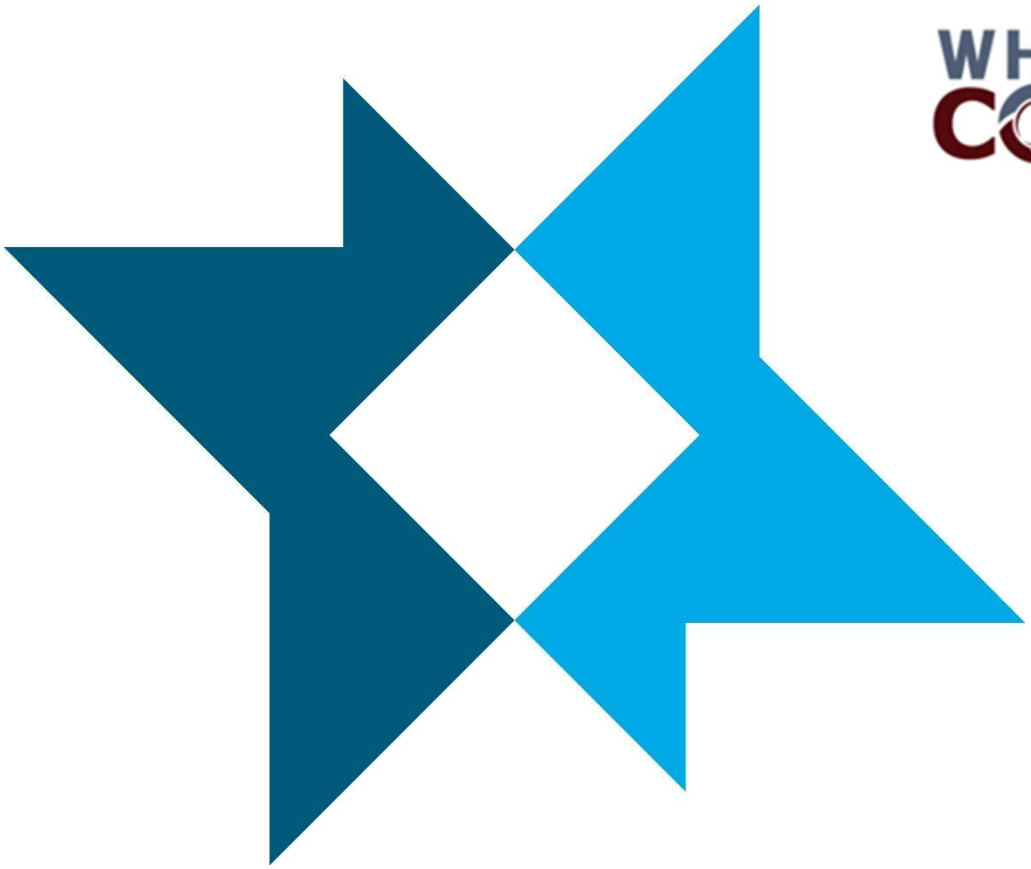
Mining Permit Application
White Pine North Project
Volume I
Text, Tables, Figures, Appendices A through B



White Pine Copper LLC
White Pine, Michigan

September 2026

Project I.D.: 23W200

Solving our clients' toughest science and engineering challenges.

Mining Permit Application
White Pine North Project

Project ID: 23W200

Prepared for
White Pine Copper LLC
White Pine, Michigan

Prepared by
Foth Infrastructure & Environment, LLC

September 2026

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Mining Permit Application
White Pine North Project

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List of Abbreviations, Acronyms, and Symbols

BMP	Best Management Practices
cm	centimeter
Cu_2S	chalcocite
cu yd	cubic yards
EIA	Environmental Impact Assessment
EGLE	Michigan Department of Environment, Great Lakes, and Energy
Foth	Foth Infrastructure & Environment, LLC
Ft	foot/feet
gpm	gallon per minute
g/t	gram per tonne
H	horizontal
HDPE	high-density polyethylene
kg	kilogram
km	kilometer
kPa	kilo Pascal
LEAF	Leaching Environmental Assessment Framework
LOM	life of mine
LWSA	Lower Sandstone
m	meters
m^3	cubic meter
M-64	Michigan Highway 64
Mich. Admin. Code	Michigan Administrative Code
MCL	Michigan Compiled Laws
MGD	million gallons per day
mm	millimeters
MPA	Mining Permit Application
MW	megawatt
NAG	net acid generation
Non-PAG	non-potentially acid generating
NPDES	National Pollutant Discharge Elimination System
NP1	North Pond 1
NP2	North Pond 2
NREPA	Natural Resources and Environmental Protection Act
PAG	potentially acid generating
Project	White Pine North Project
PS	Parting Shale
ROM	run-of-mine
SAG	semi-autogenous grinding
SPLP	Synthetic Precipitation Leaching Procedure
TDF	Tailings Disposal Facility
TSS	total suspended solids
µm	microgram
US	Upper Shale
UPSA	Upper Sandstone
V	vertical

List of Abbreviations, Acronyms, and Symbols (continued)

WIDE	Widely Laminated Siltstone
WPC	White Pine Copper LLC
WPN	White Pine North
WWTP	Industrial Wastewater Treatment Plant

Mining Permit Application
White Pine North Project

Executive Summary

White Pine Copper LLC (WPC) proposes to develop the White Pine North Project (WPN or Project), an underground copper and silver mine located at and adjacent to the historically mined White Pine Mine site in Carp Lake Township, Ontonagon County, Michigan. The Project is proposed as a new underground mining operation northeast of, and separate from, the historic White Pine underground workings. The Project would develop a stratiform, sediment-hosted copper-silver deposit using underground mining methods, with associated surface infrastructure, beneficiation facilities, water management systems, tailings management facilities, reclamation, environmental monitoring, contingency planning, and financial assurance.

This Mining Permit Application (MPA) has been prepared to support issuance of a mining permit under Part 632, Nonferrous Metallic Mineral Mining, of the Michigan Natural Resources and Environmental Protection Act and the associated administrative rules. The application includes the required forms, organization report, Mining Plan, Treatment and Containment Plan, Reclamation Plan, Environmental Monitoring Plan, Contingency Plan, Financial Assurance information, and references to other permits and approvals being pursued for the Project. An Environmental Impact Assessment is provided separately as part of the overall Part 632 application package.

The proposed mine would be developed using a Modified Room-and-Pillar underground mining method with conventional drill-and-blast development and production. The method was selected based on the laterally extensive and gently dipping geometry of the mineralized horizon, expected geotechnical conditions, and the need to maintain stable underground openings while supporting efficient production. The current mine plan assumes a nominal ore production rate of approximately 15,000 tonnes per day, equivalent to approximately 5.4 million tonnes per year, and an expected operating mine life of approximately 26 years following pre-production development.

Surface infrastructure would support underground access, ore handling, beneficiation, maintenance, administration, water management, power distribution, emergency response, and transportation. Major surface facilities include the mine portal and decline area, process plant, covered crushed ore stockpile, maintenance and warehouse facilities, reagent and fuel storage, water treatment infrastructure, contact and non-contact stormwater systems, internal roads, and supporting utilities. Surface infrastructure has been sited to make use of previously disturbed industrial areas where practicable and to integrate stormwater, erosion control, and contact water management into the facility layout.

Ore will be processed using conventional mineral beneficiation methods to recover copper and silver into a marketable copper-silver concentrate. The beneficiation sequence includes primary crushing, crushed ore stockpiling and reclaim, semi-autogenous grinding and ball milling, gravity concentration, rougher flotation, regrinding, cleaner flotation, concentrate thickening and filtration, and tailings thickening. Concentrate will be dewatered and shipped off site. Tailings generated by the process plant will be managed as new Project-generated tailings and placed

within the existing North Pond 1 (NP1) and North Pond 2 (NP2) Tailings Disposal Facility (TDF) footprint in accordance with the Treatment and Containment Plan and supporting tailings management design.

Tailings deposition is planned over the anticipated 26-year operating mine life. Project-generated tailings will be deposited in NP1 during Years 1 through 11 and in NP2 during Years 12 through 26. Tailings will be thickened before transport and deposition, with deposition sequencing designed to support storage capacity, reclaim water management, operational access, water segregation, and closure performance. The Project does not propose raising the existing tailings dam as part of the engineered reuse of the TDF.

The Water Management Plan is a central component of the MPA. The water management strategy is based on segregation of contact and non-contact water, reuse of contact water where practicable, controlled treatment and discharge of excess contact water, and physical and operational separation of Project-generated water from legacy water associated with historic White Pine Mine facilities. During Years 1 through 11, NP1 functions as the primary Project contact water basin. During Years 12 through 26, Project contact water management transitions to the western compartment of NP2, while the eastern compartment of NP2 continues to manage legacy and non-contact stormwater.

The Project includes a dedicated Industrial Wastewater Treatment Plant (WWTP) designed to treat excess contact water that cannot be reused within the process, reclaim, or tailings systems. The WWTP is currently designed in two phases, with an initial treatment capacity of approximately 2,250 gallons per minute (gpm) during Years 1 through 11 and an expanded capacity of approximately 4,500 gpm during Years 12 through 26, subject to final National Pollutant Discharge Elimination System (NPDES) permitting and detailed design. Treated Project contact water will be discharged to the Mineral River under an applicable NPDES permit. Legacy water associated with historical mine facilities will remain operationally separate and continue to discharge through the existing permitted outfall, subject to applicable permit conditions. This separation of Project-generated water and legacy water is intended to support clear operational control, monitoring, and regulatory accountability.

Geochemical characterization indicates that the principal ore-bearing and mining-column units, fresh tailings tested to date, Till, and Freda Formation development rock are generally classified as non-potentially acid generating. Nonesuch Formation development rock above the mining panel has shown more variable geochemical behavior and may include a subset of material with potentially acid-generating characteristics. Development rock brought to the surface from the decline and western ventilation raises will be reused within the TDF as construction material for an interior containment berm, where associated contact water will be managed within controlled tailings and water management systems. Development rock from the eastern ventilation raise will remain underground in mined-out areas.

The Mining Plan includes measures to prevent material damage associated with subsidence, caving, or collapse. The selected Modified Room-and-Pillar method retains permanent pillars, incorporates depth-dependent pillar sizing, uses controlled sequencing, and does not rely on planned or intentional caving or subsidence. Numerical geotechnical assessments indicate that large-magnitude or abrupt surface subsidence is not anticipated under the current design. Monitoring and operational observations during mine development will be used to confirm design performance and support adaptive management where needed.

Environmental protection measures are integrated throughout the MPA. These measures include contact water collection and treatment, stormwater controls, erosion and sediment controls, containment and leak detection systems for lined facilities, geochemical characterization and verification, spill prevention and response, fugitive dust controls, access controls, monitoring of groundwater and surface water, biological monitoring, threatened and endangered species protection, invasive species management, and facility inspections. The Environmental Monitoring Plan provides the framework for evaluating Project performance during construction, operations, closure, and post-closure.

Baseline biological investigations identified state-listed threatened wildlife species, species of special concern, and other species of conservation interest within or adjacent to the Project area. No federal or state listed threatened, endangered, or special concern aquatic species were documented during baseline aquatic investigations, and no federal or state listed threatened, endangered, or special concern plant species were documented during rare plant surveys. The MPA includes a plan to protect threatened and endangered species through pre-activity review, avoidance and timing restrictions, agency coordination, and relocation or handling procedures where authorized and necessary.

Closure and post-closure planning is intended to transition the Project from active mining to a stable long-term condition that protects surface water, groundwater, land resources, and public health. Closure water management will include transition from operating water management to active closure-period treatment, reclamation of surface infrastructure areas, closure of the underground mine, and post-closure drainage configuration of the TDF. Financial assurance will be provided in accordance with Part 632 requirements to cover reclamation, closure, post-closure monitoring, and other obligations.

The MPA is supported by technical appendices, figures, and tables that document the engineering, geologic, geochemical, hydrologic, environmental, and closure assumptions used in Project design. The application has been structured to provide the Michigan Department of Environment, Great Lakes, and Energy with a clear regulatory record demonstrating how the proposed mining methods, materials, infrastructure, water management systems, monitoring measures, contingency procedures, reclamation planning, and financial assurance are intended to protect the environment, natural resources, and public health throughout construction, operations, closure, and post-closure.

1. Introduction

As part of the permitting process for the White Pine North Project (WPN or Project), White Pine Copper LLC (WPC) is required to obtain a Mining Permit pursuant to Part 632, Nonferrous Metallic Mineral Mining, of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended (Michigan Compiled Laws [MCL] 324.63201 et seq.), and the associated administrative rules promulgated under R 425.101 et seq. of the Michigan Administrative Code (Mich. Admin. Code).

This Mining Permit Application (MPA) and its associated appendices include the required application forms and fee, as well as the Mining Plan, Reclamation Plan, Environmental Protection Plan, Contingency Plan, and Financial Assurance information, as required under Part 632 and R 425.201(1)(a), (b), and (d) through (h). Appendices supporting the MPA are provided in Volume I and Volumes IA through IC.

The Environmental Impact Assessment (EIA) required under Part 632 and R 425.201(1)(c) is provided in Volume II of this application. Appendices supporting the EIA are included in Volume II and Volumes IIA through IIP.

This MPA is based on engineering, geologic, hydrologic, and environmental studies conducted to support the design, construction, operation, closure, reclamation, and post-closure monitoring and management of Project facilities. The information presented in this application is representative of the proposed facility design, operating methods, and environmental protection measures, and is intended to support Michigan Department of Environment, Great Lakes, and Energy's (EGLE) evaluation of the Project under Part 632.

Where specific design details may evolve through final engineering, the application presents conservative assumptions intended to reasonably minimize actual or potential adverse impacts to natural resources and public health, consistent with Part 632.

1.1 Background

The Project is a stratiform, sediment-hosted copper deposit with minor associated silver mineralization. The deposit is located east of, and is geologically and operationally distinct from, the historic White Pine underground mine, which began production in 1955 under the Copper Range Company. The WPN deposit does not utilize historic underground mine workings and is proposed to be developed as a separate underground mining operation.

Mineralization at WPN is dominated by fine-grained chalcocite, with lesser amounts of native copper, hosted within interbedded sandstones, siltstones, and shales. The mineralization is laterally extensive and stratabound, consistent with sediment-hosted copper deposits in the region.

WPC proposes to develop the WPN deposit using underground mining methods, with associated surface infrastructure to support mining and processing activities. Proposed surface facilities include a beneficiation plant; engineered facilities for the temporary storage of ore; water-management infrastructure, including a water-treatment facility; overburden and soil stockpiles for use in reclamation; and the engineered reuse of the existing tailings basins designated North Pond 1 (NP1) and North Pond 2 (NP2). NP1 and NP2 are collectively referred

to as the Tailings Disposal Facility (TDF). The existing tailings dam will not be raised as part of the engineered reuse of the TDF.

The existing TDF currently discharges water managed under National Pollutant Discharge Elimination System (NPDES) Permit No. MI0006114. As part of the Project, WPC proposes to place tailings generated by the Project within the existing TDF through the engineered reuse of NP1 and NP2. This configuration will result in two separate, operationally distinct water discharges regulated under the new NPDES permit.

The first discharge is the continued legacy-water discharge through the existing permitted structure (Outfall 001) to Perch Creek. Legacy water originates from the historic underground mine, historic tailings and drainage features, and portions of the TDF not used by the Project. This discharge will contain no water generated by the new operation, and its volume is anticipated to decrease under the Project water management strategy.

The second discharge consists of treated contact water generated by the Project, including water from the new underground mine, the beneficiation plant, contact stormwater runoff, and those portions of NP1 and NP2 engineered for new tailings deposition. This treated water will be discharged through a new, separate outfall (Outfall 002) to the Mineral River and will not commingle with the legacy discharge at the point of discharge.

In this manner, water management for the new Project is physically and operationally separated from water management associated with the legacy mine. The separation of legacy and Project-related water management systems is further described in the Water Management Plan, and covered in the new NPDES Permit for the site.

1.2 Mining Permit Application Documents – R 425.201

This MPA is submitted by WPC to request authorization to conduct nonferrous metallic mineral mining at the Project site in Carp Lake Township, Ontonagon County, Michigan. This volume of the MPA (Volume I and associated appendices in Volumes IA through IC) includes the materials required under Part 632 of the NREPA and R 425.201(1)(a) through (h) of the Mich. Admin. Code, including the following:

- The permit application form, organizational information, and a Part 632 rules checklist to facilitate EGLE review, provided in Appendices A-1 through A-3.
- A permit application fee of $5,000, submitted under separate cover by WPC.
- A Mining Plan, Treatment and Containment Plan for Tailings and Other Reactive Materials, Reclamation Plan, and Environmental Protection Plan (Sections 4, 5, 6, and 7).
- A Contingency Plan (Section 8).
- A description of the amount and type of financial assurance that will be provided to satisfy the requirements of R 425.301 (Section 9).
- A listing of other applicable permits and licenses being pursued concurrently with this MPA (Section 1.2.5).

- An EIA, provided in Volume II with supporting appendices in Volume II and Volumes IIA through IIP.

This MPA has been prepared to address the requirements of Part 632 of NREPA and the Nonferrous Metallic Mineral Mining rules codified at R 425.101 et seq. of the Mich. Admin. Code. The application is supported by tables and figures incorporated within the narrative, as well as by figures and appendices that follow the narrative report. The appendices include technical reports, calculations, and supporting data that document and substantiate the design, operation, and environmental protection measures described in this application.

1.2.1 Application Form and Fee – R 425.201(1)(a),(b)

The completed Part 632 Nonferrous Metallic MPA Form (EQP-7201) and proof of payment of the required $5,000 application fee have been submitted to EGLE under separate cover concurrent with this MPA. A copy of the MPA Form can be reviewed in Appendix A-1.

1.2.2 Organization Report – R 425.201(1)(h)

An Organization Report has been prepared to identify the ownership, operational, and managerial structure of the Project, as required under R 425.201(1)(h). The Organization Report is provided in Appendix A-2 of this application package.

The Organization Report includes the following information:

- Ownership Structure: Identification of the corporate ownership structure of the permit applicant, including parent and affiliated entities, as applicable.
- Operator Identification: Identification of the entity responsible for operation of the mine and associated facilities.
- Permit Holder: Identification of the entity that will hold the Part 632 Mining Permit.
- Responsible Officials: Identification of officers or designated representatives authorized to act on behalf of the permit holder with respect to compliance with Part 632.
- Legally Responsible Person: Identification of the individual who is legally responsible for the mining operation under Part 632 of NREPA, including authority to ensure compliance with permit conditions and applicable laws.

1.2.3 Document Preparers and Qualifications – R 425.203(n)

This MPA was prepared by Foth under contract to WPC. This document incorporates information prepared by other qualified professionals working under contract to WPC and/or Foth. Table 1-1 is a summary of the organizations and individuals who have contributed to the preparation of this MPA.

1.2.4 Part 632 Rules Checklist and Applicable Forms

A Part 632 Rules Checklist has been prepared to demonstrate how the Project MPA addresses the applicable statutory and administrative requirements of Part 632 of the Michigan NREPA and the Nonferrous Metallic Mineral Mining rules codified at R 425.101 et seq. of the Mich. Admin. Code.

The checklist identifies each applicable requirement and references the specific sections and appendices of this MPA where compliance is demonstrated. Applicable EGLE forms required under Part 632 are also identified and included, as appropriate. The Part 632 Rules Checklist and applicable forms are provided in Appendix A-3 of this application.

1.2.5 Other Permits and Licenses – R 425.201(1)(g)

In addition to the Part 632 Mining Permit, WPC is concurrently pursuing other state and local permits and approvals required for the construction and operation of the Project. These permit applications are being prepared and submitted under separate cover in the formats required by the respective regulatory agencies.

The anticipated permits and approvals include, but may not be limited to, the following:

- A Michigan Air Use Permit – Permit to Install Application has been submitted to EGLE pursuant to Part 55 of NREPA and applicable air quality regulations;
- A National Pollutant Discharge Elimination System Permit Application has been submitted to EGLE pursuant to Part 31 of NREPA applicable water quality regulations;
- A Wetlands Permit Application has been submitted to EGLE pursuant to Part 303 of NREPA and applicable wetland protection regulations; and
- A State of Michigan Dam Safety Permit Application has been submitted to EGLE pursuant to Part 315 of NREPA and applicable regulations for alteration and use of NP1 and NP2.

1.3 Project Schedule and Major Milestones – R 425.203(a)

Consistent with Mich. Admin. Code R. 425.203(a), this section summarizes the anticipated mining schedule and major Project milestones, including the expected operating life of the mine.

Current development activities include completion of the pre-feasibility study, finalization of baseline environmental studies, and preparation and submittal of the MPA and EIA. Based on the current Project schedule, baseline environmental studies are anticipated to be completed in the second quarter of 2026, with completion of the pre-feasibility study and permit application submittal anticipated in the third quarter of 2026. Completion of the feasibility study is currently anticipated in the third quarter of 2027.

Following feasibility-level design and receipt of major permits, the Project is anticipated to advance to a final investment decision and pre-production implementation. Receipt of major permits is currently anticipated in the third quarter of 2027, with Financial Investment Decision and the start of mine development anticipated in the fourth quarter of 2027. The pre-production period is expected to include mine access development, construction of process and utility infrastructure, development of water management and tailings support systems, and other site preparation activities necessary to support operations. Major construction activities are currently anticipated to be completed by the fourth quarter of 2029, with pre-production and commissioning beginning in the first quarter of 2030.

Full operations are currently anticipated to begin in the second quarter of 2030. During the operating period, underground mine development, ore extraction, beneficiation, tailings management, and water management systems would proceed in accordance with the approved Mining, Reclamation, and Environmental Protection Plan. The expected operating life of the mine is approximately 26 years. Based on the current schedule, reclamation, and closure activities are anticipated to begin in the first quarter of 2056, followed by post-closure monitoring beginning in the first quarter of 2058.

This schedule reflects the current Project planning basis and will be refined as engineering, permitting, and financing advance. Final milestone dates, operating life, and mining schedule details will be updated as needed for consistency with the approved mine plan, construction sequence, production schedule, and closure planning requirements. Table 1-2 summarizes the current Project schedule framework and major milestones.

2. Project Location Information

2.1 Site Location – R 425.203(d)

The proposed Project is located in Ontonagon County in the western Upper Peninsula of Michigan, approximately 3 miles south of Lake Superior, east of Michigan Highway 64 (M-64), and approximately 12 miles west-southwest of the Village of Ontonagon as shown on Figure 1-1.

The Project area lies within a historically industrial corridor associated with the former White Pine Mine and includes both previously disturbed areas and adjacent undeveloped lands. The regional setting consists of a mix of forested land, wetland complexes, and rural residential and agricultural uses typical of western Upper Michigan.

The Project includes both surface infrastructure and an underground mine developed within laterally extensive stratiform mineralization units. Although the surface and underground components do not fully overlap, the overall Project footprint reflects the combined extent of all mining-related activities.

The location of the Project relative to regional features, including major transportation routes, surrounding communities, and Lake Superior, is shown on Figure 2-1.

2.2 Surface Ownership – R 425.203(d)(i)

Surface ownership within the Project area and within 1,320 feet (ft) of the Mining Area boundary is shown on Figure 2-2, and individual parcels are summarized in Table 2-1.

The Mining Area for the Project is defined as the combined footprint of surface facilities, including processing, water management, and tailings disposal infrastructure, together with the projected surface extent of underground mining activities. Because surface and underground footprints do not fully coincide, the Mining Area reflects the outer envelope of all mining-related activities.

Consistent with R 425.203(d), surface ownership mapping includes all parcels located within the Mining Area and within 1,320 ft of its outer boundary.

Surface ownership in the Project area consists of a combination of privately owned lands and lands previously used for industrial purposes associated with historical mining activities. WPC has acquired or secured the necessary property interests to support construction, operation, and closure of the Project facilities within the Mining Area.

Parcels within the 1,320-ft buffer that are not directly controlled by the Project are not expected to be disturbed but are identified to support evaluation of potential off-site impacts and compliance with Part 632 requirements.

2.3 Mineral Rights – R 425.203(d)(ii)

Mineral rights within the Mining Area and within 1,320 ft of its boundary are shown on Figure 2-3. WPC holds the mineral rights necessary to develop and extract the Project resource through a combination of direct ownership, leasehold interests, and other applicable contractual rights. Mineral rights control within the Project area includes parcels for which WPC holds full

mineral ownership, parcels where mineral rights are held through lease or partial ownership interests, and parcels that may be subject to associated royalty or other contractual arrangements.

Certain limited areas, within the mineral resource, are subject to partial mineral ownership interests or lease arrangements, as shown on Figure 2-3. WPC will secure the mineral rights necessary for mining before conducting mineral extraction in those affected areas. These mineral rights arrangements will provide sufficient control to implement the Mining Plan and associated environmental protection measures described in this application.

No mineral extraction is proposed outside the defined Mining Area.

2.4 Conservation and Historical Preservation Easements – R 425.203(d)(iii) - (iv)

Conservation and historical preservation easements located within the Mining Area or within 1,320 ft of its boundary are shown on Figure 2-4. One conservation easement held by the State of Michigan EGLE (Site Name 92-01-0150) is located in proximity to the Project and encompasses approximately 10.01 acres. The Project has been designed to avoid direct disturbance of this easement. Operational controls, including stormwater management, erosion and sediment control, and water management systems described in Sections 4.6 and 4.8, are intended to prevent adverse impacts to adjacent conserved lands. No historical preservation easements have been identified within the Mining Area. If additional easements are identified during final design or permitting, they will be incorporated into Project siting and management controls as appropriate.

2.5 Adjacent Properties and Measures Taken to Prevent Damage – R 425.203(e)

Properties not owned or controlled by WPC that are located within and immediately adjacent to the Mining Area are shown on Figure 2-2. These properties include privately owned forested lands, rural residential properties, and other undeveloped lands typical of the region. All surface infrastructure will be located on property controlled by WPC and the Project has been designed and will be operated to prevent material damage to those off-site properties and to natural features located on lands not owned or controlled by the operator.

Measures taken to prevent damage to adjacent properties include mine design controls, water management systems, erosion and sedimentation controls, and inspection and monitoring programs. Underground mining will be conducted using a room-and-pillar method with retained pillars, controlled extraction sequencing, and substantial lateral setbacks and mining depth from adjacent properties and sensitive features in order to limit the potential for subsidence, caving, or collapse beyond the Mining Area. Contact water and non-contact water will be managed as separate systems to prevent off-site migration of mine affected water, and erosion and sediment control measures will be implemented to prevent sediment-laden runoff from reaching adjacent lands or natural features. These design and operational controls are supported by the inspection, monitoring, and contingency measures described elsewhere in the MPA, including the Project water management, biological monitoring, and inspection sections.

Based on the depth and configuration of the underground workings, the selected mining method, the Project's water management and erosion control systems, and the associated

monitoring and response measures, the Project is not expected to cause material damage to property not owned or controlled by WPC within or immediately adjacent to the Mining Area.

2.6 Land Use and Zoning

Existing land use within the Project area reflects both historical industrial activity and surrounding rural land uses.

The surface footprint of the Project, including areas proposed for process facilities, water management infrastructure, and the TDF (NP1 and NP2), is largely located within areas previously disturbed by historical mining and associated industrial activities.

In contrast, lands overlying the underground mining footprint outside the primary surface infrastructure area consist primarily of undeveloped forest, wetlands, and limited agricultural or rural residential uses. These areas have not been significantly disturbed and are expected to remain in their existing land use condition throughout Project operations due to the underground nature of mining.

Local zoning designations are consistent with rural, industrial, and resource-based land uses typical of Ontonagon County. The Project is compatible with these designations and with the historical use of the site for mining-related activities.

Existing land use and zoning in the Project area are shown on Figures 2-5 and 2-6 respectively.

3. Project Geology – R 425.203(c)(vi)

WPN is a reduced-facies, stratiform, sediment-hosted copper deposit with minor silver, hosted in the lower Nonesuch Formation in Michigan's western Upper Peninsula on the south shore of Lake Superior. This section summarizes the regional and site geologic framework and describes the lithology, thickness, stratigraphy, and structural setting of rocks surrounding and overlying the ore body to support mine design and environmental protection planning consistent with R 425.203(c)(vi). A detailed geology report for the Project is provided in Appendix B-1.

3.1 Regional Geology

The Project is located in the western Upper Peninsula of Michigan on the south flank of the Midcontinent Rift System, a Keweenawan-aged, approximately 1.1-billion-year-old continental rift that controls regional stratigraphy, structure, and the occurrence of copper mineralization in the Lake Superior region. The rift-related sedimentary and volcanic succession in the Project area comprises (from oldest to youngest) the Portage Lake Volcanics, Porcupine Volcanics (also referred to as the Oak Bluff Formation in some literature), and the Oronto Group sedimentary units: Copper Harbor Conglomerate, Nonesuch Formation, and Freda Formation. A map of the regional geology can be seen on Figure 3-1.

Regionally, the Portage Lake Volcanics consist predominantly of olivine tholeiitic basalt flows and are widely recognized as a metal source for the district's copper endowment (native copper and chalcocite occurrences). These volcanic units are structurally juxtaposed along the Keweenaw Fault, a major reversely activated thrust fault that places the younger post-rift Jacobsville Sandstone in contact with older syn-rift volcanic rocks.

Overlying the volcanic rocks, the Copper Harbor Conglomerate represents a coarse-grained to conglomeratic alluvial fan deposition and is described in the Project area as red (oxidized) lithic sandstone with subordinate conglomeratic intervals. The Nonesuch Formation overlies the Copper Harbor Conglomerate, with its base interfingering with the top of the underlying unit, an interval of thinly interbedded siltstone, mudstone, carbonaceous shale, and minor sandstone that hosts sediment-hosted copper mineralization at several locations in the region. The Freda Formation overlies the Nonesuch Formation and comprises red to red-brown fluvial sandstones, with regional thickening and a slight northeast dip noted in the area.

The Porcupine Mountains form an anticline on the southern flank of the larger structural syncline associated with the Midcontinent Rift System, and this structural framework influences unit thickness, dip, and local deformation patterns relevant to underground mine design and groundwater pathways.

3.2 Project Geology

This section summarizes the Project-scale lithology, thickness, stratigraphy, and structural framework that define the rocks surrounding and overlying the ore body. A bedrock geologic map is provided as Figure 3-2.

3.2.1 Lithology and Stratigraphy

The Project is situated within Keweenawan rift-related sedimentary rocks on the southern flank of the Midcontinent Rift System. Site stratigraphy is laterally persistent and consists of a surficial overburden package overlying, from oldest to youngest, the Copper Harbor

Conglomerate, the Nonesuch Formation, and the Freda Formation. Based on modern drilling, average overburden thickness is approximately 7.15 meters (m), the Freda Formation averages approximately 581 m thick (range ~196-955 m), and the undifferentiated Nonesuch Formation averages approximately 184 m thick (range ~169-203 m). A generalized stratigraphic column and representative cross sections illustrating the local stratigraphy and ore-hosting interval are provided on Figures 3-3 and 3-4.

- A surficial overburden unit overlies bedrock across the site and is generally thin. Overburden thickness varies spatially; drilling indicates it is commonly on the order of several meters.
- The Freda Formation forms the thick sequence above the Nonesuch Formation and is described as predominantly fluvial sandstone, reddish-brown to brownish grey, with common soft-sediment and traction-current features including crossbedding, ripple marks, turbidite layers, and locally fluid-escape structures. The Freda package includes a coarse, semi-conglomeratic sandstone lens ("Freda Conglomerate") reported within the broader Freda section. Thickness is variable across the Project area and reflects regional stratigraphic thickening and gentle dip.
- The Nonesuch Formation overlies and locally interfingers with the Copper Harbor Conglomerate and is described as a mixed sequence of interbedded very fine-grained sandstones, siltstones, and carbonaceous shales. The Freda-Nonesuch contact is consistently identified in core at the first occurrence of black carbonaceous shale laminations. Copper mineralization occurs in the lowermost approximately 20 m of the Nonesuch Formation, primarily as chalcocite and native copper in laminations within the lower parting shale units.
- The Copper Harbor Conglomerate underlies the Nonesuch Formation and is characterized as a variably conglomeratic sandstone-dominant unit with red to brown coloration; it interfingers upward with the basal Nonesuch. In the Project area, the contact is commonly recognized at the first clearly conglomeratic interval in core. Below the Copper Harbor Conglomerate, regional geology includes underlying volcanic units (Porcupine and Portage Lake Volcanics), which are important to the regional mineralizing system but are not the principal ore host at this deposit.

Key stratigraphic markers are used to support consistent correlation of the ore-hosting interval across the Project area, including: 1) the Freda–Nonesuch contact; 2) an identifiable mineralization "fringe" marker that approximates the upper limit of persistent copper mineralization; and 3) the basal Nonesuch transition into the Copper Harbor unit that bounds the lower portion of the mineralized interval. Copper mineralization is concentrated within the lower Nonesuch ore column, commonly between the Widely Laminated Siltstone (WIDE) and Lower Transition subunits, and the Fringe Zone within the Upper Zone of Values provides a consistent marker for the upper limit of persistent mineralization. For resource modeling purposes, the mineralized sequence is represented by an Upper Mineralized Zone and a Lower Mineralized Zone separated by an Interburden (lower grade) interval, with the Lower Mineralized Zone representing the principal resource horizon.

3.2.2 Structure

The Project area is affected by rift-related and post-depositional deformation expressed as folding and faulting that can influence ore-horizon continuity, local thickness variability, and groundwater flow pathways. The dominant mapped structure is the White Pine Fault, a major northwest-trending fault described as reverse with a right-lateral component located along the western margin of the historical mine area. Although several interpreted fault systems have been refined through recent structural interpretation, the available structural control was considered insufficient to confidently incorporate fault displacement into the lithostratigraphic resource-domain model; therefore, mineralization continuity is represented using continuous stratigraphic horizons rather than fault-bounded domains.

The recent structural interpretation incorporated reprocessed airborne magnetic data, historical underground mapping, and downhole televiewer information to refine the Project-scale structural framework; however, the available structural control was not considered sufficient to subdivide the resource model into fault-bounded domains.

Folding is also present; the principal fold feature is a shallow east-southeast plunging anticline north of the White Pine Fault. In core, structural disturbance is commonly expressed as soft-sediment deformation, minor calcite veinlets, and fracture/joint zones rather than thick fault gouge intervals. Local faulting has been documented to offset the ore-hosting interval by tens of meters in places (27 m of upward offset observed in WP614), confirming that discrete structures can locally displace the mineralized horizon.

3.2.3 Alteration and Mineralogy

Alteration is generally weak and rarely present beyond calcite veinlets. Calcite veinlets are common throughout the stratigraphy, and minor calcite veins locally display thin (approximately 1-2 millimeters [mm]) altered/oxidized selvedges, particularly near structural zones. This limited alteration style is consistent with a stratabound mineral system in which fluid movement and mineral precipitation were focused along specific permeability pathways and redox-sensitive horizons.

Copper mineralization is hosted in the lower Nonesuch Formation and occurs primarily as fine-grained chalcocite (Cu_2S) and native copper, commonly developed as laminations and locally as blebs and veinlets. Sulfide mineralization is the dominant mode of copper occurrence and is estimated to comprise approximately 85-90% of the copper in the deposit, with sulfide and native copper intimately associated through much of the mineralized interval.

Mineralization is interpreted to have formed from oxidized, copper-rich saline brines that interacted with underlying red-bed and mafic volcanic source rocks and precipitated copper where those fluids encountered reduced, carbonaceous shale horizons within the lower Nonesuch Formation; the thin “Fringe Zone” sulfide lamination is a consistent expression of this boundary and serves as a marker for the upper extent of persistent copper mineralization.

These lithologic and structural characteristics inform mine planning by defining the ore-hosting interval geometry, identifying zones of potential structural offset, and establishing the bedrock framework used to evaluate groundwater occurrence and movement.

3.3 Mineral Resource Model Summary

The WPN deposit has been evaluated through historical production data, historical drilling, modern infill drilling, and multiple resource modeling efforts. Historical resource estimates were prepared by Copper Range Company prior to modern resource reporting standards and are treated as historical context only. Subsequent NI 43-101 compliant Mineral Resource Estimates were completed by G Mining Services in 2019 and 2023, and the 2026 resource model update incorporates additional drilling completed since the 2023 estimate.

The 2026 resource model update was prepared using a validated geological, analytical, density, and drilling database current as of June 2026. The resource estimation database includes 653 drillholes totaling approximately 347,152 m of drilling completed between 1956 and 2026, of which 589 drillholes containing assay data were used to support resource estimation. Copper and silver grades were estimated using Ordinary Kriging, with inverse distance squared and nearest-neighbor estimates generated for comparison and validation.

Resource estimation was controlled using six model domains: Overburden, Hangingwall Package, Upper Mineralized Zone, Interburden, Lower Mineralized Zone, and Footwall Package. The Upper Mineralized Zone and Lower Mineralized Zone contain the principal copper-silver mineralization, with the Lower Mineralized Zone representing the principal resource horizon due to its greater thickness and lateral continuity. The domains were modeled and estimated independently because they occupy different stratigraphic positions and exhibit distinct lithological associations, thickness characteristics, grade distributions, and spatial continuity.

Density assumptions for the 2026 model were developed from a combined specific gravity database that included historical measurements and modern Phase II and Phase III specific gravity data. Density was evaluated by geological domain rather than applying a single uniform density value across the model, allowing the resource model to better reflect lithologic variability across the deposit.

Mineral Resources are reported above a 0.90% copper cut-off grade, constrained to the patented claim boundary, and exclude blocks located within interpreted historical mine workings. As summarized in Table 3-1, the 2026 model reports Indicated Mineral Resources of approximately 169.1 million tonnes grading 1.640% copper and 20.66 grams per tonne (g/t) silver and Inferred Mineral Resources of approximately 22.1 million tonnes grading 1.509% copper and 22.66 g/t silver. The combined Indicated and Inferred Mineral Resource is approximately 191.2 million tonnes grading 1.624% copper and 20.89 g/t silver, containing approximately 3.11 million tonnes of copper.

These resource figures represent an in-situ, geologically constrained estimate and do not incorporate mining dilution, mining recovery, minimum mining width, mining-shape constraints, or other mine-design selectivity considerations. Accordingly, the 2026 Mineral Resource Model should not be described as a Mineral Reserve. Mineable ore quantities and any Mineral Reserve estimate used for mine planning are addressed separately in the mine plan, production schedule, and applicable engineering studies.

4. Mining Plan

This section presents the Mining Plan for the Project in accordance with the requirements of Mich. Admin. Code R 425.203. The Mining Plan provides a high-level, integrated description of the proposed mining operations, including the schedule, development approach, material management practices, and underground mine configuration. The purpose of this section is to demonstrate that the Project has been designed to support safe, orderly, and efficient extraction of the mineral resource while minimizing potential impacts to land, groundwater, surface water, and other natural resources in accordance with Part 632.

The information presented herein is based on the current engineering design and supporting technical evaluations, including contributions from Stantec, Tetra Tech, WSP, SRK Consulting, and Ausenco. Consistent with Part 632 requirements, this section provides the Mining Plan information required by R 425.203, including descriptions of mining activities, associated infrastructure, material management, water management, and environmental controls. Supporting engineering analyses, modeling, design calculations, and monitoring details are provided in the referenced appendices where applicable.

