIASSON
PAUL DAWE	JASON DUFF	SIMON FLEURY
FRED LAWRENCE	JORDON MARSH	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	MATTHEW TRACEY
JUSTIN TUPPER	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-32p	Pulverize 400 g - 85%<75um
SPL-34	Pulp Splitting Charge
BAG-01	Bulk Master for Storage
PUL-QC	Pulverizing QC Test
LOG-23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
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Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 12-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21319700

Sample Description	Method	WEI-21	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
	Analyte	Recvd Wt.	MPA	FIZZ RAT	NNP	NP	pH	Ratio (N	S	S	S	S	C	CO2
	Units	kg	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
	LOD	0.02	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.05	0.2
B625066		0.46	1.9	1	17	19	9.0	10.13	0.06	<0.01	0.02	0.06	<0.05	<0.2
B625067		0.34	0.6	1	19	20	8.8	32.00	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625068		0.30	0.6	1	26	27	8.7	43.20	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625069		0.32	0.3	1	16	16	9.8	51.20	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625070		0.44	1.3	1	13	14	9.2	11.20	0.04	<0.01	<0.01	0.04	<0.05	<0.2
B625071		0.36	1.3	1	17	18	9.0	14.40	0.04	<0.01	<0.01	0.04	<0.05	<0.2
B625072		0.38	0.3	1	20	20	9.6	64.00	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625073		0.36	<0.3	1	28	28	8.4	179.20	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625074		0.42	0.6	1	20	21	8.6	33.60	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625075		0.42	<0.3	2	63	63	8.3	403.2	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625076		0.36	0.3	1	35	35	8.1	112.00	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625077		0.34	17.5	1	12	29	8.1	1.66	0.56	<0.01	0.05	0.56	<0.05	<0.2
B625078		0.38	0.3	2	66	66	8.1	211.2	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625079		0.40	3.8	1	23	27	7.9	7.20	0.12	<0.01	<0.01	0.12	<0.05	<0.2
B625080		0.30	<0.3	1	12	12	8.8	76.80	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625081		0.34	2.2	1	27	29	8.6	13.26	0.07	<0.01	0.01	0.07	0.07	0.3
B625082		0.40	<0.3	1	13	13	8.8	83.20	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625083		0.40	<0.3	1	20	20	8.7	128.00	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625084		0.46	0.6	1	18	19	8.2	30.40	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625085		0.48	<0.3	1	25	25	9.5	160.00	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625086		0.52	0.3	1	20	20	9.0	64.00	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625087		0.50	<0.3	1	19	19	9.5	121.60	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625088		0.46	<0.3	1	16	16	9.3	102.40	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625089		0.44	<0.3	1	17	17	8.7	108.80	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625090		0.48	<0.3	1	15	15	8.7	96.00	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625091		0.40	<0.3	1	18	18	8.4	115.20	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625092		0.58	0.6	1	23	24	8.6	38.40	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625093		0.60	0.3	1	17	17	7.8	54.40	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625094		0.34	5.6	2	57	63	8.2	11.20	0.18	<0.01	<0.01	0.18	<0.05	<0.2
B625095		0.38	<0.3	2	55	55	8.3	352.0	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625096		0.50	4.4	1	19	23	7.6	5.26	0.14	<0.01	0.02	0.14	<0.05	<0.2
B625097		0.50	0.6	1	33	34	8.1	54.40	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625098		0.38	<0.3	1	18	18	8.6	115.20	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625099		0.36	0.6	1	17	18	8.2	28.80	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625100		0.48	0.3	1	24	24	8.4	76.80	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625101		0.36	2.5	1	24	26	8.7	10.40	0.08	<0.01	<0.01	0.08	<0.05	<0.2
B625102		0.36	1.9	1	17	19	8.9	10.13	0.06	<0.01	<0.01	0.06	<0.05	<0.2
B625103		0.34	0.3	1	15	15	9.0	48.00	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625104		0.38	0.3	1	16	16	9.3	51.20	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625105		0.32	4.1	1	17	21	9.0	5.17	0.13	<0.01	<0.01	0.13	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

2103 Dollarton Hwy
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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 12-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21319700

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625106		0.36	0.3	1	27	27	8.0	86.40	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625107		0.40	0.3	1	14	14	9.0	44.80	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625108		0.32	0.6	1	16	17	9.0	27.20	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625109		0.42	0.9	1	13	14	9.4	14.93	0.03	0.01	<0.01	0.02	<0.05	<0.2
B625110		0.44	0.3	1	15	15	8.6	48.00	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625111		0.46	0.6	1	16	17	8.6	27.20	0.02	<0.01	0.01	0.02	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 12-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21319700

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:				
	BAG-01	C-GAS05	LOG-23	OA-ELE07
	OA-VOL08	PUL-32p	PUL-QC	S-CAL06
	S-GRA06	S-GRA06a	S-IR08	SPL-34
	WEI-21			

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

CERTIFICATE VA21326970

Project: Pulps for ABA
P.O. No.: 4500092191
This report is for 56 samples of Pulp submitted to our lab in Vancouver, BC, Canada on 21-OCT-2021.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON CHIASSON
PAUL DAWE	JASON DUFF	SIMON FLEURY
FRED LAWRENCE	JORDON MARSH	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	MATTHEW TRACEY
JUSTIN TUPPER	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21326970

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625001		<0.00005	0.054	<0.001	0.01	<0.001	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0035	<0.001	0.05	<0.00005	0.08
B625002		<0.00005	0.999	<0.001	0.04	0.006	<0.0005	<0.0005	0.2	<0.0001	0.0001	<0.0005	<0.001	0.65	<0.00005	79.10
B625003		<0.00005	0.166	<0.001	0.02	<0.001	<0.0005	<0.0005	0.9	<0.00005	<0.0001	0.0017	<0.001	<0.03	<0.00005	0.17
B625004		<0.00005	0.080	<0.001	<0.01	<0.001	<0.0005	<0.0005	0.5	<0.00005	<0.0001	0.0010	<0.001	0.04	<0.00005	<0.05
B625005		<0.00005	31.500	<0.001	0.23	0.493	0.0019	<0.0005	0.5	<0.00005	0.0069	0.0060	0.007	25.70	<0.00005	82.30
B625006		<0.00005	0.418	<0.001	0.14	0.021	<0.0005	<0.0005	3.3	<0.00005	<0.0001	<0.0005	<0.001	0.06	<0.00005	82.80
B625007		<0.00005	19.900	<0.001	0.31	0.219	0.0016	<0.0005	0.5	<0.00005	0.0038	0.0128	0.005	12.50	<0.00005	52.40
B625008		0.00007	14.400	0.001	0.14	0.126	0.0016	<0.0005	0.3	<0.00005	0.0033	0.0014	0.009	8.05	<0.00005	29.40
B625009		0.00008	42.200	0.001	0.22	0.203	0.0015	<0.0005	0.4	<0.00005	0.0035	0.0032	0.031	13.50	<0.00005	47.10
B625010		<0.00005	18.200	<0.001	0.16	0.192	<0.0005	<0.0005	0.3	<0.00005	0.0029	0.0046	0.003	8.59	<0.00005	32.80
B625011		<0.00005	0.032	<0.001	<0.01	<0.001	<0.0005	<0.0005	2.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	3.86
B625012		<0.00005	0.322	<0.001	<0.01	<0.001	<0.0005	<0.0005	<0.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	<0.05
B625013		<0.00005	0.375	<0.001	0.04	0.010	<0.0005	<0.0005	2.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	99.40
B625014		<0.00005	0.098	<0.001	0.02	0.014	<0.0005	<0.0005	54.7	<0.00005	0.0002	<0.0005	<0.001	<0.03	<0.00005	4.98
B625015		<0.00005	6.310	<0.001	0.06	0.059	<0.0005	<0.0005	0.2	<0.00005	0.0010	0.0007	0.001	5.01	<0.00005	52.00
B625016		<0.00005	0.997	<0.001	0.09	0.018	<0.0005	<0.0005	4.5	<0.00005	0.0003	<0.0005	0.002	0.85	<0.00005	28.20
B625017		<0.00005	0.293	<0.001	0.10	0.027	<0.0005	<0.0005	5.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	37.80
B625018		<0.00005	0.064	<0.001	0.08	0.004	<0.0005	<0.0005	0.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	3.59
B625019		<0.00005	1.430	<0.001	0.24	0.036	<0.0005	<0.0005	0.6	<0.00005	0.0002	<0.0005	<0.001	0.71	<0.00005	87.90
B625020		<0.00005	12.700	<0.001	0.25	0.081	0.0008	<0.0005	1.2	<0.00005	0.0025	0.0034	0.001	6.94	<0.00005	26.30
B625021		<0.00005	0.501	<0.001	0.02	0.008	<0.0005	<0.0005	1.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	21.40
B625022		<0.00005	0.074	<0.001	0.17	0.004	<0.0005	<0.0005	0.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	16.90
B625023		<0.00005	0.287	<0.001	0.06	0.001	<0.0005	<0.0005	<0.1	<0.00005	<0.0001	0.0027	<0.001	<0.03	<0.00005	5.54
B625024		<0.00005	0.194	<0.001	0.12	<0.001	<0.0005	<0.0005	1.0	<0.00005	<0.0001	0.0007	<0.001	<0.03	<0.00005	7.97
B625025		<0.00005	0.234	<0.001	0.59	0.003	<0.0005	<0.0005	0.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	42.20
B625026		<0.00005	0.164	<0.001	0.09	0.001	<0.0005	<0.0005	1.9	<0.00005	<0.0001	0.0039	<0.001	<0.03	<0.00005	14.10
B625027		0.00009	14.000	0.001	0.09	0.148	0.0011	0.0057	0.3	<0.00005	0.0038	0.0135	0.065	11.30	<0.00005	63.30
B625028		<0.00005	18.000	<0.001	0.28	0.186	0.0009	<0.0005	0.4	<0.00005	0.0034	0.0421	0.010	8.47	<0.00005	35.90
B625029		<0.0005	95.000	<0.01	0.50	0.283	0.0053	<0.005	1.3	<0.0005	0.0086	0.0136	<0.01	29.10	<0.00005	99.90
B625039		<0.0003	40.000	<0.005	0.42	0.134	<0.003	<0.003	0.8	<0.0003	0.0038	0.0059	0.055	14.50	<0.00005	53.10
B625040		0.02050	40.500	0.103	0.87	0.540	0.2330	0.0512	21.7	0.02020	0.1050	0.2150	0.129	31.10	<0.00005	80.20
B625041		0.00069	90.000	<0.01	0.43	0.382	0.0056	0.0085	<1	<0.0005	0.0110	0.0280	0.175	36.20	<0.00005	84.80
B625042		<0.00005	0.314	<0.001	0.01	0.001	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0092	<0.001	<0.03	<0.00005	14.90
B625043		<0.00005	0.064	<0.001	0.11	0.001	<0.0005	<0.0005	1.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	12.70
B625044		<0.00005	0.045	<0.001	0.09	0.005	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	18.90
B625045		<0.00005	0.130	<0.001	0.05	0.001	<0.0005	<0.0005	0.4	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	11.50
B625046		<0.00005	0.301	<0.001	0.06	0.003	<0.0005	<0.0005	0.9	<0.00005	<0.0001	<0.0005	<0.001	0.04	<0.00005	45.00
B625047		<0.0001	21.300	<0.002	0.17	0.152	0.0011	<0.001	0.2	<0.0001	0.0033	0.0023	0.005	19.40	<0.00005	72.50
B625048		<0.00005	0.227	<0.001	0.07	<0.001	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0014	<0.001	<0.03	<0.00005	1.58
B625049		<0.0003	50.200	<0.005	0.27	0.377	0.0025	<0.003	0.5	<0.0003	0.0099	0.0060	0.015	49.60	<0.00005	72.40

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21326970

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625001		0.005	40.40	0.0063	0.0049	<0.3	<0.05	<0.0005	<0.0001	<0.3	<0.0001	0.0011	5.65	<0.0005	<0.0005	<0.01
B625002		<0.005	6.29	0.0015	0.1280	<0.3	6.76	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.79	<0.0005	0.0027	<0.01
B625003		<0.005	19.90	0.0010	0.0107	<0.3	0.16	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.16	<0.0005	0.0013	<0.01
B625004		<0.005	24.80	0.0018	0.0029	<0.3	<0.05	<0.0005	<0.0001	<0.3	<0.0001	0.0005	3.48	<0.0005	<0.0005	<0.01
B625005		0.039	14.80	0.2190	0.0056	<0.3	5.88	0.0095	0.0030	0.4	0.0002	<0.0005	39.20	<0.0005	0.0066	1.14
B625006		0.055	9.67	0.0026	0.0184	<0.3	7.54	<0.0005	<0.0001	<0.3	0.0002	0.0007	2.34	<0.0005	0.0144	<0.01
B625007		0.042	8.42	0.0914	0.0015	<0.3	5.47	0.0065	0.0018	<0.3	0.0001	<0.0005	27.50	<0.0005	0.0073	0.51
B625008		0.019	6.60	0.1260	0.0016	<0.3	3.98	0.0036	0.0033	<0.3	0.0002	<0.0005	19.70	<0.0005	0.0054	0.13
B625009		0.010	13.00	0.1440	0.0023	0.6	3.25	0.0034	0.0038	0.4	0.0001	<0.0005	75.40	0.0005	0.0067	0.53
B625010		0.043	5.57	0.0963	0.0031	<0.3	2.96	0.0037	0.0057	<0.3	0.0002	<0.0005	24.10	<0.0005	0.0104	0.38
B625011		<0.005	72.80	0.0316	0.0141	<0.3	0.57	<0.0005	<0.0001	<0.3	<0.0001	0.0039	4.42	<0.0005	0.0019	<0.01
B625012		<0.005	36.60	0.0047	0.0520	<0.3	<0.05	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.54	<0.0005	<0.0005	<0.01
B625013		0.006	12.40	0.0073	0.0047	<0.3	7.10	<0.0005	<0.0001	<0.3	0.0001	<0.0005	2.04	<0.0005	0.0062	<0.01
B625014		<0.005	89.90	0.0330	0.0121	<0.3	1.07	0.0006	<0.0001	<0.3	<0.0001	<0.0005	2.20	<0.0005	0.5220	<0.01
B625015		<0.005	5.48	0.0536	0.0919	<0.3	3.11	0.0011	0.0005	<0.3	0.0005	0.0010	10.10	<0.0005	0.0049	0.14
B625016		0.011	9.70	0.0151	0.0081	<0.3	7.54	0.0012	0.0001	<0.3	<0.0001	0.0007	4.36	<0.0005	0.0059	0.02
B625017		0.009	28.50	0.0098	0.0151	<0.3	4.78	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.73	<0.0005	0.0078	<0.01
B625018		<0.005	67.80	0.0184	0.0087	<0.3	0.95	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.96	<0.0005	0.0038	<0.01
B625019		0.061	3.97	0.0056	0.0056	<0.3	7.74	<0.0005	<0.0001	<0.3	<0.0001	0.0010	3.50	<0.0005	0.0032	0.04
B625020		0.035	8.31	0.0395	0.0030	<0.3	5.13	0.0058	0.0013	<0.3	<0.0001	<0.0005	18.50	<0.0005	0.0042	0.11
B625021		<0.005	38.80	0.0032	0.0145	<0.3	0.55	<0.0005	<0.0001	<0.3	<0.0001	0.0007	1.27	<0.0005	0.0015	<0.01
B625022		0.014	19.90	0.0058	0.0096	<0.3	3.64	<0.0005	<0.0001	<0.3	<0.0001	0.0022	4.20	<0.0005	0.0047	<0.01
B625023		<0.005	29.10	0.0017	0.0005	<0.3	0.42	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.65	<0.0005	0.0009	<0.01
B625024		0.006	14.50	0.0026	0.0006	<0.3	5.03	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.64	<0.0005	0.0081	<0.01
B625025		0.018	12.20	0.0033	0.0007	<0.3	3.56	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.42	<0.0005	0.0032	<0.01
B625026		<0.005	16.50	0.0062	0.0004	<0.3	11.40	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.99	<0.0005	0.0120	<0.01
B625027		0.021	5.92	0.0780	0.0520	<0.3	6.73	0.0078	0.0036	0.3	0.0003	0.0012	19.50	0.0018	0.0027	0.57
B625028		0.074	7.98	0.0740	0.0119	0.5	2.86	0.0129	0.0027	<0.3	0.0001	<0.0005	26.20	<0.0005	0.0081	0.30
B625029		0.053	30.40	0.1920	0.0350	<0.3	5.29	0.0166	0.0107	<3	<0.001	<0.005	123.00	<0.005	0.0135	0.83
B625039		0.052	12.10	0.0964	0.0050	<0.3	2.72	0.0047	0.0018	<2	<0.0005	<0.003	56.10	<0.003	0.0097	0.34
B625040		0.679	20.80	0.2710	0.1080	<0.3	14.80	0.2140	0.1140	51.3	0.1030	0.1990	106.00	0.0986	0.1170	1.10
B625041		0.109	29.00	0.4450	0.0512	<0.3	5.64	0.0204	0.0082	<3	<0.001	<0.005	135.00	<0.005	0.0142	1.22
B625042		0.011	28.00	0.0057	0.0177	<0.3	0.40	<0.0005	<0.0001	<0.3	<0.0001	0.0009	2.55	<0.0005	0.0010	<0.01
B625043		0.007	29.70	0.0070	0.0122	<0.3	10.40	<0.0005	<0.0001	<0.3	<0.0001	0.0010	3.05	<0.0005	0.0091	<0.01
B625044		0.010	52.40	0.0259	0.0158	<0.3	6.14	<0.0005	<0.0001	<0.3	<0.0001	0.0008	3.42	<0.0005	0.0086	<0.01
B625045		<0.005	29.40	0.0027	0.0365	<0.3	1.12	<0.0005	<0.0001	<0.3	<0.0001	0.0007	2.24	<0.0005	0.0021	<0.01
B625046		<0.005	10.60	0.0013	0.0565	<0.3	2.69	<0.0005	<0.0001	<0.3	<0.0001	0.0005	2.06	<0.0005	0.0065	<0.01
B625047		0.020	11.00	0.1200	0.0462	<0.3	5.51	0.0039	0.0012	<0.6	<0.0002	<0.001	30.80	<0.001	0.0105	0.51
B625048		<0.005	16.70	0.0023	0.0021	<0.3	0.93	<0.0005	<0.0001	<0.3	<0.0001	0.0041	1.57	<0.0005	0.0017	<0.01
B625049		0.069	22.30	0.1510	0.0464	<0.3	5.20	0.0168	0.0032	<2	<0.0005	<0.003	66.20	<0.003	0.0147	1.64

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21326970

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Tl ppm 0.0001	OA-SFE01 U mg/L 0.00001	OA-SFE01 V mg/L 0.001	OA-SFE01 Zn mg/L 0.01	OA-SFE01 Hardness mg/L CaCO3e 0.6	OA-SFE01 Final pH Unity 0.1	MS14L-ANPH Br mg/L 0.05	MS14L-ANPH Cl mg/L 0.5	MS14L-ANPH F mg/L 0.02	MS14L-ANPH NO3 (as mg/L 0.005	MS14L-ANPH SO4 mg/L 0.5	MS14L-ANPH TDS mg/L 3	MS14L-ANPH Conducti uS/cm 2	MS14L-ANPH Alkalini mg/L CaCO3e 1
B625001		<0.0001	<0.00001	0.001	<0.01	168.0	8.3	<0.05	2.9	0.80	0.881	1.3	151	282	141
B625002		<0.0001	0.00014	<0.001	<0.01	26.5	9.0	<0.05	5.9	1.47	0.106	1.6	182	293	117
B625003		<0.0001	<0.00001	<0.001	<0.01	84.2	8.1	<0.05	3.7	0.50	0.216	2.6	73	152	63
B625004		<0.0001	<0.00001	<0.001	<0.01	103.0	8.0	<0.05	1.8	0.69	0.112	0.7	90	182	85
B625005		0.0004	0.00099	0.045	0.03	62.2	9.5	<0.05	1.9	2.18	0.134	1.9	326	227	86
B625006		<0.0001	0.00010	0.002	<0.01	48.1	7.7	<0.05	1.8	0.98	0.110	136.0	262	406	21
B625007		0.0002	0.00113	0.027	0.02	35.8	9.2	<0.05	2.2	1.50	0.110	1.5	212	157	55
B625008		0.0001	0.00526	0.011	0.02	27.8	8.9	<0.05	1.1	1.15	0.088	1.1	144	91	41
B625009		0.0003	0.00319	0.040	0.01	54.6	9.1	<0.3	2.6	1.21	0.112	1.8	346	100	27
B625010		0.0001	0.00094	0.024	0.01	23.6	8.7	<0.07	0.8	0.84	0.075	0.8	164	101	45
B625011		<0.0001	<0.00001	<0.001	<0.01	306	7.6	<0.3	1.9	0.26	0.112	245	374	627	57
B625012		<0.0001	0.00002	<0.001	<0.01	151.0	8.0	<0.3	2.6	0.52	0.055	55.8	151	300	85
B625013		<0.0001	0.00007	<0.001	<0.01	58.0	7.7	<0.2	4.2	1.35	0.067	138.0	297	498	43
B625014		<0.0001	0.00003	<0.001	<0.01	507	7.2	<0.3	120.0	0.25	0.167	324	619	1050	28
B625015		<0.0001	0.00019	0.005	<0.01	23.1	8.1	<0.2	2.2	0.90	1.860	3.8	152	204	61
B625016		<0.0001	0.00030	0.002	<0.01	51.2	7.7	<0.1	16.2	0.99	0.095	21.6	130	231	45
B625017		<0.0001	0.00008	<0.001	<0.01	132.0	7.7	<0.3	3.0	1.05	0.065	137.0	251	432	47
B625018		<0.0001	<0.00001	<0.001	<0.01	281	7.1	<0.2	2.4	0.17	0.135	261	358	597	22
B625019		<0.0001	0.00011	0.011	<0.01	17.8	7.9	<0.1	3.9	1.62	0.054	96.2	238	387	41
B625020		<0.0001	0.00074	0.006	<0.01	37.2	7.9	<0.07	4.8	1.01	0.063	2.1	147	133	47
B625021		<0.0001	0.00012	<0.001	<0.01	164.0	7.9	<0.2	6.3	0.94	0.034	125.0	235	417	61
B625022		<0.0001	0.00001	<0.001	<0.01	83.4	7.4	<0.4	2.7	0.53	0.137	27.8	114	233	49
B625023		<0.0001	<0.00001	<0.001	<0.01	120.0	8.0	<0.3	4.9	0.79	0.101	26.7	122	263	82
B625024		<0.0001	<0.00001	<0.001	<0.01	62.1	7.9	<0.08	13.5	0.62	0.041	<0.5	81	176	55
B625025		<0.0001	<0.00001	<0.001	<0.01	51.1	7.7	<0.2	11.3	0.77	0.098	23.7	134	258	54
B625026		<0.0001	<0.00001	<0.001	<0.01	72.7	8.1	<0.1	17.4	0.61	0.071	<0.5	115	241	79
B625027		0.0002	0.00407	0.035	0.02	25.0	8.7	<0.05	2.5	4.65	0.096	14.2	219	228	72
B625028		0.0001	0.00076	0.021	0.02	33.7	8.9	<0.3	2.8	0.83	0.083	2.1	170	114	31
B625029		<0.001	0.00281	0.030	<0.1	128.0	8.4	<2	3.2	1.68	1.560	2.2	645	207	61
B625039		<0.0005	0.00160	0.018	<0.05	51.8	8.1	<1	2.8	0.94	0.090	1.5	305	136	40
B625040		0.0196	0.02320	0.535	2.11	140.0	8.3	<2	2.9	1.17	0.112	1.9	531	151	43
B625041		<0.001	0.00556	0.071	0.10	119.0	8.7	<0.5	2.0	2.78	0.069	1.1	654	155	59
B625042		<0.0001	<0.00001	0.002	<0.01	116.0	8.4	<2	2.8	1.02	0.073	10.7	124	248	97
B625043		<0.0001	<0.00001	<0.001	<0.01	127.0	7.9	<0.3	19.5	0.85	0.176	58.0	170	331	46
B625044		<0.0001	<0.00001	<0.001	<0.01	220	7.3	<0.5	5.4	0.44	0.091	197.0	305	505	22
B625045		<0.0001	0.00001	<0.001	<0.01	122.0	7.8	<1	3.1	0.55	0.129	54.0	135	266	47
B625046		<0.0001	<0.00001	<0.001	<0.01	45.9	8.0	<2	3.3	0.66	0.412	5.0	106	216	50
B625047		<0.0002	0.00060	0.014	<0.02	45.9	8.4	<2	4.1	1.24	0.138	11.7	264	224	55
B625048		<0.0001	<0.00001	<0.001	<0.01	72.0	8.0	<0.1	5.7	0.56	0.108	<0.5	67	143	58
B625049		<0.0005	0.00194	0.042	<0.05	93.1	8.8	<1	3.4	1.36	0.124	8.7	430	190	61

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21326970

Sample Description	Method Analyte Units LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625050		<0.0003	29.500	<0.005	0.15	0.413	<0.003	<0.003	0.7	<0.0003	0.0088	0.0083	0.009	38.50	<0.00005	89.70
B625051		0.00027	15.400	<0.002	0.07	0.156	0.0012	0.0014	1.4	0.00036	0.0031	0.0067	0.040	11.00	<0.00005	25.20
B625052		<0.00005	0.408	<0.001	0.05	<0.001	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0010	<0.001	<0.03	<0.00005	4.01
B625053		<0.00005	0.137	<0.001	0.02	0.002	<0.0005	<0.0005	5.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	16.10
B625054		<0.00005	0.268	<0.001	0.02	<0.001	<0.0005	<0.0005	<0.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	5.09
B625055		<0.0003	32.300	<0.005	0.14	0.439	<0.003	<0.003	0.5	<0.0003	0.0057	0.0059	0.010	20.40	<0.00005	68.00
B625056		<0.0003	34.000	<0.005	0.30	0.294	<0.003	<0.003	0.7	<0.0003	0.0047	0.0060	0.010	17.50	<0.00005	75.40
B625057		<0.00005	4.030	<0.001	0.10	0.033	<0.0005	<0.0005	0.3	<0.00005	0.0012	0.0361	0.003	2.66	<0.00005	54.00
B625058		<0.00005	0.160	<0.001	0.29	<0.001	<0.0005	<0.0005	1.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	8.89
B625059		<0.00005	0.427	<0.001	0.16	<0.001	<0.0005	<0.0005	0.1	<0.00005	<0.0001	0.0012	<0.001	<0.03	<0.00005	3.81
B625060		<0.00005	36.200	<0.001	0.22	0.651	0.0019	<0.0005	0.7	<0.00005	0.0058	0.0115	0.006	27.90	<0.00005	64.80
B625061		<0.00005	24.100	<0.001	0.06	0.492	0.0007	<0.0005	0.5	<0.00005	0.0051	0.0033	0.005	17.60	<0.00005	78.70
B625062		<0.00005	23.500	<0.001	0.14	0.336	0.0007	<0.0005	0.4	<0.00005	0.0036	0.0057	0.009	10.80	<0.00005	63.40
B625063		<0.00005	17.800	<0.001	0.20	0.318	0.0009	<0.0005	0.3	<0.00005	0.0031	0.0028	0.003	13.60	<0.00005	50.80
B625064		<0.00005	21.600	<0.001	0.12	0.380	0.0007	<0.0005	0.5	<0.00005	0.0038	0.0026	0.005	17.80	<0.00005	76.50
B625065		<0.00005	26.400	<0.001	0.16	0.267	0.0016	<0.0005	0.4	<0.00005	0.0060	0.0296	0.008	17.50	<0.00005	49.80

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21326970

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
	Analyte	Li	Mg	Mn	Mo	Moisture	Na	Ni	Pb	P	Sb	Se	Si	Sn	Sr	Ti
	Units	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOD	0.005	0.05	0.0005	0.0001	0.3	0.05	0.0005	0.0001	0.3	0.0001	0.0005	0.05	0.0005	0.0005	0.01
B625050		0.030	12.80	0.0865	0.0149	<0.3	6.55	0.0205	0.0062	<2	<0.0005	<0.003	42.20	<0.003	0.0054	1.50
B625051		0.024	5.86	0.2190	0.0439	<0.3	13.60	0.0051	0.0155	<0.6	<0.0002	<0.001	29.10	0.0029	0.0080	0.55
B625052		<0.005	18.40	0.0009	0.0135	<0.3	0.43	<0.0005	<0.0001	<0.3	<0.0001	0.0009	1.09	<0.0005	0.0011	<0.01
B625053		<0.005	36.20	0.0090	0.0175	<0.3	3.15	<0.0005	<0.0001	<0.3	<0.0001	0.0011	2.04	<0.0005	0.0069	<0.01
B625054		<0.005	27.40	0.0008	0.0081	<0.3	0.09	<0.0005	<0.0001	<0.3	<0.0001	0.0012	1.76	<0.0005	0.0006	<0.01
B625055		0.038	11.80	0.1810	0.0051	<0.3	4.26	0.0086	0.0116	<2	<0.0005	<0.003	43.90	<0.003	0.0102	0.98
B625056		0.046	12.60	0.1470	0.0039	<0.3	3.86	0.0114	0.0036	<2	<0.0005	<0.003	47.80	<0.003	0.0089	0.76
B625057		<0.005	5.90	0.0313	0.0034	<0.3	3.14	0.0062	0.0008	<0.3	<0.0001	<0.0005	6.53	<0.0005	0.0027	0.09
B625058		0.068	211.00	0.0055	0.0212	<0.3	<0.05	<0.0005	<0.0001	<0.3	<0.0001	0.0013	2.13	<0.0005	<0.0005	<0.01
B625059		0.047	28.40	0.0010	0.0052	<0.3	<0.05	<0.0005	<0.0001	<0.3	<0.0001	0.0008	1.32	<0.0005	<0.0005	<0.01
B625060		0.077	13.90	0.1550	0.0027	<0.3	4.64	0.0121	0.0017	0.5	<0.0001	<0.0005	47.50	0.0007	0.0097	1.54
B625061		0.018	9.32	0.1740	0.0084	<0.3	6.79	0.0049	0.0028	0.9	<0.0001	0.0006	28.80	<0.0005	0.0035	1.01
B625062		0.038	8.46	0.1500	0.0038	<0.3	5.16	0.0075	0.0070	0.4	<0.0001	0.0005	27.00	<0.0005	0.0108	0.61
B625063		0.037	6.72	0.0868	0.0059	<0.3	4.63	0.0043	0.0019	0.6	<0.0001	<0.0005	22.90	<0.0005	0.0039	0.73
B625064		0.029	7.36	0.0781	0.0064	<0.3	6.38	0.0039	0.0014	0.8	<0.0001	<0.0005	26.90	<0.0005	0.0045	0.96
B625065		0.060	12.00	0.1760	0.0120	<0.3	5.39	0.0259	0.0024	<0.3	<0.0001	0.0006	30.20	<0.0005	0.0048	0.83

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21326970

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Tl ppm 0.0001	OA-SFE01 U mg/L 0.00001	OA-SFE01 V mg/L 0.001	OA-SFE01 Zn mg/L 0.01	OA-SFE01 Hardness mg/L CaCO3e 0.6	OA-SFE01 Final pH Unity 0.1	MS14L-ANPH Br mg/L 0.05	MS14L-ANPH Cl mg/L 0.5	MS14L-ANPH F mg/L 0.02	MS14L-ANPH NO3 (as mg/L 0.005	MS14L-ANPH SO4 mg/L 0.5	MS14L-ANPH TDS mg/L 3	MS14L-ANPH Conducti uS/cm 2	MS14L-ANPH Alkalini mg/L CaCO3e 1
B625050		<0.0005	0.00127	0.043	<0.05	54.4	9.1	<2	2.2	1.62	0.140	7.6	348	246	73
B625051		<0.0002	0.00432	0.021	0.05	27.6	8.0	<0.1	5.2	1.90	0.265	10.9	188	127	29
B625052		<0.0001	<0.00001	<0.001	<0.01	76.2	7.9	<0.4	2.5	0.58	0.118	1.2	63	155	53
B625053		<0.0001	0.00001	<0.001	<0.01	163.0	8.0	<1	7.6	0.71	0.281	80.3	196	373	66
B625054		<0.0001	<0.00001	<0.001	<0.01	113.0	7.8	<2	2.7	0.58	0.064	38.8	110	227	49
B625055		<0.0005	0.00198	0.044	<0.05	49.9	9.2	<0.3	1.2	1.57	0.083	4.6	302	179	63
B625056		<0.0005	0.00107	0.027	<0.05	53.6	8.5	<3	1.8	1.20	0.778	3.7	315	198	52
B625057		<0.0001	0.00013	0.008	<0.01	25.0	8.3	<2	3.5	0.85	0.226	1.5	127	187	53
B625058		<0.0001	0.00002	<0.001	<0.01	872	7.7	<0.6	7.2	0.42	0.844	767	1040	1380	53
B625059		<0.0001	<0.00001	<0.001	<0.01	117.0	8.3	<0.5	5.9	0.91	0.144	1.8	107	228	102
B625060		0.0003	0.00139	0.039	0.02	58.9	9.1	<2	3.3	1.37	0.085	2.7	324	186	64
B625061		0.0003	0.00173	0.058	0.03	39.5	9.5	<2	0.6	1.74	0.117	4.6	276	228	88
B625062		0.0002	0.00105	0.036	0.02	35.8	9.1	<2	2.2	1.59	0.072	4.5	234	188	67
B625063		0.0002	0.00061	0.038	<0.01	28.5	9.2	<0.4	1.7	1.43	0.283	2.8	199	154	60
B625064		0.0002	0.00096	0.043	<0.01	31.5	9.2	<2	1.7	1.76	0.111	23.7	272	243	68
B625065		0.0003	0.00099	0.033	0.02	50.5	8.9	<1	1.6	1.75	0.055	3.0	236	151	59

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 11-FEB-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21326970

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method: FND-02 SND-01

Processed at ALSE Vancouver, Burnaby, BC, Canada.

Applies to Method: MS14L-ANPH OA-SFE01

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-JAN-2022
Account: BIMCIO

CERTIFICATE VA21327957

Project: Pulps for ABA
P.O. No.: 4500092191
This report is for 46 samples of Pulp submitted to our lab in Vancouver, BC, Canada on 1-DEC-2021.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON CHIASSON
PAUL DAWE	JASON DUFF	SIMON FLEURY
FRED LAWRENCE	JORDON MARSH	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	MATTHEW TRACEY
JUSTIN TUPPER	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21327957

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
	Analyte	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOD	0.00005	0.005	0.001	0.01	0.001	0.0005	0.0005	0.1	0.00005	0.0001	0.0005	0.001	0.03	0.00005	0.05
B625066		0.00011	20.600	<0.002	0.16	0.211	0.0013	0.0020	1.1	0.00020	0.0048	0.0161	0.028	13.60	<0.00005	53.90
B625067		<0.00005	6.880	<0.001	0.13	0.042	<0.0005	<0.0005	3.3	<0.0001	0.0016	0.0051	0.013	4.17	<0.00005	40.40
B625068		<0.00005	4.820	<0.001	0.21	0.022	<0.0005	<0.0005	1.3	<0.00005	0.0016	0.0114	0.002	4.01	<0.00005	53.00
B625069		0.00015	21.800	0.002	0.08	0.294	<0.001	<0.001	1.6	0.00050	0.0040	0.0023	0.024	15.90	<0.00005	92.40
B625070		0.00015	9.540	0.004	0.08	0.047	0.0009	0.0007	1.2	0.00019	0.0029	0.0091	0.034	6.82	<0.00005	36.30
B625071		0.00014	21.100	<0.002	0.47	0.100	0.0020	0.0011	0.5	<0.0001	0.0034	0.0036	0.020	11.50	<0.00005	55.30
B625072		<0.0001	18.800	<0.002	0.10	0.192	0.0017	<0.001	1.0	0.00042	0.0053	0.0072	0.016	13.10	<0.00005	78.30
B625073		<0.00005	0.221	<0.001	0.06	0.005	<0.0005	<0.0005	1.0	<0.00005	<0.0001	<0.0005	<0.001	0.04	<0.00005	26.60
B625074		<0.0001	7.370	<0.002	0.04	0.035	<0.001	<0.001	<0.2	<0.001	0.0074	0.0369	0.007	12.10	<0.00005	38.30
B625075		<0.0001	0.158	<0.002	<0.02	<0.002	<0.001	<0.001	0.3	<0.0001	<0.0002	0.0079	<0.002	<0.06	<0.00005	0.83
B625076		<0.00005	0.372	<0.001	0.03	<0.001	<0.0005	<0.0005	0.2	<0.00005	0.0002	0.0034	<0.001	0.82	<0.00005	0.44
B625077		<0.00005	0.088	<0.001	0.05	<0.001	<0.0005	<0.0005	0.2	<0.00005	<0.0001	<0.0005	<0.001	0.07	<0.00005	0.36
B625078		<0.00005	0.105	<0.001	0.02	<0.001	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0011	<0.001	0.12	<0.00005	1.82
B625079		<0.00005	0.110	<0.001	0.05	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0005	<0.001	0.21	<0.00005	2.42
B625080		<0.00005	11.800	<0.001	0.19	0.024	0.0005	<0.0005	0.2	<0.00005	0.0008	0.0006	0.004	3.38	<0.00005	21.90
B625081		<0.00005	0.212	<0.001	0.24	0.029	<0.0005	<0.0005	3.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	50.10
B625082		0.00037	16.100	<0.001	0.09	0.128	0.0005	0.0024	0.2	<0.00005	0.0029	0.0057	0.218	12.90	<0.00005	43.30
B625083		<0.00005	4.730	<0.001	0.19	0.031	<0.0005	<0.0005	0.2	<0.00005	0.0008	0.0099	<0.001	4.05	<0.00005	32.60
B625084		<0.00005	0.942	<0.001	0.17	0.010	<0.0005	<0.0005	0.9	<0.00005	0.0001	<0.0005	<0.001	0.54	<0.00005	56.90
B625085		<0.00005	11.800	<0.001	0.21	0.133	<0.0005	<0.0005	0.3	<0.00005	0.0016	0.0011	<0.001	8.37	<0.00005	64.20
B625086		<0.0001	15.400	<0.002	0.31	0.154	0.0013	<0.001	0.4	<0.0001	0.0029	0.0017	0.010	13.30	<0.00005	43.80
B625087		<0.0003	20.500	<0.005	0.18	0.213	<0.003	<0.003	<0.5	<0.0003	0.0038	0.0026	<0.005	17.50	<0.00005	60.30
B625088		<0.0003	25.200	<0.005	0.11	0.316	<0.003	<0.003	<0.5	<0.0003	0.0035	<0.003	0.006	16.00	<0.00005	52.20
B625089		<0.0003	19.900	<0.005	0.15	0.260	<0.003	<0.003	<0.5	<0.0003	0.0045	0.0027	0.013	15.20	<0.00005	46.90
B625090		<0.00005	8.440	<0.001	0.12	0.045	<0.0005	<0.0005	0.2	<0.00005	0.0033	0.0013	0.003	8.89	<0.00005	38.20
B625091		<0.00005	10.500	<0.001	0.23	0.096	0.0006	<0.0005	0.1	<0.00005	0.0013	0.0009	0.001	5.13	<0.00005	30.40
B625092		<0.00005	1.010	<0.001	0.04	0.006	<0.0005	<0.0005	0.3	<0.00005	0.0002	<0.0005	<0.001	1.10	<0.00005	27.70
B625093		<0.00005	0.119	<0.001	0.02	<0.001	<0.0005	<0.0005	0.4	<0.00005	0.0001	0.0026	<0.001	0.20	<0.00005	0.36
B625094		<0.00005	0.122	<0.001	0.02	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0011	<0.001	0.07	<0.00005	<0.05
B625095		<0.00005	0.079	<0.001	0.07	0.005	<0.0005	<0.0005	8.8	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	37.10
B625096		<0.00005	0.277	<0.001	0.10	<0.001	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0057	<0.001	0.08	<0.00005	1.25
B625097		<0.00005	0.159	<0.001	0.02	<0.001	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0116	<0.001	<0.03	<0.00005	2.34
B625098		<0.0001	27.600	<0.002	0.07	0.267	<0.001	<0.001	0.3	<0.0001	0.0038	0.0029	0.004	23.60	<0.00005	40.70
B625099		0.00081	42.700	<0.005	0.17	0.298	0.0026	0.0085	1.6	<0.0003	0.0084	0.0112	0.573	32.70	<0.00005	41.80
B625100		<0.00005	0.498	<0.001	0.06	0.005	<0.0005	<0.0005	2.0	<0.00005	<0.0001	<0.0005	<0.001	0.25	<0.00005	22.00
B625101		<0.00005	9.150	<0.001	0.18	0.044	<0.0005	<0.0005	0.6	<0.00005	0.0032	0.0125	0.010	7.06	<0.00005	55.70
B625102		<0.0003	41.900	<0.005	0.19	0.453	<0.003	<0.003	0.7	<0.0003	0.0098	0.0813	0.017	29.10	<0.00005	47.30
B625103		<0.0001	27.600	<0.002	0.29	0.384	0.0015	<0.001	0.4	<0.0001	0.0037	0.0030	0.008	13.30	<0.00005	39.40
B625104		0.00061	39.100	<0.002	0.11	0.522	0.0027	0.0085	0.4	<0.0002	0.0043	0.0026	0.066	18.20	<0.00005	49.30
B625105		0.00005	13.500	<0.001	0.25	0.123	0.0006	0.0011	0.3	0.00012	0.0035	0.0123	0.020	12.10	<0.00005	67.40

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21327957

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625066		0.040	8.28	0.2010	0.0540	<0.3	11.10	0.0080	0.0129	<0.6	0.0004	<0.001	33.50	0.0019	0.0091	0.78
B625067		0.028	5.53	0.0684	0.1030	<0.3	12.50	0.0026	0.0025	<0.3	0.0003	<0.0005	15.60	0.0005	0.0086	0.25
B625068		0.013	6.98	0.0353	0.0115	<0.3	9.10	0.0030	0.0002	<0.3	<0.0001	0.0007	9.65	<0.0005	0.0095	0.08
B625069		0.051	8.31	0.3890	0.0755	<0.3	11.50	0.0023	0.0176	<0.6	0.0004	<0.001	32.90	0.0027	0.0090	1.19
B625070		0.026	4.84	0.1360	0.0500	<0.3	19.90	0.0050	0.0285	<0.3	0.0005	0.0007	17.70	0.0008	0.0064	0.30
B625071		0.029	9.22	0.1860	0.1020	<0.3	7.20	0.0033	0.0032	<0.6	<0.0002	<0.001	37.10	0.0047	0.0084	0.55
B625072		0.030	8.72	0.2480	0.0497	<0.3	16.90	0.0081	0.0142	<0.6	0.0002	<0.001	30.70	0.0019	0.0065	0.80
B625073		<0.005	7.34	<0.0005	0.0311	<0.3	4.99	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.11	<0.0005	0.0062	<0.01
B625074		<0.01	7.16	0.1400	2.8600	<0.3	4.54	0.0224	0.0014	<0.6	<0.0002	0.0011	12.80	<0.001	0.0024	0.30
B625075		<0.01	24.80	0.0030	0.0103	<0.3	0.21	<0.001	<0.0002	<0.6	<0.0002	<0.001	2.83	<0.001	<0.001	<0.02
B625076		<0.005	14.20	0.0113	0.0410	<0.3	0.15	0.0012	<0.0001	<0.3	<0.0001	0.0010	3.12	<0.0005	<0.0005	<0.01
B625077		0.020	30.00	0.0041	0.0106	<0.3	0.07	<0.0005	<0.0001	<0.3	0.0002	0.0023	5.91	<0.0005	0.0006	<0.01
B625078		0.008	26.00	0.0030	0.0059	<0.3	0.20	<0.0005	<0.0001	<0.3	<0.0001	0.0008	3.93	<0.0005	0.0005	<0.01
B625079		<0.005	11.90	0.0042	0.0037	<0.3	0.62	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.82	<0.0005	0.0026	<0.01
B625080		0.010	3.76	0.0299	0.0031	<0.3	3.31	0.0010	0.0012	<0.3	<0.0001	<0.0005	21.80	<0.0005	0.0019	0.04
B625081		0.017	9.47	0.0021	0.0115	<0.3	5.29	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.78	<0.0005	0.0245	<0.01
B625082		0.005	5.66	0.0662	0.0523	<0.3	1.78	0.0043	0.0031	<0.3	0.0002	0.0018	23.80	0.0042	0.0021	0.32
B625083		0.008	4.10	0.0210	0.0014	<0.3	5.98	0.0024	0.0004	<0.3	<0.0001	<0.0005	8.27	<0.0005	0.0024	0.08
B625084		0.009	4.82	0.0032	0.0248	<0.3	4.11	<0.0005	<0.0001	<0.3	0.0001	0.0011	2.96	<0.0005	0.0068	0.02
B625085		0.010	3.78	0.0306	0.0156	<0.3	5.86	0.0042	0.0015	0.7	<0.0001	<0.0005	14.00	<0.0005	0.0045	0.41
B625086		0.041	6.33	0.0586	0.0702	<0.3	4.13	0.0033	0.0017	<0.6	<0.0002	<0.001	20.40	<0.001	0.0104	0.52
B625087		0.029	7.00	0.0767	0.0436	<0.3	4.20	0.0044	0.0016	<2	<0.0005	<0.003	27.60	<0.003	0.0093	0.83
B625088		<0.03	7.53	0.0877	0.0193	<0.3	3.32	0.0041	0.0025	<2	<0.0005	<0.003	38.70	<0.003	0.0065	0.54
B625089		<0.03	4.88	0.0620	0.0404	<0.3	3.27	0.0044	0.0033	<2	<0.0005	<0.003	29.60	<0.003	0.0111	0.69
B625090		0.017	5.19	0.0469	0.0299	<0.3	3.75	0.0062	0.0009	<0.3	0.0002	0.0006	14.10	<0.0005	0.0038	0.25
B625091		0.015	3.20	0.0391	0.0050	<0.3	2.18	0.0017	0.0030	<0.3	0.0003	<0.0005	17.00	0.0007	0.0024	0.14
B625092		<0.005	2.47	0.0023	0.0144	<0.3	3.94	0.0009	<0.0001	<0.3	<0.0001	<0.0005	2.83	<0.0005	0.0018	0.02
B625093		<0.005	9.88	0.0026	0.0027	<0.3	0.13	0.0010	<0.0001	<0.3	<0.0001	0.0005	3.54	<0.0005	0.0007	<0.01
B625094		<0.005	21.30	0.0017	0.0084	<0.3	<0.05	<0.0005	<0.0001	<0.3	<0.0001	0.0012	3.57	<0.0005	<0.0005	<0.01
B625095		0.012	64.60	0.0325	0.0134	<0.3	3.78	<0.0005	<0.0001	<0.3	<0.0001	0.0015	2.43	<0.0005	0.0087	<0.01
B625096		0.009	17.00	0.0022	0.0052	<0.3	<0.05	<0.0005	<0.0001	<0.3	<0.0001	0.0008	2.83	<0.0005	0.0013	<0.01
B625097		<0.005	19.60	0.0025	0.0215	<0.3	0.97	<0.0005	<0.0001	<0.3	<0.0001	0.0012	2.28	<0.0005	0.0015	<0.01
B625098		<0.01	14.30	0.1320	0.0160	<0.3	3.08	0.0064	0.0013	<0.6	0.0003	0.0011	34.90	<0.001	0.0084	0.28
B625099		0.032	15.10	0.1940	0.0598	<0.3	4.64	0.0180	0.0162	<2	<0.0005	<0.003	62.60	0.0035	0.0089	0.96
B625100		<0.005	4.49	0.0009	0.0124	<0.3	4.91	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.84	<0.0005	0.0044	<0.01
B625101		0.009	7.25	0.0372	0.0170	<0.3	5.59	0.0074	0.0010	<0.3	<0.0001	0.0011	14.20	0.0009	0.0060	0.15
B625102		0.058	15.50	0.2560	0.0086	<0.3	4.40	0.0368	0.0054	<2	<0.0005	<0.003	57.80	<0.003	0.0094	1.21
B625103		0.095	8.86	0.1170	0.0031	<0.3	3.67	0.0040	0.0030	<0.6	0.0004	<0.001	35.90	<0.001	0.0104	0.72
B625104		0.024	14.80	0.2670	0.0740	<0.3	3.95	0.0032	0.0096	<0.6	<0.0002	<0.001	53.90	<0.001	0.0070	0.88
B625105		0.023	8.73	0.0956	0.0278	<0.3	3.47	0.0091	0.0033	<0.3	0.0002	0.0012	19.10	0.0009	0.0074	0.37

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21327957

Sample Description / Method / Analyte / Units / LOD	OA-SFE01 Tl ppm 0.0001	OA-SFE01 U mg/L 0.00001	OA-SFE01 V mg/L 0.001	OA-SFE01 Zn mg/L 0.01	OA-SFE01 Hardness mg/L CaCO3e 0.6	OA-SFE01 Final pH Unity 0.1	MS14L-ANPH Br mg/L 0.05	MS14L-ANPH Cl mg/L 0.5	MS14L-ANPH F mg/L 0.02	MS14L-ANPH NO3 (as mg/L 0.005	MS14L-ANPH SO4 mg/L 0.5	MS14L-ANPH TDS mg/L 3	MS14L-ANPH Conducti uS/cm 2	MS14L-ANPH Alkalini mg/L CaCO3e 1
B625066	0.0003	0.00307	0.050	0.05	36.7	8.3	0.07	2.9	3.04	0.487	5.5	251	183	63
B625067	0.0001	0.00158	0.024	<0.01	30.9	8.2	0.09	5.8	1.91	0.247	3.3	171	203	74
B625068	<0.0001	0.00007	0.017	<0.01	31.9	8.1	0.23	4.9	2.12	0.057	1.3	161	223	79
B625069	0.0005	0.01120	0.049	0.08	38.3	9.4	<0.05	3.6	5.01	0.072	2.7	329	306	127
B625070	0.0002	0.02030	0.048	0.05	23.0	8.6	0.08	9.5	2.10	0.343	4.6	184	196	66
B625071	0.0003	0.00149	0.028	0.04	39.3	8.3	0.05	3.4	5.77	1.040	2.4	253	172	51
B625072	0.0003	0.00329	0.083	0.07	38.5	9.2	0.06	3.5	4.56	1.440	3.5	301	273	104
B625073	<0.0001	<0.00001	<0.001	<0.01	32.8	7.9	0.11	8.2	1.01	0.035	<0.5	86	157	51
B625074	<0.0002	0.00030	0.016	<0.02	29.5	8.0	0.10	3.0	1.31	0.185	3.4	140	137	46
B625075	<0.0002	<0.00002	<0.002	<0.02	103.0	8.1	<0.05	4.3	1.01	0.084	1.5	89	191	79
B625076	<0.0001	<0.00001	<0.001	<0.01	59.0	7.8	<0.05	3.6	0.68	0.062	1.8	62	116	51
B625077	<0.0001	0.00002	<0.001	<0.01	124.0	7.6	<0.05	4.2	0.84	0.068	81.2	151	256	30
B625078	<0.0001	<0.00001	<0.001	<0.01	108.0	7.9	<0.05	4.6	1.25	0.180	5.3	95	201	73
B625079	<0.0001	<0.00001	<0.001	<0.01	49.6	7.5	<0.05	4.7	0.29	0.239	4.0	54	107	30
B625080	<0.0001	0.00151	0.009	<0.01	15.9	8.1	<0.05	2.5	0.96	0.092	2.1	129	80	32
B625081	<0.0001	<0.00001	0.002	<0.01	47.3	8.4	<0.05	3.9	0.74	0.100	5.8	146	255	99
B625082	0.0002	0.00196	0.018	0.02	23.8	8.3	<0.05	2.6	1.69	0.099	4.3	183	132	49
B625083	<0.0001	0.00020	0.006	<0.01	17.4	8.1	0.07	4.3	1.11	1.130	0.9	112	138	44
B625084	<0.0001	0.00006	0.001	<0.01	22.0	7.7	0.06	4.1	0.72	0.622	50.4	154	243	32
B625085	0.0001	0.00017	0.034	<0.01	16.2	8.9	<0.05	2.1	1.49	0.423	12.6	192	214	70
B625086	<0.0002	0.00235	0.024	<0.02	27.1	8.5	<0.05	1.9	1.34	0.091	5.8	176	130	46
B625087	<0.0005	0.00208	0.059	<0.05	28.8	9.0	<0.05	1.2	1.51	0.055	6.2	234	172	68
B625088	<0.0005	0.00356	0.030	<0.05	31.0	8.7	<0.05	2.4	1.09	0.940	7.9	254	139	48
B625089	<0.0005	0.00090	0.029	<0.05	20.1	8.1	<0.05	1.7	1.44	0.077	16.0	211	133	36
B625090	<0.0001	0.00109	0.008	<0.01	22.0	7.8	0.08	4.3	1.20	0.112	6.0	137	138	37
B625091	<0.0001	0.00047	0.010	<0.01	13.5	8.1	<0.05	2.6	0.93	0.174	1.7	125	99	35
B625092	<0.0001	0.00004	0.001	<0.01	11.0	7.9	0.06	6.2	1.07	0.133	1.7	77	122	39
B625093	<0.0001	<0.00001	<0.001	<0.01	41.8	7.5	<0.05	2.2	0.39	0.051	1.0	42	81	29
B625094	<0.0001	<0.00001	<0.001	<0.01	88.5	7.8	<0.05	5.9	1.17	0.104	6.7	82	168	60
B625095	<0.0001	0.00001	<0.001	<0.01	288	7.2	<0.3	4.4	0.60	0.278	290	431	627	23
B625096	<0.0001	<0.00001	0.002	<0.01	72.7	8.0	0.09	3.9	1.65	0.077	1.0	70	127	60
B625097	<0.0001	<0.00001	<0.001	<0.01	82.8	8.1	0.09	4.7	0.63	0.092	1.3	80	154	71
B625098	<0.0002	0.00093	0.019	<0.02	59.6	8.0	0.10	3.1	0.78	0.066	2.2	240	119	49
B625099	<0.0005	0.00279	0.033	<0.05	66.2	7.6	0.14	2.6	1.31	0.154	9.7	343	109	33
B625100	<0.0001	0.00001	<0.001	<0.01	23.4	7.9	0.10	7.0	0.78	0.036	<0.5	76	123	48
B625101	<0.0001	0.00026	0.030	0.01	31.3	8.2	0.34	4.2	2.18	0.072	4.3	174	203	64
B625102	<0.0005	0.00214	0.057	<0.05	65.7	8.3	0.14	2.7	1.24	0.042	3.1	330	113	45
B625103	0.0002	0.00075	0.031	<0.02	37.4	8.4	0.10	1.5	0.96	0.070	1.4	221	99	44
B625104	0.0004	0.00332	0.020	0.08	61.8	8.8	0.20	1.5	1.32	0.050	1.8	308	118	51
B625105	0.0002	0.00048	0.023	0.05	36.8	8.9	<0.3	2.0	1.52	0.318	6.7	212	208	70

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21327957

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625106		<0.00005	0.212	<0.001	0.02	<0.001	<0.0005	<0.0005	1.8	<0.00005	<0.0001	0.0014	<0.001	0.44	<0.00005	1.82
B625107		0.00011	12.500	<0.001	0.11	0.124	0.0011	0.0012	0.2	<0.00005	0.0023	0.0009	0.019	9.50	<0.00005	35.40
B625108		<0.00005	10.600	<0.001	0.26	0.063	0.0012	<0.0005	0.6	0.00012	0.0024	0.0020	0.025	7.98	<0.00005	30.50
B625109		0.00035	11.700	<0.001	0.04	0.101	0.0007	0.0009	0.9	0.00068	0.0038	0.0045	0.039	10.40	<0.00005	28.40
B625110		<0.00005	5.920	<0.001	0.17	0.037	<0.0005	<0.0005	0.1	<0.00005	0.0008	0.0014	<0.001	4.56	<0.00005	31.00
B625111		<0.00005	2.600	<0.001	0.06	0.015	<0.0005	<0.0005	0.2	<0.0002	0.0005	<0.0005	0.002	2.76	<0.00005	28.90

***** See Appendix Page for comments regarding this certificate *****

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Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21327957

Sample Description	Method Analyte Units LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625106		<0.005	10.20	0.0065	0.0044	<0.3	0.58	0.0007	<0.0001	<0.3	<0.0001	0.0006	3.00	<0.0005	0.0036	<0.01
B625107		0.015	6.90	0.0891	0.0105	<0.3	3.35	0.0015	0.0021	<0.3	<0.0001	<0.0005	17.40	<0.0005	0.0031	0.26
B625108		0.026	5.70	0.1100	0.0219	<0.3	10.30	0.0019	0.0024	<0.3	0.0001	<0.0005	19.90	0.0009	0.0031	0.38
B625109		0.026	6.42	0.2300	0.1090	<0.3	15.70	0.0039	0.0204	0.4	0.0001	0.0007	19.80	0.0009	0.0038	0.53
B625110		0.011	2.48	0.0134	0.0137	<0.3	3.19	0.0021	0.0004	<0.3	<0.0001	<0.0005	8.95	<0.0005	0.0022	0.14
B625111		<0.005	4.34	0.0072	0.2370	<0.3	4.68	0.0019	0.0002	<0.3	<0.0001	0.0011	5.68	<0.0005	0.0022	0.03

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

2103 Dollarton Hwy
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Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21327957

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
	Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
	Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
	LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625106		<0.0001	<0.00001	<0.001	<0.01	46.4	7.9	<0.05	3.3	0.51	0.035	0.7	54	94	44
B625107		0.0002	0.00189	0.007	0.03	28.9	8.9	<0.05	2.4	1.66	0.033	1.3	149	111	46
B625108		0.0001	0.00209	0.029	0.03	24.9	8.9	<0.05	2.9	4.07	0.100	1.7	159	127	50
B625109		0.0002	0.00766	0.049	0.15	28.7	9.4	<0.05	4.2	3.52	0.091	2.4	173	141	58
B625110		<0.0001	0.00040	0.006	<0.01	10.5	8.2	<0.05	6.2	0.92	0.187	3.0	102	110	33
B625111		<0.0001	0.00068	0.001	<0.01	18.4	8.2	<0.05	6.8	0.85	0.061	2.1	92	129	38

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2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 13-JAN-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA21327957

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method: FND-02 SND-01

Processed at ALSE Vancouver, Burnaby, BC, Canada.