The Mining Plan has been developed with consideration of the site's geologic conditions, existing brownfield setting, and the fixed location of the mineral resource. Where specific elements of R 425.203 are not applicable to the Project, this is identified within the relevant subsections. Figures included in this section are simplified for clarity and consistency and are supported by more detailed engineering drawings and data presented in the appendices.

4.1 Mining Plan Schedule – R 425.203(a)

The Mining Plan Schedule for the Project describes the sequence and timing of mine development, production ramp-up, steady-state operations, and progression through the mineral resource over the life of the Project. The schedule reflects the current Project design and provides a coordinated framework for underground access, infrastructure development, and panel-based production consistent with the selected mining method.

The Project is planned with an estimated 3-year pre-production development period, followed by an expected operating mine life of approximately 26 years. Underground mine development will be initiated from surface via the portal and dual access declines, which will be advanced using an accelerated development approach to support early access to the orebody. This approach prioritizes establishment of primary access infrastructure and production areas, enabling progression into production activities as early as practicable.

Mining operations will transition from development to production through a phased ramp-up period, during which production will be sourced from a combination of development headings and initial production panels located proximate to the access declines. As additional access drives, ventilation capacity, and material handling infrastructure are established, production panels will be sequentially brought online, allowing production rates to increase to the design throughput.

At steady state, mining will be conducted using a panel-based Modified Room-and-Pillar method, with multiple production panels operating concurrently. Production rates will be maintained through coordinated development and extraction activities across these panels, providing operational flexibility and reducing variability associated with individual mining areas.

Sustained production will be supported by continued development of new panels as previously mined areas are completed.

The mine is designed for a nominal production rate of approximately 15,000 tonnes per day (approximately 5.4 million tonnes per year), achieved when sufficient production panels and supporting infrastructure are active.

The overall Mining Plan schedule includes the following primary phases:

- Pre-Production Development (approximately 3 years): Construction of surface access, portal, and declines, including installation of primary underground infrastructure and initial ventilation and water management systems.
- Production Ramp-Up: Progressive activation of production panels and expansion of underground infrastructure, resulting in increasing ore production.
- Steady-State Production: Sustained mining using multiple concurrent production panels to maintain design throughput over the majority of the mine life.
- Final Production and Closure Transition: Completion of remaining production areas, followed by transition to closure activities in accordance with the approved Reclamation Plan.

The life of mine (LOM) production schedule, including annual production rates and the sequencing of development and production activities, is presented on Figure 4-1 and summarized in Table 4-1.

The Mining Plan schedule will be refined through subsequent design stages to reflect final engineering, permitting requirements, and operational planning.

4.2 Employment Schedule – R 425.203(b)

The Employment Schedule for the Project describes the anticipated workforce requirements over the pre-production development period, production ramp-up, steady-state operations, and closure transition. The schedule reflects the planned progression of mining activities and the associated staffing levels required to support safe and efficient mine development and operation.

The employment estimates in Table 4-2 identify anticipated peak workforce requirements by operational department. These estimates will be refined as detailed engineering, contractor execution planning, and operational staffing plans are finalized.

Personnel requirements have been developed based on the selected underground mining method, planned production rate, and supporting mine infrastructure. The workforce includes personnel directly associated with underground mining operations and mine services, including development, production, maintenance, ventilation, dewatering, material handling, and other essential underground functions.

The Project is organized around a continuous operating schedule consisting of two 12-hour shifts per day and approximately 360 operating days per year, which forms the basis for workforce planning and staffing requirements throughout the LOM.

4.2.1 Employment During Pre-Production Development

During the approximately 3-year pre-production development period, the workforce will be primarily focused on mine access development, underground infrastructure installation, and site construction activities. Workforce levels during this period will increase progressively as development activities expand and multiple development headings are advanced concurrently.

Initial staffing during early development will be supplemented by specialized contractors, particularly for capital-intensive activities such as primary decline development, vertical development, and associated infrastructure installation. Contractor involvement is expected to be most significant during the early phases of Project implementation.

4.2.2 Employment During Production Ramp-Up

As the Project transitions from development to production, workforce requirements will increase to support concurrent underground development and early production activities. During this period, personnel will support continued development needed to establish additional production panels, while also initiating production activities associated with early ore extraction.

The ramp-up period will involve progressive increases in workforce levels as additional production panels are brought online, ventilation and material handling capacity are expanded, and mine infrastructure reaches operational capacity. Staffing levels during this phase reflect the need to operate multiple work areas simultaneously and support increasing production throughput.

4.2.3 Employment During Steady State Operations

At steady state, the workforce will stabilize at levels required to sustain full production and ongoing development. Mining operations during this stage will include operation of multiple concurrent production panels, continued development of new panels to maintain production continuity, and full operation of underground support systems, including ventilation, dewatering, material handling, and maintenance facilities.

Personnel requirements at steady state reflect the integrated nature of development, production, maintenance, and support activities and are consistent with the planned production rate of approximately 15,000 tonnes per day. Staffing levels are designed to support safe underground operations, equipment availability and reliability, and continuity of production throughout the LOM.

4.2.4 Contractor and Owner Workforce Transition

The Project anticipates a phased transition between contractor-supported activities and owner-operated workforce functions. Contractor involvement will be greatest during early mine development and initial construction activities. As the Project advances into sustained operations, responsibility for ongoing development and production activities will progressively transition to owner personnel.

Owner personnel are expected to assume primary responsibility for production mining activities early in the operating phase, with contractors retained for certain specialized or capital-intensive activities, including vertical development and select support functions. Figure 4-2 summarizes the daily personnel requirements for owner and contractor staffing.

4.2.5 Employment During Closure Transition

As mining activities approach the end of the production period, workforce requirements will gradually decrease as production panels are completed and development activities are reduced. Personnel will transition from production-focused roles to activities associated with closure, reclamation, and decommissioning in accordance with the approved Reclamation Plan.

4.2.6 Employment Summary

The overall Employment Schedule reflects a phased workforce profile that increases during pre-production development and production ramp-up, stabilizes during steady-state operations, and decreases during final production, closure transition, and active closure water treatment activities. Peak employment values represent the total manpower required to support the planned operating rotation and are not equivalent to the number of personnel on site at one time. Workforce estimates will be refined as detailed engineering, contractor execution planning, reclamation planning, and operational staffing plans are finalized.

4.3 Mine Development and Materials Management – R 425.203(c)

This section describes the overall approach to mine development and the management of materials generated during construction and operations, including tailings, ore, mine development rock, and surface soils. Consistent with the requirements of R 425.203(c), the Mine Development and Materials Management section outlines the design, sequencing, and operational controls used to manage materials in a manner that supports safe and efficient mining and minimizes potential impacts to land, groundwater, and surface water resources.

Material management practices for the Project integrate mine development sequencing, geochemical characterization, and surface facility design. Materials will be handled, stored, reused, or disposed of in designated areas designed and operated to control exposure to precipitation, route contact water to controlled collection and treatment systems, and prevent the uncontrolled release of leachate or sediment.

4.3.1 Overall Project Development Plan

Mine development for the Project will proceed in a staged manner beginning with surface site preparation and underground access establishment, followed by progressive expansion of underground workings and associated infrastructure. Initial development activities include construction of surface facilities, establishment of the mine portal and declines, and installation of supporting infrastructure such as water management systems, ventilation systems, and material handling facilities.

Underground development will advance using a phased approach to establish access to the orebody and develop production panels. Surface material management areas, including ore stockpiles, haul routes, and contact water management systems, will be constructed in parallel with underground development to support early operations and facilitate efficient transition to full production.

Material management is integrated into the development plan such that materials generated during mine construction and operations are directed to designated facilities and managed in accordance with their physical and geochemical characteristics. This integrated approach

supports orderly development, minimizes handling requirements, and ensures that water management and containment systems are in place prior to initiation of production activities.

4.3.2 Topsoil Characteristics, Stockpiling, and Stabilization – R 425.203(c)(i)

General site preparation will include clearing and grubbing, topsoil stripping and stockpiling, excavation, placement of engineered fill, grading, and construction of drainage features to support site infrastructure and manage surface water. These activities will support development of the process plant area, site roads, maintenance and administrative facilities, water management features, and other surface infrastructure.

Clearing and grubbing limits are assumed to extend approximately 4.5 m (15 ft) beyond the daylight limits of proposed infrastructure. Organic material generated during clearing and grubbing will be managed separately from mineral soil materials and stockpiled or otherwise managed for use during mine closure, where practicable.

Topsoil encountered during site preparation and surface construction activities will be salvaged, where practicable, and managed for future use in site reclamation. Topsoil stripping has been assumed at an average depth of approximately 0.3 m (12 inches) across applicable disturbance areas. Based on this assumed stripping depth, total topsoil volumes are estimated at approximately 75,000 cubic meters (m^3) (98,096 cubic yards [cu yd]). The general arrangement indicates sufficient capacity to store up to approximately 80,000 m^3 (104,636 cu yd) of topsoil and organic soil materials. Of the estimated total, approximately 20,600 m^3 (26,944 cu yd) are allocated for placement within NP1 and/or off-site disposal as part of site development due to historical site contamination considerations. Remaining suitable topsoil will be placed in designated stockpile locations for later use in reclamation.

Topsoil materials will be segregated from subsoils, unsuitable materials, engineered fill, and other excavated materials during stripping and excavation. Subsurface conditions are interpreted based on available information, which indicates that bedrock is generally located approximately 12 to 15 m below existing grade where data are available. In the absence of detailed geotechnical data for all areas, excavation is assumed to consist primarily of overburden materials, with no significant requirement for rock blasting anticipated at this stage of design.

Topsoil stockpiles will be constructed and maintained to preserve soil structure and fertility and to minimize erosion and sediment transport. Stockpiles will be graded to promote positive drainage, protected from excessive compaction, and stabilized using temporary or permanent vegetative cover, erosion control matting, mulch, perimeter controls, or other erosion control measures as appropriate. Surface water will be directed away from stockpile areas, and runoff will be managed in accordance with the Water Management Plan and Soil Erosion and Sedimentation Control Plan to prevent sediment transport and protect adjacent resources.

Bulk earthwork will consist of cut and fill operations to establish design grades for the plant site and associated infrastructure. For estimating purposes, approximately 60% of excavated material is assumed to be suitable for reuse as engineered fill, with the remaining 40% classified as unsuitable material requiring management in designated areas. Cut and fill slopes have been developed with typical side slopes of 2H:1V and 3H:1V where practicable. Final grading will be designed to promote positive drainage and will integrate with the overall site water management system, including drainage ditches and collection ponds.

Stockpiled topsoil will be reused during reclamation activities to support revegetation and restoration of disturbed areas. Topsoil materials are not anticipated to exhibit acid generation or significant metal-leaching potential based on Project geochemical characterization of overburden materials. Topsoil stripping areas, estimated stripping thicknesses, material characteristics, stockpile capacity, and stabilization measures are summarized in Table 4-3.

4.3.3 Overburden and Development Rock Characteristics, Excavation, and Stockpiling – R 425.203(c)(ii)

The Project is an underground mine and is not anticipated to generate significant quantities of overburden or waste rock. Rock generated during underground construction will consist of mine waste rock, referred to in this section as development rock, excavated primarily during development of access declines and ventilation raises. Because the quantity of development rock generated at the surface will be limited and will be incorporated into approved Project construction, a separate waste rock storage facility is not proposed.

The proposed mine design includes an estimated 1.53 million tonnes of development rock. This material consists primarily of approximately 1.458 million tonnes generated during decline development, approximately 11,000 tonnes generated from construction of the two ventilation raises located west of the tailings facilities, and approximately 61,500 tonnes generated from construction of the ventilation raise located east of the tailings facilities. Development rock from the decline and the two western ventilation raises will be generated during the pre-production period. Table 4-4 summarizes the quantity and source of development rock material.

All Till and Freda Formation development rock is classified as non-potentially acid generating (Non-PAG). Development rock generated within the Nonesuch Formation has shown a range of geochemical behavior, from Non-PAG to potentially acid generating (PAG). The proportion of Nonesuch Formation material above the mining panel that may exhibit PAG characteristics has not been fully quantified; however, not all Nonesuch Formation subunits are PAG, and the overall proportion of development rock with PAG characteristics is expected to be limited to a subset of the total development rock generated.

Because some development rock may exhibit PAG characteristics, development rock brought to the surface from the decline and the two western ventilation raises will be reused within the TDF as construction material for an interior barrier wall required by the tailings deposition plan. Placement within the controlled TDF footprint allows the material to be contained within the Project's tailings and contact water management system. Any contact water associated with this material will be managed through controlled collection within the TDF water management framework, consistent with the Water Management Plan and Treatment and Containment Plan.

Development rock generated during construction of the eastern ventilation raise will not be transported to the surface for disposal or construction use. Instead, the approximately 61,500 tonnes generated from that raise will remain underground and be placed in a mined-out area of the mine. This underground placement further reduces the need for surface handling, stockpiling, or additional waste rock management infrastructure.

Accordingly, the Project does not require a separate surface waste rock storage facility. Development rock will either be beneficially reused for approved TDF construction purposes or

retained underground, depending on its source location and construction sequence. This approach minimizes surface disturbance, limits temporary stockpiling, and manages potentially reactive material within controlled Project facilities.

4.3.4 Schedule for Mining and Stockpiling of Ore – R 425.203(c)(iii)

Ore extraction will occur following completion of initial mine development and establishment of underground access to production areas. Mining will proceed on a phased basis consistent with the overall mining schedule described in Section 4.1, with production ramping up as additional mining panels are brought online.

During the Production Ramp-up Phase, prior to completion of the process plant, extracted ore will be transported to surface and directed to the temporary ore stockpile for short-term storage. Upon completion of the process plant, ore will be directed from the underground mine to the enclosed crushed ore stockpile. The temporary ore stockpile may be periodically utilized during the Steady State Production Phase to manage short-term operational variability and maintain consistent feed to the processing facilities.

The temporary ore stockpile is designed to provide controlled, lined storage of run-of-mine material during initial mine development and operations. The stockpile has a total ore storage capacity of approximately 534,500 m^3 (699,100 cu yd), corresponding to approximately 852,200 metric tonnes of stored ore, based on an assumed blasted ore bulk density of 1.65 grams per cubic centimeter. The stockpile occupies a footprint of approximately 6.6 hectares (16.24 acres).

Initial filling of the temporary ore stockpile is anticipated to occur primarily during the first year of mine development and to reach full storage capacity within approximately five to six months of ore delivery, with fill rates increasing over time. Filling is expected to occur in two general phases. During an initial ramp-up period of approximately two months, monthly throughput is anticipated at approximately 100,000 to 150,000 tonnes, resulting in approximately 260,000 tonnes placed. During a subsequent sustained-rate period of approximately three to four months, monthly throughput is anticipated at approximately 220,000 to 260,000 tonnes, resulting in approximately 500,000 additional tonnes placed. These filling phases are summarized in Table 4-5.

Ore stockpiling will be conducted in designated areas designed to control contact water and limit infiltration. Contact water associated with ore storage will be collected and managed in accordance with the Water Management Plan. The duration and volume of ore stockpiling will be minimized to the extent practicable through coordinated mining and processing operations.

Ore materials are characterized as Non-PAG, although neutral mine drainage with elevated dissolved constituents may occur and is managed through the Project water management and treatment systems.

The temporary ore stockpile is intended for short-term storage during the initial period of mine development, prior to and during commissioning of the process plant. Once the process plant is operational and drawing feed, ore will be reclaimed from the temporary ore stockpile and delivered to the processing facility, and the stockpile will progressively decrease in size. The reclaim period is expected to occur over a longer duration than the initial filling period, with drawdown rates governed by plant feed demand, reclaim equipment availability, and ongoing

ore delivery. Reclaim is generally planned to progress from south to north to support progressive reclamation and closure of the southern portion of the temporary ore stockpile.

Estimated ore stockpile storage usage is summarized in Table 4-5. The temporary ore stockpile will be designed to control contact water, limit infiltration, and route collected drainage to the Project contact water management system. Temporary ore stockpile liner design criteria and related contact water management provisions are addressed in Section 4.8.

4.3.5 Access Control – R 425.203(c)(iv)

Access to mining areas, material stockpiles, and storage or disposal facilities will be controlled to protect public safety and prevent unauthorized entry. Access control measures will include physical barriers, signage, and administrative controls as appropriate for facility type and location.

The Project site will be secured through controlled entry points, and access to active mining and material management areas will be restricted to authorized personnel. Stockpiles, tailings disposal areas, and water management facilities will be clearly marked and, where appropriate, separated from publicly accessible areas using fencing, berms, or natural barriers.

Access control measures will be maintained throughout operations and adjusted as necessary to reflect changes in site conditions, facility configuration, or operational status.

4.3.6 Measures to Minimize Impacts to Groundwater and Surface Waters of the Mining and Affected Areas – R 425.203(f)

Mining and material management activities will be conducted in a manner that minimizes impacts to groundwater and surface water through implementation of integrated water management, containment, and monitoring systems. These measures include segregation of contact and non-contact water, control of surface water runoff, collection and treatment of contact water, and implementation of seepage control and monitoring systems.

Material handling and storage areas are designed and operated to limit exposure of reactive materials to precipitation and to direct contact water to controlled collection and treatment systems. Drainage controls, including grading, berming, and engineered conveyance features, will be used to route surface water away from stockpiles and storage areas, except where intentionally collected as contact water.

Groundwater and surface water protection is further supported by the leak detection, seepage response, and contingency planning measures described in the Contingency Plan, and by the water management framework described in Section 4.8.

4.4 Geochemical Characterization of Ore, Waste Rock, Tailings, and Overburden

This section summarizes the geochemical characterization program completed for the Project and presents the basis for predicting acid generation and dissolved constituent release from ore, waste rock, overburden, peripheral rock, exposed underground rock surfaces, and tailings. The characterization program was completed to support mine planning, material handling, water management, and environmental protection, and the supporting technical basis is

provided in the Baseline Geochemical Characterization Interim Report, included as Appendix B-2.

The characterization program indicates that the ore, tailings, and the majority of the waste rock materials associated with the Project are not expected to generate acid. Till and Freda Formation waste rock, the principal mining column units, and fresh tailings tested to date are classified as Non-PAG. In contrast, Nonesuch Formation waste rock above the mining column exhibited variable behavior, with samples ranging from Non-PAG to PAG. The available data further indicate that, although acid mine drainage is not expected for most Project materials, neutral mine drainage with circumneutral pH and elevated dissolved constituents may occur and will be managed through the Project water management and treatment systems. Kinetic testing identifies copper and cadmium as the principal long-term constituents of potential concern associated with sulfide oxidation, primarily from the Upper Shale (US) and Parting Shale (PS). Total dissolved solids, chloride, barium, beryllium, manganese, and strontium are also identified as constituents of potential concern, associated primarily with short-term flushing of saline formation water and with mine water pumped from underground workings. Table 4-6 summarizes the reactive materials at the Project.

4.4.1 Chemical, Physical Testing, and Modeling to Predict Acid Generation and Leaching from Ore, Waste Rock, Tailings, and Peripheral Rock – R 425.203(c)(v)(A)

The Project geochemical characterization program uses a combination of chemical analyses, static geochemical tests, leach tests, kinetic tests, and mineralogical evaluations to predict the potential for acid generation and dissolved constituent release from ore, waste rock, tailings, and peripheral rock. Materials selected for testing represent the principal mine waste and ore units anticipated in the current mine plan, including Till, Freda Formation, Nonesuch Formation waste rock above the mining column, the WIDE, US, Upper Sandstone (UPSA), PS, Lower Sandstone (LWSA), fresh tailings residues, and weathered legacy tailings from NP2.

Static and kinetic testing indicate that Till, Freda Formation waste rock, the mining column units, and fresh tailings tested to date are classified as Non-PAG. The Nonesuch Formation waste rock is the only material type with mixed acid-generation potential, including Non-PAG, uncertain PAG, and PAG results. Sulfur speciation, acid-base accounting, and net acid generation (NAG) results indicate that pyritic sulfur is limited in most Project materials and that carbonate minerals, principally calcite, provide neutralization capacity for many units. Chalcocite is the principal sulfide mineral in the ore zone and is not treated as an acid-generating sulfide for the purposes of acid generation calculations used in the characterization program. The static testing program included 170 samples, comprising 40 waste rock samples, 119 samples of ore and wall rock from the mining column, five samples of fresh tailings from metallurgical test residues, and six samples of weathered legacy tailings from the existing NP2 facility. Kinetic humidity cell testing was completed on one sample of each of the five mining column units and a composite of two US tailings samples, with a reagent blank for quality control.

The characterization results also indicate that dissolved constituent release remains an important design consideration even where acid generation potential is low. Neutral mine drainage with elevated copper and potentially cadmium may occur from some ore and tailings materials under Project conditions, and elevated total dissolved solids may be associated with some rock units and mine water. Accordingly, the characterization program is used both to

classify materials with respect to acid generation and to identify constituents of concern relevant to water management and treatment design.

Geochemical characterization also indicates that Project ore, mine-related rock, and tailings are not significant sources of mercury; mercury concentrations in kinetic and static leach tests were below the strictest applicable Great Lakes water quality criteria. Regional precipitation in the Lake Superior watershed, however, contains mercury at concentrations several times higher than applicable Great Lakes discharge criteria. Accordingly, atmospheric mercury deposited on contact water surfaces and tailings areas will be considered in the Project water management and monitoring programs so that mercury loading is not misattributed to mine materials.

4.4.2 Testing and Modeling Methodology – R 425.203(c)(v)(B)

The geochemical characterization program includes representative sampling of mine waste, ore, tailings, and legacy tailings, followed by a suite of static and kinetic test methods commonly used to evaluate acid generation and constituent leachability. Static testing included multi-element analysis, acid-base accounting, NAG testing, NAG leachate analysis, Synthetic Precipitation Leaching Procedure (SPLP), and Leaching Environmental Assessment Framework (LEAF) methods. Kinetic testing was completed using humidity cell tests, and selected samples were evaluated mineralogically using X-ray diffraction with Rietveld refinement. Additional mineralogical information from metallurgical test work is available to supplement interpretation of ore and tailings behavior.

Static testing was used to characterize acid generation potential, neutralization potential, and the release of dissolved constituents under controlled laboratory conditions. Acid-base accounting included sulfur speciation, paste pH, acid neutralization potential, total inorganic carbon, and derived parameters such as net neutralization potential and neutralization potential ratio. NAG testing was used to confirm acid rock drainage potential and evaluate the response of samples to complete sulfide oxidation. SPLP and LEAF methods were used to evaluate constituent partitioning and mobility under varying pH and liquid-to-solid conditions. Humidity cell testing was used to evaluate longer-term weathering behavior and to provide source-term information relevant to exposed underground workings and tailings during operations and closure.

Sampling was designed to be spatially and lithologically representative of the current mine plan to the extent practical based on available sample material. Waste rock characterization focused on materials anticipated to be intersected during portal and vent raise development, while ore and wall rock characterization addressed the principal units in the mining column. Tailings characterization used metallurgical residues representative of fresh Project tailings and shallow and deeper samples from historical tailings in NP2 to provide context on weathered legacy material. This sample set provides the basis for current predictions of material behavior and may be supplemented as the mine design evolves and additional data gaps are identified.

4.4.3 Monitoring of Characterization During Mining and Recalibration of Model – R 425.203(c)(v)(C)

The existing geochemical characterization program provides the basis for classifying Project materials and developing water quality predictions. During mining, this characterization will be verified through comparison of actual field conditions, material types encountered, and

operational water quality monitoring results against the assumptions used in the geochemical model.

Additional characterization sampling may be conducted if mining encounters material types, alteration, mineralization, or field conditions that are not adequately represented by the existing sample set, or if monitoring results indicate a potential departure from predicted geochemical behavior. Routine operational monitoring of contact water contained within the tailings basins, contact water ponds, and other controlled water management systems will also provide a verification mechanism for evaluating whether source-term assumptions remain appropriate.

If field observations or water quality data indicate that geochemical conditions differ materially from those represented by the current characterization program, the geochemical model may be recalibrated, and material management controls may be refined as appropriate. This approach provides a practical mechanism for confirming characterization during operations while avoiding unnecessary additional testing where existing characterization remains representative of mined materials and observed water quality conditions.

4.4.4 Identification of Reactive Ore, Waste Rock, Overburden, and Peripheral Rock – R 425.203(c)(v)(D)

Based on the characterization completed to date, the principal material classes identified for the Project can be summarized as follows. Till and Freda Formation waste rock are characterized as Non-PAG. The mining column units, WIDE, US, UPSA, PS, and LWSA are also characterized as Non-PAG, and fresh tailings generated from tested ore residues are similarly classified as Non-PAG. These materials are not expected to generate acidic drainage under Project conditions based on current test results, although some may release dissolved constituents under circumneutral conditions and therefore remain subject to the Project water management and treatment framework.

Nonesuch Formation waste rock above the mining column is the only material group identified to date with meaningful variability in acid generation potential. Characterization results indicate that, of the 17 Nonesuch Formation samples tested, 11 were classified as Non-PAG, one as uncertain, and five as potentially acid generating based on neutralization potential ratio. Five Nonesuch samples also produced NAG pH values below 4.5, consistent with PAG classification. NAG leachate from Nonesuch samples showed elevated antimony, cadmium, copper, iron, lithium, and manganese relative to other waste rock types, indicating comparatively higher reactivity. Accordingly, Nonesuch Formation development rock is identified as a material that may require special handling. Material brought to the surface from the decline and western ventilation raises will be reused for construction of an interior containment berm within the TDF, where the material and associated contact water will be managed within the Project's controlled tailings and water management system.

Exposed underground rock surfaces that will remain after mining, including WIDE or UPSA in the back and LWSA in the sill, are also relevant to long-term contact water quality prediction. Although these materials are characterized as Non-PAG, their long-term exposure in underground workings is considered in the overall geochemical model for the Project. Fresh tailings generated from ore processing are classified as reactive mine-related materials for containment planning purposes, even though current geochemical test results indicate the materials are Non-PAG.

4.5 Mining Description

This section describes the proposed underground mine, including the selected mining method, mineralized units to be extracted, mine access configuration, underground workings, principal underground infrastructure, geotechnical stability controls, and blasting materials and methods. The underground mine is designed as a panel-based operation accessed from the western side of the deposit and developed to support staged ramp-up to steady-state production. Information necessary to satisfy the mine design and underground infrastructure requirements of R 425.203 is summarized in this section and related figures and tables. Final geotechnical design criteria, including pillar dimensions, ground support classes, and monitoring recommendations, will be consistent with Appendix C-1.

4.5.1 Mining Method – R 425.203(a)

The Project will be mined using a Modified Room-and-Pillar underground mining method with conventional drill-and-blast development and production. This method was selected because it is well suited to the laterally extensive, relatively flat-lying to gently dipping geometry of the mineralized horizons and supports mechanized mining at the targeted production rate while balancing productivity, geotechnical stability, and operating cost.

Modified Room-and-Pillar differs from conventional room-and-pillar mining in that full crosscut development is not completed during advance mining. Instead, primary production drives are developed to establish the panel layout, and retreat mining is then completed by mining single-round retreat cross-connections between adjacent production entries. These retreat headings are remote mucked and treated as non-entry areas, allowing the planned extraction geometry to be achieved without fully developing and supporting conventional crosscuts. Figure 4-3 depicts the underground mining method.

The mine is designed for a nominal ore production rate of approximately 15,000 wet tonnes per day, equivalent to approximately 5.4 million tonnes per year. Underground operations are planned around continuous, year-round production using two 12-hour shifts per day, with production achieved through concurrent operation of multiple active panels. Mining is conducted using low-profile diesel-powered equipment in production areas and standard-profile equipment in primary development headings. Ore is produced from development headings, primary production drives, and retreat production rounds within the Modified Room-and-Pillar layout. Production panels are developed in a repeatable arrangement, and mine-level throughput is achieved by maintaining multiple active panels at steady state.

4.5.2 Mineralogy – R 425.203(c)(iii)

The mineralized zone to be mined is hosted within laterally continuous, stratiform horizons near the base of the Nonesuch Formation and adjacent units. The deposit occurs as a copper-silver mineralized system developed within a sedimentary sequence that includes the WIDE, US, UPSA, PS, and LWSA. The PS forms the principal ore-bearing unit, although one or both shale horizons may be mined depending on local thickness and mine geometry.

For mine design purposes, the production horizon follows the economic mineralized interval within the basal Nonesuch stratigraphy. The grade shell generally encompasses at least the PS and can locally include portions of adjacent units. In the extracted areas, the LWSA commonly forms the lower exposed unit in the sill, while either the UPSA or WIDE may form the back of the

workings depending on local mining width and ore column thickness. These units are relevant both to mining geometry and to geotechnical and geochemical characterization elsewhere in the application. Ore quantities, mining schedule, and ore stockpiling arrangements are addressed elsewhere in Section 4, while this subsection identifies the ore-bearing units and mineralogy relevant to mining method selection, geotechnical design, and geochemical characterization.

4.5.3 Underground Mine Description

The underground mine is designed as a panel-based system developed from the western side of the deposit. Mine access is provided through twin declines developed from a surface box cut, after which the mine layout expands into multiple parallel main access drives that form the primary infrastructure corridors for production, material handling, and ventilation. Production areas are accessed from these main access drives by panel access drifts that support mining on both sides of the central mine access system. The areal extent and depth of the underground workings shown on Figures 4-4 and 4-5 reflect the current mine design basis and will continue to be refined during subsequent design stages.

At approximately 800 (2,625 ft) from the portal, the twin declines expand into four parallel main access drives that extend through the mining footprint and form the backbone of the underground layout. The development profiles used in the current mine design include main access fresh-air drives approximately 6.0 m (19.7 ft) wide by 5.0 m (16.4 ft) high, return-air drives approximately 6.0 m (19.7 ft) wide by 6.0 m (19.7 ft) high, and decline/ramp headings approximately 6.0 m (19.7 ft) wide with heights varying from approximately 5.0 m (16.4 ft) to 6.5 m (21.3 ft). The two outer main access drives function as fresh air intakes, while the two inner drives function as return airways. One of the inner drives also accommodates the main conveyor system used to transport ore from underground to surface. Production access drives are developed off the main access drives, and production haulage is conducted outside the active stoping areas, with ore delivered by underground haul trucks to centralized truck tip and grizzly locations connected to the conveyor system.

Production panels are developed as repeatable layouts extending off the main access drives. A panel is defined for mine planning purposes as approximately 600 m (1,970 ft) long by 300 m (985 ft) wide, with two concurrently mined stopes sharing common access and ventilation infrastructure. This arrangement supports overlapping development, production, and retreat mining activities and provides the flexibility required to maintain multiple active panels at steady state.

Representative underground development dimensions used in the current mine design include production access drives approximately 6.0 m (19.7 ft) wide by 3.2 m (10.5 ft) high, panel ventilation and shop drives approximately 6.0 m (19.7 ft) wide by 5.0 m (16.4 ft) high, and production rooms approximately 8.0 m (26.3 ft) wide with mining heights of approximately 2.0 m (6.6 ft) to 2.5 m (8.2 ft) depending on geotechnical domain and ore thickness. These dimensions provide the basis for the underground mine layout, ventilation distribution, material handling, equipment access, and ground support assumptions summarized in this section.

The underground material handling system combines truck haulage within production areas with fixed conveyor haulage in the main access declines. Ore from active production areas will be loaded by low-profile equipment and hauled by underground trucks to truck tip and grizzly

locations. Material passing through the grizzlies will feed ore passes, feeders, and a multi-conveyor ramp system that conveys ore to the portal and onward to the surface material handling system. This configuration was selected to provide operational flexibility in the production panels while reducing long-distance underground truck haulage and associated ventilation demand.

The underground ventilation system will be developed in stages as the mine advances. Initial decline development will be supported by auxiliary ventilation from the portal. As the declines and ventilation raises are developed, the system will transition to a primary intake and exhaust arrangement using the main access drives and surface raises. The final LOM ventilation arrangement uses dedicated intake and return airways, ventilation raises, bulkheads, regulators, airlock doors, auxiliary fans, and local production ventilation to supply fresh air to active workings and exhaust mine air to surface. Ventilation quantities and controls will be refined during detailed engineering and operations to account for equipment demand, leakage, mine extent, and operating conditions.

4.5.3.1 Shafts, Portal, and Other Openings – R 425.203(c)(viii)

The underground mine will be accessed through a covered surface box cut on the western side of the deposit that establishes the portal and twin declines as the primary underground access system. The selected access configuration consists of twin declines developed at a nominal maximum gradient of approximately 17.5%, with each decline approximately 6.0 m (20 ft) wide by 6.5 m (21 ft) high. This access arrangement was selected in preference to shaft access based on comparative schedule, capital cost, operating flexibility, and integration with material handling and ventilation systems.

In addition to the portal and decline system, the mine design includes three primary ventilation raises to surface. Two ventilation raises are located near the initial decline expansion area approximately 800 m from the portal, and a third ventilation raise is located farther east along the mine extent to support later ventilation stages. The current design basis includes one raise approximately 4 m (13.1 ft) in diameter and one raise approximately 5 m (16.4 ft) in diameter near the initial expansion area, with the eastern raise supporting later-stage ventilation needs. The ventilation raises are part of the permanent underground infrastructure and provide the principal intake and exhaust pathways needed to support staged development and LOM production.

The twin declines provide the primary and secondary means of egress throughout initial development and operations. The access openings also support movement of personnel, supplies, and materials, installation of the conveyor system, and ventilation distribution over the LOM. No vertical production shaft is included in the selected mine design.

4.5.3.2 Areal Extent, Depth, and Dimensions of Underground Workings – R 425.203(c)(ix)

The underground mine is developed within a broad mineralized footprint contained within a claim area approximately 9.6 kilometers east-west by 5 kilometers north-south, although mining will be limited to those portions of the grade shell that are economic and technically mineable. The production footprint follows the stratiform mineralized horizon, which dips generally to the east and varies from approximately 0° to 20°. The grade shell extends across much of the claim area, with local gaps where mining is not economic.

Mining depths increase from the western access side toward the deeper portions of the deposit. Geotechnical and mine design assessments indicate that the Project is suitable for mining depths of approximately 400 m (1,312 ft) to 1,150 m (3,773 ft), while the mineralized grade shell itself varies in depth from approximately 250 m (820 ft) to 1,200 m (3,937 ft) across the deposit. Pillar dimensions, mining heights, and development geometry vary by domain to account for increasing stress conditions at depth.

The underground workings include twin declines from surface, four parallel main access drives, production access drives, panel ventilation drives, production rooms, retreat production headings, truck tip and grizzly locations, conveyor drifts, underground maintenance and service excavations, sumps, refuge stations, fuel and lubricant service areas, explosives storage areas, and ventilation raises. These facilities are arranged to support personnel access, secondary egress, ventilation, dewatering, electrical distribution, communications, ore handling, and mine services over the LOM. Supporting figures in this section depict the areal extent, depth, and general configuration of the underground workings.

Within the current mine layout, primary production panels extend off the central access drives over a substantial underground footprint and are sequenced to support early access to production areas near the declines, followed by progressive eastward and lateral expansion into additional mining panels.

4.5.4 Types and Uses of Grouting – R 425.203(c)(x)

Grouting, for purposes of this section, refers to injection or placement of cementitious or chemical grout into fractures, joints, voids, contacts, or other discrete ground conditions for localized water control or geotechnical-stabilization purposes. Grouting is not currently proposed as a routine mine-wide ground control method for the underground workings.

If localized grouting is determined to be necessary during final design or operations, such grouting would be used for specific geotechnical or water-control purposes, such as sealing localized groundwater inflows, treating discrete fractured zones, stabilizing localized weak ground, or filling voids where needed to maintain excavation performance. Any such grouting would be implemented in accordance with approved engineering design, mine safety requirements, and applicable permit conditions.

Shotcrete, where used, is considered a ground support or lining method rather than grouting for purposes of R 425.203(c)(x). Shotcrete use for declines, intersections, ventilation raises, or other underground openings is addressed as part of the Project's ground support and underground stability design.

4.5.5 Plan for Preventing Damage from Subsidence, Caving, or Collapse – R 425.203(c)(xi)

Underground mine stability has been evaluated using site-specific geotechnical investigations, historical information from the former White Pine underground mine, laboratory testing, and numerical stress assessments completed to support the current mine design. These evaluations indicate that the selected Modified Room-and-Pillar mining method is appropriate for the Project, provided that mine geometry, extraction sequencing, pillar sizing, and ground support are implemented in accordance with the geotechnical design criteria developed for the Project. The geotechnical basis for the mine design, including rock mass characterization,

geotechnical domains, pillar sizing, and ground support recommendations, is presented in Appendix C-1. Potential bedrock deflection and surface response associated with the mine plan are evaluated in Appendix C-2. Potential effects of mine subsidence on the Tailings Storage Facility, groundwater wells, and neighboring surface structures are evaluated in Appendix C-3. Together, these analyses support the conclusion that the proposed mine layout and ground control strategy are designed to prevent material damage from subsidence, caving, or collapse. The mine layout, access configuration, production geometry, underground infrastructure, and blasting approach necessary to support the MPA are summarized in Sections 4.5.1 through 4.5.6 and the associated figures and tables.

The underground mine is expected to be developed within generally good to very good rock mass conditions, with rock mass behavior controlled primarily by rock strength, bedding-related weakness in shale units, and increasing in-situ stress with depth. The principal geotechnical controls on mine stability include mining depth, the thickness of weaker TOPZ/TIGR shale in the back of openings, local ore dip, and the distribution of stress within individual panels and access drifts. These factors were used to establish geotechnical domains and corresponding design criteria for room widths, mining heights, pillar dimensions, access drift support, and sequencing.

Numerical stress assessments were completed using a suite of two-dimensional and three-dimensional models to evaluate decline stability, production panel stability, pillar response, local damage around intersections, barrier pillar performance, and surface deformation potential. These assessments support the use of depth-dependent pillar sizing and staged extraction sequencing to control stress redistribution and maintain mine stability over the LOM. Recommended pillar dimensions increase with depth from 8 m (26 ft) by 8 m (26 ft) pillars in shallower domains to 14 m (46 ft) by 14 m (46 ft) pillars in the deepest mining domains, while mining heights increase from 2.0 m (6.6 ft) to 2.5 m (8.2 ft) in the deeper portions of the orebody to account for expected overbreak and support requirements.

Ground support recommendations were also developed on a domain-specific basis for declines, panel access drifts, production rooms, and intersections. Support measures include resin-grouted rebar, welded wire mesh, localized cable support at intersections, and shotcrete where warranted by local conditions. Vent raises in the deeper portions of the mine may experience stress fracturing and spalling and are planned to be lined with shotcrete to reduce moisture-related degradation and maintain long-term serviceability.

4.5.5.1 Subsidence, Caving, or Collapse Mitigation – R 425.203(c)(xi)(A)

No planned or intentional caving or subsidence is proposed as part of the base mine plan. The Project has been designed to minimize the potential for subsidence, caving, or collapse through a combination of mine layout controls, conservative pillar sizing, extraction sequencing, and ground support. The selected Modified Room-and-Pillar mining method retains permanent support pillars sized according to geotechnical domain and depth and does not rely on pillar robbing as part of the base Mine Plan. Production sequencing is designed so that primary drives are developed first and retreat mining is conducted in a controlled manner using remote mucking in non-entry headings, thereby limiting personnel exposure to areas of greatest mining-induced stress change.

The central access declines are separated from the production panels by protection pillars, and the geotechnical design recommends 15 m (49 ft) pillars between declines and 20 m (66 ft) protection pillars adjacent to production areas, with stubbing within the protection pillar deferred until the end of mine life in retreat. In addition, a boundary pillar between the planned WPN workings and historic mine workings is recommended to be at least 50 m (164 ft) wide, while the current mine plan assumes a substantially larger minimum offset of approximately 300 m (984 ft). These design features are intended to limit stress redistribution, maintain stability of access drifts and barriers, and reduce the potential for collapse or interaction with historic workings.

4.5.5.2 Potential Subsidence – R 425.203(c)(xi)(A)

Potential surface subsidence and related bedrock deflection have been evaluated through panel-scale numerical stress modeling as part of the geotechnical assessment for the Project. Based on the numerical assessments completed for the current mine design, bedrock deflection is represented by small magnitudes of elastic displacement, with estimated vertical displacement generally less than 1 centimeter (cm) (0.4 inches). The greatest modeled deflection is localized above deeper portions of the planned mining sequence, and while different in-situ stress scenarios produce localized differences in the distribution of bedrock deflection, the maximum estimated bedrock deflection remains similar across the evaluated cases. Supporting details regarding the modeled areas, geotechnical domains, and stress scenarios are provided in Appendix C.

Modeled maximum bedrock deflection at the top of bedrock is approximately 6 to 7 mm, which is less than 1 cm. For the evaluation of potential surface impacts, a more conservative surface displacement of approximately 2 cm was assumed in Appendix C-3, recognizing that some attenuation of displacement is expected as deflection propagates through the overburden to the ground surface. This conservative surface value remains below common construction and earthwork tolerances and below settlement thresholds associated with damage to typical structures.

These results are consistent with the Project's use of a room-and-pillar mining layout with retained support pillars, depth-dependent pillar sizing, and controlled extraction sequencing. On the basis of the current design and available geotechnical analyses, large magnitude or abrupt surface subsidence is not anticipated. Subsidence potential will continue to be evaluated as mine design and geotechnical characterization are refined, and geotechnical monitoring and operational observations during development will be used to confirm design performance.

4.5.5.3 Provision to Prevent Impacts to Public or Private Water Supply Wells – R 425.203(c)(xi)(B)

The Project has been designed to minimize the potential for adverse impacts to public or private water supply wells through conservative underground mine layout, control of stress redistribution, maintenance of barrier pillars, and implementation of groundwater and surface water monitoring under the approved monitoring plan. The limited magnitude of modeled bedrock deflection, the deep elevation of mining relative to surface receptors, and the use of retained pillars and protective offsets are expected to reduce the potential for mining-induced disturbance to overlying strata or hydraulic pathways that could affect existing wells. The mine plan also includes a substantial offset from historic workings and incorporates protection

pillars and boundary pillars intended to limit stress transfer and preserve overall rock mass stability. Consistent with the subsidence evaluation in Appendix C-3, the estimated magnitude of subsidence at the base of the overburden is not expected to materially affect the structural integrity or performance of shallow wells completed approximately 6 to 18 m (20 to 60 ft) below ground surface. At this magnitude, deformation is expected to occur as broadly uniform settlement of the soil column, resulting in only minor vertical translation of well casing without significant differential strain, and is not expected to compromise annular seals, screened intervals, hydraulic connectivity, or domestic well operation.

In addition, mine water will be collected and managed through the Project's dewatering and water management systems, and groundwater conditions will be monitored in accordance with the approved monitoring program to identify any unanticipated changes in hydraulic conditions. If operational observations or monitoring indicate conditions that could affect water supply wells, the Project will evaluate and implement appropriate response measures in accordance with the MPA, Monitoring Plan, and Contingency Plan.

4.5.5.4 Provisions to Assure Underground Mining Shall Not Cause Material Damage to Structures and Natural Features – R 425.203(c)(xi)(C) and (D)

The mine has been designed and sequenced to reasonably ensure that underground mining will not cause material damage to structures or natural features at the surface. This is achieved through conservative mine geometry, depth-dependent pillar sizing, protection of primary access drives through dedicated pillars, maintenance of a substantial boundary offset from historic workings, and a geotechnical design framework that accounts for stress conditions, rock mass quality, and localized structural features. Numerical assessments, historical mine performance information, and geotechnical domain-based design criteria collectively indicate that the selected mining method can be implemented while maintaining stability of the underground openings and limiting potential surface effects.

Potential effects of mine subsidence on the TDF, groundwater wells, and neighboring surface structures are evaluated in Appendix C-3. The mine infrastructure, including the TDF, is located outside the modeled area of maximum subsidence. Using the conservative 2-cm surface displacement assumption and TDF embankment heights ranging from approximately 25 to 50 ft, the corresponding relative crest settlement is on the order of 0.13 to 0.26%, which corresponds to minor to moderate damage classification and indicates minimal risk to TDF embankments. Because subsidence-related settlement at off-site structures would be expected to occur as broadly uniform rather than differential settlement, and because modeled horizontal strain and angular distortion at the bedrock surface are very small (less than $1x10^{-5}$), the estimated subsidence is not expected to result in material damage to off-site foundations. For the anticipated clayey sand overburden, the conservative 2-cm surface value is approximately half the referenced maximum differential settlement for clay soils.

Subsidence and settlement performance will be monitored as part of TDF operations. Settlement monuments will be installed on the embankments and on native ground and surveyed to monitor settlement in accordance with an Operation, Maintenance, and Surveillance Manual and associated Trigger Action Response Plan. If monitoring indicates settlement approaching established action levels, additional actions, including increased monitoring frequency, embankment inspection, and other engineered measures, will be implemented to maintain facility integrity.

Additional provisions include domain-specific ground support design for declines, panel access drives, production rooms, and intersections, together with supplemental support where fault structures, intersections, or deeper stress conditions may require additional reinforcement. Vent raises and other critical openings will be designed and maintained to preserve long-term stability, including the use of shotcrete lining where warranted. The Project will continue to refine mine design, geotechnical interpretation, and monitoring as engineering advances, and observed conditions during development will be used to confirm and, if necessary, adjust support and sequencing controls so that underground mining does not result in material damage to surface structures or natural features.

4.5.6 Blasting Materials and Methods – R 425.203(i)

Underground mine development and ore production for the Project will be conducted using conventional drill-and-blast mining methods. Blasting will be used for access decline development, lateral development, production drive excavation, and retreat production rounds within the selected Modified Room-and-Pillar mining method. Blasting practices will be designed and implemented to achieve the excavation profiles, fragmentation, and production sequencing required by the Mine Plan while maintaining worker safety, equipment access, and stability of the underground openings.

Blasting will be carried out using mechanized drilling equipment together with controlled charging and initiation practices appropriate for the underground mine geometry. Development and production rounds are planned around repeatable cycle-based mining sequences, and the Mine Plan assumes end-of-shift blasting for conventional development and production activities under normal operating conditions. This blasting approach supports the planned effective work time, re-entry schedule, and coordination of drilling, mucking, and ground support activities across active headings and production panels.

The Project will use approved underground blasting materials appropriate for mechanized drill-and-blast mining. The current Mine Plan identifies bulk emulsion explosives as the primary blasting material. The design basis for emulsion explosives assumes a density of approximately 1.2 grams per cubic centimeter. Estimated maximum explosives use during steady-state production is approximately 300 kilograms (kg) per round, approximately 18,000 kg per day, and approximately 6,272,000 kg per year. Explosives specifications and use will follow standard Mine Safety and Health Administration approved formulations and applicable federal and state requirements. Explosives, detonators, boosters, and initiation accessories will be transported, stored, handled, and used in accordance with applicable regulatory requirements, manufacturer specifications, and site-specific mine operating procedures. Detonators will be transported and stored separately from explosives as required. Temporary vendor-supplied storage magazines may be used during decline excavation, and longer-term surface and underground magazines will be established to support development and production blasting.

Blast designs will vary according to heading size, mining height, ground conditions, and the purpose of the excavation. Development rounds for portal, box cut, ramp, and larger underground development headings are based on representative 6-m-high by 6-m-wide headings. For this heading configuration, blastholes are drilled to approximately 4.2 m, with an assumed 95% pull, resulting in an advance of approximately 4.0 m per blast. Production and perimeter blastholes are approximately 48 mm in diameter, with approximately 100-mm reamer holes used in the burn cut. A representative 6-m by 6-m development round includes

approximately 72 drilled holes and 68 loaded holes, including perimeter holes, face holes, burn cut holes, and reamer holes. Nominal drill hole spacing is approximately 0.745 m.

Production rounds are designed for multiple low-height heading configurations, including 5-m-high by 6-m-wide headings and 3.2-m-, 2.5-m-, and 2.0-m-high by 8-m-wide production headings. Representative production rounds are based on approximately 4-m round lengths, blasthole diameters of approximately 45 to 48 mm, and 100-mm reamer holes. Production round drill patterns vary by heading size, with approximately 42 to 63 drilled holes and approximately 38 to 59 loaded holes per round. The hole layouts include perimeter holes, face holes, burn cut holes, and reamer holes, with nominal hole spacing of approximately 0.75 m. These representative patterns will be refined during detailed engineering and operations based on final heading dimensions, geotechnical conditions, fragmentation requirements, and mine safety considerations.

Blasting will be integrated with the mine's ventilation, access control, and ground support requirements. Following blasting, underground headings will remain subject to re-entry restrictions and ventilation clearing requirements before personnel return to the affected areas. The mine operating assumptions include a nominal 0.5 hour, or 30-minute re-entry period where blasting occurs during a shift, although the base mine plan generally assumes end-of-shift blasting for conventional headings. Blast sequencing, heading availability, and re-entry controls will be coordinated with the underground ventilation system to maintain safe working conditions and operational continuity.

Blasting performance will be managed to support both excavation quality and downstream ore handling requirements. Fragmentation assumptions used in the underground material handling design indicate that blasted material is expected to be suitable for loading by low-profile underground equipment and handling through the planned truck tip, grizzly, rock-breaker, ore pass, feeder, and conveyor system, subject to localized oversize management at grizzlies and rock-breaking stations. The representative blasting assumptions described above provide the general description of blasting materials and methods required by R 425.203(i). Detailed final blast designs, including burden, spacing, hole diameter, charge distribution, initiation timing, and explosives consumption, will be developed through site operating procedures and mine safety documentation as the Project advances into detailed engineering and operations.

Blasting materials and methods will continue to be refined as the Project advances through detailed engineering and operational planning. Any changes to explosive products, charging methods, initiation systems, or storage arrangements will be incorporated into site operating procedures and will remain subject to applicable regulatory requirements and mine safety standards.

4.6 Surface Infrastructure

Surface infrastructure for the Project includes site access and internal roads; facility pads; mining, processing, maintenance, administration, security, emergency response, power distribution, and water treatment buildings; designated laydown and staging areas; fuel, chemical, and explosives storage areas; equipment wash areas; and associated utilities and support systems. Infrastructure planning incorporates controls to manage stormwater and contact water routing, minimize erosion and sediment transport, and reduce the potential for contaminant releases from storage and handling areas, roads, pipelines, and transportation

corridors. The overall surface infrastructure layout is shown on Figure 4-6, and key buildings and structures are summarized in Table 4-7.

4.6.1 Site Access and Controls, Parking, and Roads

The Project will be accessed from M-64 along the western boundary of the site via a designated site entrance and main access road. Site access will be controlled through a staffed or monitored entry point (gatehouse/security) to manage entry of personnel, contractors, and deliveries and to support safe traffic flow during construction and operations.

A network of internal site roads will connect the mine portal area, processing facilities, materials handling areas, water management facilities, tailings facilities, and support buildings. The current surface infrastructure design includes approximately 3.85 kilometers (km) (2.4 miles) of constructed roadway, including approximately 1.2 km (0.75 miles) of main access road and approximately 2.65 km (1.65 miles) of internal site roads. The main access road is designed with a typical running width of approximately 12.8 m (42 ft), while internal site roads are designed with a typical width of approximately 8.0 m (26 ft). The site layout includes designated parking and staging areas for employees, contractors, and visitors to reduce congestion in operational areas and minimize cross-traffic between light vehicles and heavy equipment. Road drainage, including roadside ditches and culverts where needed, will be integrated with the stormwater controls described in Section 4.6.6 and the Project Water Management Plan in Section 4.8.

4.6.2 Storage Areas for Equipment and Vehicles – R 425.203(c)(xiv)

Storage and staging areas for equipment and vehicles include designated laydown areas, maintenance yards, parking areas, and vehicle service areas located within the primary infrastructure footprint. These areas support delivery, staging, and storage of construction materials and operational supplies as well as routine site maintenance activities. The site layout includes dedicated access corridors and surface pads to support safe equipment movement and reduce the need for cross-traffic through processing and materials handling areas.

Vehicle maintenance and staging areas are co-located with the truck shop facilities to centralize vehicle servicing, manage potential drips/spills, and support controlled drainage to contact water systems. The Project includes a heavy vehicle truck shop, light vehicle truck shop, truck shop office, and vehicle wash facilities to support the mine fleet and concentrate maintenance, washing, and staging activities within controlled drainage areas.

4.6.3 Buildings and Structures – R 425.203(c)(xv)

The Project requires buildings and structures to support mining, processing, maintenance, administration, security, emergency response, power distribution, and water treatment. Building types include rigid-frame pre-engineered steel buildings, fabric buildings, stick-built buildings, geodesic domes, modular buildings, and prefabricated electrical rooms.

Key buildings and structures are summarized in Table 4-7. The table identifies the principal surface buildings, general construction type, and approximate dimensions or footprint where available. The listed facilities include mining support buildings, process plant buildings, ancillary support buildings, electrical and control buildings, the crushed ore stockpile cover structure, the

Industrial Wastewater Treatment Plant (WWTP), and security and emergency response facilities.

Key buildings and structures include the process plant/mill building and associated process support buildings, including a metallurgical lab/mill office/control room and a plant maintenance/warehouse facility. Mining-support buildings include the mine dry, heavy and light vehicle truck shops (including truck washes), a truck shop office, and a wheel wash facility. Site administration and security structures include an administration building and a staffed/monitored gatehouse/guard house. An emergency response vehicle garage and associated support space are included to support on-site emergency response readiness.

Primary crushing and ore handling structures include the primary crushing station, related control and electrical spaces, and the covered crushed ore stockpile structure. Electrical and power distribution infrastructure includes the site substation and prefabricated electrical/ control rooms serving major power users, including grinding, flotation/filtration, substation, and primary crusher systems. The power supply concept includes a utility interconnect and on-site natural gas turbine generation, with site-wide distribution through medium-voltage electrical infrastructure and electrical rooms located near major loads. The final configuration, equipment selections, and interconnection details will be refined during detailed engineering.

Water management structures include the industrial wastewater treatment plant and related pump houses and control structures necessary to support reliable year-round operations under anticipated climatic conditions. The current WWTP design basis includes an initial treatment building footprint of approximately 200 ft by 200 ft with an 18-ft clear height, with an additional future expansion footprint of approximately 200 ft by 70 ft to support the later 4,500 gallons per minute (gpm) treatment capacity. Final building dimensions and layout will be refined during detailed design.

The Project does not include an on-site accommodations camp; the current planning assumption is that regional communities provide lodging capacity for construction and operations.

4.6.4 Storage and Transfer of Chemicals, Fuel, and Explosives – R 425.203(c)(xvi)

Chemicals used for processing and water management will be stored and handled in designated areas designed to reduce the potential for releases and to support safe transfer operations. The Project includes a reagent storage building sized for approximately 14 days of on-site reagent storage, together with associated handling and transfer infrastructure to support delivery and controlled distribution to the process plant. Chemical storage and transfer areas will be configured to support good housekeeping and spill prevention practices, including segregation of incompatible materials, controlled transfer points, secondary containment or collection features where appropriate, and routing of chemical contact water to the contact water management system.

Fuel storage and dispensing infrastructure will be located in a designated area near the mine portal to support surface and underground equipment fueling needs. The current surface infrastructure design includes a fuel station with approximately 40,000 gallons of storage,

consisting of two approximately 20,000-gallon tanks. Fuel storage and dispensing areas will include controlled access and spill prevention, containment, and response measures to minimize the potential for releases to soil, groundwater, or surface water.

Explosives storage facilities, including surface magazines and associated access controls, will be located in designated areas shown on the surface infrastructure layout. Explosives, detonators, and accessories will be stored, transported, and handled in accordance with applicable federal and state requirements, mine safety requirements, manufacturer specifications, and site-specific operating procedures. Explosives storage and transfer areas will include controlled access, separation of incompatible materials, and operational controls to minimize fire, security, and contact water risks.

4.6.5 Equipment Wash Areas – R 425.203(c)(xvii)

Equipment wash areas include facilities intended to limit off-site tracking of sediment and mine-affected materials and to route wash water to appropriate contact water management systems. The Project includes a wheel wash facility for vehicles leaving controlled industrial areas and wash facilities associated with the truck shop/vehicle maintenance complex.

Wash water generated from equipment and vehicle washing will be managed as contact water and routed to the site's contact water collection and treatment framework. Wash areas will be graded, contained, or otherwise configured so that sediment, oil/grease, and mine-affected residues are not discharged uncontrolled to surface waters, wetlands, or non-contact drainage systems. These controls support both housekeeping and contaminant-release prevention for roads, vehicle service areas, and off-site traffic interfaces.

4.6.6 Provisions to Prevent the Release of Contaminants from Transportation Infrastructure – R 425.203(c)(xviii)

Transportation-related contaminant controls are based on roadway design, drainage controls, material handling controls, operational practices, housekeeping, and contingency response measures. The Project includes approximately 3.85 km (2.4 miles) of constructed roadway, consisting of approximately 1.2 km (0.75 miles) of main access road and approximately 2.65 km (1.65 miles) of internal roads, designed to accommodate construction traffic, heavy haul vehicles, service vehicles, and operational traffic. Road alignments follow site topography where practicable and constructed roads will include asphalt surfacing or stabilized granular sections appropriate to their use, together with engineered base/subbase layers to reduce sediment generation and support safe year-round access. Road drainage will be integrated with stormwater management through roadside ditches, culverts, and outlet protection where needed to limit erosion and prevent uncontrolled runoff from transportation corridors.

For tailings transport infrastructure, the tailings delivery pipelines are designed to be accessible for inspection, maintenance, and repair. The majority of the tailings pipeline alignment will be located within or adjacent to controlled TDF areas so that potential releases would report to containment areas within the TDF system. Where pipeline segments are located outside containment footprints, the design includes contingency routing, shutdown procedures, and upset discharge provisions so that tailings can be diverted to designated containment locations if a leak, breakage, blockage, freezing condition, or required repair occurs. Tailings released outside containment areas would be recovered and placed in the TDF, and affected areas would be cleaned up consistent with spill response and materials management procedures.

Measures to prevent releases from concentrate transport will include covered or enclosed handling where practicable, controlled loadout areas, and inspection/housekeeping practices to minimize spillage and track-out. Wheel wash and road maintenance practices will be used as needed to limit sediment or material tracking from industrial areas onto public roadways.

4.6.7 Drainage Control Within Tailings Disposal Areas – R 425.203(c)(xx)

Drainage within the TDF will be managed to prevent uncontrolled releases and to maintain the integrity of TDF embankments during operations and closure. The tailings deposition plan uses the existing legacy TDF footprint, including NP1(Dam ID 702) and NP2 (Dam ID 269), with new berms, access causeways, reclaim water areas, stormwater compartments, and drainage controls constructed as needed to support the LOM deposition sequence. Tailings will initially be deposited in NP1 and later in NP2, with deposition, reclaim, and drainage controls operated to maintain controlled contact water collection and conveyance.

The TDF water management concept maintains separation between contact water associated with tailings deposition and non-contact water where practicable. Within NP2, internal berms and drainage features will be used to separate reclaim/contact water from non-contact stormwater compartments. During Years 1 through 11, NP1 is operated as the primary Project contact water basin and is managed to avoid routine Project contact water discharge to NP2. During Years 12 through 26, NP2 is divided into a western reclaim/contact water compartment and an eastern stormwater/legacy water compartment to maintain operational separation of Project generated and legacy water. Existing and new spillways, overflow controls, reclaim pumping systems, and drainage channels will be configured to safely manage ponded water and stormwater within the diked areas of the TDF. These systems are intended to prevent overtopping or breaching of embankments and to maintain controlled routing of contact water to reclaim, treatment, or other approved management pathways.

Drainage control within the TDF will be integrated with the Water Management Plan, including water balance evaluations, storm-event storage assumptions, reclaim pumping, spillway design, operational freeboard management, and inspection and maintenance requirements. The design will ensure that the required 24-hour, 100-year precipitation event does not cause releases of water that are not in compliance with the conditions of the mining permit. Additional design criteria and operational controls for TDF stormwater, contact water, reclaim water, and extreme-event performance are provided in Section 4.8.

4.6.8 Provisions to Control Stormwater – R 425.203(c)(xxi)

Stormwater at the Project will be managed using a site-wide approach that emphasizes segregation of contact and non-contact stormwater, controlled conveyance through engineered drainage features, and use of Best Management Practices (BMPs) to minimize erosion and prevent uncontrolled releases. Stormwater controls will include grading, berms, ditches, culverts, sumps, lined conveyances where appropriate, and drainage channels configured to direct runoff to appropriate collection, storage, reuse, treatment, or discharge components depending on whether runoff has contacted mine-related materials.

Runoff that has contacted, or may contact, ore, development rock, overburden, tailings, process areas, fuel or chemical storage areas, vehicle wash areas, or other industrial surfaces will be managed as contact water. Contact water will be routed to controlled contact water management facilities, including the Contact Water Pond, TDF reclaim system, or treatment

systems as applicable. These controls are designed to reasonably minimize actual and potential adverse impacts to groundwater and surface water by preventing uncontrolled leaching or runoff of mining-related constituents.

Non-contact stormwater will be routed separately through non-contact drainage features, ponds, bypass channels, or other controls to minimize the volume of water requiring treatment while maintaining stable drainage conditions. During construction and operations, stormwater controls will be implemented in a phased manner so that runoff control features are established early and maintained through earthwork, seasonal wet-weather conditions, and winter snowmelt periods.

Detailed stormwater design basis, water classification, conveyance routing, storage and treatment infrastructure, discharge locations, water balance assumptions, and extreme/upset condition management are provided in the Project Water Management Plan in Section 4.8.

4.6.9 Provisions to Control Soil Erosion and Sediment Management – R 425.203(c)(xxii)

The Project incorporates a comprehensive soil erosion and sediment control strategy consistent with the Project's Soil Erosion and Sedimentation Control Plan and applicable requirements of Part 91 of the Michigan NREPA as outlined in Appendix D. Soil erosion and sediment management measures are integrated into all phases of construction, operation, and reclamation to minimize erosion, prevent off-site sediment transport, and protect surface water resources. These measures rely on a combination of BMPs, engineered water management features, and operational controls designed to maintain stable site conditions and reduce erosion potential across disturbed areas.

4.6.9.1 Soil Erosion and Sediment Control During Construction – R 425.203(c)(xxii)(A)

During construction, erosion and sediment control measures will be installed prior to the initiation of earth-disturbing activities and maintained throughout the construction period. Temporary BMPs, including silt fence, erosion control matting, diversion berms, tracking pads, and sediment basins, will be used to intercept sediment and control runoff. Run-on will be diverted away from active work areas using berms and grading, while runoff from disturbed areas will be directed to designated contact stormwater retention ponds or non-contact water ponds that function as sedimentation structures. Soil stabilization practices, including temporary seeding, mulching, and surface roughening such as track walking, will be applied as soon as practicable following disturbance. Topsoil handling, stockpiling, and grading activities will be conducted in a manner that minimizes erosion potential, including the use of slope limitations and perimeter controls. All temporary erosion control measures will be subject to routine inspection and prompt repair to ensure continued effectiveness.

4.6.9.2 Soil Erosion and Sediment Control During Operations – R 425.203(c)(xxii)(B)

Following construction, erosion control measures will transition to permanent and operational controls that remain in effect throughout the life of the Project. Permanent stormwater management infrastructure, including lined ditches, diversion systems, and stormwater retention ponds, will continue to convey and control runoff in a manner that minimizes erosion.

Segregation of contact and non-contact water will be maintained to ensure that sediment-laden runoff is captured and managed prior to reuse, treatment, or discharge. Temporary controls will be removed once areas are stabilized and replaced with permanent measures such as vegetative cover and stabilized drainage features. A program of regular inspection, monitoring, and maintenance will be implemented by trained personnel, including a certified stormwater operator, to ensure that erosion control systems continue to function as designed.

4.6.9.3 Provision to Limit Land Disturbance to the Shortest Period of Time – R 425.203(c)(xxii)(C)

Land disturbance will be limited in both extent and duration through phased construction sequencing and coordinated earthwork activities. Clearing, grubbing, and grading will be completed in a consolidated and efficient manner to avoid repeated disturbance of the same areas. Disturbed surfaces will be stabilized as soon as practicable following completion of earthwork through seeding, mulching, or other appropriate measures. Construction scheduling will be implemented to minimize the amount of time soils remain exposed to precipitation and runoff, thereby reducing the potential for erosion and sediment mobilization.

4.6.9.4 Provisions to Remove Sediment Before Runoff Water Leaves Mining Area – R 425.203(c)(xxii)(D)

Sediment control systems are designed to ensure that sediment is removed from runoff prior to discharge from the mining area. Runoff from disturbed and operational areas will be routed through engineered sedimentation features, including contact stormwater retention ponds and non-contact water ponds, which provide settling and flow equalization prior to discharge or reuse. Additional controls, such as silt fences, sediment barriers, and controlled drainage pathways, will be used to intercept sediment at source locations. These systems are designed to function in series, providing multiple opportunities for sediment removal before water exits the system.

4.6.9.5 Control Measures Limiting Surface Water Flow to Non-Erosive Velocities – R 425.203(c)(xxii)(E)

Surface water flow will be managed to maintain non-erosive velocities through the design and implementation of stabilized conveyance systems and surface controls. Drainage ditches and channels will be constructed with appropriate lining or stabilization to resist erosion, and slopes will be designed to minimize runoff velocity. Surface roughening, vegetation establishment, and graded surfaces will further reduce runoff energy across disturbed areas. Detention and retention features will be used to attenuate peak flows and reduce the erosive potential of stormwater runoff prior to conveyance or discharge.

4.6.9.6 Maintenance and Removal of Temporary Erosion Control Devices During Earthwork – R 425.203(c)(xxii)(F)

Temporary erosion control measures will be actively maintained throughout construction and earthwork activities. Inspections will be conducted on a routine basis and following precipitation events to identify any damage or reduced effectiveness of control measures. Required repairs or replacements will be completed promptly to maintain functionality. Inspection findings and maintenance activities will be documented and retained as part of the Project record. Temporary controls will be removed in a controlled manner once contributing

areas have been stabilized and no longer pose a risk of erosion, and disturbed areas associated with removal will be restored as needed.

4.6.9.7 Stabilization with Permanent Erosion Control Measures as Soon as Possible After Completion of Earthwork – R 425.203(c)(xxii)(G)

Permanent stabilization measures will be implemented as soon as practicable following the completion of earthwork. These measures will include the establishment of vegetation on disturbed soils using appropriate seed mixtures, as well as the use of erosion control matting or other stabilization techniques where necessary. Stormwater management infrastructure, including ponds and conveyance systems, will function as permanent erosion control features during operations and into closure. Progressive stabilization and reclamation will be implemented where feasible to reduce erosion risks during the operational phase and to establish long-term stable site conditions consistent with reclamation objectives.

4.6.10 Utilities and Other Project Support Facilities

4.6.10.1 Electrical Service

The site electrical demand is approximately 49 megawatts (MW). The selected power supply concept includes a hybrid arrangement consisting of utility power import and on-site natural gas turbine generation. The current design basis includes utility power supplied through a high-voltage interconnection and on-site natural gas-fired generation sized to support the remaining site load. Site-wide distribution will include medium-voltage and low-voltage reticulation to major facilities, overhead and/or cable-tray distribution where appropriate, substations, and prefabricated electrical/control rooms for major process, mine, water management, and support loads. The final configuration, redundancy philosophy, interconnection requirements, and equipment selections will be refined during detailed engineering.

4.6.10.2 Surface Facilities Heating

Occupied buildings at the Project (including administrative spaces, maintenance shops, and other routinely staffed facilities) are to use natural gas forced-air heating. Systems will be designed for Upper Peninsula winter conditions and integrated with building ventilation and safety requirements.

4.6.10.3 Communications

Site access control is supported by a security gatehouse and controlled entry; communications and control infrastructure is integrated within plant control systems and associated electrical/control rooms. Optic fiber, internet, telephone, and cellular services are readily available within the region and will be leveraged for use at the Project site.

4.6.10.4 Fresh Water Supply

Fresh water and potable water will be supplied through existing regional water infrastructure associated with the Village of Ontonagon system, which draws from Lake Superior and includes existing pumping, treatment, and transmission infrastructure serving the White Pine area. Additional site distribution piping will be installed as needed to deliver potable water, service water, and raw water to Project facilities.

Freshwater demand for the Project is limited relative to total site water use because the Project water management strategy relies primarily on reclaim and recycled water from the TDF and WWTP. During operations, process water requirements for the mill are expected to be met primarily through recycling of reclaim water and treated water, with raw Lake Superior water used only where recycled water is not available or for specific operational needs.

Potable water will be used for personnel needs, including showers, bathrooms, drinking water, and other sanitary uses. Estimated potable water demand is approximately 4.64 million gallons per year, equivalent to approximately 8.83 gpm on an annualized basis. Potable water will also be used underground during the pre-production period. Underground potable/service water use during pre-production is estimated at approximately 112.71 gpm. Once the WWTP is operational, treated water is expected to be recycled for underground use, reducing or eliminating the need for continued freshwater supply for that purpose.

Raw Lake Superior water may be used to supply the mill raw water tank where recycled water from the WWTP or reclaimed water from the TDF is not available. The estimated raw water demand for this contingency or supplemental use is approximately 42 gpm. Raw Lake Superior water is also expected to be required for initial filling of process tanks and other water systems during startup. Initial fill volumes will be developed during detailed engineering and are not expected to represent a recurring operational freshwater demand.

During closure, raw Lake Superior water is planned to be used for controlled rapid reflooding of the underground mine. The current closure basis assumes a reflooding rate of approximately 15,000 gpm for approximately 620 days, subject to refinement based on the final underground mine volume, closure configuration, water management plan, and permit conditions.

Freshwater demands described above are limited to potable water, pre-production underground service water, supplemental raw water use, startup system fills, and closure-related underground mine reflooding. Site-wide water use, including reclaim water, recycled process water, contact water, treated water reuse, water storage, transfers, treatment, and discharge, is addressed in the Project Water Management Plan in Section 4.8.

4.6.10.5 Industrial Wastewater Treatment

The Project includes a dedicated WWTP designed to manage mine-affected water generated from underground mining, process water systems, contact stormwater, and tailings reclaim water as applicable. The WWTP is currently designed for phased treatment capacity, with approximately 2,250 gpm during Years 1 through 11 and approximately 4,500 gpm during Years 12 through 26. The treatment process includes influent pumping and equalization, ultrafiltration, solids settling and dewatering, reverse osmosis, high-pressure reverse osmosis concentration of reject streams, evaporation/crystallization, and final effluent conditioning prior to discharge. The treatment process, design basis, discharge framework, and integration with site water management are described in greater detail in Section 4.8 and Appendix E-1.

4.6.10.6 Sewage Treatment

Domestic wastewater is planned to be discharged to the existing Carp Lake Township wastewater treatment facility (lagoon-type system), with wastewater conveyed via local lift stations and sewers where applicable.

4.7 Beneficiation Process – R 425.203(c)(xix)

The Project will use a conventional mineral beneficiation process to recover copper and silver from run-of-mine (ROM) ore into a marketable copper-silver concentrate and to produce thickened tailings for management in the TDF. The process flowsheet was developed based on Project metallurgical test work, historical White Pine operating experience, and standard mineral-processing technologies. The planned beneficiation sequence includes: 1) single-stage primary crushing; 2) crushed ore stockpiling and reclaim; 3) grinding in a semi-autogenous grinding (SAG) mill and ball mill with cyclone classification; 4) gravity concentration using scalping screens, continuous gravity concentrators, and shaking tables; 5) primary and secondary rougher flotation using conventional mechanical cells; 6) rougher scalper flotation using a high-intensity pneumatic flotation cell; 7) regrinding with cyclone classification and a horizontal fine grinding mill; 8) cleaner flotation using conventional mechanical cells and final cleaner high-intensity pneumatic flotation; 9) concentrate thickening, pressure filtration, and concentrate stockpiling; and 10) tailings thickening and pumping to the TDF. A beneficiation processing flow diagram is depicted on Figure 4-7.

The current process design basis includes an annual process plant throughput of approximately 5.40 million tonnes per year, equivalent to approximately 15,000 tonnes per day over 360 operating days per year. Design feed grades are approximately 1.15% copper and 24.8 g/t silver. The process plant design is based on fine primary grinding, gravity recovery of native copper and silver-bearing minerals, rougher flotation, regrinding, cleaner flotation, and concentrate dewatering. The current design criteria identify copper recovery in the mid-80% range and silver recovery in the mid-90% range, with final concentrate quality and the optimum copper recovery/concentrate-grade tradeoff to be finalized as metallurgical testing and marketing assumptions are refined. Key process design criteria are summarized in Table 4-8.

Because tailings are generated by beneficiation, this section summarizes tailings generation, thickening, transport, and disposal as required by R 425.203(c)(xix). The detailed treatment and containment basis for Project-generated tailings and other reactive mine-related materials is provided in Section 5 and Appendix E-2. Appendix E-2 includes the Project's Treatment and Containment Plan and supporting tailings management design information. Ore stockpile containment and liner design criteria are addressed as part of ore storage, water management, and contaminant-release prevention measures in Sections 4.3.3, 4.7.5, and 5, as applicable.

4.7.1 Types, Extent, and Sequence of Beneficiation Including Physical and Chemical Characterization of Materials, Wastes, or Products – R 425.203(c)(xix)(A)

The beneficiation process was developed based on metallurgical testing completed for the Project and informed by historical operating experience at the former White Pine Mine. The former White Pine concentrator processed similar copper-silver mineralization beginning in the 1950s and historically used crushing, grinding, flotation, regrinding, and cleaning to produce a copper concentrate. Historical performance records reported copper recoveries generally in the mid-80% range to upper-80% range for comparable ore grades. Modern test work completed for WPC from 2024 through 2026 included comminution, mineralogy, flotation, regrinding, concentrate dewatering, and tailings dewatering testing and forms the primary basis for the current process design.

Mineralization evaluated for the process design occurs primarily in the PS, with US evaluated during earlier phases of testing but not included as the primary basis of the current Mine Plan. Mineralogical testing indicates that chalcocite is the dominant copper-bearing mineral, with native copper representing a meaningful component of copper deportment in PS material. QEMSCAN work showed that, on average, chalcocite represented approximately 83% of copper deportment in PS and approximately 97% in US, while native copper represented approximately 17% of copper deportment in PS and less than 2% in US. These mineralogical characteristics support the selection of gravity concentration followed by flotation and regrinding.

Testing indicates that WPN material requires relatively fine primary grinding and fine regrinding to achieve the targeted copper and silver recovery and concentrate quality. The selected process design uses a primary grind target of approximately P80 38 micrograms (µm) and a regrind target of approximately P80 12 µm. The selected flowsheet reflects test work showing that fine grinding, high rougher mass pull, gravity recovery, and regrinding are important to achieving the desired copper-silver recovery and concentrate quality.

The primary product from beneficiation will be copper-silver concentrate. Concentrate will include material recovered from gravity concentration, rougher scalper flotation, and cleaner flotation. Current metallurgical projections for PS material indicate a combined final concentrate containing approximately 26.2% copper, approximately 442 g/t silver, approximately 5.0% iron, approximately 6.5% sulfur, approximately 36.0% silicon dioxide, approximately 9.5% aluminum oxide, and approximately 2.7% magnesium oxide. These values indicate that WPN concentrate is expected to differ from typical copper concentrates by having relatively higher silica and alumina and relatively lower iron and sulfur. Final concentrate specifications and the optimum copper recovery/ concentrate grade operating point will be refined through final metallurgical design and concentrate marketing evaluation.

The primary waste stream from beneficiation will be thickened tailings generated after gravity and flotation recovery. Tailings will include rougher tailings, cleaner tailings, gravity tails, and other process residues routed to the final tailings pump box and tailings thickener. Tailings are Project-generated tailings and are distinct from legacy tailings already present within the existing TDF. Tailings will be thickened prior to transport and deposition, with the current process design basis identifying an underflow density of approximately 62% solids by weight and a final deposition density of approximately 60% solids by weight.

Process water will be recovered from beneficiation unit operations and reused within the plant water system to reduce raw water demand. Process water sources include concentrate thickener overflow, tailings thickener overflow, and TDF decant water return. Raw water requirements for process plant operation are estimated at approximately 9.2 cubic meters per hour (40.51 gpm), with raw water used for selected services such as concentrate filter cloth washing, concentrate filter manifold washing, and reagent preparation. Potable water will be supplied separately for personnel and sanitary uses.

4.7.2 Description of Mills, Concentrators, Separators, Filtering Equipment, Flotation Cells, and Other Beneficiation Equipment – R 425.203(c)(xix)(B)

Beneficiation equipment for the Project consists of conventional crushing, stockpiling and reclaim, grinding and classification, gravity separation, flotation, regrinding, concentrate dewatering and handling, and tailings thickening systems. The beneficiation process does not

include kilns, electrolytic chambers, dryers, or chemical reactors as primary recovery unit operations; copper and silver recovery is achieved through physical size reduction, gravity separation, flotation, thickening, and filtration.

Crushing and ore handling equipment includes a ROM transfer conveyor, ROM feed bin, vibrating grizzly feeder, single-stage primary jaw crusher, crusher discharge conveyor, and crushed ore stockpile feed conveyor. The crushing circuit reduces ROM material from a feed size of approximately F80 150 mm (5.9 inches) to a crushed product size of approximately P80 98 mm (3.9 inches). A diverter chute and mobile stacker provide the ability to divert material to a temporary stockpile during maintenance or unexpected shutdowns. The mobile stacker can be reversed so that stockpiled material can be reclaimed by front-end loader and returned to the crusher feed conveyor. Crushed material is stored in a coarse ore stockpile with approximately 12 hours of live capacity and reclaimed using two apron feeders, each sized to supply 100% of the mill feed. The crushed ore stockpile will be enclosed by a geodesic dome structure to protect the stockpile and reduce wind-driven fugitive dust emissions.

The grinding circuit includes one SAG mill, one ball mill, trommel screens, cyclone classification, associated pump boxes, and recycle conveyors. Crushed material is reclaimed from the stockpile at a design rate of approximately 679 dry tonnes per hour to the SAG mill. The current design basis includes a SAG mill approximately 9.15 m (30 ft) in diameter by 6.71 m (22 ft) effective grinding length with installed power of approximately 10 MW, and a ball mill approximately 8.53 m (28 ft) in diameter by 12.5 m (41 ft) effective grinding length with installed power of approximately 20 MW. SAG mill trommel oversize is recycled to SAG feed, while cyclone overflow is classified to produce the final grind product of approximately P80 38 µm at approximately 30% solids by weight. Cyclone underflow reports to the ball mill, and the ball mill operates at an approximate 350% circulating load.