Applies to Method: MS14L-ANPH OA-SFE01

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2022
Account: BIMCIO

CERTIFICATE VA22026504

Project: Pulps for ABA

P.O. No.: 4500092191

This report is for 50 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 26-JAN-2022.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON CHIASSON
PAUL DAWE	JASON DUFF	SIMON FLEURY
FRED LAWRENCE	JORDON MARSH	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	MATTHEW TRACEY
JUSTIN TUPPER	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
SPL-21X	Addnl Crush Split w No Analysis
PUL-31	Pulverize up to 250g 85% <75 um
PUL-QC	Pulverizing QC Test

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, Director, North Vancouver Operations

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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22026504

Sample Description / Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625112	0.30	2.2	1	23	25	8.1	11.43	0.07	0.01	0.03	0.06	<0.05	<0.2
B625113	0.38	2.8	1	22	25	8.7	8.89	0.09	<0.01	0.03	0.09	<0.05	<0.2
B625114	0.33	2.2	1	20	22	8.5	10.06	0.07	<0.01	0.02	0.07	<0.05	<0.2
B625115	0.43	1.6	1	21	23	8.5	14.72	0.05	<0.01	0.01	0.05	<0.05	<0.2
B625116	0.38	<0.3	1	21	21	8.5	134.40	<0.01	<0.01	0.03	<0.01	<0.05	<0.2
B625117	0.40	1.3	1	19	20	9.0	16.00	0.04	<0.01	0.03	0.04	<0.05	<0.2
B625118	0.39	1.6	1	24	26	8.3	16.64	0.05	<0.01	0.02	0.05	<0.05	<0.2
B625119	0.38	<0.3	1	28	28	8.2	179.20	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
B625120	0.33	<0.3	1	21	21	8.8	134.40	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625121	0.51	3.1	1	26	29	7.4	9.28	0.10	0.08	0.12	0.02	<0.05	<0.2
B625123	0.52	<0.3	1	24	24	8.1	153.60	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
B625124	0.55	<0.3	1	12	12	8.7	76.80	<0.01	0.01	0.02	<0.01	<0.05	<0.2
B625126	0.59	1.9	1	24	26	8.2	13.87	0.06	<0.01	0.03	0.06	<0.05	<0.2
B625127	0.60	0.3	1	10	10	7.7	32.00	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625128	0.37	0.6	1	19	20	8.3	32.00	0.02	<0.01	0.04	0.02	<0.05	<0.2
B625129	0.37	7.8	1	15	23	8.3	2.94	0.25	<0.01	0.02	0.25	<0.05	<0.2
B625130	0.35	3.4	1	17	20	8.2	5.82	0.11	<0.01	0.03	0.11	<0.05	<0.2
B625131	0.46	6.3	1	15	21	8.2	3.36	0.20	<0.01	0.01	0.20	<0.05	<0.2
B625132	0.25	3.4	1	18	21	8.3	6.11	0.11	<0.01	0.02	0.11	<0.05	<0.2
B625133	0.41	5.0	1	15	20	8.2	4.00	0.16	<0.01	0.05	0.16	<0.05	<0.2
B625134	0.50	17.2	1	-2	15	8.1	0.87	0.55	<0.01	0.04	0.55	<0.05	<0.2
B625135	0.47	0.6	1	19	20	8.2	32.00	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625136	0.40	0.3	1	15	15	9.0	48.00	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625137	0.34	0.3	1	16	16	9.3	51.20	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625138	0.38	0.6	1	15	16	9.2	25.60	0.02	0.01	0.01	0.01	<0.05	<0.2
B625139	0.37	<0.3	1	11	11	8.9	70.40	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625140	0.41	0.6	1	19	20	8.7	32.00	0.02	<0.01	0.04	0.02	<0.05	<0.2
B625141	0.42	0.6	1	14	15	9.5	24.00	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625142	0.41	<0.3	1	13	13	9.3	83.20	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
B625143	0.58	13.8	1	6	20	8.0	1.45	0.44	<0.01	<0.01	0.44	<0.05	<0.2
B625144	0.38	<0.3	1	17	17	8.5	108.80	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625145	0.43	1.3	1	20	21	8.3	16.80	0.04	0.01	0.01	0.03	<0.05	<0.2
B625146	0.43	3.4	1	17	20	8.5	5.82	0.11	<0.01	0.02	0.11	<0.05	<0.2
B625147	0.22	0.3	1	15	15	8.6	48.00	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625148	0.40	0.3	1	17	17	8.9	54.40	0.01	<0.01	<0.01	0.01	<0.05	<0.2
B625149	0.37	0.6	1	13	14	8.5	22.40	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625150	0.60	<0.3	1	15	15	8.9	96.00	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625151	0.43	<0.3	1	16	16	8.4	102.40	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625152	0.37	<0.3	1	15	15	8.4	96.00	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
B625153	0.36	<0.3	1	25	25	8.3	160.00	<0.01	<0.01	0.01	<0.01	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22026504

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625154		0.46	0.3	1	14	14	9.1	44.80	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625155		0.33	2.5	1	15	17	8.1	6.80	0.08	<0.01	0.01	0.08	<0.05	<0.2
B625156		0.45	<0.3	1	26	26	8.2	166.40	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625157		0.39	2.8	1	20	23	8.3	8.18	0.09	<0.01	0.02	0.09	<0.05	<0.2
B625158		0.30	<0.3	1	26	26	8.3	166.40	<0.01	<0.01	<0.01	<0.01	<0.05	<0.2
B625159		0.14	0.3	1	14	14	8.9	44.80	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625160		0.11	0.6	1	14	15	8.4	24.00	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625161		0.40	0.3	1	10	10	9.2	32.00	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625162		0.40	<0.3	1	5	5	9.2	32.00	<0.01	0.01	<0.01	<0.01	<0.05	<0.2
B625163		0.73	<0.3	1	17	17	8.2	108.80	<0.01	<0.01	<0.01	<0.01	0.06	0.2

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 25-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22026504

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:				
	C-GAS05	LOG-21	OA-ELE07	OA-VOL08
	PUL-31	PUL-QC	S-CAL06	S-GRA06
	S-GRA06a	S-IR08	SPL-21X	WEI-21

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

CERTIFICATE VA22028806

Project: Pulps for ABA
P.O. No.: 4500092191
This report is for 50 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 26-JAN-2022.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON CHIASSON
PAUL DAWE	JASON DUFF	SIMON FLEURY
FRED LAWRENCE	JORDON MARSH	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	MATTHEW TRACEY
JUSTIN TUPPER	WARRICK WILLIAMS	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, Director, North Vancouver Operations

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22028806

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
	Analyte	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOD	0.00005	0.005	0.001	0.01	0.001	0.0005	0.0005	0.1	0.00005	0.0001	0.0005	0.001	0.03	0.00005	0.05
B625112		<0.00005	6.840	<0.001	0.05	0.016	<0.0005	<0.0005	0.8	<0.00005	0.0020	0.0077	0.022	5.34	<0.00005	5.92
B625113		<0.00005	0.638	<0.001	0.03	0.003	<0.0005	<0.0005	3.9	<0.0001	0.0002	0.0010	0.001	0.35	<0.00005	15.10
B625114		<0.00005	0.230	<0.001	0.03	0.002	<0.0005	<0.0005	4.3	<0.00005	<0.0001	<0.0005	<0.001	0.08	<0.00005	10.70
B625115		<0.00005	2.040	<0.001	0.02	0.013	<0.0005	<0.0005	0.2	<0.00005	0.0008	<0.0005	<0.001	2.44	<0.00005	8.36
B625116		<0.00005	16.600	<0.001	0.08	0.033	0.0007	<0.0005	0.3	<0.00005	0.0024	0.0244	0.003	6.73	<0.00005	12.10
B625117		<0.00005	14.400	<0.001	0.11	0.126	<0.0005	<0.0005	0.5	<0.00005	0.0026	0.0026	0.014	9.96	<0.00005	14.40
B625118		<0.00005	0.843	<0.001	0.03	0.005	<0.0005	<0.0005	1.1	<0.00005	0.0003	<0.0005	<0.001	1.32	<0.00005	6.10
B625119		<0.00005	0.124	0.005	0.03	<0.001	<0.0005	<0.0005	0.3	<0.0003	<0.0001	<0.0005	<0.001	0.07	<0.00005	2.84
B625120		<0.00005	2.160	<0.001	0.04	0.015	<0.0005	<0.0005	0.2	<0.00005	0.0004	<0.0005	<0.001	2.30	<0.00005	7.09
B625121		<0.00005	0.005	<0.001	0.09	0.011	<0.0005	<0.0005	7.8	<0.00005	0.0001	<0.0005	<0.001	<0.03	<0.00005	14.80
B625123		<0.00005	1.210	<0.001	0.02	<0.001	<0.0005	<0.0005	<0.1	<0.00005	0.0012	0.0057	<0.001	2.37	<0.00005	0.48
B625124		0.00010	1.640	<0.001	0.04	0.005	<0.0005	0.0006	<0.1	<0.00005	0.0002	<0.0005	0.002	0.52	<0.00005	5.40
B625126		<0.00005	0.130	<0.001	0.02	<0.001	<0.0005	<0.0005	0.7	<0.00005	<0.0001	<0.0005	<0.001	0.07	<0.00005	3.94
B625127		<0.00005	0.025	<0.001	0.21	0.002	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	4.40
B625128		<0.00005	0.473	<0.001	0.01	<0.001	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.0089	<0.001	0.44	<0.00005	2.21
B625129		<0.00005	0.168	<0.001	0.02	0.001	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0007	<0.001	0.11	<0.00005	4.05
B625130		<0.00005	0.089	<0.001	<0.01	<0.001	<0.0005	<0.0005	0.4	<0.00005	<0.0001	0.0017	<0.001	0.06	<0.00005	1.74
B625131		<0.00005	0.079	<0.001	<0.01	<0.001	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0025	<0.001	<0.03	<0.00005	1.19
B625132		<0.00005	0.160	<0.001	<0.01	<0.001	<0.0005	<0.0005	0.4	<0.00005	<0.0001	<0.0005	<0.001	0.06	<0.00005	4.05
B625133		<0.00005	0.318	<0.001	0.02	0.002	<0.0005	<0.0005	0.5	<0.00005	0.0003	0.0017	<0.001	0.50	<0.00005	4.42
B625134		<0.00005	0.028	<0.001	0.02	<0.001	<0.0005	<0.0005	0.3	<0.00005	0.0001	<0.0005	<0.001	<0.03	<0.00005	0.70
B625135		<0.00005	0.123	<0.001	0.01	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0055	<0.001	0.09	<0.00005	2.38
B625136		<0.00005	1.580	<0.001	0.09	0.005	<0.0005	<0.0005	0.3	<0.00005	0.0001	<0.0005	0.002	0.45	<0.00005	12.70
B625137		<0.00005	2.420	<0.001	0.05	0.019	<0.0005	<0.0005	<0.1	<0.00005	0.0003	<0.0005	0.001	0.95	<0.00005	9.33
B625138		0.00006	2.320	<0.001	0.05	0.018	<0.0005	<0.0005	<0.1	<0.00005	0.0003	<0.0005	0.005	0.75	<0.00005	10.10
B625139		<0.00005	1.510	<0.001	0.04	0.006	<0.0005	<0.0005	0.4	<0.00005	0.0003	<0.0005	<0.001	0.57	<0.00005	5.55
B625140		<0.00005	0.686	<0.001	0.03	0.002	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.0008	<0.001	0.24	<0.00005	6.07
B625141		<0.00005	2.100	<0.001	0.01	0.018	<0.0005	<0.0005	<0.1	<0.00005	0.0004	<0.0005	0.003	0.92	<0.00005	9.32
B625142		<0.00005	2.910	<0.001	0.01	0.017	<0.0005	<0.0005	<0.1	<0.00005	0.0004	<0.0005	0.002	1.07	<0.00005	8.21
B625143		<0.00005	0.107	<0.001	0.02	<0.001	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.0012	<0.001	0.40	<0.00005	1.42
B625144		0.00005	4.690	<0.001	0.06	0.025	<0.0005	<0.0005	1.3	<0.00005	0.0012	0.0016	0.011	3.17	<0.00005	4.76
B625145		<0.00005	0.226	<0.001	0.01	<0.001	<0.0005	<0.0005	0.2	<0.00005	0.0001	0.0016	<0.001	0.29	<0.00005	2.99
B625146		<0.00005	0.094	<0.001	<0.01	<0.001	<0.0005	<0.0005	1.4	<0.00005	<0.0001	0.0164	<0.001	0.13	<0.00005	0.48
B625147		<0.00005	6.360	<0.001	0.09	0.013	<0.0005	<0.0005	0.3	<0.0002	0.0007	0.0021	0.020	1.60	<0.00005	9.51
B625148		<0.00005	0.474	<0.001	0.03	0.004	<0.0005	<0.0005	4.8	<0.0002	<0.0001	<0.0005	<0.001	0.16	<0.00005	11.70
B625149		<0.00005	3.330	<0.001	0.06	0.011	<0.0005	0.0006	0.4	<0.0003	0.0004	<0.0005	0.007	1.05	<0.00005	6.84
B625150		<0.00005	1.390	<0.001	0.02	0.006	<0.0005	<0.0005	1.5	<0.00005	0.0002	<0.0005	0.001	0.50	<0.00005	12.50
B625151		<0.00005	1.530	<0.001	0.08	0.004	<0.0005	<0.0005	0.4	<0.00005	0.0002	<0.0005	0.003	0.75	<0.00005	6.16
B625152		0.00006	4.360	<0.001	0.03	0.015	<0.0005	0.0006	0.4	<0.0002	0.0010	0.0005	0.019	3.20	<0.00005	5.77
B625153		<0.00005	0.144	<0.001	0.02	<0.001	<0.0005	<0.0005	0.6	<0.00005	<0.0001	<0.0005	<0.001	0.13	<0.00005	2.23

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22028806

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625112		0.011	6.34	0.0431	0.0040	<0.3	0.84	0.0162	0.0004	<0.3	<0.0001	0.0006	11.40	<0.0005	0.0066	0.02
B625113		0.011	2.74	0.0054	0.0716	<0.3	4.58	<0.0005	0.0008	<0.3	0.0001	<0.0005	4.98	<0.0005	0.0058	0.01
B625114		0.007	3.80	0.0039	0.0179	<0.3	4.42	<0.0005	<0.0001	<0.3	0.0001	<0.0005	3.07	<0.0005	0.0069	<0.01
B625115		<0.005	2.24	0.0059	0.0243	<0.3	1.45	0.0022	0.0002	<0.3	<0.0001	<0.0005	5.58	<0.0005	0.0016	0.04
B625116		0.014	6.44	0.0700	0.0067	<0.3	1.48	0.0090	0.0004	<0.3	<0.0001	<0.0005	27.20	<0.0005	0.0033	0.11
B625117		0.025	6.13	0.0791	0.0057	<0.3	1.43	0.0032	0.0018	<0.3	<0.0001	<0.0005	22.00	0.0006	0.0091	0.38
B625118		<0.005	3.25	0.0044	0.0504	<0.3	1.95	0.0011	<0.0001	<0.3	<0.0001	<0.0005	3.48	<0.0005	0.0044	0.01
B625119		<0.005	6.26	0.0023	0.4100	<0.3	0.84	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.84	<0.0005	0.0018	<0.01
B625120		<0.005	1.45	0.0096	0.0049	<0.3	1.95	0.0008	0.0002	<0.3	<0.0001	<0.0005	4.33	<0.0005	0.0014	0.04
B625121		0.013	213.00	0.0350	0.0010	<0.3	1.47	0.0006	<0.0001	<0.3	<0.0001	0.0007	3.75	<0.0005	0.0286	<0.01
B625123		<0.005	4.19	0.0127	0.0010	<0.3	0.25	0.0045	<0.0001	<0.3	<0.0001	<0.0005	5.06	<0.0005	<0.0005	<0.01
B625124		<0.005	0.48	0.0032	0.0114	<0.3	0.68	<0.0005	0.0001	<0.3	<0.0001	<0.0005	4.05	<0.0005	0.0005	0.02
B625126		<0.005	3.85	0.0031	0.0053	<0.3	0.67	<0.0005	<0.0001	<0.3	<0.0001	0.0007	1.76	<0.0005	0.0016	<0.01
B625127		0.087	15.10	0.0071	0.0013	<0.3	0.33	<0.0005	<0.0001	<0.3	<0.0001	0.0009	2.30	<0.0005	0.0064	<0.01
B625128		<0.005	2.07	0.0049	0.0047	<0.3	0.32	0.0012	<0.0001	<0.3	<0.0001	<0.0005	2.17	<0.0005	0.0008	<0.01
B625129		<0.005	4.28	0.0035	0.0049	<0.3	0.80	<0.0005	<0.0001	<0.3	<0.0001	0.0029	2.20	<0.0005	0.0038	<0.01
B625130		<0.005	4.49	0.0047	0.0074	<0.3	0.35	<0.0005	<0.0001	<0.3	<0.0001	0.0022	1.70	<0.0005	0.0029	<0.01
B625131		<0.005	6.25	0.0035	0.0036	<0.3	0.30	<0.0005	<0.0001	<0.3	<0.0001	0.0015	2.11	<0.0005	0.0028	<0.01
B625132		<0.005	2.92	0.0025	0.0069	<0.3	0.56	<0.0005	<0.0001	<0.3	<0.0001	0.0008	1.93	<0.0005	0.0035	<0.01
B625133		<0.005	5.02	0.0113	0.0048	<0.3	0.48	0.0029	<0.0001	<0.3	<0.0001	0.0008	2.52	<0.0005	0.0028	<0.01
B625134		<0.005	10.10	0.0177	0.0024	<0.3	0.20	<0.0005	<0.0001	<0.3	<0.0001	0.0025	4.13	<0.0005	0.0029	<0.01
B625135		<0.005	3.34	0.0021	0.0053	<0.3	0.45	<0.0005	<0.0001	<0.3	<0.0001	0.0015	2.00	<0.0005	0.0016	<0.01
B625136		0.013	0.77	0.0040	0.0038	<0.3	1.20	<0.0005	0.0003	<0.3	<0.0001	<0.0005	4.37	<0.0005	0.0037	0.02
B625137		0.006	0.53	0.0077	0.0041	<0.3	1.01	<0.0005	0.0007	<0.3	<0.0001	<0.0005	5.16	<0.0005	0.0012	0.04
B625138		0.010	0.74	0.0090	0.0052	<0.3	1.11	<0.0005	0.0003	<0.3	<0.0001	<0.0005	5.61	<0.0005	0.0016	0.03
B625139		0.010	1.34	0.0049	0.0020	<0.3	0.78	0.0007	<0.0001	<0.3	<0.0001	<0.0005	3.72	<0.0005	0.0032	<0.01
B625140		<0.005	1.39	0.0015	0.0032	<0.3	0.67	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.36	<0.0005	0.0018	<0.01
B625141		0.007	0.50	0.0077	0.0051	<0.3	0.97	<0.0005	0.0002	<0.3	<0.0001	<0.0005	4.65	<0.0005	0.0008	0.04
B625142		<0.005	0.64	0.0079	0.0004	<0.3	1.15	<0.0005	0.0003	<0.3	<0.0001	<0.0005	5.49	<0.0005	0.0006	0.03
B625143		<0.005	9.64	0.0182	0.0033	<0.3	0.31	0.0014	<0.0001	<0.3	<0.0001	0.0034	7.59	<0.0005	0.0020	<0.01
B625144		0.006	2.44	0.0244	0.0013	<0.3	1.22	0.0017	0.0008	<0.3	<0.0001	<0.0005	9.61	<0.0005	0.0017	0.05
B625145		<0.005	2.95	0.0028	0.0041	<0.3	0.39	0.0009	<0.0001	<0.3	<0.0001	<0.0005	2.29	<0.0005	0.0011	<0.01
B625146		<0.005	4.28	0.0032	0.0015	<0.3	0.53	0.0006	<0.0001	<0.3	<0.0001	<0.0005	3.82	<0.0005	0.0015	<0.01
B625147		0.015	1.93	0.0148	0.2050	<0.3	1.26	0.0014	0.0002	<0.3	<0.0001	<0.0005	12.50	<0.0005	0.0032	0.03
B625148		<0.005	2.73	0.0068	0.2200	<0.3	3.12	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	4.62	<0.0005	0.0090	<0.01
B625149		0.007	1.48	0.0122	0.3550	<0.3	0.92	<0.0005	0.0002	<0.3	<0.0001	<0.0005	7.79	<0.0005	0.0021	0.02
B625150		<0.005	1.02	0.0079	0.0213	<0.3	2.80	<0.0005	0.0006	<0.3	0.0001	<0.0005	5.19	<0.0005	0.0020	0.02
B625151		0.006	1.26	0.0123	0.0345	<0.3	1.90	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	6.39	<0.0005	0.0011	0.01
B625152		0.008	3.44	0.0684	0.1590	<0.3	0.85	0.0010	0.0010	<0.3	<0.0001	<0.0005	10.20	<0.0005	0.0014	0.08
B625153		<0.005	3.15	<0.0005	0.0191	<0.3	1.21	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.19	<0.0005	0.0017	<0.01

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22028806

Sample Description	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
Method / Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625112	<0.0001	0.00027	0.004	<0.01	28.0	7.5	<0.05	1.1	0.24	0.021	2.6	68	41	12
B625113	<0.0001	0.00079	0.016	<0.01	20.9	8.7	<0.05	4.3	0.29	0.039	2.8	69	104	35
B625114	<0.0001	0.00053	0.005	<0.01	26.5	8.2	<0.05	4.4	0.47	0.091	4.2	61	101	33
B625115	<0.0001	0.00051	0.002	<0.01	9.8	7.5	<0.05	1.6	0.20	0.449	2.7	44	42	9
B625116	0.0001	0.00073	0.011	<0.01	27.2	7.9	<0.05	1.4	0.25	0.043	0.5	127	31	12
B625117	<0.0001	0.00066	0.013	0.03	26.5	8.2	<0.05	2.2	0.16	0.125	1.8	119	41	13
B625118	<0.0001	0.00011	0.001	<0.01	16.2	7.2	<0.05	3.6	0.17	0.081	2.4	36	53	10
B625119	<0.0001	<0.00001	<0.001	<0.01	26.5	7.4	<0.05	2.2	0.23	0.029	8.5	37	64	13
B625120	<0.0001	0.00025	0.003	<0.01	6.4	7.9	<0.05	1.8	0.14	0.229	<0.5	36	35	10
B625121	<0.0001	<0.00001	<0.001	<0.01	896	6.5	<0.3	<3	<0.1	0.564	856	1110	1420	5
B625123	<0.0001	0.00002	0.002	<0.01	17.2	7.3	<0.05	0.5	0.09	0.021	<0.5	28	21	9
B625124	<0.0001	0.00011	0.003	<0.01	2.0	7.7	<0.05	0.9	0.15	0.030	<0.5	25	21	7
B625126	<0.0001	<0.00001	<0.001	<0.01	17.5	7.1	<0.05	1.3	0.08	0.037	12.4	33	56	8
B625127	<0.0001	<0.00001	<0.001	<0.01	66.3	6.8	<0.2	1.7	0.05	0.043	55.5	89	154	6
B625128	<0.0001	0.00002	0.001	<0.01	9.2	7.4	<0.05	0.7	0.09	0.054	1.3	19	24	8
B625129	<0.0001	0.00001	<0.001	<0.01	19.0	7.3	<0.05	1.3	0.12	0.033	11.3	34	58	9
B625130	<0.0001	<0.00001	<0.001	<0.01	19.4	7.0	<0.05	0.9	0.06	0.062	6.6	24	44	7
B625131	<0.0001	<0.00001	<0.001	<0.01	27.8	7.0	<0.05	1.6	0.09	0.049	9.9	31	57	8
B625132	<0.0001	<0.00001	<0.001	<0.01	12.9	7.1	<0.05	1.1	0.09	0.039	4.4	23	40	7
B625133	<0.0001	<0.00001	<0.001	<0.01	21.8	7.0	<0.05	1.2	0.05	0.069	8.4	33	55	8
B625134	<0.0001	0.00001	<0.001	<0.01	42.3	6.9	<0.05	1.4	0.17	0.105	18.9	48	85	8
B625135	<0.0001	<0.00001	<0.001	<0.01	14.4	7.3	<0.05	1.1	0.09	0.089	5.8	25	39	9
B625136	<0.0001	0.00032	0.004	<0.01	3.8	8.1	<0.05	0.8	0.15	0.033	0.9	40	45	16
B625137	<0.0001	0.00018	0.004	<0.01	2.2	8.2	<0.05	<0.5	0.15	0.025	<0.5	35	30	11
B625138	<0.0001	0.00072	0.005	<0.01	3.1	8.1	<0.05	<0.5	0.13	0.035	1.1	38	34	11
B625139	<0.0001	0.00032	0.001	<0.01	6.6	7.6	<0.05	0.5	0.09	0.161	1.1	29	30	11
B625140	<0.0001	0.00007	0.001	<0.01	6.4	7.2	<0.05	0.8	0.09	0.237	2.1	24	33	7
B625141	<0.0001	0.00024	0.005	<0.01	2.1	8.0	<0.05	<0.5	0.15	0.021	1.4	35	31	11
B625142	<0.0001	0.00100	0.004	<0.01	2.7	8.0	<0.05	0.7	0.12	0.034	<0.5	36	26	10
B625143	<0.0001	0.00002	<0.001	<0.01	40.4	6.9	<0.05	0.7	0.11	0.038	22.5	61	86	8
B625144	<0.0001	0.00032	0.003	0.03	13.3	7.0	<0.05	0.9	0.10	0.464	<0.5	51	30	7
B625145	<0.0001	<0.00001	<0.001	<0.01	12.7	7.2	<0.05	0.7	0.09	0.025	2.9	22	36	9
B625146	<0.0001	<0.00001	<0.001	<0.01	21.2	7.2	<0.05	0.6	0.13	0.048	4.4	29	46	11
B625147	<0.0001	0.00056	0.005	<0.01	8.8	7.2	<0.05	0.7	0.27	0.057	0.7	62	34	9
B625148	<0.0001	0.00055	0.003	<0.01	23.1	8.5	<0.05	1.2	0.33	0.020	0.7	59	88	36
B625149	<0.0001	0.00024	0.003	<0.01	7.0	7.0	<0.05	0.7	0.27	0.106	0.7	41	29	7
B625150	<0.0001	0.00168	0.005	<0.01	8.0	8.4	<0.05	2.4	0.26	0.020	1.0	51	59	22
B625151	<0.0001	0.00031	0.005	<0.01	6.1	7.3	<0.05	2.0	0.36	0.065	1.0	38	35	8
B625152	<0.0001	0.00085	0.006	0.01	15.1	7.5	<0.05	0.8	0.28	0.040	0.6	53	25	9
B625153	<0.0001	0.00002	<0.001	<0.01	14.4	7.5	<0.05	2.7	0.18	0.062	2.0	26	42	12

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22028806

Sample Description / Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625154	<0.00005	2.130	<0.001	0.02	0.021	<0.0005	<0.0005	0.2	<0.00005	0.0005	<0.0005	<0.001	2.02	<0.00005	15.50
B625155	<0.00005	0.112	<0.001	<0.01	<0.001	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0075	<0.001	0.19	<0.00005	0.58
B625156	<0.00005	1.200	<0.001	0.01	<0.001	<0.0005	<0.0005	0.4	<0.00005	0.0007	0.0011	<0.001	2.14	<0.00005	0.96
B625157	<0.00005	0.061	<0.001	0.01	0.003	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0010	<0.001	<0.03	<0.00005	10.10
B625158	<0.00005	0.206	<0.001	0.02	<0.001	<0.0005	<0.0005	1.2	<0.00005	<0.0001	<0.0005	<0.001	0.29	<0.00005	2.54
B625159	<0.0001	15.500	0.007	0.07	0.296	<0.001	<0.001	0.4	<0.0001	0.0051	0.0076	0.008	30.50	<0.00005	55.50
B625160	<0.00005	2.120	<0.001	0.06	0.020	<0.0005	<0.0005	0.5	<0.00005	0.0004	0.0006	0.001	1.49	<0.00005	46.20
B625161	0.00010	4.230	<0.001	0.01	0.022	<0.0005	0.0008	0.3	0.00020	0.0017	0.0013	0.020	2.95	<0.00005	6.36
B625162	0.00015	2.710	<0.001	0.02	0.003	0.0006	<0.0005	0.2	<0.0004	0.0003	<0.0005	0.011	0.69	<0.00005	7.28
B625163	<0.00005	0.270	<0.001	0.02	0.002	<0.0005	<0.0005	8.0	0.00007	<0.0001	0.0005	0.002	0.08	<0.00005	4.49

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22028806

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625154		<0.005	1.12	0.0061	0.0325	<0.3	1.12	0.0012	0.0004	<0.3	<0.0001	<0.0005	5.29	<0.0005	0.0028	0.06
B625155		<0.005	4.61	0.0038	0.0025	<0.3	0.20	0.0009	<0.0001	<0.3	<0.0001	<0.0005	2.41	<0.0005	0.0017	<0.01
B625156		<0.005	4.08	0.0264	0.0018	<0.3	0.48	0.0020	<0.0001	<0.3	<0.0001	<0.0005	6.02	<0.0005	0.0011	<0.01
B625157		<0.005	7.65	0.0049	0.0023	<0.3	1.16	<0.0005	<0.0001	<0.3	<0.0001	0.0007	2.30	<0.0005	0.0040	<0.01
B625158		<0.005	4.31	0.0007	0.0228	<0.3	0.75	0.0007	<0.0001	<0.3	<0.0001	<0.0005	3.01	<0.0005	0.0059	<0.01
B625159		0.018	6.04	0.1240	0.0462	<0.3	4.05	0.0110	0.0040	<0.6	0.0002	0.0013	24.00	<0.001	0.0056	0.96
B625160		0.007	2.65	0.0092	0.0351	<0.3	4.01	0.0007	0.0004	<0.3	0.0002	0.0006	4.81	<0.0005	0.0038	0.09
B625161		0.008	2.03	0.0685	0.0415	<0.3	3.33	0.0019	0.0143	<0.3	<0.0001	<0.0005	9.72	0.0006	0.0015	0.11
B625162		0.010	0.68	0.0185	0.2140	<0.3	3.08	<0.0005	0.0291	<0.3	0.0004	<0.0005	8.60	0.0006	0.0008	0.01
B625163		<0.005	3.18	0.0128	0.0147	<0.3	4.50	<0.0005	0.0012	<0.3	<0.0001	<0.0005	3.80	<0.0005	0.0068	<0.01

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22028806

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
	Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
	Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
	LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625154		<0.0001	0.00044	0.002	<0.01	5.1	7.6	<0.05	0.7	0.15	0.103	13.5	56	62	7
B625155		<0.0001	<0.00001	<0.001	<0.01	20.4	6.9	<0.05	0.5	0.13	0.045	4.6	23	44	8
B625156		<0.0001	0.00006	0.002	<0.01	17.7	7.1	<0.05	0.8	0.14	0.039	1.2	32	26	8
B625157		<0.0001	<0.00001	<0.001	<0.01	34.7	7.0	<0.05	1.6	0.10	0.040	33.5	66	110	6
B625158		<0.0001	0.00003	<0.001	<0.01	20.7	7.6	<0.05	1.3	0.21	0.083	0.8	32	52	19
B625159		<0.0002	0.00128	0.018	<0.02	25.7	7.9	<0.05	2.1	0.81	0.508	7.3	211	180	35
B625160		<0.0001	0.00048	0.004	<0.01	12.3	8.0	<0.05	2.6	0.87	0.266	4.9	102	174	36
B625161		<0.0001	0.00401	0.008	0.03	9.1	8.2	<0.05	1.4	0.55	0.055	0.6	56	33	13
B625162		<0.0001	0.01110	<0.001	0.06	3.3	7.6	<0.05	1.8	0.93	0.309	1.3	50	37	10
B625163		<0.0001	0.01900	0.002	<0.01	33.1	7.9	<0.05	6.7	1.36	0.189	1.2	59	101	30

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-MAR-2022
Account: BIMCIO

Project: Pulps for ABA

CERTIFICATE OF ANALYSIS VA22028806

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.	
Applies to Method:	FND-02	SND-01
	Processed at ALSE Vancouver, Burnaby, BC, Canada.	
Applies to Method:	MS14L-ANPH	OA-SFE01

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 22-DEC-2022
Account: BIMCIO

CERTIFICATE VA22313226

Project: Pulps for ABA & Shake Flask
P.O. No.: 4500111469
This report is for 28 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 26-OCT-2022.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON DUFF
SIMON FLEURY	FRED LAWRENCE	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	ROBERT ROBERTSON
MELISSA ROSE	JHON SUAREZ	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-32p	Pulverize 400 g - 85%<75um
SPL-34X	Pulp Split - For send out
LOG-21	Sample logging - ClientBarCode
PUL-QC	Pulverizing QC Test
LOG-23	Pulp Login - Rcvd with Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, Director, North Vancouver Operations

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 22-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22313226

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625265		0.35	1.3	1	13	14	10.0	11.20	0.04	<0.01	0.02	0.04	<0.05	<0.2
B625266		0.34	3.4	1	19	22	9.2	6.40	0.11	<0.01	0.03	0.11	<0.05	<0.2
B625267		0.35	0.3	1	23	23	8.5	73.60	0.01	<0.01	0.01	0.01	0.17	0.6
B625268		0.35	0.3	1	19	19	8.6	60.80	0.01	<0.01	0.03	0.01	0.07	0.3
B625269		0.38	<0.3	1	20	20	8.4	128.00	<0.01	<0.01	0.02	<0.01	<0.05	0.2
B625270		0.36	0.3	1	20	20	8.8	64.00	0.01	<0.01	0.02	0.01	0.09	0.3
B625271		0.35	0.6	2	59	60	8.7	96.00	0.02	<0.01	0.01	0.02	0.61	2.2
B625272		0.36	6.3	1	21	27	7.7	4.32	0.20	<0.01	0.05	0.20	<0.05	<0.2
B625274		0.35	10.9	1	13	24	7.9	2.19	0.35	<0.01	0.03	0.35	<0.05	<0.2
B625275		0.36	2.8	1	16	19	8.8	6.76	0.09	<0.01	0.04	0.09	<0.05	<0.2
B625276		0.36	0.3	1	8	8	9.0	25.60	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625277		0.36	0.3	1	13	13	8.8	41.60	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625278		0.38	0.6	1	15	16	9.7	25.60	0.02	<0.01	0.03	0.02	<0.05	<0.2
B625279		0.39	0.9	1	13	14	9.3	14.93	0.03	<0.01	0.02	0.03	<0.05	<0.2
B625280		0.36	1.3	1	23	24	8.1	19.20	0.04	<0.01	0.05	0.04	<0.05	<0.2
B625281		0.38	0.3	1	14	14	9.6	44.80	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625282		0.35	1.3	1	9	10	9.5	8.00	0.04	<0.01	0.01	0.04	<0.05	<0.2
B625283		0.35	0.3	1	20	20	8.9	64.00	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625284		0.34	<0.3	1	12	12	9.0	76.80	<0.01	<0.01	0.01	<0.01	<0.05	<0.2
B625285		0.36	0.3	1	13	13	8.7	41.60	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625286		0.37	<0.3	1	18	18	9.1	115.20	<0.01	<0.01	0.02	<0.01	<0.05	<0.2
B625287		0.37	0.3	1	14	14	9.9	44.80	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625288		0.39	2.2	1	16	18	8.9	8.23	0.07	<0.01	0.02	0.07	<0.05	<0.2
B625289		0.38	1.9	1	12	14	7.4	7.47	0.06	<0.01	0.08	0.06	<0.05	<0.2
B625290		0.38	0.6	1	13	14	9.6	22.40	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625291		0.39	3.1	1	10	13	9.5	4.16	0.10	<0.01	0.03	0.10	<0.05	<0.2
B625292		0.37	2.2	1	15	17	8.9	7.77	0.07	<0.01	0.04	0.07	<0.05	<0.2
B625293		0.37	0.3	1	14	14	8.6	44.80	0.01	<0.01	0.02	0.01	<0.05	<0.2

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 22-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22313226

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:				
	C-GAS05	LOG-21	LOG-23	OA-ELE07
	OA-VOL08	PUL-32p	PUL-QC	S-CAL06
	S-GRA06	S-GRA06a	S-IR08	SPL-34X
	WEI-21			

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-JAN-2023
Account: BIMCIO

CERTIFICATE VA22317803

Project: Pulps for ABA & Shake Flask

P.O. No.: 4500111469

This report is for 50 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 26-OCT-2022.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON DUFF
SIMON FLEURY	FRED LAWRENCE	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	ROBERT ROBERTSON
MELISSA ROSE	JHON SUAREZ	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-32p	Pulverize 400 g - 85%<75um
LOG-21	Sample logging - ClientBarCode
SPL-34X	Pulp Split - For send out
PUL-QC	Pulverizing QC Test

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
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OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, Director, North Vancouver Operations

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Finalized Date: 30-JAN-2023
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22317803

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625164		0.47	0.9	1	2	3	9.2	3.20	0.03	0.01	<0.01	0.02	<0.05	<0.2
B625165		0.44	3.1	1	14	17	9.2	5.44	0.10	0.01	0.03	0.09	<0.05	<0.2
B625166		0.38	2.5	1	20	22	9.4	8.80	0.08	<0.01	0.04	0.08	<0.05	<0.2
B625167		0.43	0.9	1	18	19	8.8	20.27	0.03	<0.01	0.01	0.03	<0.05	<0.2
B625168		0.36	0.9	1	13	14	9.0	14.93	0.03	0.01	0.02	0.02	<0.05	<0.2
B625169		0.38	3.1	1	14	17	8.5	5.44	0.10	0.01	0.03	0.09	<0.05	<0.2
B625170		0.43	13.8	1	0	14	7.8	1.02	0.44	0.02	0.07	0.42	<0.05	<0.2
B625171		0.38	0.6	1	11	12	9.3	19.20	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625172		0.38	0.6	1	9	10	9.0	16.00	0.02	<0.01	<0.01	0.02	<0.05	<0.2
B625173		0.47	10.6	1	10	21	8.3	1.98	0.34	<0.01	0.17	0.34	<0.05	<0.2
B625174		0.38	5.9	1	9	15	7.9	2.53	0.19	0.01	0.04	0.18	<0.05	<0.2
B625175		0.50	11.9	1	4	16	8.0	1.35	0.38	0.01	0.03	0.37	<0.05	<0.2
B625176		0.35	3.8	1	11	15	8.2	4.00	0.12	<0.01	0.04	0.12	<0.05	<0.2
B625177		0.37	5.6	1	17	23	8.4	4.09	0.18	<0.01	0.02	0.18	<0.05	<0.2
B625178		0.38	0.6	1	12	13	8.9	20.80	0.02	0.01	0.01	0.01	<0.05	<0.2
B625179		0.43	1.3	1	17	18	9.0	14.40	0.04	<0.01	0.02	0.04	<0.05	<0.2
B625180		0.44	16.3	1	-5	11	7.8	0.68	0.52	0.01	0.05	0.51	<0.05	<0.2
B625181		0.41	4.7	1	9	14	8.2	2.99	0.15	<0.01	0.05	0.15	<0.05	<0.2
B625182		0.39	0.6	1	10	11	8.7	17.60	0.02	0.01	0.01	0.01	<0.05	<0.2
B625183		0.38	0.9	1	16	17	9.1	18.13	0.03	<0.01	0.03	0.03	<0.05	<0.2
B625184		0.47	0.9	2	75	76	9.0	81.07	0.03	0.01	0.03	0.02	0.76	2.8
B625185		0.40	0.3	1	15	15	8.9	48.00	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625186		0.40	0.9	1	23	24	9.2	25.60	0.03	0.01	<0.01	0.02	<0.05	<0.2
B625187		0.37	0.6	1	14	15	8.8	24.00	0.02	0.01	0.04	0.01	<0.05	<0.2
B625188		0.40	2.5	1	20	22	8.1	8.80	0.08	<0.01	0.03	0.08	<0.05	<0.2
B625189		0.42	0.6	1	19	20	8.9	32.00	0.02	<0.01	0.02	0.02	<0.05	0.2
B625190		0.42	0.9	1	3	4	9.4	4.27	0.03	0.01	<0.01	0.02	<0.05	<0.2
B625191		0.54	2.5	1	15	17	9.2	6.80	0.08	0.01	0.04	0.07	<0.05	<0.2
B625192		0.41	0.6	1	4	5	9.2	8.00	0.02	0.02	0.02	<0.01	<0.05	<0.2
B625193		0.49	4.1	1	19	23	9.0	5.66	0.13	0.01	0.02	0.12	0.08	0.3
B625194		0.41	3.4	1	19	22	7.5	6.40	0.11	0.01	0.03	0.10	<0.05	<0.2
B625195		0.41	2.8	1	14	17	7.0	6.04	0.09	0.06	0.03	0.03	<0.05	<0.2
B625196		0.43	1.6	1	20	22	7.6	14.08	0.05	0.01	0.04	0.04	<0.05	<0.2
B625197		0.38	0.6	1	23	24	8.0	38.40	0.02	0.01	0.03	0.01	<0.05	<0.2
B625199		0.40	2.8	1	21	24	8.0	8.53	0.09	<0.01	0.01	0.09	<0.05	<0.2
B625200		0.45	1.6	1	16	18	7.9	11.52	0.05	0.01	0.04	0.04	<0.05	<0.2
B625201		0.37	1.3	1	17	18	8.9	14.40	0.04	0.03	0.01	0.01	<0.05	<0.2
B625202		0.38	0.6	1	30	31	8.7	49.60	0.02	0.01	0.01	0.01	0.19	0.7
B625203		0.54	0.9	1	17	18	8.7	19.20	0.03	0.01	0.02	0.02	<0.05	<0.2
B625204		0.39	0.6	1	14	15	9.2	24.00	0.02	0.01	0.01	0.01	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

2103 Dollarton Hwy
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Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-JAN-2023
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22317803

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625205		0.38	0.3	1	4	4	9.5	12.80	0.01	0.01	<0.01	<0.01	<0.05	<0.2
B625210		0.48	3.1	1	12	15	7.3	4.80	0.10	<0.01	0.02	0.10	<0.05	<0.2
B625211		0.43	1.6	1	24	26	8.0	16.64	0.05	<0.01	0.01	0.05	<0.05	<0.2
B625212		<0.02	2.5	1	10	12	NSS	4.80	0.08	<0.01	0.03	0.08	<0.05	<0.2
B625213		0.37	0.6	1	23	24	8.1	38.40	0.02	0.01	0.02	0.01	<0.05	<0.2
B625214		0.46	10.0	1	5	15	8.1	1.50	0.32	0.01	0.01	0.31	<0.05	<0.2
B625215		0.46	7.5	1	14	21	8.0	2.80	0.24	0.01	<0.01	0.23	<0.05	<0.2
B625216		0.47	15.3	1	-1	14	8.2	0.91	0.49	0.01	0.03	0.48	<0.05	<0.2
B625217		0.43	12.2	1	9	21	8.0	1.72	0.39	0.02	0.01	0.37	<0.05	<0.2
B625218		0.61	3.8	1	12	16	8.1	4.27	0.12	0.01	0.01	0.11	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 30-JAN-2023
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22317803

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

NSS is non-sufficient sample.

Applies to Method: ALL METHODS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:

C-GAS05	LOG-21	OA-ELE07	OA-VOL08
PUL-32p	PUL-QC	S-CAL06	S-GRA06
S-GRA06a	S-IR08	SPL-34X	WEI-21

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 22-DEC-2022
Account: BIMCIO

CERTIFICATE VA22323721

Project: Pulps for ABA & Shake Flask
P.O. No.: 4500111469
This report is for 52 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 26-OCT-2022.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON DUFF
SIMON FLEURY	FRED LAWRENCE	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	ROBERT ROBERTSON
MELISSA ROSE	JHON SUAREZ	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
PUL-32p	Pulverize 400 g - 85%<75um
SPL-34X	Pulp Split - For send out
PUL-QC	Pulverizing QC Test

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
S-GRA06a	Sulfate Sulfur (HCl leachable)	WST-SEQ
OA-VOL08	Basic Acid Base Accounting	
S-IR08	Total Sulphur (IR Spectroscopy)	LECO
OA-ELE07	Paste pH	
S-CAL06	Sufide Sulfur (calculated)	LECO
S-GRA06	Sulfate Sulfur-carbonate leach	WST-SEQ
C-GAS05	Inorganic Carbon (CO2)	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, Director, North Vancouver Operations

ALS Canada Ltd.
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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 22-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323721

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625206		0.23	0.6	1	11	12	9.5	19.20	0.02	0.02	0.01	<0.01	<0.05	<0.2
B625207		0.42	0.6	1	13	14	9.1	22.40	0.02	0.01	0.01	0.01	<0.05	<0.2
B625208		0.41	0.6	1	14	15	9.0	24.00	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625209		0.40	0.9	1	13	14	9.2	14.93	0.03	<0.01	0.02	0.03	<0.05	<0.2
B625219		0.33	4.1	1	14	18	8.9	4.43	0.13	<0.01	0.02	0.13	<0.05	<0.2
B625220		0.32	3.1	1	11	14	9.3	4.48	0.10	0.02	0.01	0.08	<0.05	<0.2
B625221		0.41	0.6	1	17	18	8.8	28.80	0.02	0.01	0.01	0.01	<0.05	<0.2
B625222		0.40	1.3	1	15	16	8.3	12.80	0.04	<0.01	0.01	0.04	<0.05	<0.2
B625223		0.41	2.2	1	20	22	8.3	10.06	0.07	0.01	0.01	0.06	<0.05	<0.2
B625224		0.50	0.9	1	11	12	9.6	12.80	0.03	0.01	0.01	0.02	<0.05	<0.2
B625225		0.42	0.3	1	13	13	9.5	41.60	0.01	0.03	<0.01	<0.01	<0.05	<0.2
B625226		0.48	0.3	1	15	15	9.8	48.00	0.01	0.01	0.01	<0.01	<0.05	<0.2
B625227		0.38	0.3	1	15	15	9.6	48.00	0.01	0.01	<0.01	<0.01	<0.05	<0.2
B625228		0.37	0.9	1	18	19	8.2	20.27	0.03	0.05	0.02	<0.01	<0.05	<0.2
B625229		0.38	4.1	1	10	14	7.9	3.45	0.13	0.01	0.01	0.12	<0.05	<0.2
B625230		0.40	3.4	1	13	16	8.1	4.65	0.11	<0.01	0.01	0.11	<0.05	<0.2
B625231		0.61	0.3	1	11	11	8.7	35.20	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625232		0.58	0.3	1	16	16	8.6	51.20	0.01	<0.01	0.02	0.01	<0.05	<0.2
B625233		0.37	1.3	1	15	16	8.7	12.80	0.04	<0.01	0.04	0.04	<0.05	<0.2
B625234		0.35	1.3	1	17	18	9.0	14.40	0.04	<0.01	0.02	0.04	<0.05	<0.2
B625235		0.34	0.3	1	15	15	8.6	48.00	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625236		0.34	0.3	1	26	26	8.5	83.20	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625237		0.33	0.6	1	14	15	8.8	24.00	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625238		0.42	1.3	1	22	23	9.1	18.40	0.04	<0.01	0.02	0.04	<0.05	<0.2
B625239		0.55	1.6	1	12	14	8.3	8.96	0.05	<0.01	0.04	0.05	<0.05	<0.2
B625240		0.41	2.8	1	21	24	8.9	8.53	0.09	<0.01	0.02	0.09	0.07	0.3
B625241		0.26	0.6	1	14	15	9.7	24.00	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625242		0.28	13.4	1	11	24	8.3	1.79	0.43	<0.01	0.03	0.43	<0.05	<0.2
B625243		0.41	16.9	1	-3	14	7.9	0.83	0.54	<0.01	0.03	0.54	<0.05	<0.2
B625244		0.32	8.8	1	9	18	8.0	2.06	0.28	<0.01	0.09	0.28	<0.05	<0.2
B625245		0.35	12.8	1	11	24	8.1	1.87	0.41	<0.01	0.04	0.41	<0.05	<0.2
B625246		0.26	4.4	1	25	29	8.3	6.63	0.14	<0.01	0.06	0.14	<0.05	<0.2
B625247		0.47	4.7	1	14	19	8.1	4.05	0.15	<0.01	0.01	0.15	<0.05	<0.2
B625248		0.50	0.9	1	19	20	8.2	21.33	0.03	<0.01	0.03	0.03	<0.05	<0.2
B625249		0.50	7.2	1	12	19	8.4	2.64	0.23	<0.01	0.01	0.23	<0.05	<0.2
B625250		0.36	6.9	1	12	19	8.4	2.76	0.22	<0.01	0.04	0.22	<0.05	<0.2
B625251		0.36	0.6	1	26	27	8.2	43.20	0.02	<0.01	0.03	0.02	<0.05	<0.2
B625252		0.34	0.9	1	28	29	8.5	30.93	0.03	<0.01	0.03	0.03	<0.05	0.2
B625253		0.34	1.9	1	23	25	8.4	13.33	0.06	<0.01	0.02	0.06	<0.05	<0.2
B625254		0.33	3.4	1	9	12	8.9	3.49	0.11	<0.01	<0.01	0.11	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 22-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323721

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	OA-VOL08 MPA tCaCO3/1Kt 0.3	OA-VOL08 FIZZ RAT Unity 1	OA-VOL08 NNP tCaCO3/1Kt 1	OA-VOL08 NP tCaCO3/1Kt 1	OA-ELE07 pH Unity 0.1	OA-VOL08 Ratio (N Unity 0.01	S-IR08 S % 0.01	S-GRA06 S % 0.01	S-GRA06a S % 0.01	S-CAL06 S % 0.01	C-GAS05 C % 0.05	C-GAS05 CO2 % 0.2
B625255		0.33	0.3	1	24	24	8.9	76.80	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625256		0.33	2.5	1	11	13	9.5	5.20	0.08	<0.01	0.01	0.08	<0.05	<0.2
B625257		0.34	2.2	1	12	14	8.4	6.40	0.07	<0.01	0.01	0.07	<0.05	<0.2
B625258		0.35	0.6	1	12	13	8.7	20.80	0.02	<0.01	0.02	0.02	<0.05	<0.2
B625259		0.33	0.3	1	16	16	8.9	51.20	0.01	<0.01	0.03	0.01	<0.05	<0.2
B625260		0.34	0.6	1	16	17	9.6	27.20	0.02	<0.01	0.01	0.02	<0.05	<0.2
B625261		0.34	1.3	1	15	16	8.0	12.80	0.04	<0.01	0.03	0.04	<0.05	<0.2
B625262		0.32	6.9	1	10	17	8.5	2.47	0.22	<0.01	0.03	0.22	<0.05	<0.2
B625263		0.37	0.3	1	13	13	9.1	41.60	0.01	<0.01	0.01	0.01	<0.05	<0.2
B625264		0.32	0.9	1	23	24	8.2	25.60	0.03	<0.01	0.01	0.03	0.17	0.6
S664546		0.34	0.3	1	7	7	9.9	22.40	0.01	<0.01	0.03	0.01	<0.05	<0.2
S664547		0.35	0.3	1	6	6	9.8	19.20	0.01	<0.01	<0.01	0.01	<0.05	<0.2

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 22-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323721

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:				
	C-GAS05	LOG-21	OA-ELE07	OA-VOL08
	PUL-32p	PUL-QC	S-CAL06	S-GRA06
	S-GRA06a	S-IR08	SPL-34X	WEI-21

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 23-DEC-2022
Account: BIMCIO

CERTIFICATE VA22323758

Project: Pulps for ABA & Shake Flask
P.O. No.: 4500111469
This report is for 28 samples of Pulp submitted to our lab in Vancouver, BC, Canada on 26-OCT-2022.

The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON DUFF
SIMON FLEURY	FRED LAWRENCE	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	ROBERT ROBERTSON
MELISSA ROSE	JHON SUAREZ	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, Director, North Vancouver Operations

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 23-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323758

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
	Analyte	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOD	0.00005	0.005	0.001	0.01	0.001	0.0005	0.0005	0.1	0.00005	0.0001	0.0005	0.001	0.03	0.00005	0.05
B625265		0.00015	16.400	0.004	0.03	0.209	<0.001	<0.001	0.3	<0.0001	0.0032	0.0021	0.008	8.92	<0.00005	110.00
B625266		<0.00005	8.720	<0.001	0.04	0.062	0.0005	<0.0005	0.2	<0.00005	0.0014	0.0011	0.002	7.06	<0.00005	74.70
B625267		<0.00005	1.040	<0.001	0.11	0.021	<0.0005	<0.0005	10.7	<0.00005	0.0003	0.0006	0.003	0.65	<0.00005	27.50
B625268		<0.00005	2.140	<0.001	0.08	0.036	<0.0005	<0.0005	6.1	<0.00005	0.0008	0.0007	0.003	1.45	<0.00005	27.00
B625269		<0.00005	0.541	<0.001	0.07	0.009	<0.0005	<0.0005	4.3	<0.00005	0.0001	<0.0005	<0.001	0.38	<0.00005	23.30
B625270		<0.00005	3.770	<0.001	0.06	0.058	<0.0005	<0.0005	5.0	<0.00005	0.0014	0.0015	0.003	3.05	<0.00005	32.20
B625271		<0.00005	0.151	<0.001	0.17	0.013	<0.0005	<0.0005	18.6	<0.00005	<0.0001	<0.0005	0.005	0.03	<0.00005	20.70
B625272		<0.00005	0.027	<0.001	0.17	0.017	<0.0005	<0.0005	4.9	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	25.30
B625274		<0.00005	0.203	<0.001	0.05	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	<0.0005	<0.001	0.12	<0.00005	0.77
B625275		<0.00005	4.040	<0.001	0.31	0.030	<0.0005	<0.0005	0.3	<0.00005	0.0011	0.0091	0.007	3.13	<0.00005	40.30
B625276		0.00010	20.900	<0.001	0.11	0.126	0.0007	0.0041	0.2	<0.00005	0.0035	0.0064	0.030	10.80	<0.00005	48.10
B625277		<0.0003	21.300	<0.005	0.22	0.244	<0.003	<0.003	0.6	<0.0003	0.0030	<0.003	0.017	10.20	<0.00005	42.70
B625278		<0.0001	16.200	<0.002	0.10	0.128	<0.001	<0.001	2.9	<0.0001	0.0069	0.0180	0.014	16.70	<0.00005	82.80
B625279		<0.0003	26.600	<0.005	0.14	0.245	<0.003	<0.003	<0.5	<0.0003	0.0041	0.0032	0.054	21.60	<0.00005	62.40
B625280		<0.00005	0.137	<0.001	0.02	<0.001	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0062	<0.001	0.19	<0.00005	0.67
B625281		<0.0003	25.700	<0.005	0.19	0.451	<0.003	<0.003	0.9	<0.0003	0.0050	0.0033	0.019	19.90	<0.00005	59.40
B625282		<0.0001	18.300	<0.002	0.05	0.388	<0.001	<0.001	0.6	<0.0001	0.0042	0.0030	0.015	14.10	<0.00005	48.70
B625283		<0.00005	4.960	<0.001	0.06	0.032	<0.0005	<0.0005	0.2	<0.00005	0.0012	0.0007	<0.001	6.21	<0.00005	43.20
B625284		<0.0003	17.500	<0.005	0.12	0.073	<0.003	<0.003	<0.5	<0.0003	0.0029	<0.003	0.016	7.30	<0.00005	35.10
B625285		<0.0003	19.600	<0.005	0.35	0.066	<0.003	<0.003	1.0	<0.0003	0.0032	<0.003	<0.005	9.63	<0.00005	32.70
B625286		<0.0001	8.770	<0.002	0.06	0.066	<0.001	<0.001	0.4	<0.0001	0.0019	0.0011	0.003	6.94	<0.00005	40.80
B625287		<0.0001	22.000	<0.002	0.05	0.316	<0.001	<0.001	1.6	<0.0001	0.0043	0.0027	0.007	29.70	<0.00005	92.90
B625288		<0.00005	4.980	<0.001	0.04	0.077	<0.0005	<0.0005	0.3	<0.00005	0.0015	0.0322	0.014	3.64	<0.00005	31.40
B625289		<0.00005	0.061	<0.001	<0.01	<0.001	<0.0005	<0.0005	2.1	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	1.25
B625290		<0.0003	19.100	<0.005	0.06	0.309	<0.003	<0.003	2.8	<0.0003	0.0040	0.0061	0.012	11.40	<0.00005	72.70
B625291		<0.0003	21.000	<0.005	0.18	0.249	<0.003	<0.003	1.4	<0.0003	0.0039	0.0031	0.016	11.50	<0.00005	61.00
B625292		<0.0003	23.500	<0.005	0.12	0.182	<0.003	<0.003	<0.5	<0.0003	0.0044	<0.003	0.005	20.40	<0.00005	80.90
B625293		<0.0003	17.600	<0.005	0.12	0.094	<0.003	<0.003	<0.5	<0.0003	0.0030	<0.003	<0.005	9.74	<0.00005	53.80

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 23-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323758

Sample Description	Method Analyte Units LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625265		0.013	4.87	0.2070	0.0366	<0.3	4.33	0.0044	0.0153	<0.6	0.0004	<0.001	17.20	<0.001	0.0028	0.49
B625266		0.005	8.87	0.0996	0.0185	<0.3	4.71	0.0016	0.0026	<0.3	0.0001	<0.0005	11.50	<0.0005	0.0015	0.21
B625267		0.013	8.35	0.0192	0.0182	<0.3	12.60	0.0020	0.0002	<0.3	0.0001	<0.0005	4.46	<0.0005	0.0139	0.02
B625268		0.009	7.52	0.0158	0.0058	<0.3	7.10	0.0012	0.0006	<0.3	<0.0001	<0.0005	6.03	<0.0005	0.0079	0.07
B625269		<0.005	8.74	0.0037	0.0037	<0.3	6.91	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.87	<0.0005	0.0074	<0.01
B625270		0.006	6.48	0.0318	0.0038	<0.3	6.20	0.0020	0.0011	<0.3	<0.0001	<0.0005	6.92	<0.0005	0.0064	0.11
B625271		0.019	16.50	0.0059	0.0113	<0.3	16.60	0.0017	<0.0001	<0.3	0.0001	0.0005	5.37	<0.0005	0.0394	<0.01
B625272		0.016	104.00	0.0231	0.0134	<0.3	3.93	<0.0005	<0.0001	<0.3	<0.0001	0.0033	3.70	<0.0005	0.0201	<0.01
B625274		<0.005	16.00	0.0049	0.0030	<0.3	1.38	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	1.96	<0.0005	0.0019	<0.01
B625275		0.022	4.46	0.0381	0.0144	<0.3	5.46	0.0023	0.0013	<0.3	<0.0001	0.0010	6.87	<0.0005	0.0061	0.07
B625276		0.008	6.28	0.0885	0.0303	<0.3	4.59	0.0093	0.0032	<0.3	<0.0001	<0.0005	30.30	0.0006	0.0044	0.44
B625277		0.027	9.22	0.1370	0.0076	<0.3	4.54	0.0030	0.0082	<2	<0.0005	<0.003	28.20	<0.003	0.0087	0.33
B625278		0.032	10.60	0.3810	0.0630	<0.3	14.80	0.0128	0.0067	<0.6	0.0002	<0.001	28.00	<0.001	0.0148	1.03
B625279		<0.03	9.91	0.1050	0.3460	<0.3	3.51	0.0051	0.0058	<2	<0.0005	<0.003	35.00	<0.003	0.0041	0.81
B625280		<0.005	17.60	0.0041	0.0053	<0.3	0.33	<0.0005	<0.0001	<0.3	<0.0001	0.0006	3.24	<0.0005	0.0017	<0.01
B625281		0.063	10.10	0.1650	0.0142	<0.3	4.55	0.0047	0.0021	<2	<0.0005	<0.003	33.30	<0.003	0.0176	1.06
B625282		0.012	6.94	0.1440	0.0072	<0.3	5.65	0.0044	0.0059	0.8	<0.0002	0.0013	21.70	<0.001	0.0055	0.57
B625283		<0.005	6.05	0.0193	0.0238	<0.3	5.64	0.0034	0.0002	<0.3	<0.0001	<0.0005	7.60	<0.0005	0.0026	0.12
B625284		<0.03	7.96	0.1030	0.0036	<0.3	6.09	0.0035	0.0022	<2	<0.0005	<0.003	23.40	<0.003	0.0049	0.15
B625285		0.039	9.48	0.0798	0.0042	<0.3	5.36	0.0031	0.0018	<2	<0.0005	<0.003	24.30	<0.003	0.0154	0.14
B625286		<0.01	7.61	0.0787	0.0020	<0.3	7.16	0.0017	0.0014	<0.6	<0.0002	<0.001	12.10	<0.001	0.0040	0.15
B625287		0.017	6.08	0.0837	0.0292	<0.3	6.93	0.0050	0.0091	0.6	<0.0002	<0.001	31.70	<0.001	0.0060	1.40
B625288		<0.005	4.52	0.0337	0.0015	<0.3	4.12	0.0134	0.0014	<0.3	0.0002	0.0008	6.98	<0.0005	0.0023	0.11
B625289		<0.005	34.90	0.0117	0.0002	<0.3	0.18	<0.0005	<0.0001	<0.3	<0.0001	0.0019	2.86	<0.0005	0.0056	<0.01
B625290		<0.03	7.15	0.2450	0.0041	<0.3	7.54	0.0059	0.0582	<2	<0.0005	<0.003	30.20	<0.003	0.0113	0.94
B625291		<0.03	7.20	0.2010	0.0059	<0.3	4.89	0.0049	0.0309	<2	<0.0005	<0.003	29.90	<0.003	0.0129	0.78
B625292		<0.03	13.80	0.1380	0.0130	<0.3	5.23	0.0049	0.0058	<2	<0.0005	<0.003	29.30	<0.003	0.0036	0.68
B625293		<0.03	8.04	0.0970	0.0057	<0.3	3.78	0.0033	0.0030	<2	<0.0005	<0.003	23.50	<0.003	0.0034	0.30

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 23-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323758

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
	Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
	Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
	LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625265		0.0002	0.00699	0.046	<0.02	20.8	9.4	<0.05	1.2	1.20	0.084	12.4	283	300	126
B625266		0.0001	0.00130	0.008	<0.01	37.0	8.3	<0.09	2.3	0.92	0.062	26.0	210	247	74
B625267		<0.0001	0.00214	0.002	<0.01	61.1	8.0	<0.2	18.7	0.61	0.053	3.9	142	243	77
B625268		<0.0001	0.00260	0.005	<0.01	46.1	8.0	<0.1	7.2	0.63	<0.03	2.9	116	180	63
B625269		<0.0001	0.00006	0.001	<0.01	46.6	7.9	<0.1	13.2	0.66	<0.04	1.2	99	180	53
B625270		<0.0001	0.00208	0.005	<0.01	39.0	8.0	<0.1	6.7	0.65	0.075	3.5	123	175	60
B625271		<0.0001	0.00548	0.004	<0.01	114.0	8.2	0.27	30.8	0.67	0.123	5.5	184	326	99
B625272		<0.0001	0.00002	<0.001	<0.01	440	7.1	<0.3	5.8	0.33	<0.05	454	617	865	14
B625274		<0.0001	<0.00001	<0.001	<0.01	66.7	7.7	<0.1	6.1	0.28	<0.04	4.4	59	133	39
B625275		<0.0001	0.00035	0.009	0.01	19.2	8.0	<0.1	3.2	0.84	0.087	6.7	114	149	44
B625276		0.0002	0.00147	0.029	0.02	26.5	8.1	<0.09	2.1	1.51	0.262	3.9	209	138	45
B625277		<0.0005	0.00122	0.017	<0.05	39.4	8.6	0.10	2.6	1.04	0.413	4.9	202	124	43
B625278		0.0008	0.00416	0.100	0.05	51.0	9.6	0.05	2.5	5.56	0.035	1.1	294	275	107
B625279		<0.0005	0.00458	0.028	<0.05	40.8	9.2	0.37	2.4	1.92	0.104	5.6	270	174	66
B625280		<0.0001	<0.00001	<0.001	<0.01	74.4	7.7	0.33	1.2	<0.5	0.033	1.3	58	129	45
B625281		<0.0005	0.00152	0.060	<0.05	43.7	9.6	0.07	0.8	1.50	0.050	1.2	257	154	70
B625282		0.0002	0.00190	0.047	0.02	30.0	9.3	0.07	0.7	1.34	0.204	2.1	192	143	56
B625283		<0.0001	0.00026	0.005	<0.01	25.4	8.4	0.17	5.1	1.14	0.051	2.5	127	167	52
B625284		<0.0005	0.00329	0.020	<0.05	32.8	8.6	0.12	3.3	1.16	0.036	0.7	169	109	44
B625285		<0.0005	0.00352	0.010	<0.05	41.6	8.3	0.16	2.1	0.82	0.115	2.0	174	115	42
B625286		<0.0002	0.00099	0.010	<0.02	32.3	8.7	0.14	4.2	1.00	0.101	0.9	142	144	51
B625287		0.0003	0.00463	0.045	<0.02	29.1	9.7	<0.05	2.3	1.49	0.060	1.4	314	282	105
B625288		<0.0001	0.00076	0.012	<0.01	19.4	8.4	<0.05	1.8	0.78	0.018	2.8	99	124	43
B625289		<0.0001	<0.00001	<0.001	<0.01	149.0	7.0	<0.05	3.4	0.20	0.225	134.0	192	316	11
B625290		<0.0005	0.00724	0.048	<0.05	36.3	9.3	<0.05	2.7	0.81	0.031	7.0	265	229	85
B625291		<0.0005	0.00241	0.061	<0.05	33.1	9.2	<0.05	1.5	0.82	0.034	8.1	238	184	65
B625292		<0.0005	0.00064	0.019	<0.05	56.8	8.3	<0.05	2.5	1.66	0.037	60.1	312	243	41
B625293		<0.0005	0.00131	0.010	<0.05	33.1	7.7	<0.05	2.4	1.28	0.066	43.2	220	174	26

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 23-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323758

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method: FND-02 SND-01

Processed at ALSE Vancouver, Burnaby, BC, Canada.