The gravity concentration circuit includes one gravity feed distribution box, two gravity scalping screens, four continuous gravity concentrators, and four shaking tables. A portion of the grinding circuit slurry is pumped from the cyclone feed pump box to the gravity circuit. Scalping screen undersize reports to continuous gravity concentrators, and gravity concentrate is upgraded on shaking tables. Gravity concentrate is routed to concentrate handling, while gravity tails and scalping screen oversize return to the cyclone feed pump box.

The rougher flotation circuit includes a rougher conditioning tank, one primary rougher conventional mechanical flotation cell with an approximate volume of 300 m^3 (79,252 gallons), and five secondary rougher conventional mechanical flotation cells with approximate volumes of 300 m^3 (79,252 gallons) each. Lime, MIBC, and PAX are added in the conditioning tank prior to flotation, with additional collector/frother and sodium hydrosulphide added to the secondary rougher circuit as needed. Primary rougher concentrate is routed to the rougher scalper flotation cell, while secondary rougher concentrate is routed to regrinding.

The rougher scalper and regrind circuit includes a high-intensity pneumatic rougher scalper flotation cell, regrind cyclone classification, and a horizontal fine grinding mill with installed power of approximately 5,500 kilowatts. Rougher scalper concentrate reports to final concentrate handling. Rougher scalper tailings and secondary rougher concentrate are combined, classified, reground to approximately P80 12 µm, and routed to cleaner flotation.

Cleaner flotation includes five conventional cleaner flotation cells with approximate volumes of 130 m^3 (34,342 gallons) each and one final cleaner high-intensity pneumatic flotation cell. Cleaner 1 concentrate is routed to the final cleaner cell, and final cleaner concentrate reports to the final concentrate hopper. Cleaner 1 tailings report to final tailings, while final cleaner tailings are recycled to the Cleaner 1 feed box to improve recovery.

Concentrate handling and dewatering equipment includes a concentrate trash screen, a 12 m (39.4 ft) high-rate concentrate thickener, a filter feed tank, and a horizontal plate pressure filter press. Final concentrate slurry is screened, thickened with flocculant addition, and pressure filtered to a target filter cake moisture of approximately 12.5% by weight. Concentrate thickener overflow reports to the process water tank, and filter press filtrate is returned to the concentrate thickener to minimize fines losses. Dewatered concentrate will be stockpiled and loaded onto covered trucks for shipment.

Tailings handling equipment includes a final tailings pump box and one high-rate tailings thickener approximately 41 m (134.5 ft) in diameter. Rougher and cleaner tailings are collected in the final tailings pump box and pumped to the tailings thickener. Flocculant is added to aid settling. Tailings are thickened to approximately 62% solids by weight and then diluted with process water as needed to achieve a consistent final deposition density of approximately 60% solids by weight before transport to the TDF.

Process support equipment includes plant and instrument air systems and flotation air supply. Plant and instrument air is produced by on-site compressors, dried, and distributed via air receivers throughout the plant. Low-pressure air for conventional flotation cells is supplied by dedicated blowers, with approximate pressure requirements of 65 kilo Pascal (kPa) for rougher flotation and 45 kPa for cleaner flotation.

4.7.3 Types and Amounts of Chemicals Used – R 425.203(c)(xix)(C)

Reagents used in the process plant include pH modifiers, collectors, frothers, depressants/ dispersion aids, activators, and flocculants to support flotation, concentrate thickening, and tailings thickening. Reagents will be unloaded, stored, prepared, and metered through dedicated reagent handling systems designed to maintain segregation of compatible and incompatible materials and to support controlled transfer operations. Reagent storage and preparation areas will be located within designated containment areas and equipped with appropriate operational and safety controls, including ventilation where needed, eyewash stations, safety data sheet stations, and sump and sump pumps for spillage control.

The primary beneficiation reagents and estimated annual consumption are summarized in Table 4-9. Reagent storage capacities, secondary containment details, delivery logistics, and final reagent make-up systems will be finalized during detailed engineering and operated in accordance with applicable regulatory requirements, manufacturer instructions, and site-specific operating procedures.

4.7.4 Tailings Disposal – R 425.203(c)(xix)(D)

Beneficiation will produce two principal material streams: 1) a copper-silver concentrate for off-site shipment; and 2) paste-thickened tailings for disposal within the Project TDF. Tailings generated by the beneficiation plant will include rougher flotation tailings, cleaner flotation tailings, gravity circuit tails, and related process residues routed to the final tailings pump box

and tailings thickener. Tailings generated by the Project are new Project-generated tailings and are distinct from historical tailings already present within the legacy tailings basins.

Tailings will be thickened before transport to the TDF. The current process design basis identifies tailings thickener underflow at approximately 62% solids by weight, with final tailings diluted as needed to approximately 60% solids by weight for deposition. Key TDF design criteria are summarized in Table 4-10.

Tailings disposal will be implemented within the existing legacy TDF footprint in accordance with the Project's Treatment and Containment Plan provided in Appendix E-2. Appendix E-2 is the primary supporting appendix for treatment and containment requirements associated with Project-generated tailings and other reactive mine-related materials. Supporting tailings management design information, including deposition sequencing, deposition methods, TDF storage capacity, reclaim water management, drainage controls, and closure-related tailings management, is included in Appendix E-3 (Tailings Management Design Report) and as part of the Treatment and Containment Plan and associated tailings management documentation.

At the design throughput of approximately 5.40 million tonnes per year, concentrate production is expected to represent a small fraction of the total process plant feed, and most processed material will report to tailings. The annual and LOM tailings quantities used for TDF design are summarized in Table 4-11. Table 4-11 also summarizes the planned NP1 and NP2 deposition configurations, including deposition towers, deposition points, maximum deposition heights, depositional areas, consolidated tailings volumes, and tailings masses. Final year-by-year tailings quantities will be based on the approved mine production schedule and final tailings mass balance.

Tailings deposition will occur over the anticipated 26-year operating mine life in accordance with the LOM deposition sequence defined in the Tailings Management Design Report (Appendix E-3). Project-generated tailings will be deposited in NP1 during Years 1 through 11 and in NP2 during Years 12 through 26. NP1 deposition will use cone deposition from dedicated deposition towers, while NP2 deposition will use cone deposition and crest deposition to accommodate the remaining Project tailings volume within the existing TDF configuration to the extent practicable. NP1 is designed to retain approximately 10% reserve storage capacity following its primary deposition period so that tailings deposition can be temporarily redirected to NP1 if an operational disruption affects deposition in NP2. Deposition locations and sequencing are designed to support tailings storage capacity, reclaim water management, operational access, water segregation, closure performance, and operational contingency.

Waste rock is generated primarily by underground decline development and ventilation raise construction and is not a beneficiation-process waste stream. Waste rock management is addressed separately in Section 4.3.3. Tailings transport routing, pipeline configuration, discharge control features, and upset/contingency discharge provisions are described in Section 4.7.6.

4.7.5 Provisions to Prevent Release of Contaminants from Beneficiation Equipment – R 425.203(c)(xix)(E)

The Project will prevent releases of contaminants from beneficiation equipment through integrated facility design, controlled drainage and water routing, secondary containment for reagent handling, and operational controls that emphasize equipment integrity, inspection, and rapid spill response. These measures are intended to prevent uncontrolled discharge of process slurry, concentrate, reagents, and process-contact water to soil, groundwater, or surface waters and to ensure that any incidental spills are captured and managed within engineered systems.

Process areas that handle slurry, concentrate, reagents, and tailings will be configured with controlled drainage so that spills and washdown report to designated sumps and are routed to the site's contact water management system rather than leaving the industrial footprint. Reagent unloading, storage, mixing, and dosing systems will be located in dedicated containment areas designed to segregate compatible and incompatible materials and support controlled transfers. These areas will include spill collection features, such as sumps and sump pumps, and appropriate safety controls, including ventilation where needed, eyewash stations, and safety data sheet stations.

Ore and crushed ore storage areas will be designed to prevent uncontrolled release of contact water and sediment from ore handling and stockpiling activities. The crushed ore stockpile will be enclosed by a geodesic dome to reduce wind-driven dust and precipitation contact. Where ore stockpile liner systems or lined containment areas are required, the liner design criteria will be implemented to support collection of seepage and contact water and to prevent uncontrolled migration to soil, groundwater, or surface water. Ore stockpile containment design information is addressed in the relevant ore storage, water management, and treatment and containment materials.

Beneficiation water circuits are designed to retain and reuse process contact water. Concentrate thickener overflow is returned to the process water tank, filter press filtrate is returned to the concentrate thickener, tailings thickener overflow is routed to the process water system, and TDF decant water is returned for process use where appropriate. This process water return strategy reduces raw water demand and keeps process contact water within controlled systems.

Tailings and process slurry conveyance systems will be operated with standard isolation capability and monitoring, including flow, pressure, and level indications where applicable. Pumps, pipelines, tanks, sumps, valves, and other high-risk components will be managed under inspection and preventive maintenance programs to reduce the likelihood of failures such as seal leaks, hose ruptures, pump failures, tank overflows, or valve malfunctions.

Airborne particulate emissions associated with beneficiation are expected to be primarily fugitive dust generated during dry-material handling activities (e.g., crushing, conveyor transfer points, and concentrate loadout) and from traffic on unpaved roads. The crushed ore stockpile will be enclosed within a geodesic dome, which will reduce wind-driven fugitive dust emissions from stockpiling and reclaim activities. Fugitive dust will be further managed through standard control practices such as enclosure/containment at transfer points where practicable, minimizing drop distances, housekeeping and cleanup of spillage, and other measures consistent with applicable air quality requirements.

Operational practices will reinforce prevention and readiness, including good housekeeping, routine inspection of high-risk components, prompt cleanup of minor drips/spills, and staging of spill response supplies in process and reagent handling areas. If a spill or equipment failure occurs, the Project will implement immediate containment, recovery, and cleanup actions using site procedures and emergency response resources, with notifications and documentation completed in accordance with the Contingency Plan. Stormwater and contact water routing and treatment controls that support beneficiation release prevention are addressed in the Project Water Management Plan, and chemical/fuel storage provisions are addressed under Surface Infrastructure.

4.7.6 Tailings Transport System – R 425.203(c)(xix)(F)

Thickened tailings generated by the process plant will be conveyed to the TDF through a dedicated tailings transport system designed to support continuous operations and to allow inspection, maintenance, emergency repair, and upset-condition management. Tailings are thickened prior to transport and pumped through a pipeline system routed to the active deposition area within the TDF.

The tailings delivery system consists of high-pressure positive displacement pumps operating in parallel and discharging to lined steel pipe that transitions to high-density polyethylene (HDPE) SDR 9 pipe. Tailings are conveyed from the tailings thickener underflow tank through a common pipeline to a junction and valve arrangement used to direct tailings delivery to the selected deposition basin. Tailings pipelines will be installed on the surface to facilitate visual inspection, maintenance, and repair, except where road crossings or other crossings require burial or protection. The tailings delivery system uses 10-inch HDPE-lined carbon steel pipe (ASTM A53 Grade B, with an approximately 7.1 mm HDPE liner) transitioning to 12-inch HDPE SDR 9 pipe (ASTM F714, PE4710), as specified in the Appendix E-3. A junction and two gate valves at the southwest corner of NP1 direct tailings delivery to NP1 or NP2.

The tailings pipeline alignment is configured so that most pipeline segments are located on the upstream side of the TDF embankment crest or otherwise within controlled TDF areas. Under this configuration, a release from most pipeline segments would be expected to remain within the TDF containment system. Where pipeline segments are located outside the TDF containment perimeter, releases will be managed through shutdown, isolation, containment, cleanup, and recovery procedures, and recovered tailings solids will be placed in the TDF. Released liquid associated with tailings will be managed as contact water.

Contingency provisions are incorporated to address upset conditions such as pipeline leakage, breakage, blockage, freezing, power interruption, or required repairs. In the event of a leak, breakage, or blockage of tailings conveyance piping, tailings conveyance will be shut down and isolated, and thickened tailings can be temporarily routed to a designated upset discharge location within the TDF using a dedicated emergency upset discharge arrangement. The upset discharge feature is intended to maintain tailings within engineered containment during temporary transport-system disruptions.

The tailings transport system is designed to remain accessible for inspection and emergency response. Operational response to tailings pipeline upset conditions will include prompt shutdown and isolation of the affected segment, containment of released material, recovery and removal of released tailings where safe and practicable, cleanup of affected areas, inspection

and repair before restart, and documentation and notification in accordance with site procedures and the Contingency Plan. These measures are intended to prevent contamination of surface water and maintain tailings and associated contact water within controlled containment during normal operations and upset events.

Tailings deposition sequencing, TDF embankment and internal berm configuration, reclaim water management, drainage controls, freeboard, and extreme-event performance are addressed in the Treatment and Containment Plan and supporting tailings management design information provided in Appendix E-3. Related surface infrastructure and water management controls are summarized in Sections 4.6 and 4.8.

4.7.7 Process Services and Utilities

Process water will be stored in the process water tank and will include concentrate thickener overflow, tailings thickener overflow, and TDF decant water return. Process water will be distributed to grinding, gravity concentration, rougher flotation, rougher scalper flotation, regrind, cleaner flotation, concentrate thickening, reagent preparation, and gland water users. Gland seal water will be sourced from the process water tank, filtered, and pumped to process plant users.

Raw water will be supplied to the plant through the reuse of treated effluent from the on-site WWTP and/or the Project's fresh water supply system, which relies on existing regional water infrastructure associated with Lake Superior, and will be stored in a raw water tank.

The process plant installed load is estimated at approximately 50.0 MW, with a nominal operating demand of 37.4 MW. The major loads are associated with grinding, flotation and regrind, tailings handling, process plant services, crushing, concentrate handling, and reagents. Plant and instrument air will be produced by on-site compressors, dried, and distributed through air receivers. Dedicated low-pressure blowers will supply flotation air, including approximately 65 kPa air for rougher flotation and approximately 45 kPa air for cleaner flotation.

4.8 Project Water Management Plan – R 425.203(c)(xii-xiii)

A sustainable water management plan has been developed by WPC to support mining and beneficiation operations while minimizing the need for supplemental water from external sources and reducing potential impacts to surface water and groundwater resources. The Project Water Management Plan is designed to integrate mine operations, surface water management systems, and interfaces with tailings disposal and treatment systems, over the LOM, and to reasonably minimize actual and potential adverse impacts to water resources within the mining area. A detailed discussion of the LOM operating period water balance, including water associated with tailings placement and management, is provided in the Treatment and Containment Plan for Tailings and Other Reactive Mine-Related Materials (Section 5), and is incorporated herein by reference. Detailed supporting information is provided in Appendix E. Appendix E-1 provides the Proposed White Pine Copper Water Treatment Plant Technical Memorandum; Appendix E-2 provides the Treatment and Containment Plan; Appendix E-3 provides the Tailings Management Design Report; Appendix E-4 provides Water Management Design Report; and Appendix E-5 provides the Temporary Ore Stockpile Liner Design Criteria.

4.8.1 Conceptual Water Management Framework – R 425.203(c)(xii)

The conceptual water management framework for the Project describes how water moves through the site during mining, beneficiation, reclamation, and post-closure, and how water is managed to support operations while minimizing impacts to surface water and groundwater resources as outlined in Appendix E-4. The framework is informed by site-specific hydrologic and hydrogeologic characterization, including the regional groundwater flow model developed for the Project, and is designed to integrate mine dewatering, process water use, tailings management, and water treatment into a coordinated system. A conceptual water management flow diagram can be reviewed on Figure 4-8.

The operational water management strategy also incorporates segregation of legacy and Project-generated water within the existing tailings management facilities. During Years 1 through 11, NP1 functions as the primary contact water basin, while NP2 continues to manage legacy water. During Years 12 through 26, NP2 is subdivided into separate reclaim/contact water and stormwater/legacy water compartments through construction of internal berms and diversion systems. This configuration allows independent management of Project-generated and legacy water and supports a predominantly closed-loop reuse operating strategy for active tailings deposition areas.

Consistent with the Project water management design, contact stormwater collected from process areas, stockpiles, and other contact surfaces is routed through a system of sumps, pipelines, and lined channels to a centralized Contact Water Pond. The Contact Water Pond functions as the primary collection, equalization, and routing facility for contact water prior to reuse within the process or routing to the TDF in accordance with the operating-period water balance and facility-specific design. Contact water from the process plant area and other operational facilities is conveyed to the Contact Water Pond via a network of sumps, gravity piping, and pressure pipelines consistent with the Project water management design.

The Project water management system will operate through distinct periods that reflect the LOM tailings deposition sequence and closure transition. These periods include initial operations with NP1 as the primary Project contact water basin, later operations with Project contact water management transitioning to NP2 West, an active closure water-treatment period, reclamation of the plant site, and post-closure water management. These periods are summarized in Section 4.8.2 and Table 4-12.

Water entering the Project area originates primarily from precipitation, with recharge to a shallow groundwater system consisting of unconsolidated deposits and shallow fractured bedrock. This shallow system exhibits low permeability and limited storage capacity and contributes only minor, intermittent baseflow to local surface water features. Regional groundwater flow is directed predominantly northward toward Lake Superior, which represents the principal discharge boundary for the shallow system. A deeper bedrock groundwater system underlying the Project contains brackish to saline groundwater with very low hydraulic conductivity, long residence times, and minimal hydraulic connectivity to surface water. Mine dewatering primarily affects this deep bedrock system and results in localized groundwater inflows to underground workings without inducing regional-scale drawdown or measurable changes in surface water hydrology.

During operations, groundwater inflows to the underground mine are collected and managed as contact water, along with process water from the beneficiation plant and stormwater that has contacted mine-related materials. Non-contact stormwater is managed separately and routed to minimize contact with mine facilities and materials. Consistent with the Project design, water is preferentially reused and recycled within the mine and process circuits to reduce the need for supplemental water from external sources.

4.8.2 Project Water Balance – R 425.203(c)(xii)

The water management framework explicitly recognizes the potential for sulfide-related water quality risks associated with ore, tailings, and other reactive mine-related materials. These risks are addressed through segregation of contact and non-contact water, containment of tailings within an engineered TDF, and collection and treatment of contact water prior to discharge. The water balance is based on site-specific modeling of operational conditions and design storm scenarios over representative LOM time periods.

Water management during reclamation and post-closure is designed to transition the site to a stable, long-term condition that maintains separation between shallow freshwater systems and deeper saline groundwater, continues treatment where required, and protects surface water and groundwater resources. Performance of the water management system is evaluated through monitoring and adaptive management, as described in subsequent sections of this plan.

The Project water balance describes the principal sources, movement, reuse, and disposition of water associated with the Project during operations, as well as the assumptions used to evaluate seasonal variability and extreme precipitation conditions. The water balance is intended to demonstrate that water generated by mining and beneficiation activities can be effectively managed to support operations while protecting surface water and groundwater resources in accordance with R 425.203(c)(xii).

For modeling and permitting purposes, the Project water balance is evaluated by operational period. The principal periods include: Operating Years 1 through 11, when NP1 is operated as the primary Project contact water basin; Operating Years 12 through 26, when active tailings deposition and contact water management transition to NP2; the active closure water-treatment period, anticipated to occur during Years 27 through 32, when active mining and processing have ceased but water treatment may continue during closure transition; the reclaimed plant site condition, when surface infrastructure has been removed or stabilized and drainage is routed through restored pathways; and the post-closure condition, when the WWTP has been removed and TDF drainage is managed through final closure water management features. Water management during closure periods and primary routing pathways are described in Appendix G.

4.8.2.1 Inflows

Water entering the Project water management system consists of the following primary inflow components:

- Precipitation falling on the mine site, surface facilities, and areas of the TDF. Precipitation contributes to both non-contact stormwater and contact water, depending on the surface on which it falls.

- Groundwater inflow to the underground mine workings resulting from localized dewatering of the deep bedrock system. Groundwater inflows are collected within the mine and managed as contact water.
- Make-up water, as needed, to support mine and beneficiation operations. Consistent with the Project design, make-up water requirements are minimized through reuse and recycling of contact water within the mine and process circuits. External water sources are expected to be limited and supplemental in nature.

4.8.2.2 Outflows

Water management during operations is based on maintaining physical and operational separation between legacy water associated with the historic White Pine Mine and new contact water generated by the Project. Consistent with the Project Water Management Strategy, NP1 functions primarily as a contact water management basin during the initial operating period, while NP2 is configured to maintain separate contact water and non-contact water compartments through construction of internal berms, diversion structures, and dedicated conveyance systems.

During Years 1 through 11, Project-generated contact water, including underground mine water, process water, contact stormwater, Contact Water Pond inflows, and tailings-related water, is routed to NP1. Contact water accumulated in NP1 is reclaimed for process use or directed to the WWTP as needed. Under normal operating conditions, Project contact water is managed within a predominantly closed-loop reuse system and is not intentionally routed from NP1 to NP2 as part of routine operations. Contact water is preferentially reclaimed for process use or routed to the WWTP as necessary to maintain target operating water elevations and available storage capacity. This configuration removes the historic NP1-to-NP2 overflow pathway from routine Project water management and maximizes reuse of contact water within operations.

Legacy water associated with historic tailings, the historic underground mine, South Pond runoff, and legacy drainage systems remains segregated from Project contact water and continues to be conveyed through the legacy water management system to the existing permitted discharge location. This legacy discharge remains operationally separate from Project water management. The South Pond diversion is sized for a 100-year, 24-hour event with a peak discharge of approximately 520 cubic feet per second, conveyed by three 60-inch culverts, and routes non-contact water around NP1 to the NP2 stormwater compartment.

Beginning in Year 12, primary tailings deposition transitions to NP2. At that time, NP2 is divided into separate contact water and non-contact water management areas. The western portion of NP2 (NP2 West) functions as the reclaim and contact water compartment associated with active tailings deposition, while the eastern portion of NP2 functions as the stormwater and legacy water compartment. Internal berms, trenches, diversion channels, and spillway controls are used to maintain hydraulic separation between these areas and prevent commingling of contact and non-contact water. Contact water accumulated in the NP2 reclaim basin is returned to the process plant or routed to the WWTP. Non-contact and legacy water are managed separately and continue to discharge through the existing permitted legacy outfall.

To maintain separation of legacy and Project-generated water, stormwater currently routed from South Pond and the historic underground mine, through the legacy NP1 system will be

diverted to the NP2 stormwater compartment through dedicated diversion infrastructure. This diversion allows NP1 to function as a Project contact water basin while maintaining independent management of legacy water associated with historical facilities.

Water leaves the Project water management system through the following principal pathways:

- Evaporation from tailings deposition areas, ponds, process facilities, and water management infrastructure.
- Internal reuse and recycling through the process plant, underground mine, and tailings management systems.
- Treated discharge from the WWTP to the Mineral River under a future Project NPDES permit.
- Legacy water discharge through the existing permitted outfall associated with historic operations.

This approach minimizes discharge volumes, maximizes reuse of contact water, and maintains independent management and regulatory control of Project-generated and legacy water sources.

During Operating Years 27 through 32, after active mining and beneficiation cease, Project water management transitions from operating water balance control to closure water management. Surface contact water from the former plant and contact water management areas continues to be routed to controlled water management facilities, and contact water associated with NP2 West may continue to be routed to the WWTP as needed. During this period, the NP1-to-NP2 connection may be reestablished in the northeast corner of NP1 so that post-operational water from NP1 reports to the eastern NP2 stormwater/legacy water compartment and the existing legacy outfall, provided that water quality and permit conditions support this routing. Legacy water continues to be routed to the southeastern portion of NP2 and discharged through the existing permitted legacy outfall.

Following reclamation of the plant site, the WWTP will be removed when no longer required by permit conditions and demonstrated water quality performance. The Contact Water Pond liner system and accumulated sediment will be removed or managed in accordance with the reclamation and closure plans, and the former Contact Water Pond area will be reconfigured to discharge to the drainageway immediately east of the former Bedell Pond area. Non-contact stormwater ponds and restored drainage features will also discharge to the eastern drainageway.

During post-closure, active return of TDF water to the WWTP will cease after treatment is no longer required and the WWTP has been removed. The divider berm between the NP2 West reclaim/contact water compartment and the NP2 East stormwater/legacy water compartment will be breached or otherwise reconfigured as part of final closure so that TDF drainage reports to the legacy outfall in accordance with final closure design and permit conditions.

4.8.2.3 Seasonal and Extreme Event Assumptions

The Project water balance accounts for seasonal variability in precipitation, runoff, evapotranspiration, and groundwater inflow. Seasonal conditions typical of the Upper Peninsula, such as spring snowmelt, higher runoff during spring and early summer, and reduced evaporation during winter, are reflected in water management planning and operational controls.

The water balance and associated infrastructure are also evaluated under extreme and upset conditions, including high-precipitation events and periods of elevated runoff. Water management facilities are designed to provide sufficient storage, conveyance, and treatment capacity to manage peak flows without uncontrolled discharges or adverse impacts to surface water or groundwater. Extreme event management is further addressed in Section 4.8.5 (Water Management Under Extreme and Upset Conditions).

A quantitative LOM operating period water balance, including detailed accounting of inflows, outflows, and storage associated with tailings placement and management, is presented in the Treatment and Containment Plan for Tailings and Other Reactive Mine-Related Materials (Section 5).

4.8.3 Water Classification and Management – R 425.203(c)(xii)

Water generated or encountered at the Project is classified as either non-contact water or contact water based on whether the water has come into contact with mine-related materials or activities. This classification forms the basis for water management, routing, treatment, and discharge controls, and is intended to minimize the volume of water requiring treatment while protecting surface water and groundwater resources. Contact and non-contact water areas are summarized in Table 4-13 and depicted on Figure 4-9.

4.8.3.1 Non-Contact Water

Non-contact water consists of precipitation, runoff, and snowmelt that does not come into contact with mine workings, ore, tailings, waste rock, process areas, or other mine-related materials. Non-contact water is managed to remain isolated from contact water systems.

Run-on and runoff controls are implemented to prevent clean stormwater from entering operational areas. These controls include grading, berms, ditches, and other BMPs designed to intercept and convey upgradient runoff around mine facilities.

Diversions are used where appropriate to route non-contact water away from the underground mine portal, surface infrastructure, stockpiles, and the TDF. Diversion structures are designed to maintain positive drainage and minimize erosion while preserving natural drainage patterns.

Clean stormwater pathways convey non-contact water through dedicated channels, culverts, or natural drainage features that are physically separated from contact water systems. Non-contact water is discharged without treatment, as appropriate, provided it has not been impacted by mine-related activities. Non-contact water management is coordinated with stormwater controls described in Section 4.6.8 and soil erosion and sediment control measures described in Section 4.6.9.

4.8.3.2 Contact Water

Contact water consists of water that has contacted or has the potential to contact mine-related materials or activities and therefore requires collection and management prior to reuse or discharge. Contact water at the Project includes the following:

- Underground mine water, including groundwater inflows resulting from mine dewatering and water used within the underground workings.
- Process water associated with the beneficiation plant and related material handling systems.
- Contact stormwater, including precipitation and runoff that has contacted ore storage areas, process areas, and other mine-related surfaces.
- Seepage from ore stockpiles, tailings deposition areas, waste rock, and other materials management facilities.

Contact water is collected through dedicated drainage systems and conveyed to operational water management facilities for reuse, recycling, treatment, or controlled discharge. Consistent with the Project design, contact water is preferentially reused within the underground mine, beneficiation plant, or tailings system to reduce make-up water demand.

Contact water requiring discharge is treated to meet applicable permit limits and managed under the Project's NPDES permit. As described in Section 4.8.2, treated contact water generated by the Project is discharged separately from legacy water associated with the historic White Pine Mine, ensuring that Project-related water is independently regulated and monitored.

4.8.4 Water Storage, Conveyance, Treatment, and Discharge – R 425.203(c)(xiii)

Water storage, conveyance, treatment, and discharge systems for the Project are designed to safely and efficiently manage both contact and non-contact water generated during mining, beneficiation, reclamation, and post-closure. The system integrates underground mine dewatering, surface water management, tailings management, and water treatment into a coordinated framework that minimizes uncontrolled releases and protects surface water and groundwater resources in accordance with R 425.203(c)(xii). Water sources and uses are summarized in Table 4-14.

4.8.4.1 Water Storage and Conveyance Infrastructure

Water generated by the Project is conveyed through a combination of dedicated pipelines, channels, sumps, pumps, and storage facilities, segregated by water classification. Non-contact stormwater is routed through clean conveyance pathways designed to bypass operational areas and discharge without contact with mine-related materials. Water storage and conveyance facilities, capacities, inflows and outflows are summarized in Table 4-15.

Contact water is collected through engineered drainage systems serving the underground mine, beneficiation plant, ore handling areas, and portions of the TDF used for new tailings deposition. Underground mine water is collected in sumps within the mine workings and conveyed to the

surface via controlled pumping systems. Surface contact water is routed through lined ditches, sumps, and pipelines to centralized storage or treatment facilities.

Water storage capacity is provided within operational water management facilities, including process water tanks, equalization basins, and TDF ponded areas, as applicable. Storage is designed to accommodate routine operational flows and to buffer short-term variations in inflow resulting from precipitation events or operational fluctuations.

4.8.4.1.1 Water Management Infrastructure Summary

Major water management infrastructure associated with the Project includes:

- Contact Water Pond located in the former Bedell Pond area. The lined Contact Water Pond serves as the primary collection and equalization facility for site contact stormwater and has an operational storage capacity of approximately 57,000 m^3 (46 acre-ft) with a design freeboard of 1.0 m.
- Process Plant Contact Water Sump located adjacent to the process plant. The sump provides approximately 4,300 m^3 (3.5 acre-ft) of storage and conveys collected contact water to the Contact Water Pond.
- Existing Non-Contact Water Ponds and associated wetland treatment cells that receive and settle non-contact stormwater prior to discharge through designated non-contact drainage pathways.
- NP1, which functions as the primary Project contact water management basin during Operating Years 1 through 11 and provides storage, reclaim water collection, and operational contingency capacity associated with active tailings deposition. Under normal operating conditions during this period, Project contact water is not intentionally routed from NP1 to NP2 as part of routine operations.
- NP2, which functions as the primary tailings deposition basin during Operating Years 12 through 26 and includes separate reclaim/contact water and stormwater/legacy water compartments created through construction of internal berms, diversion structures, trenches, and spillways. NP2 West functions as the reclaim/contact water compartment associated with active Project tailings deposition, while NP2 East functions as the stormwater/legacy water compartment and continues to support legacy water discharge through the existing outfall.
- Legacy water diversion infrastructure, including dedicated conveyance from South Pond and other legacy drainage areas to the southeastern portion of NP2, which allows NP1 to be operated as a Project contact water basin during the initial operating period while maintaining separation between legacy water and Project-generated contact water.
- WWTP, located adjacent to the tailings management area and designed to accommodate approximately 2,250 gpm during Years 1 through 11 and approximately 4,500 gpm during Years 12 through 26.
- Mine dewatering pumps, process water tanks, reclaim pumping facilities, pipelines, diversion channels, stormwater collection sumps, and associated conveyance infrastructure.

Additional water control infrastructure includes non-contact diversion channels, road-crossing culverts, process area contact water collection sumps, reclaim pumping systems, and internal TDF diversion structures.

4.8.4.2 Water Treatment Systems

The Project includes a dedicated WWTP designed to treat excess contact water generated from mine dewatering, tailings management, process operations, and contact stormwater collection systems. The WWTP is operated to maintain water balance targets within the TDF and to provide treatment capacity for contact water that cannot be reused within the process or reclaim systems. The primary function of the WWTP is to maintain operational water balance targets within the contact water management system while producing treated effluent suitable for discharge under applicable NPDES permit requirements. The treatment process was developed based on projected contact water quality associated with mine water, tailings water, and contact stormwater and is intended to control suspended solids, dissolved metals, dissolved salts, and other parameters anticipated to govern NPDES permit compliance.

The WWTP design basis uses projected process wastewater characteristics associated with TDF contact water and related Project water sources. The current treatment basis includes an average influent flow of approximately 2,250 gpm during Years 1 through 11 and approximately 4,500 gpm during Years 12 through 26. For preliminary equipment sizing, the design uses an influent total suspended solids (TSS) concentration of approximately 650 milligrams per liter, based on input from WPC. Estimated process wastewater characteristics and preliminary effluent limits used for WWTP design are provided in Appendix E-1 and will be refined through NPDES permitting and detailed design.

The design basis assumes a minimum influent water temperature of approximately 7.22°C for winter operation; based on the updated temperature assumption, no modifications to treatment system sizing or capital cost are anticipated at this design stage.

The model predicts a circumneutral influent (pH approximately 6.9 to 7.3) and identifies chloride, copper, mercury, and silver as the parameters most likely to exceed proposed effluent limits. Chloride and total dissolved solids are driven primarily by saline formation water released from the PS and other ore units during mine dewatering, and copper is associated with mine water, beach runoff, and contact water. Predicted mercury exceedances are attributed to atmospheric deposition in rainwater rather than mine materials, and predicted silver exceedances are considered an artifact of the laboratory reporting limit used for a single process water sample rather than an indicator of actual influent silver concentrations. Predicted concentrations represent dissolved values; total concentrations governing NPDES compliance may be higher due to suspended solids, which is reflected in the TSS design basis used for equipment sizing. These findings support the selected treatment train, including membrane and reverse osmosis processes for dissolved-salt and metals removal. The influent prediction is provided in Appendix D of the EIA.

Inflows to the WWTP consist primarily of excess reclaim water from NP1 during the initial operating period, transitioning to combined excess reclaim water from NP1 and the NP2 reclaim compartment during later years. Treatment plant inflows vary seasonally and are influenced by precipitation, snowmelt, reclaim demand, and operational water requirements.

During Operating Years 27 through 32, WWTP operation may continue as part of closure transition water management after active mining and beneficiation have ceased. During this period, treatment requirements are expected to decline as process water demand ends, surface contact water sources are stabilized or reclaimed, and tailings deposition ceases. WWTP operation will continue only as needed to meet water balance and discharge requirements during closure transition and will be discontinued when monitoring demonstrates that treatment is no longer required to meet applicable permit conditions.

The current treatment train includes:

- Influent pumping and equalization.
- Ultrafiltration buffer/equalization and pumping.
- Ultrafiltration for removal of suspended solids and colloidal material.
- Reverse osmosis buffer/equalization and pumping.
- Primary solids settling and dewatering using inclined plate clarification and filter press equipment for ultrafiltration retentate, clean-in-place wastes, and building sump flows.
- Multi-stage reverse osmosis treatment.
- High-pressure reverse osmosis buffer/equalization and pumping for reverse osmosis reject streams.
- High-pressure reverse osmosis concentration for reverse osmosis reject streams.
- Evaporation and crystallization for management of concentrated brine.
- Remineralization and final effluent conditioning prior to discharge.

Water treatment chemical use, including chemicals associated with solids settling, membrane cleaning, pH adjustment, scaling control, and final effluent conditioning is summarized in Table 4-16. Final chemical selection and consumption rates will be refined during detailed design and NPDES permitting.

The treatment system is designed to address dissolved metals, suspended solids, and dissolved salts associated with contact water generated by mining and beneficiation activities and is intended to meet applicable NPDES permit limits prior to discharge.

Treated effluent is discharged to the Mineral River under a future NPDES permit. Water quality monitoring, operational controls, and adaptive management will be implemented to verify treatment performance and compliance with permit requirements. Where practical, treated water may also be reused within the operation to reduce freshwater demand and overall discharge volumes.

Detailed treatment system design, performance criteria, operational assumptions, and monitoring requirements are provided in Appendix E-1 and E-4.

4.8.4.3 Discharge Locations, Rates, and Water Quality

Water discharged from the Project consists of two distinct water streams that remain physically and operationally separated during operations and closure transition, to the extent practicable. Water discharge locations and rates are summarized in Table 4-17 and on Figure 4-10.

The first discharge is the continued legacy water discharge associated with historic White Pine Mine operations, including runoff from South Pond, legacy tailings areas, historic mine dewatering sources, and other historical drainage features. During Operating Years 1 through 11, legacy water is routed to NP2 and discharged through the existing permitted legacy outfall while NP1 functions as the Project contact water basin. During Operating Years 12 through 26, legacy and non-contact stormwater continue to be managed through the NP2 East stormwater/legacy water compartment and discharged through the existing permitted outfall. During closure transition and post-closure, final routing through NP2 and the legacy outfall will be configured in accordance with final closure design and permit conditions.

The second discharge is treated contact water generated by the Project. Contact water sources include underground mine dewatering, contact stormwater, process water losses, reclaim water, and water associated with active tailings deposition. This water is collected separately, routed to the WWTP as required, and discharged through a separate permitted discharge system to the Mineral River.

During Years 1 through 11, contact water treatment requirements are anticipated to average approximately 2,250 gpm (3.25 million gallons per day [MGD]). During Years 12 through 26, treatment requirements are anticipated to increase to approximately 4,500 gpm (6.48 MGD). Actual discharge rates will vary based on water reuse demand, pond operating elevations, precipitation, seasonal snowmelt, reclaim requirements, and water balance conditions. These treatment rates represent WWTP design influent capacity and do not necessarily represent continuous discharge at the same rate because treated water may be reused or discharge may vary with water balance conditions.

Water quality associated with treated Project discharge is expected to be controlled through the WWTP and monitored in accordance with NPDES permit requirements. Key water quality constituents evaluated include TSS, total dissolved solids, dissolved metals, pH, ammonia, and other parameters identified through permitting and operational monitoring programs.

Preliminary WWTP effluent limits used for design planning include pH, TSS-related treatment performance, ammonia, chloride, total residual chlorine, phosphorus, fluoride, mercury, and multiple total recoverable metals. Final effluent limits and monitoring requirements will be established through the NPDES permitting process.

4.8.4.4 Seepage Collection and Control

Seepage associated with tailings deposition areas, stockpiles, waste rock, and other materials management facilities is managed through a combination of preventive and interceptive measures designed to capture and control seepage prior to release to the environment.

Seepage interception measures, where applicable, include engineered collection and drainage features associated with specific facilities, such as underdrains or collection sumps, designed

to capture and route seepage to the contact water management system. These measures are coordinated with facility-specific designs, including tailings management infrastructure.

Seepage capture efficiency assumptions are based on conservative design criteria, site-specific hydrogeologic conditions, and performance of similar engineered facilities. The groundwater model and site monitoring data indicate limited hydraulic connectivity between deep groundwater affected by mining and shallow surface water systems, supporting the effectiveness of engineered seepage controls.

Collected seepage is managed as contact water and integrated into the overall water treatment and reuse system. Seepage collection performance is evaluated through monitoring and inspection, and system components are maintained to ensure long-term functionality during operations and post-closure.

4.8.5 Water Management Under Extreme and Upset Conditions

Water management systems for the Project are designed to remain protective and functional during extreme precipitation events, seasonal hydrologic variability, and upset conditions, including temporary loss of power or equipment outages. The approach integrates conservative design assumptions, operational controls, and contingency measures to prevent uncontrolled releases and protect surface water and groundwater resources, consistent with R 425.203(c)(xii).

4.8.5.1 Design Storm and Hydrologic Assumptions

Water management infrastructure, including conveyance, storage, and treatment systems, is designed to accommodate extreme precipitation and runoff conditions consistent with applicable engineering standards. Design assumptions include consideration of large storm events (e.g., 100-year recurrence interval storms) and, where appropriate for specific facilities, more conservative storm criteria consistent with dam safety and tailings management requirements. Seasonal factors such as spring snowmelt, frozen ground conditions, and reduced infiltration capacity are incorporated into water balance assumptions and operational planning.

Operational water levels within NP1, NP2, and the Contact Water Pond are managed to maintain available storage capacity for precipitation and snowmelt events. Reclaim pumping and treatment operations are used to maintain target operating elevations and preserve buffer storage volume needed to manage design storm events without overtopping or uncontrolled discharge.

For storm events, storage and pumping capacity associated with the Contact Water Pond and related infrastructure are designed to manage runoff from design storm conditions and restore operating levels within defined timeframes.

4.8.5.2 Power Outage and Equipment Upset Scenarios

Temporary power outages or mechanical failures are anticipated and addressed through system design and operational planning. Critical water management components, including mine dewatering pumps, contact water conveyance systems, and treatment facilities, are designed to allow for controlled shutdown and restart without uncontrolled discharge. Backup

power, redundancy, and operational procedures are incorporated as appropriate to maintain water containment during short-term outages.

4.8.5.3 Bypass Prevention and System Controls

The water management system is designed to prevent uncontrolled bypass of untreated contact water under both normal and upset conditions. Conveyance systems, storage capacity, and treatment operations are managed to maintain positive control of contact water, even during high-inflow events. Operational monitoring and inspection are used to verify system performance and to identify conditions requiring corrective action.

4.8.5.4 Temporary Storage and Contingency Routing

Temporary water storage capacity is provided within operational facilities, including equalization basins and TDF ponded areas, to buffer short-term increases in inflow resulting from extreme precipitation or operational disruptions. Where necessary, contingency routing allows contact water to be redirected to storage or treatment facilities until normal operations are restored.

The separate management of NP1 and NP2 reclaim/contact water, and NP2 stormwater/legacy water is described in Appendix E-3.

As the Project transitions from active operations to closure, contingency routing will also be adjusted to reflect the changing configuration of the water management system. During the active closure-treatment period, routing may include continued transfer of NP2 West contact water to the WWTP and reestablished drainage from NP1 to the NP2 East stormwater/legacy water compartment. Following reclamation and removal of the WWTP, contingency routing will rely on final closure drainage pathways, stabilized reclaimed surfaces, and the post-closure TDF drainage configuration.

4.8.6 Closure and Post-Closure Water Management

Water management during closure and post-closure of the Project is designed to transition the site from active operations to a stable, long-term condition that protects surface water and groundwater resources and complies with Part 632 of the Michigan NREPA, including MCL 324.63211. Closure water management is fully integrated with reclamation activities and supported by financial assurance to ensure continued performance following cessation of mining.

Following the end of mining and beneficiation activities, Project-related water inflows and outflows are expected to decrease over time. Groundwater inflows to the underground mine will decrease as active dewatering ceases and the mine enters closure. Closure of the underground workings will include controlled rapid reflooding of the mine using raw Lake Superior water to reestablish stable hydraulic conditions within the deep bedrock system. Reflooding is anticipated to occur over approximately 12 to 18 months, depending on the final underground mine volume and configuration, and will be managed to avoid uncontrolled discharge or adverse impacts to surrounding water resources.

During the active closure water-treatment period, anticipated to occur during Years 27 through 32, active mining, beneficiation, and tailings deposition will have ceased, but selected contact water management systems will remain in service while water quality, storage, and discharge

conditions stabilize. Contact water from remaining plant-area drainage, the Contact Water Pond, and NP2 West may continue to be routed to the WWTP or reused where applicable. During this period, the NP1-to-NP2 hydraulic connection may be reestablished in the northeast corner of NP1 so that NP1 drainage reports to the NP2 East stormwater/legacy water compartment and the existing legacy outfall, subject to final closure design and permit conditions.

As plant site reclamation progresses, contact water generation associated with processing, material handling, and active tailings placement will be eliminated. The WWTP will be removed after treatment is no longer required by permit conditions and demonstrated water quality performance. The Contact Water Pond liner system and accumulated sediment will be removed or managed in accordance with the reclamation and closure plans, and the former Contact Water Pond area will be reconfigured to discharge to the drainageway immediately east of the former Bedell Pond area. Non-contact stormwater ponds and reclaimed plant-site drainage features will also discharge to the eastern drainageway after stabilization.

Post-closure water management will rely on reclaimed landforms, restored drainage pathways, stabilized tailings surfaces, and final TDF drainage controls. Following removal of the WWTP, no TDF water will be returned to the WWTP for treatment. The divider berm between the NP2 West reclaim/contact water compartment and the NP2 East stormwater/legacy water compartment will be breached or otherwise reconfigured, in accordance with final closure design and permit conditions, so that post-closure TDF drainage reports to the legacy outfall.

Post-closure water inputs will be dominated by precipitation and snowmelt, with outflows consisting primarily of evaporation and controlled drainage from reclaimed facilities. Long-term treatment, if any, will be determined based on monitoring results and demonstrated water quality performance during and following closure. Where continued treatment is necessary to meet applicable standards or permit conditions, treatment systems will be operated for the required duration and scaled to reflect reduced post-closure flow volumes. The need for long-term treatment and the timing of treatment system decommissioning will be evaluated through adaptive management consistent with MCL 324.63211.

The transition from operational to closure water management systems will occur in coordination with implementation of the Reclamation Plan (Section 6). Temporary pumping, conveyance, and treatment systems used solely for operations will be progressively decommissioned, removed, or reconfigured, while permanent drainage, seepage control, and water management features will remain in place to support long-term site stability. Where practicable, water management will transition to passive or low-maintenance systems appropriate for post-closure conditions.

Closure and post-closure water management obligations, including costs associated with controlled reflooding, any required active closure-period treatment, monitoring, maintenance, system removal, drainage reconfiguration, and contingency measures, are incorporated into the Project's Financial Assurance (Section 9). Financial assurance will remain in place until EGLE determines that reclamation and water management requirements have been satisfied in accordance with MCL 324.63211 and applicable permit conditions.

4.8.7 Water Management Performance Monitoring

Water management performance at the Project is evaluated through a coordinated surface water, groundwater, and operational monitoring program designed to verify that water

management systems function as intended during operations, closure, and post-closure. Monitoring focuses on locations and parameters that are directly relevant to the Project water balance, treatment system performance, and protection of surface water and groundwater resources.

Monitoring locations include, as applicable, underground mine discharge points, surface water conveyance and discharge locations, seepage collection systems associated with the TDF and other engineered facilities, and selected surface water and groundwater monitoring points downgradient of water management features. These locations are selected to confirm effective segregation of contact and non-contact water, capture of seepage, and compliance with permitted discharge requirements.

Monitoring parameters are selected to support evaluation of water balance assumptions and treatment effectiveness, and include flow measurements, water levels, and water-quality indicators relevant to mining and beneficiation activities. Parameters monitored are tied to contact water generation, reuse and recycling performance, treatment system operation, and discharge water quality, and are used to assess trends over time and identify conditions requiring corrective action or adaptive management.

The monitoring approach described in this section establishes the conceptual linkage between water management design and performance verification. Detailed monitoring locations, frequencies, analytical parameters, quality assurance procedures, reporting requirements, and response actions are provided in the Environmental Monitoring Plan (Section 7). Monitoring results are used to confirm continued compliance with permit conditions and to support closure, post-closure, and financial assurance decision making.

4.9 Plans to Protect Threatened and Endangered Species – R 425.203(j)

Baseline investigations completed for the Project identified several species of conservation concern within or adjacent to the Project Area, including state-listed threatened wildlife species, state-listed species of special concern, and other non-listed species of conservation interest. No federal- or state-listed threatened, endangered, or special concern aquatic species were documented during baseline aquatic investigations, and no federal- or state-listed threatened, endangered, or special concern plant species were documented during rare plant surveys. Wildlife investigations documented several state-listed threatened species and species of special concern, as summarized in the EIA located in Appendix F of Volume IIO. Based on those investigations, WPC will implement the following plan to protect threatened and endangered species if Project activities may affect those species.

This plan is intended to conform to Part 365, Endangered Species Protection, of the NREPA, 1994 PA 451, as amended, and, where applicable, the federal Endangered Species Act. Project activities will be planned and conducted to avoid unauthorized take of threatened or endangered species and to minimize disturbance to listed species and their occupied habitats to the extent practicable. Protective measures will be implemented as necessary to maintain compliance with applicable state and federal requirements.

Threatened and endangered species evaluated for the Project are identified in the EIA and baseline biological surveys. These surveys included targeted evaluations of avian, reptile, amphibian, and mammalian species and associated habitats within the Project Area. State-listed threatened wildlife species documented during baseline investigations included

common loon, eastern whip-poor-will, golden-winged warbler, least bittern, little brown bat, northern goshawk, peregrine falcon, and spruce grouse. State-listed species of special concern and other conservation-status wildlife documented during baseline investigations included American bittern, grasshopper sparrow, northern harrier, osprey, trumpeter swan, wood thrush, northern flying squirrel, and mink frog. Several of these species are also identified by Michigan Department of Natural Resources (MDNR) as Species of Greatest Conservation Need.

The gray wolf, documented during baseline wildlife investigations, is currently federally listed as endangered under the Endangered Species Act in Michigan and is also a state-protected species. Because the gray wolf is federally listed, Project activities will be planned and conducted to avoid unauthorized take, and any applicable protection measures will be coordinated with the U.S. Fish and Wildlife Service and the MDNR as required.

Species-specific survey results, occurrence status, and supporting methods are provided in Appendix F of Volume IIO of the EIA.

4.9.1 Applicability and Pre-Activity Review

Prior to disturbance in new work areas, WPC will use available listed-species information relevant to the area of proposed work, including baseline biological studies, agency correspondence, and other occurrence information available to the Project. If available information indicates that a threatened or endangered species may occur in or immediately adjacent to the proposed work area, WPC will evaluate whether the activity could affect the species and will implement appropriate protective measures before or during the activity, as warranted. Pre-activity review will be supplemented by ongoing biological monitoring results to ensure that newly observed species occurrences are incorporated into protection measures. Pre-activity review will consider the species groups and survey results documented, including rare plant surveys, aquatic surveys, bat acoustic surveys, wood turtle surveys, raptor and bird surveys, mammal surveys, and reptile and amphibian surveys.

4.9.2 Species Protection Measures

If a threatened or endangered species, or evidence of active use by such a species (for example, an active nest, den, roost, or occupied location), is identified within or immediately adjacent to a work area, WPC will implement protective measures appropriate to the species and location. Such measures may include establishing an avoidance area, restricting access, modifying work timing, adjusting construction sequencing, or otherwise altering the activity to avoid or minimize the potential for take. Work in the affected area will be managed to avoid or minimize impacts and, where necessary, may be deferred pending implementation of appropriate protective measures and any required agency coordination. Timing restrictions may include limitations on vegetation clearing during nesting seasons, restrictions on disturbance during breeding or migration periods, and other species-specific seasonal protections as identified through baseline surveys and monitoring results. Species-specific measures may include nesting-season vegetation clearing restrictions, avoidance buffers around active nests or occupied habitat, protection of identified roosting or breeding areas where applicable, restrictions on disturbance near occupied sensitive habitats, and agency coordinated handling or relocation procedures where avoidance is not practicable.

4.9.3 Agency Coordination and Compliance

If WPC determines that a threatened or endangered species may be affected by a proposed activity, the Project will coordinate with the MDNR and, where applicable, the appropriate federal agency before proceeding with the affected activity. Protective measures developed through that coordination may include additional surveys, work buffers, timing restrictions, modified methods, or other species-specific protections necessary to maintain compliance with Part 365 and applicable federal endangered species requirements.

4.9.4 Relationship to Other Project Mitigation Measures

This section is limited to the protection of threatened and endangered species as required by R 425.203(j). Broader plans to monitor, prevent, minimize, and mitigate adverse impacts to flora, fauna, fish, wildlife habitats, and biodiversity are provided in Section 4.10. Additional Project controls that may also benefit listed species—including erosion and sediment control, stormwater and contact water management, spill prevention and response, dust suppression, and reclamation/revegetation—are addressed in other sections of the MPA.

4.9.5 Relocation or Handling Procedures

If threatened or endangered species cannot be avoided, relocation or handling procedures will be implemented only in coordination with the MDNR and other appropriate agencies, and only where authorized or otherwise allowed under applicable state and federal requirements. Species relocation or handling, if required, will be conducted by qualified personnel in accordance with applicable agency guidance, permit conditions, and species-specific protocols.

4.10 Plans to Monitor, Prevent, Minimize, and Mitigate Adverse Impacts to Flora, Fauna, Fish, and Wildlife Habitats and Biodiversity – R 425.203(k)

The Project will implement a combination of monitoring, avoidance and minimization measures, operational controls, and reclamation practices to prevent, minimize, and mitigate adverse impacts to flora, fauna, fish, wildlife habitats, and biodiversity during construction, operation, closure, and post-closure. This section addresses ecosystem- and habitat-level protection measures required by R 425.203(k).

Baseline ecological investigations summarized in the EIA indicate that the Project area and affected area support a mix of aquatic habitats, forest, wetland, riparian, and previously disturbed upland communities that provide habitat for fish, macroinvertebrates, freshwater mussels, birds, mammals, reptiles, and amphibians typical of western Upper Michigan. The Project's ecological protection strategy therefore focuses on limiting the footprint and duration of disturbance where practicable, controlling pathways by which mining could affect habitats and biota (e.g., sedimentation, water quality degradation, spills, dust, lighting, noise, and traffic), and restoring disturbed areas through reclamation and revegetation.

Baseline biological investigations supporting this section included aquatic surveys, rare plant surveys, natural community and land cover mapping, small mammal, reptile and amphibian surveys, wood turtle surveys, raptor and eagle nest surveys, northern goshawk surveys, owl and nightjar surveys, breeding and migratory bird surveys, medium and large mammal surveys, bat acoustic surveys, and supplemental vegetation studies. These studies are summarized in the EIA, Appendix F of Volume IIO.

4.10.1 Monitoring

WPC will use baseline ecological information and applicable compliance monitoring programs to evaluate Project performance and identify conditions requiring corrective action. Monitoring will be integrated with the Project's surface water, groundwater, stormwater, erosion and sediment control, air emissions, and reclamation monitoring programs, because these programs collectively address the principal pathways by which mining activities could adversely affect biota and habitat. Monitoring results will be reviewed periodically to confirm that environmental controls are functioning as intended and to support adaptive management where needed. Monitoring is intended to identify trends over time and to detect changes in biological conditions that may be attributable to Project activities.

For aquatic resources, monitoring and compliance obligations associated with treated water discharge, contact water management, erosion and sediment control, and spill prevention/ response will serve as the primary means of verifying protection of aquatic habitats and aquatic communities. These measures are intended to detect and address changes in water quality, sediment transport, or constituent release pathways that could affect fish, macroinvertebrates, mussels, or aquatic habitat.

For terrestrial resources, WPC will evaluate disturbed areas, reclaimed areas, and selected habitat features during construction, operation, and reclamation to verify that disturbance limits, vegetation controls, and reclamation objectives are being implemented as planned. Monitoring may include inspection of cleared and active work areas, revegetated areas, erosion-prone slopes, and restored drainage features to confirm that habitat disturbance remains localized and that reclamation is progressing toward stable conditions compatible with surrounding land cover and habitat functions.

Consistent with this integrated framework, biological monitoring will be conducted using standardized methods established in baseline investigations and subsequent monitoring plans. Monitoring includes evaluation at both Project-influenced locations and established reference (control) sites to distinguish Project-related effects from natural variability. Monitoring methods will be conducted in accordance with applicable state and federal protocols and consistent with methods used in baseline studies to ensure comparability over time. Monitoring results will be documented and reported in the annual mining and reclamation report in accordance with permit requirements.

Vegetation monitoring will include annual surveys of upland plant communities along established transects, with wetland vegetation monitoring conducted separately in accordance with applicable wetland permit conditions. Monitoring of revegetated and disturbed areas will also include observations for invasive plant establishment or spread, with management actions implemented where invasive species interfere with reclamation performance or native vegetation recovery. Terrestrial monitoring will include annual or semiannual surveys of vegetation and wildlife at established transects and observation locations. Aquatic monitoring will include annual sampling at established stations and reference locations, including evaluation of water quality, sediment chemistry, aquatic habitat, and biological communities such as macroinvertebrates, fish, and mussels. Monitoring locations, parameters, methods, and frequency are defined in Appendix F, Environmental Monitoring Plan.

4.10.2 Prevention and Minimization Measures

Prevention and minimization of ecological impacts will begin with project siting, layout, and sequencing. To the extent practicable, new disturbance will be concentrated within or adjacent to areas previously affected by historical mining, tailings management, roads, timber harvest, and other industrial activity. Vegetation clearing, grading, and construction disturbance will be limited to the minimum area necessary to safely construct and operate Project facilities, and unnecessary clearing beyond approved disturbance limits will be avoided.

Potential impacts to aquatic and terrestrial habitats will also be minimized through implementation of the Project's water management, treatment and containment, spill prevention, erosion and sediment control, and air emissions control measures. These include stormwater and contact water collection and treatment systems, engineered containment for mine-affected materials, dust suppression and track-out controls, and procedures for preventing and responding to chemical or fuel spills. Collectively, these measures are intended to minimize sedimentation, constituent transport, particulate deposition, and other indirect pathways that could degrade habitat or adversely affect plants and wildlife.

Construction and operations will be managed to reduce unnecessary wildlife exposure to operational hazards. Active work areas will be controlled to limit wildlife access where appropriate, and traffic, lighting, and noise will be managed through standard operational controls and good housekeeping practices to reduce unnecessary disturbance outside the active Project footprint. Where practicable, temporary disturbance duration will be minimized through phased construction and timely stabilization of inactive disturbed areas.

4.10.3 Aquatic Habitat and Biota Protection

Aquatic habitat protection will rely primarily on maintaining water quality and hydrologic controls and preventing sediment or contaminant releases to streams, ponds, and wetlands. WPC will implement erosion and sediment control measures, stormwater BMPs, contact water routing and treatment controls, and spill prevention/response measures designed to protect receiving waters and aquatic habitat conditions. Treated water discharges will be managed in accordance with applicable permit conditions and monitoring requirements intended to maintain compliance with applicable water quality standards protective of aquatic life. Baseline aquatic investigations documented fish, macroinvertebrate, and freshwater mussel communities within ponds, streams, and aquatic habitats in the Project area, and did not document federal- or state-listed threatened, endangered, or special concern aquatic species.

Because baseline investigations documented functioning fish, macroinvertebrate, and mussel communities typical of the region, the Project's aquatic protection strategy is focused on avoiding degradation of the physical and chemical conditions that support those communities, rather than on direct in-water disturbance. If monitoring, inspection, or incident response activities indicate that Project activities are contributing to erosion, sediment transport, or water quality degradation affecting aquatic habitat, WPC will implement corrective measures such as repair of erosion controls, adjustment of drainage controls, operational changes, cleanup of released materials, or modification of treatment and routing practices, as appropriate.

Monitoring aquatic biota will include community assessments of macroinvertebrates, fish, and mussels, as well as supporting measurements of water quality and habitat conditions at established sampling locations and reference stations.

4.10.4 Terrestrial Habitat, Wildlife, and Biodiversity Protection

Terrestrial habitat and biodiversity protection will focus on limiting habitat loss and fragmentation where practicable, minimizing unnecessary disturbance to wetlands, riparian areas, and forested habitats, and promptly stabilizing and reclaiming disturbed ground. Although much of the Project landscape has been influenced by historical disturbance, remaining forest, wetland, riparian, and pond habitats contribute to local habitat diversity and wildlife use. Project activities will therefore be managed to maintain disturbance within the approved footprint and to avoid unnecessary encroachment into adjacent habitat areas.

If wildlife concentrations, active nests, dens, or other sensitive habitat conditions are observed in a manner that presents an operational or ecological concern, WPC environmental staff will evaluate the situation and determine whether site-specific avoidance, timing adjustment, or other minimization measures are warranted. Species-specific protection measures for threatened and endangered species are addressed in Section 4.9. For non-listed species and habitats, adaptive management will be used where observations indicate that an activity is causing greater-than-anticipated disturbance beyond the active work area.

Invasive species management is also an element of biodiversity protection. Baseline investigations documented several invasive plant species within the Project area, primarily in previously disturbed areas associated with historical mining activities, transportation corridors, developed areas, and early successional habitats. Aquatic surveys did not identify invasive fish or freshwater mussel species, although some aquatic macroinvertebrates and crayfish were not identified to species level; therefore, the presence of certain invasive aquatic invertebrates could not be confirmed or ruled out based on available data. Wildlife surveys did not identify invasive wildlife species within the Project area.

Disturbed soils, vehicle and equipment movement, construction activities, and reclamation can create opportunities for invasive species establishment or spread. To minimize this risk, WPC will implement invasive species BMPs as appropriate during construction, operation, and reclamation. These measures may include equipment cleaning, management of disturbed soils, erosion and sediment control practices, monitoring of revegetated areas, control or removal of invasive plant populations where encountered, and use of approved seed mixes and plant materials consistent with reclamation planning.

4.10.5 Mitigation and Reclamation

Potential ecological impacts are expected to be greatest during construction and initial disturbance activities, when vegetation removal, habitat alteration, and localized wildlife displacement are most likely to occur.

Mitigation of ecological impacts will continue through closure and reclamation. Disturbed areas not required for long-term closure infrastructure will be graded, stabilized, and revegetated in accordance with the approved Reclamation Plan. Reclamation will be designed to establish stable landforms and vegetation communities compatible with surrounding habitats and

post-mining land use objectives, while also reducing erosion, dust generation, and long-term habitat degradation.

Revegetation and restoration measures will be phased as practicable so that inactive or completed disturbance areas are stabilized without unnecessary delay. Where revegetation performance indicates that additional treatment is needed to achieve successful establishment, WPC will implement corrective actions such as reseeding, amendment, or related stabilization measures consistent with the Reclamation Plan and associated monitoring results. Over time, these measures are intended to support recovery of habitat functions within disturbed portions of the Project area and to minimize long-term adverse impacts to biodiversity.

4.10.6 Adaptive Management

The plans described in this section will be implemented using an adaptive management approach. If monitoring, inspections, incident response, or reclamation observations indicate that Project activities are causing greater-than-anticipated adverse effects to flora, fauna, fish, wildlife habitat, or biodiversity, WPC will evaluate the cause and implement additional prevention, minimization, or mitigation measures as appropriate. Such measures may include modification of work practices, enhancement of erosion or water controls, habitat protection measures, invasive species management actions, or reclamation adjustments. Adaptive management may also be applied where monitoring identifies new sensitive-species observations, invasive species spread, unexpected habitat degradation, or biological trends that differ from baseline or reference conditions. This adaptive framework is intended to ensure that the Project remains responsive to site conditions while maintaining compliance with R 425.203(k) and related permit requirements.

4.11 Plan and Schedule for Inspection of all Mine Facilities – R 425.203(m)

The observations and inspection of facilities pursuant to R 425.203 will be conducted by designated trained WPC employees or contractors. Inspection results will be documented in inspection logs and maintained as part of the Project record. Deficiencies identified during inspections will be tracked to completion. Module 6 of Appendix F contains a summary list of inspections and monitoring actions that would be performed at the mine site, as identified in Table 6-1, Miscellaneous Operational Environmental Monitoring Inspection and Maintenance Activities, and Table 6-2, Underground Mine Facilities Inspections Plan and Schedule.

5. Treatment and Containment Plan Summary – R 425.203(h)

Tailings generated by the Project are identified as reactive mine-related materials and will be managed in accordance with Part 632 of NREPA, including R 425.203(h) and R 425.409. A Treatment and Containment Plan for Tailings and Other Reactive Mine-Related Materials has been prepared and can be found in Appendix E-2.

The Project will place tailings within the existing NP1 and NP2 TDF, which were constructed prior to modern liner requirements and do not include composite liners. In lieu of liner installation, containment performance is achieved through engineered reuse of the legacy TDF, controlled tailings deposition, seepage interception, active water management, monitoring, and treatment under NPDES permits.

New, lined containment systems are proposed for other reactive material management facilities, including ore stockpiles and contact water pond. Leak detection, seepage monitoring, response triggers, and contingency actions are described in the Treatment and Containment Plan included in Appendix E-2.

Together, these measures demonstrate compliance with R 425.409 and provide protection of surface water and groundwater resources throughout operations and closure.

6. Reclamation Plan – R 425.203(c)(xxiii) and 425.204

A Reclamation Plan has been prepared for the Project and is provided in Appendix G. The Reclamation Plan describes the proposed schedule, sequencing, procedures, and performance standards for interim and final reclamation of the mining area following cessation of mining activities. The plan applies to underground mine openings, surface infrastructure, stockpiles, water management systems, tailings disposal areas, transportation corridors, and other mine-related facilities. Detailed reclamation drawings, phasing figures, seeding and restoration practices, and supporting reclamation methods are provided in Appendix G.

Reclamation is designed to occur in phases that correspond to Project construction, operations, closure, and post-closure monitoring. Phase 1 reclamation will occur concurrently with construction, beginning during the pre-production period, and will focus on stabilizing areas disturbed during site construction after those areas are no longer needed. Phase 2 reclamation will occur during mine operations and will include restoration of areas no longer needed for mining, phased closure of temporary facilities, management of soil stockpiles, and ongoing stabilization associated with operational changes. Phase 3 reclamation will occur following cessation of mining and beneficiation activities and will include major closure activities such as decommissioning the processing plant, reclaiming surface infrastructure areas, plugging and capping mine openings, and transitioning water management systems toward closure conditions. The WWTP will remain in service during the active closure water-treatment period and will be removed after treatment is no longer required by permit conditions and demonstrated water quality performance. Phase 4 will consist of post-closure monitoring and maintenance.

Reclamation will be implemented concurrently with mining where practicable. Disturbed areas no longer needed for construction or operations will be graded, stabilized, topsoiled, seeded, and mulched as soon as practicable. Stormwater management facilities, grading, ditching, detention basins, silt fence, wetland barrier fencing, and other erosion and sediment control practices will be implemented as needed to support stabilization during construction, operations, and closure. Soil erosion and sediment control measures are described in Section 4.6.9 and Appendix D, and additional reclamation details are provided in Appendix G.

Final reclaimed land contours will be designed to provide stable landforms, promote positive drainage, minimize erosion, and support post-mining land uses compatible with adjacent properties. The final contour plan is based on pre-development topography, final tailings deposition and consolidation elevations, existing and long-term stormwater features, and drainage patterns. Final land use is intended to be as similar as practicable to pre-development conditions while recognizing that certain long-term surface features will remain after reclamation.

Surface features expected to remain after reclamation include the reclaimed TDF, selected permanent surface water management features, closed underground mine openings, and access features needed for post-closure monitoring and maintenance. In addition, pre-existing features including the South Pond TDF and Waste Repository will continue to be maintained. Remaining features, final grading, and post-closure drainage configurations are described in Appendix G.

Following cessation of mining, underground mine reclamation will include removal of non-inert equipment, materials, and utilities from the underground workings, controlled reflooding of the mine, and closure of the portal, declines, and ventilation raises. Closure of underground openings will include bulkheads, plugs, caps, backfilling, grading, revegetation, fencing, and other access-control measures as needed to protect public health, safety, natural resources, and the environment. Final design details for mine opening closure will be developed prior to implementation and will be consistent with the Reclamation Plan and applicable permit conditions.

The TDF, including NP1 and NP2, will remain as a reclaimed surface feature. Final tailings surfaces will be graded and stabilized to promote drainage, minimize ponding, control erosion, reduce fugitive dust generation, and support revegetation. Reclamation of the tailings areas will include final shaping, vegetative stabilization, management of contact water during the active closure period, and transition to long-term stormwater management. Additional TDF closure and water management details are provided in Appendix G and the Treatment and Containment Plan in Appendix E-2.

Surface infrastructure reclamation will include decommissioning, removal, recycling, reuse, or disposal of buildings, equipment, utilities, pipelines, and other facilities not required for post-closure use. Foundations and subsurface structures will be removed, broken down, buried in place where appropriate, or otherwise managed consistent with closure specifications and permit conditions. Roads not required for post-closure access, inspection, monitoring, or maintenance will be removed, regraded, topsoiled, and revegetated. Roads retained for post-closure access will be reshaped and maintained as needed to provide stable drainage and access to monitoring and water management features.

The temporary ore stockpile pad and other lined containment areas will be reclaimed after stored material has been removed and the facilities are no longer needed. Reclamation will include removal and proper disposal of liner systems, drainage layers, leak detection infrastructure, and associated components, followed by grading to promote non-contact stormwater drainage. Contact Water Ponds will remain in service during operations and the active closure water-treatment period, then will be modified, decommissioned, or converted to non-contact stormwater features after water quality criteria and permit conditions are satisfied.

Soil and overburden stockpiles will be stabilized during construction and operations and used during closure for grading, topsoil replacement, and revegetation. Topsoil replacement will occur across disturbed and reclaimed areas using salvaged on-site topsoil or other suitable material as needed. Topsoil will be placed and graded to support vegetation establishment, generally consistent with pre-development thickness and final reclamation objectives. Vegetation will be established using appropriate seed mixes, mulch, soil amendments, and planting methods suitable for site conditions and long-term stabilization.

Reclamation performance standards include proper management of toxic or hazardous wastes, closure of mine openings, removal or approved alternative use of structures and infrastructure, stabilization of surface areas to prevent erosion, revegetation of disturbed areas, and restoration of a self-sustaining ecosystem where practicable. Refuse, solid waste, contaminated soil, chemicals, reagents, and other regulated materials generated during construction, operations, closure, or post-closure will be characterized, managed, transported, and disposed of in accordance with applicable laws, regulations, and permit conditions.

Post-closure monitoring will be conducted in accordance with the Environmental Monitoring Plan in Appendix F and the monitoring framework summarized in Section 7. Monitoring will include groundwater, surface water, mine-facility inspections, and other monitoring required by permit conditions. Monitoring is currently planned for approximately 20 years following completion and approval of reclamation activities, with potential reductions in monitoring frequency subject to EGLE approval based on demonstrated performance. Post-closure monitoring, maintenance, and any required long-term water management obligations are also incorporated into the Project Financial Assurance described in Section 9.

The names and qualifications of the qualified persons who prepared the Reclamation Plan are provided in Appendix G. The Reclamation Plan, supporting reclamation figures, reclamation sequence tables, restoration practices, and technical details in Appendix G are incorporated by reference into this MPA.

7. Environmental Monitoring Plan – R 425.203(g) and 425.406

The Environmental Monitoring Plan, located in Appendix F, establishes the monitoring framework for evaluating the performance of the Project during construction, operations, closure, and post-closure. The plan is designed to satisfy the monitoring requirements of Mich. Admin. Code R 425.203(g), R 425.203(c)(v), R 425.203(m), R 425.203(c)(xxiv), R 425.406, and R 425.409 by providing monitoring programs for groundwater, surface water, wetland hydrology, operations water, biological resources, mine-related facilities, and post-closure conditions.

The monitoring program is organized into separate monitoring modules that collectively evaluate potential Project-related effects on groundwater, surface water, wetlands, flora, fauna, fish, wildlife habitats, biodiversity, contact water systems, and mine-related facilities. Each module identifies the monitoring locations, monitoring frequency, parameters, procedures, reporting requirements, and response framework applicable to the resource or facility being evaluated. Monitoring results will be used to verify that Project controls are functioning as intended, evaluate trends relative to baseline conditions, identify conditions requiring corrective action, and support adaptive management during the life of the Project.

Groundwater monitoring will include leachate monitoring wells, compliance monitoring wells, and regional groundwater monitoring wells located to evaluate potential effects associated with the TDF, temporary ore stockpile, Mine/Mill facilities, Contact Water Ponds, and underground mine. Monitoring will include groundwater elevation measurements and groundwater quality sampling using established sampling procedures and analytical parameter lists. Results will be evaluated statistically against baseline and background conditions, and action-level and exceedance procedures will be implemented consistent with R 425.406.

Surface water monitoring will be conducted at established stream monitoring locations in proximity to the underground mine, TDF, Mine/Mill facility, and upstream and downstream locations in the Project area. Monitoring will include surface water stage, flow, and water quality measurements. Sampling locations will be reviewed as part of annual reporting and adjusted, if necessary, to obtain data adequate to evaluate potential Project-related effects on surface water resources.

Wetland hydrologic monitoring will focus on selected wetland areas over the proposed underground mine. Monitoring will include shallow and deep piezometer nests and staff gauges, with automated water-level transducers recording at regular intervals and manual water-level measurements collected on a semiannual basis during construction and operations. The wetland monitoring program is limited to hydrologic water-level monitoring and is intended to compare operational water level trends with baseline wetland hydrology and to evaluate hydrologic changes that may be related to Project activities or natural variability.

Operations water monitoring will evaluate contact water associated with active mine and material-management systems on a quarterly basis, consistent with R 425.203(c)(v) and R 425.409. Operations water sampling locations include the ore storage pads, the Contact Water Pond, NP1, NP2, the underground mine, and the influent to the WWTP. Results from operations water monitoring will also support verification of geochemical source-term assumptions and water quality predictions.

Biological monitoring will evaluate Project-related trends in terrestrial vegetation, terrestrial wildlife, aquatic biota, wildlife habitats, and biodiversity. The monitoring program includes annual upland vegetation observations, wildlife observations, amphibian, reptile, bird, and mammal surveys, macroinvertebrate assessments, fish community assessments, mussel assessments, and aquatic habitat assessments at established monitoring and reference locations, with associated water quality monitoring conducted under the surface water monitoring program. Results will be documented in the annual mining and reclamation report and used to identify trends in biological conditions over time.

Mine-facility inspections will be conducted to verify that mine-related facilities and environmental protection systems are functioning as designed. Inspections will include general mine facilities, tailings management features, haul roads, pipelines, soil stockpiles, contact and non-contact water basins, liners, leachate collection systems, leak detection systems, groundwater monitoring wells, erosion and sediment control devices, and underground mine systems. Inspections will be completed by trained WPC personnel or contractors, documented in inspection records, and tracked to completion where deficiencies or corrective actions are identified.

Post-closure monitoring will continue after cessation of mining and reclamation activities to demonstrate that the Project does not present significant potential for water contamination or other unacceptable environmental effects. The post-closure monitoring program is organized into two phases. Phase 1 is a comprehensive monitoring period that carries the operating-period monitoring program forward through cessation of industrial wastewater treatment. Phase 2 is a reduced monitoring period that begins following completion and EGLE approval of reclamation, consistent with R 425.407, during which groundwater and surface water monitoring frequency is reduced from quarterly to semiannual, and biological, flora, fauna, fish, wildlife habitat, and biodiversity monitoring is discontinued. Post-closure monitoring includes groundwater and surface water monitoring and post-closure mine facility inspections and is currently planned to continue for approximately 20 years following completion and approval of reclamation, subject to permit requirements and EGLE review.

Monitoring data will be collected and evaluated in accordance with the Project Quality Assurance Project Plan, which will establish procedures for field measurements, sample collection, sample handling, laboratory analysis, quality control samples, data validation, and reporting. Annual monitoring reports will summarize monitoring activities, analytical results, observed trends, exceedances or outliers, corrective actions, and recommended monitoring adjustments. Where monitoring identifies unusual results, exceedances, action-level conditions, or potential Project-related effects, the Project will implement notification, assessment, increased monitoring, corrective action, or adaptive management procedures in accordance with applicable permit conditions and the Contingency Plan.

8. Contingency Plan – R 425.205

The Project Contingency Plan is submitted as a required component of the mining permit application under Michigan's nonferrous metallic mineral mining program and is provided in full as Appendix H to this application package. The plan establishes predefined response procedures intended to protect public health and safety and the environment by ensuring that credible accidents, system failures, and natural events can be managed quickly and effectively, with clear notification pathways and defined response actions.

At a high level, the Contingency Plan includes: 1) a structured assessment of risks and response measures for required incident categories; and 2) a coordinated emergency management framework that integrates facility response actions with local and state emergency response systems. The plan is designed to function as the Project's "how we respond" document and is intentionally aligned with the EIA and the Mining, Reclamation, and Environmental Protection Plan.

Required incident categories addressed. Consistent with Michigan rule requirements, the Contingency Plan evaluates potential accidents and failures and provides response measures for the following categories:

- release or threat of release of toxic or acid-forming materials;
- storage, transportation, and handling of explosives (including blasting operations);
- fuel storage and distribution;
- fires (surface and underground); (v) wastewater collection and treatment system failures;
- settling pond or tailings disposal area embankment failure; (vii) air emissions; (viii) spills of hazardous substances;
- other specific natural risks defined by the EIA (with Upper Peninsula-relevant scenarios such as flooding, severe storms/tornadoes, and blizzards);
- power disruption; (xi) unplanned subsidence; and
- leaks from containment systems for stockpiles or storage/disposal facilities.

Emergency notification and public safety integration. The plan includes procedures for notifying the general public, public authorities, and safety agencies during emergencies, including environmental emergency reporting via EGLE's Pollution Emergency Alerting System hotline (800-292-4706) when applicable. The plan also defines the facility's incident management structure (by title), access control procedures to restrict nonessential personnel, and a framework for public evacuation coordination through local emergency management should offsite protective actions ever be required.

Readiness, training, and testing. The plan contains an annual testing and training program intended to validate notification procedures, role execution, access control, and field response actions through drills and exercises, with documentation and corrective action tracking used to continuously improve plan effectiveness.

Distribution to emergency management. In accordance with the rule, the applicant will submit the Contingency Plan to each Emergency Management Coordinator with jurisdiction over the affected area at the time the MPA is submitted to EGLE.

9. Financial Assurance

WPC will provide financial assurance in accordance with Part 632 of the Michigan NREPA and the Nonferrous Metallic Mineral Mining rules at R 425.301 through R 425.309. Financial assurance will be sufficient to allow the State of Michigan to administer and retain a qualified third party to complete all required reclamation, closure, remediation, if required, and post-closure monitoring activities associated with the Project if WPC is unable to complete those obligations. Under R 425.301, the mining permit will not become effective until EGLE-approved financial assurance has been established, and financial assurance must be maintained during mining operations and the post-closure monitoring period until released by EGLE.

The financial assurance estimate is based on a third-party completion cost estimate that reflects the remaining reclamation, closure, post-closure monitoring, water management, and environmental protection obligations associated with the Project. The estimate includes closure of underground mine openings, decommissioning and removal of surface facilities, closure and stabilization of the TDF, operation and removal of water treatment systems where required, long-term environmental monitoring, contractor mobilization, engineering and construction management, environmental controls, and agency costs. Agency costs are included as a 10% allowance applied to the subtotal for each financial assurance period.

Financial assurance has been evaluated for three representative Project liability conditions: End of Construction, Year 10, and LOM. These timeframes reflect increasing Project development and closure obligations as the Project advances from construction through operations and final closure. The End of Construction estimate represents the initial condition following construction and early development, including remaining earthwork, initial demolition areas, temporary stormwater controls, portal and raise safety measures, and any partial TDF closure work initiated during construction. The Year 10 estimate represents a mid-life operating condition with partial utilization of NP1, progressive reclamation completed to date, and updated remaining closure obligations. The LOM estimate represents the full closure liability condition, including utilization of NP2, remaining underground closure work, surface facility demolition, post-closure water treatment assumptions, final TDF closure, and long-term monitoring.