Applies to Method: MS14L-ANPH OA-SFE01

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

CERTIFICATE VA22323795

Project: Pulps for ABA & Shake Flask
P.O. No.: 4500111469
This report is for 50 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 26-OCT-2022.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON DUFF
SIMON FLEURY	FRED LAWRENCE	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	ROBERT ROBERTSON
MELISSA ROSE	JHON SUAREZ	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, Director, North Vancouver Operations

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To: BAFFINLAND IRON MINES CORPORATION
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SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323795

Sample Description	Method Analyte Units LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625164		0.00216	23.500	0.012	0.31	0.018	0.0120	0.0017	1.2	0.00202	0.0023	0.0035	0.117	3.90	<0.00005	27.10
B625165		<0.0001	21.000	<0.002	0.16	0.068	0.0013	<0.001	4.2	0.00014	0.0094	0.0412	0.018	16.70	<0.00005	61.80
B625166		<0.00005	1.300	<0.001	0.14	0.015	<0.0005	<0.0005	1.9	<0.00005	0.0004	0.0067	<0.001	0.95	<0.00005	76.10
B625167		<0.00005	4.610	<0.001	0.09	0.035	<0.0005	<0.0005	0.7	<0.00005	0.0011	0.0326	0.001	2.60	<0.00005	39.60
B625168		<0.001	189.000	<0.02	0.79	0.550	0.0102	0.0120	2.3	<0.001	0.0147	0.0206	0.186	61.20	<0.00005	124.00
B625169		<0.00005	0.179	0.003	0.03	<0.001	<0.0005	<0.0005	0.2	<0.00005	0.0001	0.0024	<0.001	0.19	<0.00005	2.39
B625170		<0.00005	0.098	<0.001	0.13	0.008	<0.0005	<0.0005	8.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	54.60
B625171		<0.0001	16.600	<0.002	0.12	0.155	<0.001	<0.001	<0.2	<0.0001	0.0024	0.0039	0.003	9.12	<0.00005	53.60
B625172		<0.0003	37.400	<0.005	0.12	0.458	<0.003	<0.003	<0.5	<0.0003	0.0058	0.0080	<0.005	23.20	<0.00005	51.10
B625173		<0.00005	0.898	<0.001	0.06	0.008	<0.0005	<0.0005	0.9	<0.00005	0.0004	0.0083	<0.001	1.66	<0.00005	26.70
B625174		<0.00005	0.211	<0.001	0.02	0.002	<0.0005	<0.0005	0.6	<0.00005	<0.0001	0.0006	<0.001	0.17	<0.00005	10.60
B625175		<0.00005	0.790	<0.001	0.03	0.003	<0.0005	<0.0005	1.1	0.00011	0.0005	0.0056	0.002	2.35	<0.00005	12.80
B625176		<0.00005	0.523	<0.001	0.02	0.003	<0.0005	<0.0005	0.4	<0.00005	0.0006	0.0041	0.002	1.57	<0.00005	11.10
B625177		<0.00005	0.182	<0.001	0.02	<0.001	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0043	<0.001	0.13	<0.00005	14.20
B625178		<0.0003	38.800	<0.005	0.63	0.287	<0.003	<0.003	1.0	<0.0003	0.0065	0.0189	0.018	22.80	<0.00005	36.40
B625179		0.00037	25.300	<0.001	0.17	0.147	0.0010	0.0056	5.1	<0.0006	0.0054	0.0093	0.052	18.60	<0.00005	52.70
B625180		<0.00005	0.203	<0.001	0.14	0.003	<0.0005	<0.0005	1.1	<0.00005	<0.0001	0.0006	<0.001	0.23	<0.00005	10.40
B625181		<0.00005	0.469	<0.001	0.10	<0.001	<0.0005	<0.0005	0.2	<0.00005	0.0002	0.0019	<0.001	0.14	<0.00005	12.00
B625182		<0.0003	40.600	<0.005	0.28	0.110	0.0030	<0.003	0.7	<0.0003	0.0049	<0.003	0.008	14.60	<0.00005	27.80
B625183		<0.00005	20.500	<0.001	0.10	0.138	<0.0005	<0.0005	0.3	<0.00005	0.0048	0.0040	0.004	21.10	<0.00005	50.00
B625184		<0.00005	0.192	<0.001	0.17	0.003	<0.0005	<0.0005	5.5	<0.0003	<0.0001	<0.0005	<0.001	<0.03	<0.00005	51.60
B625185		<0.0003	32.700	<0.005	0.16	0.286	<0.003	<0.003	0.7	<0.0003	0.0083	0.0046	<0.005	35.30	<0.00005	33.00
B625186		<0.00005	4.040	<0.001	0.14	0.044	<0.0005	<0.0005	2.6	<0.00005	0.0016	0.0461	0.002	3.16	<0.00005	52.40
B625187		0.00022	55.000	<0.002	0.05	0.536	0.0014	0.0032	1.2	0.00019	0.0162	0.0101	0.164	43.20	<0.00005	49.50
B625188		<0.00005	4.120	<0.001	0.06	<0.001	<0.0005	<0.0005	0.7	<0.00005	0.0031	0.0024	0.002	8.39	<0.00005	3.58
B625189		0.00007	7.640	<0.001	0.06	0.054	0.0007	0.0006	3.3	0.00021	0.0034	0.0066	0.038	7.58	<0.00005	45.30
B625190		0.00150	21.600	0.011	0.07	0.030	0.0078	0.0013	1.9	0.00277	0.0022	0.0029	0.067	6.56	<0.00005	33.90
B625191		<0.00005	5.900	<0.001	0.08	0.023	<0.0005	<0.0005	3.6	<0.0002	0.0023	0.0125	0.014	4.20	<0.00005	39.40
B625192		0.00260	25.300	0.011	0.04	0.032	0.0083	0.0024	1.7	<0.01	0.0022	0.0038	0.011	6.22	<0.00005	32.50
B625193		<0.00005	1.870	<0.001	0.22	0.006	<0.0005	<0.0005	4.3	<0.00005	0.0006	0.0105	0.002	1.03	<0.00005	44.60
B625194		<0.00005	0.120	<0.001	0.16	0.008	<0.0005	<0.0005	1.8	<0.00005	<0.0001	<0.0005	<0.001	0.13	<0.00005	25.50
B625195		<0.00005	0.042	<0.001	0.23	0.007	<0.0005	<0.0005	7.8	<0.00005	0.0004	<0.0005	<0.001	0.06	<0.00005	12.30
B625196		<0.00005	0.076	<0.001	0.20	0.001	<0.0005	<0.0005	1.1	<0.00005	0.0001	<0.0005	<0.001	0.06	<0.00005	7.81
B625197		<0.00005	0.443	<0.001	0.07	<0.001	<0.0005	<0.0005	2.2	<0.00005	0.0003	<0.0005	<0.001	0.86	<0.00005	2.39
B625199		<0.00005	5.760	<0.001	0.04	0.002	<0.0005	<0.0005	0.2	<0.00005	0.0061	0.0041	0.006	22.60	<0.00005	0.35
B625200		<0.00005	0.218	<0.001	0.02	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0016	<0.001	0.29	<0.00005	4.86
B625201		<0.00005	10.700	<0.001	0.20	0.055	0.0007	<0.0005	3.2	<0.0001	0.0024	0.0069	0.009	8.24	<0.00005	51.70
B625202		<0.00005	0.239	<0.001	0.08	0.004	<0.0005	<0.0005	6.3	<0.0001	<0.0001	0.0048	<0.001	0.06	<0.00005	43.00
B625203		0.00006	7.320	<0.001	0.16	0.033	<0.0005	0.0005	2.8	<0.0001	0.0033	0.0153	0.013	5.58	<0.00005	38.10
B625204		0.00041	29.100	<0.002	0.08	0.160	<0.001	0.0029	0.5	<0.002	0.0059	0.0023	0.058	21.60	<0.00005	51.80

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323795

Sample Description	Method Analyte Units LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625164		0.038	4.02	0.1250	0.8690	<0.3	18.20	0.0009	0.3780	<0.3	0.0007	<0.0005	76.40	0.0069	0.0071	0.10
B625165		0.044	19.20	0.2310	0.0459	<0.3	11.60	0.0184	0.0206	<0.6	0.0004	<0.001	45.60	<0.001	0.0184	0.73
B625166		0.012	2.12	0.0122	0.0303	<0.3	13.80	0.0008	0.0004	<0.3	0.0001	<0.0005	4.78	<0.0005	0.0051	0.06
B625167		<0.005	6.26	0.0350	0.0059	<0.3	3.10	0.0056	0.0003	<0.3	<0.0001	<0.0005	8.10	<0.0005	0.0060	0.05
B625168		<0.1	43.00	0.3920	0.0712	<0.3	3.10	0.0173	0.0185	<6	<0.002	<0.01	292.00	<0.01	0.0261	1.61
B625169		<0.005	15.80	0.0013	0.0210	<0.3	0.89	0.0014	<0.0001	<0.3	0.0002	0.0009	3.81	<0.0005	0.0016	<0.01
B625170		<0.005	48.20	0.0244	0.0307	<0.3	4.43	<0.0005	<0.0001	<0.3	<0.0001	0.0039	3.04	<0.0005	0.0170	<0.01
B625171		0.012	5.06	0.0512	0.0088	<0.3	3.12	0.0047	0.0006	<0.6	0.0002	<0.001	22.40	<0.001	0.0025	0.30
B625172		<0.03	11.60	0.1800	0.0033	<0.3	2.34	0.0111	0.0072	<2	<0.0005	<0.003	57.70	<0.003	0.0067	0.66
B625173		<0.005	10.70	0.0220	0.0138	<0.3	3.14	0.0052	0.0002	<0.3	0.0003	0.0023	4.65	<0.0005	0.0065	0.01
B625174		<0.005	12.50	0.0066	0.0166	<0.3	1.64	<0.0005	<0.0001	<0.3	<0.0001	0.0014	2.38	<0.0005	0.0059	<0.01
B625175		<0.005	12.20	0.0184	0.0150	<0.3	1.56	0.0050	0.0041	<0.3	0.0003	0.0016	5.03	<0.0005	0.0075	0.01
B625176		<0.005	11.90	0.0070	0.0326	<0.3	0.95	0.0042	0.0004	<0.3	0.0002	0.0017	5.08	<0.0005	0.0028	<0.01
B625177		<0.005	11.30	0.0047	0.0205	<0.3	2.28	<0.0005	<0.0001	<0.3	<0.0001	0.0012	2.66	<0.0005	0.0039	<0.01
B625178		<0.03	16.80	0.2580	0.0106	<0.3	9.33	0.0105	0.0029	<2	<0.0005	<0.003	77.70	<0.003	0.0125	0.81
B625179		0.037	18.80	0.4050	0.2220	<0.3	8.77	0.0087	0.0249	<0.3	0.0004	<0.0005	53.30	0.0019	0.0187	0.86
B625180		0.010	14.30	0.0040	0.0100	<0.3	1.26	0.0007	<0.0001	<0.3	0.0001	0.0016	3.51	<0.0005	0.0056	<0.01
B625181		<0.005	10.10	0.0008	0.0117	<0.3	0.70	0.0005	<0.0001	<0.3	<0.0001	0.0009	1.46	<0.0005	0.0020	<0.01
B625182		0.046	15.50	0.1110	0.0035	<0.3	4.98	0.0077	0.0036	<2	<0.0005	<0.003	57.30	<0.003	0.0103	0.24
B625183		0.012	13.00	0.0596	0.0804	<0.3	5.14	0.0114	0.0014	<0.3	<0.0001	0.0010	31.30	<0.0005	0.0047	0.64
B625184		0.012	3.32	0.0037	0.6290	<0.3	4.24	<0.0005	<0.0001	<0.3	0.0002	<0.0005	4.94	<0.0005	0.0143	<0.01
B625185		0.030	19.00	0.2060	0.0028	<0.3	5.02	0.0114	0.0097	<2	<0.0005	<0.003	52.40	<0.003	0.0083	0.62
B625186		0.007	6.24	0.0817	0.0087	<0.3	7.86	0.0075	0.0005	<0.3	<0.0001	<0.0005	13.60	<0.0005	0.0126	0.12
B625187		0.035	32.80	0.7020	0.0252	<0.3	4.32	0.0150	0.0075	<0.6	<0.0002	<0.001	85.30	0.0041	0.0116	1.73
B625188		0.006	11.30	0.0591	0.0208	<0.3	1.11	0.0103	0.0004	<0.3	<0.0001	0.0008	10.40	<0.0005	0.0033	0.03
B625189		0.017	6.81	0.1980	0.0478	<0.3	14.20	0.0058	0.0093	<0.3	0.0001	<0.0005	16.90	0.0010	0.0125	0.32
B625190		0.051	2.79	0.2740	0.1200	<0.3	28.20	0.0016	0.3880	<0.3	0.0016	0.0008	92.80	0.0015	0.0141	0.14
B625191		0.023	5.18	0.0792	0.2170	<0.3	12.40	0.0057	0.0107	<0.3	0.0005	0.0009	14.80	<0.0005	0.0101	0.22
B625192		0.060	2.25	0.1200	0.4720	<0.3	28.20	0.0035	0.3010	<0.3	0.0009	<0.0005	107.00	0.0156	0.0099	0.16
B625193		0.011	3.27	0.0155	0.0122	<0.3	11.70	0.0018	0.0010	<0.3	0.0005	0.0011	7.12	<0.0005	0.0130	0.04
B625194		0.011	30.50	0.0135	0.0200	<0.3	5.26	<0.0005	<0.0001	<0.3	<0.0001	0.0006	3.58	<0.0005	0.0124	<0.01
B625195		0.016	94.70	0.1210	0.0071	<0.3	1.33	0.0009	<0.0001	<0.3	<0.0001	0.0008	3.78	<0.0005	0.0054	<0.01
B625196		0.006	49.70	0.0043	0.0748	<0.3	1.66	<0.0005	<0.0001	<0.3	<0.0001	0.0010	3.14	<0.0005	0.0040	<0.01
B625197		<0.005	10.60	0.0049	0.0064	<0.3	1.04	0.0014	<0.0001	<0.3	<0.0001	0.0007	3.99	<0.0005	0.0056	<0.01
B625199		0.008	16.80	0.1360	0.0070	<0.3	0.14	0.0179	0.0001	<0.3	<0.0001	0.0007	18.30	<0.0005	0.0009	<0.01
B625200		<0.005	10.10	0.0053	0.0054	<0.3	0.78	0.0007	<0.0001	<0.3	<0.0001	<0.0005	2.04	<0.0005	0.0018	<0.01
B625201		0.022	8.33	0.0982	0.1380	<0.3	11.00	0.0025	0.0018	<0.3	0.0002	<0.0005	20.70	0.0010	0.0103	0.30
B625202		<0.005	5.37	0.0029	0.1490	<0.3	4.30	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	3.10	<0.0005	0.0140	<0.01
B625203		0.029	8.30	0.0793	0.0758	<0.3	5.29	0.0073	0.0031	<0.3	0.0002	<0.0005	16.40	0.0005	0.0091	0.14
B625204		0.027	17.50	0.2920	0.3270	<0.3	3.34	0.0079	0.0031	<0.6	<0.0002	<0.001	47.00	0.0020	0.0049	0.58

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323795

Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
Sample Description / LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625164	0.0005	0.08570	0.023	0.59	19.5	8.7	<0.05	8.9	3.46	0.121	1.9	328	122	46
B625165	0.0003	0.00555	0.099	0.05	89.6	8.7	<0.05	6.0	1.67	0.113	7.6	327	230	88
B625166	<0.0001	0.00014	0.031	<0.01	13.4	9.0	<0.05	5.9	3.64	0.317	4.8	188	309	104
B625167	<0.0001	0.00017	0.008	<0.01	27.6	8.1	<0.05	4.9	0.72	0.043	<0.5	117	153	54
B625168	<0.002	0.00421	0.085	<0.2	183.0	8.5	<0.05	3.3	1.22	0.061	1.1	1260	130	73
B625169	<0.0001	<0.00001	0.002	<0.01	65.5	7.4	<0.05	2.0	0.74	0.065	19.6	73	134	34
B625170	<0.0001	0.00003	<0.001	<0.01	219	6.9	<0.05	4.4	0.36	0.206	244	382	601	14
B625171	<0.0002	0.00068	0.022	<0.02	20.8	9.0	<0.05	2.1	1.18	0.223	1.8	199	148	74
B625172	<0.0005	0.00141	0.031	<0.05	47.8	8.2	<0.05	2.6	0.87	0.609	6.3	320	126	42
B625173	<0.0001	0.00004	0.002	<0.01	46.2	7.3	<0.05	3.7	0.39	0.086	19.3	101	169	34
B625174	<0.0001	<0.00001	<0.001	<0.01	53.0	7.2	<0.05	2.4	0.29	0.134	10.3	64	128	29
B625175	<0.0001	0.00007	0.002	0.01	52.9	7.1	<0.05	1.7	0.44	0.043	29.4	86	146	16
B625176	<0.0001	0.00004	0.002	<0.01	50.1	7.1	<0.05	1.4	0.56	0.113	18.1	75	127	23
B625177	<0.0001	<0.00001	<0.001	<0.01	48.5	7.6	<0.05	2.9	0.51	0.159	12.1	77	141	41
B625178	<0.0005	0.00282	0.029	<0.05	71.7	8.0	<0.05	4.0	0.85	0.162	1.6	365	93	37
B625179	0.0003	0.00291	0.028	0.07	90.2	8.4	<0.05	4.3	1.04	0.115	1.8	331	200	82
B625180	<0.0001	0.00004	<0.001	<0.01	61.6	7.0	<0.05	2.6	0.34	0.074	36.6	88	160	18
B625181	<0.0001	0.00001	<0.001	<0.01	42.1	7.5	<0.05	2.0	0.41	2.07	4.7	62	118	30
B625182	<0.0005	0.00536	0.016	<0.05	65.6	7.9	<0.05	2.8	0.61	0.072	0.6	287	74	38
B625183	0.0002	0.00232	0.020	<0.01	54.4	8.9	<0.05	4.0	1.32	0.065	1.6	233	145	51
B625184	<0.0001	0.00059	0.003	<0.01	27.3	8.8	<0.07	6.9	0.78	0.044	1.4	134	218	77
B625185	<0.0005	0.00200	0.028	<0.05	79.9	8.3	<0.05	2.8	0.73	0.038	1.0	294	92	36
B625186	<0.0001	0.00037	0.026	<0.01	32.1	9.0	<0.05	4.0	0.83	0.074	2.7	170	220	81
B625187	0.0005	0.00550	0.062	0.10	138.0	8.4	<0.05	2.4	1.16	0.515	0.7	452	110	45
B625188	<0.0001	0.00017	0.004	<0.01	48.3	7.5	<0.05	3.2	0.71	0.036	4.9	78	69	18
B625189	0.0001	0.00202	0.030	0.05	36.2	8.8	<0.06	4.0	2.05	0.074	1.4	192	213	88
B625190	0.0012	0.12900	0.009	0.52	16.3	9.3	<0.06	10.8	4.06	0.130	3.3	408	181	70
B625191	0.0001	0.01030	0.054	0.02	30.2	8.8	<0.05	6.1	0.76	0.097	5.4	164	189	67
B625192	0.0018	0.13100	0.009	0.21	13.5	9.1	<0.05	6.5	5.78	0.092	1.3	439	155	64
B625193	<0.0001	0.00013	0.040	<0.01	24.3	8.9	<0.07	6.2	0.49	0.078	8.3	145	221	72
B625194	<0.0001	0.00001	<0.001	<0.01	130.0	7.2	<0.1	5.3	0.37	0.085	148.0	237	396	16
B625195	<0.0001	<0.00001	<0.001	<0.01	410	6.7	<0.05	2.9	0.36	0.062	421	555	804	7
B625196	<0.0001	0.00003	<0.001	<0.01	207	7.3	<0.05	4.0	0.39	0.126	174.0	258	409	16
B625197	<0.0001	0.00001	<0.001	<0.01	49.1	7.5	<0.05	3.1	0.53	0.063	<0.5	50	99	30
B625199	<0.0001	0.00008	0.001	<0.01	69.6	7.5	<0.05	3.2	0.35	0.071	4.7	119	74	25
B625200	<0.0001	<0.00001	<0.001	<0.01	42.2	7.4	<0.05	2.9	0.27	0.116	1.1	43	86	26
B625201	0.0002	0.00113	0.027	0.02	42.3	8.4	<0.05	6.0	1.51	0.072	2.9	203	201	71
B625202	<0.0001	0.00004	0.008	<0.01	37.8	8.4	<0.05	6.4	1.46	0.046	1.1	125	228	79
B625203	0.0001	0.00062	0.023	<0.01	41.1	8.2	<0.05	3.8	1.08	0.037	0.9	154	152	60
B625204	0.0005	0.00435	0.032	0.04	73.3	8.7	<0.05	2.2	1.62	0.037	1.2	291	131	57

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

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www.alsglobal.com/geochemistry

To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323795

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625205		0.00072	14.600	0.011	0.07	0.029	0.0027	<0.001	0.8	<0.001	0.0015	0.0017	0.012	3.11	<0.00005	31.90
B625210		<0.00005	0.033	<0.001	0.12	<0.001	<0.0005	<0.0005	8.3	<0.00005	<0.0001	<0.0005	<0.001	<0.03	<0.00005	2.63
B625211		<0.00005	3.420	0.001	0.05	<0.001	<0.0005	<0.0005	1.0	<0.00005	0.0028	0.0214	0.002	9.63	<0.00005	0.72
B625212																
B625213		<0.00005	1.190	<0.001	0.02	0.001	<0.0005	<0.0005	1.4	<0.00005	0.0007	0.0100	<0.001	2.94	<0.00005	4.34
B625214		<0.00005	0.278	<0.001	0.01	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0025	<0.001	0.16	<0.00005	1.21
B625215		<0.00005	0.210	<0.001	0.02	<0.001	<0.0005	<0.0005	0.9	<0.00005	<0.0001	0.0006	<0.001	0.43	<0.00005	3.46
B625216		<0.00005	0.607	<0.001	0.04	<0.001	<0.0005	<0.0005	<0.1	<0.00005	0.0004	0.0100	<0.001	2.07	<0.00005	2.18
B625217		<0.00005	0.131	<0.001	0.04	<0.001	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0027	<0.001	0.16	<0.00005	3.14
B625218		<0.00005	1.220	<0.001	0.01	<0.001	<0.0005	<0.0005	0.5	<0.00005	0.0010	0.0091	0.005	3.26	<0.00005	0.64

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323795

Sample Description	Method Analyte Units LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625205		0.035	1.76	0.0717	1.1800	<0.3	19.30	<0.001	0.2020	<0.6	0.0006	<0.001	42.00	0.0086	0.0071	0.10
B625210		0.078	59.10	0.0165	0.0061	<0.3	0.18	<0.0005	<0.0001	<0.3	<0.0001	0.0035	4.66	<0.0005	0.0025	<0.01
B625211		0.006	13.70	0.0279	0.0150	<0.3	1.02	0.0179	0.0001	<0.3	<0.0001	0.0005	11.60	<0.0005	0.0010	<0.01
B625212																
B625213		<0.005	10.50	0.0201	0.0046	<0.3	0.98	0.0073	0.0001	<0.3	<0.0001	0.0010	7.04	<0.0005	0.0048	<0.01
B625214		<0.005	8.95	0.0039	0.0366	<0.3	0.52	<0.0005	<0.0001	<0.3	<0.0001	0.0039	1.51	<0.0005	0.0010	<0.01
B625215		<0.005	9.38	0.0096	0.0067	<0.3	0.95	<0.0005	<0.0001	<0.3	<0.0001	0.0012	2.99	<0.0005	0.0034	<0.01
B625216		<0.005	11.90	0.0112	0.0072	<0.3	0.66	0.0107	<0.0001	<0.3	0.0002	<0.0005	4.13	<0.0005	0.0010	<0.01
B625217		<0.005	14.60	0.0023	0.0219	<0.3	2.72	0.0006	<0.0001	<0.3	0.0001	0.0007	2.82	<0.0005	0.0028	<0.01
B625218		<0.005	8.28	0.0286	0.0085	<0.3	0.25	0.0063	0.0001	<0.3	<0.0001	0.0019	4.70	<0.0005	0.0031	<0.01

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323795

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
	Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
	Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
	LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625205		0.0006	0.06590	0.007	0.41	9.3	9.1	0.07	11.2	3.34	0.423	3.3	234	160	48
B625210		<0.0001	<0.00001	<0.001	<0.01	264	6.9	<0.05	5.9	0.70	0.026	268	362	543	7
B625211		<0.0001	0.00015	0.005	<0.01	58.8	7.5	<0.05	4.0	0.58	0.044	4.3	85	74	24
B625212															
B625213		<0.0001	0.00003	0.002	<0.01	46.7	7.7	<0.05	3.2	0.46	0.042	1.6	67	96	34
B625214		<0.0001	<0.00001	<0.001	<0.01	37.5	7.6	<0.05	3.0	0.27	0.026	4.7	40	84	27
B625215		<0.0001	<0.00001	<0.001	<0.01	40.8	7.5	<0.05	4.1	0.33	0.043	11.2	54	97	23
B625216		<0.0001	0.00004	0.002	<0.01	49.0	7.4	<0.05	5.2	0.32	0.023	16.7	62	108	18
B625217		<0.0001	<0.00001	<0.001	<0.01	61.9	7.5	<0.05	6.9	0.39	0.052	6.5	63	134	33
B625218		<0.0001	0.00004	0.002	<0.01	35.4	7.4	<0.05	1.8	0.29	0.103	4.2	44	63	17

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 15-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22323795

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method: FND-02 SND-01

Processed at ALSE Vancouver, Burnaby, BC, Canada.

Applies to Method: MS14L-ANPH OA-SFE01

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SUITE 300
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Finalized Date: 20-DEC-2022
Account: BIMCIO

CERTIFICATE VA22324725

Project: Pulps for ABA & Shake Flask
P.O. No.: 4500111469
This report is for 52 samples of Crushed Rock submitted to our lab in Vancouver, BC, Canada on 26-OCT-2022.
The following have access to data associated with this certificate:

TREVOR BRISCO	PAUL BRYDEN	JASON DUFF
SIMON FLEURY	FRED LAWRENCE	SHAHE NACCASHIAN
HAYLEY POTHIER	JACOB PRINCE	ROBERT ROBERTSON
MELISSA ROSE	JHON SUAREZ	

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis
SND-01	Send samples to external laboratory

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
OA-SFE01	Shake Flask Analysis at ALSE	
MS14L-ANPH	Anions by ion chromatography	ICP-MS

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, Director, North Vancouver Operations

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SUITE 300
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Finalized Date: 20-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22324725

Sample Description / Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625206	0.00027	16.400	0.004	0.08	0.064	0.0028	0.0010	1.5	<0.001	0.0037	0.0164	0.027	8.95	<0.00005	48.20
B625207	<0.0003	38.300	<0.005	0.33	0.161	<0.003	0.0067	<0.5	<0.0003	0.0101	0.0735	0.160	18.80	<0.00005	57.30
B625208	<0.00005	0.931	<0.001	0.11	0.021	<0.0005	<0.0005	10.6	<0.00005	0.0002	0.0007	0.003	0.52	<0.00005	27.70
B625209	<0.0003	28.200	<0.005	0.33	0.351	<0.003	<0.003	0.6	0.00190	0.0048	0.0051	0.019	15.10	<0.00005	68.40
B625219	<0.00005	11.500	<0.001	0.22	0.053	<0.0005	0.0008	0.4	<0.00005	0.0029	0.0069	0.021	9.39	<0.00005	47.60
B625220	<0.0003	34.300	<0.005	0.08	0.366	<0.003	<0.003	<0.5	<0.0003	0.0061	0.0065	0.016	20.00	<0.00005	47.10
B625221	<0.00005	3.190	<0.001	0.11	0.012	<0.0005	<0.0005	0.3	<0.00005	0.0006	0.0006	0.001	3.58	<0.00005	29.10
B625222	<0.00005	0.738	<0.001	0.06	<0.001	<0.0005	<0.0005	0.4	<0.00005	0.0002	0.0043	<0.001	0.71	<0.00005	8.80
B625223	<0.00005	0.209	<0.001	0.02	<0.001	<0.0005	<0.0005	1.2	<0.00005	<0.0001	0.0008	<0.001	0.36	<0.00005	3.15
B625224	<0.0003	27.600	<0.005	<0.05	0.671	<0.003	<0.003	<0.5	<0.0003	0.0055	0.0033	0.012	40.20	<0.00005	59.20
B625225	<0.0003	30.500	<0.005	0.14	0.411	<0.003	<0.003	0.5	<0.0003	0.0052	0.0061	0.014	34.00	<0.00005	64.20
B625226	<0.0003	29.400	<0.005	<0.05	0.633	<0.003	<0.003	0.8	<0.0003	0.0053	0.0050	0.009	28.60	<0.00005	66.70
B625227	<0.0003	40.000	<0.005	0.12	0.561	<0.003	<0.003	0.7	<0.0003	0.0072	0.0112	0.027	22.30	<0.00005	61.50
B625228	<0.00005	4.330	<0.001	0.15	0.003	<0.0005	<0.0005	0.8	<0.00005	0.0006	0.0011	<0.001	3.36	<0.00005	20.00
B625229	<0.00005	0.342	<0.001	0.11	<0.001	<0.0005	<0.0005	0.5	<0.00005	<0.0001	<0.0005	<0.001	0.11	<0.00005	18.20
B625230	<0.00005	0.260	0.002	0.02	<0.001	<0.0005	<0.0005	0.2	<0.00005	<0.0001	0.0019	<0.001	<0.03	<0.00005	1.81
B625231	<0.0001	14.400	<0.002	0.09	0.059	<0.001	<0.001	0.3	<0.0001	0.0030	0.0011	0.004	9.29	<0.00005	26.20
B625232	<0.0001	14.500	<0.002	0.08	0.122	<0.001	<0.001	0.4	0.00026	0.0033	0.0060	0.016	10.00	<0.00005	24.50
B625233	<0.00005	0.798	<0.001	0.07	0.026	<0.0005	<0.0005	6.3	0.00009	0.0001	0.0014	0.001	0.26	<0.00005	32.40
B625234	0.00014	16.100	<0.002	0.08	0.170	<0.001	<0.001	2.6	0.00010	0.0075	0.0630	0.057	15.20	<0.00005	37.00
B625235	<0.0003	42.000	<0.005	0.26	0.138	<0.003	<0.003	0.6	<0.0003	0.0050	0.0038	0.015	18.80	<0.00005	35.00
B625236	<0.00005	0.524	<0.001	0.19	0.005	<0.0005	<0.0005	5.8	<0.0001	0.0002	0.0039	<0.001	0.40	<0.00005	28.70
B625237	0.00023	17.700	<0.002	0.06	0.145	<0.001	0.0048	0.6	<0.0002	0.0036	0.0017	0.027	13.00	<0.00005	39.70
B625238	<0.00005	8.580	<0.001	0.18	0.037	<0.0005	<0.0005	4.6	<0.0001	0.0039	0.0135	0.019	6.62	<0.00005	53.10
B625239	<0.00005	8.590	<0.001	0.27	0.072	<0.0005	<0.0005	0.4	<0.00005	0.0020	0.0009	0.005	7.48	<0.00005	48.00
B625240	<0.00005	1.120	<0.001	0.16	0.007	<0.0005	<0.0005	4.3	<0.00005	0.0003	0.0039	0.001	0.61	<0.00005	55.80
B625241	0.00007	18.200	<0.001	0.09	0.153	0.0019	0.0009	2.4	<0.0002	0.0037	0.0049	0.019	9.85	<0.00005	61.20
B625242	<0.00005	0.224	<0.001	0.06	<0.001	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0015	<0.001	0.17	<0.00005	1.77
B625243	<0.00005	0.053	<0.001	0.05	<0.001	<0.0005	<0.0005	0.5	<0.00005	0.0002	<0.0005	<0.001	0.15	<0.00005	2.12
B625244	<0.00005	0.208	<0.001	0.01	<0.001	<0.0005	<0.0005	0.8	<0.00005	<0.0001	0.0008	<0.001	0.33	<0.00005	3.23
B625245	<0.00005	0.218	<0.001	0.03	<0.001	<0.0005	<0.0005	0.5	<0.00005	0.0002	0.0052	<0.001	0.47	<0.00005	0.40
B625246	<0.00005	0.105	<0.001	0.02	<0.001	<0.0005	<0.0005	3.8	<0.00005	<0.0001	0.0010	<0.001	0.13	<0.00005	0.20
B625247	<0.00005	0.237	<0.001	0.05	0.001	<0.0005	<0.0005	0.3	<0.00005	0.0001	0.0010	<0.001	0.25	<0.00005	12.00
B625248	<0.00005	2.890	<0.001	0.17	0.003	<0.0005	<0.0005	0.7	<0.00005	0.0009	0.0049	0.001	4.18	<0.00005	13.90
B625249	<0.00005	0.414	<0.001	0.02	0.002	<0.0005	<0.0005	0.3	<0.00005	<0.0001	0.0022	<0.001	0.11	<0.00005	12.60
B625250	<0.00005	0.318	<0.001	0.03	0.003	<0.0005	<0.0005	0.7	<0.00005	<0.0001	0.0017	<0.001	0.16	<0.00005	14.00
B625251	<0.00005	0.192	<0.001	0.03	0.001	<0.0005	<0.0005	1.3	<0.00005	<0.0001	0.0010	<0.001	0.21	<0.00005	3.45
B625252	<0.00005	0.140	<0.001	0.02	0.018	<0.0005	<0.0005	5.7	<0.00005	<0.0001	0.0140	<0.001	<0.03	<0.00005	30.80
B625253	<0.00005	0.156	<0.001	<0.01	0.008	<0.0005	<0.0005	7.8	<0.00005	<0.0001	0.0026	<0.001	<0.03	<0.00005	22.80
B625254	<0.00005	15.100	<0.001	0.02	0.120	<0.0005	<0.0005	0.3	<0.00005	0.0030	0.0057	0.006	9.16	<0.00005	71.90

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SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 20-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22324725

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01
	Analyte	Li	Mg	Mn	Mo	Moisture	Na	Ni	Pb	P	Sb	Se	Si	Sn	Sr	Ti
	Units	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	LOD	0.005	0.05	0.0005	0.0001	0.3	0.05	0.0005	0.0001	0.3	0.0001	0.0005	0.05	0.0005	0.0005	0.01
B625206		0.039	7.03	0.1450	1.3400	<0.3	30.60	0.0077	0.1030	<0.6	0.0008	<0.001	36.30	0.0061	0.0064	0.28
B625207		0.045	11.90	0.1510	0.0175	<0.3	3.52	0.0195	0.0043	<2	<0.0005	<0.003	51.20	<0.003	0.0069	0.83
B625208		0.015	8.55	0.0167	0.0167	<0.3	12.60	0.0019	0.0002	<0.3	<0.0001	<0.0005	4.56	<0.0005	0.0144	0.02
B625209		0.062	12.80	0.1930	0.0115	<0.3	5.46	0.0072	0.0092	<2	<0.0005	<0.003	40.20	<0.003	0.0133	0.67
B625219		0.028	8.55	0.0710	0.0286	<0.3	4.48	0.0045	0.0022	<0.3	0.0001	0.0014	15.80	0.0011	0.0071	0.24
B625220		<0.03	12.70	0.1730	0.0286	<0.3	7.09	0.0075	0.0081	<2	<0.0005	<0.003	49.60	<0.003	0.0060	0.95
B625221		0.006	3.98	0.0094	0.0084	<0.3	6.16	0.0025	0.0002	<0.3	<0.0001	<0.0005	6.23	<0.0005	0.0038	0.05
B625222		<0.005	7.46	0.0080	0.0101	<0.3	1.28	0.0009	<0.0001	<0.3	<0.0001	<0.0005	2.37	<0.0005	0.0024	0.01
B625223		<0.005	11.70	0.0086	0.0087	<0.3	0.89	<0.0005	<0.0001	<0.3	<0.0001	0.0015	3.00	<0.0005	0.0037	<0.01
B625224		<0.03	9.52	0.0484	0.0189	<0.3	3.26	0.0133	0.0100	<2	<0.0005	<0.003	43.00	<0.003	0.0232	1.08
B625225		<0.03	10.10	0.0842	0.0461	<0.3	3.77	0.0071	0.0038	<2	<0.0005	<0.003	39.90	<0.003	0.0108	0.93
B625226		<0.03	8.40	0.1120	0.0072	<0.3	3.88	0.0063	0.0041	<2	<0.0005	<0.003	38.30	<0.003	0.0117	1.36
B625227		0.042	12.70	0.2390	0.0097	<0.3	3.93	0.0093	0.0043	<2	<0.0005	<0.003	53.60	<0.003	0.0120	1.20
B625228		<0.005	8.83	0.0485	0.0044	<0.3	3.55	0.0017	<0.0001	<0.3	<0.0001	<0.0005	8.48	<0.0005	0.0022	0.01
B625229		<0.005	14.60	0.0082	0.0175	<0.3	2.82	<0.0005	<0.0001	<0.3	<0.0001	0.0024	3.48	<0.0005	0.0028	<0.01
B625230		<0.005	13.00	<0.0005	0.0182	<0.3	0.43	<0.0005	<0.0001	<0.3	0.0002	0.0009	1.77	<0.0005	0.0026	<0.01
B625231		0.010	8.64	0.1070	0.0040	<0.3	3.83	0.0048	0.0027	<0.6	<0.0002	<0.001	24.10	<0.001	0.0032	0.11
B625232		0.011	8.73	0.1060	0.0165	<0.3	5.20	0.0047	0.0041	<0.6	<0.0002	<0.001	22.70	<0.001	0.0047	0.40
B625233		0.012	5.04	0.0085	0.0259	<0.3	28.10	<0.0005	0.0006	<0.3	0.0004	<0.0005	5.62	<0.0005	0.0276	0.02
B625234		0.022	11.30	0.2940	0.0110	<0.3	13.50	0.0201	0.0061	<0.6	<0.0002	<0.001	31.40	0.0018	0.0154	0.97
B625235		0.043	14.70	0.2100	0.0567	<0.3	3.82	0.0076	0.0021	<2	<0.0005	<0.003	62.90	<0.003	0.0121	0.21
B625236		0.021	6.95	0.0060	0.0894	<0.3	6.78	0.0006	0.0007	<0.3	0.0002	<0.0005	4.70	<0.0005	0.0134	<0.01
B625237		0.013	11.30	0.2200	0.1020	<0.3	2.48	0.0040	0.0054	<0.6	<0.0002	<0.001	28.60	0.0013	0.0042	0.26
B625238		0.034	9.00	0.0764	0.0748	<0.3	9.80	0.0041	0.0007	<0.3	0.0003	0.0007	20.60	<0.0005	0.0130	0.29
B625239		0.018	3.99	0.0250	0.0130	<0.3	3.41	0.0032	0.0015	<0.3	0.0002	0.0011	16.60	<0.0005	0.0067	0.24
B625240		0.016	4.65	0.0081	0.0287	<0.3	8.57	0.0008	0.0003	<0.3	0.0003	0.0006	4.79	<0.0005	0.0127	0.02
B625241		0.040	7.44	0.2150	0.0990	<0.3	27.50	0.0053	0.0081	<0.3	0.0007	0.0009	37.50	0.0027	0.0114	0.72
B625242		<0.005	14.20	0.0024	0.0041	<0.3	2.69	<0.0005	<0.0001	<0.3	0.0001	0.0008	2.06	<0.0005	0.0016	<0.01
B625243		0.022	28.20	0.0099	0.0049	<0.3	0.75	0.0015	<0.0001	<0.3	0.0004	0.0021	7.06	<0.0005	0.0046	<0.01
B625244		<0.005	11.60	0.0084	0.0070	<0.3	0.71	<0.0005	<0.0001	<0.3	<0.0001	0.0012	2.68	<0.0005	0.0045	<0.01
B625245		<0.005	21.10	0.0036	0.0075	<0.3	0.33	0.0021	<0.0001	<0.3	<0.0001	0.0035	4.92	<0.0005	0.0024	<0.01
B625246		<0.005	14.20	0.0027	0.0063	<0.3	0.15	<0.0005	<0.0001	<0.3	<0.0001	0.0009	3.94	<0.0005	0.0022	<0.01
B625247		<0.005	11.70	0.0120	0.0320	<0.3	2.45	<0.0005	<0.0001	<0.3	<0.0001	0.0018	3.66	<0.0005	0.0021	<0.01
B625248		0.007	8.13	0.0537	0.0146	<0.3	2.25	0.0033	0.0001	<0.3	<0.0001	0.0007	6.87	<0.0005	0.0021	0.02
B625249		<0.005	10.00	0.0012	0.0118	<0.3	1.05	<0.0005	<0.0001	<0.3	0.0005	0.0007	1.65	<0.0005	0.0027	<0.01
B625250		<0.005	11.50	0.0037	0.0120	<0.3	1.88	<0.0005	<0.0001	<0.3	0.0001	0.0011	2.07	<0.0005	0.0041	<0.01
B625251		<0.005	14.80	0.0027	0.0071	<0.3	1.25	<0.0005	<0.0001	<0.3	0.0002	0.0006	3.04	<0.0005	0.0062	<0.01
B625252		<0.005	23.50	0.0029	0.0230	<0.3	2.90	<0.0005	<0.0001	<0.3	0.0004	<0.0005	2.92	<0.0005	0.0065	<0.01
B625253		<0.005	22.10	0.0014	0.0327	<0.3	2.02	<0.0005	<0.0001	<0.3	0.0001	<0.0005	2.46	<0.0005	0.0077	<0.01
B625254		0.008	4.85	0.1050	0.0135	<0.3	9.88	0.0075	0.0106	0.3	0.0010	0.0010	21.00	<0.0005	0.0037	0.43

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 20-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22324725

Sample Description / Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625206	0.0005	0.02970	0.051	0.09	32.7	9.0	<0.05	7.8	5.38	0.334	2.5	295	270	111
B625207	<0.0005	0.00187	0.086	<0.05	49.0	8.5	<0.05	1.9	1.52	0.040	2.0	310	139	58
B625208	<0.0001	0.00269	0.003	<0.01	61.7	8.1	0.10	18.4	0.65	0.060	3.9	146	260	83
B625209	<0.0005	0.00088	0.029	0.13	54.3	9.1	0.06	1.7	0.84	0.116	16.7	298	191	63
B625219	<0.0001	0.00077	0.014	0.02	36.2	8.7	<0.05	4.1	0.95	<0.03	5.3	174	183	65
B625220	<0.0005	0.00417	0.034	<0.05	52.3	9.1	<0.05	4.5	1.12	<0.06	3.9	294	136	48
B625221	<0.0001	0.00026	0.002	<0.01	17.0	8.4	0.10	9.6	0.89	<0.02	1.4	102	136	45
B625222	<0.0001	<0.00001	0.002	<0.01	31.8	7.9	<0.05	3.2	0.29	<0.03	0.6	50	83	33
B625223	<0.0001	<0.00001	<0.001	<0.01	51.2	7.9	<0.05	3.2	0.38	0.068	2.9	60	117	46
B625224	<0.0005	0.00492	0.034	<0.05	39.2	9.5	<0.05	1.0	0.65	<0.04	11.1	304	164	57
B625225	<0.0005	0.00610	0.038	<0.05	42.9	9.3	<0.05	1.7	0.95	0.063	2.5	293	150	61
B625226	<0.0005	0.00110	0.072	<0.05	36.6	9.6	<0.05	0.6	1.05	0.100	0.9	287	164	70
B625227	<0.0005	0.00166	0.059	<0.05	54.0	9.4	<0.05	0.8	1.10	<0.06	1.0	328	145	64
B625228	<0.0001	0.00006	<0.001	<0.01	38.2	7.6	0.05	5.5	0.45	<0.05	8.5	97	123	31
B625229	<0.0001	0.00005	<0.001	<0.01	61.4	7.2	0.13	2.2	0.42	0.075	53.7	112	196	15
B625230	<0.0001	<0.00001	<0.001	<0.01	54.1	7.7	0.07	1.9	0.33	<0.05	13.4	54	110	30
B625231	<0.0002	0.00354	0.009	0.02	36.4	8.2	0.08	3.4	0.49	<0.05	<0.5	151	85	32
B625232	<0.0002	0.00156	0.016	0.03	37.0	8.1	0.06	2.4	0.60	<0.04	1.3	149	82	33
B625233	<0.0001	0.00098	0.010	<0.01	36.6	8.1	0.09	5.8	0.45	<0.06	72.2	194	292	45
B625234	0.0003	0.00158	0.063	0.04	53.0	8.8	<0.05	2.6	0.86	0.064	3.4	226	148	62
B625235	<0.0005	0.00328	0.017	<0.05	61.9	8.3	<0.05	2.6	0.75	0.090	0.6	316	85	42
B625236	<0.0001	0.00001	0.007	<0.01	43.1	8.3	0.07	7.1	0.99	0.100	0.6	114	184	71
B625237	<0.0002	0.00878	0.014	0.03	48.1	8.2	0.09	3.1	0.88	<0.05	2.5	196	119	45
B625238	0.0001	0.00032	0.041	0.01	48.6	8.9	0.11	4.7	1.24	<0.06	4.3	210	220	86
B625239	<0.0001	0.00053	0.007	<0.01	17.4	7.6	<0.2	1.9	0.98	0.120	36.2	172	175	25
B625240	<0.0001	0.00006	0.017	<0.01	29.8	8.7	0.10	7.8	1.48	<0.04	3.7	157	255	93
B625241	0.0003	0.00600	0.058	0.05	36.5	9.4	0.06	4.8	5.02	<0.05	2.0	312	273	119
B625242	<0.0001	<0.00001	<0.001	<0.01	59.3	7.9	0.06	6.6	0.40	<0.04	6.0	64	127	42
B625243	<0.0001	0.00005	<0.001	<0.01	117.0	7.2	<0.2	1.3	0.33	<0.07	70.2	131	230	14
B625244	<0.0001	<0.00001	<0.001	<0.01	49.8	7.6	<0.2	3.0	0.31	0.082	11.1	56	109	28
B625245	<0.0001	<0.00001	<0.001	<0.01	88.0	7.8	<0.05	2.8	0.41	<0.08	15.0	83	161	47
B625246	<0.0001	<0.00001	<0.001	<0.01	68.0	8.0	<0.05	2.2	0.53	<0.04	3.2	69	128	56
B625247	<0.0001	<0.00001	<0.001	<0.01	48.8	7.6	<0.1	4.3	0.45	<0.03	22.4	81	134	28
B625248	<0.0001	0.00006	0.001	<0.01	35.3	7.8	<0.05	4.2	0.46	0.087	3.3	79	96	33
B625249	<0.0001	<0.00001	<0.001	<0.01	42.0	7.9	0.07	2.1	0.43	0.215	8.0	63	118	37
B625250	<0.0001	<0.00001	<0.001	<0.01	49.1	7.9	0.10	3.5	0.47	<0.07	6.5	70	131	43
B625251	<0.0001	0.00002	<0.001	<0.01	64.2	7.9	0.08	3.9	0.65	<0.05	<0.5	63	132	49
B625252	<0.0001	0.00004	0.002	<0.01	111.0	8.4	0.17	2.8	0.89	0.091	71.5	190	327	73
B625253	<0.0001	0.00003	0.002	<0.01	110.0	8.0	0.11	5.1	0.89	0.108	82.7	178	303	46
B625254	0.0001	0.00172	0.019	0.02	20.8	8.5	<0.1	1.4	1.33	<0.08	62.5	265	272	52

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 20-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22324725

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Ag mg/L 0.00005	OA-SFE01 Al mg/L 0.005	OA-SFE01 As mg/L 0.001	OA-SFE01 B mg/L 0.01	OA-SFE01 Ba mg/L 0.001	OA-SFE01 Be mg/L 0.0005	OA-SFE01 Bi mg/L 0.0005	OA-SFE01 Ca mg/L 0.1	OA-SFE01 Cd mg/L 0.00005	OA-SFE01 Co mg/L 0.0001	OA-SFE01 Cr mg/L 0.0005	OA-SFE01 Cu mg/L 0.001	OA-SFE01 Fe mg/L 0.03	OA-SFE01 Hg mg/L 0.00005	OA-SFE01 K mg/L 0.05
B625255		<0.00005	10.000	<0.001	0.18	0.051	0.0012	<0.0005	0.6	<0.00005	0.0030	0.0340	0.003	5.87	<0.00005	48.80
B625256		0.00027	46.900	<0.005	0.06	0.841	<0.003	<0.003	0.8	<0.0003	0.0135	0.0146	0.053	38.00	<0.00005	70.00
B625257		<0.00005	0.895	<0.001	0.41	0.017	<0.0005	<0.0005	2.0	<0.00005	0.0001	0.0028	<0.001	0.33	<0.00005	89.50
B625258		<0.0003	34.000	<0.005	0.54	0.345	0.0059	<0.003	1.3	<0.0003	0.0121	0.0032	0.062	30.10	<0.00005	45.00
B625259		<0.0003	46.500	<0.005	0.51	0.298	0.0052	<0.003	0.9	<0.0003	0.0138	0.0080	0.051	39.70	<0.00005	57.20
B625260		<0.00005	5.450	<0.001	0.09	0.015	<0.0005	<0.0005	<0.1	<0.00005	0.0004	0.0010	<0.001	1.14	<0.00005	72.90
B625261		<0.00005	0.306	<0.001	0.28	0.015	<0.0005	<0.0005	1.6	<0.00005	<0.0001	<0.0005	<0.001	0.05	<0.00005	81.60
B625262		<0.00005	0.679	<0.001	0.15	0.021	<0.0005	<0.0005	3.1	<0.00005	<0.0001	<0.0005	<0.001	0.15	<0.00005	153.00
B625263		<0.0001	26.200	<0.002	0.13	0.278	0.0015	<0.001	0.4	<0.0001	0.0058	0.0029	0.005	23.50	<0.00005	64.60
B625264		<0.00005	0.216	<0.001	0.17	0.014	<0.0005	<0.0005	12.0	<0.00005	<0.0001	<0.0005	0.001	0.05	<0.00005	32.80
S664546		0.00012	20.400	0.003	0.04	0.288	0.0007	<0.0005	3.0	<0.00005	0.0007	0.0026	<0.001	5.00	<0.00005	41.20
S664547		0.00015	19.900	0.003	0.05	0.271	0.0007	<0.0005	3.1	<0.00005	0.0008	0.0014	0.001	5.52	<0.00005	36.10

***** See Appendix Page for comments regarding this certificate *****

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 20-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22324725

Sample Description	Method / Analyte / Units / LOD	OA-SFE01 Li mg/L 0.005	OA-SFE01 Mg mg/L 0.05	OA-SFE01 Mn mg/L 0.0005	OA-SFE01 Mo mg/L 0.0001	OA-SFE01 Moisture % 0.3	OA-SFE01 Na mg/L 0.05	OA-SFE01 Ni mg/L 0.0005	OA-SFE01 Pb mg/L 0.0001	OA-SFE01 P mg/L 0.3	OA-SFE01 Sb mg/L 0.0001	OA-SFE01 Se mg/L 0.0005	OA-SFE01 Si mg/L 0.05	OA-SFE01 Sn mg/L 0.0005	OA-SFE01 Sr mg/L 0.0005	OA-SFE01 Ti mg/L 0.01
B625255		0.024	7.85	0.0828	0.0051	<0.3	5.59	0.0186	0.0007	<0.3	<0.0001	<0.0005	15.00	<0.0005	0.0086	0.20
B625256		<0.03	15.50	0.5860	0.0932	<0.3	4.12	0.0245	0.0094	<2	<0.0005	<0.003	72.30	<0.003	0.0121	1.97
B625257		0.028	6.26	0.0036	0.0097	<0.3	5.59	<0.0005	<0.0001	<0.3	<0.0001	0.0018	3.25	<0.0005	0.0076	0.02
B625258		0.074	17.10	0.2300	0.0077	<0.3	4.01	0.0088	0.0085	<2	<0.0005	<0.003	40.00	<0.003	0.0202	0.71
B625259		0.071	24.20	0.3410	0.0155	<0.3	4.21	0.0187	0.0064	<2	<0.0005	<0.003	52.30	<0.003	0.0196	1.24
B625260		<0.005	1.08	0.0117	0.0397	<0.3	4.99	0.0006	0.0026	<0.3	0.0002	<0.0005	5.11	<0.0005	0.0010	0.06
B625261		0.016	12.50	0.0034	0.0787	<0.3	3.17	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.43	<0.0005	0.0027	<0.01
B625262		0.066	9.53	0.0045	0.0586	<0.3	9.07	<0.0005	<0.0001	<0.3	<0.0001	<0.0005	2.40	<0.0005	0.0252	<0.01
B625263		0.018	9.73	0.1350	0.0020	<0.3	4.82	0.0051	0.0071	<0.6	<0.0002	<0.001	29.80	<0.001	0.0035	0.88
B625264		0.021	13.00	0.0063	0.0149	<0.3	7.72	<0.0005	<0.0001	<0.3	<0.0001	0.0007	3.82	<0.0005	0.0186	<0.01
S664546		0.060	1.59	0.1070	0.0017	<0.3	36.70	0.0011	0.0240	<0.3	0.0001	<0.0005	70.30	0.0008	0.0560	0.31
S664547		0.057	1.74	0.1200	0.0018	<0.3	34.60	0.0006	0.0240	<0.3	0.0001	<0.0005	68.80	0.0009	0.0530	0.33

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.

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To: BAFFINLAND IRON MINES CORPORATION
2275 UPPER MIDDLE ROAD EAST
SUITE 300
OAKVILLE ON L6H 0C3

Finalized Date: 20-DEC-2022
Account: BIMCIO

Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22324725

Sample Description	Method	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	OA-SFE01	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH	MS14L-ANPH
	Analyte	Tl	U	V	Zn	Hardness	Final pH	Br	Cl	F	NO3 (as	SO4	TDS	Conducti	Alkalini
	Units	ppm	mg/L	mg/L	mg/L	mg/L CaCO3e	Unity	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L CaCO3e
	LOD	0.0001	0.00001	0.001	0.01	0.6	0.1	0.05	0.5	0.02	0.005	0.5	3	2	1
B625255		0.0001	0.00057	0.014	<0.01	33.8	8.5	0.12	3.1	0.71	0.191	1.0	168	175	71
B625256		0.0007	0.00852	0.078	0.05	65.9	9.1	0.07	2.0	0.92	<0.02	4.6	419	148	66
B625257		<0.0001	0.00013	0.007	<0.01	30.7	7.7	0.22	5.5	0.59	<0.08	96.8	239	370	38
B625258		<0.0005	0.00686	0.046	<0.05	73.7	8.3	<0.08	4.9	0.90	0.247	3.6	282	113	52
B625259		<0.0005	0.00420	0.096	<0.05	102.0	8.7	<0.06	3.8	1.15	0.068	1.2	364	130	71
B625260		<0.0001	0.00020	0.032	<0.01	4.5	9.3	<0.07	1.4	0.83	0.198	2.4	164	211	98
B625261		<0.0001	0.00007	<0.001	<0.01	55.4	7.2	<0.05	3.3	0.89	0.055	121.0	242	373	18
B625262		<0.0001	0.00016	0.001	<0.01	47.0	7.6	<0.08	2.6	0.81	0.061	180.0	384	557	30
B625263		0.0003	0.00195	0.031	0.02	41.1	8.6	<0.05	2.4	0.99	0.053	27.7	274	193	53
B625264		<0.0001	0.00098	0.002	<0.01	83.5	7.9	<0.2	15.3	0.53	0.229	36.3	172	293	70
S664546		0.0004	0.05570	0.016	0.02	14.1	9.5	0.09	13.6	1.42	0.576	1.1	372	239	91
S664547		0.0004	0.05050	0.016	0.02	15.0	9.4	0.09	14.0	1.31	0.396	0.9	358	233	87

***** See Appendix Page for comments regarding this certificate *****

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Project: Pulps for ABA & Shake Flask

CERTIFICATE OF ANALYSIS VA22324725

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method: FND-02 SND-01

Processed at ALSE Vancouver, Burnaby, BC, Canada.

Applies to Method: MS14L-ANPH OA-SFE01

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APPENDIX A2

Thermal Model and Assessment of Conceptual Summer Deposition Strategies for the Waste Rock Storage Facility at Mary River Mine Technical Memorandum

TECHNICAL MEMORANDUM

DATE August 29, 2023 **Reference No.** 22572750-004-2000-Rev0

TO Trevor Brisco
Baffinland Iron Mine Corporation

CC

FROM Fernando Junqueira and Gabriella Wahl **EMAIL fernando.junqueira@wsp.com, gabriella.wahl@wsp.com**

THERMAL MODEL AND ASSESSMENT OF CONCEPTUAL SUMMER DEPOSITION STRATEGIES FOR THE WASTE ROCK STORAGE FACILITY AT MARY RIVER MINE

1.0 INTRODUCTION

Potential acid generating (PAG) and non-acid generating (Non-AG) waste rock are currently being deposited in the waste rock facility (WRF) at the Mary River Project, operated by Baffinland Iron Mine Corporation (Baffinland) and located on Baffin Island in Nunavut. The mitigation strategy defined for prevention of acid generation and metal leaching from the pile centers on placement of PAG rock away from the edges of the pile and progressive freezing of the pile during winter that always maintains the PAG rock in frozen conditions after it is frozen.

In 2019, Golder conducted a thermal assessment (Golder 2019) to evaluate the thermal regime in the pile and support the design of a waste rock deposition plan to promote freezing of the pile. The 2019 study included a review of initial instrumentation data (i.e., thermistors and oxygen probes) and the preparation of thermal models for the period between March and September 2019.

In 2021, WSP Golder conducted an update to the thermal assessment (Golder 2021), with supplemental instrumentation data up to November 2020. The main goal was to re-evaluate the potential influence of internal heat sources on the thermal regime of the pile. It was confirmed that the pile remained mostly frozen at all times as per the design intent. Based on the instrumentation data and results of thermal models, it was concluded that temporary and localized increases in the waste rock temperature were not affecting the overall thermal regime of the pile.

In 2023, WSP completed a review and interpretation of on-site active instrumentation (WSP 2023). Results of this study were used to update thermal models with incorporation of supplemental instrumentation and waste rock deposition data available up to March 2023. The main goal of this assessment is to confirm the waste rock pile continues to freeze progressively, and to assist in developing an updated waste rock management plan (WRMP) for the deposition of PAG materials at the existing waste rock storage facility (WRSF).

This document presents a summary of the latest instrumentation data available, the results of updated thermal models, and provides discussion and recommendations for future deposition of waste rock in the pile.

2.0 WASTE ROCK FACILITY

2.1 Instrumentation

Between December 2018 and March 2019, instrumentation was installed within the waste rock pile that consisted of thermistors strings, oxygen probes, vibrating-wire piezometers, and a barometer. Vertical strings were installed along boreholes BH1, BH2 and BH3 up to 23 m in depth, while three 40 m long horizontal strings were installed along trenches T3, T4 and T5 at an initial depth of about 1.5 m (additional waste rock has been placed on top of some areas since installation).

In addition, two 5 m deep vertical thermistors were installed to monitor the thermal performance of the future WRF pond berm expansion foundation (T1) and the WRF north toe berm (T2).

Figure 1 shows the locations of all horizontal and vertical thermistor strings relative to the cross-section used in previous thermal modeling studies.

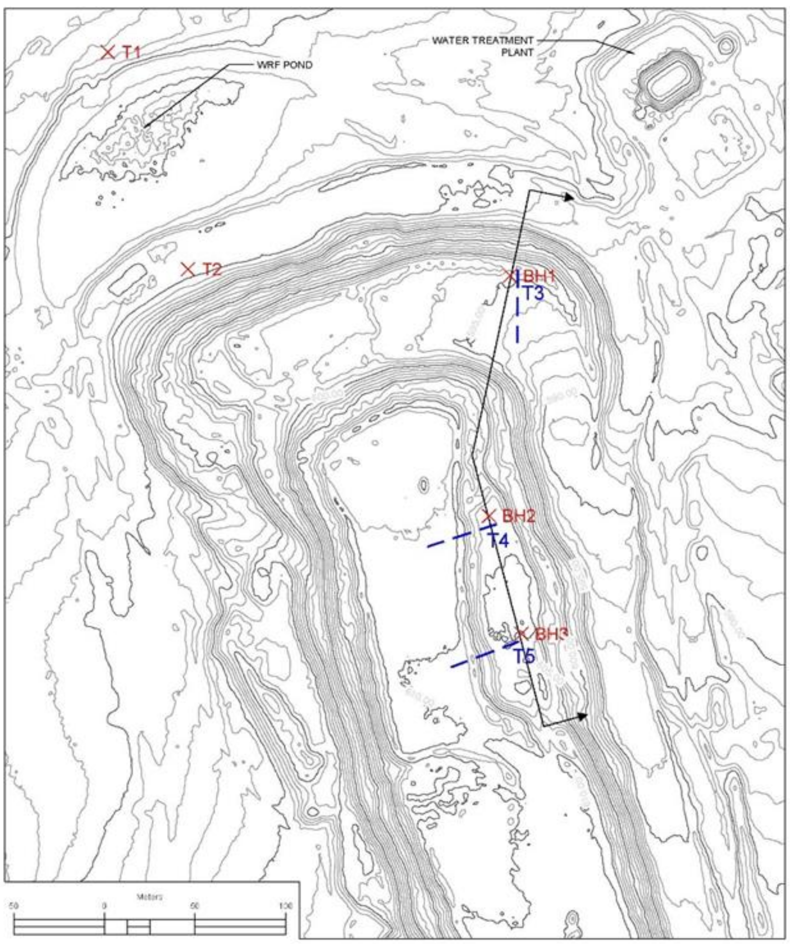

Figure 1: Locations of vertical and horizontal thermistor strings and alignment of cross section defined for the thermal modelling.

2.2 Waste Rock Deposition

Since the installation of the monitoring stations in February 2019, the pile has been progressively constructed with placement of Non-AG and PAG rock at different locations. New survey data and aerial photos were provided by Baffinland for the WRF between November 2020 and March 2023.

It is important to note that aerial photos show seasonal snow cover between October and May, which obscures the actual amount of waste deposited. This is notable particularly at BH2 and BH3 which are in depressions and can accumulate significant amounts of snow. It is WSP's understanding that ground surveys in winter have likely captured both winter material deposition and snow cover. It is known that no waste rock has been removed from the surface of the waste pile. Negative changes in ground elevation are likely due to changes in snowfall depth with seasonal freeze and melt patterns, slight consolidation of the pile over time, an error associated with ground surveys, or temporary excavation for instrumentation repair.

Table 1 provides a summary of ground surface elevation over time based on ground survey data and has been reviewed to comply with known placement data from site. Data is provided for vertical thermistors BH1, BH2, BH3, T1, and T2. Data is also provided at the end of each horizontal thermistor string T3, T4, and T5.

Table 1: Summary of Changes in Waste Rock Ground Surface Elevation with Time

Approximate Date of Deposition	Approximate Depth of Rockfill (m)							
	BH1	BH2	BH3	T1	T2	T3[(a)]	T4[(a)]	T5[(a)]
December 10, 2018								
December 15, 2018				-	-		1.0	
December 19, 2018				-	-	0.6	No data	0.5
March 3, 2019			-	-	-	-	No data	No data
March 4, 2019	-		-	-	-	-	No data	No data
April 30, 2019	-	-	-	-	-	-	4.0	5.4
July 5, 2019	-	-	-	-	-	No data	No data	No data
September 13, 2019	-	-	-	5.2	-	0.1	4.5	3.7
February 29, 2020	-	-	-	No data	No data	No data	-	-
March 31, 2020	-	-	No data	No data	No data	No data	No data	No data
April 18, 2020	-	5.8	0.6	0.9	0.8	0.3	No data	3.6
May 16, 2020	-	-	-	-	-	-	6.1	1.9
October 30, 2020	-	-	No data	-	-	-	-	-
February 27, 2021	-	-	No data	-	-	-	4.4	3.8
March 31, 2021	-	-	0.6	-	-	-	-	-
July 7, 2021	-	-	-	-	-	-	-	-
September 30, 2021	-	-	-	-	-	4.1	-	-
December 31, 2021	-	-	-	-	-	11.0	-	-
June 1, 2022	-	-	-	-	-	1.6	-	-

Note: Boxes highlighted in green indicate the date of installation for each station.

a) Various thicknesses of material are placed along the length of T3, T4, and T5. The numbers provided summarize rockfill placed at a bead installed at 40 m along the string (i.e., at the end of each thermistor string).

2.2.1 Stations BH1 and T3

BH1 and T3 are installed at close proximity to one another, where T3 is installed about parallel to the cross section between BH1 and BH2 shown in Figure 1 . Based on both ground survey and site data, it is known that no material was placed or removed on BH1 between September 2020 and March 2023.

About 40 m from BH1 along the cross section shown in Figure 1, about 0.4 m was placed between September 13, 2019, and July 5, 2020. About 16 m of waste rock was placed between July 7, 2021, and June 29, 2022. It is known from site data and additional survey data that most of the 16 m was placed between September 30 and December 31, 2021. Figure 2 provides a profile of the ground surface along T3 between September 2020 to March 2023.

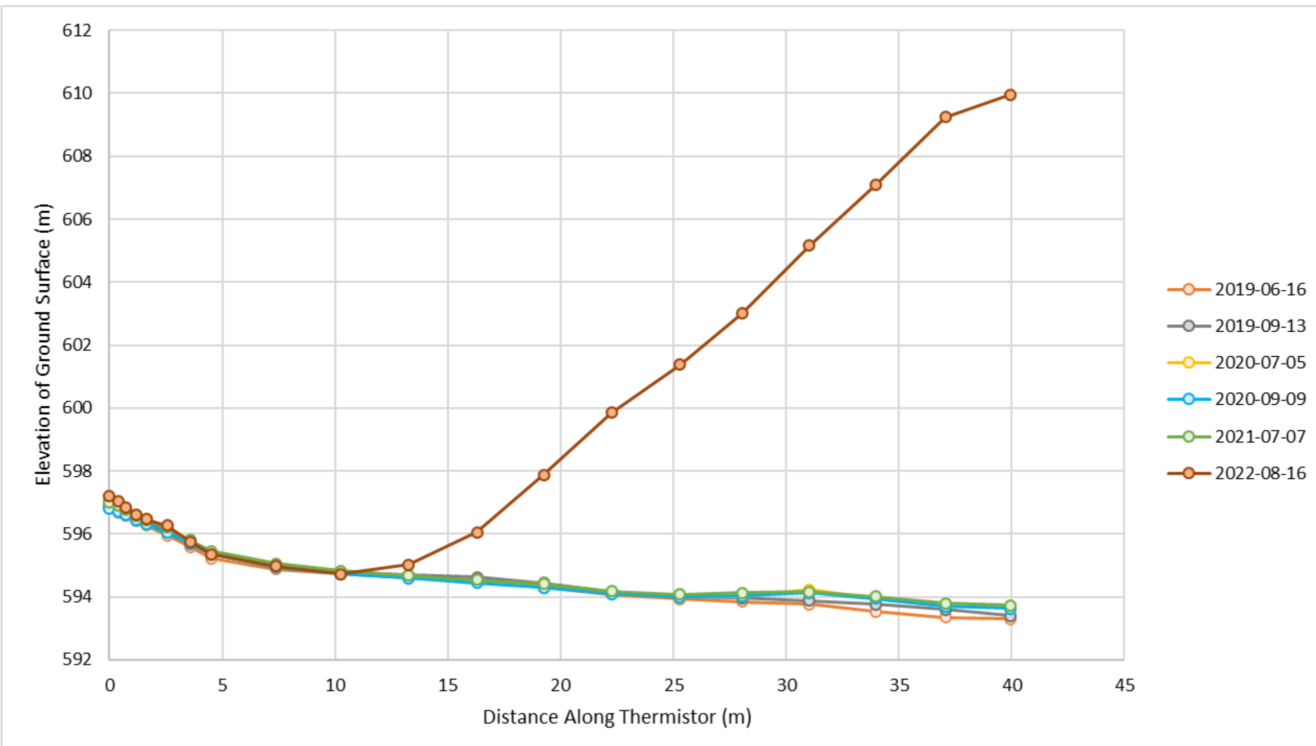

Figure 2: Evolution of ground surface elevation along T3 with time.

2.2.2 Stations BH2 and T4

The horizontal thermistor T4 is located close to BH2, at 0 m distance along the thermistor string. At BH2, the most notable addition of rockfill was noted between September 2019 and July 2020, where about 5.6 m was placed.

Along T4, several significant increments of waste rock were placed, the first of which was placed between March 4 and June 16, 2019, and was found to be 2.9 m thick. Subsequent lifts of 4.5 m, 6.1 m, 4.7 m, and 1.2 m were placed at the end of the thermistor string by September 13, 2019, July 5, 2020, July 7, 2021, and June 29, 2022, respectively. Figure 3 contains the material deposition measured along the length of T4 over time between September 2020 and March 2023.

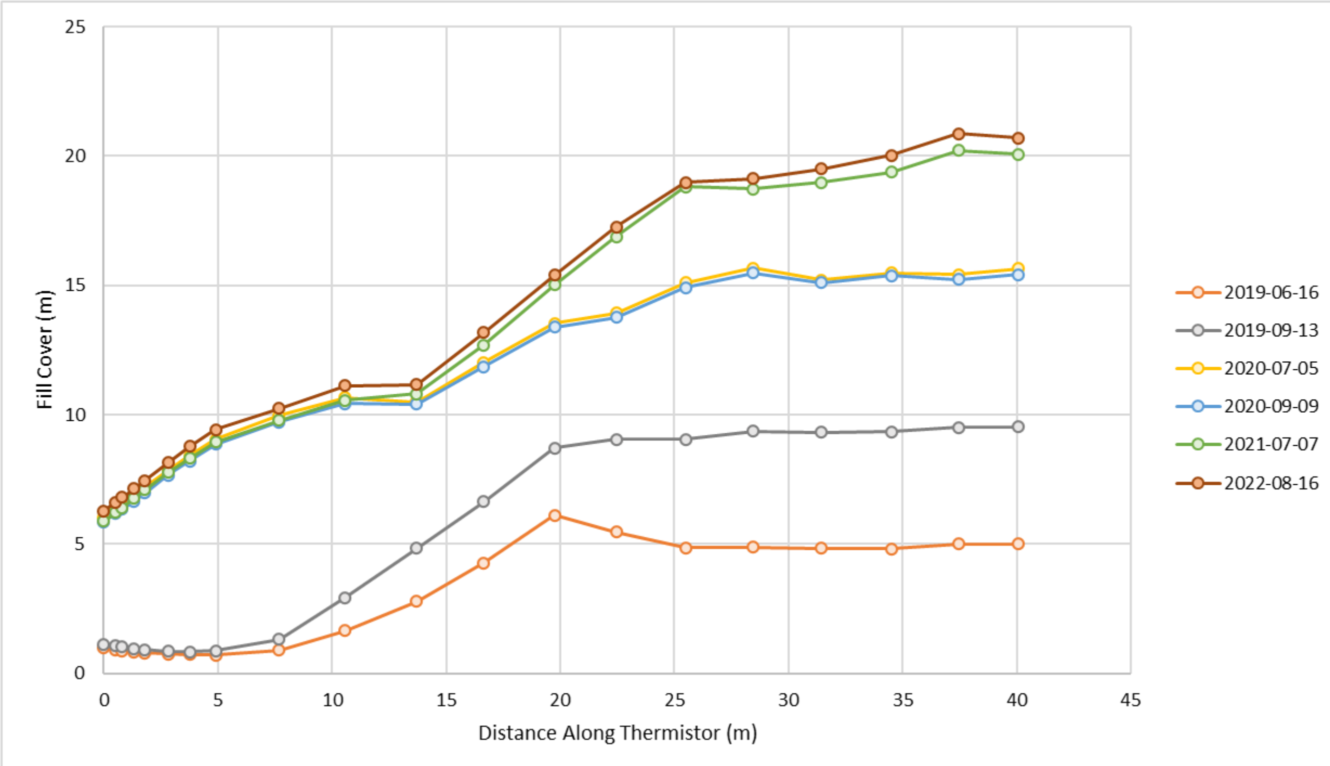

Figure 3: Evolution of ground surface elevation along T4 with time.