WPC is proposing a phased financial assurance approach in which the approved financial assurance amount is adjusted over time to reflect the Project's actual liability condition. Under this approach, the initial financial assurance amount would be based on the approved End of Construction liability estimate. The financial assurance amount would then be increased prior to later operating phases that increase reclamation, closure, water management, or post-closure monitoring obligations, including the Year 10 and LOM liability conditions. This phased approach is intended to align the financial assurance amount with the actual reclamation and closure obligations present at each stage of Project development, while maintaining financial assurance sufficient to satisfy Part 632 and permit requirements. Adjustments to the financial assurance amount will be completed at least every 3 years, and as otherwise required by permit conditions, including inflation adjustments using the Detroit Consumer Price Index, consistent with R 425.308 and the Financial Assurance and Closure Plan Estimate.

The current planning-level financial assurance estimates, excluding salvage value, are summarized below. Each estimate includes the third-party subtotal plus a 10% agency cost allowance.

- End of Construction: $51,552,437
- Year 10: $102,579,264
- Life of Mine: $133,357,115

For each liability condition, WPC anticipates that at least 75% of the approved financial assurance amount will be provided through an EGLE-approved assurance instrument or combination of instruments, such as a surety bond, irrevocable letter of credit, certificate of deposit, trust fund/escrow account, or other equivalent financial instrument approved by EGLE. The remaining balance, if any, may be addressed through a Statement of Financial Responsibility, subject to EGLE review and approval. R 425.301 requires assurance instruments to cover at least 75% of the total required financial assurance amount, with the balance potentially supported by a Statement of Financial Responsibility based on the operator's demonstrated financial capacity and other factors identified in the rule.

Based on the current planning-level financial assurance estimates, the proposed phased assurance structure is summarized in Table 9-1.

WPC currently anticipates that the primary assurance instrument will likely be an EGLE-approved surety bond. The final financial assurance mechanism, amount, phased adjustment schedule, and supporting forms will be determined based on EGLE review of the application, final permit conditions, approved closure and reclamation obligations, financing arrangements, and surety underwriting requirements. The mining permit will not become effective until EGLE-approved financial assurance has been established in accordance with R 425.301.

Salvage values have been calculated as part of the Financial Assurance and Closure Plan Estimate and are presented separately for informational purposes. The proposed financial assurance amounts shown above exclude salvage value and are based on the estimated third-party subtotal plus the 10% agency cost allowance. Salvage values are not used to reduce the proposed financial assurance amount unless accepted by EGLE. The financial assurance values presented above are based on the estimated third-party cost to complete required reclamation, closure, remediation, post-closure monitoring, administrative oversight, and other required environmental protection measures, excluding salvage credits. This approach is conservative because salvage value can vary based on market conditions, equipment condition, ownership status, removal costs, timing, and the ability of a third party to realize value during closure.

Financial assurance will also cover obligations associated with the containment, treatment, closure, and post-closure monitoring of reactive mine-related materials, including Project-generated tailings managed within the TDF as described in Section 5 and Appendix E-2. If monitoring, design changes, permit conditions, or updated closure assumptions indicate that additional reclamation, treatment, containment, or post-closure monitoring costs are required, the financial assurance amount will be updated accordingly.

A detailed Financial Assurance and Closure Plan Estimate, including the basis of estimate, closure assumptions, post-closure monitoring framework, financial assurance periods, salvage summary, and supporting cost tables, is provided in Appendix I.

Tables

Table 1-1
Document Preparation - List of Contributors
White Pine Copper LLC - Mining Permit Application

Organization	Individual	Qualifications
White Pine Copper LLC	Chad Wolahan	Project Director, Mining Engineer
	Amanda Zeidler	Senior Director Environment, Environmental Scientist
	Majed Badiuzzaman	Senior Project Engineer, Professional Engineer
	Meagen Morrision	Manager, External Relations
Kinterra Capital Corp.	Henry Lole	V.P. Evaluations & Geology
	Simon Jacques	V.P. Evaluations & Metallurgy, PhD
	Andrew Bodden	V.P. Evaluations & Mining Engineering, P. Eng
Advanced Ecological Management, LLC	R. Douglas Workman	PhD, Fisheries and Wildlife
Ausenco Engineering Canada ULC	Julie Boulos	Manager, Process Engineering, P. Eng
	Diego Mosqueira	Project Manager
Automate Mining LLC	Jon Treen	President, Mining Engineer, MBA, P. Eng
Barr Engineering LLC	Matt Stone-Palmquist	Senior Ecologist, Professional Landscape Architect
	Randall Phillips	Senior Ecologist, Professional Wetland Scientist
	Timothy Greenleaf	V.P. Senior Civil/Environmental Engineer, P. Eng
Dahrouge Geological Consulting LTD	Trevor Mills	Principal Geologist, PG, SME-RM
	David Sachs	Project Manager
	Paul Richardson	Senior Resource Gelogist, M. Sc.
Foth Infrastructure & Environment, LLC	Stephen Donohue	V.P. Mining, Professional Hydrologist
	Mike Nimmer	Lead Environmental Engineer, PE
	Gary Braun	Lead Environmental Scientist, PG
	Dan Michiels	Senior Environmental Engineering Leader, PE
	Nick Glander	Lead Environmental Scientist
	Heather Hallet	Lead Environmental Scientist, PG
	Brian Stanul	Project Environmental Engineer IV, PE
	Matt Grotte	Project Environmental Scientist IV, PG
	Clinton Roberts	Project Manager IV, PMP
	Dan Tilly	GIS Specialist
Gray & Pape, Inc.	James Renn	Professional Archaeologist
Limnotech, Inc.	Steve Casey	Senior Engineer
	Kathryn Hall	Senior Environmental Scientist, QEP
Michigan Technological University	Jenny Apriesnig	Associate Professor of Economics, PhD
	Laura Connolly	Associate Professor of Economics, PhD
	Gary Campbell	Professor Emeritus of Economics, PhD
Resourceful Paths	Laurie Reemeyer	Principal Consultant, MBA, P. Eng
SRK Consulting (U.S.), Inc.	Devin Castendyk	Principal Consultant Geochemistry - PhD, PG
	Brooke Miller	Principal Consultant Geology, PG
	Amy Prestia	Principal Geochemist

Table 1-1 (continued)

Organization	Individual	Qualifications
Stantec Consulting Services Inc.	Michael Emmenegger	Associate, Senior Scientist
	Brian Bylhouwer	Atmospheric & Climate Science Specialist
	Matt Knickelbine	Environmental Scientist
	Paul Schmidt	Project Manager, P. Eng, PMP
	Jacob Poling	Senior Acoustician, INCE Bd. Certified
	Josh Sulman	Senior Environmental Scientist & Botanist, MS PWS
	Ryan Glasford	Wildlife Biologist, MS
Tetra Tech, Inc.	Greg Council	Principal Engineer
	Chad Tomlinson	Project Manager, P. Eng
	Guy Roemer	Senior Enviornmental Engineer, P. Eng
The Mannik & Smith Group, Inc.	Jed Chrestensen	Associate and Project Manager, P. Eng
WSP USA Inc	James Smith	Principal Rock Mechanics Engineer, P. Eng
	Justin Roy	Principal Rock Mechanics Engineer, P. Eng, PhD

Prepared by: MJG4

Checked by: CER2

Table 1-2
Project Schedule and Major Milestones
White Pine Copper LLC - Mining Permit Application

Milestone	Anticipated Start Year	Anticipated Start Quarter
PFS Complete	2026	Q3
Environmental Baseline Studies complete	2026	Q2
Permit Application Submittal	2026	Q3
Feasibility Study Completed	2027	Q3
Receive Permits	2027	Q3
Financial Investment Decision	2027	Q4
Mine Development start	2027	Q4
Front End Engineering Design (FEED)	2029	Q4
Construction Complete	2029	Q4
Pre-production/Commissioning	2030	Q1
Full Operations	2030	Q2
Reclamation and Closure	2056	Q1
Post-Closure Monitoring	2058	Q1

Prepared by: MJG4
Checked by: CER2

Table 2-1
Surface Ownership
White Pine Copper LLC - Mining Permit Application

Label	Owner	Parcel Number	Area (acres)
1	TOBERMORRY FARMS LLC	09 232 002 00	199.0
2	CHAMBERLAIN ANDREW S & LYDIA J	03 560 362 00	0.3
3	Township of Carp Lake	03 640 006 00	2.6
4	ANDERSON TAMMI J	03 013 017 10	6.2
5	APEIRO VENTURES LLC	03 013 014 21	11.5
6	AUSTIN CHARLES B &MARY LOU TRUSTEES	03 025 001 00	3.7
7	AUSTIN CHARLES B &MARY LOU TRUSTEES	03 025 001 05	2.0
8	BABCOCK STEVE & DELORIA MARTIN	03 022 001 50	78.6
9	BAKER JACQUELINE R LIFE ESTATE	03 024 009 00	40.3
10	BANNICK LORETTA &	03 013 021 20	5.2
11	BASTOW ZACHARY RAY	03 014 007 30	18.3
12	BELTMAN BRIAN R & TAMI JO	09 335 001 00	106.7
13	BETCHER GREGORY P & MELISSA J	09 219 008 00	19.1
14	BOARDMAN BRUCE E&MARILYN L, TRUSTEE	03 024 010 00	79.9
15	BROOKINS DAVID W &	03 023 001 30	89.2
16	BROSI JEFF & SUZANNE MICHELE	03 136 106 20	8.6
17	CAMP JOSH	09 231 003 20	7.5
18	CARLSON SUSAN M TRUSTEE	03 026 001 10	83.6
19	COLCLASURE EDWARD O	03 024 003 00	25.3
20	COLCLASURE HOMER	09 219 009 00	16.9
21	COLE BARRY R	09 220 008 10	37.5
22	COLE BARRY R & BUSHIE TRACY L	09 220 008 20	10.6
23	COLE BARRY R & BUSHIE TRACY L	09 220 008 30	27.2
24	COLE BARRY R & BUSHIE TRACY L	09 229 004 00	37.9
25	COUNTRYMAN CHRISTOPHER TRUSTEE	09 218 014 00	42.3
26	COUNTRYMAN CHRISTOPHER TRUSTEE	09 218 015 00	40.5
27	COUNTRYMAN CHRISTOPHER TRUSTEE	09 219 003 00	40.4
28	CUNNINGHAM EVA	03 023 001 50	83.6
29	DAVIS TODD W & STEPHANIE L	09 219 015 00	5.3
30	DAVIS TODD W & STEPHANIE L	09 219 020 10	30.1
31	DEERING DAVE & KRIS	03 125 004 40	11.1
32	DEHUT SCOTT	09 219 012 10	1.7
33	DIX RONALD W & CAROL J	03 013 022 00	20.6
34	ELBRECHT APRIL M	03 018 001 00	85.4
35	ELLIS & ELLIS FAMILY DECLARATION OF	03 058 001 10	7.7
36	ELLIS WILLIAM J 1/2&FROMER ANGELIQ&	03 640 014 00	1.1
37	EMERSON NEAL D	03 025 005 10	97.7
38	EMERSON NEAL D	03 025 005 15	2.5
39	EMERSON NEAL D	03 025 007 00	99.2
40	EMERSON NEAL D	03 026 001 40	80.3
41	FACKLER CALEB	09 219 014 00	10.1
42	FACKLER CALEB	09 219 014 20	1.0
43	FACKLER TOD & SAMANTHA	03 024 005 00	2.5
44	FELDER WILL	03 036 001 50	9.9
45	FELDER WILL	03 036 001 60	9.9
46	FLIESS LAWRENCE & SANDRA & FLIESS	09 219 018 00	56.9
47	FRAKI DAVID J	03 013 016 20	0.9
48	FRANK CAROLYN J TRUSTEE	03 136 006 20	4.6
49	GEIGER SHAWN	03 026 001 70	47.9
50	GEIGER SHAWN W & RONDA M LE	03 024 008 10	79.0

Table 2-1 (continued)

Label	Owner	Parcel Number	Area (acres)
51	GEURTS LEE J &	03 055 016 20	1.1
52	GEURTS LEE J &	03 055 016 40	4.0
53	GOSZ TIMOTHY L & CORRINE A	03 023 001 00	140.3
54	GRESS DEVIN	03 036 001 70	9.7
55	GRESS DEVIN & ARMS COREY	03 036 001 80	10.0
56	GRUNBERG ALAN H & DORINA A	03 560 353 00	0.3
57	GUILBAULT DAVID J & SUSAN M	09 219 016 00	18.9
58	GUILBAULT SUSAN & THOMPSON	09 220 003 00	18.8
59	HAGEN MATTHEW J	03 036 008 00	23.1
60	HAGERTY JERRY & DEBORAH	09 230 007 00	86.5
61	HAGERTY JERRY & DEBORAH	09 230 008 00	40.1
62	HARRIS GARY	03 022 001 10	38.9
63	HARRIS GARY	03 022 001 40	39.0
64	HAZEN BRIAN	03 024 003 20	2.5
65	HEIKKILA THOMAS J JR	03 025 002 00	241.4
66	HINELINE WESLEY D	03 026 001 50	53.3
67	HINELINE WESLEY D	03 026 001 51	1.0
68	HINELINE WESLEY D	03 035 001 00	161.1
69	HINELINE WESLEY D	03 035 001 20	159.5
70	HORVATH JAMES W.	09 219 013 00	43.1
71	HUSAR DENNIS & ANN MARIE LE	09 335 001 21	132.0
72	HUSAR DENNIS & ANN MARIE LE	09 336 001 20	58.5
73	HUSAR DENNIS & ANN MARIE LE	03 035 001 10	161.5
74	HUSAR DENNIS & ANN MARIE LE	03 036 003 00	80.3
75	ISHAM ERIC R	03 036 001 30	9.8
76	ISHAM ERIC R	03 036 001 40	10.0
77	JACOB RACHELLE	03 036 005 00	79.2
78	JIRIKOWIC III FRANK J & DENISE M	03 025 006 00	77.1
79	JOHNS GREGORY	09 230 014 10	19.8
80	JOHNS JERRY J & JOHNS GREGORY A	09 230 014 20	20.0
81	JOHNSON KIMBERLY & JOHNSON JESSE M	09 218 012 10	40.3
82	KAMPPINEN DALE R & MICHELE L	09 217 015 00	37.6
83	KANGAS DONALD JAY	03 013 021 00	10.3
84	KARTTUNEN DALE S & PAMELA I LE	03 022 001 20	20.0
85	KARTTUNEN DALE S & PAMELA I LE	03 023 001 20	68.5
86	KARTTUNEN PAULINE K TRUSTEE	03 023 001 10	19.7
87	KARTTUNEN SCOTT J & SHARON D	03 022 001 30	60.1
88	KAUTH TOM & MONICA REVOCABLE	03 013 013 00	20.6
89	KAUTH TOM & MONICA REVOCABLE	03 013 014 10	60.0
90	KAUTH TOM & MONICA REVOCABLE	03 024 006 00	75.9
91	KENDALL VIOLET	03 013 021 30	5.0
92	KING ROBERT LE	03 013 017 00	6.9
93	KIRKER JASON & DREW	09 231 002 50	11.5
94	KOZLOWSKI DANIEL P	03 014 001 20	77.3
95	LEAGUE GRAHAM & LEAH	03 024 002 00	40.5
96	LEE KYUNG CHUL	03 054 006 00	6.2
97	LINDSTROM RAYMOND CHARLES	09 220 003 10	18.7
98	LOGAN SCOTT W	03 125 113 00	7.3
99	LUND ELIZABETH & MOORE TYLER	09 230 006 20	20.2
100	LUND STEPHEN M	03 024 003 30	1.0

Table 2-1 (continued)

Label	Owner	Parcel Number	Area (acres)
101	LUND WILLIAM & MARGARET	09 230 003 00	76.5
102	LUND WILLIAM & MARGARET	09 230 006 10	20.2
103	LUND WM M & MARGARET D	09 219 020 00	50.2
104	MANTHEY RODNEY L	03 026 001 00	89.4
105	MANTHEY TODD L & MICHELLE L	03 026 001 61	80.1
106	MANTHEY TODD L & MICHELLE L	03 026 001 62	19.5
107	MEHN MICHAEL J & KATHRYN J TRUST	09 219 011 00	83.1
108	MERCURE DAVID A & DEBBRA L	03 036 003 10	79.4
109	MERCURE DAVID A & DEBBRA L	03 036 006 00	217.1
110	MEYER TIMOTHY R & JENNY L	03 013 014 30	8.0
111	MICHIGAN NATURE ASSOCIATION	09 230 012 00	34.5
112	MONVILLE GARY E & SAM PUN TRUSTEES	09 230 005 00	35.1
113	MONVILLE GARY E & SAM PUN TRUSTEES	09 230 010 00	35.3
114	MOREAU STEVEN R	03 026 001 20	96.5
115	MOREAU STEVEN R	03 026 001 30	89.3
116	MOREAU STEVEN R	03 027 001 20	80.2
117	MOREAU STEVEN R & CHARLENE	03 027 001 00	80.3
118	MOREAU STEVEN R & CHARLENE	03 027 001 10	80.3
119	MOREAU STEVEN R & CHARLENE	03 035 001 30	159.5
120	MOSHER GORDON L III	03 024 011 00	40.0
121	MOSHER GORDON L III	03 025 001 20	34.5
122	NICKELL CHRISTA I	09 219 014 10	12.2
123	NIEMI AUDREY RENEE	03 025 001 10	40.1
124	NIEMI AUDREY RENEE	03 025 003 00	40.1
125	NORMAN PESTKA CONST INC	03 054 122 00	8.9
126	NORTHERN LAND & SALES II, LLC	03 136 106 50	2.3
127	NORTHERN NATURAL GAS CO.	03 054 001 00	0.2
128	O'KELLY MICHAEL	03 136 006 40	8.3
129	OAK FOREST PROPERTIES LLC	09 336 001 00	100.5
130	OAK FOREST PROPERTIES LLC	03 036 002 00	79.7
131	OLSON DONALD R & ARLENE F TRUST	03 055 004 00	34.4
132	OLSON DONALD R & ARLENE F TRUST	03 055 004 10	2.3
133	OLSON PAUL E	03 024 001 00	79.8
134	ONTONAGON COUNTY ROAD COMM	03 036 007 00	0.2
135	ONTONAGON COUNTY ROAD COMM	09 217 016 00	2.1
136	ONTONAGON COUNTY ROAD COMM	09 218 020 00	2.3
137	ONTONAGON COUNTY ROAD COMM	09 219 002 00	2.3
138	ONTONAGON COUNTY ROAD COMM	09 219 006 00	2.3
139	ONTONAGON COUNTY ROAD COMM	09 219 017 00	1.1
140	ONTONAGON COUNTY ROAD COMM	09 219 019 00	3.4
141	ONTONAGON COUNTY ROAD COMM	09 220 004 00	2.3
142	ONTONAGON COUNTY ROAD COMM	09 220 006 00	2.3
143	ONTONAGON COUNTY ROAD COMM	09 220 008 40	4.6
144	ONTONAGON COUNTY ROAD COMM	09 229 004 10	2.1
145	ONTONAGON COUNTY ROAD COMM	09 230 002 00	2.9
146	ONTONAGON COUNTY ROAD COMM	09 230 005 10	5.0
147	ONTONAGON COUNTY ROAD COMM	09 230 011 00	4.9
148	ONTONAGON COUNTY ROAD COMM	09 230 013 00	5.3
149	ONTONAGON COUNTY ROAD COMM	09 230 014 30	0.7
150	ONTONAGON COUNTY ROAD COMM	09 231 004 00	11.0

Table 2-1 (continued)

Label	Owner	Parcel Number	Area (acres)
151	ONTONAGON COUNTY ROAD COMM	03 036 007 00	0.2
152	ONTONAGON COUNTY ROAD COMM	03 054 135 00	8.3
153	PARENT DALE ET UX	09 218 018 00	79.4
154	PARKER JOHN K	03 013 009 00	62.7
155	POMMERENING GREG	03 036 001 90	9.7
156	POULOS A YVONNE LE &	03 024 004 00	7.1
157	PRIESKORN JOSEPH E & MICHELLE L	03 023 001 60	143.4
158	RAUSCH RICHARD & SARA	09 230 004 00	40.2
159	RAUSCH RICHARD & SARA	09 230 009 10	40.1
160	RAUSCH RICHARD & SARA	09 230 014 00	80.7
161	RAUSCH RICHARD & SARA	09 231 003 10	29.1
162	RED OAK LAND COMPANY INC	03 027 001 30	80.2
163	RED OAK LAND COMPANY INC	03 034 001 10	39.4
164	RED OAK LAND COMPANY INC	03 034 001 20	279.6
165	REDEMEIER DONALD R & BAMBI L	03 640 020 00	1.3
166	REICHARDT ANDREW P	03 024 007 00	78.2
167	REICHARDT ANDREW P	03 024 008 00	78.9
168	RICHARDSON JACK A & JANICE	03 018 001 01	85.8
169	SAFFORD LUKE	09 219 004 00	39.8
170	SAFFORD LUKE	09 219 005 00	37.8
171	SCHLARB JACOB WAYNE	03 013 016 00	58.8
172	SHAMION DAN T & CONNIE L	09 219 012 00	38.5
173	SHARP DONALD & MARY	03 136 006 10	6.4
174	SHIELDS JAMES R & POLLY A LE	09 218 013 00	42.8
175	SMARTT MONICA R LE	09 230 009 00	86.7
176	SMARTT MONICA R LE	09 231 002 10	61.5
177	SMARTT MONICA R LE	09 231 002 20	8.0
178	SMITH JOHN H JR	09 219 010 00	6.4
179	SPARPANIC DAVID M & SPARPANIC	09 220 005 00	37.2
180	STEFFEN JOHN &	03 136 106 10	3.0
181	STRUNK BRETT R	03 055 016 10	2.1
182	SUBTERRA LLC	03 053 002 00	195.3
183	SUBTERRA LLC	03 054 101 00	339.5
184	SUBTERRA LLC	03 054 131 00	2.9
185	SUBTERRA LLC	03 054 133 00	1.1
186	SUBTERRA LLC	03 059 001 20	106.3
187	SUBTERRA LLC	03 059 001 30	3.6
188	TAHI GROUP, LLC	09 336 001 30	321.4
189	TAHI GROUP, LLC	03 051 002 00	129.5
190	TAHI GROUP, LLC	03 051 003 10	143.8
191	TEUTON INDUSTRIES	03 054 104 10	24.8
192	THOMAS TAMMI	03 013 012 00	21.8
193	TOBERMORRY FARMS LLC	09 220 001 00	319.4
194	TOBERMORRY FARMS LLC	09 220 002 10	79.6
195	TOBERMORRY FARMS LLC	09 229 002 00	199.8
196	TOBERMORRY FARMS LLC	09 229 003 00	40.0
197	TOBERMORRY FARMS LLC	09 229 005 00	39.9
198	TOBERMORRY FARMS LLC	09 231 001 00	282.5
199	TOBERMORRY FARMS LLC	09 231 002 00	203.2
200	TODD ROGER J	03 014 006 00	36.9

Table 2-1 (continued)

Label	Owner	Parcel Number	Area (acres)
201	TOMASOSKI ANTHONY & GEORGIANNA &	03 136 006 90	4.1
202	WHITE PINE COPPER LLC	03 019 002 00	164.5
203	TOWNSHIP OF CARP LAKE	03 019 002 10	96.4
204	TOWNSHIP OF CARP LAKE	03 054 302 10	10.4
205	TOWNSHIP OF CARP LAKE	03 640 001 00	1.6
206	TOWNSHIP OF CARP LAKE	03 640 005 00	3.6
207	TOWNSHIP OF CARP LAKE	03 640 007 00	0.6
208	TUOMI RACHEL	03 560 361 00	0.3
209	UPPER PENINSULA POWER CO	03 059 001 10	0.9
210	VALENTA MICHAEL J &	03 014 007 11	38.1
211	VELDMAN WALTER & POLLY &	09 219 007 00	42.3
212	VEZINA DIANE	09 219 014 30	54.6
213	VILLAGE OF ONTONAGON	03 031 001 10	10.1
214	VILLAGE OF ONTONAGON	03 054 149 00	0.6
215	WALLACE THOMAS & JOSIE LOU	09 218 021 00	37.4
216	WALLACE THOMAS ROSS & JOSIE LOU	09 219 001 00	37.8
217	WALTANEN TONYA M	03 013 019 00	27.9
218	WALTANEN TONYA M	03 013 020 00	13.6
219	WHITE PINE COPPER LLC	03 054 131 00	2.7
220	WHITE PINE COPPER LLC	03 015 001 00	152.9
221	WHITE PINE COPPER LLC	03 015 002 00	152.6
222	WHITE PINE COPPER LLC	03 016 001 00	168.9
223	WHITE PINE COPPER LLC	03 016 002 00	168.0
224	WHITE PINE COPPER LLC	03 017 001 10	168.1
225	WHITE PINE COPPER LLC	03 019 001 00	82.9
226	WHITE PINE COPPER LLC	03 019 003 00	246.7
227	WHITE PINE COPPER LLC	03 020 001 00	652.0
228	WHITE PINE COPPER LLC	03 021 001 00	653.9
229	WHITE PINE COPPER LLC	03 022 001 00	79.2
230	WHITE PINE COPPER LLC	03 022 002 00	315.3
231	WHITE PINE COPPER LLC	03 027 002 00	320.6
232	WHITE PINE COPPER LLC	03 028 001 00	643.4
233	WHITE PINE COPPER LLC	03 029 001 00	643.1
234	WHITE PINE COPPER LLC	03 030 001 00	653.7
235	WHITE PINE COPPER LLC	03 031 001 00	631.3
236	WHITE PINE COPPER LLC	03 031 303 00	11.0
237	WHITE PINE COPPER LLC	03 032 001 00	643.6
238	WHITE PINE COPPER LLC	03 033 001 00	643.8
239	WHITE PINE COPPER LLC	03 034 002 00	321.2
240	WHITE PINE COPPER LLC	03 051 003 00	144.2
241	WHITE PINE COPPER LLC	03 052 001 00	592.6
242	WHITE PINE COPPER LLC	03 053 001 00	397.8
243	WHITE PINE COPPER LLC	03 054 123 00	6.9
244	WHITE PINE COPPER LLC	03 054 124 00	0.3
245	WHITE PINE COPPER LLC	03 054 125 00	12.5
246	WHITE PINE COPPER LLC	03 054 126 00	12.2
247	WHITE PINE COPPER LLC	03 054 127 00	1.0
248	WHITE PINE COPPER LLC	03 054 128 00	1.2
249	WHITE PINE COPPER LLC	03 054 129 10	3.8
250	WHITE PINE COPPER LLC	03 054 129 20	1.0

Table 2-1 (continued)

Label	Owner	Parcel Number	Area (acres)
251	WHITE PINE COPPER LLC	03 054 146 00	3.5
252	WHITE PINE COPPER LLC	03 054 201 10	99.4
253	WHITE PINE COPPER LLC	03 055 001 00	3.0
254	WHITE PINE COPPER LLC	03 055 001 00	12.6
255	WHITE PINE COPPER LLC	03 055 013 00	25.8
256	WHITE PINE COPPER LLC	03 058 001 00	22.0
257	WHITE PINE COPPER LLC	03 059 001 00	10.0
258	WHITE PINE COPPER LLC	03 125 001 00	84.2
259	WHITE PINE COPPER LLC	03 136 001 06	90.8
260	WHITE PINE COPPER REFINERY INC	03 054 004 00	25.0
261	WHITE PINE COPPER REFINERY INC	03 054 132 00	3.3
262	WHITE PINE ELECTRIC POWER LLC	03 031 001 20	1.3
263	WHITE PINE ELECTRIC POWER LLC	03 054 005 00	5.6
264	WHITE PINE ELECTRIC POWER LLC	03 054 201 20	5.8
265	WHITE PINE ELECTRIC POWER LLC	03 054 202 00	2.6
266	WHITE PINE ELECTRIC POWER LLC	03 136 001 01	5.1
267	WHITE PINE ELECTRIC POWER LLC	03 136 001 03	15.4
268	WHITE PINE ELECTRIC POWER LLC	03 136 001 04	8.4
269	WHITE PINE ELECTRIC POWER, LLC	03 054 121 00	3.4
270	WILCOX AARON & PRIESKORN JOSEPH E	03 023 001 40	84.5
271	WILDERMUTH WENDELL J	03 036 001 20	10.0
272	WISEMAN GARRY L JR & JACKIE	03 024 003 10	2.0
273	WOLF KEITH J & KAITLIN	03 136 106 30	9.7

Prepared by: MJG4
Checked by: CER2

Table 3-1
Mineral Resource Summary
White Pine Copper LLC - Mining Permit Application

Classification	Tonnes	Cu (%)	Ag (ppm)	Contained Cu (tonnes)
Indicated	169,136,650	1.64	20.66	2,772,999
Inferred	22,091,848	1.509	22.66	333,355
Total Indicated + Inferred	191,228,498	1.625	20.89	3,106,354

Notes:

Prepared by: MJG4

Checked by: CER2

Mineral Resource values are reported above a 0.90% Cu cut-off grade, constrained to the patented claim boundary, and exclude blocks interpreted to occur within historical mine workings. The values are in-situ, geologically constrained estimates and do not include mining dilution, mining recovery, minimum mining width, or mine-design selectivity.

Cu = Copper

ppm = parts per million

Table 4-1
LOM Production Summary
White Pine Copper LLC - Mining Permit Application

		Total	PY-02	PY-01	PY 01	PY 02	PY 03	PY 04	PY 05	PY 06	PY 07	PY 08	PY 09	PY 10	PY 11	PY 12	PY 13
DEVELOPMENT SUMMARY																	
Combined Lateral Tonnes & Grades																	
Ore (kt)	Development Ore	14,342		748	1,276	930	744	894	691	587	699	873	902	553	543	797	760
NSR ($/t)	Mined NSR	42.9		43.3	44.0	46.6	46.1	46.1	44.9	42.3	39.8	42.4	42.4	41.6	41.8	41.0	40.4
Cu (%)	Mined Cu%	0.6		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5
Ag (g/t)	Mined Ag g/t	7.8		6.5	6.8	9.3	10.3	10.3	10.1	8.2	7.5	8.5	8.4	7.4	7.6	7.3	7.4
S (%)	Mined S%	0.1		0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PRODUCTION SUMMARY																	
Total Ore (kt)	Production Ore	123,501			3,226	4,470	4,656	4,506	4,710	4,815	4,703	4,531	4,498	4,847	4,857	4,603	4,642
NSR ($/t)	Mined NSR	80.9			87.1	85.3	85.2	88.0	85.7	93.3	85.6	86.4	82.4	89.8	83.7	83.0	86.1
Cu (%)	Mined Cu%	1.1			1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.1	1.1	1.2	1.1	1.1	1.1
Ag (g/t)	Mined Ag g/t	17.0			18.2	17.2	19.4	21.4	24.1	22.7	24.6	20.5	20.0	21.3	21.0	17.5	20.9
S (%)	Mined S%	0.2			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
TOTAL ORE DELIVERED																	
Ore (kt)	Mined Ore Tonnes	137,843		748	4,502	5,400	5,400	5,400	5,401	5,401	5,402	5,404	5,400	5,400	5,400	5,400	5,402
NSR ($/t)	Mined NSR	77.0		43.3	74.9	78.6	79.9	81.1	80.5	87.7	79.7	79.3	75.7	84.9	79.5	76.8	79.7
Cu (%)	Mined Cu%	1.0		0.6	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.0	1.0	1.0
Ag (g/t)	Mined Ag g/t	16.0		6.5	14.9	15.8	18.1	19.6	22.3	21.1	22.4	18.5	18.0	19.9	19.6	16.0	19.0
S (%)	Mined S%	0.2		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

(Continued)

		PY 14	PY 15	PY 16	PY 17	PY 18	PY 19	PY 20	PY 21	PY 22	PY 23	PY 24	PY 25	PY 26
DEVELOPMENT SUMMARY														
Combined Lateral Tonnes & Grades														
Ore (kt)	Development Ore	459	640	56	462	92	363	268	166	50	245	409	120	16
NSR ($/t)	Mined NSR	40.8	40.7	41.5	41.3	43.8	42.0	38.7	40.4	42.1	44.1	43.5	47.5	48.1
Cu (%)	Mined Cu%	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.7	0.7
Ag (g/t)	Mined Ag g/t	7.0	6.7	6.6	6.2	7.3	6.0	4.5	5.4	5.9	6.9	6.0	5.1	4.0
S (%)	Mined S%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
PRODUCTION SUMMARY														
Total Ore (kt)	Production Ore	4,941	4,760	5,346	4,938	5,308	5,037	5,134	5,234	5,350	5,155	4,778	5,277	3,180
NSR ($/t)	Mined NSR	85.1	80.6	83.2	72.5	79.8	73.6	71.1	74.5	71.0	75.1	77.7	73.1	68.4
Cu (%)	Mined Cu%	1.1	1.1	1.1	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ag (g/t)	Mined Ag g/t	18.6	17.0	16.3	15.1	16.3	15.1	11.6	10.7	9.4	11.8	13.9	11.4	7.8
S (%)	Mined S%	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
TOTAL ORE DELIVERED														
Ore (kt)	Mined Ore Tonnes	5,400	5,400	5,402	5,400	5,400	5,400	5,402	5,400	5,400	5,400	5,187	5,397	3,197
NSR ($/t)	Mined NSR	81.3	75.9	82.8	69.8	79.2	71.5	69.5	73.5	70.7	73.7	75.0	72.5	68.3
Cu (%)	Mined Cu%	1.1	1.0	1.1	0.9	1.0	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0
Ag (g/t)	Mined Ag g/t	17.7	15.8	16.2	14.3	16.1	14.4	11.2	10.5	9.3	11.5	13.3	11.3	7.8
S (%)	Mined S%	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Notes:
Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026.

Prepared by: MJG4
Checked by: CER2

Table 4-2
Employment Schedule
White Pine Copper LLC - Mining Permit Application

Department	Employment Status	Peak Quantity[1]	Average
Process Plant	Employee	63	63
General & Administrative	Employee	58	58
Water Treatment Plant	Employee	3	3
Logistics	Employee	25	25
Operations [2]	Employee	524	368
	Contractor	121	34

Prepared by: MJG4

Checked by: CER2

Notes:

[1] Peak employment values represent the total manpower required to support the planned operating rotation and are not equivalent to the number of personnel on site at one time. The employment schedule assumes a 14-days-on/14-days-off rotation supported by four crews, which requires sufficient total staffing to maintain continuous coverage across operating shifts, rotation relief, leave, training, and normal workforce availability. Because contractor and owner workforce requirements vary by activity, phase, and work package, peak contractor staffing and peak owner-employee staffing may not occur in the same year. Accordingly, the total annual workforce estimate may not equal the sum of independently selected peak values for each labor category.

[2] Operations Personnel refers to both construction and underground roles.

Table 4-3
Topsoil Stripping Summary
White Pine Copper LLC - Mining Permit Application

Item	Estimated Area[1]	Estimated Thickness	Estimated Volume	Material Characteristics	Stockpiling/ Management Plan	Stabilization/ Erosion Control
Topsoil	250,905 m^2 (62 acres)	0.3m (12 in.)	75,000 m^3 (98,100 cu yd)	Topsoil and organic soil materials suitable for reclamation where not affected by historical contamination or unsuitable conditions	Suitable stripped topsoil will be segregated from subsoil and other materials and placed in designated stockpile areas for future reclamation use	Stockpiles will be graded for drainage, protected from excessive compaction, and stabilized as soon as practicable
Historically contaminated topsoil[2]	68,700 m^2 (17 acres)	0.3m (12 in.)	20,600 m^3 (26,944 cu yd)	Soil material allocated for placement within NP1 due to historical site contamination considerations	Material will be placed within NP1 as part of site development and managed within the TDF water management framework	Placement will occur within controlled TDF limits; associated runoff/contact water will be managed through TDF water management controls
Excavated overburden associated with site grading	Final quantities to be developed through detailed earthwork design; approximately 60% assumed suitable for engineered fill and 40% assumed unsuitable			Primarily overburden materials; bedrock interpreted approximately 12 to 15 m below existing grade where data are available	Suitable material will be reused as engineered fill where practicable; unsuitable material will be managed in designated areas	Final grades will promote positive drainage; slopes generally developed at 2H:1V to 3H:1V where practicable and integrated with drainage ditches and collection pond

Notes: Prepared by: MJG 4

Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026. Checked by: CER2

[1] Areas are derived by dividing estimated volume by the assumed 0.3-meter (12-inch) stripping depth and are planning-level values, not surveyed disturbance limits; final areas will be confirmed by the grading and limits-of-disturbance design.

[2] The approximately 20,600 cubic meters of contaminated soil placed in North Pond 1 is a disposal quantity, not a confirmed strip area; its actual footprint, depth, and volume will be confirmed through soil characterization and final earthwork design.

Table 4-4
Development Rock Summary
White Pine Copper LLC - Mining Permit Application

Source/Material Origin	Estimated Quantity (tonnes)	PAG / Non-PAG Classification	Planned Management
Decline development	1,458,000	Mixed, depending on formation. Till and Freda Formation development rock are Non-PAG; Nonesuch Formation development rock may range from Non-PAG to PAG	Brought to surface and reused within the TDF as construction material for an interior barrier wall required by the tailings deposition plan
Two western ventilation raises	11,000		
Eastern ventilation raise	61,500		Retained underground and placed in a mined-out area of the mine
Total development rock	**1,530,000**	**Overall material expected to be predominantly Non-PAG, with PAG potential limited to a subset of Nonesuch Formation development rock**	**No separate surface waste rock storage facility is proposed; material will either be reused within the TDF or retained underground**

Notes:
Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026.
PAG status is based on formation-level geochemical characterization. Till and Freda Formation development rock are classified as Non-PAG. Nonesuch Formation development rock has shown variable geochemical behavior, ranging from Non-PAG to PAG; however, not all Nonesuch Formation subunits are PAG, and the PAG proportion is expected to represent a subset of the total development rock generated.

Prepared by: MJG4
Checked by: CER2

Table 4-5
Ore Mining and Stockpiling
White Pine Copper LLC - Mining Permit Application

Stockpile Phase	Timeline	Monthly Throughput (kt)	Approximate Stockpile Usage	Stockpile Capacity (kt)
Ramp-up (fill)	2 months	100 - 150	30%	852
Sustained rate (fill)	3-4 months	220 - 260	90-100%	
Depletion (reclaim)	12-18 months	41 - 71	-	
Post-depletion operational storage	~24 years (remainder of LOM)	variable, intermittent		

Notes:

Prepared by: MJG4

kt = kilotonne

Checked by: CER2

Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026 and Temproary Ore Pad Desing by Foth, 2026.

Filling assumptions are based on approximately 10 hours per day, 5 days per week, at an overall operational efficiency of 80 percent.

The stockpile has a total design storage capacity of approximately 852,200 tonnes (approximately 534,500 cubic meters), based on an assumed blasted ore bulk density of 1.65 grams per cubic centimeter.

During the depletion phase, the process plant continues to operate at its design throughput of approximately 5,400 kt per year (approximately 15,000 tonnes per day), with stockpile reclaim supplementing direct underground ore delivery.

During the post-depletion phase, the temporary ore stockpile is maintained for intermittent, small-scale operational storage and is not operated at or near full design capacity.

Table 4-6
Identification of Reactive Materials
White Pine Copper LLC - Mining Permit Application

Identified Reactive Material	Expected Reactivity Classification	Primary Facility/Handling Area	Contact-water Control	Long-term Treatment/Containment Approach
Project-generated tailings	Non-Potential Acid Generation (Non-PAG). Potential for metals leaching.	North Pond 1 (NP1) and North Pond 2 (NP2) TDF	Contact water generated within the (TDF), including reclaim pond water, precipitation on active deposition areas, and bleed water from newly deposited tailings, is collected and routed for reuse, treatment, or discharge under applicable permits; non-contact water is segregated to the extent practicable.	Long-term containment is provided through placement within the existing legacy TDF, engineered water management, seepage interception, monitoring, and progressive/closure revegetation rather than installation of a new composite liner beneath NP1/NP2.
Temporary ore stockpile material	Non-Potential Acid Generation. Potential for metals leaching.	Temporary Ore Stockpile adjacent to the TDF NP1	Runoff and contact water generated during temporary storage are collected and managed as contact water for reuse, treatment, or permitted discharge as applicable.	Temporary operational storage only; long-term treatment/containment is not anticipated because ore is intended for processing rather than permanent disposal. Any engineered containment features for the stockpile are addressed through lined-facility design, as applicable.
Crushed ore	Non-Potential Acid Generation. Potential for metals leaching.	Crushed Ore Stockpile (enclosed under a geodesic dome) prior to processing	Drainage from the crushed ore stockpile area is managed as contact water and routed to the contact water management system.	Temporary operational storage only; crushed ore is processed rather than permanently disposed. Long-term containment is therefore not anticipated beyond routine operational containment and contact-water management during active use.
Mine development rock (mine rock brought to surface)	Small fraction of Nonesuch Formation material has Potential Acid Generation (PAG), remaining materials Non-PAG.	Reuse on TDF NP1 for southern containment berm	Contact water will be captured within the TDF NP1 contact water management system and routed for reuse, treatment, or discharge under applicable permits.	Mine rock brought to surface will be managed as planned construction material for the NP1 southern containment berm; long-term storage as a separate waste rock facility is not proposed.

Notes:
Reactivity classifications shown in this table are based on current Project geochemical characterization and may be refined as additional characterization, design, and operating information becomes available.

Prepared by: MJG4
Checked by: CER2

Table 4-7
Surface Infrastructure Summary
White Pine Copper LLC - Mining Permit Application

Type	Feature	Area (acres)	Area (square meters)
Air Raise	Mine Return Air Raise No. 1	0.48	1,936
	Mine Fresh Air Raise No. 2	0.48	1,927
	Mine Return Air Raise No. 3	0.48	1,927
Building	Administration Building	0.46	1,869
	Contractor Facilities	4.60	18,633
	Emergency Response Vehicle Garage	0.17	673
	Explosive Magazine/Emulsion Silos	3.57	14,439
	Guard House	0.03	134
	Industrial Wastewater Treatment Plant	1.13	4,560
	Light Vehicle Maintenance/Warehouse	0.12	486
	Mine Dry	0.31	1,271
	Process Plant	2.54	10,260
	Reagent Storage	0.27	1,080
	Shotcrete Plant and Laydown	1.41	5,693
	Truck Shop/Truck Wash	0.29	1,167
	Warehouse	0.12	472
	Wheel Wash	0.03	120
Contact Water Pond	Contact Water Pond	4.99	20,234
	Contact Water Pond	0.43	1,740
Laydown Area	Mining Laydown Area	3.22	13,028
	Plant Laydown	3.64	14,725
Portal	Portal	2.37	9,591
Road	Road	0.28	1,130
	Road	9.98	40,380
Stationary Equipment	Emergency Dump Stacker	0.11	452
	Fuel Station	0.10	421
	Primary Jaw Crushing Station	0.07	289
Stockpile	Crushed Ore Stockpile	2.13	8,611
	Temporary Ore Stockpile	16.24	65,725
	Topsoil Storage	5.19	21,009
Sump	Sump	0.14	586
Utility	Gas Connection to Existing Gas Service	0.13	540
	Mine Power	0.09	356
	Natural Gas Turbine	0.29	1,158
	Substation	0.30	1,220
Total		**66.18**	**267,843**

Notes:
Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026.

Prepared by: MJG4
Checked by: CER2

Table 4-8
Beneficiation Design Criteria
White Pine Copper LLC - Mining Permit Application

Parameter	Current Design Basis
Annual process plant throughput	5.40 Mt/y
Daily process plant throughput	15 kt/d
Operating days per year	360 d/y
Crushing availability	75%
Grinding/flotation availability	92%
Concentrate filtration availability	84.6%
Design copper head grade	1.15% Cu
Design silver head grade	24.8 g/t Ag
Primary grind target	P80 38 µm
Regrind target	P80 12 µm
Concentrate filter cake moisture target	12.5% moisture
Concentrate stockpile live capacity	approximately 5 days
Tailings thickener underflow density	approximately 63.5% solids by weight
Final tailings pulp density to deposition	approximately 60% solids by weight

Notes:
Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026.

Prepared by: MJG4
Checked by: CER2

Table 4-9
Beneficiation Reagents
White Pine Copper LLC - Mining Permit Application

Reagent	Use	Estimated annual consumption (t/y)
Hydrated lime	pH modifier	1,285
PAX (Potassium Amyl Xanthate)	Collector	1,590
MIBC (Methyl Isobutyl Carbinol)	Frother	275
Sodium silicate (NaSil)	Depressant/dispersion aid	1,095
Sodium hydrosulfide (NaHS)	Activator	550
Flocculant (AN913SH or equivalent)	Flocculant	170

Notes:
Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026.

Prepared by: MJG4
Checked by: CER2

Table 4-10
Tailings Disposal Facility Characteristics
White Pine Copper LLC - Mining Permit Application

Design Criteria	Value	Source
Operating Mine Life	26 years	Stantec Mine Plan received March 16, 2026.
Pre-Production	3 years	From Ausenco Common Values and Reference Sheet 108571-GX-00000-11100-001-02.
LOM Dry Tailings Production	133.6 Mt	From Ausenco's mass balance.
Thickened Tailings Discharge Liquid Volumetric Flow Rate	436 m^3/hr	Paterson and Cooke (2026) Mass Balance Rev_B.
Tailings Specific Gravity	2.768	Table V of Paterson and Cooke's (2025) Test Work Report Rev_B.
Thickener Underflow Solids Concentration	62%	Based on Paterson and Cooke's (2025) Test Report Rev_B.
Fully Sheared Yield Stress	80 Pa	Based on Paterson and Cooke's (2025) Tailings System Hydraulic Report Rev_B.
Beach Slope	2%	Based on Water, Waste and Land's (2026) Report Rev_B.
Zero Free Water Solids Mass Concentration	76.90%	Table VIII of Paterson and Cooke's (2025) Test Work Report.
Final Consolidated Dry Density	1.46 tonnes/m^3	Based on consolidation testing and review of other thickened tailings performance data.
Final Consolidated Solids Concentration	81%	Based on a specific gravity 2.768 and a final dry basis moisture content of 23%.

Notes:
Pa = Pascals
m^3 = cubic meters
Mt = million tonnes

Prepared by: MJG4
Checked by: CER2

Table 4-11
Tailings Deposition Design Summary
White Pine Copper LLC - Mining Permit Application

Design Item	Value	Comment
NP1 Deposition Cones		
Number of Deposition Towers	3	Spaced 740 meters apart
Number of Deposition Points per Tower	12	4 deposition point will be operated at any one time.
Maximum Deposition Height	Approx. 20 m	Measured from elevation of existing tailings surface to top elevation of deposition towers.
Depositional Area	4,984,445 m^2	Corresponds to surface area of new tailings.
Tailings Volume	42,584,581 m^3	Consolidated volume.
Tailings Mass	62,173,488 dry tonnes	Converted from volume based on a final consolidated density of 1.46 t/m^3.
NP2 Deposition Cones		
Number of Deposition Towers	3	Spaced 1000 meters apart
Number of Deposition Point Per Tower	12	4 deposition point will be operated at any one time.
Maximum Deposition Height	Approx 18 m	Measured from elevation of existing tailings surface to top elevation of deposition towers.
Crest Deposition Points	62	Spaced 40 m apart.
Depositional Area	6,424,025 m^2	Corresponds to surface area of new tailings.
Cone Deposition Tailings Volume	38,223,221 m^3	Consolidated volume.
Crest Deposition Tailings Volume	10,818,384 m^3	Consolidated volume.
Cone Deposition Tailings Mass	55,805,903 tonnes	Converted from volume based on a final consolidated density of 1.46 t/m^3.
Crest Deposition Tailings Mass	15,791,922 tonnes	Converted from volume based on a final consolidated density of 1.46 t/m^3.
Total Tailings Mass	71,597,825 tonnes	Converted from volume based on a final consolidated density of 1.46 t/m^3.

Notes:

Sourced from the White Pine North Tailings Management Pre-Feasibility Study by Tetra Tech, 2026.

Prepared by: MJG4

Checked by: CER2

Table 4-12
Water Management Periods and Primary Routing
White Pine Copper LLC - Mining Permit Application

Period	Primary TDF Function	Project Contact Water Routing	Legacy/Non-Contact Water Routing	Treatment/Discharge
Operating Years 1-11	NP1 active deposition/contact-water basin	Contact Water Pond to NP1; NP1 to process reuse or WTP	South Pond and legacy drainage diverted to NP2 East/existing legacy outfall	WTP discharge to Mineral River; legacy outfall remains separate
Operating Years 12-26	NP2 active deposition; NP2 West reclaim/contact compartment	Contact Water Pond and NP2 West reclaim to process reuse or WTP	NP2 East stormwater/legacy compartment to existing legacy outfall	WTP discharge to Mineral River; legacy outfall remains separate
Operating Years 27-32	Active closure water-treatment period	Remaining contact water routed to WTP as needed; NP1 connection to NP2 East may be reestablished	Legacy and non-contact water to NP2 East / existing outfall	WTP continues as needed; discharge to Mineral River
Reclamation - Plant Site	Plant-area contact sources eliminated	Contact Water Pond liner/sediment removed; drainage restored to eastern drainageway	Non-contact stormwater ponds to eastern drainageway	WTP removed after treatment no longer required
Post-closure	Final TDF drainage configuration	No WTP return; TDF drainage managed through final closure controls	NP2 divider berm breached/reconfigured; drainage to legacy outfall	Passive/low-maintenance drainage, subject to final permit conditions

Prepared by: MJG4
Checked by: CER2

Table 4-13
Contact/Non-Contact Water Classification
White Pine Copper LLC - Mining Permit Application

Process (Contact) Water		Non-Contact Water[1,2]	
Industrial Wastewater	**Contact Storm Water**	**Storm Water Requiring Monitoring and Sediment Removal**	**Storm Water that does NOT Require Monitoring and Sediment Removal**
• Mine Dewatering	• Box cut during construction	• General construction storm water	• Natural runoff
• Ore processing wastewater	• Ore stockpile	• Storm water falling on non-contact areas including access roads outside contact area	• Natural runoff that flows through culverts, swales, ditches, etc. without mixing with contact storm water
• TDF slurry and supernatant	• Process Plant	• Building roof water	• Contact Water Pond and other berms after vegetation is in place
• Storm water mixed with industrial wastewater	• Truck wash wastewater	• Storm water from surface water sources (prior to mixing with contact storm water)	
	• Truck shop area	• Contact Water Pond and other berms until vegetation is in place (sediment ponds utilized)	
	• Ore truck route roads • Contact Storm Water Collection Sumps • Contact Water Pond • TDF		

Notes:

Prepared by: BDS1

Checked by: BJS1

[1] Industrial storm water is non-contact water and includes storm water and runoff from the fully constructed facility.

[2] Sanitary wastewater is another category that is neither process water nor non-contact storm water.

Table 4-14
Water Source and Use Summary
White Pine Copper LLC - Mining Permit Application

Water Source	Primary Use / Disposition	Approx. Rate (gpm)	Operating Period / Comments
Fresh Water Withdrawal (Lake Superior, via Village of Ontonagon)			
Fresh water (Lake Superior)	Raw/make-up water to process plant when reclaim and treated water are insufficient	~42	Operations; supplemental only
	Potable and sanitary water for personnel	~8.8	Operations (annualized average)
	Underground service/potable water during pre-production, prior to WWTP startup	~113	Pre-production only; replaced by recycled treated water once WWTP operational
	Controlled rapid reflooding of underground mine at closure	~15,000	Closure only; approximately 620 days
Recycled and Reused Water (internal)			
Reclaim water (TDF decant/ reclaim ponds)	Returned to process plant for reuse in beneficiation	~1,810	Operations; primary process water source
Treated water (WWTP)	Recycled to process and underground service water; excess discharged	Varies	Operations; reduces fresh-water demand
Process water (thickener/ process stream recycle)	Reused within the process water circuit	Internal recycle	Operations; see Appendix E-4 mass balance
Mine and Contact Water (collected and managed)			
Underground mine water (groundwater inflow plus service-water return)	Collected as contact water; reused as process/reclaim water or routed to WWTP	~845	Operations; includes ~283 gpm groundwater inflow
Contact stormwater (temporary and crushed ore stockpiles, plant site, haul roads)	Collected and routed to Contact Water Pond for reuse, treatment, or TDF routing	~44	Operations; combined average of contact runoff sources
Excess reclaim water (NP1/ NP2 water balance surplus)	Routed to WWTP for treatment prior to discharge	~1,860 to 2,075	Operations; varies by year and water balance
Legacy Water (managed separately, existing NPDES outfall)			
Historic underground mine dewatering	Conveyed through legacy water management system to existing permitted outfall	~546	Legacy; not commingled with Project contact water
South Pond diversion/legacy drainage	Diverted to NP2 stormwater/legacy compartment; discharged via existing outfall	~799	Legacy; see Appendix E-3 and E-4

Table 4-14 (continued)

Water Source	Primary Use / Disposition	Approx. Rate (gpm)	Operating Period / Comments
Precipitation on Tailings Disposal Facility			
Net precipitation on active TDF basin (NP1 or NP2)	Managed within TDF water balance (reclaim, evaporation, treatment)	~946 to 970	Operations; varies by active basin and season

Prepared by: MJG4

Checked by: BDS1

Notes:

Rates are approximate steady-state operating values in gallons per minute (gpm). The complete site-wide operating water balance, including all flow streams and volumes, is provided in Appendix E-4.

Underground mine dewatering is a contact-water source; the value shown is the collected flow, which is reused or treated rather than a consumptive use.

Fresh (Lake Superior) water demand is limited; most operating water is supplied by reclaim and recycled treated water.

Closure reflooding is a one-time closure activity and is not a continuous operating demand.

Table 4-15
Water Storage and Conveyance
White Pine Copper LLC - Mining Permit Application

Facility	Storage Capacity	Freeboard	Max Daily Influent	Discharge Capacity
Contact Water Pond	57,000 m^3 (46.4 acre ft)	1 m (3.3 ft)	42,500 m^3/hr (187,000 gpm)	295 m^3/hr (1,300 gpm)
Process Plant Contact Water Sump	4300 m^3 (3.5 acre ft)	1 m (3.3 ft)	61,300 m^3/hr (270,000 gpm)	180 m^3/hr (793 gpm)
Non-Contact Water Ponds	66,300 m^3 (53.7 acre ft)	1 m (3.3 ft)	101,600 m^3/hr (447,200 gpm)	101,600 m^3/hr (447,200 gpm)
NP1 Reclaim Compartment	2,669,624 m^3 (~2,670 acre ft)	-	Tailings 436 m^3/hr + precip 214 m^3/hr + mine dewatering (peak 191.88 m^3/hr)	30.8 cfs
NP2 Reclaim Compartment	2,660,842 m^3 (~2,158 acre ft)	-	Tailings 436 m^3/hr + precip 220.25 m^3/hr	24.2 cfs
NP2 Stormwater Compartment	313,600 m^3 (~254 acre ft)	-	South Pond diversion + non-contact runoff	173.2 cfs

Prepared by: MJG4

Checked by: CER2

Notes:

A fixed freeboard applies to the lined Contact Water Pond, Process Plant Contact Water Sump, and Non-Contact Water Ponds. Freeboard is not applicable to the NP1 and NP2 compartments because these are located within the existing TDF impoundments and are managed by engineered spillways rather than a fixed freeboard. Storage capacities for these compartments are calculated at the spillway invert elevation; spillway sizing and design storm routing are provided in the Tailings Management Design Report (Appendix E-3).

Table 4-16
Water Treatment Reagents
White Pine Copper LLC - Mining Permit Application

Reagent	Purpose/Function	Estimated Usage (Years 1-11, 2,250 gpm)	Estimated Usage (Years 12-26, 4,500 gpm)
Coagulant	Added ahead of the inclined plate clarifier to destabilize and agglomerate suspended solids for primary solids settling	~2,600 gal/yr	~2,600 gal/yr
Polymer (flocculant)	Added at the clarifier to increase floc size and density, improving solids settling and dewatering	~9,100 gal/yr	~9,100 gal/yr
Caustic (sodium hydroxide)	Membrane clean-in-place (CIP) chemical for pH adjustment and alkaline cleaning of UF/RO membranes	~1,560 gal/yr	~1,560 gal/yr
Acid (citric/mineral acid)	Membrane CIP chemical for acidic cleaning and scale removal on UF/RO membranes	~1,560 gal/yr	~1,560 gal/yr
Sanitizer (sodium hypochlorite)	Membrane CIP biocide/sanitizer to control biological fouling of membranes	~1,560 gal/yr	~1,560 gal/yr
Hydrated lime, $Ca(OH)_2$	Remineralization of RO permeate to restore hardness/alkalinity and stabilize effluent prior to discharge	~1,550 lb/day	~3,100 lb/day
Carbon dioxide (CO_2)	Remineralization/pH stabilization of RO permeate (paired with lime) to meet discharge pH criteria and prevent corrosivity	~1,250 lb/day	~2,500 lb/day
Antiscalant	Added to RO feed to inhibit mineral scaling on RO membranes	Included in RO system operation	
Sodium bisulfite	Added to RO feed for dechlorination/reducing conditions to protect RO membranes		

Prepared by: MJG4

Checked by: CER2

Notes:

Reagent quantities are planning-level values from the 30% WTP design OPEX basis and will be refined during detailed design and NPDES permitting.

Coagulant, polymer, caustic, acid, and sanitizer amounts are the same in both phases per the design memo OPEX tables; lime and CO_2 scale with treated flow because they drive remineralization.

Antiscalant and sodium bisulfite are identified as RO feed chemicals in the equipment list but are not assigned separate annual quantities in the memo, so they are shown as “included in RO system operation.”

Detailed reagent specifications, feed systems, storage, and consumption assumptions are provided in Appendix E-1.

Table 4-17
Discharge Summary
White Pine Copper LLC - Mining Permit Application

Discharge	Location	Rate	Water Quality Basis[1]	Permit
Treated Project contact water	Mineral River	~2,250 gpm Year 1-11; ~4,500 gpm Year 12-26	Controlled to NPDES limits (WTP)	New NPDES
Legacy/non-contact water	Existing permitted Perch Creek Outfall 001 (via NP2)	Variable	Legacy quality	Existing NPDES
Non-contact stormwater bypass	Outfall below Contact Water Pond	Storm-event driven	Sediment-controlled	BMP/NPDES

Notes:
[1] Refer to Appendix E-4 for influent quality basis and preliminary effluent limits

Prepared by: MJG4
Checked by: CER2

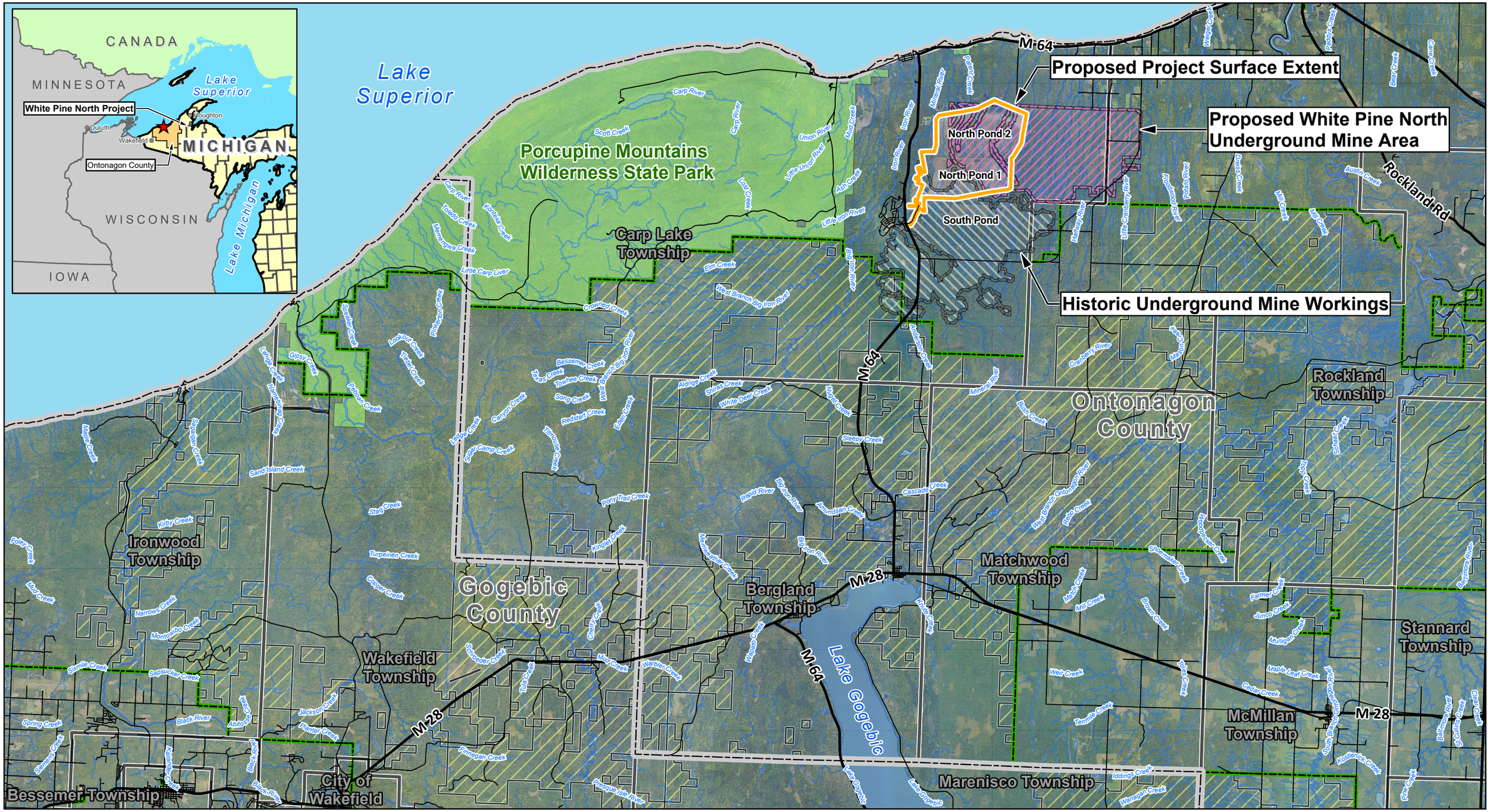
Table 9-1
Financial Assurance Summary
White Pine Copper LLC - Mining Permit Application

	End of Construction Cost	Year-10 Cost	Life of Mine Cost
Subtotal	$ 46,865,852	$ 93,253,876	$ 121,233,741
Agency Costs	$ 4,686,585	$ 9,325,388	$ 12,123,374
Financial Assurance Total	**$ 51,552,437**	**$ 102,579,264**	**$ 133,357,115**

Notes:
Financial assurance totals exclude salvage value. Agency costs are calculated as 10 percent of the subtotal for each liability condition.

Prepared by: MJG4
Checked by: CER2

Figures



NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.

LEGEND

- Major Road
- Minor Road
- River/Stream
- Lake/Pond
- Proposed Project Surface Extent
- Proposed White Pine North Underground Mine Area
- Historic Underground Mine Workings
- Municipal Boundary
- County Boundary
- Ottawa National Forest Boundary
- Porcupine Mountains Wilderness State Park
- USDA Forest Service Owned Property

WHITE PINE COPPER

Foth

N

Foth Infrastructure & Environment, LLC			
REVISED	DATE	BY	DESCRIPTION
PREPARED BY: DAT		DATE: AUG. '26	
REVIEWED BY: MJG4		DATE: AUG. '26	
APPROVED BY: CER2		DATE: AUG. '26	

WHITE PINE COPPER LLC

FIGURE 1-1
PROJECT LOCATION
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

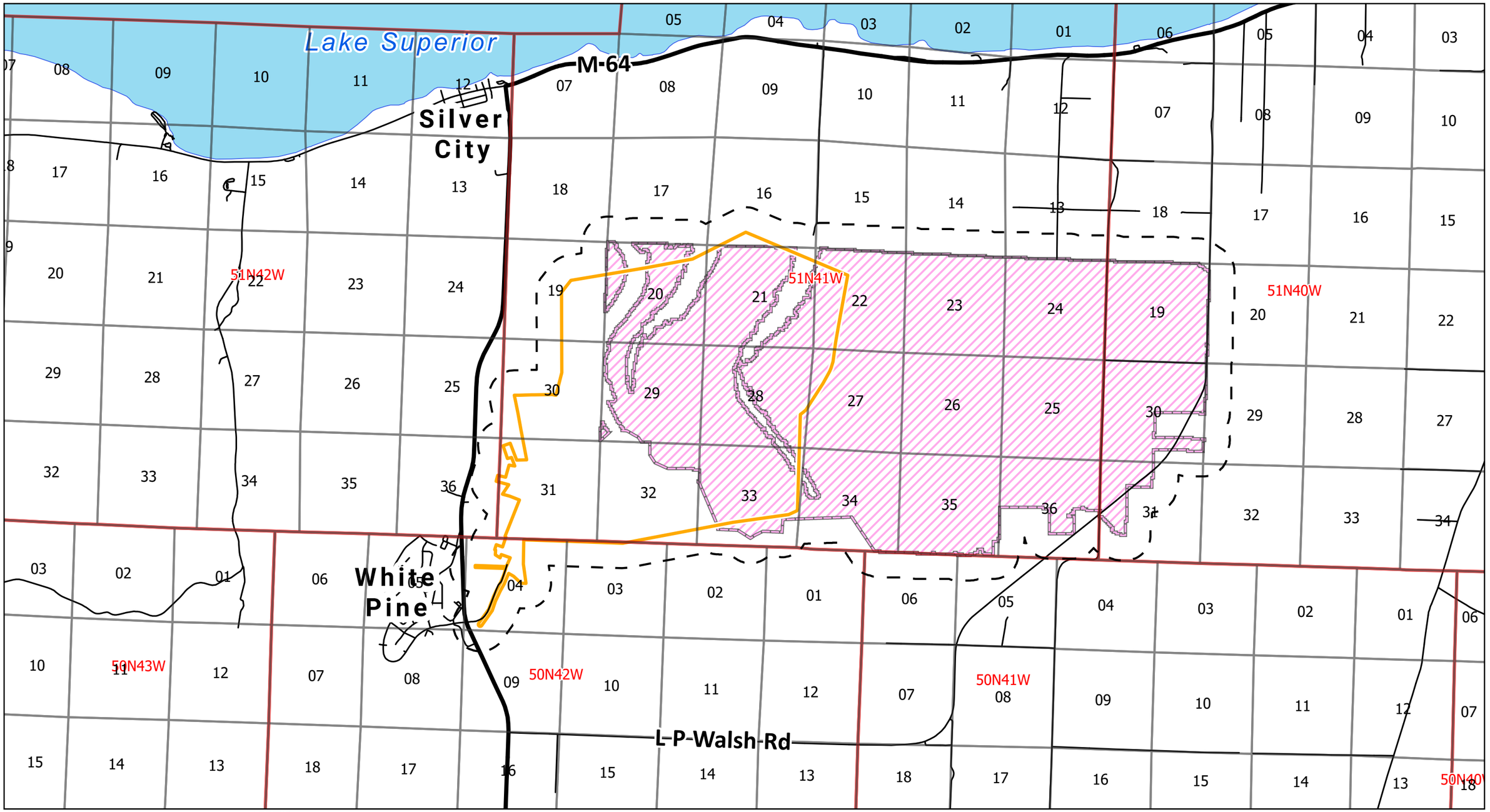
Scale: 0 1.5 3 Miles

Date: JUNE 2026

Drafted By: DAT

Project: 25W006

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NOTES:

1. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
2. Road, boundary and hydrographic data from Michigan GIS Open Data.

LEGEND

- Major Road
- Minor Road
- Section
- Township and Range
- 1320 ft buffer
- Proposed Project Surface Extent
- Proposed White Pine North Underground Mine Area

WHITE PINE COPPER

Foth

N

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REVISED	DATE	BY	DESCRIPTION

PREPARED BY:	DAT	DATE:	AUG. '26
REVIEWED BY:	MJG4	DATE:	AUG. '26
APPROVED BY:	CER2	DATE:	AUG. '26

WHITE PINE COPPER LLC

FIGURE 2-1
SITE LOCATION
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

Scale: 0 2,500 5,000 Feet

Date: JUNE 2026

Drafted By: DAT

Project: 25W006

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Refer to MPA Table 2-1 for property ownership information

Inset

See Inset

NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. Parcel data from Ontonagon County GIS

LEGEND

- Proposed Project Surface Extent
- Proposed White Pine North Underground Mine Area
- Major Road
- Minor Road
- River/Stream

Surface Ownership

- Private
- County
- Township of Carp Lake
- Village of Ontonagon
- White Pine Copper LLC

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APPROVED BY:	CER2	DATE:	AUG. '26

WHITE PINE COPPER LLC

FIGURE 2-2

SURFACE OWNERSHIP
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

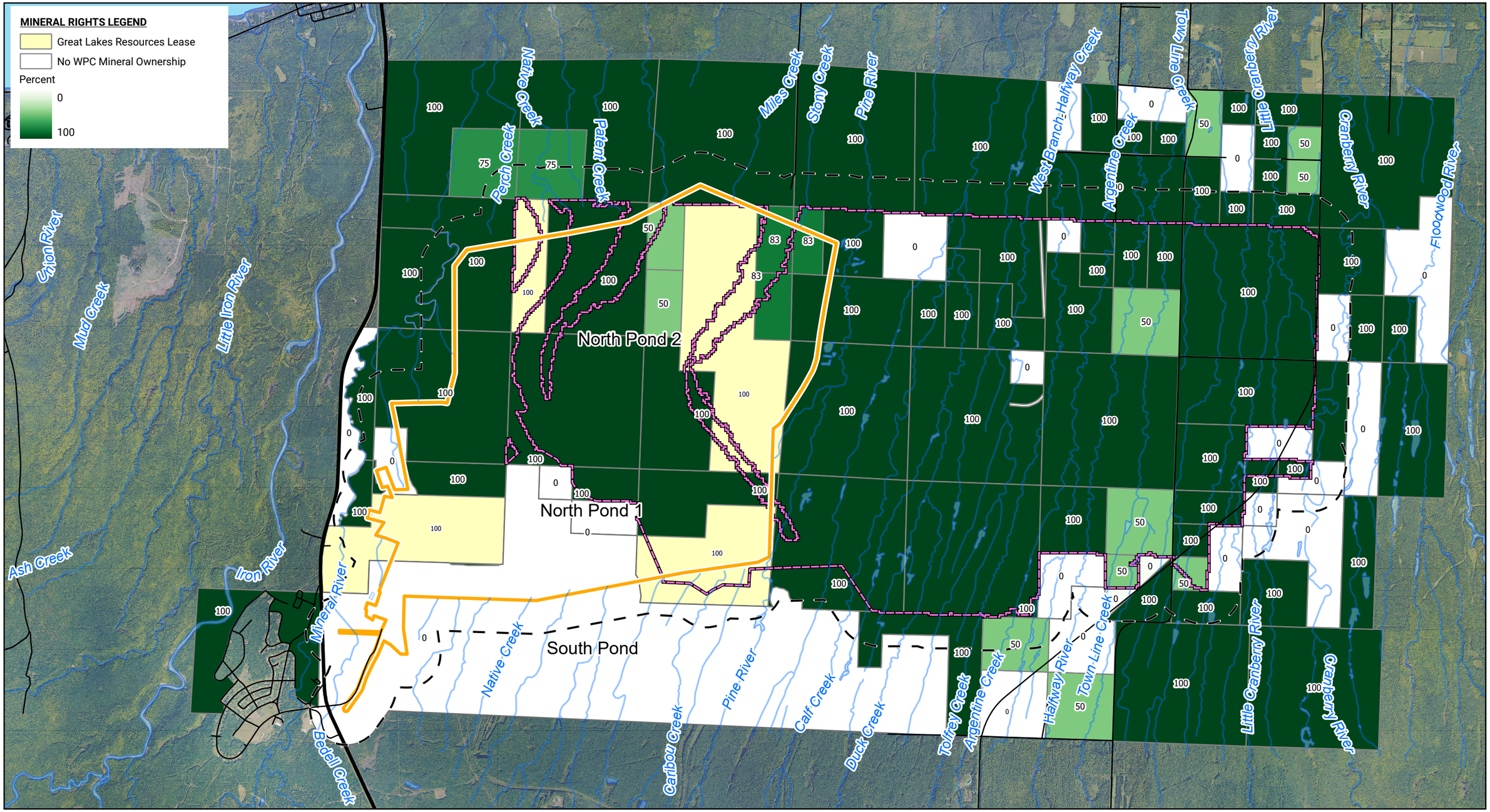
Scale: 0 2,000 4,000 Feet

Date: JULY 2026

Drafted By: DAT

Project: 25W006

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NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.

LEGEND

- Major Road
- Minor Road
- River/Stream
- Lake/Pond
- 1320 foot buffer
- Proposed Project Surface Extent
- Proposed White Pine North Underground Mine Area

WHITE PINE COPPER

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REVISED	DATE	BY	DESCRIPTION		
PREPARED BY:	DAT		DATE:	AUG. '26	
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APPROVED BY:	CER2		DATE:	AUG. '26	

WHITE PINE COPPER LLC

FIGURE 2-3
MINERAL RIGHTS
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

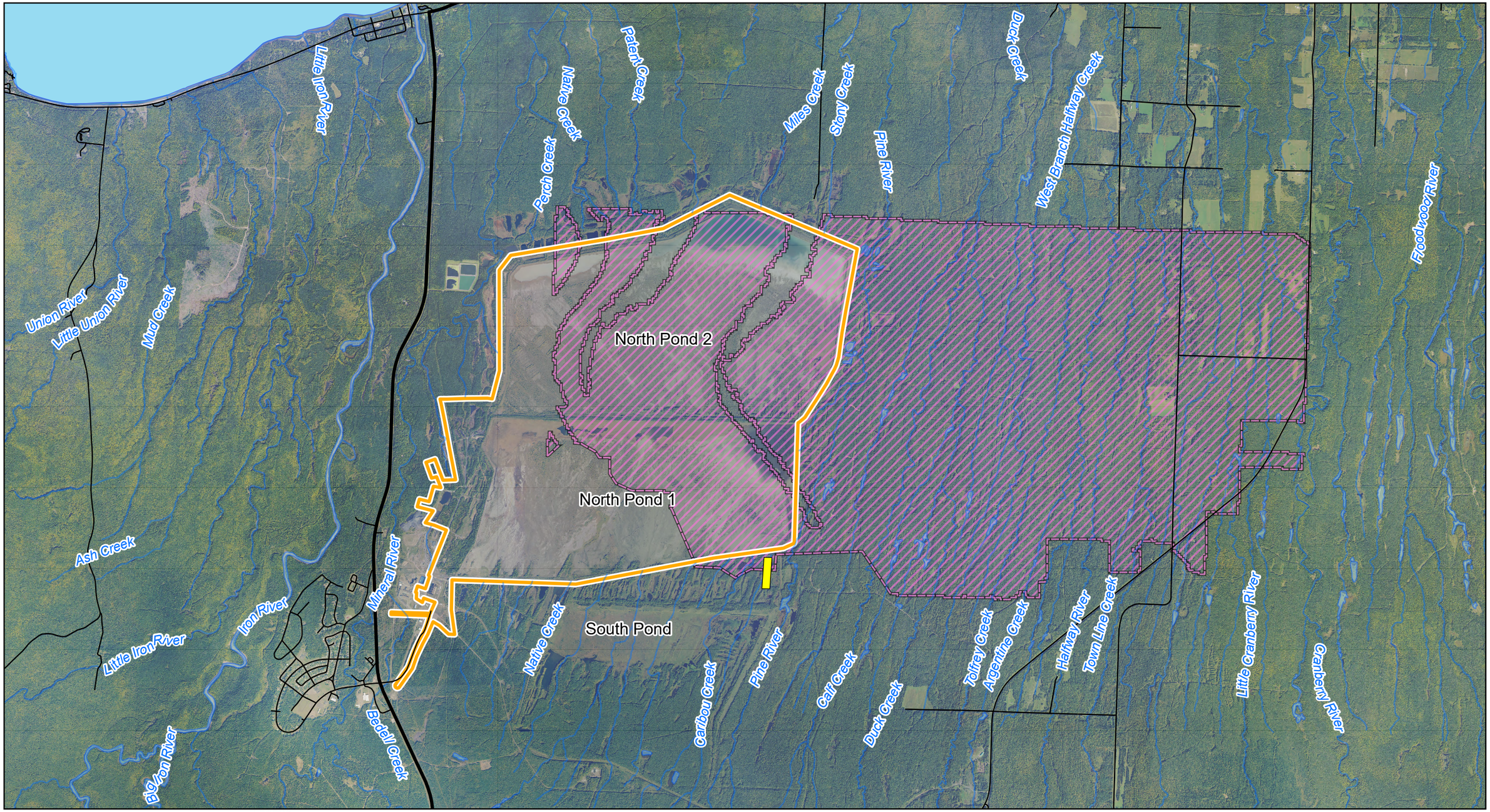
Scale: 0 2,000 4,000 Feet

Date: JULY 2026

Drafted By: NEE

Project: 25W006

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NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. EGLE Conservation Easements downloaded from Michigan Dept. of Environment, Great Lakes, and Energy Open Data Website.