2.2.3 Stations BH3 and T5

Material deposition on top of BH3 occurred as described in Table 1 which saw relatively consistent material deposition between September 2019 and June 2022. The most significant material placement occurred between September 2019 and July 2020 of 1.3 m.

After September 2019, the majority of the rockfill placed along T5 occurred between about 14 m and 40 m along the thermistor string. At the end of the string, a lift of 4.0 m was placed by June 2019, and was followed by two lifts of about 3.7 m in September 2019 and 5.5 m in July 2020. Two remaining lifts were placed in July 2021 and June 2022 of 3.9 m and 0.9 m lift thickness respectively. Figure 4 presents the deposition of rockfill along T5 between September 2020 and March 2023.

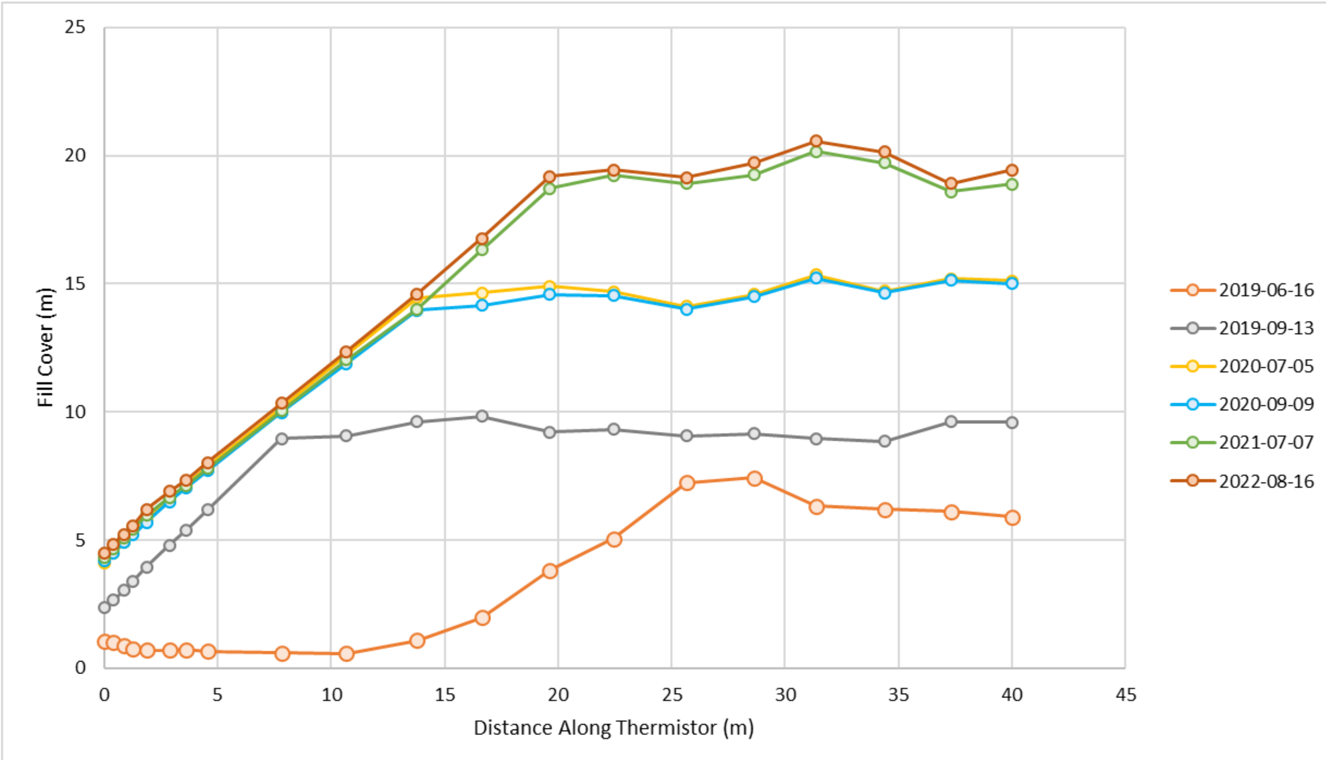

Figure 4: Evolution of ground surface elevation along T5 with time.

2.2.4 Stations T1 and T2

Figure 5 shows the change in ground surface elevation on top of stations T1 and T2. It is shown that the majority of waste rock placed at T1 (about 5.7 m) was deposited between June 16, 2019, and September 13, 2019. After this period, minimal variations in material deposition were measured, where it is noted data between June 29 and August 16, 2022, is missing.

At T2, compared with T1, little waste rock was placed, the maximum amount of waste rock placed was measured to be about 1.3 m between June 16, 2019, and July 7, 2021.

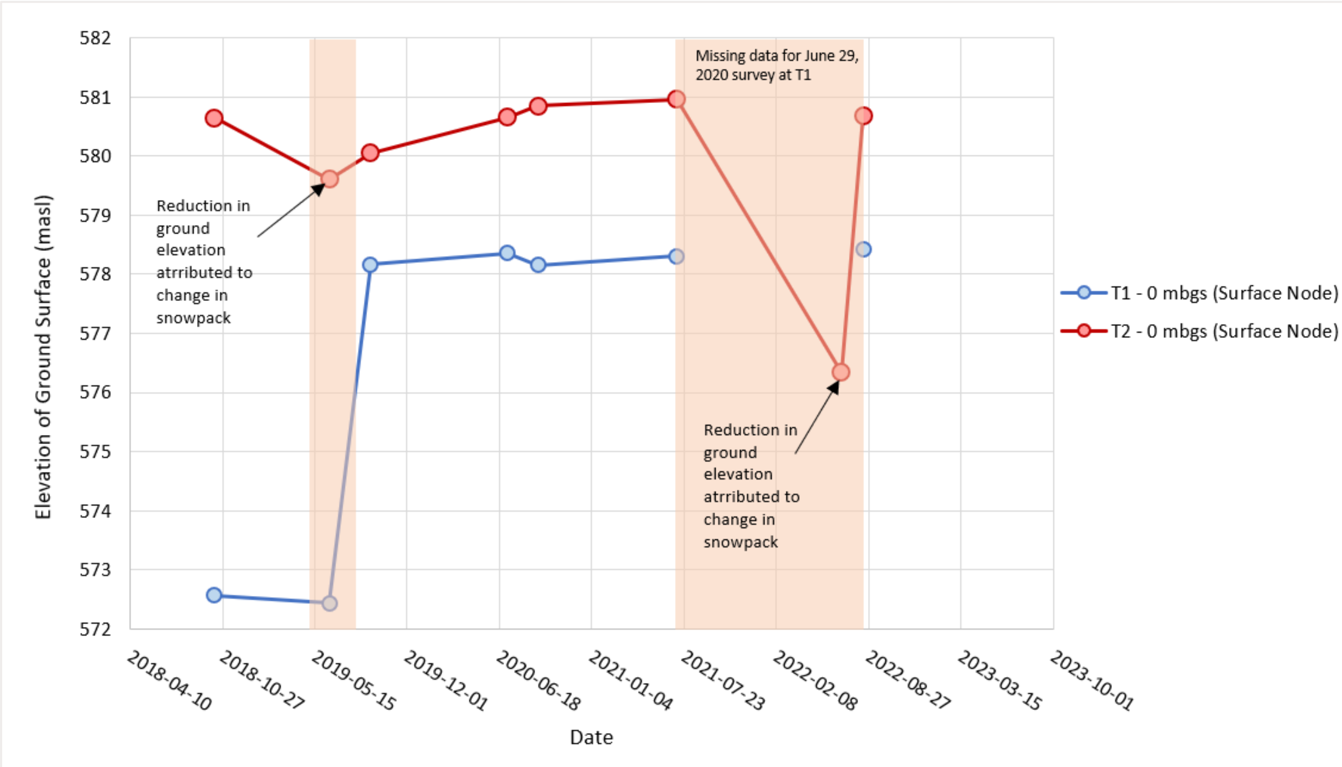

Figure 5: Elevation of ground surface at T1 and T2 over time.

2.3 Instrumentation Status

Thermistor data for BH1 was available through August 2022, with a period of no data between November 2021 and April 2022. BH2 had temperature data available through March 2022, and data for BH3 was available through February 2022. Temperature data for horizontal thermistors T4 and T5 were available through April 2022, and T3 had data available through August 2022.

No new data from the oxygen probes installed in BH1 and BH2 has been available since the 2021 assessment, and the status of these sensors is uncertain. The installation and maintenance of oxygen probes have been challenging, and the use of this type of sensor will no longer be considered in the future. Vertical and horizontal thermistor strings installed at strategic locations within the pile will continue to constitute the primary means to monitor the thermal regime of the pile and compare its performance against the design intent.

A summary of instrumentation status through August 2022 is presented in Table 2.

Table 2: Summary of Instrumentation Status Through 2022

<table>
<tr><th>Station</th><th>Sensor</th><th>Date Available Through</th><th>Damaged Sensor</th></tr>
<tr><td rowspan="3">BH1</td><td>Temperature</td><td>March 2019 – August 2022</td><td>No damaged beads
Bead 19.95 m data missing after September 2019
Data missing between November 2021 and April 2022</td></tr>
<tr><td>Vibrating-Wire Piezometer</td><td>March 2019 - August 2022</td><td>No known damage</td></tr>
<tr><td>Oxygen</td><td>Not operational since May 2020</td><td>Uncertain after May 2020</td></tr>
<tr><td rowspan="3">BH2</td><td>Temperature</td><td>March 2019 – March 2022</td><td>Beads from 0.2 to 3.8 m (except for 1.3 m), and 17.2 m damaged after October 2019</td></tr>
<tr><td>Vibrating-Wire Piezometer</td><td>February 2019 – November 2021</td><td>Uncertain after November 2021</td></tr>
<tr><td>Oxygen</td><td>February 2019 – August 2019</td><td>Uncertain after August 2019</td></tr>
<tr><td>BH3</td><td>Temperature</td><td>December 2018 – February 2022</td><td>No damaged beads</td></tr>
<tr><td>T1</td><td>Temperature</td><td>February 2021 - August 2022</td><td>No damaged beads
Data missing from all beads between April 2022 and July 2022</td></tr>
<tr><td>T2</td><td>Temperature</td><td>February 2021 – August 2022</td><td>Bead at 0.1 m, and between 2.0 and 4.0 functioning inconsistently between January 2021 and November 2021
Bead at 1.0 m after September 2020
Bead at 3.0 m after March 2022</td></tr>
<tr><td>T3</td><td>Temperature</td><td>March 2019 – August 2022</td><td>No damaged beads</td></tr>
<tr><td>T4</td><td>Temperature</td><td>March 2019 – April 2022</td><td>No damaged beads</td></tr>
<tr><td>T5</td><td>Temperature</td><td>February 2019 – April 2022</td><td>Bead at 22.4 m damaged since January 2022
Beads at 19.6, 25.6, 28.6 damaged since January 2022
Bead at 31.4 after March 2022
Beads at 34.4 - 40.0 after April 2022</td></tr>
</table>

3.0 INSTRUMENTATION TRENDS

No data has been available for the oxygen probes since the 2021 assessment, and therefore there is no update in trends from those sensors.

Data available for the vibrating-wire piezometers installed in BH1 (through August 2022) and BH2 (through November 2021) show the piezometers are dry and in frozen ground.

The trends observed from the horizontal and vertical thermistors are discussed below.

3.1 Vertical Thermistor BH1

A variation in waste rock elevation was noted at BH1, as summarized in Table 1. However, it is known that in general little to no material has been placed or removed on top of BH1. The following trends and patterns have been observed from this monitoring station between November 2020 and March 2023:

- Based on available data, the active zone subject to freezing and thawing cycles is less than 1 m deep, with the pile beneath the active zone remaining frozen year-round.
- Measured waste rock temperatures have been between -0.1°C and -12.2°C, with seasonal variations mostly measured by thermistor beads near the surface.
- In general, all temperatures between 2 m and 7 m showed a decreasing trend in 2021 and 2022, possibly due to a colder summer in 2021.
- Waste rock temperatures below a depth of 10 m are showing a trend of a slight increase but have remained between -7.7°C and -5.5°C since early 2019. For instance, the temperature at a depth of 19 m has increased progressively from -7.7°C in March 2019 to -6.5°C in August 2022.
- Extended thermistor data beyond August 2020 show the lasting effects of an event of increasing waste rock temperature measured in July 2020 between 4.8 mbgs and 9.8 mbgs, with temperatures remaining at higher levels within that zone until about April 2021. Heat from that zone propagated downwards and probably contributed to the trend of increasing temperature observed below a depth of 10 m.
- After the July 2020 warming event, no other period of sudden increases in the waste rock temperature has been observed in BH1.

Figure 6 shows temperature profiles along BH1 between July 2020 and September 2021 and illustrates the progression of increased rockfill temperatures in that period. Figure 7 shows the variation of waste rock temperature with time at different depths along BH1 during the entire monitoring period, demonstrating that the pile has remained mostly frozen at the location of BH1.

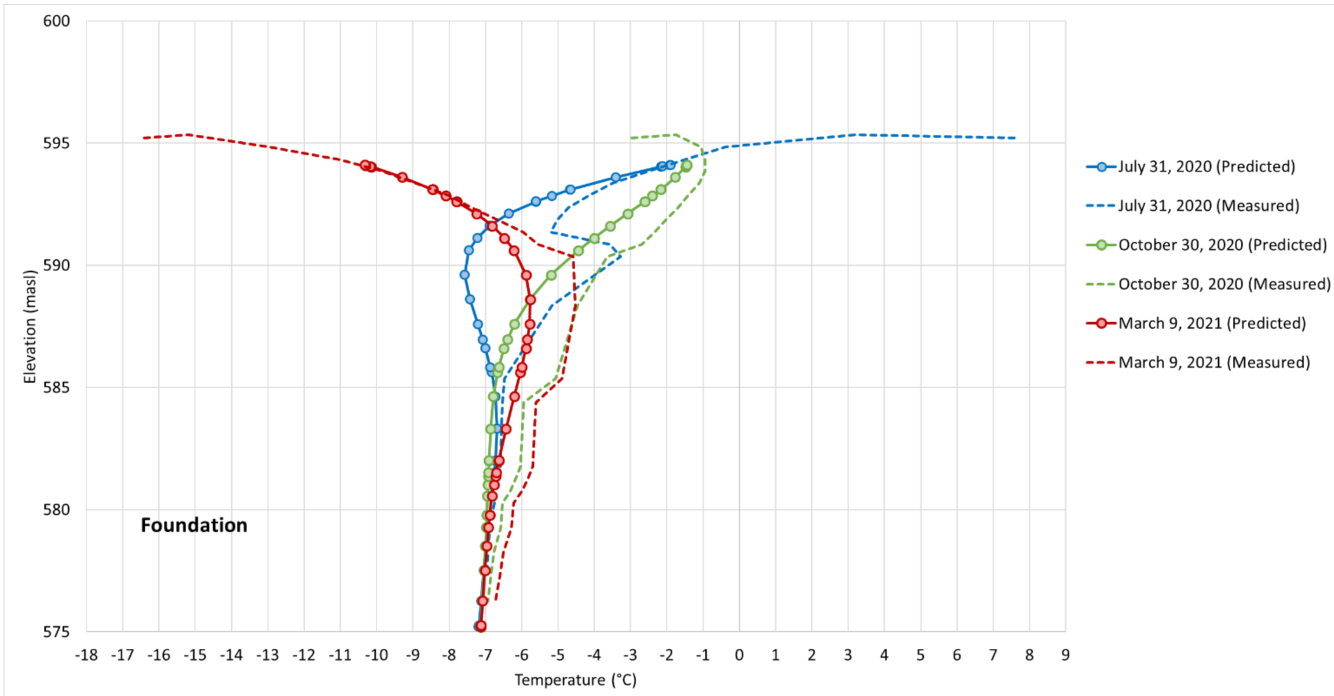

Figure 6: Localized increase in temperatures along BH1 between July 2020 and September 2021

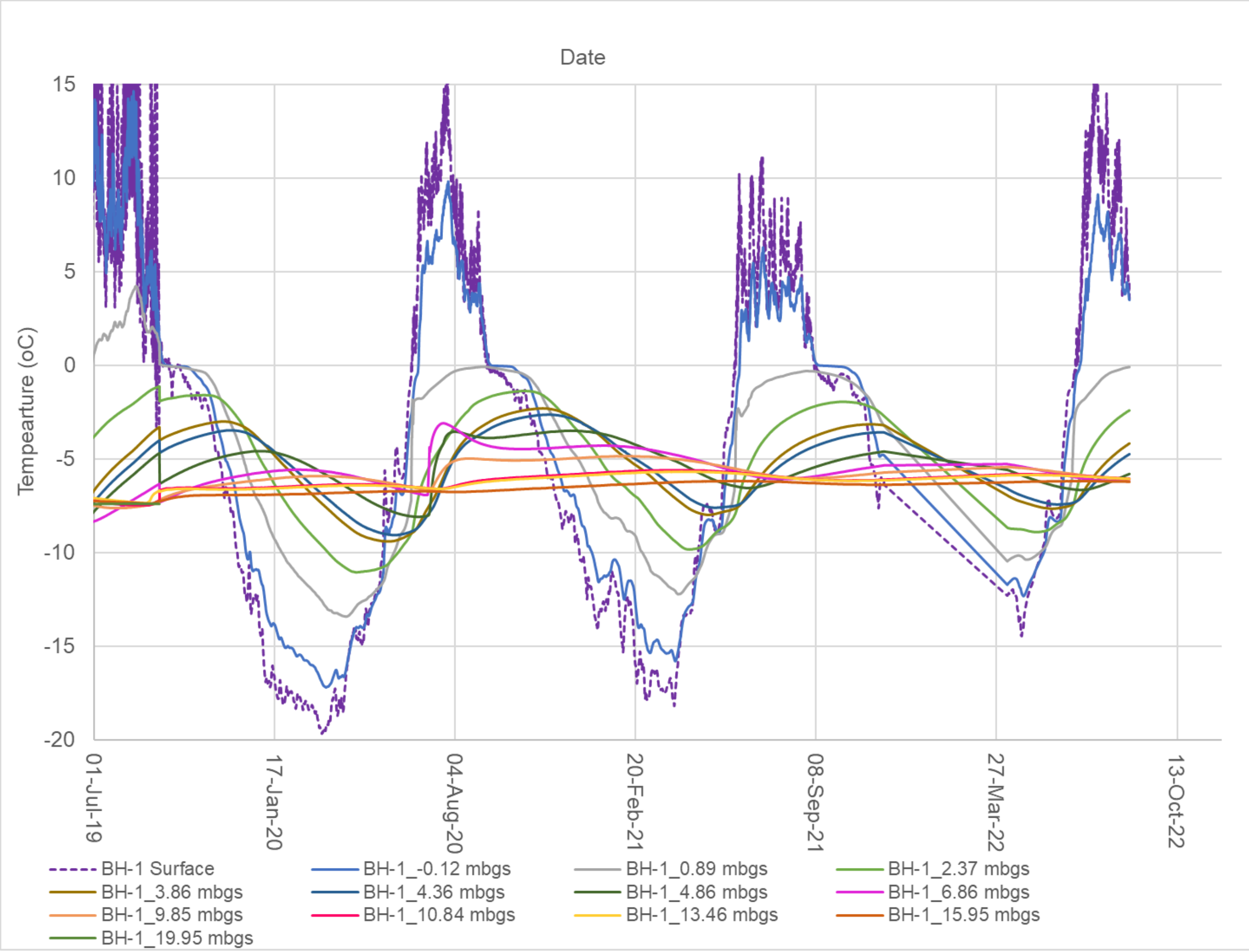

Figure 7: Variation in temperature with time along BH1.

3.2 Vertical Thermistor BH2

Approximately 5.6 m of rockfill was placed on BH2 between September 2019 and July 2020 (See Table 1). The following trends and patterns have been observed:

- Temperatures measured within the waste rock pile have been negative since December 2019 with some seasonal fluctuation.
- A cooling trend has been observed at beads originally installed at depths of 4.8 to 27 m since March 2019, clearly associated with the placement of additional rock on top of BH2 between March and August 2020. For example, temperatures at the original depth of 27 m decreased from -4.3°C to -5°C, and at the original depth of 10 m, waste rock temperature decreased from about -3°C to -4.7°C between December 2019 and March 2022.

- Temperatures measured between the original installation depths of 15 m and 25 m in BH2 are approximately 2°C warmer than those measured at similar depths in BH1. This emphasizes the existence of spatial variations in waste rock temperatures within the pile.
- Overall, additional material placed after September 2020 is contributing to maintain previously deposited waste rock frozen during all times and with a trend of decreasing temperatures, which supports the primary objective of the waste rock management plan.

Figure 8 shows variation in temperatures with time at selected thermistor nodes, which are labelled according to their original installation depths.

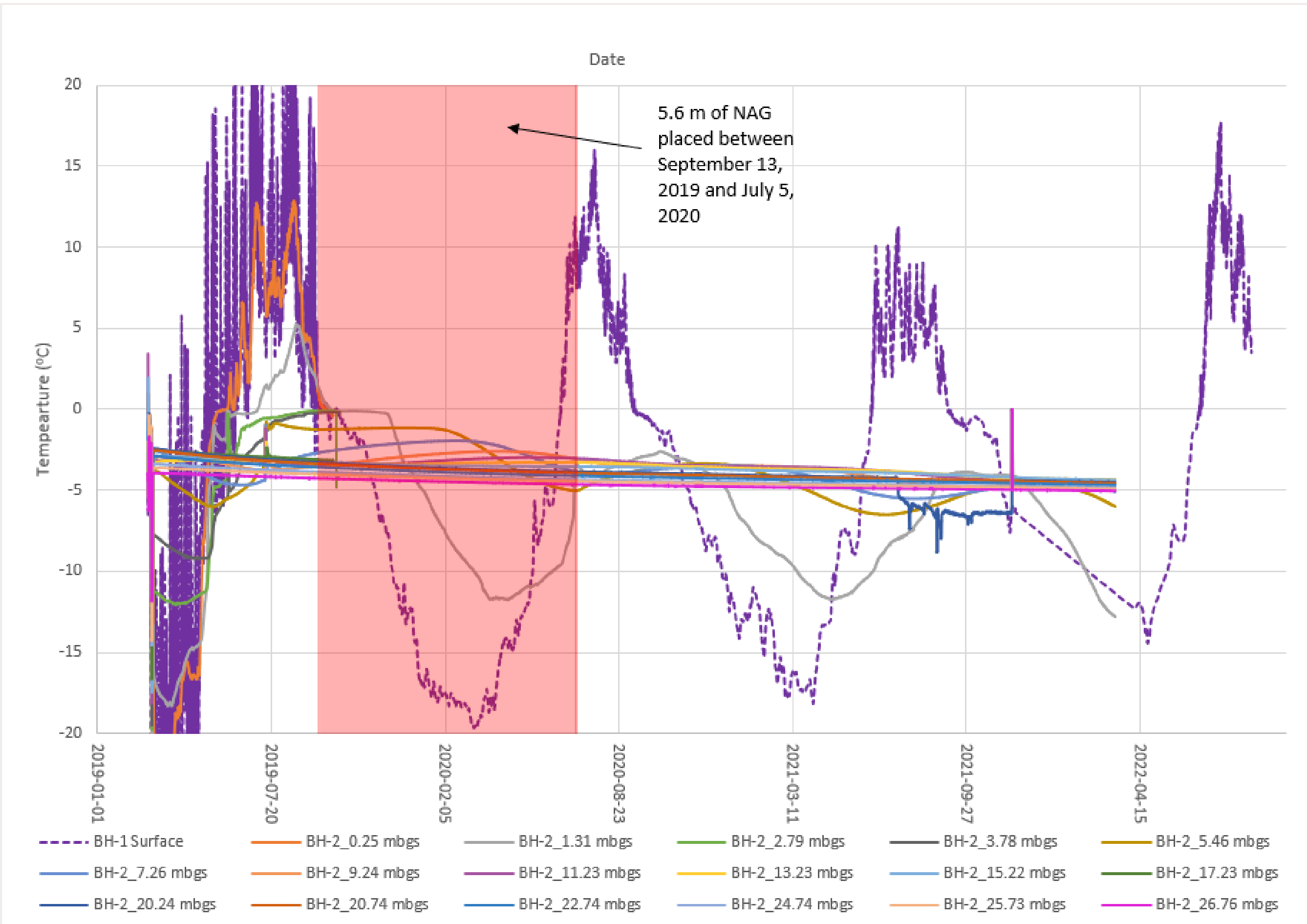

Figure 8: Variation in temperatures at selected thermistor installation depths along BH2 with time.

3.3 Vertical Thermistor BH3

Variations in ground surface elevation were noted, as shown in Table 1, where it is known that 1.3 m was deposited between September 2019 and July 2020, and subsequent placement of waste rock occurred between July 2020 and June 2022. The following trends and patterns have been observed:

- Temperature measured by all thermistor beads have been negative since October 2020, clearly associated with placement of additional rock on top of BH3.

- No sharp localized temperature increases were visible.
- Temperatures between 13 m and 23 m (original installation depths) are between about -4.3°C and -5.4°C, which is comparable to those measured in BH2 at similar depths.
- Ground temperatures at depth of 23.3 mbgs (original installation depth) has progressively decreased over time.
- Overall, material placed after September 2020 continues to allow the pile to remain frozen and continues to cool, which supports the primary objective of the waste rock management plan.

Figure 9 shows variation in temperatures with time at selected depths (i.e., original beads installation depths before placement of additional rock in March 2020).

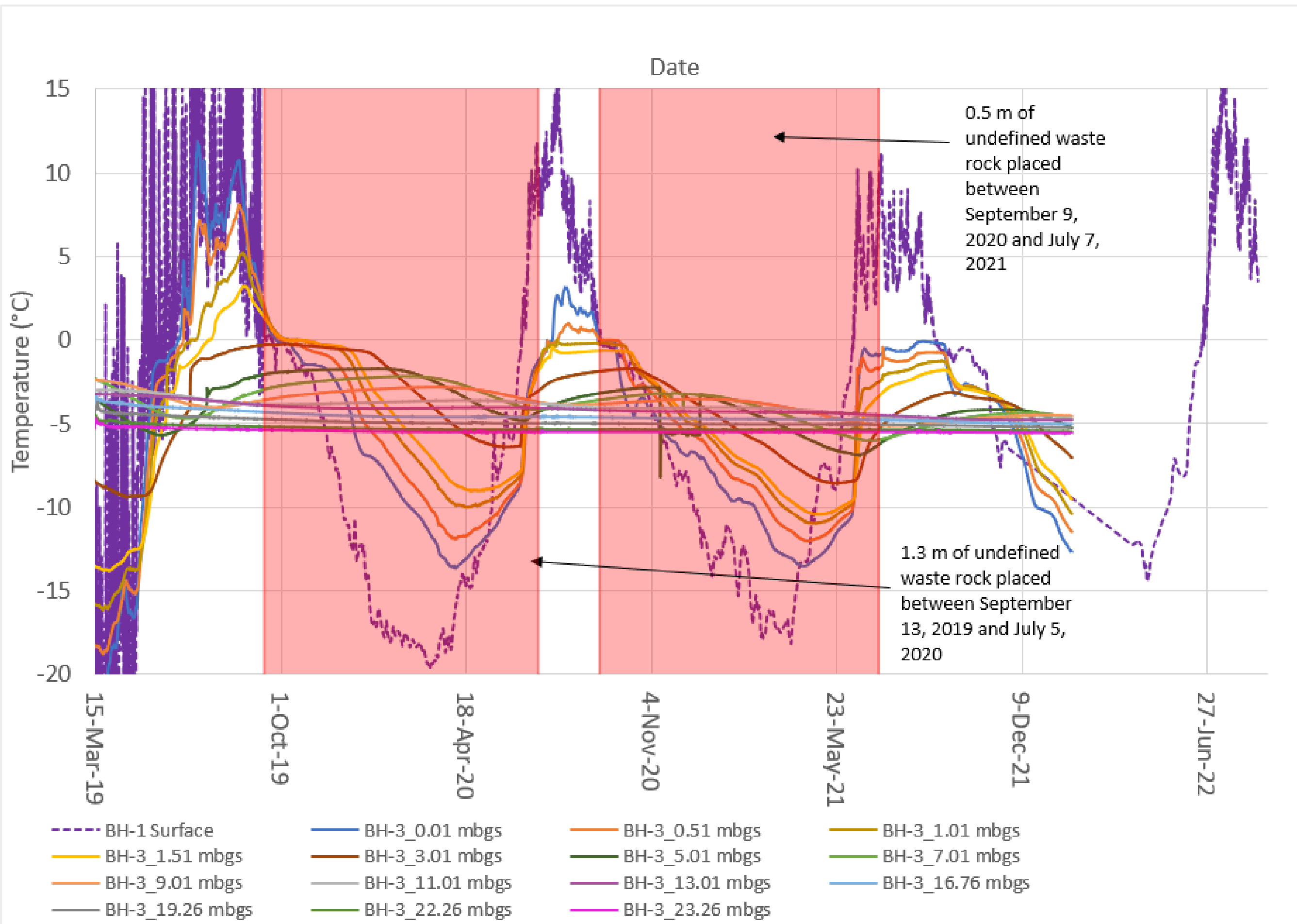

Figure 9: Variation in temperatures at selected thermistor installation depths along BH3 with time.

3.4 Horizontal Thermistor T3

Between July 2021 and June 2022, varying amounts of rockfill were placed between 10 m and 40 m from the edge of the pile along the thermistor string, with about 16 m of waste rock placed at the end of the thermistor string (inwards towards the centre of the pile). The following trends and patterns were observed:

- The first 3.6 m remain frozen all year from November 2020 to 2022.
- Thermistors beads between 3.6 and 40 m were subject to freezing and thawing cycles until about September 2021, when additional rockfill placement began on top of the string.
- After September 2021, waste rock temperatures between 16.3 m and 40 m along the length of the thermistor string remained below 0°C and exhibited much smaller seasonal variations. This correlates with the beginning of progressive placement of waste rock in that area between September 2021 and June 2022 as indicated by survey and deposition data (See Figure 2).
- Overall, material placed after September 2021 continues to allow the pile to remain frozen and continues to cool, which supports the overall objective of the waste rock management plan.

Figure 10 provides the temporal variation in rockfill temperature for selected distances over the length of thermistor string T3. Figure 10 also contains benchmarks of waste rock deposition that occurred at the end of the thermistor string (40 m inwards towards the centre of the pile). Figure 11 shows temperatures along the entire length of T3 for selected dates.

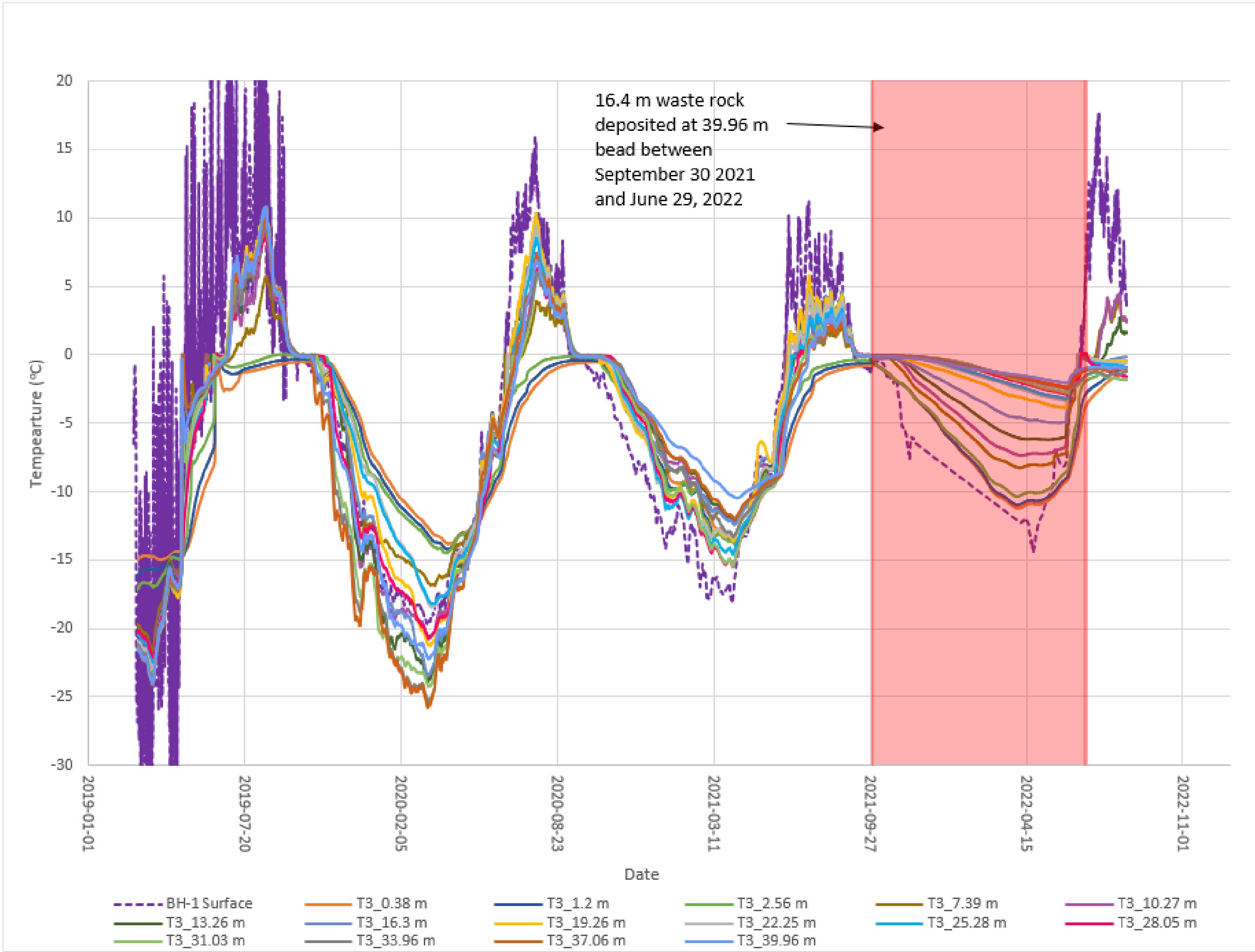

Figure 10: Variation in temperature along T3 from the edge of the pile (0 m) to the end of the string (40 m).

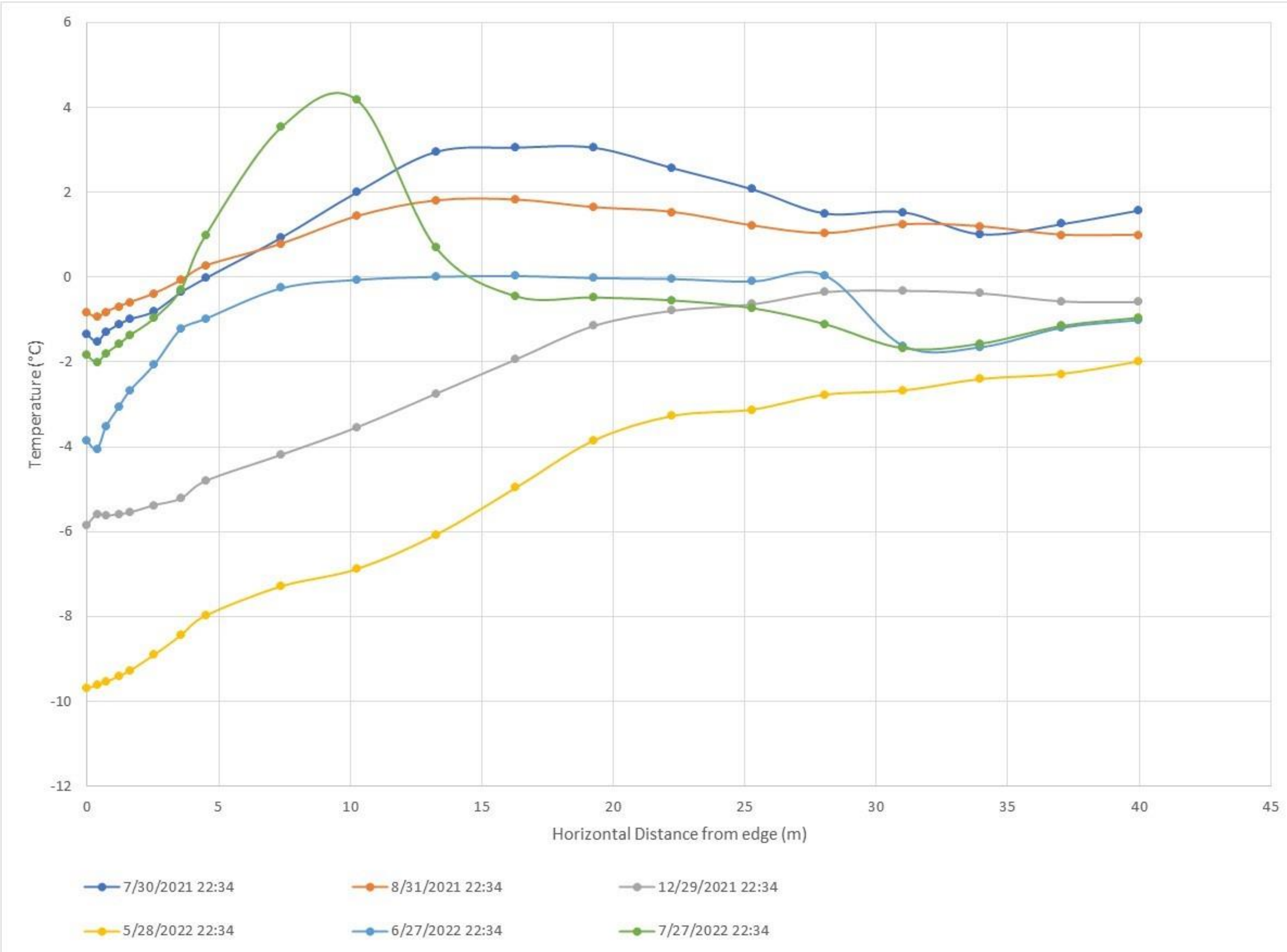

Figure 11: Variation in temperature along T3 for selected dates.

3.5 Horizontal Thermistor T4

The majority of rockfill was placed along the thermistor string began at about 10.6 m and continued between September 2020 and June 2022. The following trends and patterns were observed:

- Temperatures along the entire length of the thermistor (0 to 40 m) have remained below 0°C since August 2019.
- Seasonal variations in ground temperature reduces starting at about 20 m from the edge of the pile, where the temperature ranges between -1.7°C to -5.5°C.
- Along the entire length of the thermistor string, progressive cooling over time continues.
- Overall, material placed after September 2020 continues to allow the pile to remain frozen and continues to cool, which supports the main objective of the waste rock management plan.

Figure 12 presents recorded temperatures at specific distances along the thermistor string with time. Figure 12 also contains benchmarks of waste rock deposition that occurred at the end of the thermistor string (40 m inwards towards the centre of the pile).

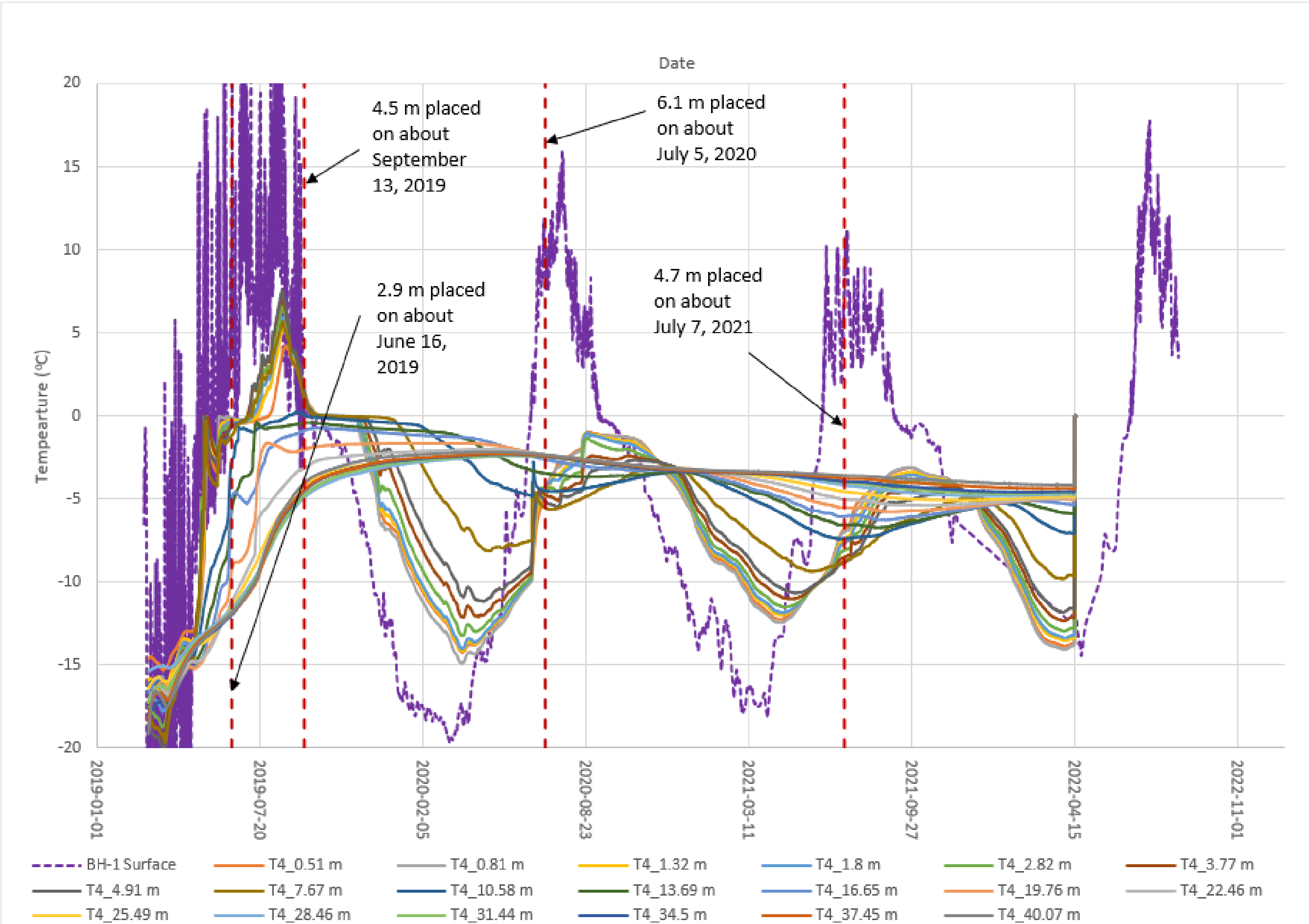

Figure 12: Variation in temperature along T4 from edge of the pile (0 m) to the end of the string (40 m).

3.6 Horizontal String T5

A total of about 17 m of rockfill was placed at the end of the thermistor string (See Figure 4). The following trends and patterns were observed:

- After August 2019, all thermistor beads have remained frozen along the length of the thermistor.
- Waste rock temperatures continue to cool over time at all lengths along the thermistor string.
- Overall, material placed after September 2019 continues to allow the pile to remain frozen and continue to cool, which supports the main objective of the waste rock management plan.

Figure 13 shows variations in temperature in T5. Figure 13 also contains benchmarks of waste rock deposition that occurred at the end of the thermistor string (40 m inwards towards the centre of the pile).

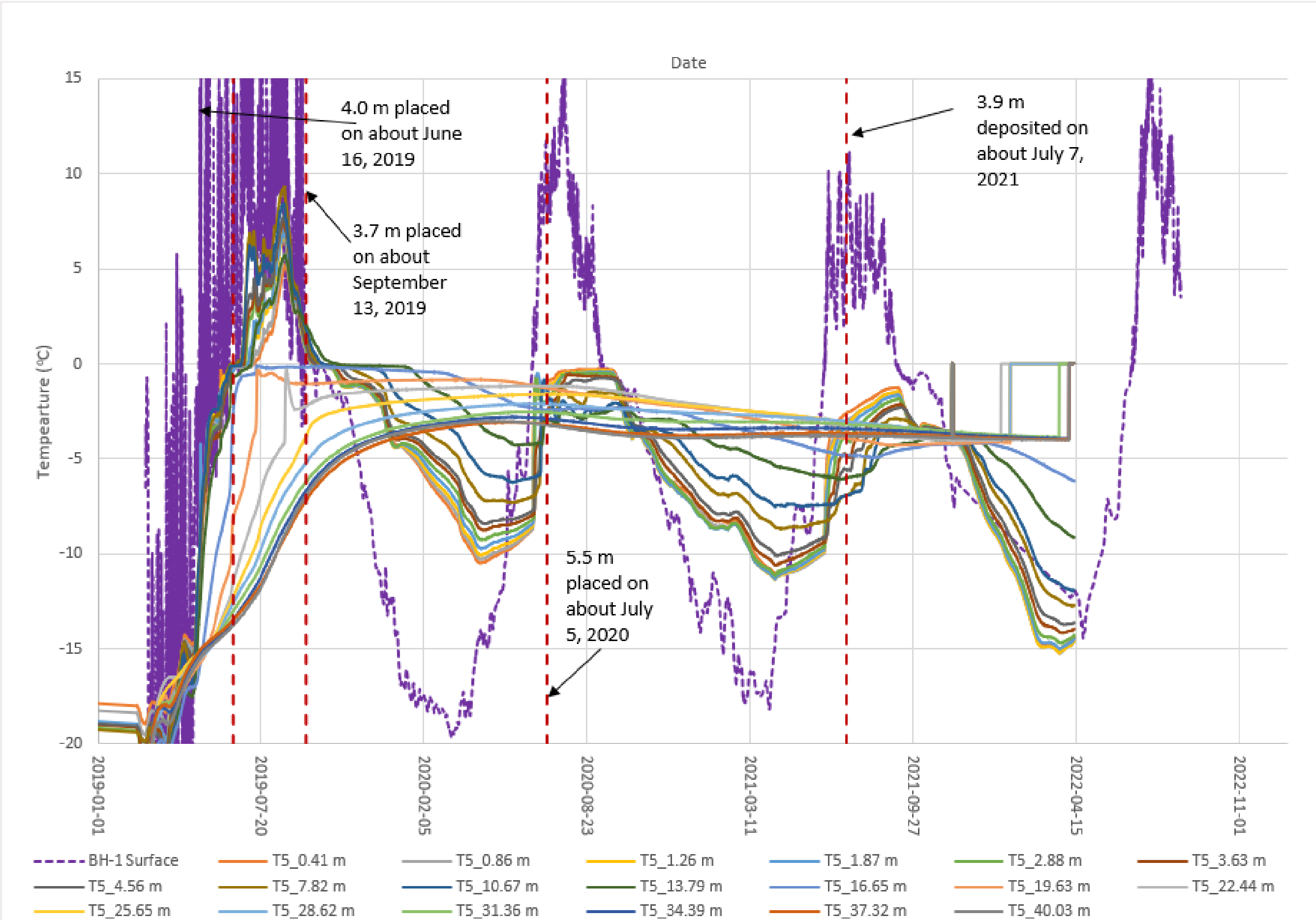

Figure 13: Variation in temperature along T5 from the edge of the pile (0 m) to the end of the string (40 m).

3.7 Vertical Thermistors T1 and T2

Two vertical thermistor strings were installed northwest of the waste rock pile near the contact water collection pond. Temperatures are monitored between 0 m and 5 m depth. The following sections summarize the temporal variation in ground temperatures between February 2019 and August 2022.

3.7.1 Station T1

Between June and September 2019, 5.8 m of waste rock was placed on top of T1. The following summarizes observations within T1:

- After December 2019, the ground remains frozen at all depths, where seasonal fluctuations in temperatures remain below 0°C.
- A sharp increase in rockfill temperature was observed between 0 m and 2 m depth (original installation depths) in June 2020. The increase likely corresponded to increased air temperatures and was not observed to sustain localized temperature increases after the event.
- Waste rock temperatures have continued to cool over time along the thermistor string since additional rock was placed in the area in September 2019.

Figure 14 contains a time series of thermistor beads within T1 between 0.1 and 5.0 m depth.

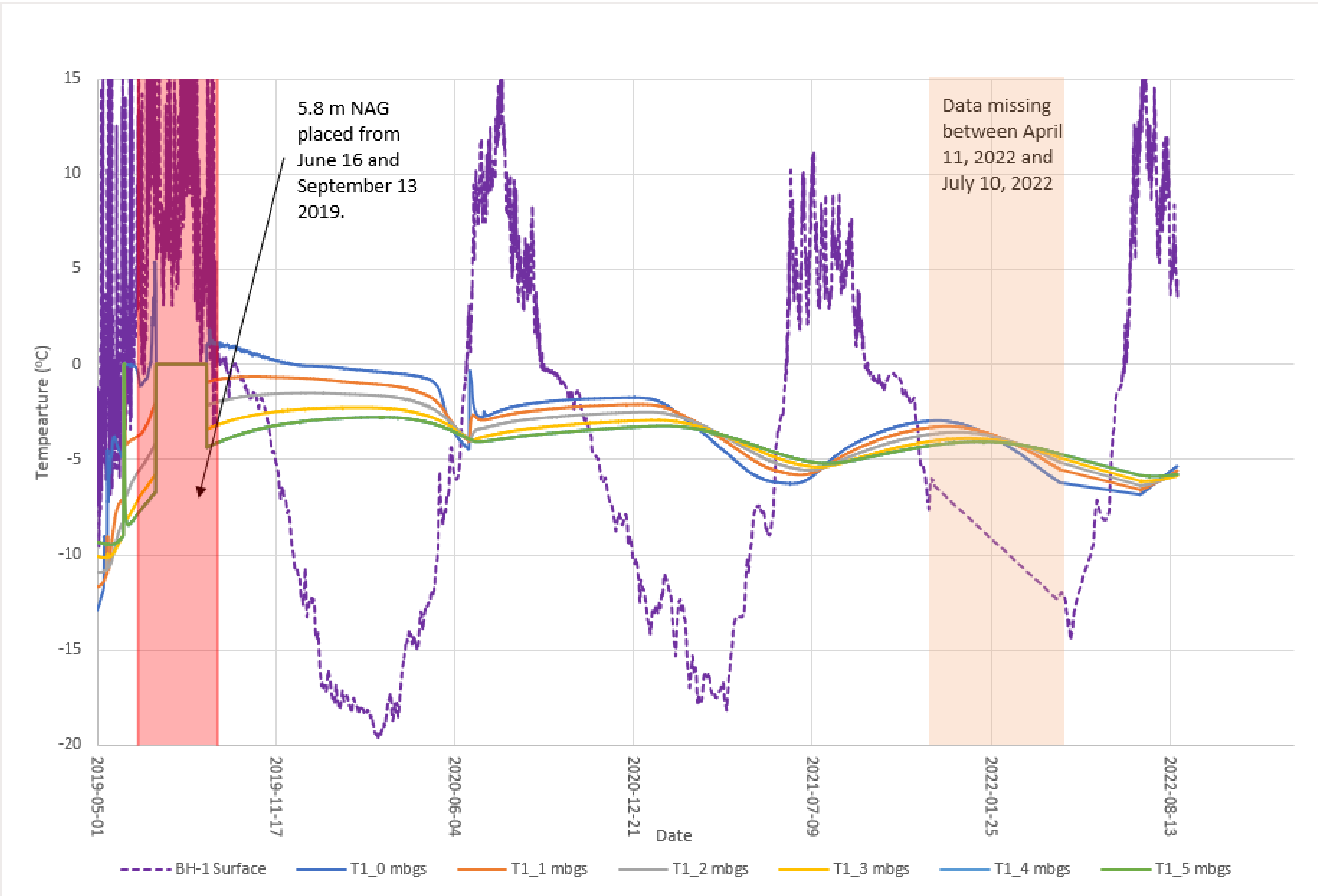

Figure 14: Variations in temperature along T1 with time.

3.7.2 Station T2

About 1.3 m of waste rock was deposited between September 2019 and July 2021. The following summarize trends and observations:

- Large gaps exist along T2, where data is either missing or read in error (See Figure 15).
- Data provided at intervals without errors indicate that rockfill greater than 2.0 mbgs has remained frozen year-round.

Figure 15 presents a time series of temperature measurements along T2 at depths between 0.1 m and 5.0 m.

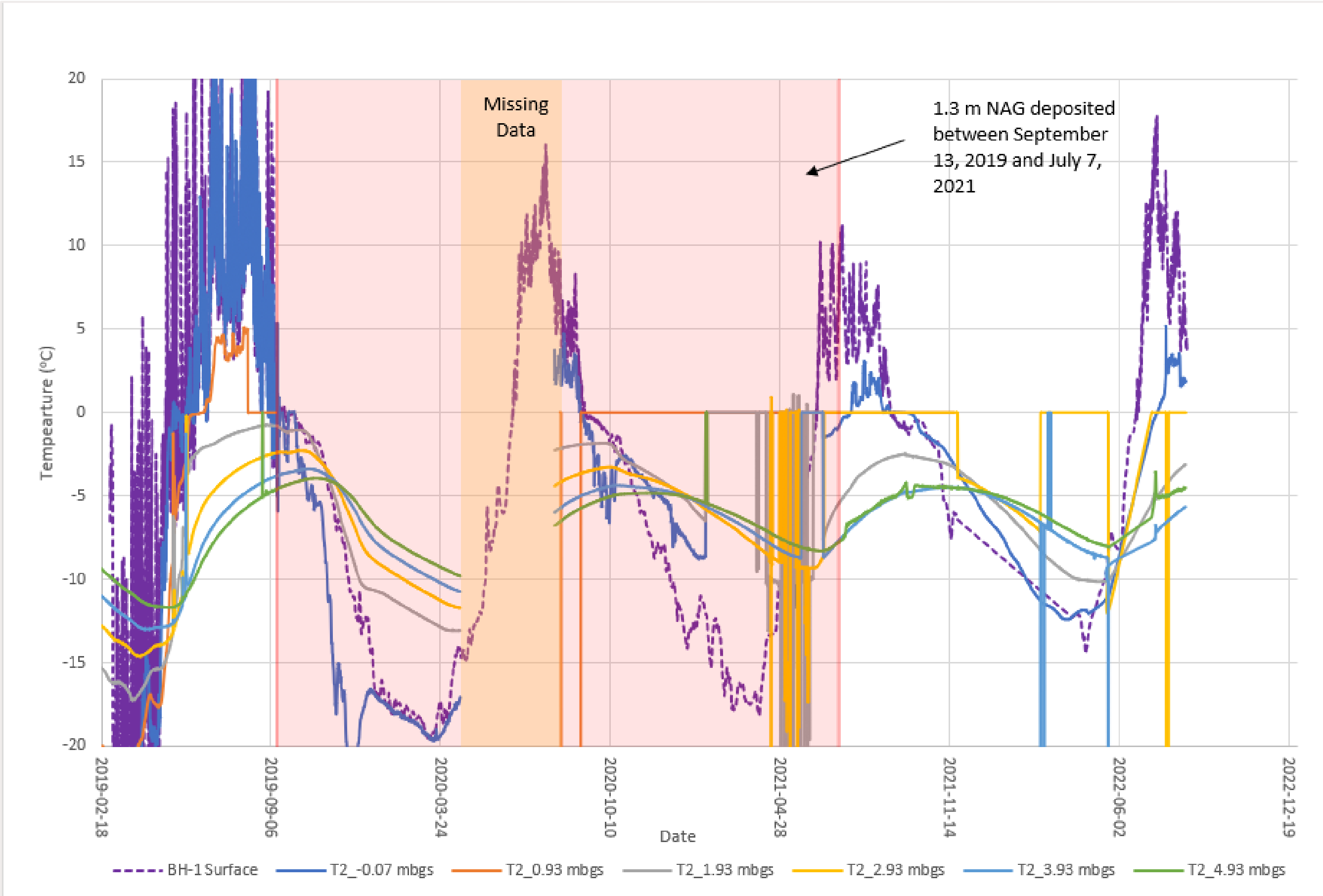

Figure 15: Variation in temperature along T2 with time.

3.8 Summary of Instrumentation Trends

An update of the thermal assessment conducted in 2021 was carried out based on supplemental thermistor data available for the period between November 2020 and August 2022.

Thermistors deployed along the six monitoring locations indicates the following patters and trends:

- Overall, the pile continues to present a freezing trend and remains frozen throughout the year as per the design intent. Placement of additional rockfill in the pile prevents previously deposited rock from thawing and allows for progressive cooling over time.
- The portions of the pile monitored by the temperature probes in BH1, BH2, and BH3 remained entirely frozen throughout the monitoring period, except for the active zone within 2 to 3 m in depth, which is subject to seasonal freeze and thaw cycles.
- Rockfill located along the horizontal thermistor strings T4 and T5 has remained frozen along the length of the string since September 2020. Along the horizontal string T3, waste rock located between approximately 13 to 40 m from the beginning of the string (located close to the edge of the waste pile) remained frozen after September 2021, when additional waste rock started being deposited in that area.

- At depths below about 11 m in BH1, temperatures are observed to be increasing slightly over time, whereas in BH2 and BH3, progressive cooling at depth is observed. Additional waste rock placed on T3, BH2, and BH3 have facilitated the progressive cooling at the base of BH2 and BH3, while the lack of material placement at BH1 has allowed for the slight warming trend at depth. Furthermore, heat propagating from a temporary and localized warming zone that developed between 4.8 m and 9.8 m in depth at BH1 from July 2020 to April 2022 further contributed to the warming trend observed at BH1 below 10 m in depth.
- The 2021 assessment based on a shorter temperature dataset suggested that local sudden increases in waste rock temperature, like the event observed at BH1 in July 2020, were possibly related to localized warmer airflow with increases in air temperature at the same period. However, extended thermistor data in BH1 beyond August 2020 showed that the affected zone remained at higher temperatures for some nine months until about April 2021 before the profile started to cool down once again. It is unlikely that migration of warmer air alone would be sufficient to sustain higher temperatures in that zone for several months and other factors, like a localized internal heat generation, were likely in play.
- The thermal regime of the pile is probably affected by a combination of seasonal variations in air temperature, preferential air flow through the pile, and temporary localized heat generation associated with sulphide oxidation and/or mineral dissolution, but the fact that the pile remained mostly frozen during all times with a progressive colling trend continues to indicate that the site cold climatic condition is the prevailing mechanism governing the thermal regime in the pile, as intended in the design.

4.0 NUMERICAL MODELLING

4.1 Thermal Model Update History

The first thermal modeling exercise was prepared in 2019 (Golder 2019) based on limited instrumentation data available for the period between March and September 2019. Calibration of the 2019 model in portions of the waste rock pile adjacent to BH2 and BH3 using this limited data set was only attained with the inclusion of continuous and widespread assumption of internal heat generation that was further assumed to correlate with sulphide oxidation.

A review of the thermal model was completed in 2021, where temperature and waste deposition data through November 2020 was utilized. The main purpose of that model update was to assess whether heat generation within the pile was contributing to the overall thermal regime of the pile. The updated model with an expanded instrumentation dataset showed that internal heat generation was probably not having a significant impact on the overall thermal regime of the pile, although the existence of possible localized internal heat could generate temporary changes in the waste rock temperature patterns.

The present model update described in this report was prepared to confirm/validate the conclusions from the 2021 update based on the latest instrumentation and waste rock deposition data, and to assess the effect of conceptual rockfill deposition schedules on the overall thermal performance of the pile.

4.2 Methodology

4.2.1 Model Calibration

The first stage was completed using a transient 2D thermal model using the finite element software TEMP/W of GeoStudio 2021, developed by GEO-SLOPE international Ltd. Update of the thermal model was conducted for the same waste rock pile cross section defined in 2019 along the alignment of boreholes BH1, BH2 and BH3 as shown in Figure 1. Data from thermistors installed along these boreholes for the period between November 2020 and November 2021 was used for model calibration purpose. There was a period of no data for BH1 between December 2021 and April 2022.

The model calibration process consisted of adjusting model boundary conditions and timing of additional rock deposition on the pile until the predicted patterns of temperature variations were in general agreement with trends observed from measured values.

The model geometry was adjusted to incorporate rockfill placed on the pile after June 2020, based on ground survey data provided by Baffinland for different dates in 2020 through 2022. Using sensitivity trials, the calibrated model scenario included instant progressive placement of rockfill on top of each borehole from June 2020 to August 2022. Rockfill placed between BH1 and BH2 was defined based on thermistor data measured at T3, which was installed approximately parallel to the chosen cross section. Table 3 contains a summary of the final deposition schedule used after calibration was completed.

It should be noted that the ultimate depths of rockfill placed on top of BH2 and BH3 presented in Table 3 differ slightly from those in Table 1. The first 0.6 m of rockfill placed on BH3 around July 2020 had already been applied in the previous thermal model and was carried over to this stage of calibration. The 0.3 m difference between rockfill values for BH2 between March and April 2020 is attributed to the survey data. It is not expected that this small difference will affect the model calibration.

Table 3: Final Model Calibration Rockfill Deposition Schedule

Date of Deposition	Depth of Rockfill (m)			
	BH1	BH2	BH3	Between BH1 and BH2[(a)]
July 31, 2020	-	5.5	-	-
March 31, 2021	-	-	0.6	-
September 30, 2021	-	-	-	5.3
October 31, 2021[(b)]	-	-	-	3.3
November 30, 2021[(b)]	-	-	-	3.3
December 31, 2021	-	-	-	3.3

a) Lifts of varying thickness were deposited along the cross section between BH1 and BH2. Depth of rockfill reported is measured at a point about 98 m along the cross section and at an elevation of 595.9 masl, which is at the interface between lifts placed on July 7, 2021, and September 30, 2021.

b) A ground survey was not directly provided for this date. These dates were inferred from survey data available along the horizontal thermistor T3, which lies approximately parallel to the cross section between BH1 and BH2.

4.2.2 Conceptual Waste Rock Deposition Models

Ten deposition scenarios were simulated to understand the thermal response of the waste rock pile to conceptual deposition sequencing. Varying thicknesses and timing of waste rock deposition were modelled along the selected cross section within the summer and winter seasons to assess the optimum operational timeline for waste rock placement. It is understood that not all the deposition schedules tested are practically achievable due to operational constraints and waste rock production schedules; however, the scenarios were modeled to assess the general response of the pile to a variety of waste rock deposition time and thickness. Table 4 presents a summary of each deposition schedule modelled.

Table 4: Conceptual Waste Rock Deposition Model Scenarios

Date of Deposition	Depth of Rockfill Placed (m)									
	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F	Scenario G	Scenario H	Scenario I	Scenario J
June 1, 2022	7	3	-	-	-	-	-	-	-	-
July 1, 2022	-	2	3	5	5	5	5	5	-	-
August 1, 2022	-	2	2	-	2	2	2	2	-	5
September 1, 2022	-	-	2	-	-	-	-	-	5	-
December 1, 2022	-	-	-	-	-	3	3	-	-	-
February 1, 2023	-	-	-	-	-	-	-	3	-	-
July 1, 2023	-	-	-	-	-	-	5	-	-	-

Initial conditions at the start of the conceptual assessment were taken from the calibrated 2D model on June 1, 2022. Each material deposition schedule was followed from this point forward. Temperatures used to characterise each conceptual lift at the date of deposition are detailed in Section 4.4.2.

4.3 Material Properties

The thermal properties of waste rock used in both stages of numerical modelling remained the same as defined in the 2019 study and those used within the 2022 study, which are based primarily on the results of laboratory testing conducted as part of the 2019 thermal assessment (Golder 2019b). Table 5 summarizes the material thermal properties used in the models.

Table 5: Thermal properties of materials included in the thermal models.

Material	Volumetric Water Content	Thermal Conductivity (W/m-°C)		Volumetric Heat Capacity (MJ/m^3-°C)	
		Frozen	Unfrozen	Frozen	Unfrozen
Waste Rock	8%	1.95	1.8	1.7	2.0
Overburden	35%	2.1	1.5	2.2	2.8
Bedrock	1%	2.9	2.9	2.4	2.4

4.4 Boundary Conditions and Initial Conditions

4.4.1 Model Calibration

Temperatures obtained between November 2020 and August 2022 from the thermistor bead in BH1 installed at a depth of 0.1 m were used as the ground temperature function applied to the top of the model geometry.

Data from the thermistor bead at 0.1 mbgs within BH1 was found to be missing between November 22, 2021, and April 7, 2022. Data for this period was gap filled using ground temperatures from the previous winter period. Figure 16 shows the measured data and the temperature function used in the models.

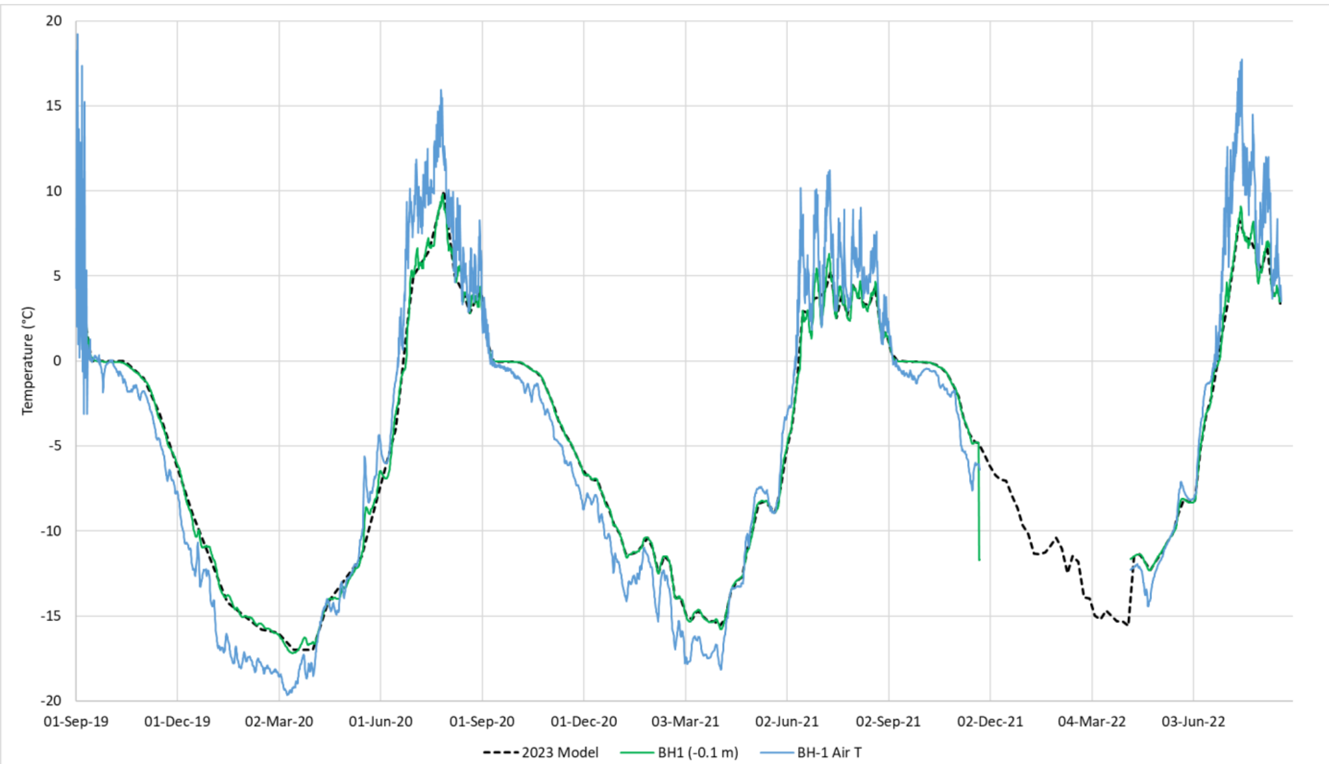

Figure 16: Comparison of measured ground surface temperatures in BH1, and temperature boundary function used in the 2023 modelling exercise.

In the 2021 study, a constant ground temperature of -8°C was defined as the bottom boundary condition. This value was defined based on thermal gradients estimated from the deepest beads of thermistors installed along boreholes BH-1, BH-2, and BH-3. Sensitivity analyses during the calibration period showed that a constant ground temperature of -7.5°C resulted in a more balanced agreement between measured data in BH-1, BH-2, and BH-3.

4.4.2 Conceptual Rockfill Deposition

A ground surface temperature function was created to represent future conditions. To be conservative, the warmest year recorded by thermistors (2020) was applied as the ground temperature function (See Figure 16).

As the models incorporated progressive and instantaneous placement of rockfill at selected months, the initial as-deposited waste rock temperature was also required to be defined. Similar to the ground temperature function, the warmest temperature recorded in each month of deposition was used to define the initial temperature of the conceptual waste rock lift. Sensitivity analyses were also conducted assuming the rockfill is deposited at the average recorded monthly temperatures. Table 6 contains the baseline and sensitivity waste rock activation temperatures used in the models.

Table 6: Summary of Baseline and Sensitivity Case Activation Temperatures of Conceptual Waste Rock Lifts

Month of Deposition	Maximum Monthly Rockfill Temperature (°C)	Average Monthly Rockfill Temperature (°C)
June 2022	5.3	-2.5
July 2022 and July 2023	9.8	7.2
August 2022	6.9	4.5
September 2022	2.7	0.4
December 2022	-6.5	-7.8
February 2023	-11	-15

The boundary condition applied to the bottom of the model geometry remained at –7.5 degrees, equal to that applied during the calibration stage.

4.5 Model Limitations

The models prepared for this study constitute a simplification of the field reality and carry assumptions and limitations that shall be taken into consideration during interpretation of model results. The most important model limitations as follows:

- The models consider a homogeneous waste rock mass with no spatial variation in waste rock properties. Waste rock piles typically present zones of segregated materials, densification, and layering that affect the thermal and hydraulic characteristics of the pile. These zones can work as preferential flow paths for air flow that can impact internal temperatures.
- The updated model geometry considered instantaneous placement of additional rock in the pile for each assessment period, based on survey data. Waste rock is placed progressively throughout the year and the timing and sequence of waste rock deposition affects the thermal regime.
- The thermal models compute variation in temperature associated only with conduction and is not set to incorporate the impact of heat transfer associated with air and water flow through the pile. Instrumentation data suggest air flow is an important component affecting the thermal regime of the pile, and snowmelt during the freshet season can also have an effect.
- The 2D nature of the thermal models can only capture heat transfer along the cross section and does not incorporate three-dimensional heat transfer coming from adjacent areas perpendicular to the model geometry.
- Historical deposition of materials between survey dates with large gaps in time is assumed to have a linear deposition over time. It is acknowledged that this is an approximation of the actual deposition schedule and contributed to differences during the calibration stage.

5.0 MODEL CALIBRATION RESULTS

Model calibration focused on thermistor data from June 2020 to November 2021, due to the lack of reference measured ground temperatures for BH 1 between November 2021 to April 2022. The following sections summarize the results of calibration at each borehole.

5.1 BH1

Figure 17 and Figure 18 provide measured and predicted rockfill temperature profiles between July 2020 and September 2021.

In general, the predicted temperature profiles correlated well the measured profiles along the thermistor string down to about 5 m below surface. The thermal model was not able to capture the effects of the localized internal heat identified at about 590 masl (5.0 to 7.0 m original installation depth along thermistor string) that started in July 2020. Subsequent measured profiles after July 2020 show the migration of heat downwards through March 2021. After March 2021, the measured thermal profile continues to move back towards the predicted profile, showing that the heat eventually dissipated slowly over a period of approximately nine months.

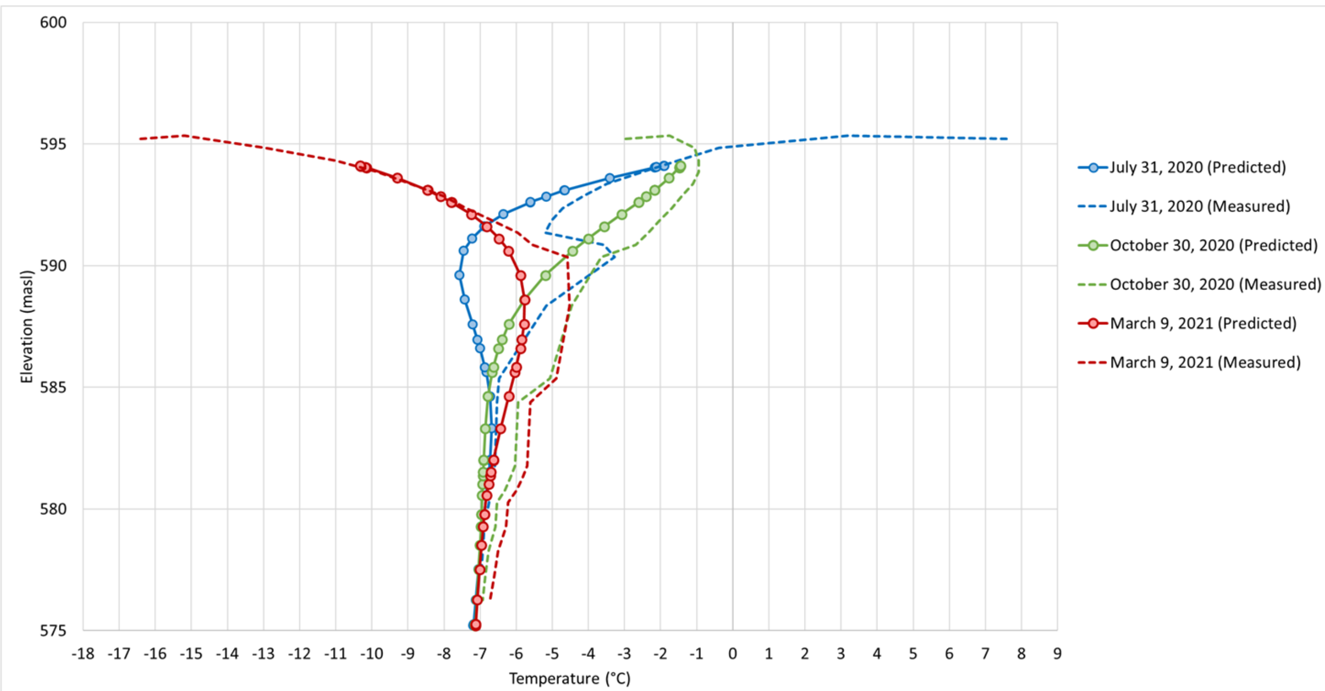

Figure 17: Measured and Predicted Temperature Profiles at BH1 between July 2020 and March 2021.

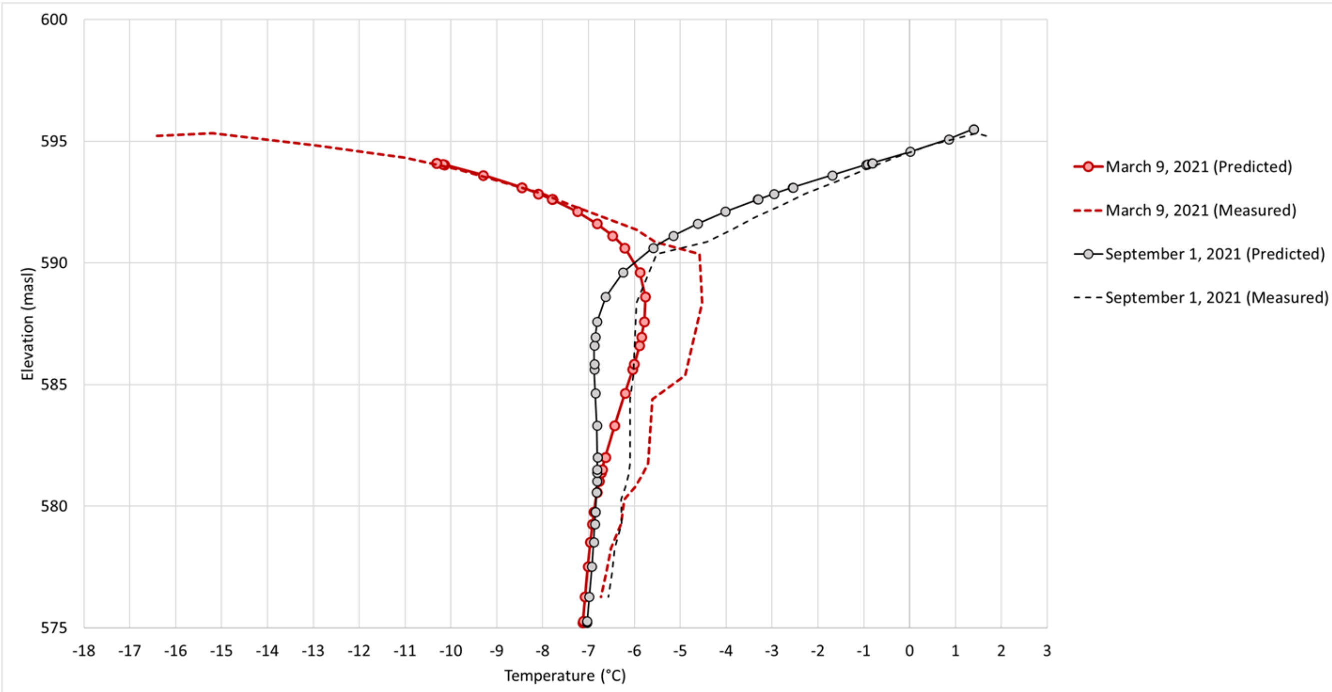

Figure 18: Measured and Predicted Temperature Profiles at BH1 between March 2021 and September 2021.

At depth, measured data show that the ground temperature slightly increases over time from about –7.3°C to -6.5°C degrees (March 2019 to August 2022). Results of the model calibration show a similar trend as expected due to the lack of waste rock placed on top of BH1 over time.

The calibrated model was in good agreement with the warming trend observed at depth; however, it was not able to replicate the magnitude of increase after July 2020, which is shown in Figure 19. In general, predicted values are slightly cooler than measured, where measured values show an accelerated warming between July 2020 and November 2020 that was not captured within the model. The timing of the deviance coincides with the localized heat measured in-situ in July 2020, and is thought to be a result of heat propagating downwards through the borehole. After November 2021, the rate of measured ground temperature does not accelerate further and agrees well with the rate predicted by the thermal model. Figure 19 provides the temporal variation in ground temperature at depth within BH1 for both measured and predicted values.

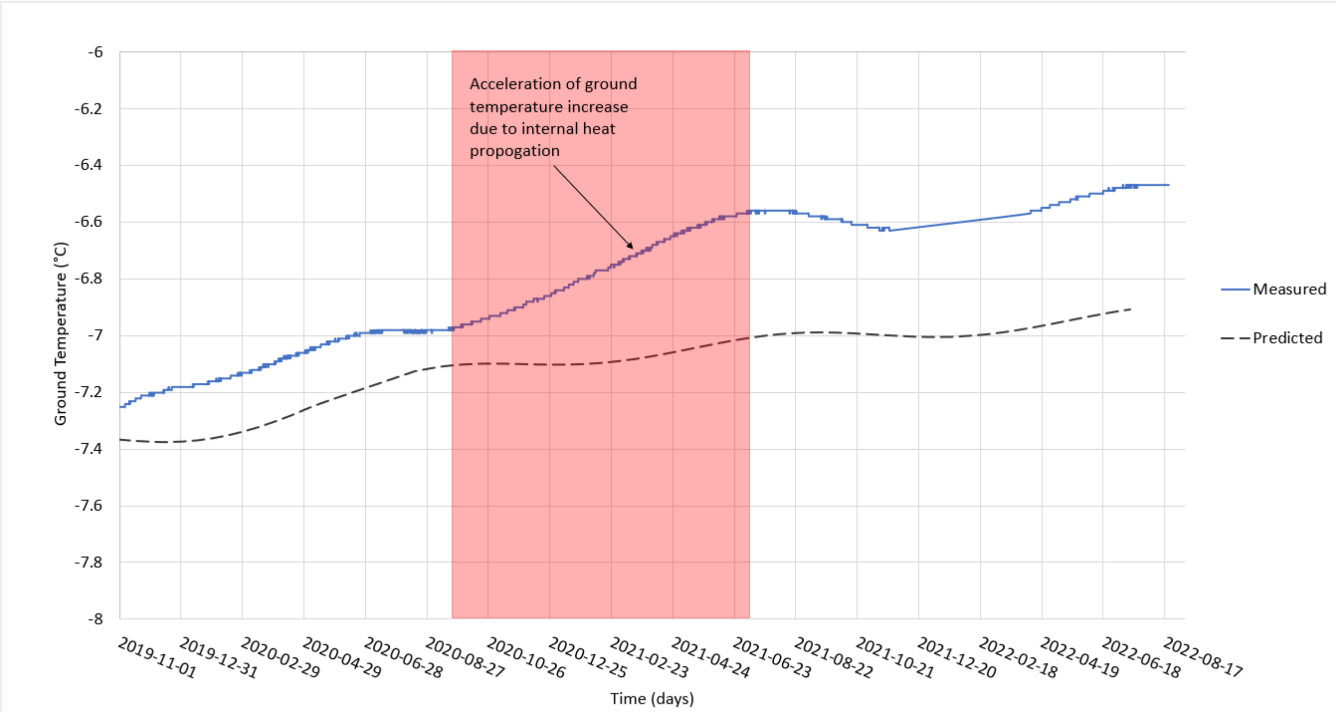

Figure 19: Measured and Predicted Temporal Variations in Rockfill Temperature at Bottom Node within BH1 (18.95 mbgs).

5.2 BH2

As shown in Figure 20, In general, the model predicted warmer temperatures at near-surface nodes than measured in-situ and agreed well with measured temperature profiles below an elevation of about 590 masl.

Calibration of temperatures along BH2 was difficult because about 6 m of rock was placed on top between March and August 2020. The model assumed instantaneous placement of 6 m of rock at the end of July, but progressive deposition or deposition of rock earlier in spring would have affected the pattern of temperature change at the top of the thermistor string.

At depth, temperatures were measured to be slightly cooling over time, which is likely a result of the progressive placement of waste rock on top of BH2. The calibrated model agrees well with in-situ measurements, where little difference between the two trends is observed. Figure 21 shows both measured and calculated temperatures at depth over time.

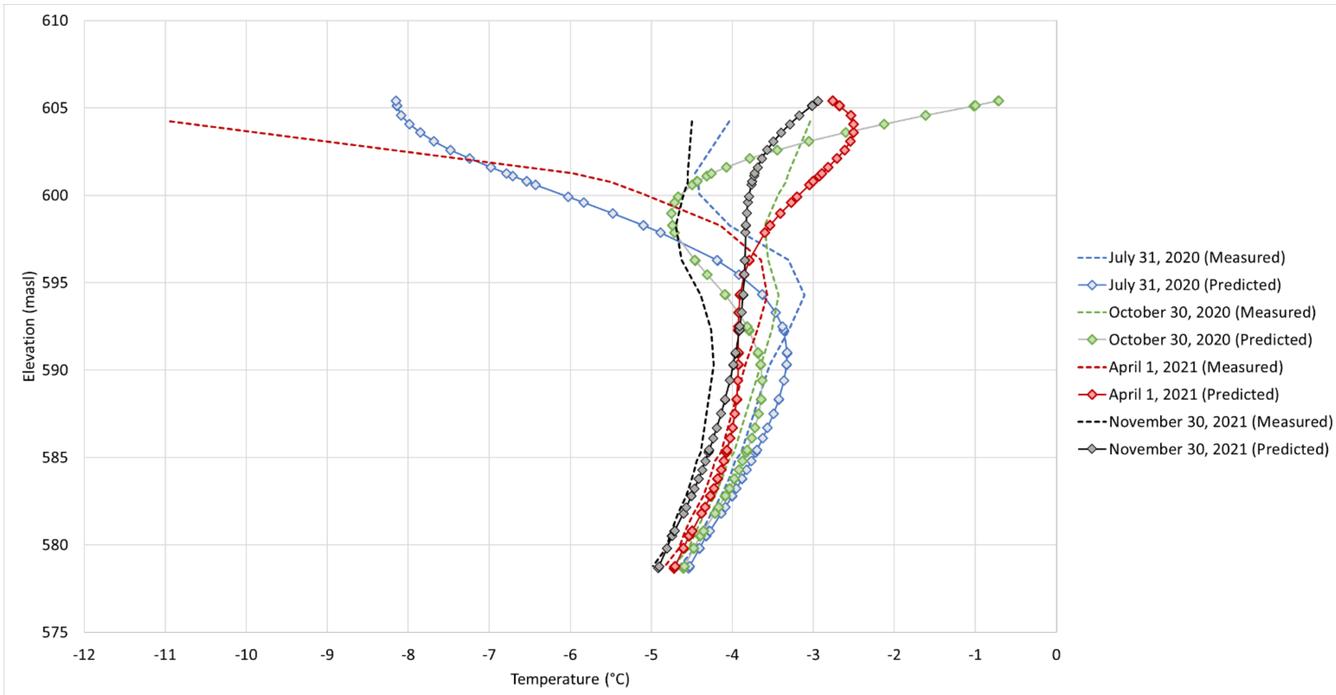

Figure 20: Measured and Predicted Temperature Profiles at BH2 between July 2020 and September 2021

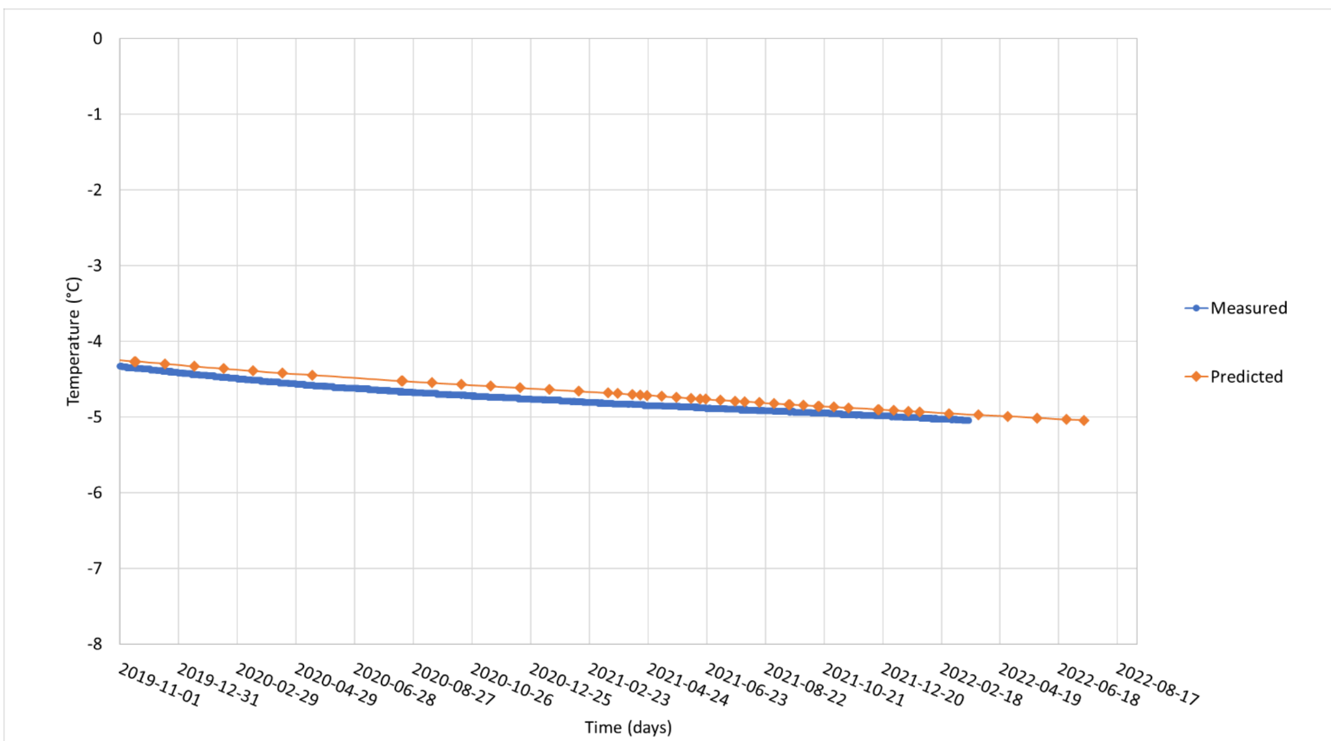

Figure 21: Measured and Predicted Temporal Variations in Rockfill Temperature at Bottom Node within BH2 (26.76 mbgs).

5.3 BH3

As with BH2, calibration of the top thermistor nodes within BH3 was difficult. Waste rock was noted to be placed over a period between April 2020 and March 2021, while the model geometry incorporates instantaneous placement of waste rock at selected dates. Although the predicted temperatures at the top nodes were much warmer than measured values, at about 600 masl, measured and predicted temperature profiles begin to agree better with one another, despite predicted values being about 0.75 degrees warmer than measured values at the base of the profiles.

At depth, BH3 shows a slightly cooling trend over time, reducing about 0.25°C between November 2019 and August 2022. Calibration results had a similar trend with time, where ground temperatures cooled slightly faster over time (See Figure 23).

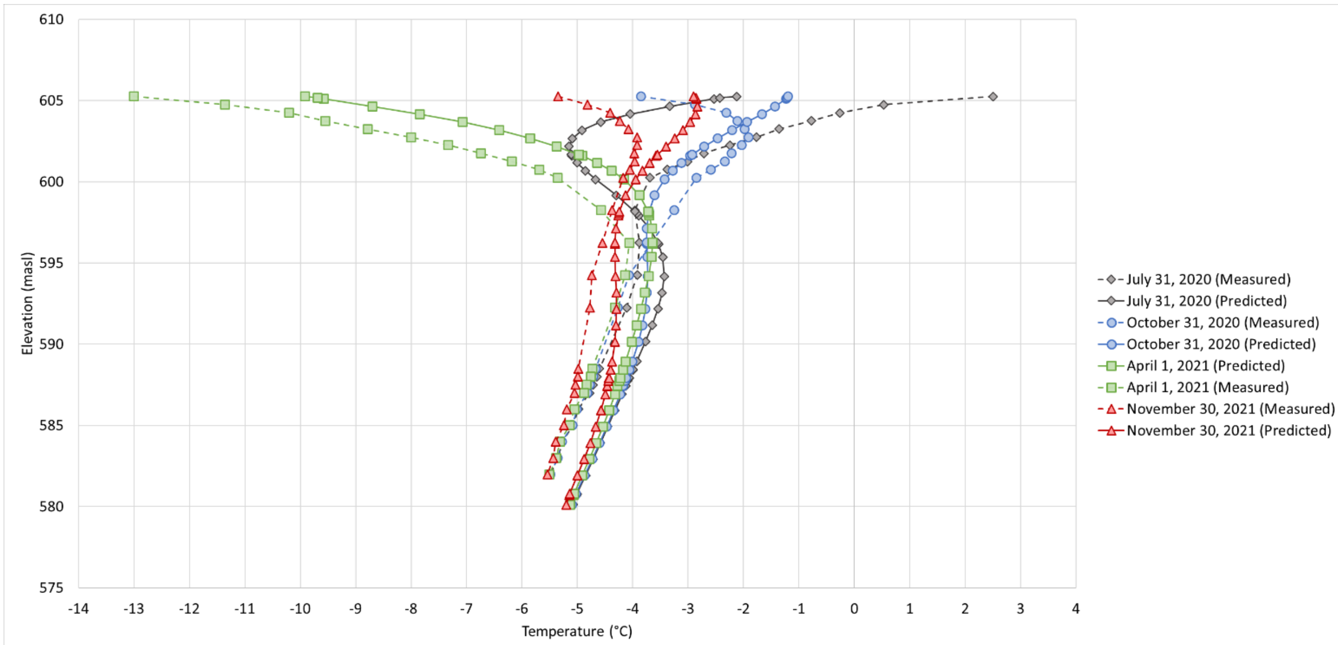

Figure 22: Measured and Predicted Temperature Profiles at BH3 between July 2020 and November 2021

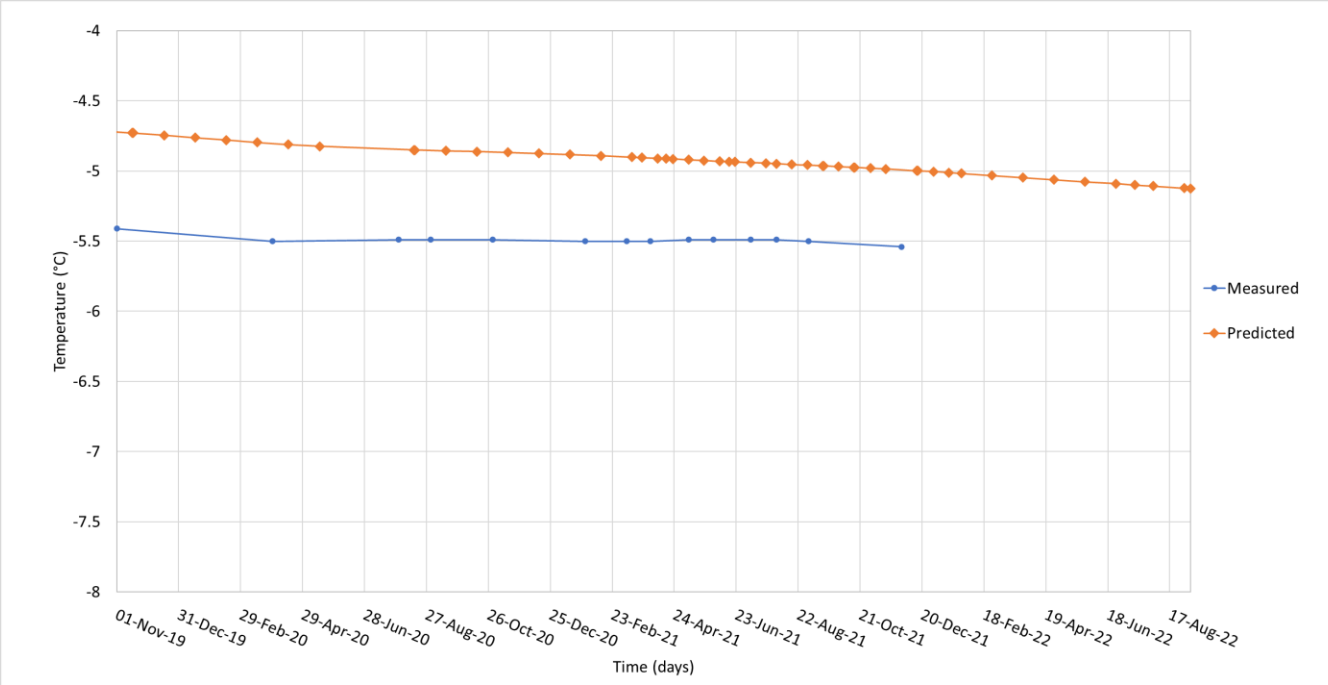

Figure 23: Measured and Predicted Temporal Variations in Rockfill Temperature at Bottom Node within BH3 (23.26 mbgs).

5.4 Summary of Model Calibration

Calibration of a thermal model for the waste rock pile was completed based on supplemental thermistor and waste rock deposition data. The calibration process at the location of BH1 was affected by a prolonged period of localized internal heat that could not be captured in the model. At the locations of BH2 and BH3, the calibration process was very difficult due to waste rock been progressively deposited on those locations over time while the model incorporates subsequent waste rock lifts as instantaneous deposition at selected dates. General comments on the calibration process are provided below:

- BH1 had little change in waste rock elevation over time and was used as a reference in calibrating the thermal model. Overall, the temperatures at surface and depth within BH1 were calibrated well:
  - Deviation of measured results from predicted values at certain depths along BH1 is due to the propagation of heat from a localized event observed in July 2020 that could not be captured in the model. The migration of measured temperature profiles back towards the predicted values indicate that internal heat eventually dissipates.
- Difficulty calibrating surface nodes at BH2 and BH3 was due to the sensitivity of the thermal models to the exact date of material placement (i.e., progressive placement in the field vs. instantaneous placement in the models). In general, the models predicted warmer ground temperature compared to measured values along BH2 and BH3.
- The model was able to replicate the cooling trends measured by the deepest nodes of thermistors installed along BH2 and BH3, as well as a slightly warming trend measured by the deepest node at the base of BH1.

Overall, the model was able to capture the general trends and patterns measured in-situ, where the thermal regime and response of the pile to previous waste rock depositions is captured at depth within each borehole.

6.0 CONCEPTUAL WASTE ROCK DEPOSITION MODEL RESULTS

Ten base case and four sensitivity deposition scenarios were assessed to evaluate the effect of lift thickness and timing of deposition on the time required for a lift to freeze before a subsequent lift can be placed on top. The model scenarios tested are described in Section 4.2.2.

A location along the model geometry was chosen, identified as Profile A, for tracking freezing times as it was found to take the longest to achieve sub-zero temperatures over time. To be considered frozen, the waste rock placed in each scenario was to achieve and maintain a sub-zero temperature at the interface between existing waste rock, and the conceptual lift of waste rock. A visual representation of the reference points within the conceptual lift is provided in Figure 24. Figure 25 and Figure 26 show examples of unfrozen, and frozen states respectively, as well as the location of Profile A along the model geometry.

The following sections summarize the results of the conceptual deposition scenarios. A comparison of depositions scenarios in both summer and winter seasons is discussed to inform general recommendations for waste rock placement.

Figure 24: Visual reference of defined assessment points within the conceptual waste rock lifts.

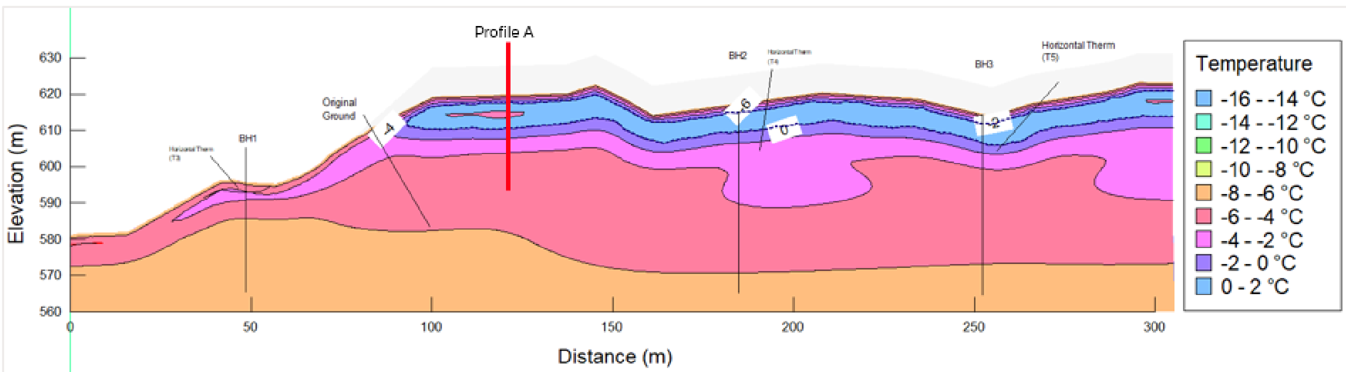

Figure 25: Scenario C (December 2022): Base of Conceptual Lift Still Unfrozen

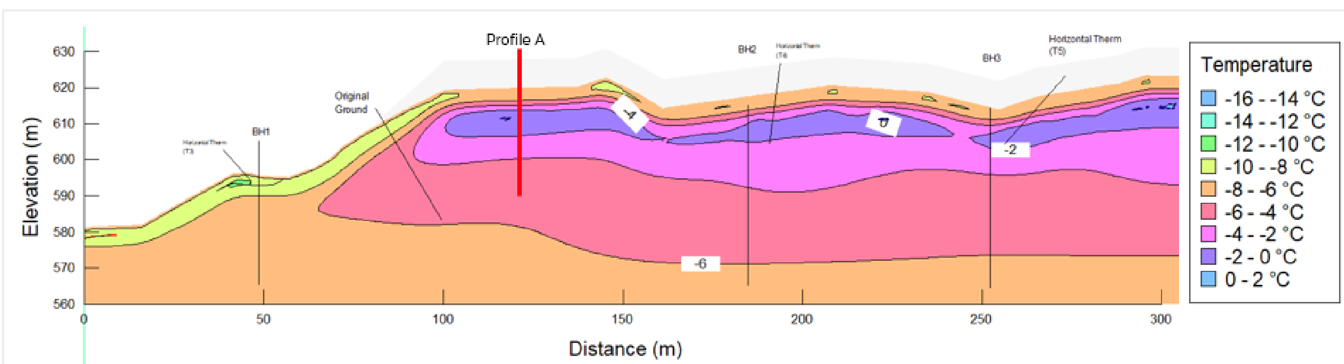

Figure 26: Scenario C (June 2023): Base of Conceptual Lift is Frozen

6.1 Results Summary

Table 7 summarises the time required for waste rock to achieve sub-zero temperatures for each of the conceptual deposition schedule modeled. Table 7 summarize results for base case models (waste rock deposition temperature defined as the highest ground temperature in the deposition month), and for selected sensitivity cases (waste rock deposition temperature defined as the average ground temperature in the deposition month).

Table 7: Summary of freezing Times required for Conceptual Waste Rock Deposition Schedules

Scenario	Description of Deposition Sequence	Computed Days to Sub-Zero Condition[a]		Date of Achieving Sub-Zero Condition	
		Base Case	Sensitivity Case	Base Case	Sensitivity Case
A	7 m in June	225	N/A	January 12, 2023	N/A
B	3 m in June 2 m in July 2 m in August	235	N/A	January 22, 2023	N/A
C	3 m in July 2 m in August 2 m in September	315	305	May 12, 2023	May 2, 2023
D	5 m in July	235	N/A	February 21, 2023	N/A
E	5 m in July 2 m in August	325	315	May 22, 2023	May 12, 2023
F	5 m in July 2 m in August 3 m in December	417	377	August 22, 2023	July 13, 2023
G	5 m in July 2 m in August 3 m in December 5 m in July	426	N/A	August 31, 2023	N/A
H	5 m in July 2 m in August 3 m in February	347	337	June 13, 2023	June 3, 2023
I	5 m in September	185	N/A	March 5, 2023	N/A
J	5 m in August	216	N/A	March 5, 2023	N/A

a) Days to frozen state is calculated using the first day of deposition for each scenario.

In general, the model results showed that all deposition scenarios tested ultimately resulted in sub-zero temperatures at the base of the conceptual waste rock lift, where the activation temperatures, lift thickness, and deposition time affect the relative duration of time to freezing at the base. Figure 27 shows the computed evolution of waste rock temperatures at specific elevations within each conceptual lift over time.

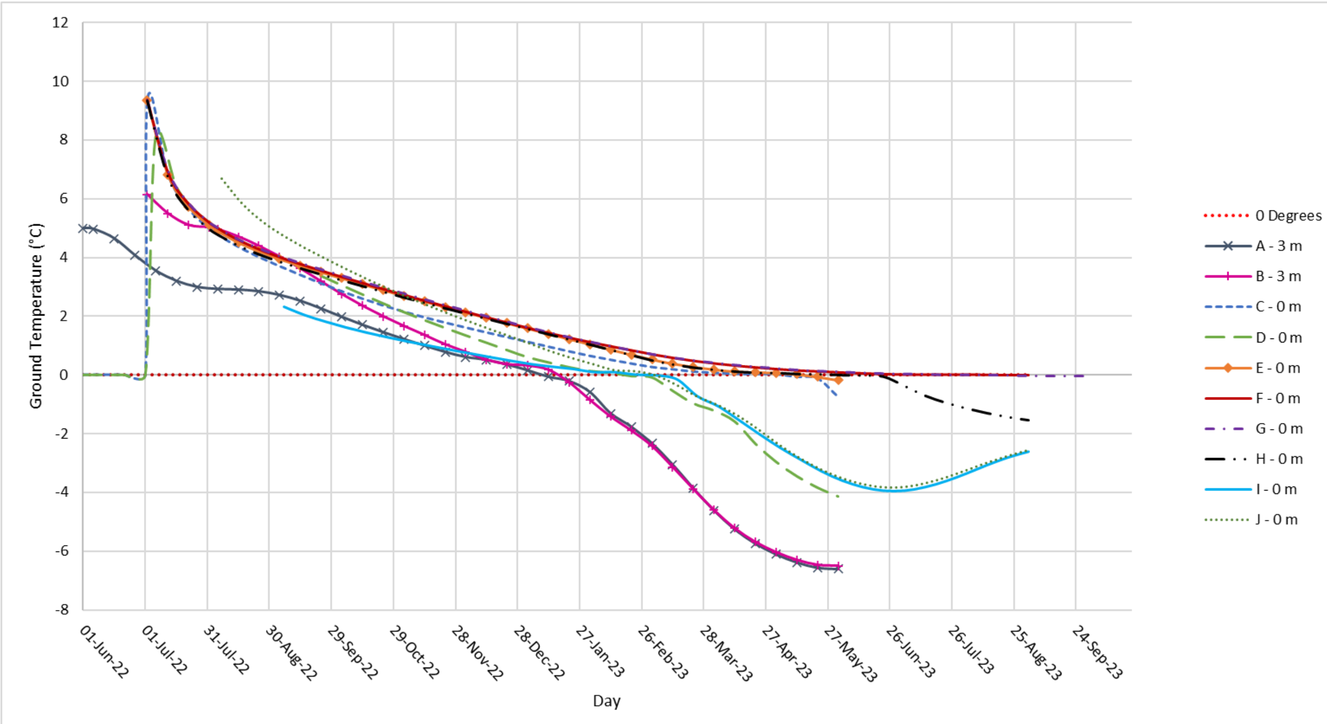

Figure 27: Temperatures of each conceptual deposition scenario with time.

It is noted for Scenarios A and B, temperatures are provided at an elevation of 3 m within the conceptual waste rock lift, where the remaining scenarios are provided at a depth of 0 m. This is done as waste rock temperatures remain above zero longest at the elevation of 3 m within the conceptual layer for Scenario A and B, whereas this occurs at a depth of 0 m for the remaining Scenarios.

The following observations summarize the overall results:

- In general, it is expected that the waste rock deposition temperature will not be the main contributing factor in the overall performance of the rockfill pile. The sensitivity cases using waste rock deposition at the average monthly temperatures froze in about two to four weeks faster than the base cases with waste rock deposition at the highest monthly temperatures. A larger gap between baseline and sensitivity cases was observed in Scenario F, where a total of 7 m of rock was placed in July and August, followed by 3 m of waste rock deposition in December.
- Depositing a 7 m thick lift at the beginning of summer (June) results in faster cooling than thinner lifts placed progressively in late summer (Scenario A and C).
- Placing a 5 m thick lift of waste rock in early summer promoted faster cooling than 7 m of rock placed over a period of two months in later summer.
  - If thicker lifts are to be used, placing them in earlier summer will allow for faster cooling than in late summer.
- 5 m lifts of material placed in late summer (August and September) will eventually freeze faster than 7 m of rock placed in mid to late summer.

- Deposition of waste rock in early winter on top of unfrozen layers can delay freezing.
- The models showed that cooling of basal ground temperatures at the locations of BH2 and BH3 is independent of the conceptual deposition tested. This suggests that the pile will tend to freeze back as per the design intent during operation of the pile with continuous waste rock deposition.

Overall, waste placement in late summer and mid winter seasons will result in freezing at the base of the previous waste rock lift, where 5 m and 7 m lifts both resulted in freezing over time.

6.2 Trends for Summer and Winter Waste Rock Deposition

Operational constraints regarding waste rock placement may occur during the operational life of the waste rock pile, where lifts of waste rock may have to be placed in late summer followed by depositions in subsequent winter months. The following section details the trends observed in both summer and winter months to provide recommendations for seasonal waste rock deposition.

6.2.1 Summer Deposition

Figure 28 shows the calculated temperature with time for Scenarios D, E, I, and J to compare the effects of varying summer deposition schedules on the thermal regime of the waste rock pile. Scenarios D, I, and J consider the instantaneous placement of a 5 m thick lift in July, September, and August, respectively, whereas Scenario E considers 7 m of waste rock placed over a two-month period in July and August.

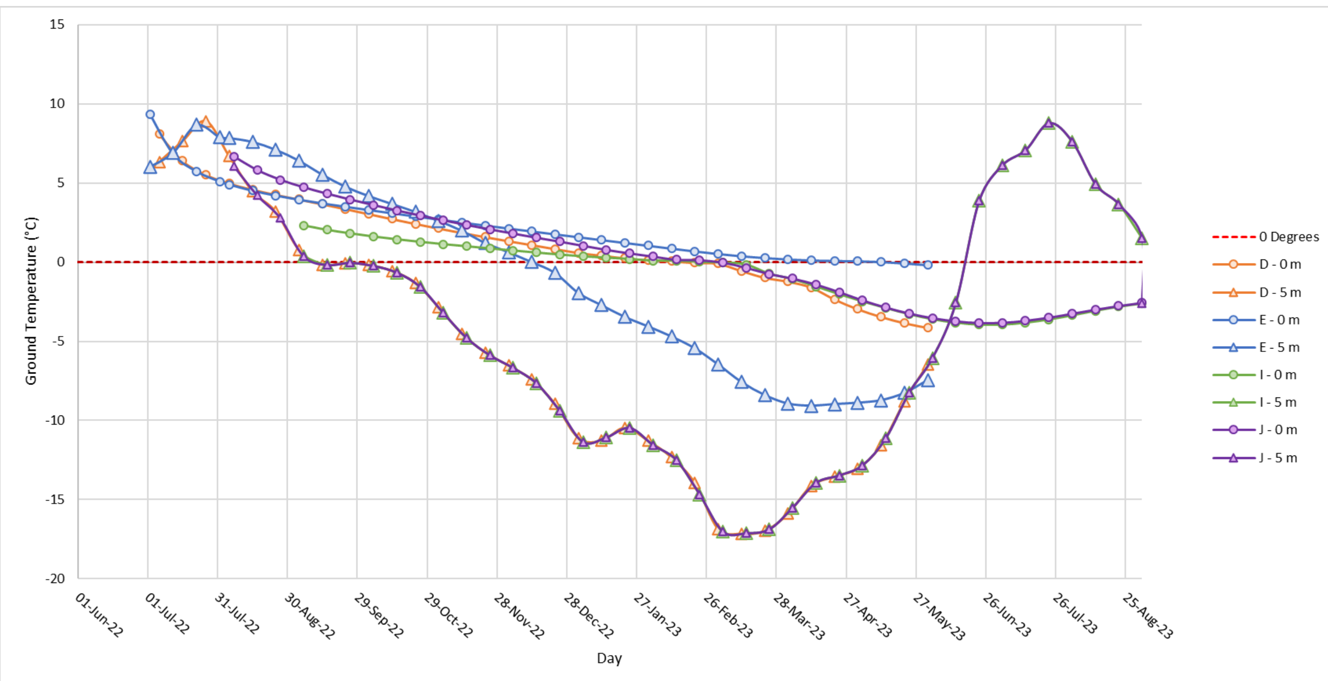

Figure 28: Summary of conceptual waste rock temperature at varying depths for summer depositions in Scenario D, E, I, and J.

Results show that sub-zero temperatures are achieved and maintained at the base of each conceptual lift, however the time to achieve a frozen state varies between each scenario. Placing a 5 m lift in mid-summer (July) resulted in a longer duration of time for cooling than placing the same lift in late summer (September), however, material placed in July freezes at an earlier date than material placed in September. The difference in total days to cooling between the two scenarios is likely due to warmer existing ground and conceptual rockfill temperatures in July when compared with September.

Progressively placing 7 m of material over two months in mid to late summer (July and August) resulted in the longer cooling time. Scenario E represents the worst-case scenario for material placement, where a thick lift is placed over the warmest months. Although this lift eventually freezes, it took about 90 days longer when compared with a 5 m lift placed in July.

Comparing Scenario, I and J (waste rock placed in September and August, respectively), it is shown that basal freezing is achieved around the same time, due to an initial colder waste rock temperature in September. From an operational perspective, the models showed it took 31 days less to cool the September lift than the August lift, which reduces the required time between lift placements.

It is important to note that regardless of the surface material deposition schedules tested in summer months, basal ground temperatures in BH2 and BH3 are predicted to continue cooling over time.

6.2.2 Winter Deposition

The model results indicate that the timing of material deposition in winter months affects the duration of time to achieving sub-zero temperatures. Figure 29 compares temperatures at 0 m and 5 m heights within the lift for Scenarios F and H, where 3 m of waste rock is placed on top of a 7 m summer deposition in December and February respectively.

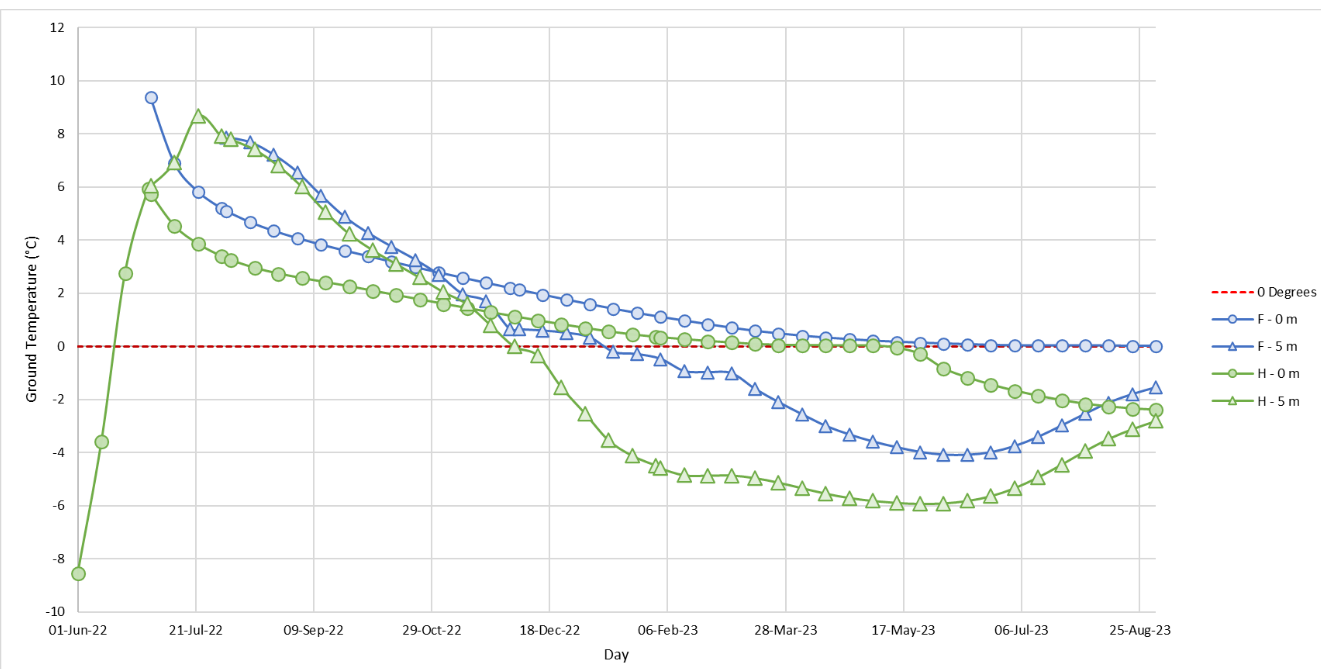

Figure 29: Summary of conceptual waste rock temperature at varying depths for Scenario F and H.

As seen in Figure 29, comparing both scenario results at 5 m within the conceptual lift, placement of waste rock in December slows the cooling significantly compared with the same lift being placed in February. where the December and February lifts are predicted to freeze by September 1 (i.e., layer would still be unfrozen by the following summer) and May 22, respectively.

In the scenarios modelled, placement of waste rock in December insulates the previous summer deposition from the cooler winter temperatures. When placed in February, the previous lift remains exposed to colder temperatures for a longer period of time, promoting faster cooling before it is covered by the subsequent winter deposition.

The models also showed that, irrespective of the winter deposition timing, a cooling trend is still predicted to prevail at depths over time, taking the base of BH2 and BH3 as reference points.

6.3 Summary of Conceptual Deposition Results

Numerous model scenarios were tested to understand the impacts on the thermal regime when lift thicknesses and deposition timing were varied. The following are general results from the conceptual waste rock placement schedules:

- All conceptual deposition schedules modelled eventually achieved and sustained sub-zero temperatures at the base of the initial waste rock lift.
- Ground temperatures at depth within both BH2 and BH3 continued to cool over time irrespective of the deposition schedule.
- Placing thicker lifts in early summer, and thinner lifts in late summer promotes faster cooling and allows for material deposited in late summer to freeze in the subsequent winter.
- Placing waste rock in early winter (December) would delay freezing of summer deposition compared to placement of rock in mid-winter (February).
- Waste rock placed in 5 m lifts during late summer (August and September), would still freeze in winter and allow for the deposition of more waste rock to the pile during winter of the following year (January to March).

7.0 CONCLUSIONS AND RECOMMENDATIONS

An update of the thermal assessment conducted in 2021 was carried out based on supplemental thermistor and waste rock deposition data available for the period between November 2020 and August 2022. Following calibration of the thermal model, 10 base case conceptual deposition sequences were modelled to understand the response of the waste rock pile to future depositions at varying thicknesses and at different times in summer and winter.

It was found that in general, all deposition sequences modelled resulted in sub-zero temperatures at the base of each conceptual lift. The time required for achieving frozen conditions is dependant on when the lift is placed as well as the thickness of material placed. Based on the results of all deposition schedules tested, general material placement guidelines are provided as follows:

- In general, summer deposition of thicker lifts should occur in early summer (June and July), while thinner lifts (i.e., deposition of waste rock over a larger surface area), should be deposited in late summer and early fall.
- When deposition happens in mid to late summer, 5 m or less of waste rock should be placed. A maximum of 7 m of waste rock can be placed with the understanding that more time will be required before subsequent lifts can be placed on top.
- Winter placement of waste rock in areas that received waste rock in late summer should occur preferably in mid to late winter (February to April) to allow summer deposited layers to freeze before being covered by additional waste rock.

Additional recommendations are made below for general operation and maintenance of the pile during deposition:

- Deposition should be planned to reduce material segregation and the development of preferential water/air flow paths during the deposition process.
- Conduct regular maintenance to extend the lifespan of the existing instrumentation installed in 2019.
- Continue to track where PAG rock has been deposited to allow for the proper interpretation of instrumentation data.
- Install supplemental monitoring stations at different areas periodically within the waste rock storage facility, including areas where deposition of PAG rock is known to have occurred.
- As the pile continues to grow, it should be continually monitored at higher elevations within the pile to confirm that future depositions achieve sub-zero temperatures. Monitoring thermistors installed in target locations is the only way to confirm the deposition strategy is promoting freezing as per the design intent.
- It is recommended that additional vertical and horizontal thermistor strings be installed at strategic locations within the existing footprint of the pile (e.g., locations where thicker lifts of waste rock were deposited in summer) to provide supplemental data for continuous monitoring of the pile’s thermal regime.
- The need for the installation of additional instrumentation should be evaluated periodically, based on the results of the existing instrumentation.
- Continue to conduct regular surveillance to track changes in the waste rock elevation within the pile.

8.0 CLOSURE

We trust the information provided in this document meets your expectations and needs. Should you have any questions or requests, please do not hesitate to contact WSP.

WSP Canada Inc.

ORIGINAL SIGNED

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ORIGINAL SIGNED

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Senior Principle Geotechnical Engineer

GW/FJ/jr

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Golder. 2021. Update of Thermal Assessment for the Waste Rock Storage Facility at Mary River Mine. Prepared for Baffinland Iron Mines Corporation. Golder Project. No. 20446413. 22 February 2021.

WSP (WSP Canada Inc.). 2023. Assessment of Instrumentation Data and the Thermal Regime of the Waste Rock Storage Facility at Mary River Mine. Prepared for Baffinland Iron Mines Corporation. Reference No. 22572750_002-Rev0-TM. 27 June 2023.

APPENDIX A3

2023 Water Balance Update Report

REPORT

2023 Water Balance Update

Baffinland Iron Mines Mary River Project

Submitted to:

Baffinland Iron Mines

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22572750-005-R-3000-rev1

15 December 2023

Distribution List

One copy – WSP Canada Inc.

One copy – Baffinland Iron Mines

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1.0 INTRODUCTION

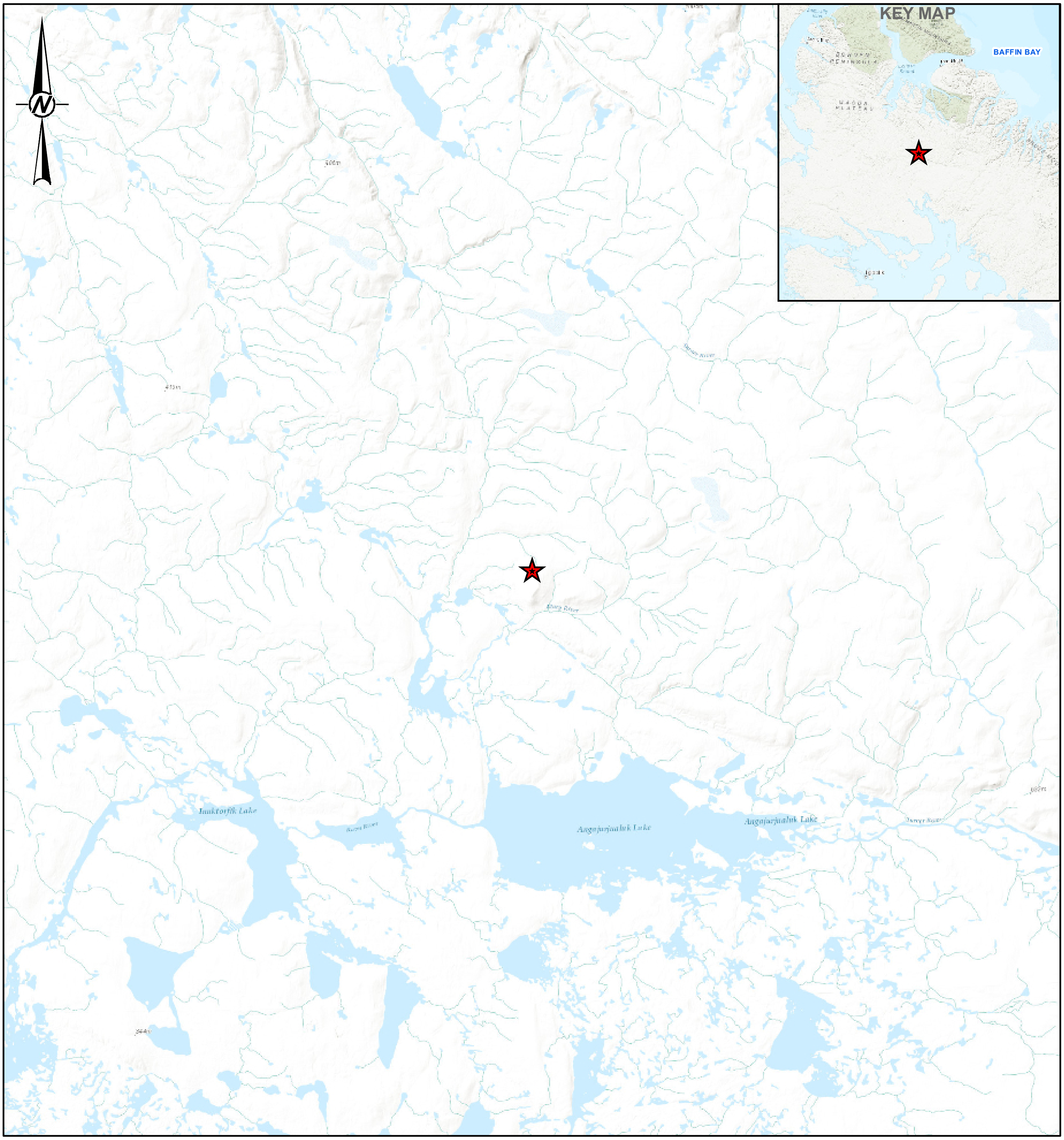
Baffinland Iron Mines Corporation's (Baffinland) Mary River Project (the Project) is an operational iron mine on Baffin Island in Nunavut, Canada (Figure 1). Baffinland has retained WSP Canada Inc. (WSP) to assist with developing an updated waste rock management plan (WRMP) for deposition of Potential Acid Generating (PAG) and Non-AG waste rock at their Waste Rock Facility (WRF). An updated WRMP is required to manage Acid Rock Drainage (ARD) from the WRF and improve the chemical stability of future PAG waste rock deposition.

A water balance was originally prepared in 2019 (Golder 2019a) to estimate the surface water flows generated over the WRF footprint for the period of January 2020 – September 2021 and provided inputs to the WRF water quality model (Golder 2019b). This report summarizes an update to the water balance including discussion on the assumptions, inputs, calibration, and water balance results.

The 2023 water balance includes the following updates:

- new runoff modules to simulate peak flows from various land types
- use of Hargreaves equation to estimate lake evaporation
- as-built WRF pond storage configuration
- inflo from deposit 1 sump to the WRF Pond
- updated catchment areas and land type proportions as provided by Baffinland and estimated from survey and
- updated calibration using monitoring data between January 2020 to the end of 2022

The water balance projections from the planned deposition plan under various climate scenarios are presented in this report.



LEGEND

★ SITE LOCATION

0 | 4,625 | 9,250 | 18,500

1:200000 METRES

NOTE(S)

REFERENCE(S)

1. BASEMAP: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
BAFFINLAND IRON MINES CORPORATION

PROJECT
2023 WASTE ROCK MANAGEMENT PLAN

TITLE
SITE LOCATION

CONSULTANT

YYYY-MM-DD	2023-07-11
DESIGNED	AL
PREPARED	JJ
REVIEWED	AP
APPROVED	KDV

PROJECT NO.	CONTROL	REV.	FIGURE
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2.0 BACKGROUND

The WRF area consists of the following components (Figure 2):

- Waste rock stockpile (referred to as the WRF)
- Perimeter ditch system around the WRF
- WRF Pond and
- Water Treatment Plant (WTP)

Runoff from the WRF is collected by the perimeter ditches and directed towards the WRF Pond for management. An additional inflow from the Deposit 1 sump is pumped to the WRF Pond.

The existing WRF Pond was constructed from September 2015 to May 2016 with the geomembrane installed to elevation 575.8 metres above sea level (masl) and a storage capacity of 9,000 m^3 (Hatch 2017).

In 2019 the WRF Pond was designed to include a geomembrane raise from elevation 575.8 masl to elevation 579.3 masl and the WRF Pond design capacity was increased to 65,000 m^3 (Golder 2018a). The WRF perimeter ditch system was also expanded in 2019 to capture an anticipated increased runoff as accommodated by the increased WRF Pond capacity (Golder 2019a). A raise of the WRF Pond was completed in 2020.

3.0 WATER BALANCE OBJECTIVES

The general objectives of the Baffinland Water Balance model are to simulate:

- the current and future water accumulation in the WRF Pond and water transfers
- climate/hydrologic variability to understand the risks to current and planned water management strategies at the WRF Pond
- potential site water quantity overflow to the receiving environment (if applicable)
- input to the WRF water quality model

LEGEND

- WRF CATCHMENT
- WRF POND CATCHMENT
- ADDITIONAL CATCHMENT

NOTES

1. 1 m CONTOURS DISPLAYED ARE FROM SURVEY DATA DATED 20220816
2. CATCHMENTS SHOWN WERE DELINEATED USING DISPLAYED SURVEY DATA, AND DATA DATED 20220629 AND 20230325
3. EXISTING DITCH ALIGNMENTS SHOWN WERE DELINEATED FROM DISPLAYED SURVEY DATA AND AIR IMAGE
4. SURVEY DATA INDICATES ADDITIONAL CATCHMENT AREA SHOWN IN YELLOW REPORTS TO THE WRF POND
5. ALL SURVEY DATA PROVIDED BY BAFFINLAND
6. AIR IMAGE PROVIDED BY BAFFINLAND DATED 20220804

SCALE	AS SHOWN	TITLE	WASTE ROCK FACILITY OVERVIEW
DATE	JULY 11 2023		
DESIGN	SL		
DRAWN	SL		
FILE No.	WRMP UPDATE 2023.dwg	CHECK	AL
PROJECT No.	22572750 VER. 1	REVIEW	AP
		BAFFINLAND WRMP	FIGURE 2

4.0 MODELLING APPROACH

The water balance was developed with a daily timestep using the computer software package GoldSim (version 14.0). GoldSim is a graphical, object-oriented mathematical code where all input components and functions are defined by the user and are built as individual objects or elements linked together by mathematical expressions.

The water balance has been set to run various climatic conditions and considers WRF catchment areas changes over time to estimate the flows reporting to the WRF Pond on a daily basis. Runoff was estimated for the following surfaces:

- Unclassified waste rock (existing placed waste rock where survey is not available to differentiate PAG and Non-AG materials)
- Non-AG waste rock
- PAG waste rock
- Direct precipitation to the WRF Pond
- Runoff generated by precipitation on the WRF Pond walls and
- Prepared ground from the WTP pad

Inflow from the Deposit 1 sump was included in the water balance based on monitoring data collected and provided by Baffinland. The surface water flows reporting to the WRF Pond are the primary output from the water balance and provide input into the WRF water quality model.

The water balance has been set up to allow the selection between 12 different climate scenarios, as follows:

- Historical climate conditions (including a shifting option to run the model with historical data into the future)
- Average year conditions
- Extreme conditions - wet year with a return period of 100 years
- Extreme conditions - wet year with a return period of 50 years
- Extreme conditions - wet year with a return period of 25 years
- Extreme conditions - wet year with a return period of 10 years
- Extreme conditions - wet year with a return period of 5 years
- Extreme conditions - dry year with a return period of 5 years
- Extreme conditions – dry year with a return period of 10 years
- Extreme conditions – dry year with a return period of 25 years
- Extreme conditions – dry year with a return period of 50 years
- Extreme conditions - dry year with a return period of 100 years

4.1 Flow Diagram

The WRF flow diagram is presented on Figure 3 and defined in Table 1. The list of flows from the flow diagram is presented in Table 2.

Table 1: Flow IDs in the Water Balance Model

Flow Type	Flow ID	Description
Runoff	**R**	Runoff from a catchment area and/or direct precipitation reporting to a storage element
Evaporation	**E**	Evaporation losses from open water surfaces
Transfer Flow	**T**	Pumped or gravity flows transfers between elements
Seepage Losses	**S**	Seepage from a storage element
Discharge	D	Overflow to the Environment

Flows can be classified under three broad categories:

- **Additions** to the mine water management system (runoff [R])
- **Losses** from the system (evaporation [E] and seepage [S])
- **Internal flows** between elements (pumped flows and gravity transfers [T] and discharge to the environment via overflow [D])

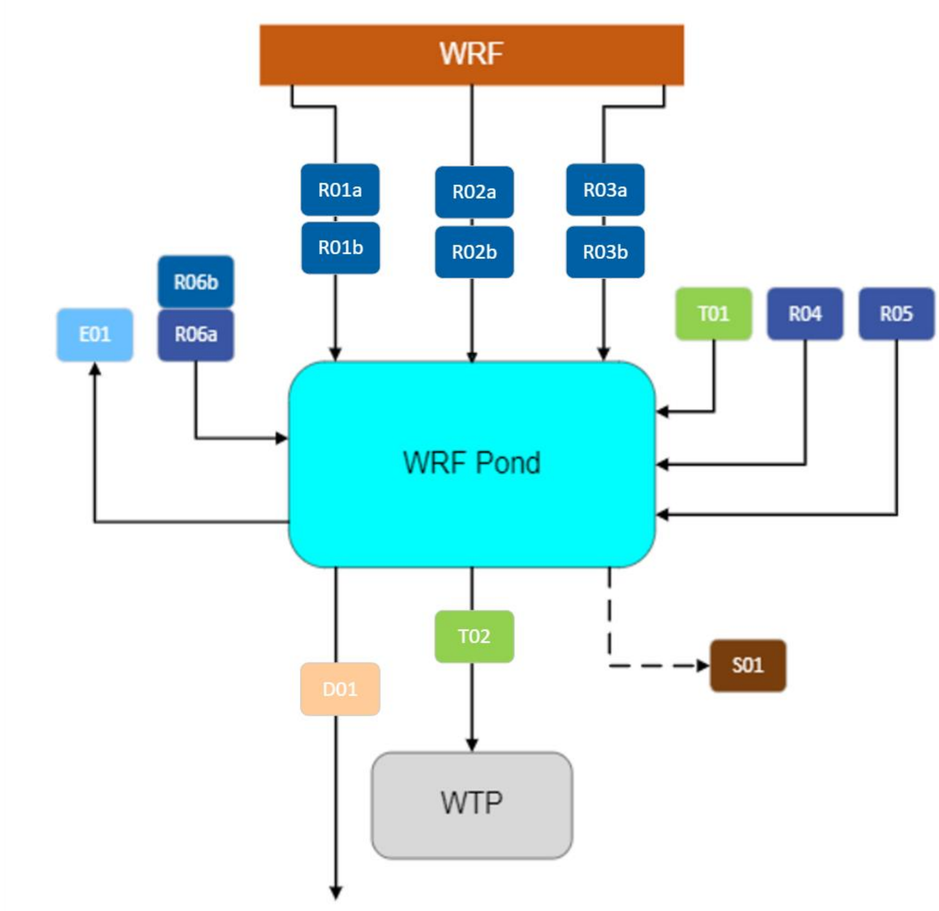

Figure 3: WRF Flow Diagram

Table 2: Water balance flows

Flow ID	Description
R01a	Runoff from Non-AG waste rock
R01b	Toe seepage from Non-AG waste rock
R02a	Runoff from PAG waste rock
R02b	Toe seepage from PAG waste rock
R03a	Runoff from unclassified waste rock
R03b	Toe seepage from unclassified waste rock
R04	Runoff from natural ground
R05	Runoff from prepared ground
R06a	Direct precipitation on WRF Pond
R06b	Runoff from WRF Pond wall
T01	Deposit 1 Sump inflow
T02	Total outflow from the WRF Pond to the WTP
E01	Evaporation from the WRF Pond surface
S01	Seepage losses from the WRF Pond
D01	Overflow from the WRF Pond via Emergency Spillway

5.0 WATER BALANCE INPUTS AND PARAMETERS

The water balance input parameters are discussed in the following sections.

5.1 Climate

The Project is located in the northern region of Baffin Island. The baseline dataset developed for the site was based on a combination of on-site monitoring data, Environment Canada and Climate Change (ECCC) meteorological stations and reanalysis data from the European Centre for Medium Range Weather Forecasts (ECMWF) Re Analysis (ERA5) dataset. ERA5 provides hourly estimates of atmospheric, land and oceanic climate variables by combining observations and atmospheric modelling to represent the current climate on a gridded basis.

These data sources were assessed based on data availability and geographical siting (i.e., elevation, distance from site, proximity to water bodies and land features) and compared to each other to develop the long-term dataset. Regional climate stations used to develop the long-term dataset are presented in Figure 4 and Table 3 below.

KEY MAP

SCALE 1:60,000,000

LEGEND

- SITE LOCATION
- REGIONAL CLIMATE STATIONS
- HYDROMETRIC STATION
- LOCAL HYDROMETRIC STATION

STATION NAME	CLIMATE STATION ID
MARY RIVER MINE	ON-SITE
ARCTIC BAY CS	AHCCD 2400404
CLYDE A	AHCCD 2400800
CLYDE A	2400800
CLYDE RIVER A	AHCCD 2400804
CLYDE RIVER A	2400804
CLYDE RIVER CLIMATE	2400802
CLYDE AWOS	2400801
HALL BEACH A	AHCCD 2402350
LONGSTAFF BLUFF	AHCCD 2402684
LONGSTAFF BLUFF	2402684
NANISIVIK A	AHCCD 2402730
POND INLET	2403200
POND INLET A	2403201
POND INLET A	2403206
POND INLET CLIMATE	ACHDD 2403204
POND INLET CLIMATE	2403204
SANIRAJAK	AHCCD 2402353
SANIRAJAK	2402353

STATION NAME	HYDROMETRIC STATION ID
MARCIL CREEK NEAR ARCTIC BAY	10UB001

0 29,000 58,000 116,000

1:3,000,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

BAFFINLAND IRON MINES CORPORATION

PROJECT

2023 WASTE ROCK MANAGEMENT PLAN

TITLE

REGIONAL CLIMATE AND HYDROMETRIC STATIONS

CONSULTANT

YYYY-MM-DD	2023-07-12
DESIGNED	AL
PREPARED	JJ
REVIEWED	AP
APPROVED	KDV

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Table 3: List of climate stations

Station Name	Climate ID	Coordinates	Distance to Site (km)	Elevation (m)	Time Period
Site Station					
Mary River Mine	On-Site	71.31°N, 79.28°W	—	202-237	2013-2022
Regional Stations[a]					
CLYDE A	AHCCD 2400800	70.49°N, 68.52°W	401.4	26.5	1946-2002
CLYDE A	2400800	70.49°N, 68.52°W	401.4	26.5	1933-2008
CLYDE RIVER A	AHCCD 2400804	70.49°N, 68.52°W	401.4	26.5	1946-2022
CLYDE RIVER A	2400804	70.49°N, 68.52°W	401.4	26.5	2013-2021
CLYDE RIVER CLIMATE	2400802	70.48°N, 68.52°W	401.8	26.5	2004-2021
LONGSTAFF BLUFF	AHCCD 2402684	68.9°N, 75.14°W	310.3	160.8	1958-2022
LONGSTAFF BLUFF	2402684	68.9°N, 75.14°W	310.3	160.8	1957-2021
POND INLET	2403200	72.68°N, 77.98°W	158.8	35.5	1922-1965
POND INLET A	2403201	72.68°N, 77.97°W	158.9	61.6	1922-1965
POND INLET A	2403206	72.69°N, 77.97°W	159.9	61.6	2013-2021
POND INLET CLIMATE	ACHDD 2403204	72.69°N, 77.96°W	160	64.7	1922-2022
POND INLET CLIMATE	2403204	72.69°N, 77.96°W	160	64.7	2005-2021

a) Operated by Environment Canada Climate Change (ECCC)

Both the Adjusted and Homogenized Climate Data (AHCCD) and non-AHCCD versions of regional climate stations are considered due to limited data availability in the AHCCD data. AHCCD stations are favoured over non-AHCCD stations as it has been adjusted to account for discontinuities from non-climatic factors such as instrument changes or station relocation.

Reanalysis data from ERA5 was used to infill and extend the on-site data. Bias corrections were applied to the ERA5 data using observed data from the Pond Inlet Climate stations.

The daily gapless dataset developed from 1940 to 2022 was used in the updated water balance. The results for temperature and precipitation are presented in sections 5.1.1 and 5.1.2 respectively. Section 5.1.3 summarizes the methodology implemented in the water balance to calculate evaporation losses.

5.1.1 Temperature

Annualized average monthly temperatures for the on-site station, selected regional climate stations and ERA5 reanalysis data are presented in Figure 5. All stations show a similar seasonal pattern, with greater variability being present during the winter months, particularly for the regional climate stations. Pattern differences could be due to geographical differences at the station locations (i.e., elevation and proximity to water bodies). The on-site station has higher average monthly temperatures in the summer.

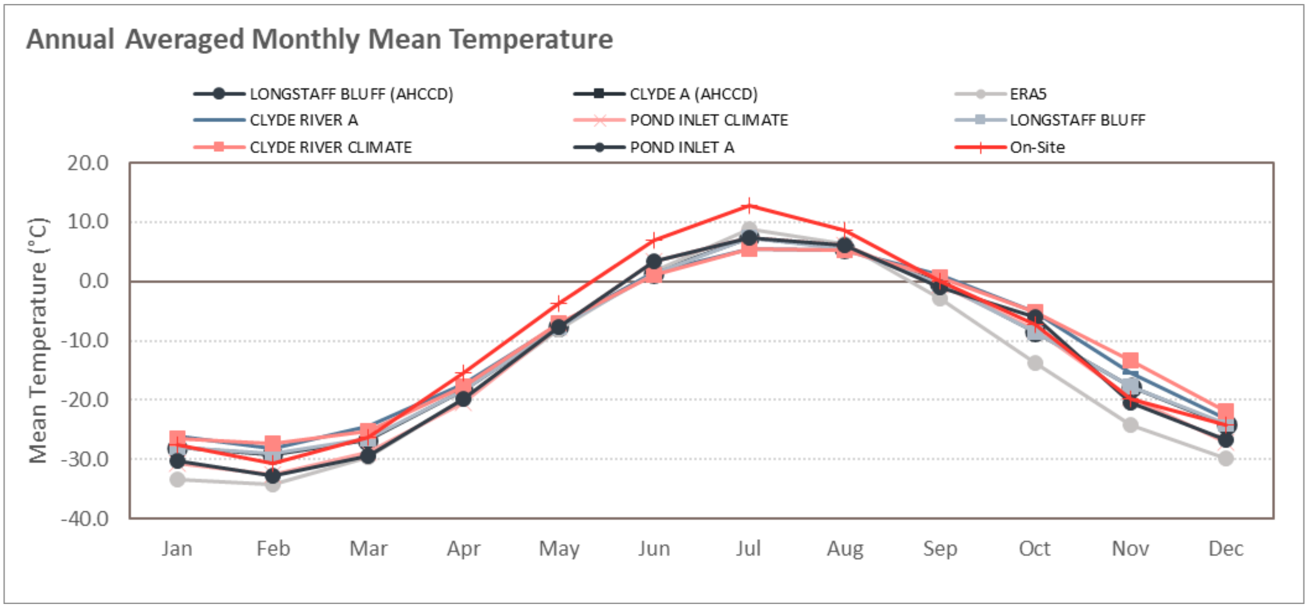


Figure 5: Average Monthly Temperatures for Climate Stations

The Pond Inlet stations were considered the base station to represent the Mary River mine site. The long-term record of average monthly temperatures for the gapless dataset generated from 1940 to 2022 based on the combined long-term records from the Pond Inlet climate stations is presented in Figure 6. The average temperature for the gapless long-term record is -15.4˚C with an average monthly minimum of -34.3˚C in February and with an average monthly maximum of 5.4˚C in July.

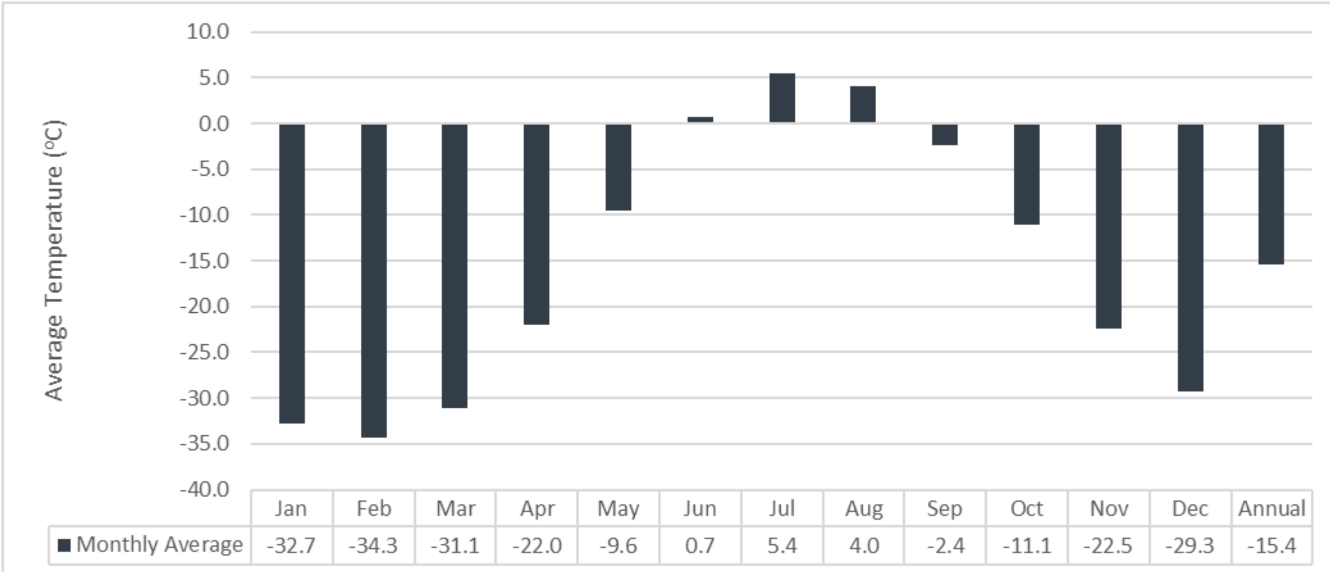


Figure 6: Average monthly and average annual temperature for the long-term record dataset

The daily temperature for the representative average, wet and dry years presented in Table 4 were used in the water balance. The representative average, wet and dry years were selected based on the closest annual precipitation values to the precipitation frequency analysis results Table 5.

Table 4: Selected years for climate conditions for various return periods

Scenario	Return Period	Year
Wet	100-year	1959
	50-year	2007
	25-year	1993
	10-year	2000
	5-year	2012
Average	2-year	2014
Dry	5-year	2005
	10-year	2002
	25-year	1974
	50-year	1972
	100-year	1972

5.1.2 Precipitation

The annual average monthly total precipitation for the on-site station, selected regional climate stations and ERA5 reanalysis data are presented in Figure 7. There is variability between the stations, particularly during the fall. The on-site station does not show precipitation during the winter, which is due to the station not capturing snowfall during this period. The period of highest precipitation is thus shifted to the summer for the on-site station as compared to the other stations which see their highest average precipitation in early fall. The ERA5 reanalysis data overestimates the precipitation when compared to the other stations. This could be attributed to the resolution of the data, given the grid size covers approximately 25 km^2. The ERA5 data was corrected to the site condition prior to using for infilling data from regional stations.

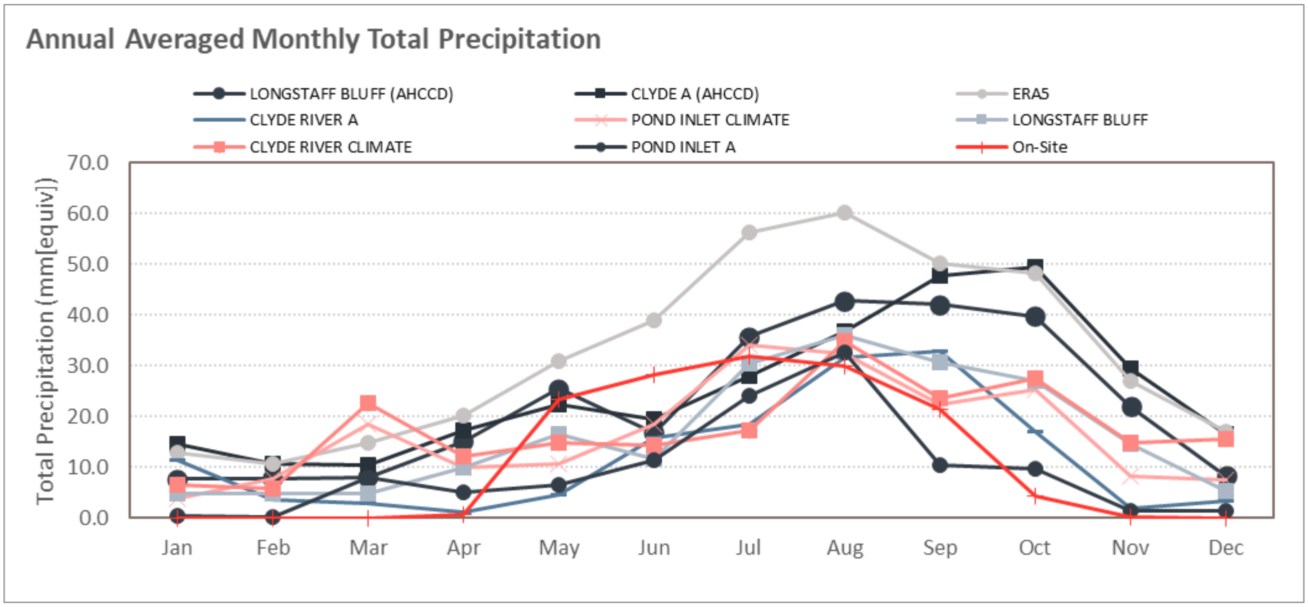


Figure 7: Annual Average Monthly Precipitation for selected climate stations

The Pond Inlet stations were considered the base station to represent the Mary River mine site. The long-term record of average monthly precipitation for the gapless dataset generated from 1940 to 2022 is presented in Figure 8. The average annual total precipitation for the long-term record is estimated at 211.3 mm/year. Maximum monthly precipitation tends to occur in August with 35.2 mm and minimum monthly precipitation tends to occur in January with 6.0 mm.

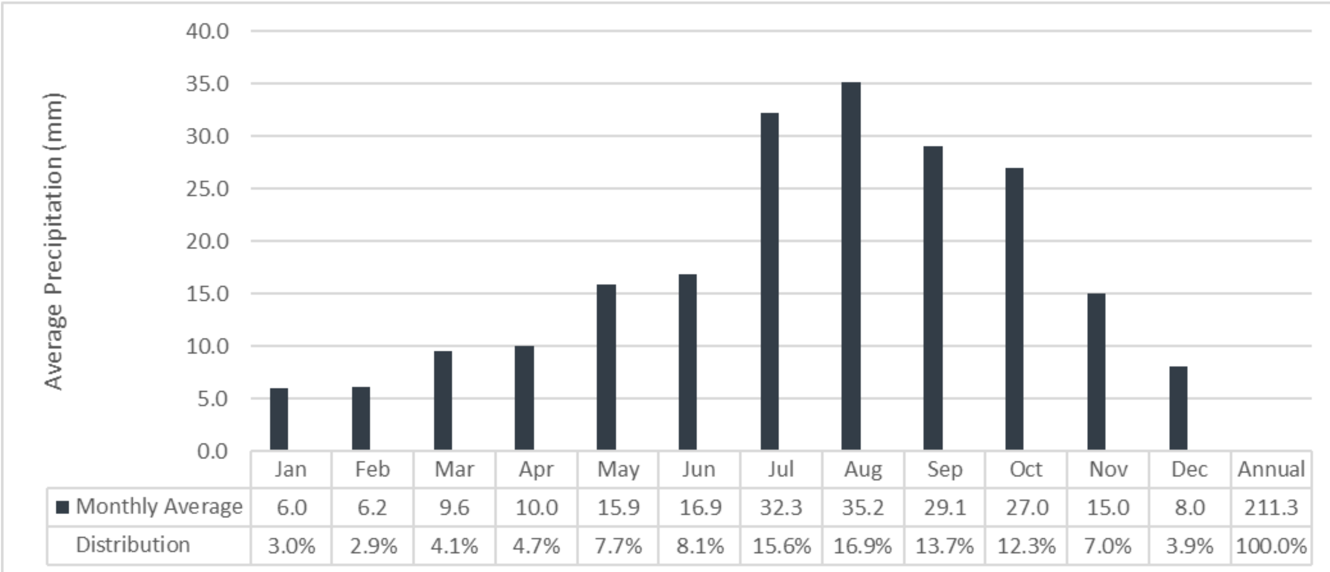


Figure 8: Average monthly and annual total precipitation for the long-term record

A frequency analysis was conducted on the long-term dataset from 1940 to 2022 to develop annual precipitation values for wet and dry years with different return periods. The frequency analysis results are presented in Table 5. The hydrological frequency analysis distribution that best fit the long-term precipitation data was Gumbel with a correlation coefficient of 0.98.

Table 5: Annual total precipitation for various return periods

Scenario	Return Period	Annual Precipitation (mm/yr)
Wet	100-year	487.6
	50-year	439.6
	25-year	391.3
	10-year	326.2
	5-year	274.6
Average	2-year	196.8
Dry	5-year	138.9
	10-year	114.3
	25-year	91.3
	50-year	77.9
	100-year	66.7

Monthly distribution of representative average, wet and dry years with various return periods from the long-term dataset have similar trends with spring/summer months showing the highest amounts of total precipitation, while precipitation is generally lowest in the winter/fall. Based on this analysis it was decided to use the distribution from the representative average year 2014 (197 mm) for all return periods. The monthly distribution for all return periods is shown in Table 6.

Table 6: Monthly Distribution for Various Return Periods

Years	Return Period (years)	Monthly Precipitation (mm)												Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Wet	100	9.2	8.7	4.5	18.6	45.8	23.8	89.3	178.9	53.2	23.8	25.5	6.4	**487.6**
	50	8.3	7.8	4.0	16.7	41.3	21.4	80.6	161.3	48.0	21.4	23.0	5.8	**439.6**
	25	7.3	7.0	3.6	14.9	36.7	19.1	71.7	143.6	42.7	19.1	20.5	5.2	**391.3**
	10	6.1	5.8	3.0	12.4	30.6	15.9	59.8	119.7	35.6	15.9	17.1	4.3	**326.2**
	5	5.2	4.9	2.5	10.5	25.8	13.4	50.3	100.8	30.0	13.4	14.4	3.6	**274.6**
Average		3.7	3.5	1.8	7.5	18.5	9.6	36.1	72.2	21.5	9.6	10.3	2.6	**196.8**
Dry	5	2.6	2.5	1.3	5.3	13.0	6.8	25.5	51.0	15.2	6.8	7.3	1.8	**138.9**
	10	2.1	2.0	1.0	4.4	10.7	5.6	21.0	42.0	12.5	5.6	6.0	1.5	**114.3**
	25	1.7	1.6	0.8	3.5	8.6	4.5	16.7	33.5	10.0	4.5	4.8	1.2	**91.3**
	50	1.5	1.4	0.7	3.0	7.3	3.8	14.3	28.6	8.5	3.8	4.1	1.0	**77.9**
	100	1.3	1.2	0.6	2.5	6.3	3.3	12.2	24.5	7.3	3.3	3.5	0.9	**66.7**

Note:
Annual Total Precipitation is shown as the sum of the monthly values. The annual numbers show minor differences due to rounding.

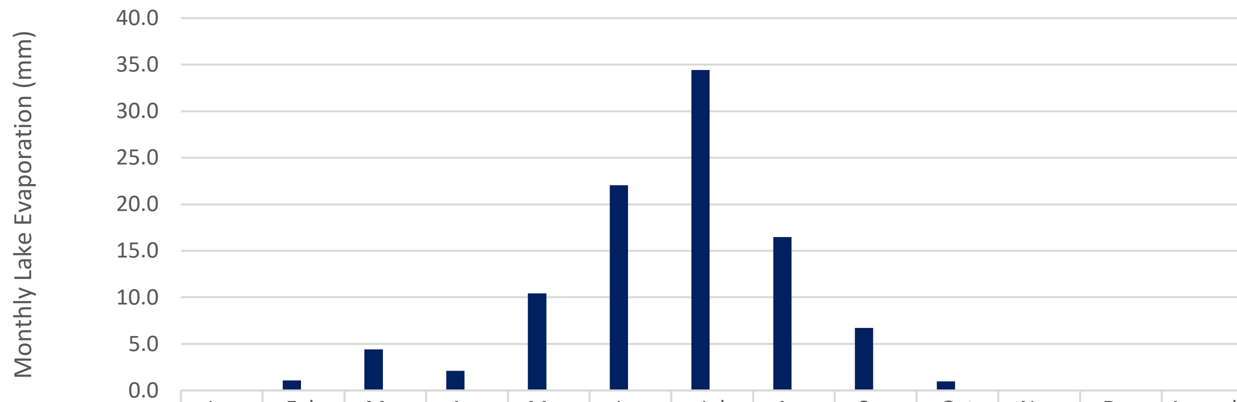
5.1.3 Evaporation

Evaporation and evapotranspiration are important hydrologic processes that influence the amount of runoff from a watershed. Several terms are commonly used to describe evaporation and evapotranspiration losses and for clarity these are defined below:

- Evaporation is the process by which water is changed from liquid to a vapour:
  - Potential evaporation is the maximum amount of water that can be evaporated from a surface (e.g., ground, vegetation) if surface moisture is not limited
  - Lake evaporation is the evaporation that occurs from a lake or pond surface and is lower than potential evaporation because blowing air has a cooling effect over a large lake surface
  - Potential evapotranspiration (PET) if the maximum quantity of water capable of being evaporated from the soil and transpired from the vegetation of a specified region in a given time interval under existing climatic conditions and without limiting available surface moisture

The lake evaporation is used in the water balance model to represent losses from pond surfaces.

Since the on-site meteorological climate station does not measure pan evaporation, monthly potential evapotranspiration (PET) for the Site was estimated using the Hargreaves-Samani (1982) method using daily minimum and maximum air temperatures and site latitude (with the day of the year) to approximate solar radiation. In the model, the lake evaporation was calculated using a correction factor of 0.90 from the calculated PET. The lake evaporation calculated for the site under the average climate year was 98,7 mm. Figure 9 shows the monthly distribution of the lake evaporation for the representative average year.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
■ Average Year	0.0	1.1	4.4	2.1	10.4	22.1	34.4	16.5	6.7	1.0	0.0	0.0	98.7
Distribution	0.0%	1.1%	4.5%	2.1%	10.6%	22.3%	34.9%	16.7%	6.8%	1.0%	0.0%	0.0%	100.0%

Figure 9: Average monthly and annual total precipitation for the long-term record

The Hydrological Atlas of Canada (Natural Resources Canada 1978) provides annual lake evaporation iso-contours for the country from compilation of meteorological data from 1941 to 1970 and indicates that the Project site has an annual lake evaporation of approximately 0 to 100 mm. The calculated lake evaporation presented in Figure 9 is within the range provided by the Atlas of Canada.

5.2 Catchment Areas

In support of the water quality model, the water balance was setup to calculate flows generated over the following land types:

- Prepared ground (the treatment plant pad and WRF Pond wall)
- Unclassified waste rock (existing placed waste rock where survey is not available to differentiate PAG and non-AG materials)
- Non-AG waste rock
- PAG waste rock and
- Direct precipitation to the WRF Pond

The surface area of each land type changes with time based on the WRF waste rock deposition plan and expansion of the WRF ditch system. The catchment areas by land type were calculated based on surveys provided by Baffinland and are presented in Table 7. The treatment pad was assumed to be entirely on prepared ground. The distribution of waste rock was provided by Baffinland from May 31, 2020, to March 25, 2023 (Baffinland, 2023a). For dates before this range, the distribution of waste rock of the closest date was used. The expected waste rock deposition plan from June 2023 to June 2026 was provided by Baffinland (2023b) and was implemented into the water balance. The expected Non-AG and PAG areas were provided and the remaining land type distribution from June 2023 to 2026 assumed the total area remained the same and the pond and prepared ground surface areas remained the same from March 25, 2023.

Table 7: Catchment areas by land type

Date	Prepared Ground (m^2)	Pond Area (m^2)	Waste Rock (m^2)			Total (m^2)
			Unclassified	Non-AG	PAG	
2018-10-09	19,409	20,137	77,239	94,966	20,259	232,011
2019-09-13	14,581	20,137	79,177	97,349	20,768	232,011
2020-05-31	30,771	30,133	119,048	146,370	31,226	357,548
2020-09-30	30,771	30,133	116,504	147,832	32,308	357,548
2021-05-31	59,068	30,133	150,928	295,778	38,492	574,398
2021-09-30	59,068	30,133	156,698	285,077	43,422	574,398
2022-05-31	35,469	30,133	152,441	294,983	61,372	574,398
2022-09-30	35,469	30,133	172,835	276,731	59,230	574,398
2023-03-25	35,469	30,133	172,835	276,731	59,230	574,398
2023-06-01	35,469	30,133	262,671	221,564	24,561	574,398
2023-10-01	35,469	30,133	183,364	307,894	17,538	574,398
2024-06-01	35,469	30,133	175,321	316,377	17,098	574,398
2024-10-01	35,469	30,133	163,689	327,903	17,204	574,398
2025-06-01	35,469	30,133	163,662	323,163	21,971	574,398
2025-10-01	35,469	30,133	163,689	325,555	19,552	574,398
2026-06-01	35,469	30,133	163,689	325,572	19,535	574,398

5.3 WRF Pond

The WRF Pond is fully lined with a geomembrane, and therefore, the seepage losses are assumed to be zero.

The water level in the WRF Pond is controlled by the inflow from the upstream catchment, pumping from the Deposit 1 sump, and the discharge rate to the WTP. Treatment rate data provided from 2018 to 2022 indicates a maximum capacity of approximately 8,000 m^3/d for the WTP (Baffinland, 2023c).

Following completion of the WRF Pond raise (Golder, 2018a) in January 2020 the design WRF Pond operating parameters are defined as follows:

- Crest elevation of 579.7 masl
- Geomembrane elevation of 579.3 masl
- Emergency spillway invert elevation of 578.9 masl
- Maximum operating water level (MOWL) of 578.3 masl and
- Minimum operating water level of 574.0 masl (1 m of dead storage above lower point of pond floor)

The WRF Pond stage-storage curve is provided in Figure 10, and represents the as-built capacity following construction of the WRF Pond expansion and based on the survey topographic information provided by Baffinland (2023c).

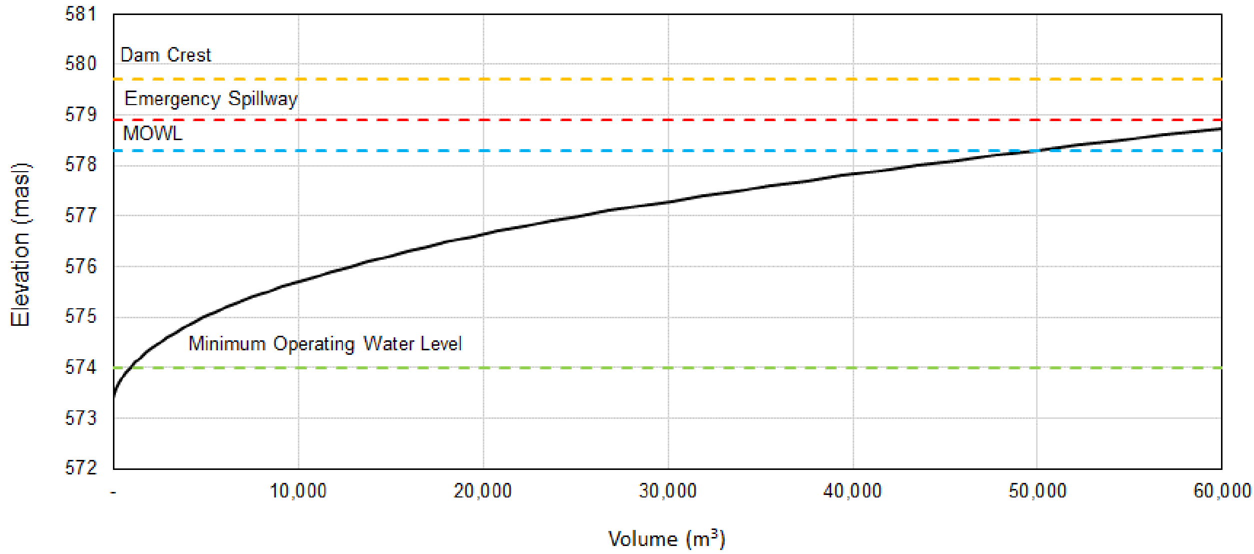


Figure 10: Stage-storage curve for the WRF Pond

Following completion of the WRF Pond expansion the design capacity at the MOWL is 50,000 m^3 and the capacity at spillway activation 65,000 m^3.

5.4 Runoff Model

Snow Runoff Model (SRM) is a semi-distributed-conceptual model designed to simulate daily streamflow that support snow cover and associated snowmelt processes on a seasonal basis. SRM has been successfully implemented in watersheds of varying size and elevation (Martinec et al. 2008).

SRM is considered computationally simple, given that the model has comparatively minimal data requirements. The primary input variables for the model are temperature, precipitation, and snow cover area. The model uses this information, along with several other input parameters (i.e., temperature lapse rate, runoff coefficient [for rain and snow], degree-day factor, recession coefficient, critical temperature, rainfall-contributing area, and lag time) to compute runoff and evaluate snow accumulation (Abudu et al. 2012).

Runoff is estimated through the SRM hydrology module for the following land types:

- Natural Ground: The natural land type category includes natural and undisturbed areas
- Prepared Ground: The prepared ground land cover includes hard-packed areas such as roads and plant site area
- Waste rock: Includes the unclassified, non-AG and PAG waste rock types. Additional considerations are included in the water balance to calculate toe seepage within the waste rock that contributes to the flow reporting to the WRF Pond

Snow accumulation (into snowpack) and snowmelt calculations are based on degree day methods. The snowmelt sub-module is developed based on the SRM by Rango and Martinec (2007). Within the SRM, for each modelled day, the water produced from snowmelt and rainfall is computed, superimposed on the calculated recession flow and transformed into daily discharge from the basin. The input parameters, such as recession factors (i.e., parameters associated with controlling the recession (falling limb) of the hydrograph) and runoff coefficients are derived from a combination of judgement and calibration exercises that are based on a comparison of observed and simulated discharges on the Water Survey of Canada regional station Marcil Creek (Figure 4).

For the WRF land type, there are three components determined in the water balance. These are the direct runoff which reports to the WRF pond, seepage which infiltrates into the waste rock and reports to the toe of the waste rock facility, and infiltration which is assumed to be a loss in the model (assumed zero as the WRF is lined). The amount of precipitation that converts into direct runoff and seepage is dependent on characteristics of the WRF such as the stockpile porosity and climate conditions (snow cover and temperature). The rate of interflow is dependent on stockpile infiltration, ground infiltration, evapotranspiration, storage potential (tied to porosity), and drawdown rate. These variables are estimated based on WSP's experience with similar projects, and input from the Project's technical team. During the winter (October to May), it was assumed that there was no infiltration into the waste rock and any precipitation is accumulated in a snowpack that is melted during the spring/summer months (June to September).

Considerations that factor into the choice of reference hydrometric station include: the period of available data, continuity of the data, the drainage area that reports to the station and geographic location of the station. Given the location of the Project site, there is minimal available hydrometric data within close proximity of the site and therefore the Water Survey of Canada regional hydrometric Marcil Creek (10UB001) station was chosen to calibrate the SRM natural runoff model. This is a station in Nunavut approximately 200 km northwest of the site. Of the other stations within a similar distance to the site, this station has one more year of flow data. The majority of the hydrometric stations in northern Canada are limited to flow data before 2000. The runoff coefficients and recession coefficients were adjusted until the observed and calculated flows were similar. The calculated monthly runoff coefficients for natural ground are presented in Table 8. The results of the natural ground calibration are presented in Figure 11.

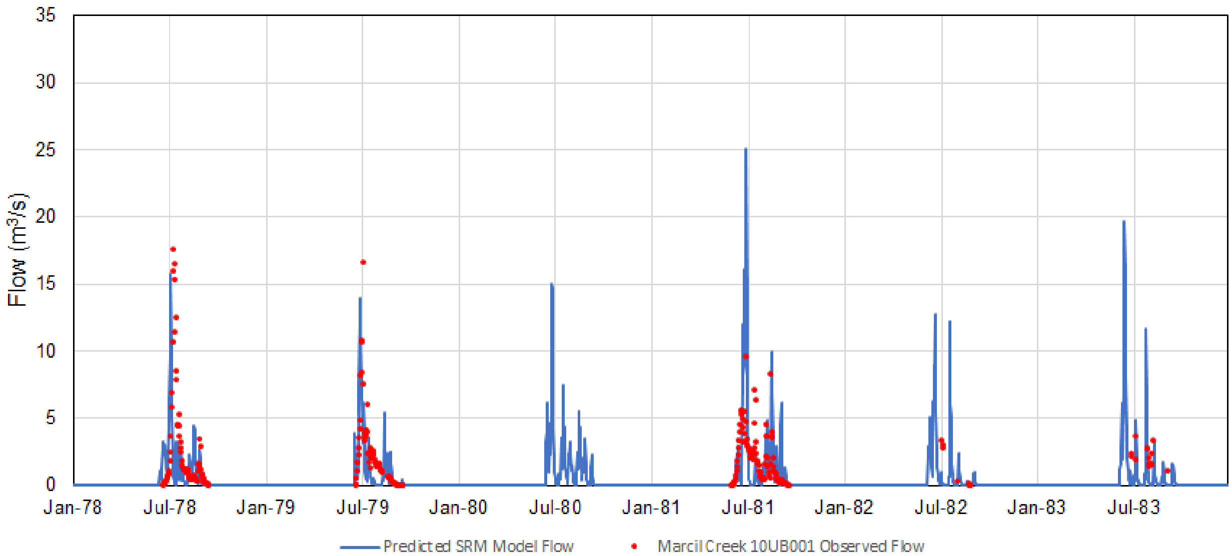


Figure 11: Water Balance SRM Natural Runoff Calibration to Marcil Creek hydrometric station

The runoff coefficients for each land type were assumed to vary depending on the time of year. For natural ground and waste rock, the runoff coefficients were assumed to be greater during the winter and for the prepared ground they were assumed to be constant throughout the year. The runoff coefficients for prepared ground and waste rock were adjusted during the calibration process described in Section 6.0 based on range of values from WSP Golder's experience with similar projects and input from the Project's technical team. Table 8 below provides a summary of the runoff coefficients used in the water balance.

Table 8: Summary of Water Balance Runoff Coefficients

Month	Natural Ground	Prepared Ground	Waste Rock
January	0.7	0.9	0.9
February	0.7	0.9	0.9
March	0.7	0.9	0.9
April	0.7	0.9	0.9
May	0.6	0.9	0.9
June	0.6	0.9	0.7
July	0.6	0.9	0.7
August	0.6	0.9	0.7
September	0.6	0.9	0.7
October	0.7	0.9	0.9
November	0.7	0.9	0.9
December	0.7	0.9	0.9

6.0 WATER BALANCE CALIBRATION

The water balance model was calibrated using the data collected from Baffinland between June 2020 until September 2022.

The calibration approach considered the following information:

- Daily precipitation from the Mary River site climate station
- Daily minimum and maximum temperature from the Mary River site climate station
- Daily lake evaporation was then calculated using the minimum and maximum daily temperatures from the Mary River site climate station and site latitude
- Monthly measured flows between the following facilities:
  - Pumping rate from Deposit 1 sump
  - Pumping rate from WRF Pond to WTP

The WRP Pond observed water levels recorded by Baffinland were used to adjust runoff coefficients for prepared ground and waste rock land types (Table 8) to match observed water levels. The simulated and observed WRF Pond water levels are shown in Figure 12.

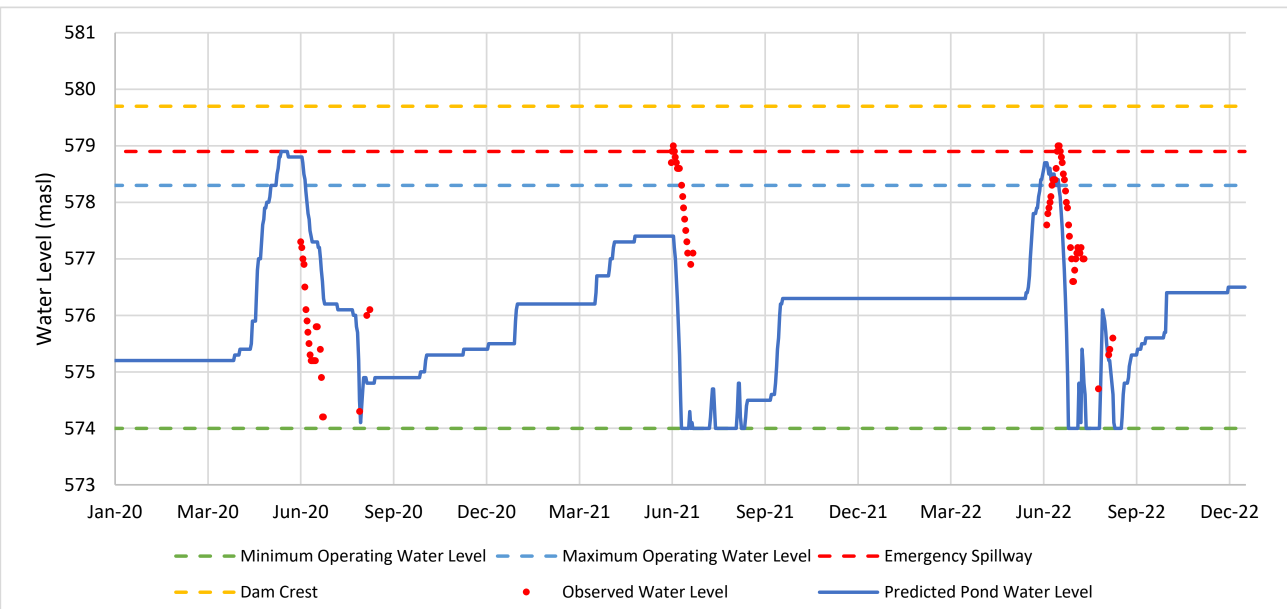


Figure 12: Predicted water balance water levels in WRF Pond (2020-2022)

For 2021, the predicted water levels are below the observed water levels. This is attributed to the Deposit 1 sump inflow reported by Baffinland by month instead of daily values. In the water balance a constant pumping rate was assumed for each month in 2021, therefore missing some of the peak inflows from the Deposit 1. For 2022, the water balance predicts water levels below the observed water levels during the summer with a similar trend.

7.0 MODEL LIMITATIONS

The water balance model prepared for this study carries assumptions and limitations that shall be taken into consideration during interpretation of results. Several limitations impact the results of the water balance and are listed below:

- The on-site meteorological station does not capture precipitation during the winter months and as such, the long-term dataset of precipitation was based on regional climate station data of different distances from the project site
- Historical hydrometric data of close proximity to the project site was limited. The dataset used for calibration of the natural runoff was from 1978 to 1983 based on available data approximately 200 km from the project site. Calibration to a more recent set of hydrometric data would require data from a local station

8.0 WATER BALANCE FUTURE RESULTS

The results from the water balance under the three climate scenarios considered (100-yr wet, average and 100-yr dry) are presented as monthly flows in Figure 13, Figure 14 and Figure 15, respectively.

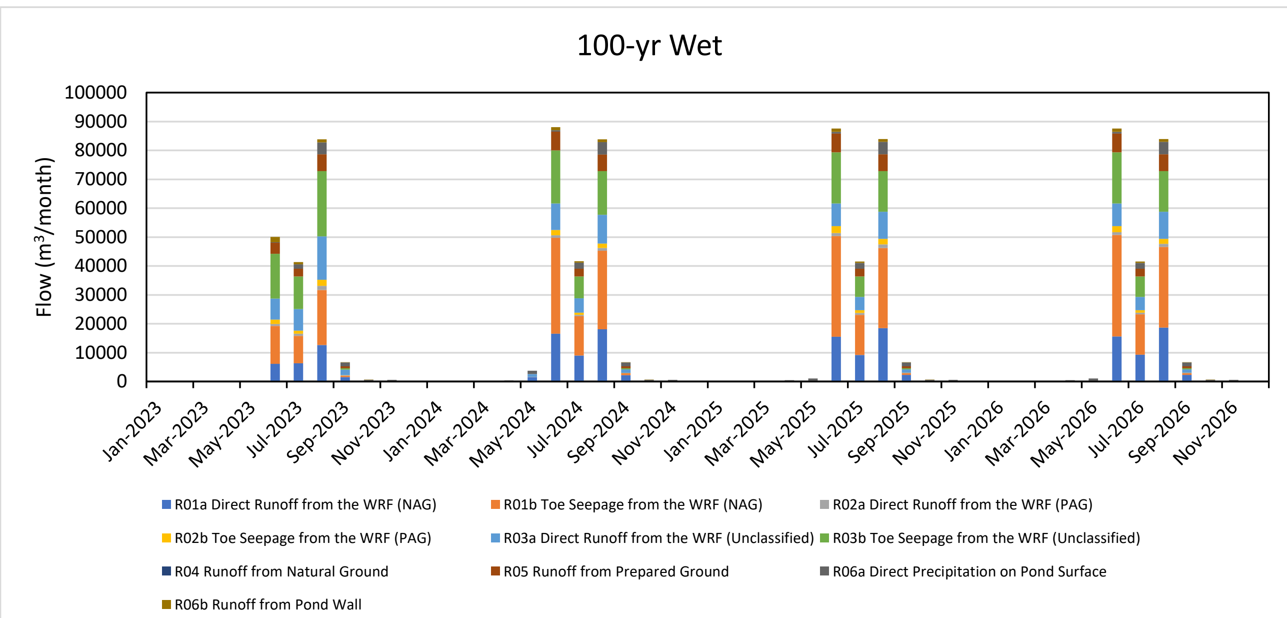


Figure 13: Monthly inflow to the WRF Pond by catchment type for the 100-yr wet scenario (2023 – 2026)

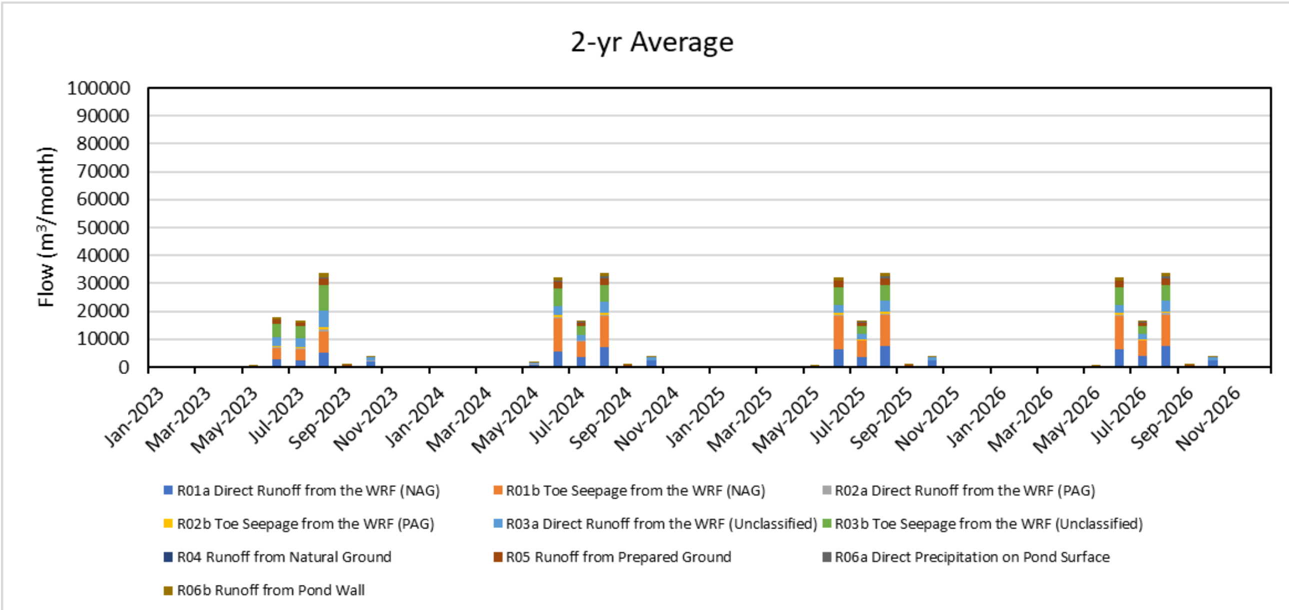


Figure 14: Monthly inflow to the WRF Pond by catchment type for the 2-yr average scenario (2023 – 2026)

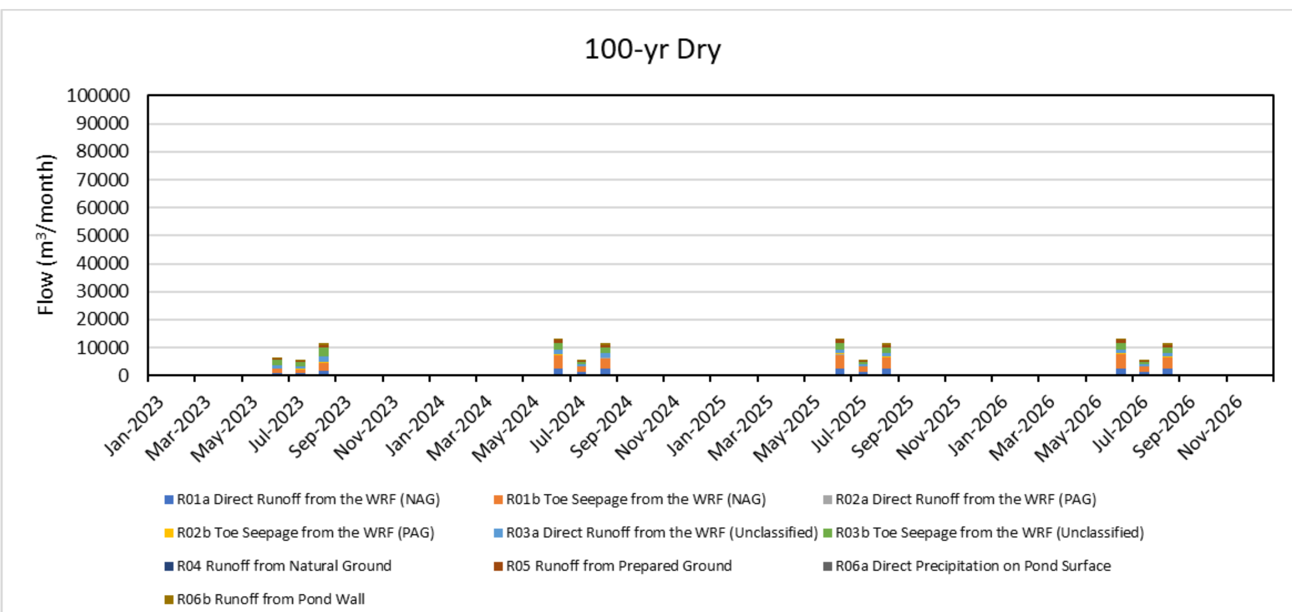


Figure 15: Monthly inflow to the WRF Pond by catchment type for the 100-yr dry scenario (2023 – 2026)

9.0 CONCLUSIONS AND RECOMMENDATIONS

Overall, the updated water balance model was able to capture general trends and patterns with the WRF pond given the predicted waste rock deposition plan for the short future. The results predicted flow patterns and magnitudes from 2023 to 2026 under different climate scenarios.

Recommendations for the future include the following:

- Continue collection of monitoring data from the WRF water management system
- Continue collection of climate data at the Mary River station
- Collection of hydrometric data (ex. Staff gauge) for the east and west ditches for development of ditch rating curves and
- Investigate methods for collecting snowfall and snowpack within the WRF pond catchment and then implement

10.0 CLOSURE

We trust that the information provided in this technical memorandum meets your present needs. Should you have any questions or require clarification, please do not hesitate to contact the undersigned.

WSP Canada Inc.

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APPENDIX A4

2023 Water Quality Model Update, Waste Rock Facility Report

REPORT

2023 Water Quality Model Update, Waste Rock Facility

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Source Terms

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Time-Series Model Results

1.0 INTRODUCTION

Baffinland Iron Mines Corporation's (Baffinland) Mary River Project (the Site) is an operational iron mine on Baffin Island in Nunavut, Canada. Baffinland has retained WSP Canada Inc. (WSP) to assist with developing an updated Waste Rock Management Plan (WRMP) for deposition of Potential Acid Generating (PAG) and Non-AG waste rock currently being deposited in the Waste Rock Facility (WRF) at the Site. As part of this planning a mass balance water quality model was originally prepared in 2019 (Golder 2019a) to estimate water quality of WRF for the period of January 2020 – September 2021. This is the 2023 water quality model update report which covers the time period from 2023 through 2026.

The mitigation strategy defined for prevention of acid generation and metal leaching from the WRF centers around freezing of the PAG waste rock during winter, with deposition of additional rock in summer to keep the frozen rock isolated from the active zone, which is subject to seasonal freeze and thaw. The water quality model assumes that flow from the WRF only occurs via direct runoff or as shallow interflow within the waste rock active layer and that water infiltrating deeper into the WRF becomes frozen due to permafrost aggradation.

The objectives of the 2023 water quality model update are to:

- Identify key drivers (i.e., loadings) of WRF Pond chemistry. Note that water quality measurements at the WRF were also reviewed for potential metal leaching and acidity trends − these results are included in the geochemistry report (WSP 2023b);
- Forecast future WRF pond chemistry based on recent water balance model updates and mine planning information;
- Evaluate WRF pond chemistry estimates over time to support assessment regarding the requirement for continued water treatment; and
- Constrain uncertainty in model inputs using conservative assumptions and by performing sensitivity analyses.

The intention of the model is to assess the potential impact of the waste rock pile design on runoff water quality and inform any necessary modifications.

2.0 MODEL DEVELOPMENT

This 2023 water quality model update report includes discussion on the assumptions, inputs, and results with respect to the following model updates:

- Integration of the 2023 water balance update (WSP 2023a) and 2023 geochemistry waste rock investigation results (WSP 2023b). The reader is referred to these reports for a summary and discussion of the relevant water balance and geochemistry details;
- Updated catchment areas and land type proportions as provided by Baffinland and estimated from survey; and
- Update of the waste rock material balance to reflect the 2023 through 2026 Waste Rock Depositional Plan for the Project (BIM 2023a; BIM 2023b).

The current model as presented is not intended to predict overall final WRF closure.

2.1 Conceptual Model

The water quality model was developed using a mass-balance in GoldSim (Version 14.0) to estimate the concentrations and transport of chemical species as a function of time at the WRF. GoldSim is a graphical, object-oriented mathematical code where all input components and functions are defined by the user and are built as individual objects or elements linked together by mathematical expressions. The generalized mass balance equations are:

$$C_{A+B\,i} = \frac{(C_{A\,i} \times Q_A + C_{B\,i} \times Q_B)}{(Q_A + Q_B)} \quad \textbf{[Equation 1]}$$

Where:

C_{Ai} and C_{Bi} are the concentrations of chemical species *i* in waters A and B, respectively; and

Q_A and Q_B are the flow rates or volumes of water in waters A and B, respectively; $C_{A+B\,i}$ is the concentration of chemical species *i* in the mixed body of waters A and B.

$$\sum (\text{Mass Loading In})_i - \sum(\text{Mass Loading out})_i = \Delta C_i \times V \quad \textbf{[Equation 2]}$$

Where:

ΔC_i is the change in concentration of chemical species *i* in a body of water; V is the volume of the body of water

$\sum$(Mass Loading In)$_i$ and $\sum$(Mass Loading out)$_i$ are the sum of masses of chemical species *i* added to, and removed from, the body of water, respectively.

Within the Goldsim platform, the water quality model is integrated into the 2023 water balance model for the site (WSP 2023a), such that flows and chemical loadings entering and leaving the following site components are represented:

- Waste rock stockpile (referred to as the WRF);
- Perimeter ditch system around the WRF;
- WRF Pond; and
- Inflow from Deposit 1 Sump to the WRF Pond.

Loadings assumed to report to the WRF Pond in the model are:

- Non-AG waste rock seepage and runoff;
- PAG waste rock seepage and runoff;
- Unclassified waste rock (existing placed waste rock where survey is not available to differentiate PAG and non-AG materials), subdivided as non-AG and PAG based on the overall relative proportions of non-AG and PAG rock removed from the deposit as identified in WSP 2023a;
- Inflow from Deposit 1 Sump to the WRF;
- Natural ground within the boundary of the WRF perimeter ditching; and
- Prepared ground from the WTP pad.

Figure 1 presents a flow schematic of the contact flows integrated into the water model that are assumed to report to the WRF. The surface water quality of WRF Pond over time is the primary output from the water quality model and, conceptually, will vary overtime as:

- Surface area of each land type changes based on the WRF waste rock deposition plan and expansion of the WRF ditch system; and
- Relative proportions of non-AG versus PAG material deposited in the WRF change.

2.2 Data Inputs and Assumptions

2.2.1 General Inputs and Assumptions

Water quality model results are dependent on several inputs, including meteorological conditions, availability of contact water quality and site hydrological data, as well as mine development planning. Where uncertainty exists, professional knowledge and experience was used to develop a conservative approach, or a sensitivity analyse was completed (Section 2.3 for model cases).

The general properties and assumptions for the 2023 water quality model are:

- The model is a deterministic mass balance modelling that is conducted on a daily time-step;
- A concentration-based approach was used with total concentrations assigned as source terms (inputs) to the water quality model;
- For source term derivation from water quality monitoring results, the reported detection limit was employed for source terms if a chemical species was below the detection limit of the applied analytical method;
- Initial condition of the WRF pond is equivalent to 75th percentile concentrations for water quality parameters of the east and west ditch inflows;
- Project operational and engineering components turn on and off instantaneously;
- Precipitation and evaporation are assumed to be neutral inputs and outputs with no associated geochemical loads; and
- Surface water quality parameters behave conservatively and are not reduced by mechanisms such as secondary mineral formation, attenuation through sorption process, or biogeochemical reactions (e.g., assimilation, biodegradation).
- Modelled parameters are: concentration of metals (mg/L: aluminium, antinomy, arsenic, cadmium, chromium, cobalt, copper, iron, lead, mercury, molybdenum, nickel, selenium, silver, uranium, vanadium, zinc) and concentration of ions (mg/L: sulphate, calcium, magnesium, sodium, potassium).

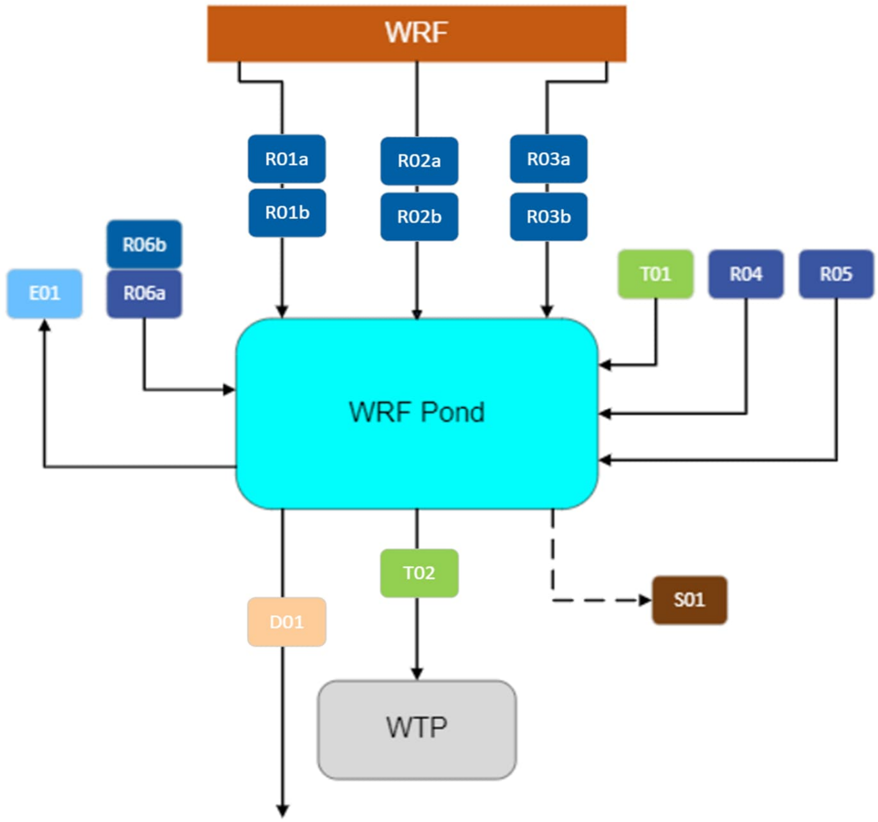
2.2.2 Source Loading Areas

In support of the water quality model, the water balance model (2023a) established the following discrete source loading areas at the WRF:

- Natural ground;
- Prepared ground (the treatment plant pad and WRF Pond wall);
- Unclassified waste rock (existing placed waste rock where survey is not available to differentiate PAG and non-AG materials);

- Non-AG waste rock;
- PAG waste rock; and
- Direct precipitation to the WRF Pond.

The surface area of each “loading area type” changes with time based on the WRF waste rock deposition plan and expansion of the WRF ditch system. The catchment areas by loading area type were calculated based on surveys provided by Baffinland and are presented in Table 1. The treatment pad was assumed to be entirely on prepared ground. The distribution of waste rock was provided by Baffinland from May 31, 2020, to March 25, 2023 (Baffinland, 2023a). For dates before this range, the distribution of waste rock of the closest date was used. The expected waste rock deposition plan from June 2023 to June 2026 was provided by Baffinland (2023b) and was implemented into the model. The expected non-AG and PAG areas were provided and the remaining land type distribution from June 2023 to 2026 assumed the total area remained the same and the pond and prepared ground surface areas remained the same from March 25, 2023.



Flow ID	Description
R01a	Runoff from Non-AG waste rock
R01b	Toe seepage from Non-AG waste rock
R02a	Runoff from PAG waste rock
R02b	Toe seepage from PAG waste rock
R03a	Runoff from unclassified waste rock
R03b	Toe seepage from unclassified waste rock
R04	Runoff from natural ground
R05	Runoff from prepared ground
R06a	Direct precipitation on WRF Pond
R06b	Runoff from WRF Pond wall
T01	Deposit 1 Sump inflow
T02	Total outflow from the WRF Pond to the WTP
E01	Evaporation from the WRF Pond surface
S01	Seepage and interflow losses from the WRF Pond
D01	Overflow from the WRF Pond via Emergency Spillway

Figure 1: Conceptual Schematic of Flows reporting to the WRF Pond

Table 1: Source Loading Areas (Catchment Areas) at the WSF

Date	Natural Ground (m²)	Prepared Ground (m²)	Pond Area (m²)	Waste Rock (m²)			Total (m²)
				Unclassified	Non-AG	PAG	
2018-10-09	-	19,409	20,137	77,239	94,966	20,259	232,011
2019-09-13	-	14,581	20,137	79,177	97,349	20,768	232,011
2020-05-31	-	30,771	30,133	119,048	146,370	31,226	357,548
2020-09-30	-	30,771	30,133	116,504	147,832	32,308	357,548
2021-05-31	-	59,068	30,133	150,928	295,778	38,492	574,398
2021-09-30	-	59,068	30,133	156,698	285,077	43,422	574,398
2022-05-31	-	35,469	30,133	152,441	294,983	61,372	574,398
2022-09-30	-	35,469	30,133	172,835	276,731	59,230	574,398
2023-03-25	-	35,469	30,133	172,835	276,731	59,230	574,398
2023-06-01	-	35,469	30,133	262,671	221,564	24,561	574,398
2023-10-01	-	35,469	30,133	183,364	307,894	17,538	574,398
2024-06-01	-	35,469	30,133	175,321	316,377	17,098	574,398
2024-10-01	-	35,469	30,133	163,689	327,903	17,204	574,398
2025-06-01	-	35,469	30,133	163,662	323,163	21,971	574,398
2025-10-01	-	35,469	30,133	163,689	325,555	19,552	574,398
2026-06-01	-	35,469	30,133	163,689	325,572	19,535	574,398

Notes:
Non-AG: Not potentially acid generating
PAG: Potentially Acid Generating
WRF: Waste Rock Facility

2.2.3 Source Terms

In support of the water quality model, source terms values in mg/L were developed for parameters for each discrete source loading area. Source terms were developed through a review of geochemical data and site water quality observations as provided in WSP 2023. Data inputs to the water quality model are summarized in Table 2 and presented in Appendix A (Table A1). The data set from which the values are derived includes 459 water quality measurements collected between 2018 and 2022 located in collection ditches and runoff locations in the vicinity of the WRF (Appendix C of WSP 2023b). Influencing factors and rationale for each source term are as follows:

- The pH is based on the pH observed in the relevant on-site water quality measurements. Values of pH less than 4.5 were ascribed to PAG rock whereas values greater than 6.5 were ascribed to non-AG material.
- Runoff and Seepage from Non-AG Waste Rock – Non-AG waste rock runoff and seepage was assumed to be represented by observed site concentrations where pH was greater than 6.5. Expected conditions (Non-AG Expected) were based on the median values on a parameters by parameter basis, whereas upper bound conservative case (Non-AG Upper Bound) values were based on the 95th percentile values on a parameter by parameter basis.

- Runoff and Seepage from PAG Waste Rock – PAG waste rock runoff and seepage was assumed to be represented by observed site concentrations where pH was less than 4.5. Expected conditions (PAG (Acidic) Expected) were based on the median values on a parameters by parameter basis. There was insufficient data to develop a 95th percentile value so an average concentration was used on a parameter by parameter basis to represent the upper bound conservative case (PAG (Acidic) Upper bound). This is considered conservative for key parameters as the values are skewed upward substantially by the presence of a few samples with very high concentrations.
- Runoff and seepage from unclassified waste rock – for the rock where information on classification was unavailable the rock was subdivided based on the overall geochemical proportions observed in the remainder of the pile and assigned as Non-AG (Expected or Upper Bound) water quality or PAG (Acidic) (Expected or Upper bound) water quality based on the relative proportion of rock observed and model scenario.
- Inflow from Deposit 1 sump – in 2019 and at other times during the mine life in 2020 and 2021 as defined in WSP 2023a flow was pumped from the sump at the base of the open pit into the East ditch. Water quality entering from the sump was best represented by the average concentration for nine sampling events from the East Ditch that occurred in 2020 where sump water was the dominant source of water in the East Ditch. The values were kept constant during the sensitivity analyses / conservative cases.
- Runoff from prepared ground – inflow from prepared ground was assigned water quality based on the average concentrations from eleven (11) data points from the inflow location MS-08 before the sump inflow to east ditch was applied. The values were kept constant during the sensitivity analyses / conservative cases.
- Runoff from natural ground – inflow from upstream natural ground was assigned water quality based on the average concentrations from three data points from the upstream sampling location WRP-S71. The values were kept constant during the sensitivity analyses / conservative cases.
- Initial WRF pond chemistry – is defined as the 75 percentile concentrations for water quality parameters from East and West inflows to the pond as observed in 2019.

Table 2: 2023 Water Quality Model Source Terms for Key Parameters

Source Loading Area/Site Feature	Description	Expected Case	Conservative Case
Runoff and seepage from Non-AG waste rock		▪ pH (6.6 to 7.4) ▪ Copper (0.005 mg/L) ▪ Nickel (0.0221 mg/L) ▪ Sulphate (832 mg/L)	▪ pH (6.6 to 7.4) ▪ Copper (0.030 mg/L) ▪ Nickel (0.160 mg/L) ▪ Sulphate (3032 mg/L)
Runoff and seepage from PAG waste rock		▪ pH (4.0 to 4.2) ▪ Copper (0.172 mg/L) ▪ Nickel (1.33 mg/L) ▪ Sulphate (5433 mg/L)	▪ pH (4.0 to 4.2) ▪ Copper (0.262 mg/L) ▪ Nickel (4.78 mg/L) ▪ Sulphate (14,805 mg/L)
Runoff and seepage from unclassified waste rock[2]	Non-AG and PAG not specified in survey information subdivided based on geochemical proportions of the overall pile	▪ Calculated by Model ▪ Split between non-AG and PAG values of Expected Case	▪ Calculated by Model ▪ Split between non-AG and PAG values of Conservative Case
Inflow from Deposit 1 sump	Corresponds to the average of 9 data points for East ditch in 2019 while sump water inflowing	▪ pH (7.6 to 8.0) ▪ Copper (0.004 mg/L) ▪ Nickel (0.022 mg/L) ▪ Zinc (0.021 mg/L)	▪ pH (7.6 to 8.0) ▪ Copper (0.015 mg/L) ▪ Nickel (0.022 mg/L) ▪ Sulphate (0.021 mg/L)

Source Loading Area/Site Feature	Description	Expected Case	Conservative Case
Runoff from prepared ground	All (11) data points of East ditch from 2019 before sump inflow	▪ pH (6.1 to 8.1) ▪ Copper (0.015 mg/L) ▪ Nickel (0.11 mg/L) ▪ Zinc (0.036 mg/L)	▪ pH (6.1 to 8.1) ▪ Copper (0.015 mg/L) ▪ Nickel (0.11 mg/L) ▪ Zinc (0.036 mg/L)

Notes:

1-To support summarization here, inputs provided for only key parameters only. Input values for all site features are provided in Appendix A.

2-Loading from unclassified rock is calculated as proportional to the Non-AG and PAG rock as per the Waste Deposition Plan.

Inputs for initial pond chemistry and runoff from natural ground provided in Appendix A.

Non-AG: Not potentially acid generating

PAG: Potentially Acid Generating

WRF: Waste Rock Facility

2.3 Model Cases

Surface water quality estimates were generated for the Expected Case based on the following conditions:

- Average year hydrological conditions (WSP 2023a);
- Expected Case source terms (Table 2, Appendix A);
- The proportion of PAG and non-AG classified rock changes as per the mine planning information provided by Baffinland;
- Geochemistry of the exposed waste rock will be consistent with existing conditions at site over the modelled timeframe; and
- Unclassified WRF materials were assigned PAG or non-AG source term on percentages of the overall WRF, as per the mine planning information provided by Baffinland.

In addition to the Expected Case, the following sensitivity cases were performed, as follows:

- **Misclassification of Non-AG, 0.5%**: Assume that 0.5 % of all Non-AG material is misclassified, and provides mass loading as if it were PAG material.
- **Misclassification of Non-AG, 5.0%**: Assume that 5.0 % of all Non-AG material is misclassified, and provides mass loading as if it were PAG material.
- **Conservative Loading**: Uses upper bound source terms for PAG and Non-AG rock (Table 2 Conservative Case, Appendix A). In this instance all exposed PAG rock is assumed to be actively producing acidic leachate with pH <4.5 and elevated metal loadings relative to median concentrations.

3.0 RESULTS

The water quality of the WRF Pond is the primary output from the water quality model; WRF pond quality for Expected Case and the three sensitivity cases are presented in Tables 3 through 6. Water quality results are benchmarked against effluent criteria prescribed by the Metal and Diamond Mine Effluent Regulations (MDMER; July 2021). While the values meet MDMER requirements for the WRF pond, prior to discharge to the environment requires the effluent to pass acute toxicity testing and would require downstream assessment which is not included in this evaluation.

Key results from the model are:

- Predicted water quality concentrations are within the range of observed field values during the summer month predictions.
- During the winter month water would not be released and predicted values are generally less relevant due to changes in the water balance brought about by freezing conditions.
- The most important overall mass load (in mg/s) to the Pond on a percent basis is sourced from Non-AG rock based solely on the larger proportion of the Non-AG material in the WRF.
- The range of pH of the materials is assigned based on observed site conditions, considering the available neutralization potential and acidification potential of the relevant rock component blends (WSP, 2023b). The pH in the Expected Case ranges from 6.6 to 7.4 whereas in the conservative case a lower pH range of 4.5 to 6.5 is more likely. The actual pH values will vary substantially based on mitigation practices and site conditions, in particular mitigation measures in place to segregate and freeze the PAG rock and soluble sulphate minerals.
- Nickel is the most relevant parameter with respect to potential for exceedance of MDMER, however remains below the MDMER (2021) value of 0.25 mg/L for expected condition, with an expected median value of 0.1 mg/L.
- In general, WRF chemistry improves as a function of the proportion of available Non-AG rock, thus as the proportion of non-AG rock increases over time the water quality improves.
- Assuming up to 5% of material is misclassified as Non-AG rock when it is actually PAG rock (all other conditions remaining as expected) results in increase in nickel concentration from 0.1 mg/L to a median predicted Nickel value of 0.14 mg/L which is still below the MDMER guideline values.
- Nickel is the limiting parameter with respect to MDMER exceedances, with the next-most important/driving parameter being Copper. The conservative loading case is the only sensitivity analysis that exceeds the more recent 2021 MDMER guideline value of 0.25 mg/L nickel, with a the median nickel concentration of 0.4 mg/L. The current operational MDMER value of 0.5 mg/L nickel is only exceeded for brief periods of time under this conservative scenario.
- Results indicate that the model is sensitive to the acidity and elevated metals that resulting from PAG materials, should strongly acidic conditions develop in all of the exposed PAG materials (not currently observed ore expected under current mitigation practices). Under those acidic conditions for all PAG materials, then the MDMER criteria for nickel will be exceeded, with a predicted median nickel concentration of 0.4 mg/L and treatment would likely be required.
- The model results suggest additional consideration should be given to parameters sulphate, beryllium, cadmium, cobalt and copper. These parameters could occur at levels that require additional review within the context of the assimilative capacity of the environment, and/or to confirm no acute toxicity occurs as may be required under MDMER, prior to untreated environmental release to a water body.

Figure 2 provides an example of the results over time for key parameters sulphate and nickel for the expected case scenario. Appendix B includes additional graphical results for additional parameters and for the sensitivity analyses. In general the results for each of the sensitivity analyses follow the same trends as those provided in Figure 2, with the trends being primarily driven by hydrology (assumed the same between the mass loading scenarios). The differences in the sensitivity analysis results are only evident for predictions beyond 2023 when the conditions in the WRF differ based on selected mass loading conditions in the pile (e.g. different proportion of Non-AG to PAG, or different source term concentrations). Tables 4 and 5 show that additional PAG materials in the Non-AG areas of the pile will result in increasing concentrations in the WRF Pond. Table 6 shows that should the PAG materials all release strongly acidic water there would be a large influence on observed results. The conditions as presented in Table 6 are currently mitigated through management practices.

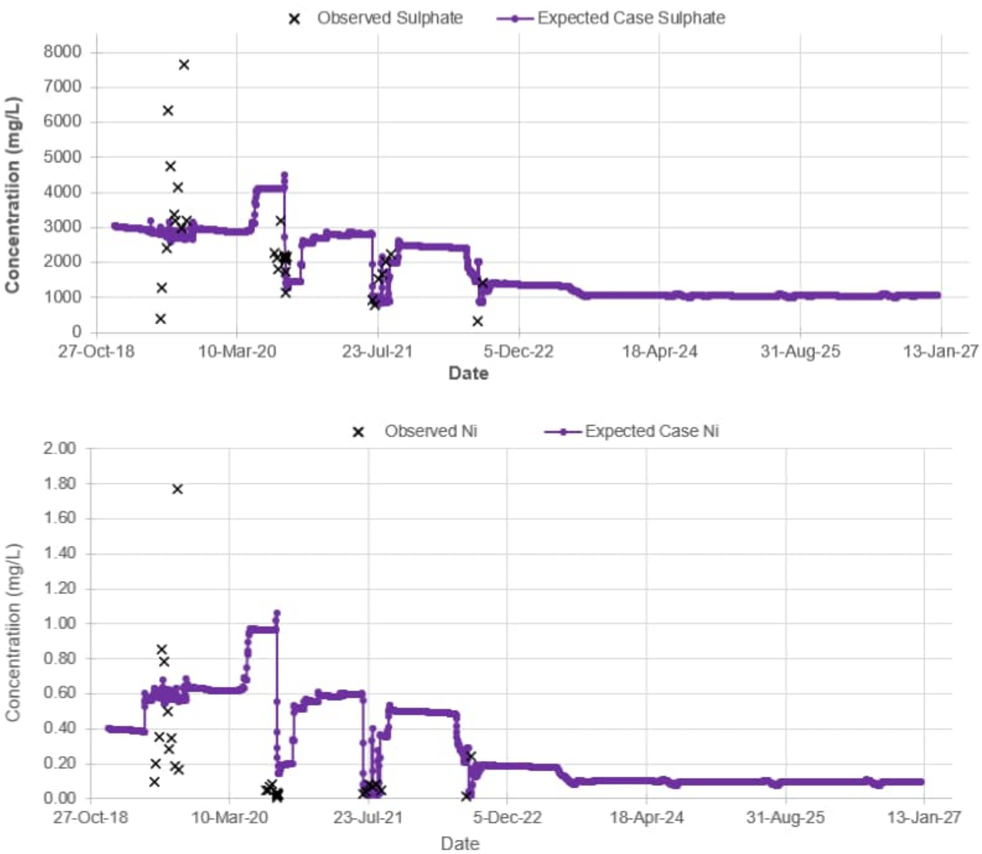


Figure 2: WRF Pond - Time Series Model Results for Sulphate and Nickel - Expected Case

Table 3: Expected Case Concentrations in WRF Pond, 2023 through 2026 Period

Parameter	MDMER [1]	25th	Median	75th	95th
pH		Range from pH 6.6 to 7.4			
Sulphate		1050	1050	1060	1340
Ag		0.000676	0.000681	0.000696	0.001
Al		1.45	1.46	1.52	2.50
As	0.1	0.00137	0.00138	0.00141	0.00201
B		0.137	0.138	0.141	0.200
Ba		0.0322	0.0325	0.0331	0.035
Be		0.00136	0.00137	0.0014	0.002
Ca		75.5	76.4	78.0	84.5
Cd		0.000131	0.000132	0.000136	0.000228
Co		0.0952	0.0963	0.0999	0.184
Cr		0.00721	0.00726	0.00744	0.0107
Cu	0.1	0.0141	0.0142	0.0147	0.0254
Fe		10.7	10.9	11.3	21.6
Hg		3.2E-06	3.23E-06	3.32E-06	4.16E-06
K		6.16	6.20	6.27	6.50
Mg		226	228	230	289
Mn		5.54	5.59	5.77	9.84
Mo		0.00236	0.00238	0.00241	0.00246
Na		4.53	4.57	4.66	4.98
Ni	0.25	0.0961	0.0971	0.101	0.183
P		0.679	0.684	0.699	1.00
Pb	0.08	0.000853	0.000859	0.000885	0.00128
S		349	352	355	447
Sb		0.00136	0.00137	0.0014	0.002
Se		0.00437	0.00439	0.00444	0.00484
Si		3.44	3.46	3.51	4.15
Sn		0.00136	0.00137	0.0014	0.002
Tl		0.000139	0.00014	0.000143	0.000203
U		0.00648	0.00661	0.0068	0.00791
V		0.00697	0.00703	0.00718	0.0103
Zn	0.1	0.0412	0.0415	0.0424	0.0607

Notes

pH is unitless, all other units are mg/L

1 MDMER: Metal and Diamond Mine Effluent Regulations for Maximum Authorized Monthly Mean Concentration

Table 4: Misclassification of PAG as Non-AG (+ 0.5%), Concentrations in WRF Pond, 2023 through 2026 Period

Parameter	MDMER [1]	25th	Median	75th	95th
pH		Range from pH 6.6 to 7.4			
Sulphate		1060	1070	1080	1340
Ag		0.000689	0.000695	0.000709	0.001
Al		1.48	1.50	1.56	2.50
As	0.1	0.00139	0.0014	0.00143	0.00201
B		0.140	0.141	0.144	0.200
Ba		0.0322	0.0324	0.033	0.035
Be		0.00138	0.0014	0.00142	0.002
Ca		75.7	76.5	78.2	84.7
Cd		0.000135	0.000136	0.000141	0.000228
Co		0.0991	0.1	0.104	0.184
Cr		0.00734	0.0074	0.00757	0.0107
Cu	0.1	0.0146	0.0147	0.0152	0.0254
Fe		11.2	11.3	11.8	21.6
Hg		3.2E-06	3.23E-06	3.32E-06	4.16E-06
K		6.16	6.20	6.28	6.50
Mg		229	230	233	289
Mn		5.73	5.78	5.96	9.84
Mo		0.00236	0.00238	0.00242	0.00246
Na		4.53	4.57	4.66	4.98
Ni	0.25	0.0999	0.101	0.105	0.183
P		0.692	0.698	0.712	1.00
Pb	0.08	0.000866	0.000872	0.000898	0.00128
S		354	356	360	447
Sb		0.00138	0.0014	0.00142	0.002
Se		0.00439	0.00442	0.00446	0.00484
Si		3.46	3.48	3.53	4.15
Sn		0.00138	0.0014	0.00142	0.002
Tl		0.000142	0.000143	0.000146	0.000203
U		0.00652	0.00665	0.00683	0.00794
V		0.0071	0.00716	0.00731	0.0103
Zn	0.1	0.042	0.0423	0.0432	0.0607

Notes

all units are mg/L

1 MDMER: Metal and Diamond Mine Effluent Regulations for Maximum Authorized Monthly Mean Concentration

Using expected case assumes that an additional 0.5% of Non-AG rock is misclassified and is assigned PAG rock mass loading properties

Table 5: Misclassification of PAG (+ 5.0%), Concentrations in WRF Pond, 2023 through 2026 Period

Parameter	MDMER [1]	25th	Median	75th	95th
pH		Range from pH 6.6 to 7.4			
Sulphate		1180	1190	1200	1340
Ag		0.000807	0.000814	0.000829	0.001
Al		1.82	1.84	1.9	2.5
As	0.1	0.00163	0.00164	0.00167	0.00201
B		0.164	0.165	0.168	0.200
Ba		0.032	0.032	0.033	0.035
Be		0.002	0.002	0.002	0.002
Ca		77.0	77.8	79.4	85.7
Cd		0.0002	0.0002	0.0002	0.0002
Co		0.134	0.136	0.14	0.184
Cr		0.00852	0.0086	0.00878	0.0107
Cu	0.1 (0.3)	0.019	0.0192	0.0197	0.0254
Fe		15.4	15.6	16.1	21.6
Hg		3.2E-06	3.23E-06	3.32E-06	4.16E-06
K		6.2	6.2	6.3	6.5
Mg		254	256	258	289
Mn		7.43	7.5	7.69	9.84
Mo		0.00243	0.00244	0.00248	0.00252
Na		4.55	4.59	4.68	5.00
Ni	0.25	0.134	0.136	0.139	0.183
P		0.81	0.818	0.832	1.00
Pb	0.08	0.000984	0.000992	0.00102	0.00128
S		394	397	401	447
Sb		0.00162	0.00164	0.00166	0.002
Se		0.00459	0.00461	0.00466	0.00485
Si		3.64	3.66	3.71	4.15
Sn		0.00162	0.00164	0.00166	0.002
Tl		0.000165	0.000167	0.00017	0.000203
U		0.00687	0.007	0.00718	0.0082
V		0.00828	0.00835	0.00852	0.0103
Zn	0.1 (0.5)	0.049	0.0495	0.0504	0.0607

Notes

all units are mg/L

1 MDMER: Metal and Diamond Mine Effluent Regulations for Maximum Authorized Monthly Mean Concentration

Using expected case assumes that an additional 5% of Non-AG rock is misclassified and is assigned PAG rock mass loading properties

Table 6: Conservative Loading Case Concentrations in WRF Pond, 2023 through 2026 Period

Parameter	MDMER 1	25th	Median	75th	95th
pH		Range from pH 4.5 to 6.5			
Suphate		2830	2860	2930	4010
Ag		0.000835	0.000843	0.000865	0.00135
Al		9.85	9.96	10.3	14.1
As	0.1	0.00251	0.00253	0.0026	0.00376
B		0.169	0.171	0.175	0.271
Ba		0.072	0.072	0.073	0.078
Be		0.002	0.002	0.002	0.003
Ca		160.0	162.0	163.0	173.0
Cd		0.0004	0.0004	0.0004	0.0007
Co		0.29	0.294	0.305	0.556
Cr		0.0301	0.0304	0.0312	0.0403
Cu	0.1	0.0337	0.034	0.0351	0.0539
Fe		54.2	54.9	57	104
Hg		3.2E-06	3.23E-06	3.32E-06	4.16E-06
K		11.2	11.3	11.4	12.3
Mg		610	616	630	860
Mn		17.8	18	18.7	31.5
Mo		0.00928	0.00937	0.00954	0.011
Na		9.27	9.33	9.42	10.1
Ni	0.25	0.361	0.365	0.379	0.687
P		0.839	0.846	0.868	1.35
Pb	0.08	0.00613	0.00619	0.00636	0.00789
S		946	955	977	1340
Sb		0.00168	0.00169	0.00174	0.00271
Se		0.00996	0.01	0.0102	0.0122
Si		14.2	14.3	14.7	17.7
Sn		0.00168	0.00169	0.00174	0.00271
Tl		0.00025	0.000252	0.000259	0.000378
U		0.0157	0.0158	0.0159	0.0181
V		0.0179	0.0181	0.0185	0.0252
Zn	0.1	0.0672	0.0678	0.0697	0.108

Notes

all units are mg/L

1 MDMER: Metal and Diamond Mine Effluent Regulations for Maximum Authorized Monthly Mean Concentration

The Conservative loading case assumes that all PAG rock mass is not internally buffered and releases low pH waters with elevated metal concentrations.

4.0 CONCLUSIONS

The purpose of the model is to forecast future WRF pond chemistry for the time period 2023 through 2026 based on recent water balance model updates, geochemical source term updates and mine planning information. This 2023 water quality model update report includes discussion on the assumptions, inputs, and results related to integration of the 2023 water balance update (WSP 2023a) and 2023 geochemistry waste rock investigation results (WSP 2023b).

The mitigation strategy defined for prevention of acid generation and metal leaching from the pile is predicated on freezing of the PAG waste rock during winter, with deposition of additional rock in summer to keep the frozen rock isolated from the active zone, which is subject to seasonal freeze and thaw. The water quality model assumes that flow from the WRF only occurs via direct runoff or as shallow interflow within the waste rock active layer. Water that infiltrates the WRF will become frozen due to permafrost aggradation and no deeper seepage occurs. Updated catchment areas and land type proportions as provided by Baffinland and estimated from survey were included as was an update of the waste rock material balance to reflect the 2023 through 2026 Depositional Plan for the Project.

The conclusions based on the 2023 water quality model update are:

- Key drivers of WRF Pond chemistry are the quantity and quality of the runoff and seepage of the WRF, particularly the acidity and metal loading. Nickel concentration is a key driver with respect to MDMER potential for exceedance and requirement for treatment prior to discharge.
- The WRF pond chemistry was evaluated as a function of expected non-AG vs PAG material placement over time and indicates that the requirement to treat to meet MDMER guideline values diminishes with the reduction in the amount of PAG materials available to react or provide source term loading in the pile. The required reductions in availability of PAG materials are expected to be achievable through ongoing mitigation efforts that primarily involve material segregation and freezing in the pile as demonstrated by improving observed conditions in ongoing water quality monitoring as presented in WSP 2023b.
- The potential uncertainty within the model was investigated through use of conservative assumptions and by performing sensitivity analyses. The results of these analysis show that it is necessary to limit the potential for development of strongly acidic conditions in the pile through material segregation and freezing. Provided strongly acidic conditions are not allowed to develop, some misclassification of PAG materials as non-AG (up to 5%) and placement of PAG materials in non-AG areas is not expected to result in MDMER exceedances for specified parameters.
- Based on the conservative case assessment it is necessary to limit the potential for generation of acidity within the pile through continued mitigation measures. Further, the possibility of generation of acidity, particularly within the thermally active zone at the final edges and surface of the pile must be minimized through strict adherence to operational guidelines that consider the geochemistry of the placed materials.
- Treatment is not predicted to be required when strictly considering the MDMER defined parameters arsenic, copper, nickel, lead and zinc. Although the model results are compared to MDMER, the results are not representative of discharge to the receiving environment or the final discharge point regulated under MDMER. Additional review of the assimilative capacity of the environment and desktop evaluation and/or to confirm no acute toxicity would be required under MDMER prior to environmental release to a water body.

5.0 LIMITATIONS

Care was taken to incorporate known processes into the water quality model, as understood during model development. However, in natural systems and complex man-made systems, observed conditions will almost certainly vary with respect to estimated conditions. Water quality modelling requires the use of many assumptions due to the uncertainty related to determining the physical and geochemical characteristics of a complex system. Given the inherent uncertainties and assumptions of the model approach, the results of the model should be used as a tool to aide in the design of the WRF and to outline potential risks rather than to provide absolute values.

This model was constructed based on the conceptualization of sources and release mechanisms, combined with data interpretation, to describe water quality conditions at the WRF. Where uncertainty exists in model input values, conservative inputs and assumptions have been applied. Climatic controls, which may limit infiltration, geochemical processes and flow within the catchment, were not modelled. Therefore, the model could potentially overestimate the predicted concentrations in the catchment.

The purpose of the model is to forecast future WRF pond chemistry for the time period 2023 through 2026 based on recent water balance model updates, geochemical source term updates and mine planning information. The model does not consider closure conditions, downstream water discharge toxicity, or environmental assimilative capacity. The model results are based on the input data collected from WRF runoff during 2018 through 2022 by Baffinland. Changes in the WRF conditions, input data, or assumptions regarding the WRF conditions will necessarily result in changes to water quality model predictions.

6.0 CLOSURE

The reader is referred to the study Limitations presented in Section 5.0 which form an integral part of this report.

We trust that this report meets your current needs. Should you have any comments or questions this document, please do not hesitate to contact the undersigned.

WSP Canada Inc.

ORIGINAL SIGNED

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Lead Geoscientist

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7.0 REFERENCES

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APPENDIX A

Source Terms

Table A1: Source Term Chemistry

Parameter	MDMER [1]	Non-AG, Expected [2]	Non-AG Upper Bound [2]	PAG (Acidic) Expected [2]	PAG (Acidic) Upper Bound [2]	Sump Input [3]	Prepared Ground [4]	Natural Ground [5]	Initial Pond [6]
pH Range		6.6 - 7.4	6.6 - 7.5	4.0 - 4.5	4.0 - 4.2	7.6 - 8.0	6.1 - 8.1	6.1 - 8.2	6.8
Suphate		832	3030	5430	14800	835	921	47.5	3030
Ag		0.0005	0.0005	0.005	0.008	0.000337	0.0005	0.00035	0.0005
Al		0.788	12.8	13.4	38.9	0.208	3.36	6.63	6.43
As	0.1	0.001	0.00233	0.01	0.0168	0.00071	0.0011	0.000867	0.00158
B		0.100	0.100	1.000	1.600	0.076	0.100	0.070	0.100
Ba		0.032	0.098	0.025	0.036	0.043	0.033	0.034	0.046
Be		0.001	0.001	0.010	0.019	0.001	0.001	0.001	0.002
Ca		67.0	207.0	116.0	147.0	110.0	60.5	13.4	137.0
Cd		0.0001	0.0003	0.0015	0.0042	0.0000	0.0002	0.0000	0.0004
Co		0.0164	0.118	1.35	3.89	0.0211	0.127	0.00864	0.403
Cr		0.005	0.0411	0.05	0.0826	0.00343	0.0116	0.0189	1000000
Cu	0.1	0.005	0.0302	0.172	0.262	0.00421	0.0146	0.0107	0.0388
Fe		1.94	24.8	162	724	0.931	11.6	10.1	193
Hg		0.000005	0.000005	0.000005	0.000005	0	0	0	0.00005
K		6.4	14.6	6.8	10.9	7.1	4.8	3.1	6.5
Mg		185	665	1140	3080	175	204	19	595
Mn		1.62	11.1	66.3	193	2.07	8.23	1.08	29
Mo		0.00227	0.0138	0.005	0.00804	0.0026	0.00184	0.000873	0.00157
Na		4.39	11.9	5	10.1	6.22	3.22	0.65	4.99
Ni	0.25	0.0221	0.16	1.33	4.78	0.0219	0.107	0.0184	0.4
P		0.5	0.5	5	8	0.35	0.5	0.35	0.50
Pb	0.08	0.0005	0.00921	0.005	0.00832	0.000363	0.00307	0.00408	0.00373
S		278	1010	1820	4950	279	308	15.9	1010
Sb		0.001	0.001	0.01	0.016	0.0007	0.001	0.0007	0.001
Se		0.00436	0.013	0.0118	0.022	0.00403	0.00285	0.000494	0.0068
Si		3.1	20.7	10	18.6	2.54	6.95	10.6	10.3
Sn		0.001	0.001	0.01	0.016	0.0007	0.001	0.0007	0.001
Tl		0.0001	0.000221	0.001	0.00175	0.0000766	0.000123	0.000137	0.000368
U		0.00365	0.0162	0.0167	0.0471	0.0125	0.00845	0.00186	0.0102
V		0.005	0.0208	0.05	0.0806	0.0035	0.00772	0.0104	0.0143
Zn	0.1	0.03	0.0481	0.3	0.589	0.021	0.0365	0.021	0.0958

Notes

pH is unitless, all other units are mg/L

pH range based on observed range or defined range of pH values for data used to develop respective water qualtiy inputs

1 MDMER: Metal and Diamond Mine Effluent Regulations for Maximum Authorized Monthly Mean Concentration

2 Water quality values used for calculation provided in Appendix C of Geochemistry Report WSP 2023b

3 Sump water quality based on average of 9 samples (L2496103-2; L2496104-1; L2496047-3; L2496049-2; L2496120-2; L2496140-2; L2496140-3; L2496705-2; L2497356-2) from the East Ditch where pumped sump water dominated the flow in the ditch.

4 Prepared ground values developed based on an average of 11 samples (L2290598-3; L2294118-3; L2303578-3; L2306761-1; L2312016-1; L2320850-1; L2323296-1; L2327989-6; L2337960-3; L2340461-5; L2345723-3) from East Ditch prior to sump discharge expected to be represenative of prepared ground prior to placement of waste rock.

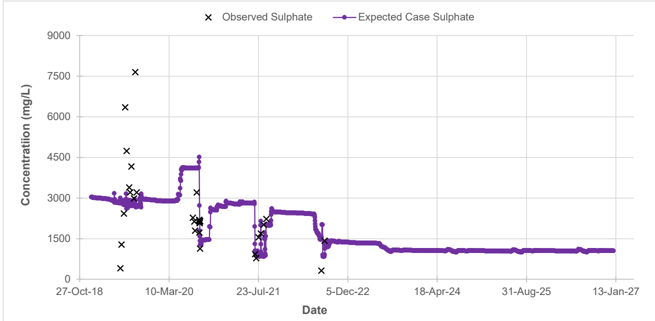
5 Natural ground avalues developed based on an average of 3 samples ((L2290620-7; L2303565-1; L2306749-5) expected to receive least amount of influence from the WRF

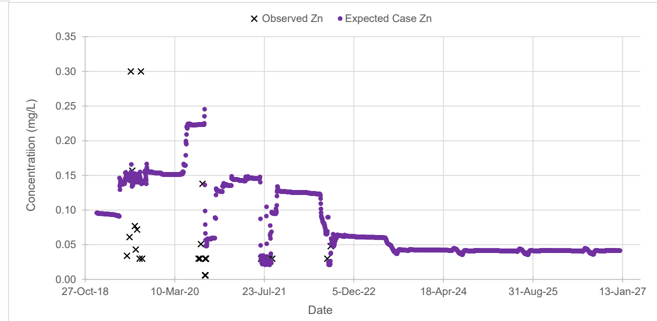
6 Initial pond water chemistry set at the 75th percentile concentratiosn from East Ditch and West Ditch inflows - this is an initial value only and is replaced by caclulated model values

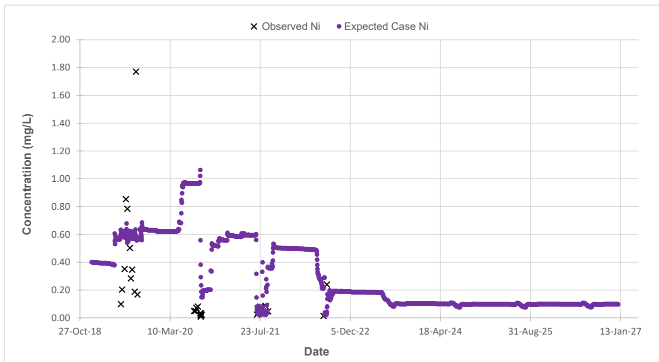
APPENDIX B

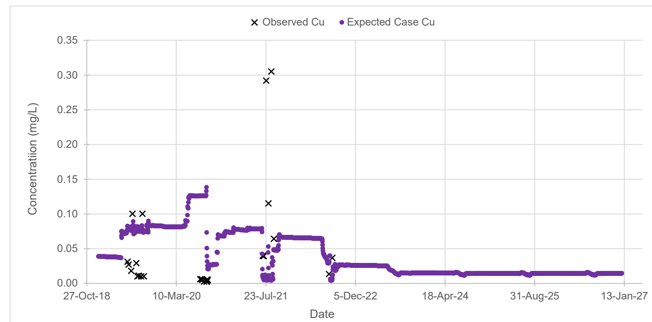
Time-Series Model Results

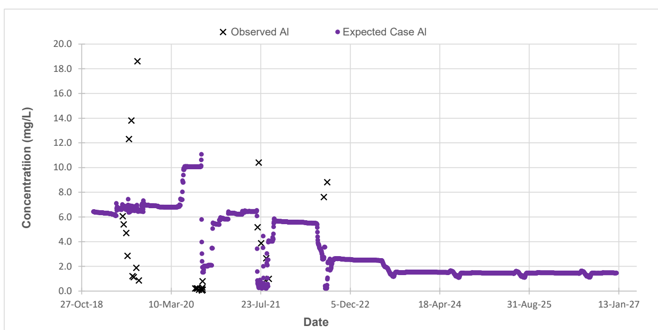
Figure B1: WRF Pond - Time Series Model Results for Sulphate, Zinc, Nickel, Copper, Aluminum, Zinc - Expected Case











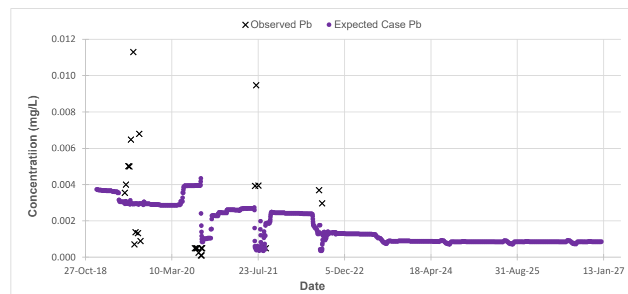


Figure B2: WRF Pond - Time Series Model Results for Sulphate, Zinc, Nickel, Copper, Aluminum, Zinc - Expected Case with 0.5% PAG Misclassfication

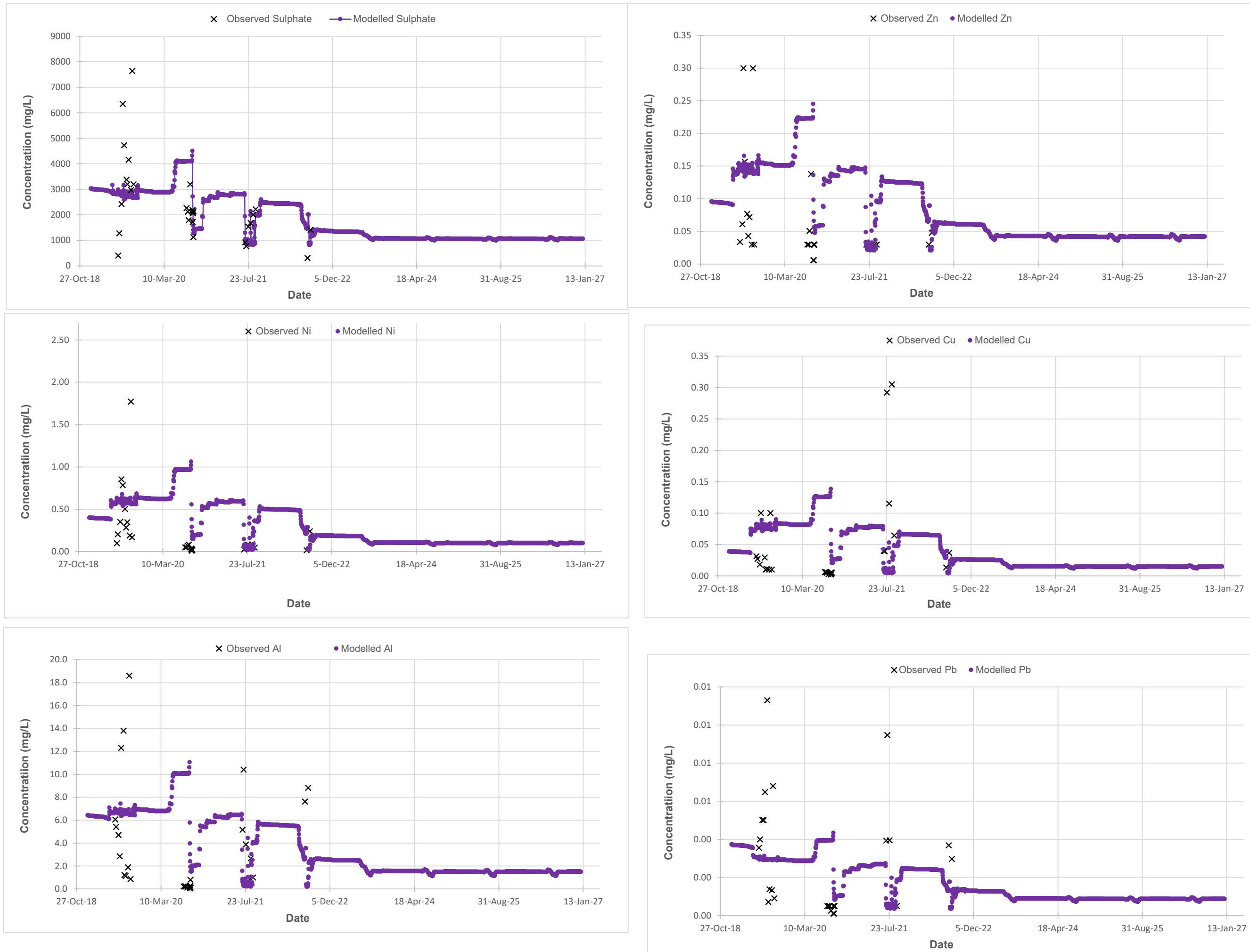


Figure B3: WRF Pond - Time Series Model Results for Sulphate, Zinc, Nickel, Copper, Aluminum, Zinc - Expected Case with 5% PAG Misclassfication

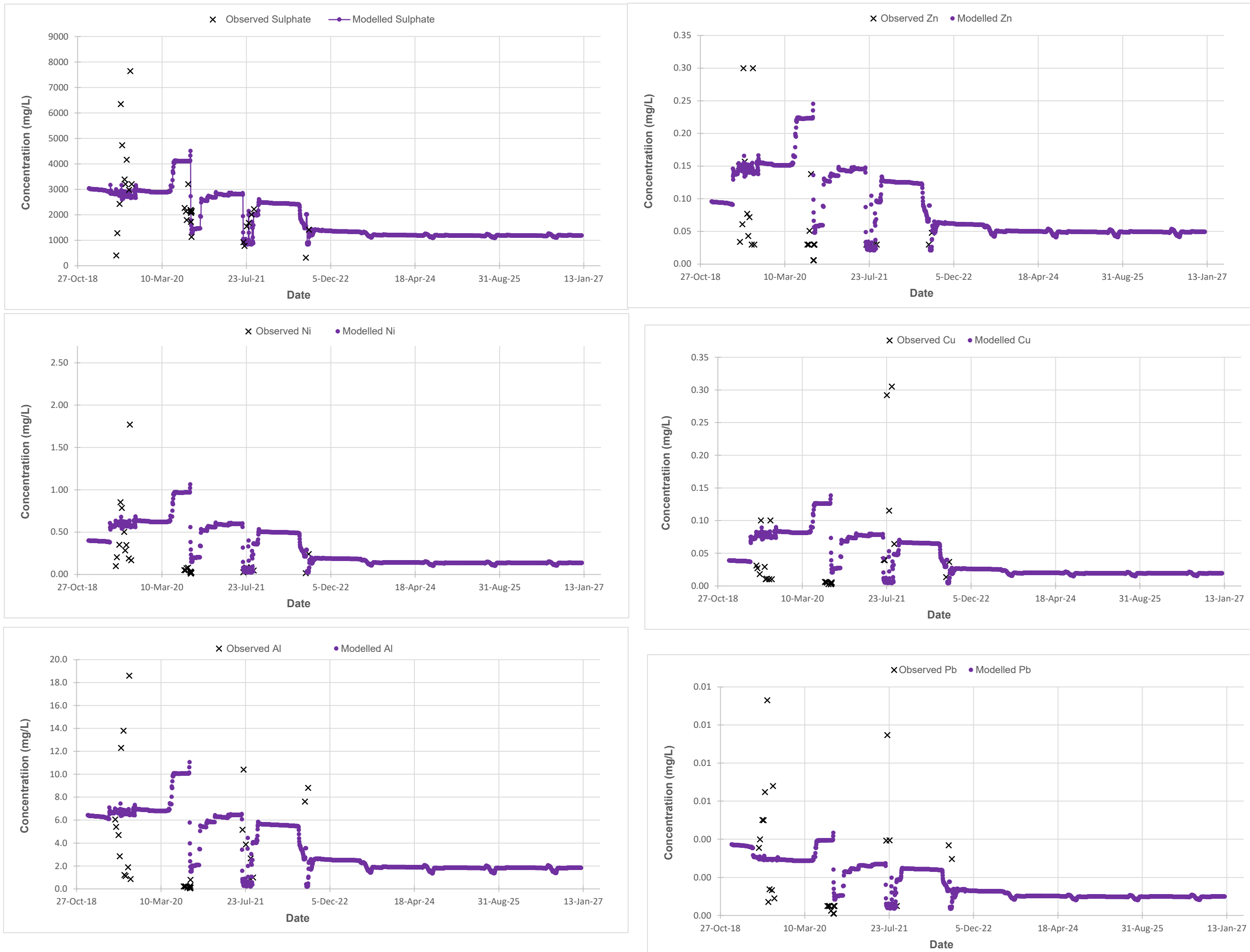
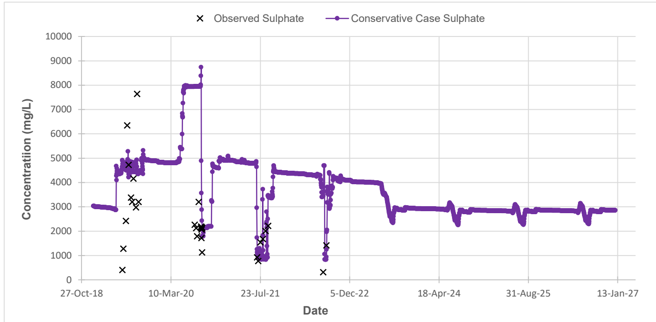
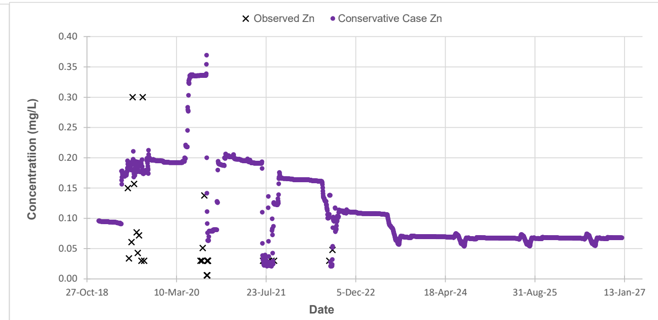
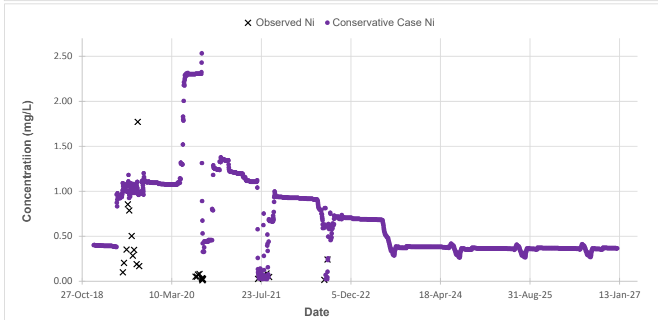
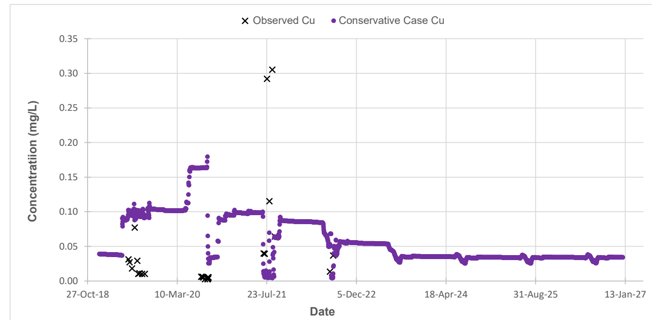


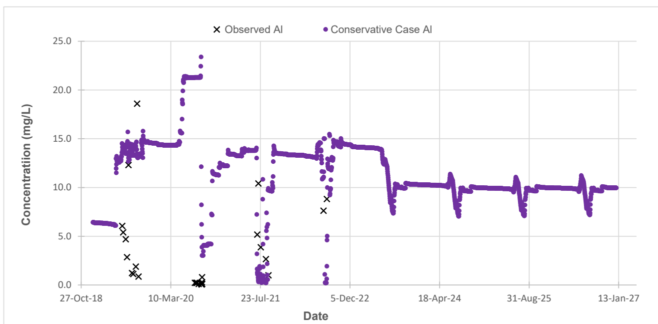
Figure B4: WRF Pond - Time Series Model Results for Sulphate, Zinc, Nickel, Copper, Aluminum, Zinc - Conservative Case

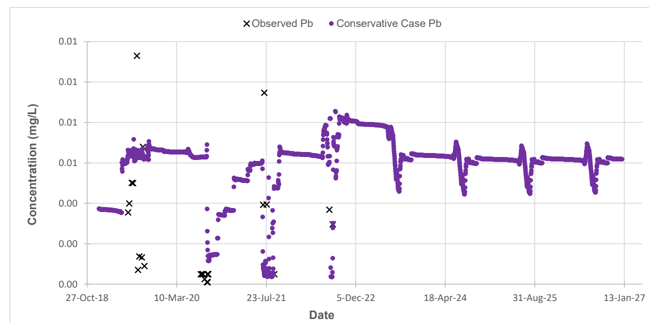






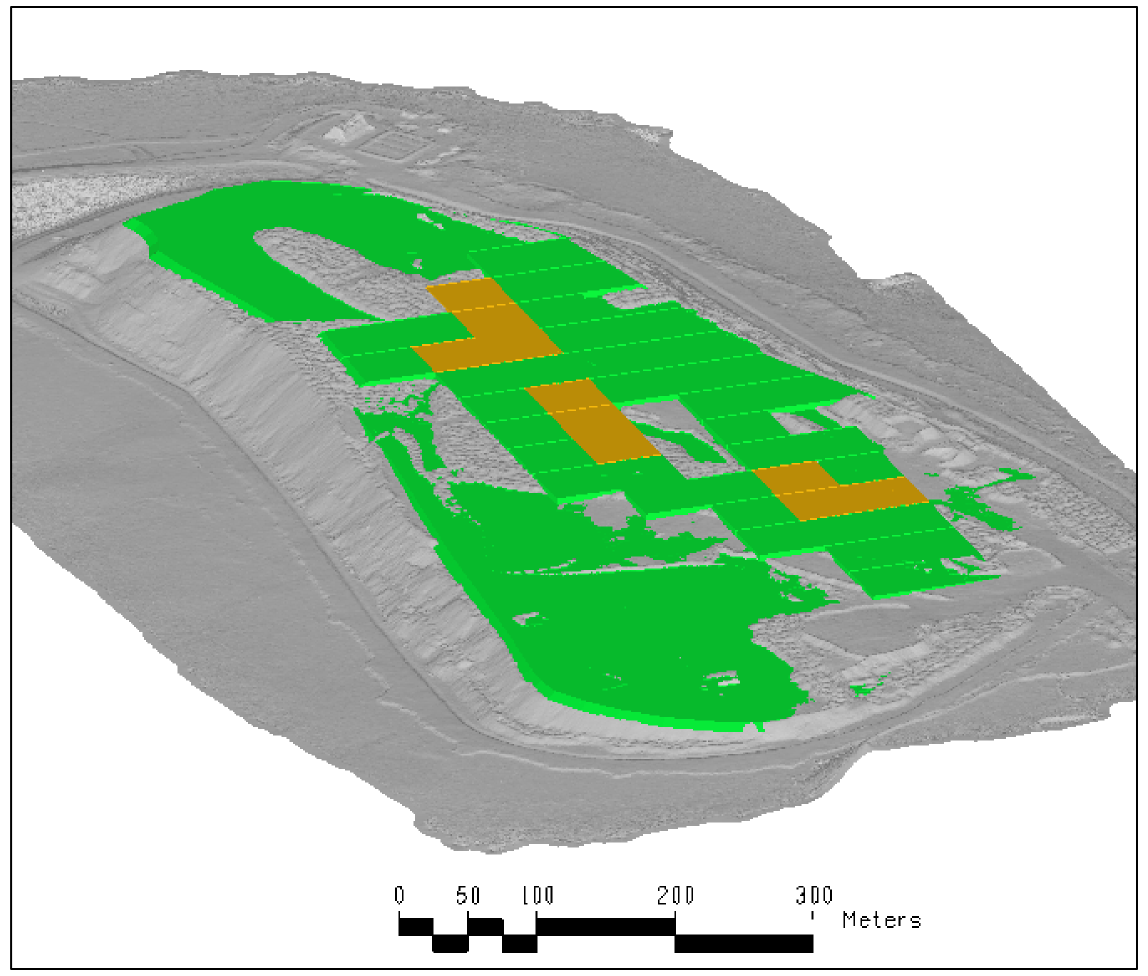




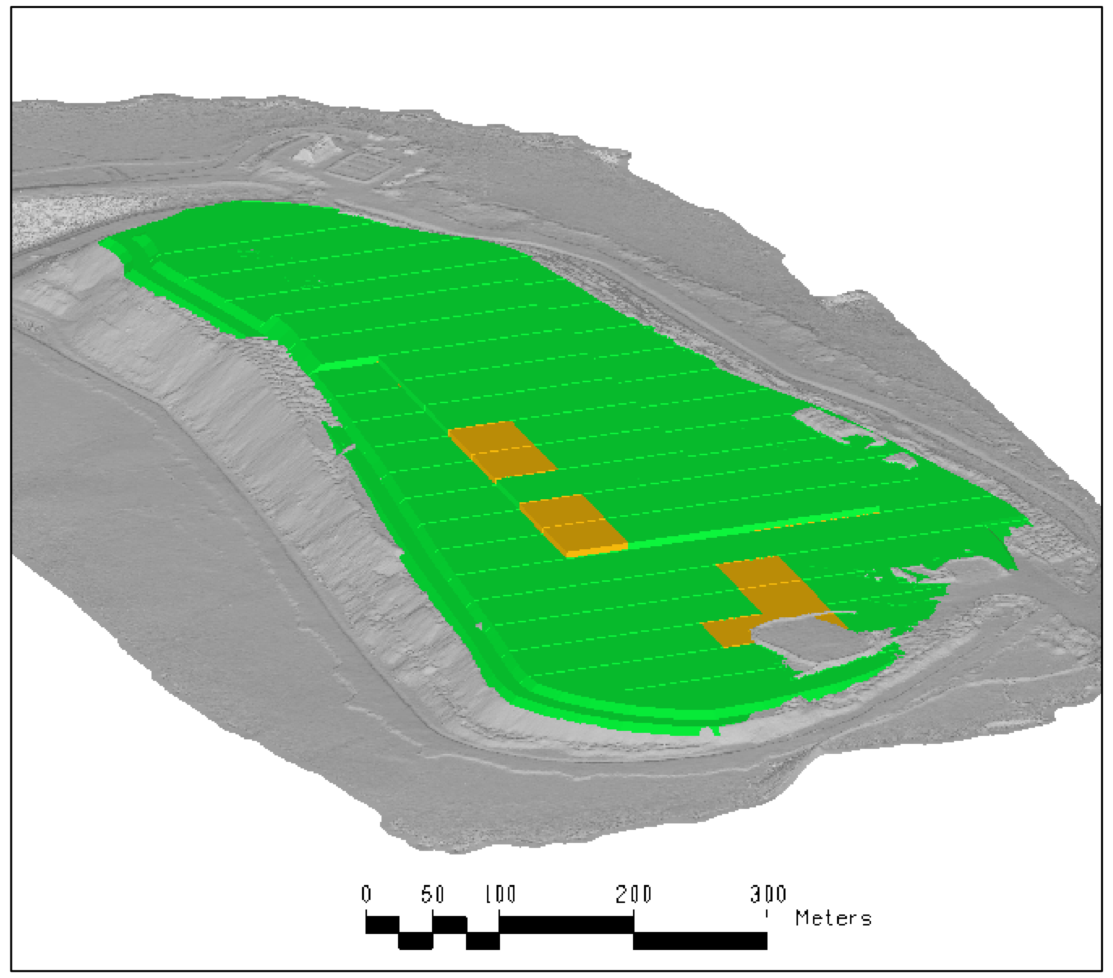


APPENDIX B

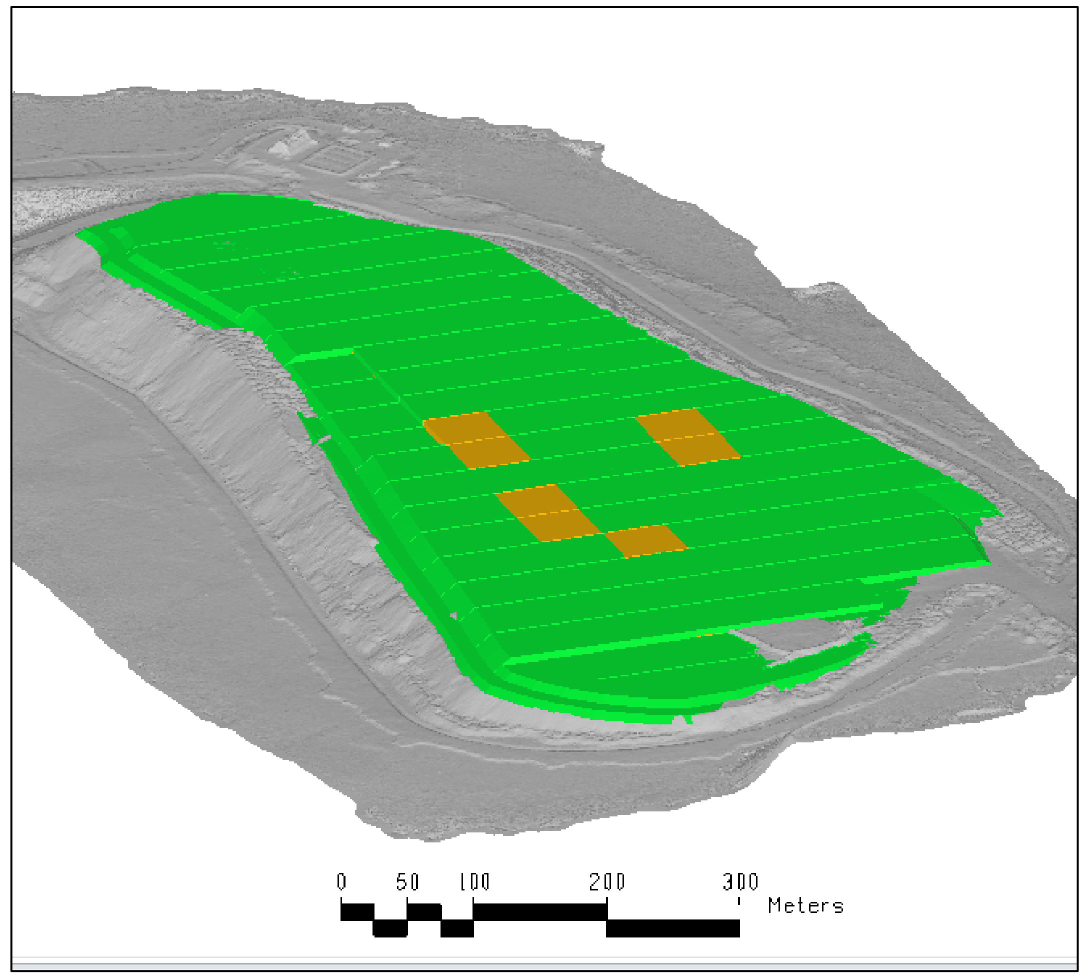
Baffinland Conceptual Waste Rock Deposition Plans



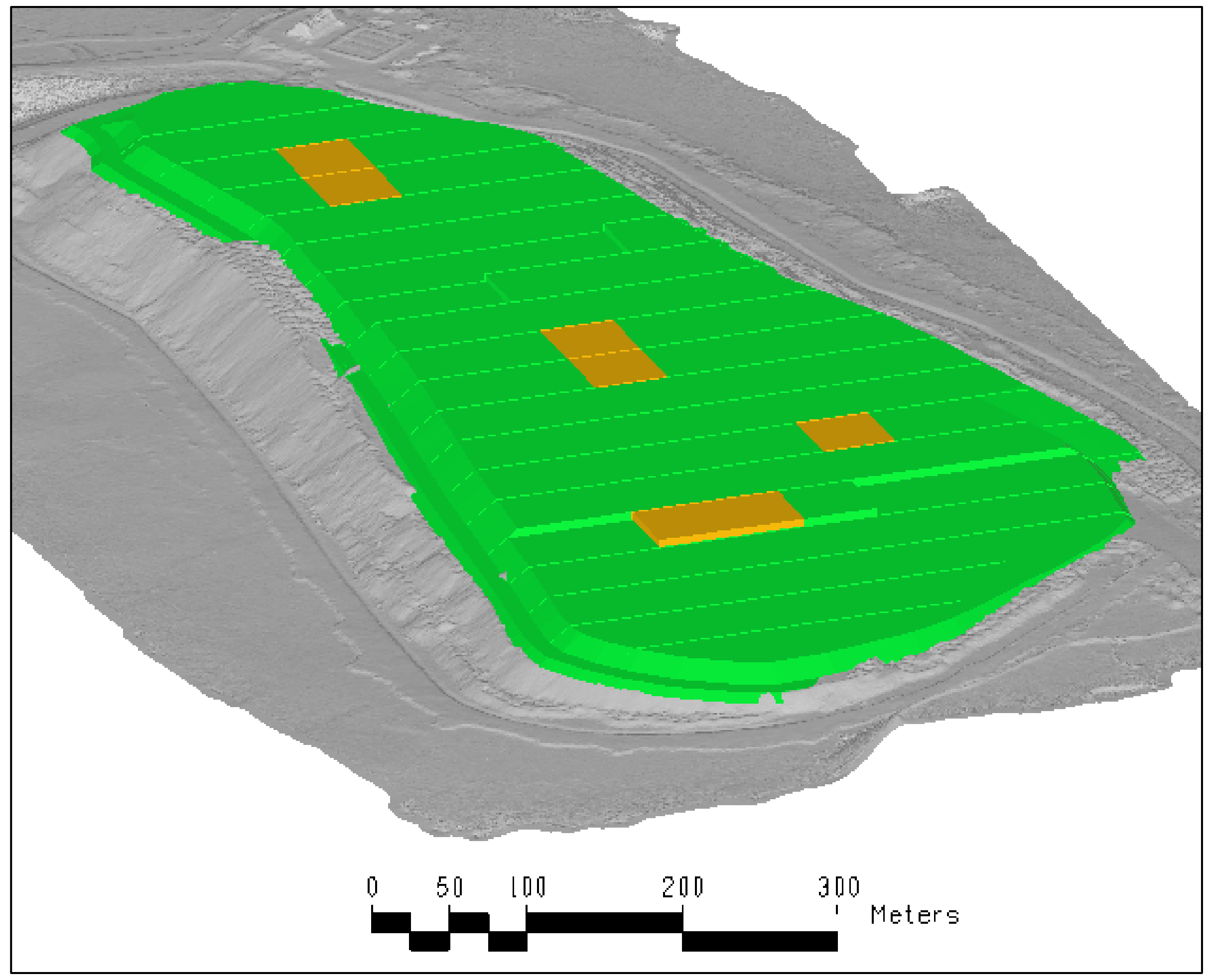
September 30th 2023



May 31st 2024



Sept 30th 2024



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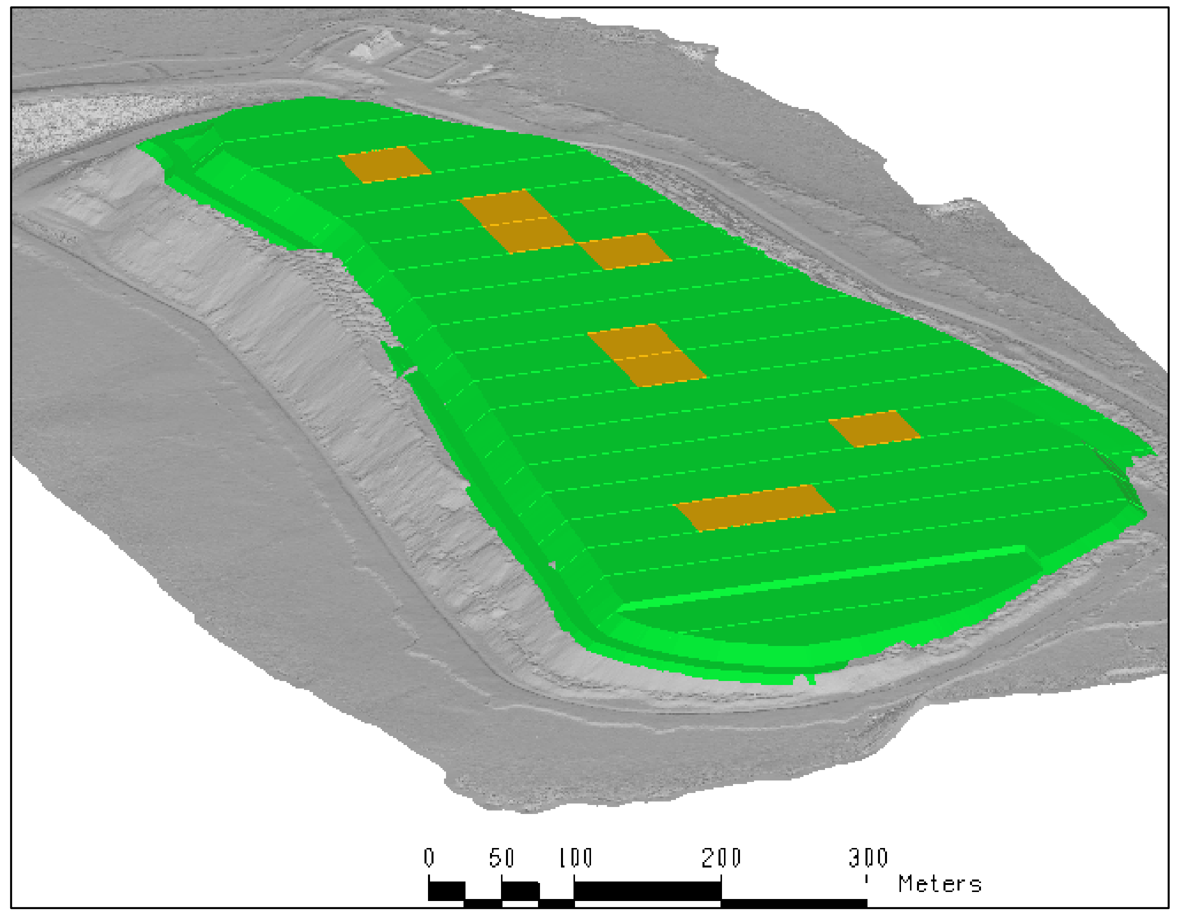

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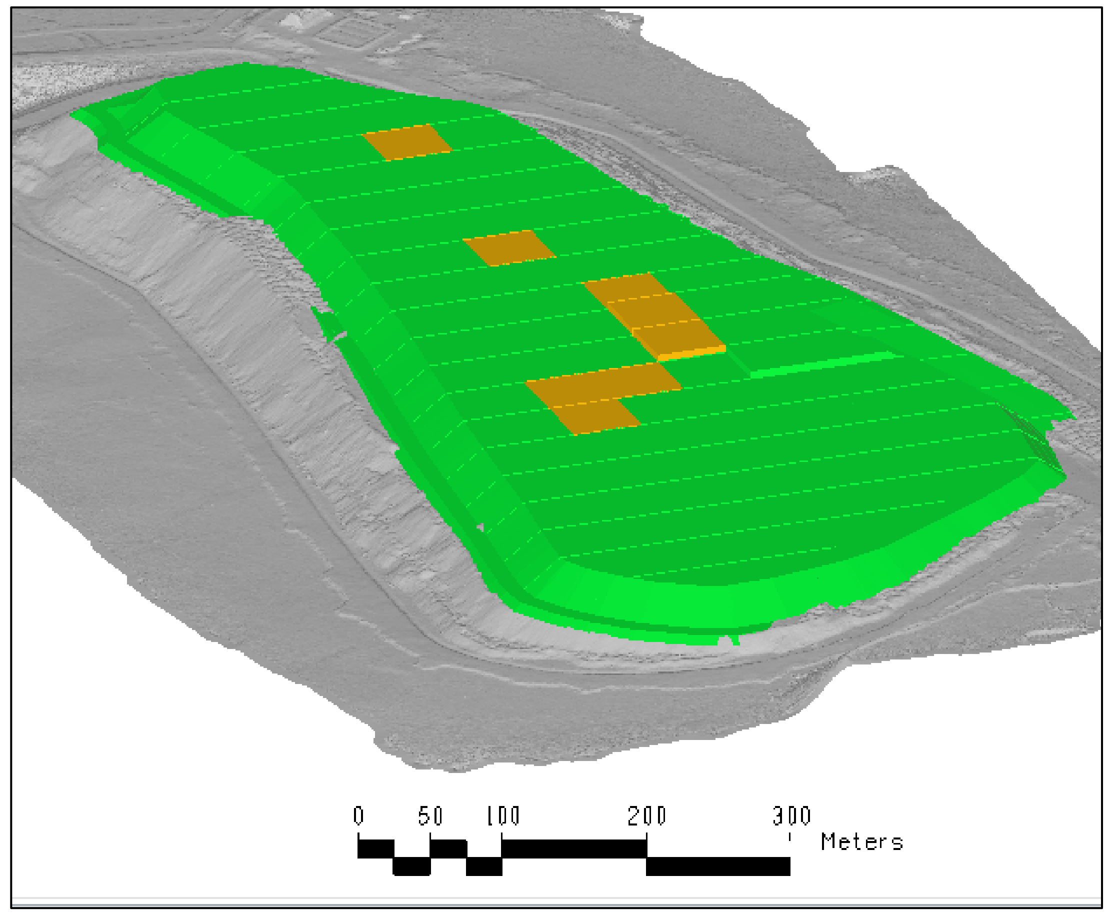

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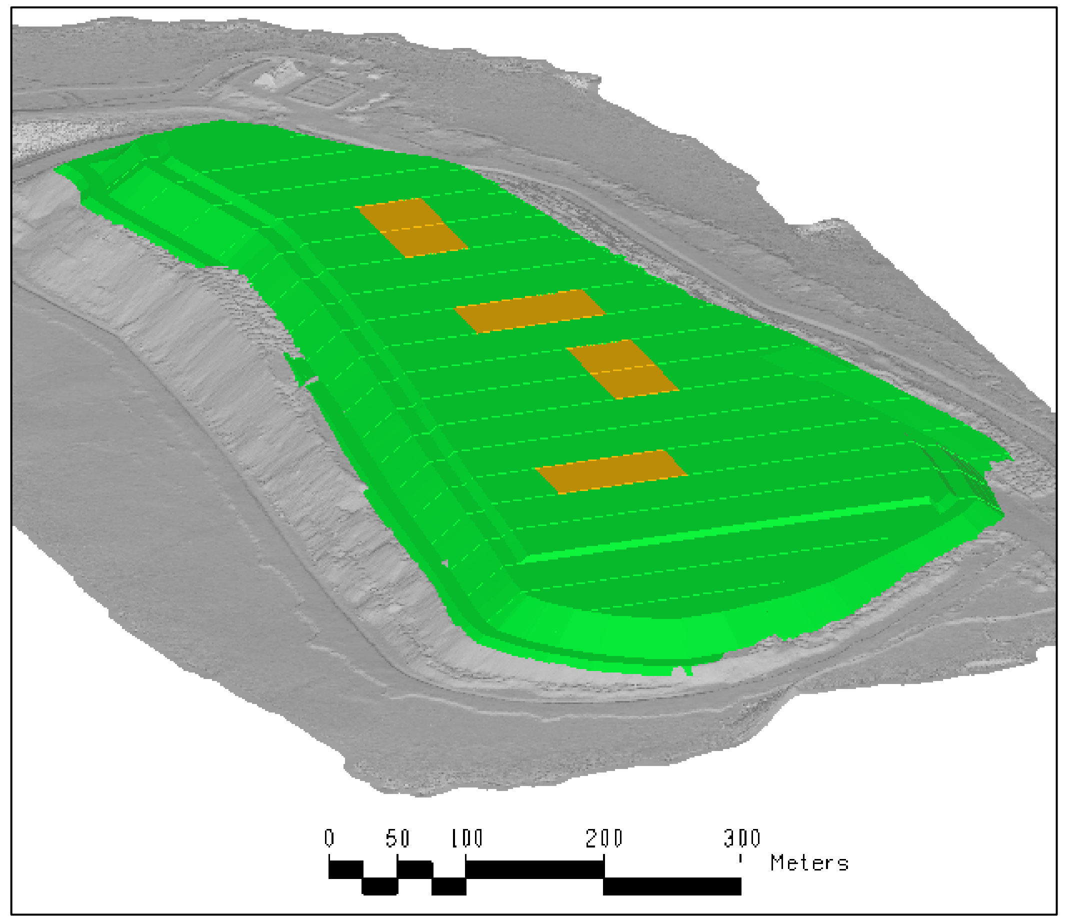

Sept 30th 2026

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APPENDIX B: WASTE ROCK FACILITY QAQC MONITORING PLAN

Baffinland Iron Mines Corporation

Waste Rock Facility QAQC Monitoring Plan

BAF-PH1-340-P16-0004

Rev 2

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1 PURPOSE & SCOPE

Baffinland's Phase 1 Waste Rock Management Plan (WRMP) provides criteria for defining potentially acid generating (PAG) waste and non-acid generating (Non-AG) waste, as well as criteria for placing these different material types in the Waste Rock Facility (WRF). The objective of these criteria is to minimize the potential for acid rock drainage (ARD) and metal leaching (ML). A quality assurance and quality control (QAQC) program is required to ensure compliance with these criteria, and to ensure the WRMP is working as intended. The purpose of this document is to outline that QAQC program.

As well, this document outlines the processes for planning, tracking and reporting progressive reclamation and installation of a Non-AG waste cover at the WRF. The objective is to achieve and maintain an exposed PAG waste footprint of 15 % of total surface area, which would require cover in a temporary or permanent closure scenario.

2 RESPONSIBILITIES

2.1 Technical Services Superintendent / Manager

- Ensure compliance to Mining Dig Map Creation Procedure (BAF-PH1-340-PRO-0054).
- Ensure the Mining Dig Map Creation Procedure (BAF-PH1-340-PRO-0054) is compliant with the WRMP.
- Review and approve any changes, corrections, or updates to this procedure.
- Designate responsible persons within their department for implementing the Plan.
- Provide training to ensure all Technical Services personnel understand the Plan.
- Implement corrective actions in the event of identified non-conformances.
- Designate qualified personnel to produce NAPEG stamped drawings, on a quarterly basis, that show the extents of the Non-AG cover over the WRF.
- Designate qualified person for annual review and reporting of thermistor and water quality data and waste placement at the data.

2.2 Medium Term Planner / Short Term Planner

- Execute short and long term planning of Non-AG and PAG waste placement at the WRF.
- Ensure waste placement planning is compliant with criteria outlined in the WRMP.
- Ensure waste placement planning targets the smallest possible exposed PAG waste footprint.
- Perform frequent WRF field visits and monitoring to ensure compliance to the Plan.
- Reconcile actual waste placement against WRMP criteria for annual reporting.

2.3 Mine Geologist / Product Quality Geologist

- Identify Non-AG and PAG waste in the pit and create dig plans.
- Ensure material classification is compliant with criteria outlined in the WRMP.
- Monitor daily dig advance to confirm Non-AG and PAG are separated and routed to appropriate destinations at the WRF.
- Compile blasthole geochemical data for quarterly reporting.

2.4 Mine Surveyor

- Stake dump limits as well as Non-AG and PAG dumping locations.
- Monitor lift thickness and provide elevation stakes to meet design requirements.
- Pick-up as-built surveys of WRF deposition using drones and / or RTK GPS on a weekly frequency.
- Produce weekly and end-of-month (EOM) WRF surfaces.

2.5 Geotechnical Engineer / Mine Technician

- Download WRF instrumentation data.
- Maintain WRF instrumentation.

2.6 Environmental Superintendent / Manager

- Designate responsible persons within their department for implementing water sampling.
- Provide training to ensure all Environmental personnel understand the Plan.
- Complete annual review and reporting of water quality data, or assign task to a trained designate.

2.7 Environmental Coordinator / Environmental Technician

- Perform water sampling at the WRF.
- Maintain a database of water chemistry results for all samples collected from the WRF.

2.8 Operations manager

- Designate responsible persons within their department for implementing the Plan.
- Provide equipment requirements to execute the Plan.
- Ensure execution is in compliance to the Plan.
- Implement corrective actions in the event of identified non-conformances.

2.9 Mine Superintendent

- Ensure daily operations are in-line with the short-range plans provided by Technical Services.
- Ensure supervisors and operators are trained and understand the Plan.
- Coordinate resources to achieve the Plan.

2.10 Load and Haul Supervisor

- Communicate mine dig plans to operators.
- Communicate WRF placement plans to operators.
- Ensure all workers and operators are trained and understand placement plans.
- Inspections of the active digs and WRF and reporting of all non-conformances.

2.11 Haul Truck Operator

- Ensure material type loaded is recorded in Fleet Management System.
- Ensure Blast ID loading from is recorded in Fleet Management System.
- Report non-compliances to their supervisor.
- Contact their supervisor if uncertain about any of the tasks.

2.12 Push Unit Operator

- Follow grade stakes to respect designated lift heights.
- Follow dumping limits, cut and fill, and all other survey guidance provided.
- Warn their supervisor when dumping/pushing approaches the area limits or if additional survey guidance is required.
- Report non-compliances to their supervisor.
- Contact their supervisor if uncertain about any of the tasks.

3 PROTOCOL

The sections below outline the process to identify, delineate and track Non-AG and PAG waste from their origin in the pit to their final placement for storage at the WRF. Two methods are used to track the position of material: (1) the origin (loading point) and destination (dumping point) of each truck load are tracked using the BIM Fleet Management System (FMS) and (2) surveyors complete pickups of face progression in the pit and at the WRF using RTK GPS and/or drone. These processes ensure adequate material characterization and subsequent placement in the correct location at the WRF (i.e. PAG to PAG dump and Non-AG to Non-AG dump).

A QAQC program is in place with the objective of controlling and monitoring waste placement, as well as monitoring WRF performance with respect to thermal and chemical stability.

3.1 In-Pit Material Identification & Delineation

This section summarizes the process used to identify and delineate Non-AG and PAG waste in the pit as per the Mining Dig Map Creation Procedure (BAF-PH1-340-PRO-0054):

- Waste blasthole samples are taken on a ~11 m x 11 m grid (based on blast design parameters).
- Waste blasthole samples are analyzed for: Moisture, Al_2O_3, CaO, Fe, Fe_2O_3, K_2O, MgO, Mn, Na_2O, P, SiO_2, TiO_2, LOI, Magnetics, FeO, S and paste pH.

- Waste blasthole samples are randomly selected for ABA and SFE analysis at a frequency of 1 sample per 40,000 t of blasted waste. Waste blasthole samples are classified as PAG or Non-AG using criteria outlined in the WRMP, Section 6, Waste Rock Classification and Geochemical Sampling.
- Blastholes are grouped together to create minable units called Dig Blocks.
- Dig Blocks must conform to criteria outlined in Mining Dig Map Creation Procedure, with some of the key points noted below.
    1. Dig Blocks located within blasts:
        - All sides of the dig block are ≥ 9 m.
        - Minimum surface area is 160 m^2.
        - The shape is angular.
        - All angles are ≥ 90°.
    2. Dig Blocks located at the edge of blasts:
        - The side that intersects the blast edge can be 5.5 m in width (i.e. the distance between each blast hole).
        - Minimum surface area is 120 m^2..
        - The shape is angular.
        - All angles are ≥ 90°.
- All Dig Blocks are staked and flagged in the field according to their assigned material type.
- The Mine Geologist monitors the mining advances daily to ensure Non-AG and PAG are separated and routed to the appropriate destinations at the WRF.
- All waste rock geochemical information is spatially referenced and stored in Baffinland's internal databases, allowing for auditing and confirmation of appropriate material identification.
- Records supporting in-pit material identification will be reviewed and compiled by the Mine Geologist on a quarterly basis for regulatory reporting (see section 3.6).

Refer to Appendix A, Material Classification Project Activities for Performance Indicators, Conditions and Pre-defined Response(s) related to waste identification and delineation.

3.2 WRF Material Placement Planning

Planning and scheduling of Non-AG and PAG waste placement at the WRF is required to meet two objectives. The first objective is to adhere to the waste rock deposition criteria outlined in Baffinland's WRMP. These criteria are designed to permanently freeze PAG waste and minimize the potential for ARD and ML. The second objective is to achieve and maintain an exposed PAG waste footprint of 15 % of the total surface area.

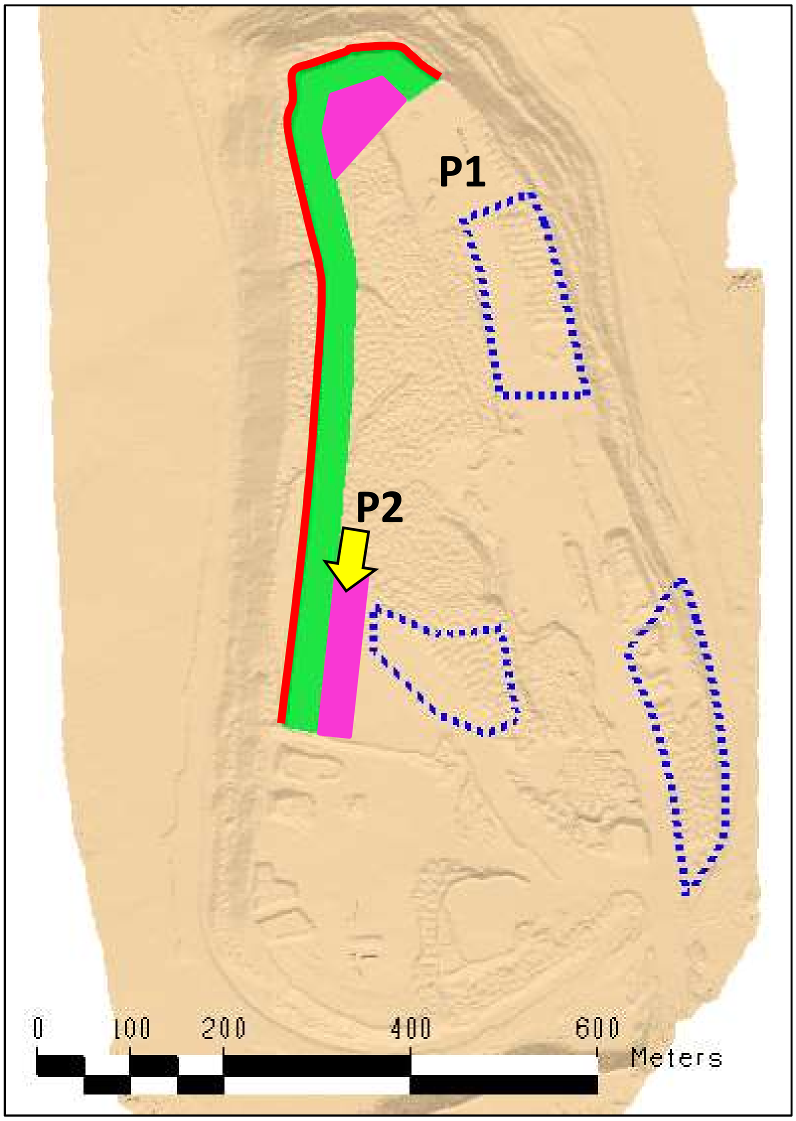
3.2.1 Medium and Long Range Planning

It is the responsibility of the Medium Term Planning Engineer to develop medium and long range placement plans for Non-AG and PAG waste at the WRF that conform to the deposition criteria outlined in the WRMP. Placement plans will demonstrate progressive covering of exposed PAG waste at the WRF with 4.0 m (minimum) of Non-AG waste, to achieve and then maintain an exposed PAG waste footprint that is as small as operationally feasible. These plans must consider the overall stockpile design as well as locations of any installed WRF instrumentation (see section 3.4). 3-month placement plans will be provided to regulators on a quarterly basis (see section 3.6).

3.2.2 Short Term Planning

The Short Term Planner is responsible for preparing the weekly business plan, which includes a drawing of the WRF and instructions for placement of Non-AG and PAG material with target elevations and / or lift thicknesses. In addition to primary dump locations, auxiliary dump locations will always be planned for and available in the case that the primary areas are unusable. It is the responsibility of the Mine Superintendent to ensure Mine Operations adhere to the weekly placement plans issued by Technical Services. An example weekly placement plan is shown in Figure 1.

FIGURE 1: EXAMPLE OF WEEKLY WASTE ROCK PLACEMENT PLAN FOR OPERATIONS



1. Do not dump inside the blue outlined areas (staked in field, call for re-staking if required)
2. Do not dump outside the red line (staked in field)
3. If a push unit is available, dump at P1 working North
4. If a push unit is unavailable, free-dump at P2 working South
5. Place **ONLY** Non-AG waste (4.0m thick) inside the green solid (staked in field), **no PAG**
6. Place **ONLY** PAG waste inside the pink solid (staked in field)
7. All lifts must conform to 5m max lift thickness
8. Do not dump in areas not designated by survey or map

3.2.3 Survey Identification

- Survey stakes identify the destination and dumping limits for Non-AG and PAG waste. Target lift elevation (lift thickness) is recorded on survey stakes.
- Surveyors conduct daily field inspections to ensure necessary controls are in place and to refresh stakes as needed.
- Mine Operations Supervisors are responsible to audit the dumping locations at least once per shift and notify Survey if controls need to be re-established. Shift dump checklist includes field controls for Non-AG and PAG dumping areas/limit.
- Surveyors will notify the Planning team if/when dump limits have been reached.
- The complete WRF surface is surveyed monthly using drone imagery (approximately 5 cm accuracy) or RTK GPS.
- RTK GPS is used to collect incremental advance daily.
- Prior to any WRF expansion onto original ground, the original ground will be surveyed. The first lift of Non-AG waste rock will subsequently be surveyed to confirm thickness.

Refer to Appendix A, Execution Control Project Activities for Performance Indicators, Conditions and Pre-defined Response(s) related to waste placement planning.

3.3 WRF Material Placement Execution and Controls

3.3.1 FMS System

- Haul trucks are outfitted with GPS and tablets, which connect to the Fleet Management System (FMS) via the on-site LTE network.
- Operators indicate on their tablets the material type which is loaded at the dig face.
- Note the PAG waste material type is locked to destination Waste Rock Dump and the system will not allow to dump at other locations.

Dispatch monitoring occurs at all times throughout load, haul and dump operations, see Figure 2. Examples of truck operators tablet interface are shown in Figures 3 + 4. Monitoring includes, but is not limited to, material type (i.e. PAG, Non-AG), load locations, dump locations, load times, dump times, and equipment status (i.e. operating, delayed, standby or down).

FIGURE 2: FLEET MANAGEMENT SYSTEM INTERFACE

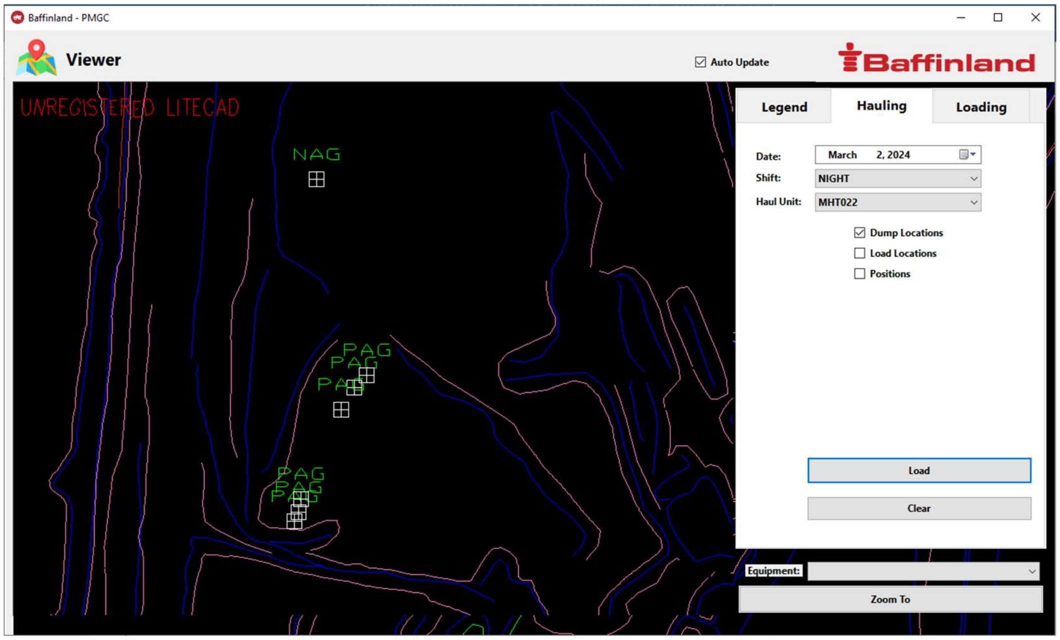


FIGURE 3: MINE HAUL TRUCK TABLET HAUL INTERACE

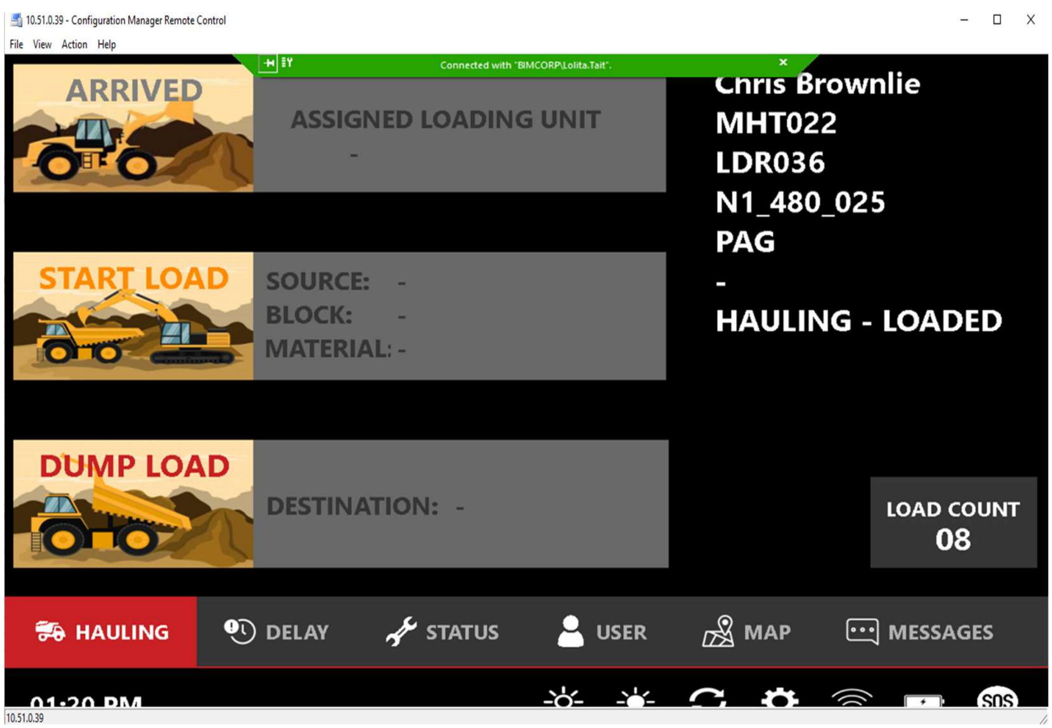
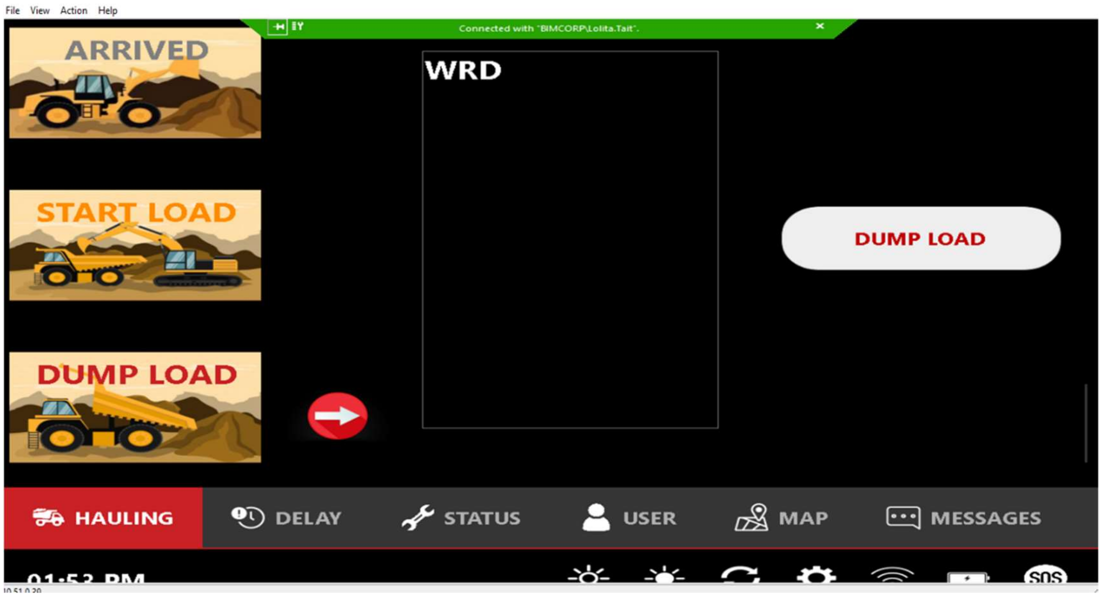


FIGURE 4: MINE HAUL TRUCK TABLET DUMP INTERFACE



3.3.2 Field Controls

Field controls are in place for both placement and pushing at the WRF. Dump and push unit locations for placed waste rock are demarcated on the WRF via signage and staking for each material type. PAG placement zones are delineated with signage stating "PAG DUMP", and entrance to PAG placement zone is restricted using tires, see Figure 5.

FIGURE 5: PAG PLACEMENT ZONE SIGNAGE

Refer to Appendix A, Execution Control Project Activities for Performance Indicators, Conditions and Pre-defined Response(s).

3.4 WRF Material Placement Tracking & Reconciliation

Tracking material placement in the WRF and reconciling this placement against the waste depositional criteria outlined in the WRMP is required to facilitate: (1) interpretation of thermistor data and water quality data, (2) calibration of future thermal and water quality models; (3) assessment of conformity to the WRMP; and (4) implementation of corrective actions, if required. The following sections outline the protocols for waste placement tracking and waste placement reconciliation.

3.4.1 WRF Material Placement Tracking

- Waste placement is tracked via FMS: each load origin and dumping location is recorded on the haul trucks and all relevant information is stored in Baffinland's internal database, including, but not limited to, material type (i.e. PAG, Non-AG), tonnage, origin, destination, load time and dump time. Evidence of material movement for Non-AG and PAG waste is traced from exact dump location to the original pit location where waste rock geochemical information was collected to support the material type classification.
- All material movement is compared against the weekly placement plan and verified by the Technical Services team.
- The WRF as-built surface is updated regularly. The full WRF surface is collected at least monthly using drone imagery (5 cm accuracy, dependent on weather and daylight) or RTK GPS. Incremental advance surveys are collected using RTK GPS when dumping areas are active.
- Drawings stamped by a NAPEG registered engineer will be produced and provided to Regulators on a quarterly basis, showing the extents of the Non-AG cover over the WRF, and the area of PAG exposure remaining to be covered (see section 3.6).

3.4.2 WRF Material Placement Reconciliation

Actual WRF material placement will be reconciled against the criteria outlined in the WRMP. This reconciliation will occur on a quarterly basis. The criteria for evaluation are provided in Table 2. If a non-conformance is identified, it will be recorded and appropriate corrective actions will be taken.

TABLE 1: CRITERIA FOR QUARTERLY RECONCILIATION OF WRF MATERIAL PLACEMENT

Category	Criteria
Footprint Expansion	The first lift of the WRF on native ground shall be Non-AG waste rock.
Footprint Expansion	Waste rock placement over native ground shall be carried out in the winter to the extent practical (defined to be Oct 1 – May 31). At a minimum, the lift will be allowed to freeze prior to the deposition of subsequent lifts.
Material Separation	Non-AG and PAG waste rock placement locations at the WRF shall be documented. Non-AG material that may be intermixed with PAG material shall follow the waste rock deposition strategies for PAG material.
Stockpile Exterior Face	Exclusively Non-AG waste rock shall be placed within a minimum of 4.0 m from stockpile faces.
Lift thickness	Waste rock placement to target a maximum thickness of 5.0 m during a single deposition event.
Successive lift placement	When waste rock temperature is greater than 0°C (defined to be June 1 – Sept 30), successive lifts may be placed to a maximum thickness of 7.0 m (no single lift can be greater than 5.0 m).
Capping PAG	Any PAG zone in the WRF must be covered with a minimum of 4.0 m of Non-AG waste within 24 months of initial placement.

Refer to Appendix A, Execution Control Project Activities for Performance Indicators, Conditions and Pre-defined Response(s).

3.4.3 WRF Non-AG Cover Placement Verification Testing

The following outlines the methodology for conducting verification testing for the placement of non-AG and PAG materials at the WRF. The purpose of this testing is to verify the acid generating potential of placed materials and ensure compliance with the WRMP procedures. Where applicable, procedures and methodologies have been extracted from the Mine Environment Neutral Drainage (MEND) Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials (Mend Report 1.20.1, December 2009).

Sample Collection

Due to frozen ground conditions, obtaining samples during winter months may be difficult using typical test pitting methods. As such test pitting or drilling will be used to obtain the sample. Further details are recorded below.

- The target sample size will be 5 kg.
- The sample will be taken between 0.5 m – 2.0 m below ground surface.

- The following information will be collected with each sample:
  - Unique name and sample number;
  - Sampling date;
  - Sampling location (GPS coordinates);
  - Length over which the sample was taken;
  - Sample size;
  - Geological material;
  - Type of sampling (e.g. test pit vs. drilling)

Sample Frequency

- A sample grid of 80 m by 80 m will be used. This is equivalent to a sample every 60,000 tonnes of placed cover material (which will be approximately ~52 samples for the 2024 progressive reclamation).

Sample Testing

- 30% of all samples will be collected and sent to an accredited laboratory for modified Sobek acid base analysis. The remaining samples will be retained for two years.
- All samples will be tested for paste pH and total sulphide content.
- As samples will be obtained by drill and by test pitting it is expected that sample size gradations will be different in the field (drill cuttings vs. dug material). To maintain consistency, each full sample will be sent to the laboratory and crushed for testing.

Sample Reporting

- Baffinland will compile the results from the QAQC sampling program and include them as part of the quarterly WRF monitoring report.

3.5 WRF Instrumentation Monitoring & Reporting

Various instrumentation, including thermistors and vibrating wire piezometers, have been installed throughout the WRF with a primary purpose to characterize the thermal conditions of the waste rock, and confirm the waste placement strategy is working to keep the WRF in a perpetually frozen state. Current instrumentation locations are shown in Figure 6, as well as instrumentation planned for installation in 2024. Supplementary details on WRF instrumentation and results can be found in the WRMP (WSP 2023).

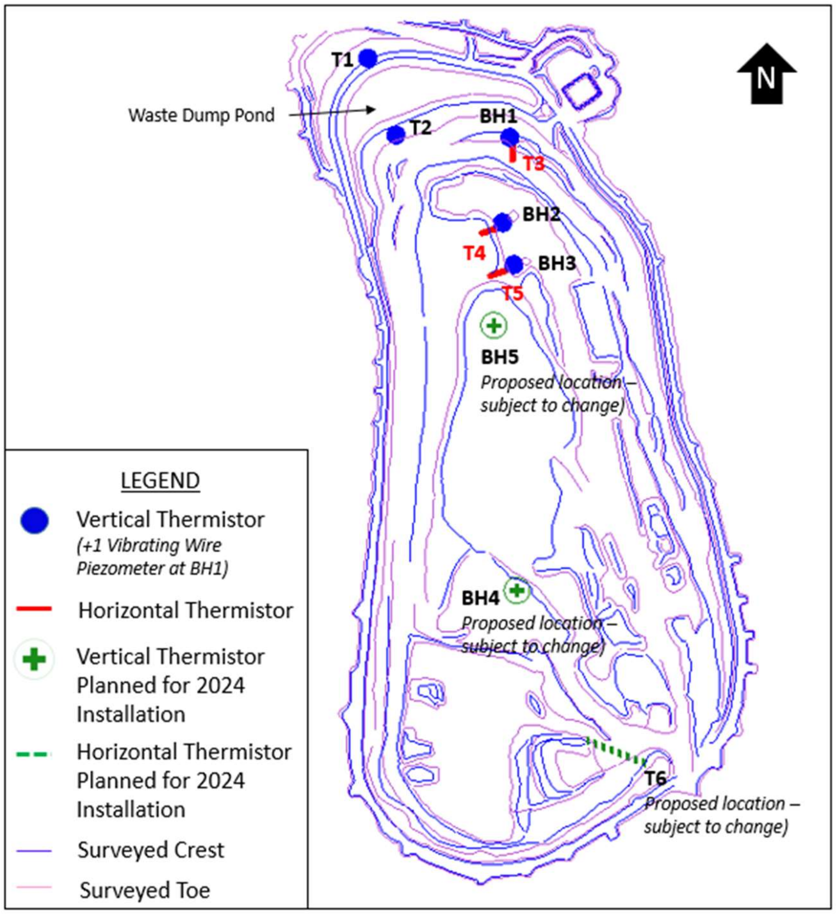
Additional thermistors (BH4, BH5, and T6) are to be installed in 2024 in select locations targeting current Non-AG capping on the active layers, i.e. 620 m - 630 m elevations.

3.5.1 Instrument Monitoring & Data Collection

The following procedure is provided for existing instrumentation (and any future instrumentation) to ensure data is continuously collected and archived for later interpretation. It is the responsibility of the geotechnical engineer, mine technician or trained designate to ensure this procedure is followed.

- Instrument inspections are completed weekly, and the following is recorded:
  - Name of person(s) completing the inspection & date of inspection
  - Battery status of each instrument
  - Whether or not any instrument extensions are required: if extension is required, a notification will be sent to the Technical Services Manager or Superintendent
  - Whether or not any instrument damage has occurred. If damage is noted, a photograph will be taken and a notification will be sent to the Technical Services Manager or Superintendent
- Instrument data is downloaded once a quarter, and the data is stored in an on-site database (Figure 7). Completeness of data will be verified after upload into the site database, and validity of data will be confirmed by plotting and reported quarterly, looking for any outlier measurements. If there are any newly damaged nodes or issues with data integrity, a notification will be sent to the Technical Services Manager.

FIGURE 6: MAP OF THE WRF SHOWING INSTRUMENT LOCATIONS



Waste Rock Facility Instrumentation Map		
Survey Date:	January 2024	Baffinland
Print Date:	February 2024	

FIGURE 7: EXAMPLE OF THERMISTOR READINGS UPLOADED TO THE ON-SITE DATABASE

TIMESTAMP	RECORD	BATTERY	Therm 1	Therm 2	Therm 3	Therm 4	Therm 5	Therm 6	Therm 1	Therm 2	Therm 3	Therm 4	Therm 5	Therm 6	LOGGER TEMP
		Volts	deg C	deg C	deg C	deg C	deg C	deg C	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	deg C
2018-12-07 16:00	1	3.53	2.64	3.01	1.98	1.9	3.34	3.35	8572.62	8414.9	8861.342	8896.398	8276.162	8270.961	1.9
2018-12-08 0:00	2	3.57	1.87	1.7	2.02	2	1.96	2.52	8910.012	8989.932	8844.438	8853.448	8869.244	8622.688	3
2018-12-08 8:00	3	3.56	5.01	5.36	4.74	4.68	5.36	5.59	7616.03	7484.774	7720.008	7742.153	7487.561	7400.81	5
2018-12-08 16:00	4	3.56	4.54	4.82	4.26	3.82	4.7	5.06	7798.314	7689.318	7907.086	8080.085	7736.369	7597.123	4.3
2018-12-09 0:00	5	3.55	4.43	4.85	4.53	3.77	4.73	4.82	7839.27	7676.889	7800.258	8099.348	7724.816	7688.361	4.3
2018-12-09 8:00	6	3.55	4.35	4.74	4.42	3.47	4.64	4.77	7871.621	7720.969	7842.205	8222.241	7759.533	7706.565	4.3
2018-12-09 16:00	7	3.55	5.18	5.58	5.35	4.92	5.5	5.43	7554.772	7403.562	7491.277	7651.148	7432.98	7459.752	5.1
2018-12-10 0:00	8	3.55	3.92	4.17	4.14	3.68	3.88	4.17	8039.703	7939.757	7953.663	8137.013	8056.837	7941.742	3.8
2018-12-10 8:00	9	3.55	1.12	1.58	2.39	0.82	1.56	2.04	9255.106	9041.762	8679.701	9399.119	9049.857	8835.439	1.9
2018-12-10 16:00	10	3.45	-16.21	-13.11	-12.19	-11.25	-10.95	-11.72	23440.68	19690.22	18718.76	17768.93	17480.57	18237.53	-20.8
2018-12-11 0:00	11	3.45	-11.66	-7.16	-5.32	-4.74	-4.45	-4.74	18180.56	14246.74	12915.22	12524.71	12340.6	12526.46	-21.2
2018-12-11 8:00	12	3.45	-11.05	-6.73	-4.83	-4.22	-4.04	-4.23	17576.85	13922.91	12589.85	12187.14	12074.56	12193.91	-20.4
2018-12-11 16:00	13	3.45	-10.83	-6.69	-4.8	-4.15	-3.98	-4.15	17368.29	13892.51	12565.15	12148.34	12036.23	12146.65	-18.9
2018-12-12 0:00	14	3.45	-10.67	-6.72	-4.83	-4.15	-3.97	-4.13	17215.66	13914.79	12588.08	12144.97	12029.58	12134.88	-17.9
2018-12-12 8:00	15	3.45	-10.55	-6.76	-4.88	-4.16	-3.97	-4.13	17103.17	13941.19	12618.16	12155.07	12029.58	12131.52	-17.2
2018-12-12 16:00	16	3.45	-10.45	-6.81	-4.94	-4.18	-3.97	-4.13	17013.42	13979.9	12657.22	12166.88	12034.57	12131.52	-17.1
2018-12-13 0:00	17	3.44	-10.36	-6.85	-4.99	-4.21	-3.99	-4.13	16927.05	14010.57	12696.46	12185.45	12042.89	12134.88	-17.1
2018-12-13 8:00	18	3.43	-10.29	-6.91	-5.05	-4.24	-4	-4.14	16860.03	14055.71	12734.06	12202.37	12051.21	12138.24	-16.9
2018-12-13 16:00	19	3.44	-10.22	-6.96	-5.11	-4.27	-4.01	-4.15	16801.38	14094.87	12777.22	12221.02	12059.54	12143.29	-16.9
2018-12-14 0:00	20	3.44	-10.16	-7	-5.17	-4.3	-4.03	-4.15	16745.66	14119.67	12815.15	12241.41	12069.55	12148.34	-16.4
2018-12-14 8:00	21	3.43	-10.11	-7.04	-5.23	-4.34	-4.05	-4.16	16703.4	14154.92	12856.87	12265.26	12081.24	12153.39	-15.8
2018-12-14 16:00	22	3.44	-10.07	-7.1	-5.29	-4.37	-4.07	-4.17	16666.55	14198.64	12898.77	12285.74	12092.95	12158.44	-15.3
2018-12-15 0:00	23	3.45	-10.05	-7.15	-5.35	-4.4	-4.09	-4.18	16645.55	14236.26	12939.03	12307.99	12104.67	12165.19	-14.9
2018-12-15 8:00	24	3.46	-10	-7.18	-5.41	-4.45	-4.11	-4.19	16601.04	14261.42	12979.46	12335.45	12118.08	12171.94	-14.5
2018-12-15 16:00	25	3.46	-9.97	-7.22	-5.47	-4.48	-4.13	-4.2	16569.73	14288.75	13020.06	12359.54	12131.52	12178.69	-14.2
2018-12-16 0:00	26	3.46	-9.91	-7.26	-5.52	-4.52	-4.15	-4.21	16520.34	14316.15	13057.12	12385.42	12144.97	12185.45	-13.9
2018-12-16 8:00	27	3.45	-9.85	-7.28	-5.58	-4.55	-4.17	-4.23	16468.57	14337.28	13096.19	12406.18	12158.44	12193.91	-13.8
2018-12-16 16:00	28	3.46	-9.8	-7.31	-5.63	-4.59	-4.19	-4.24	16419.62	14360.57	13131.68	12432.2	12173.63	12200.68	-13.7
2018-12-17 0:00	29	3.45	-9.75	-7.34	-5.69	-4.64	-4.22	-4.25	16376	14379.66	13169.18	12460.03	12188.83	12209.15	-13.6
2018-12-17 8:00	30	3.45	-9.7	-7.37	-5.73	-4.68	-4.24	-4.26	16332.54	14400.92	13203.06	12486.19	12202.37	12215.93	-13.6
2018-12-17 16:00	31	3.45	-9.66	-7.39	-5.78	-4.72	-4.26	-4.27	16296.89	14417.96	13233.27	12512.44	12217.63	12224.42	-13.7
2018-12-18 0:00	32	3.45	-9.62	-7.41	-5.83	-4.75	-4.29	-4.29	16263.88	14432.9	13269.27	12535.24	12234.61	12232.91	-13.9

3.5.2 INSTRUMENT DATA REPORTING & INTERPRETATION

Instrument data is reviewed and reported on quarterly, with purpose to confirm the waste rock pile continues to freeze progressively, as intended by the WRMP.

3.6 WRF WATER QUALITY MONITORING & REPORTING

MONITORING WATER QUALITY IS REQUIRED TO ASSESS THE CHEMICAL STABILITY OF THE WRF AND TO ENSURE PROCESSES OUTLINED AS PART OF THE WRMP ARE ADEQUATE WITH RESPECT TO LIMITING ARD AND ML. WATER QUALITY SAMPLING IS ALSO REQUIRED TO SUPPORT

FUTURE UPDATES TO THE WATER QUALITY MODEL. WATER QUALITY MONITORING LOCATIONS ARE SHOWN IN . FIGURE 8: WRF WATER QUALITY MONITORING LOCATIONS

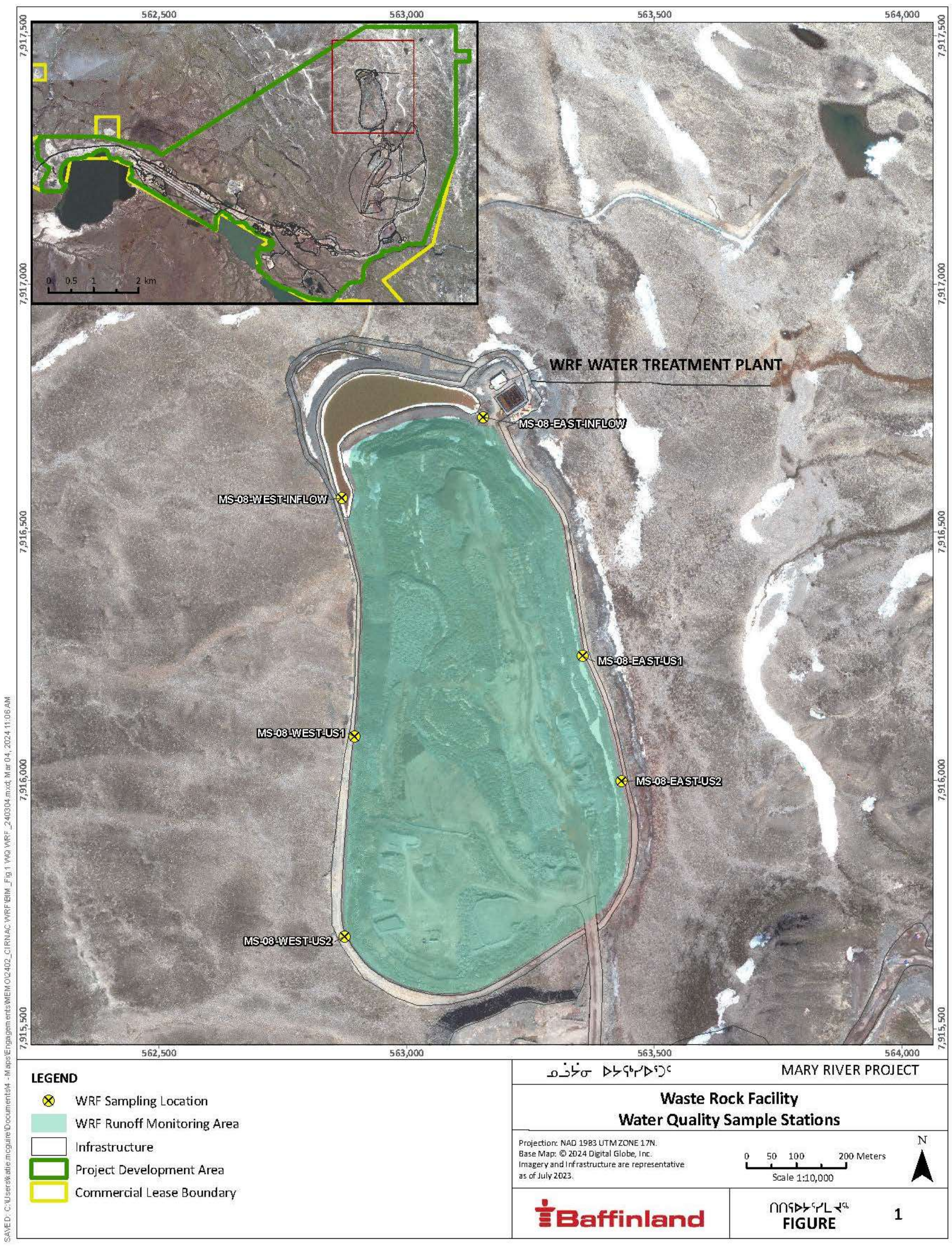


Table 2 provides the targeted frequency and locations for water sampling around the WRF to achieve these objectives. It is the responsibility of the Environmental Coordinator or Technician to collect these samples, submit them for analysis and archive the data for later interpretation. All samples are submitted for detailed water quality analysis will include parameters per the WRMP. A sample may not be collected if insufficient water is observed. However, these dry conditions would be captured in field notes and photos. Water quality data will be reviewed and reported as required.

Refer to Appendix A, Ditch and Inflow WQ Monitoring Project Activities for Performance Indicators, Conditions and Pre-defined Response(s).

FIGURE 8: WRF WATER QUALITY MONITORING LOCATIONS

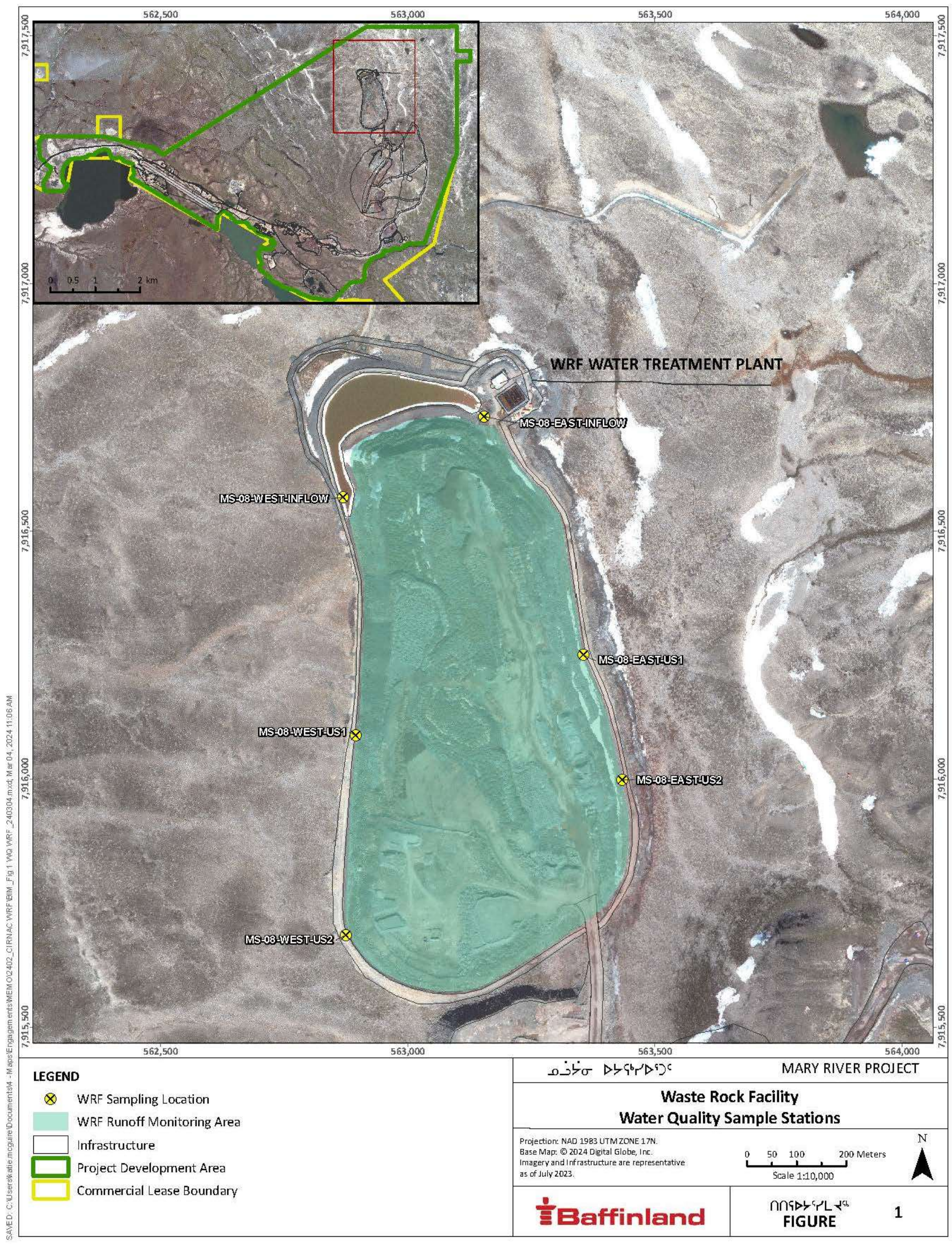


TABLE 2: TARGET FREQUENCY AND LOCATIONS FOR WATER QUALITY SAMPLING AT THE WRF

Monitoring Locations	Frequency	Parameters
East Ditch Inflow (To characterize water quality from waste rock facility into collection pond) • MS-08-EAST-INFLOW	Weekly during periods of Effluent discharge from WRF WTP.	As, Cu, Pb, Ni, Zn, TSS, oil and grease, pH, Conductivity, Temperature
West Ditch Inflow (To characterize water quality from waste rock facility into collection pond) • MS-08-WEST-INFLOW	Weekly during periods of Effluent discharge from WRF WTP.	As, Cu, Pb, Ni, Zn, TSS, oil and grease, pH, Conductivity, Temperature
Up-stream Ditch Sampling (To characterize water quality from waste rock facility at locations upstream of inflow) • MS-08-EAST-US1 • MS-08-EAST-US2 • MS-08-WEST-US1 • MS-08-WEST-US2	Weekly during periods of Effluent discharge from WRF WTP.	As, Cu, Pb, Ni, Zn, TSS, oil and grease, pH, Conductivity, Temperature
WRF Runoff Sampling (Opportunistic sampling locations that vary, assessing water quality of runoff within the facility to characterize more local water quality)	Opportunistic, based on presence of visibly flowing water, with target is to sample and analyze water quality 2x throughout the summer months by walking the WRF pile and sampling observed runoff flowing towards collection ditches.	As, Cu, Pb, Ni, Zn, TSS, oil and grease, pH, Conductivity, Temperature
Targeted Monitoring	If any areas have been identified for targeted water quality monitoring, the target is to opportunistically sample and analyze water quality from these locations 4x throughout the summer months, with sampling dates spaced apart to characterize water quality throughout the summer period.	As, Cu, Pb, Ni, Zn, TSS, oil and grease, pH, Conductivity, Temperature

3.7 Quarterly Reporting Demonstrating Progressive Reclamation

Baffinland is committed to completing progressive reclamation of the WRF through installation of a 4.0 m cover of Non-AG waste over exposed PAG waste, with the objective of achieving and maintaining an exposed PAG waste footprint of 15 %. On a quarterly basis, Baffinland will produce a report summarizing the results of this progressive reclamation, and details on all corrective actions and exceedances of the applicable regulatory requirement or trigger levels. Furthermore, Baffinland will provide the following documentation to regulators:

1. Drawings stamped by a NAPEG registered engineer showing the extents and design details of the Non-AG cover over the WRF, and the area of exposed PAG waste remaining to be covered.
2. Records supporting in-pit material identification and WRF placement.
3. Next 3-months material placement plan, highlighting planned changes in percent PAG exposure.

4 REFERENCES AND RECORDS

Baffinland Iron Mines Corporation (Baffinland), 2023. Waste Rock Management Plan-June 2023 through September 2026. Ref. No. 22572750-006-R-Rev0-5000, Rev. 0. December, 2023.

APPENDIX A: TRIGGER ACTION RESPONSE PLAN (TARP)

Project Activity	Objectives	Performance Indicators	Monitoring Program / Plan	Condition Status / Threshold			Pre-defined Response(s)		
				Low Risk	Moderate Risk	High Risk	Low Risk	Moderate Risk	High Risk
Material Classification	Ensuring accurate material categorization	Chemical characteristics and categorization of dig blocks	Monthly Audit of Dig Blocks	Dig blocks correctly designed/classified according to site standards.	Dig block <=10 kt incorrectly classified	Dig block >10 kt incorrectly classified	No action required.	Audit of load records and development of remediation plan (if applicable) depending on material placement location.	Moderate Response + 5-why investigation on dig map creation procedure and correction plan.
Material Classification	Ensuring accurate material categorization	Chemical characteristics and categorization of dig blocks	Quarterly Audit of Dig Blocks	Dig blocks correctly classified according to site standards	<=50 kt incorrectly classified	>50 kt incorrectly classified	No action required.	Audit of load records and development of remediation plan (if applicable) depending on material placement location.	Moderate Response + 3rd party review of dig map creation procedure and correction plan.
Material Classification	Ensuring accurate material categorization	Chemical characteristics and categorization of dig blocks	Quarterly Total Sulfur vs ABA confirmation test work, and SFE analysis	<2% of material types improperly allocated.	<5% of results inconsistent with original blasthole results	>5% of results inconsistent with original blasthole results	No action required.	Review location of inconsistent result and complete audit of dig map results and load records associated to the dig block(s). Internal review of QAQC sampling procedures. Perform batch analysis of additional samples for ABA testing. Development of remediation plan (if applicable) depending on material placement location.	Moderate Response + 3rd party review of material classification criteria for potential development and implementation of revised criteria.
Material Classification	Ensuring accurate material categorization	Chemical characteristics and categorization of dig blocks	Annual Total Sulfur vs ABA confirmation test work, and SFE analysis	<2% of material types improperly allocated.	<3% of results inconsistent with original blasthole results within the last year	>3% of results inconsistent with original blasthole results within the last year	No action required.	Internal review of QAQC sampling procedures. Perform a batch analysis on additional blasthole samples for ABA analysis. If still warranted, initiate a 3rd party review of material classification criteria for potential revision.	Moderate Response + Executive level review meeting, immediate adjustment to mine and dump plan to ensure encapsulation of PAG material.
Material Classification	Ensuring accurate material categorization	Loading unit dig block and dump location selection accuracy	Weekly Audit of FMS Load/Dump Records	<=1% PAG loads incorrectly Assigned	<=10% PAG loads incorrectly Assigned	>10% PAG loads incorrectly Assigned	No action required.	Geology to report finding(s) to Mine Ops Superintendent for review with dispatchers and/or operators. Audit of load records and development of remediation plan (if applicable) depending on material placement location.	Moderate response + Internal meeting with Mine Ops teams to review FMS system results and development of corrective action plan.
Material Classification	Ensuring accurate material categorization	Loading unit dig block and dump location selection accuracy	Monthly Audit of FMS Load/Dump Records	<=1% PAG loads incorrectly Assigned	<=5% PAG loads incorrectly Assigned	>5% PAG loads incorrectly Assigned	No action required.	Internal meeting with Mine Ops teams to review FMS system results and development of corrective action plan. Audit of load records and development of remediation plan (if applicable) depending on material placement location.	Moderate response + 5-why investigation on incorrect load assignment issues and development of corrective actions.

Project Activity	Objectives	Performance Indicators	Monitoring Program / Plan	Condition Status / Threshold			Pre-defined Response(s)		
				Low Risk	Moderate Risk	High Risk	Low Risk	Moderate Risk	High Risk
Execution Control	Adherence to WRMP	Dump Compliance	Weekly Review	>=90% of PAG loads are within the primary weekly dumping location. 100% of loads within allowed PAG dumping locations	>=75% of PAG loads are within the primary weekly dumping location. >=95% of loads within allowed PAG dumping locations	<75% of PAG loads are within the primary weekly dumping location or <95% of loads within allowed PAG dumping locations	No action required.	Audit of load records and development of remediation plan (if applicable) depending on material placement location. Non-compliant loads to be tracked in BIM tracking database with clear tracking of any remediation actions taken. Informal review of weekly plan with Mine Ops to understand reason secondary dumping location is being used.	Moderate response + Internal Review of non-compliant dumps by Mine Operations and Technical Services and development of corrective action plan
Execution Control	Adherence to WRMP	Dump Compliance	Monthly Review	>=75% of PAG loads are within the primary monthly dumping location. 100% of loads within allowed PAG dumping locations	>=50% of PAG loads are within the primary monthly dumping location and >=95% of loads within allowed PAG dumping locations	<50% of PAG loads are within the primary monthly dumping location or <95% of loads within allowed PAG dumping locations	No action required.	Audit of load records and development of remediation plan (if applicable) depending on material placement location. Internal review of monthly performance by Tech. Svcs. And Mine Ops and development of corrective action plan.	Moderate response + 5-why on dumping deviation and corrective action plan.
Execution Control	Adherence to WRMP	Dump Compliance	Quarterly Reporting and Planning	100% of loads within allowed PAG dumping locations	>=99% of loads within allowed PAG dumping locations	<99% of loads within allowed PAG dumping locations	No action required.	Audit of load records and development of remediation plan (if applicable) depending on material placement location. 5-why on dumping deviations and corrective action plan.	Moderate Response + Formal report to Regulators detailing the reasons for non-compliance and formal action plan to improve dump compliance by the following quarter.
Execution Control	Adherence to WRMP	Dump Checklist Tracking	Weekly Review	Dumping limits and areas are clearly marked in the field	<5 Reports by Supervisors of insufficient field controls	>5 Reports by Supervisors of insufficient field controls	No action required.	Internal Tech. Svcs. Manager review of WRMP QA/QC procedure with Survey team and development of corrective action plan.	Moderate Response + 5-why investigation on recurrent lack of field controls and corrective action plan.
Execution Control	Adherence to WRMP	Lift Thickness Cover Thickness	Monthly Internal Review	Lift thickness, Cover thickness 100% compliant	Lift thickness, Cover thickness and >=95% compliant	Lift thickness, Cover thickness <95% compliant	No action required	Internal Tech. Svcs./Mine Ops review of monthly non-compliances and development of corrective action plan (i.e. increasing thickness to minimum 4.0 m).	Moderate Response + 5-why investigation on non-compliance and development of corrective action (i.e. increasing thickness to 4.0m).
Execution Control	Adherence to WRMP	Lift Thickness Cover Thickness	Quarterly Reporting and Planning	Lift thickness, Cover thickness 100% compliant	Lift thickness, Cover thickness >=98% compliant	Lift thickness, Cover thickness <98% compliant	No action required	Internal Tech. Svcs./Mine Ops review of monthly non-compliances and development of corrective action plan (i.e. increasing thickness to minimum 4.0 m).	Moderate Response + 5-why investigation on non-compliance and development of corrective action (i.e. increasing thickness to 4.0m).

Project Activity	Objectives	Performance Indicators	Monitoring Program / Plan	Condition Status / Threshold			Pre-defined Response(s)		
				Low Risk	Moderate Risk	High Risk	Low Risk	Moderate Risk	High Risk
Execution Control	Verify material characterization of Non-AG cover material	Material classification of Non-AG cover in line with plan	WRF Surface Sampling Program	All samples collected are verified as Non-AG	A PAG sample is identified in a Non-AG location. Follow-up sample returns Non-AG	Initial and follow-up sampling at location identified cover material as PAG	No action required	Resample the location to confirm results. Notify Mine Operations of non-conformance. Quarterly report to note locations that required follow-up testwork.	5-why investigation on non-compliance and development of corrective action (e.g. additional Non-AG cover layer, etc). The non-conformance and associated corrective actions will be reported at the next Quarterly report.
Ditch and Inflow WQ Monitoring	Characterize water quality within the Waste Rock Facility water containment structures for closure planning purposes	As, Cu, Pb, Ni, Zn, TSS, pH.	WRF QA/QC	Ditch and Inflow WQ Monitoring is at or above Lower Level Action Limits for one of the performance indicators for two samples in a row (Table A1).	Ditch and Inflow WQ Monitoring is at or above Lower Level Action Limits for two or more performance indicators or a single performance indicator for 1year (Table A1).	Ditch and Inflow WQ Monitoring is at or above Lower Level Action Limits for two or more performance indicators or a single performance indicator for 2 or more years (Table A1).	Env't Dept: Conduct investigation into potential sources of input (Internal WRF WQ Monitoring Trend Analysis). Tech. Svcs. Dept.: Review waste rock placement strategy and ARD testing results, if Env't investigation identifies specific area. Review thermistor results for trends or anomalies.	Tech. Svcs. Dept.: Engage third party to review monitoring results and identify if any modifications are required to QA/QC Plan, waste disposition strategy or monitoring locations, or frequencies.	Tech. Svcs. Dept.: Engage third party to review monitoring results and identify if any additional contingencies are required, or if changes are required to be made to the Operational WRMP.
Internal WRF WQ Monitoring	Characterize water quality within the Waste Rock Facility water containment structures for closure planning purposes	As, Cu, Pb, Ni, Zn, TSS, pH	WRF QA/QC	Internal WRF WQ Monitoring is at or above Lower Level Action Limits for one of the performance indicators for two samples in a row (Table A1).	Internal WRF WQ Monitoring is at or above Lower Level Action Limits for two or more performance indicators or a single performance indicator for 1 year (Table A1).	Internal WRF WQ Monitoring is at or above Lower Level Action Limits for two or more performance indicators or a single performance indicator for 2 or more years (Table A1).	Env't Dept: Conduct investigation into potential sources of input (Internal WRF WQ Monitoring Trend Analysis). Tech. Svcs. Dept.: Review waste rock placement strategy and ARD testing results, if Env't investigation identifies specific area. Review thermistor results for trends or anomalies.	Tech. Svcs. Dept.: Engage third party to review monitoring results and identify if any modifications are required to QA/QC Plan, waste placement, deposition or monitoring locations, or frequencies.	Tech. Svcs. Dept.: Engage third party to review monitoring results and identify if any additional contingencies are required, or if changes are required to be made to the Operational WRMP.

Table A1: WRF Water Quality Lower Action Levels and Water Licence/MDMER Limits

Performance Indicators	Lower Action Levels (mg/L)		WL/MDMER Limits (mg/L)	
	Monthly Mean	Grab Sample	Monthly Mean	Grab Sample
Arsenic	0.24	0.48	0.30	0.60
Copper	0.24	0.48	0.30	0.60
Lead	0.08	0.16	0.10	0.20
Nickel	0.4	0.8	0.50	1.00
Zinc	0.4	0.8	0.50	1.00
pH	6.2 - 9.0	6.2 - 9.0	6.0 - 9.5	6.0 – 9.5
TSS	12	24	15.00	30.00