LEGEND

- Major Road
- Minor Road
- River/Stream
- Lake/Pond
- EGLE Conservation Easements
- Proposed Project Surface Extent
- Proposed White Pine North Underground Mine Area

WHITE PINE COPPER

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PREPARED BY:	DAT			DATE:	AUG. '26
REVIEWED BY:	MJG4			DATE:	AUG. '26
APPROVED BY:	CER2			DATE:	AUG. '26

WHITE PINE COPPER LLC

FIGURE 2-4
CONSERVATION AND HISTORICAL PRESERVATION EASEMENTS
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

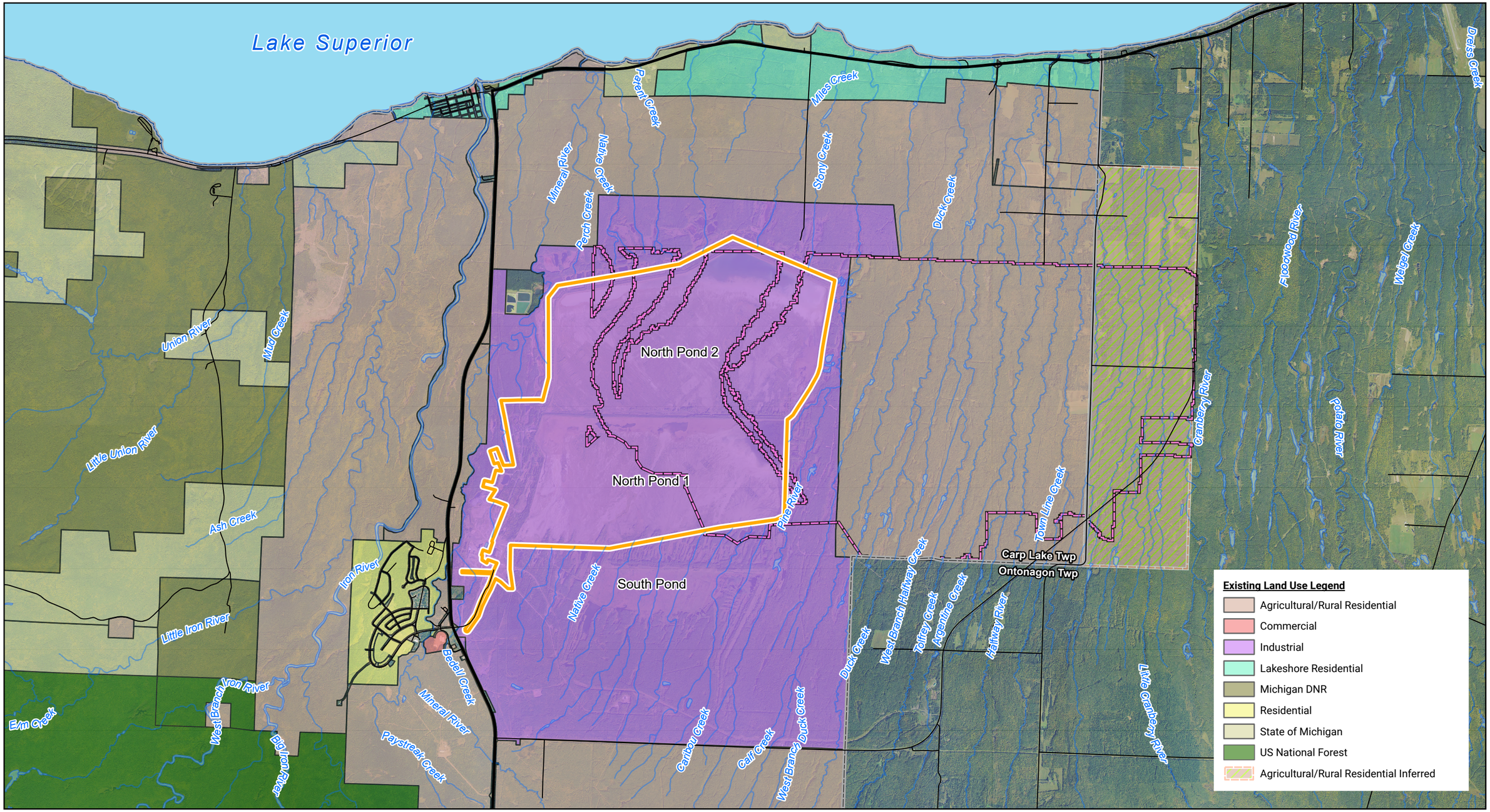
Scale: 0 2,000 4,000 Feet

Date: JUNE 2026

Drafted By: DAT

Project: 25W006

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NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. Carp Lake Township Existing Land Use from the April 1, 2026 Draft supplied by North of 45, LLC.
5. Agricultural/Rural Residential land use was assigned to areas where existing land use could not be determined from available data sources.

LEGEND

- Major Road
- Minor Road
- River/Stream
- Lake/Pond
- Proposed Project Surface Extent

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PREPARED BY:	DAT	DATE:	AUG. 26
REVIEWED BY:	MJG4	DATE:	AUG. 26
APPROVED BY:	CER2	DATE:	AUG. 26

WHITE PINE COPPER LLC

FIGURE 2-5
LAND USE
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

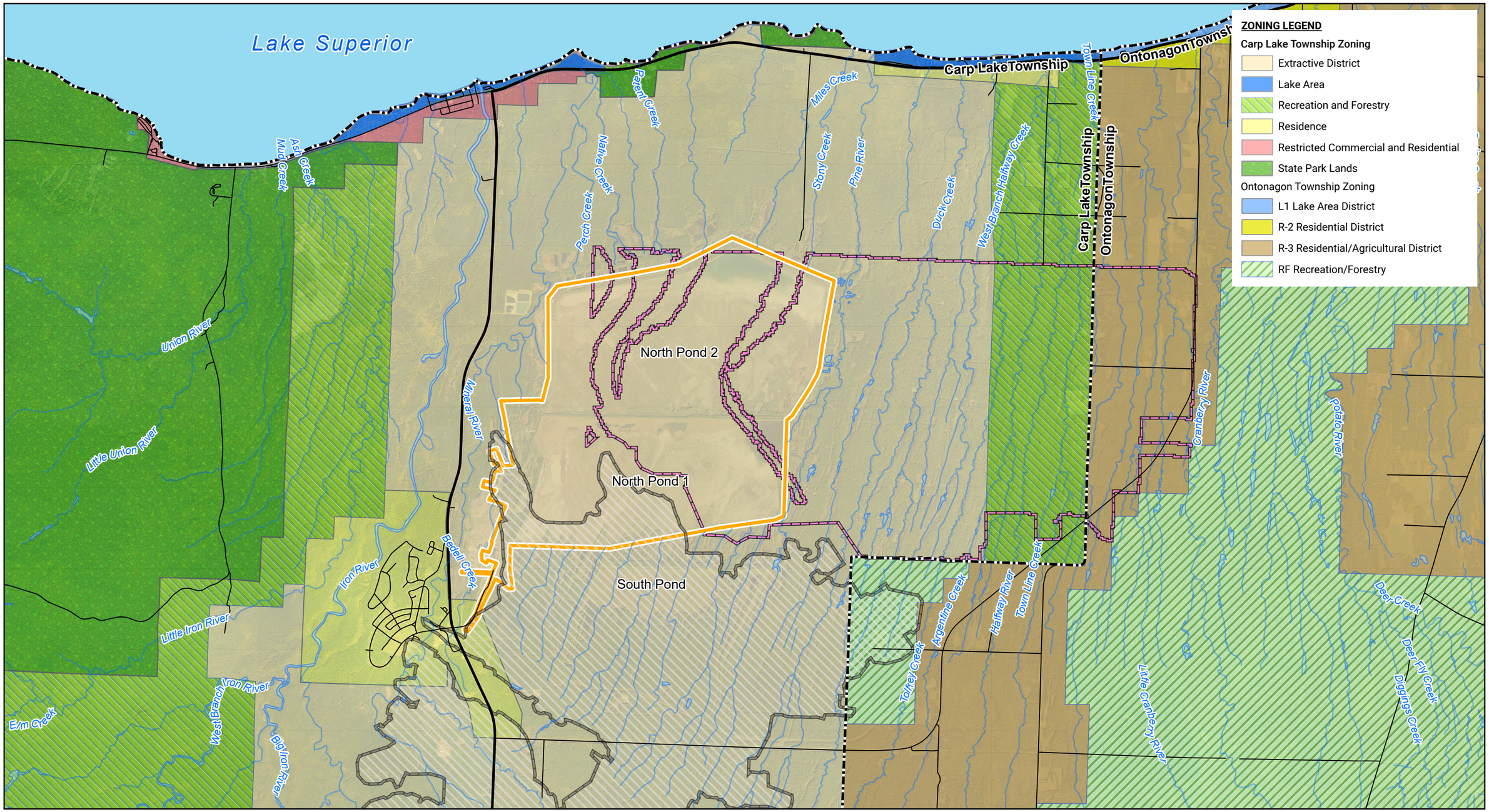
Scale: 0 2,500 5,000 Feet

Date: JUNE 2026

Drafted By: DAT

Project: 25W006

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NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. Zoning digitized from image created by Western Upper Peninsula Planning and Development Regional Commission (WUPPDRC).

LEGEND

- Major Road
- Minor Road
- River/Stream
- Lake/Pond
- Proposed Project Surface Extent
- Proposed White Pine North Underground Mine Area

WHITE PINE COPPER

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N

Foth Infrastructure & Environment, LLC			
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REVIEWED BY:		DATE:	
APPROVED BY:		DATE:	

WHITE PINE COPPER LLC

FIGURE 2-6
ZONING
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

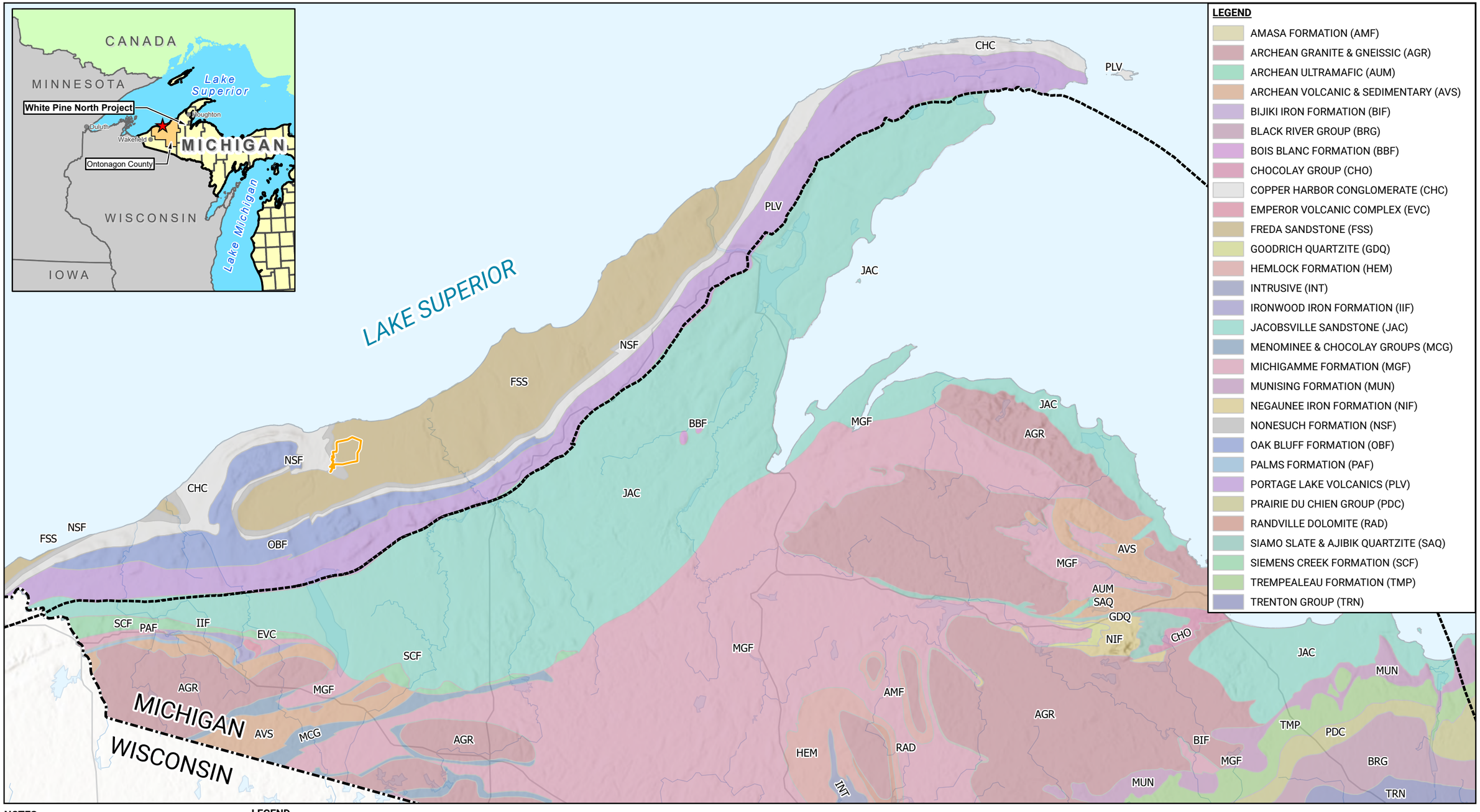
Scale: 0 2,500 5,000 Feet

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Drafted By: DAT

Project: 25W006

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LEGEND

- AMASA FORMATION (AMF)
- ARCHEAN GRANITE & GNEISSIC (AGR)
- ARCHEAN ULTRAMAFIC (AUM)
- ARCHEAN VOLCANIC & SEDIMENTARY (AVS)
- BIJIKI IRON FORMATION (BIF)
- BLACK RIVER GROUP (BRG)
- BOIS BLANC FORMATION (BBF)
- CHOCOLAY GROUP (CHO)
- COPPER HARBOR CONGLOMERATE (CHC)
- EMPEROR VOLCANIC COMPLEX (EVC)
- FREDA SANDSTONE (FSS)
- GOODRICH QUARTZITE (GDQ)
- HEMLOCK FORMATION (HEM)
- INTRUSIVE (INT)
- IRONWOOD IRON FORMATION (IIF)
- JACOBSVILLE SANDSTONE (JAC)
- MENOMINEE & CHOCOLAY GROUPS (MCG)
- MICHIGAMME FORMATION (MGF)
- MUNISING FORMATION (MUN)
- NEGAUNEE IRON FORMATION (NIF)
- NONESUCH FORMATION (NSF)
- OAK BLUFF FORMATION (OBF)
- PALMS FORMATION (PAF)
- PORTAGE LAKE VOLCANICS (PLV)
- PRAIRIE DU CHIEN GROUP (PDC)
- RANDVILLE DOLOMITE (RAD)
- SIAMO SLATE & AJIBIK QUARTZITE (SAQ)
- SIEMENS CREEK FORMATION (SCF)
- TREMPEALEAU FORMATION (TMP)
- TRENTON GROUP (TRN)

NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. Michigan Bedrock downloaded from Michigan Dept. of Environment, Great Lakes, and Energy Open Data Website.

LEGEND

- Midcontinent Rift System (MRS)
- Proposed Project Surface Extent
- State Boundary

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PREPARED BY: DAT		DATE: AUG. '26	
REVIEWED BY: MJG4		DATE: AUG. '26	
APPROVED BY: CER2		DATE: AUG. '26	

WHITE PINE COPPER LLC

FIGURE 3-1
REGIONAL GEOLOGY MAP
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

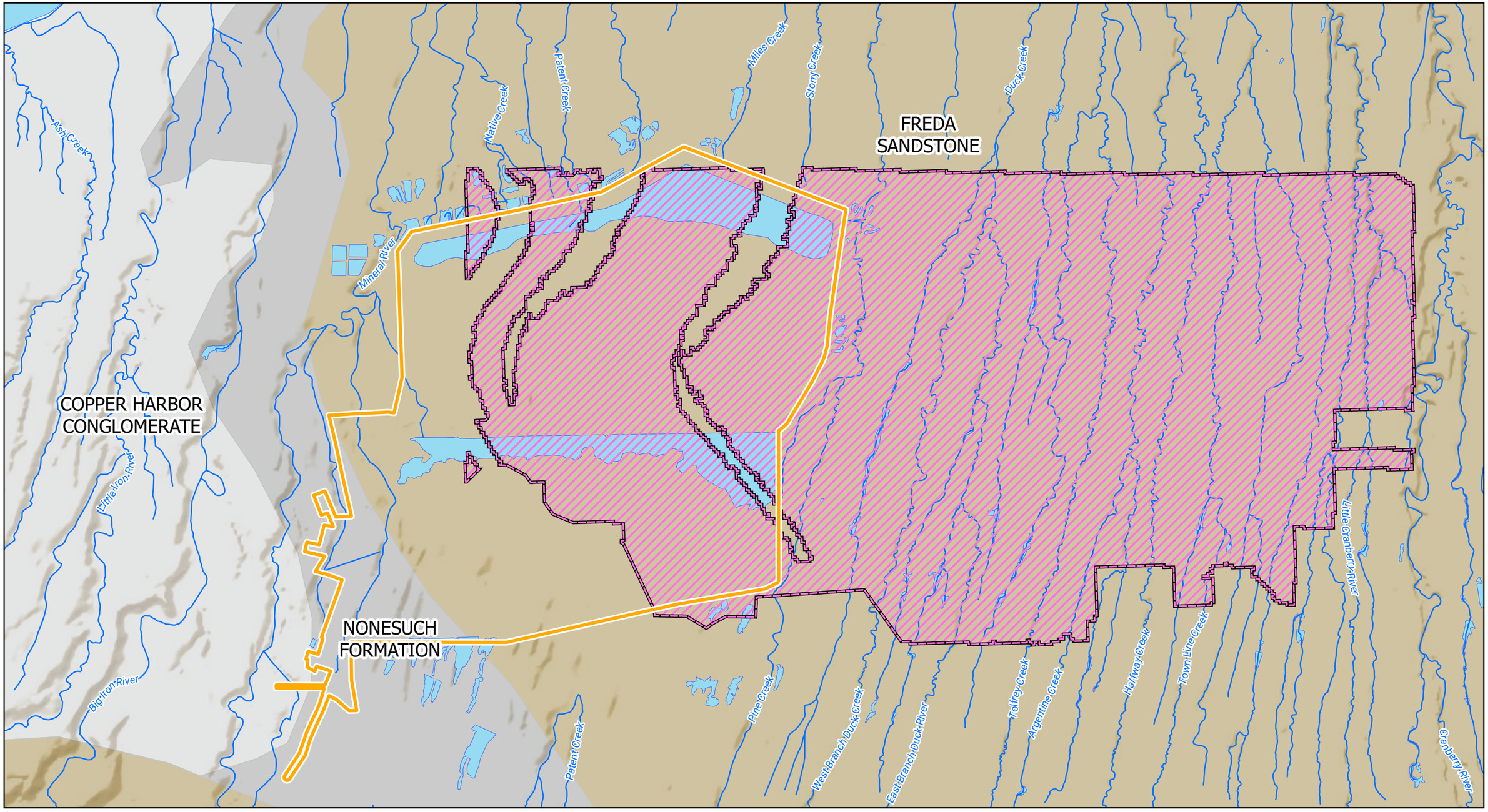
Scale: 0 8 16 Miles

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Drafted By: DAT

Project: 25W006

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NOTES:

1. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
2. Hydrographic data from Michigan GIS Open Data.
3. Bedrock geologic data from EGLE, March 2026.

LEGEND

- River/Stream
- Proposed White Pine North Underground Mine Area
- Proposed Project Surface Extent
- Lake/Pond
- COPPER HARBOR CONGLOMERATE
- FREDA SANDSTONE
- NONESUCH FORMATION

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REVIEWED BY:	MJG4	DATE:	AUG. '26
APPROVED BY:	CER2	DATE:	AUG. '26

WHITE PINE COPPER LLC

FIGURE 3-2
BEDROCK GEOLOGY
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

Scale: 0 2,500 5,000 Feet

Date: JUNE 2026

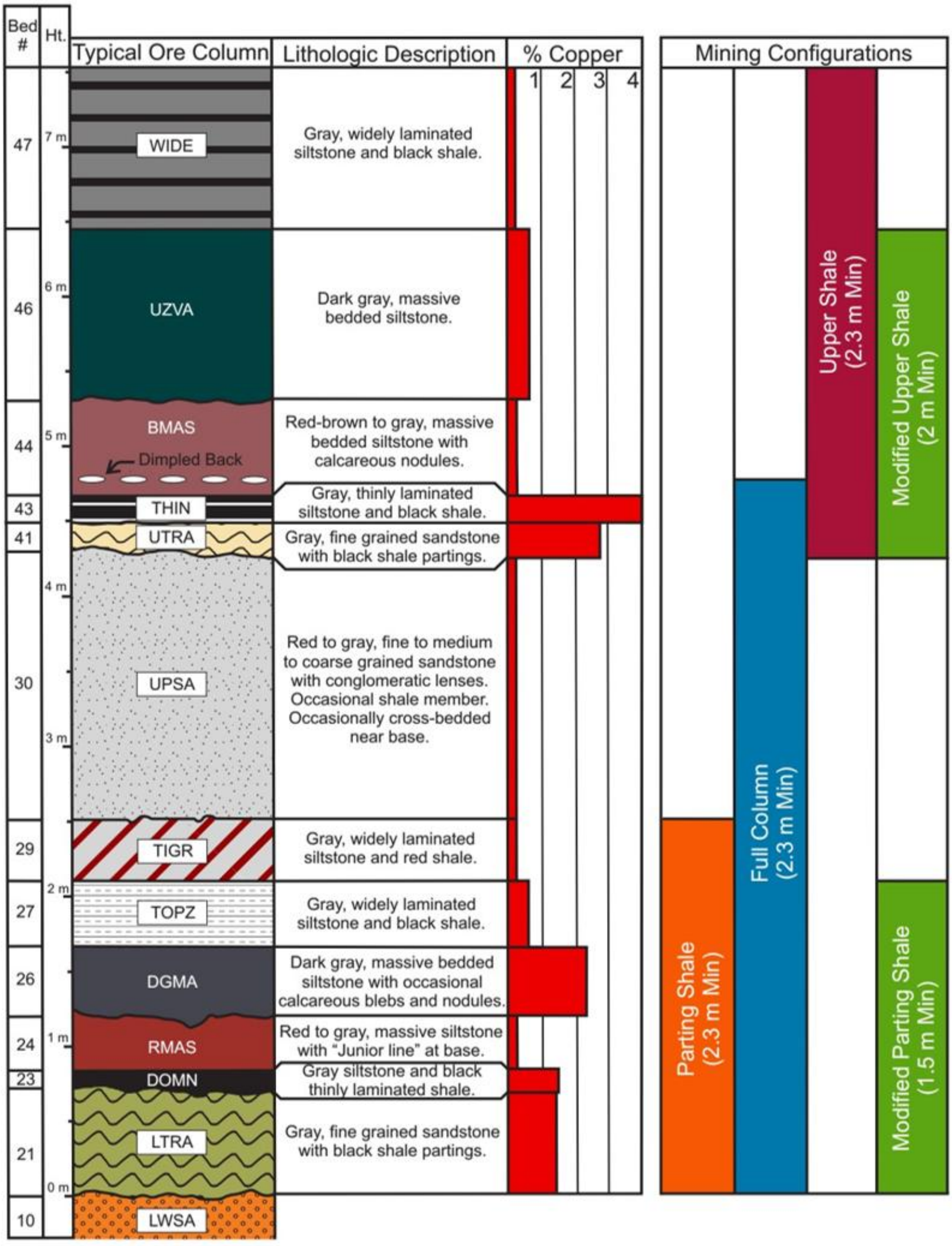
Drafted By: BJW1

Project: 25W006

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White Pine North Deposit

Definition of Beds and Mining Configurations



NOTES:

Generalized Stratigraphic Section of the Lower Nonesuch Formation (Mauk, 1993)

WHITE PINE COPPER LLC

FIGURE 3-3

STRATIGRAPHY

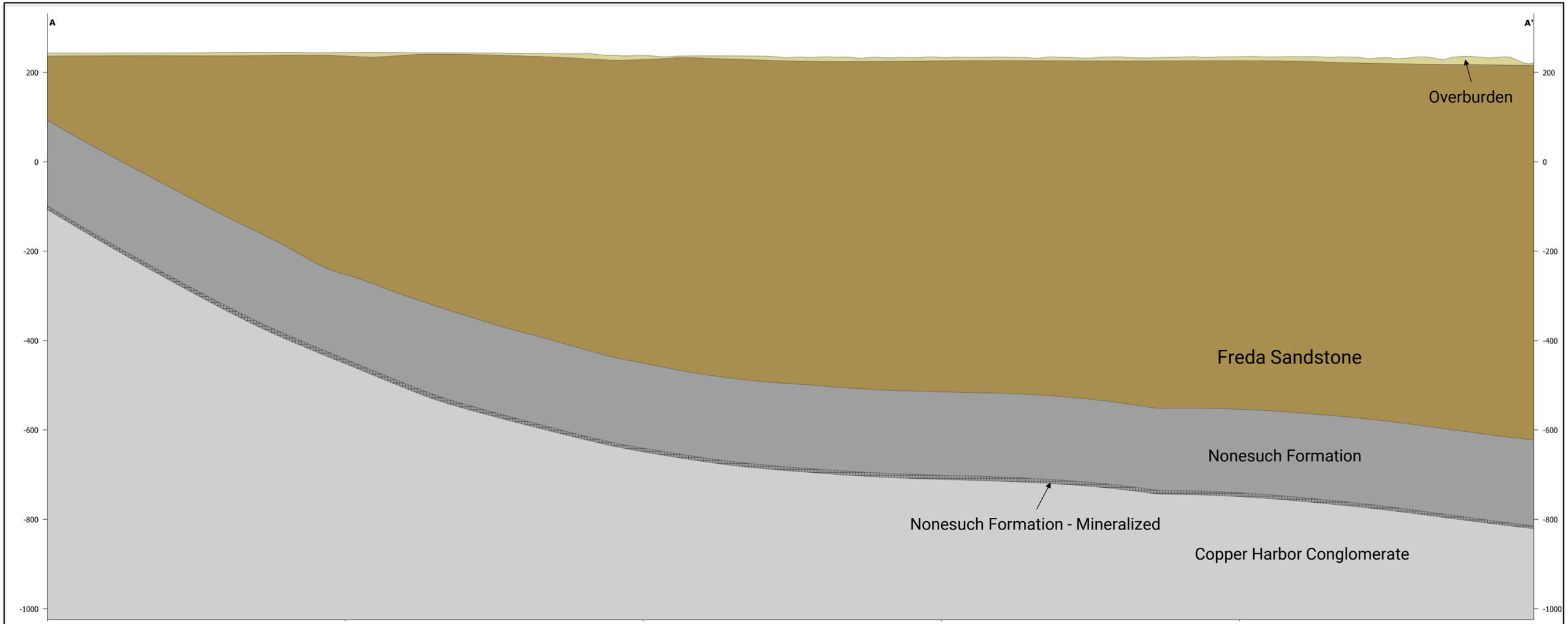
MINE PERMIT APPLICATION

WHITE PINE NORTH, ONTONAGON COUNTY, MI

Date: JUNE 2026	Revision Date:	
DRAWN BY: MJG4	CHECKED BY: CER2	PROJECT: 25W006

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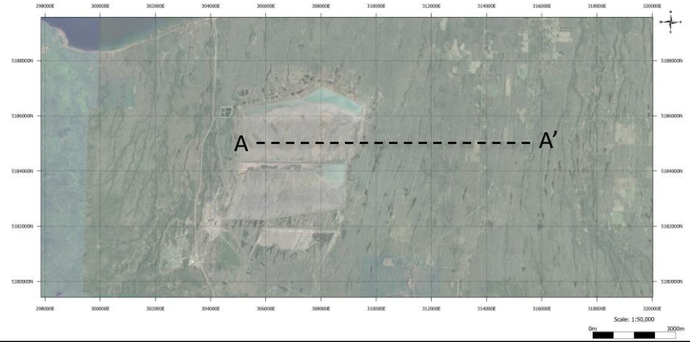
White Pine Geology Model

- Overburden
- Freda Sandstone
- Nonesuch Formation - Mineralized
- Nonesuch Formation
- Copper Harbor Conglomerate

Scale: 1:10,000
Vertical exaggeration: 3x
0m 500m

Location

A: 305613, 5184876
A': 315585, 5184610



NOTES:

1. All Units in Meters and Vertical Exaggeration of 3x
2. Coordinate System: NAD83 / UTM Zone 16N

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

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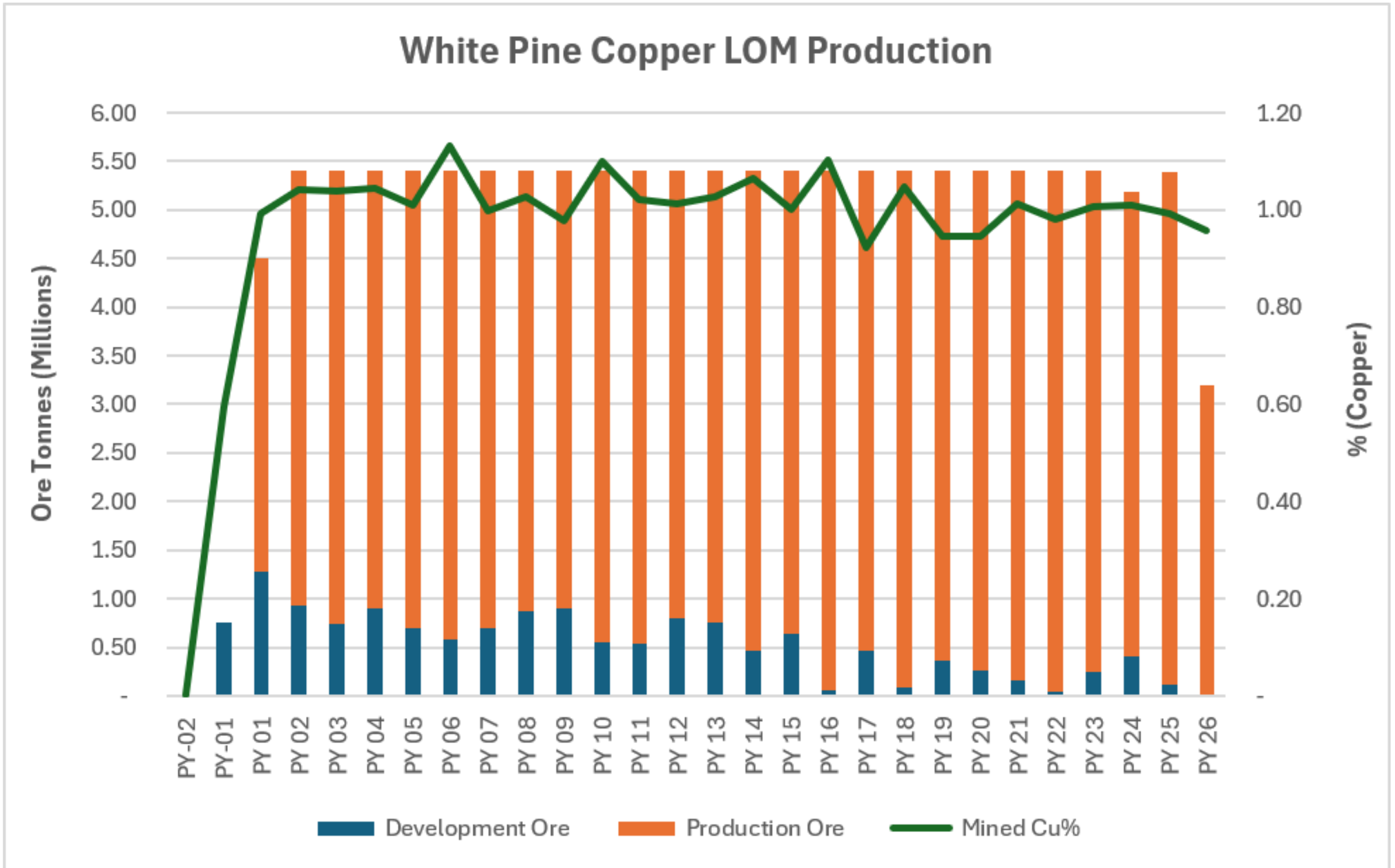
WHITE PINE COPPER LLC

FIGURE 3-4

GEOLOGIC CROSS SECTION A-A'
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

Date: JUNE 2026	Revision Date:	
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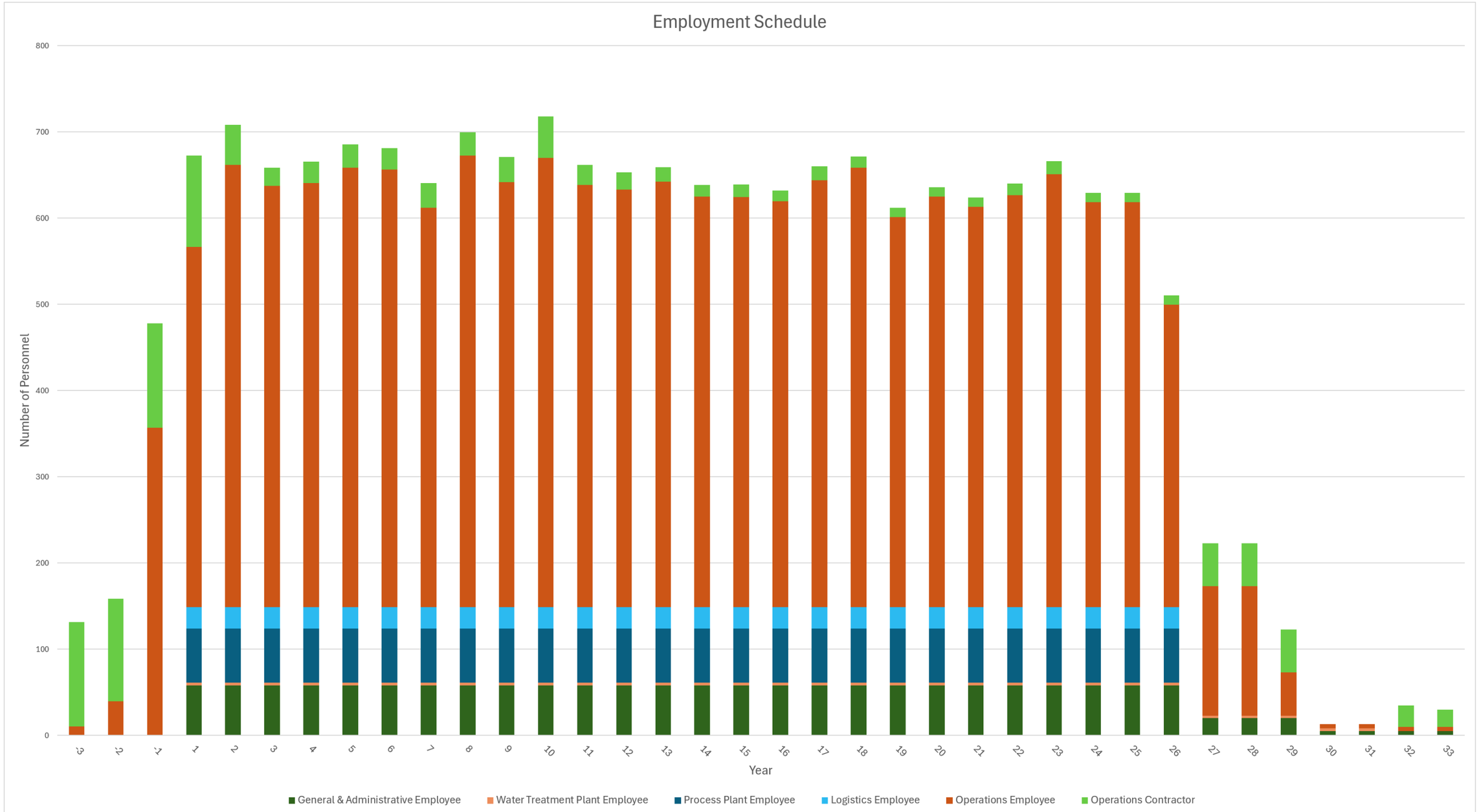
NOTES:

Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026.

WHITE PINE COPPER LLC		
FIGURE 4-1 LIFE OF MINE PRODUCTION SCHEDULE MINE PERMIT APPLICATION WHITE PINE NORTH, ONTONAGON COUNTY, MI		
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NOTES:

1. Peak employment values represent the total manpower required to support the planned operating rotation and are not equivalent to the number of personnel on site at one time. The employment schedule assumes a 14-days-on / 14-days-off rotation supported by four crews, which requires sufficient total staffing to maintain continuous coverage across operating shifts, rotation relief, leave, training, and normal workforce availability. Because contractor and owner workforce requirements vary by activity, phase, and work package, peak contractor staffing and peak owner-employee staffing may not occur in the same year. Accordingly, the total annual workforce estimate may not equal the sum of independently selected peak values for each labor category.
2. Closure-transition staffing shown for Years 27 through 33 reflects the anticipated period of active closure water management, WTP operation, WTP removal, and final water-management reconfiguration following cessation of mining and beneficiation. Years 30 and 31 assume limited staffing for continued WTP operation, environmental compliance, inspections, reporting, and residual site management. Year 32 and Year 33 , include additional contractor support for WTP decommissioning, removal of associated infrastructure, Contact Water Pond closure or reconfiguration, sediment/liner management, and final drainage .
3. Operations personnel refers to both construction and underground roles.

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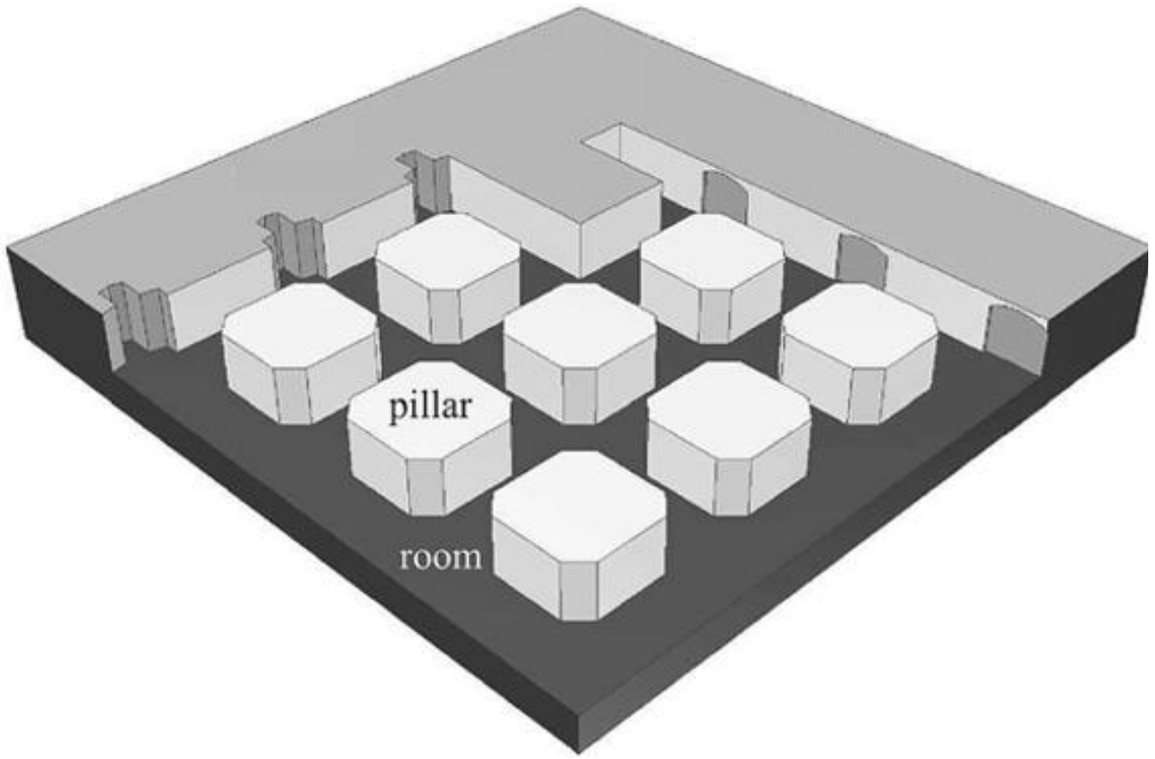
WHITE PINE COPPER LLC

FIGURE 4-2

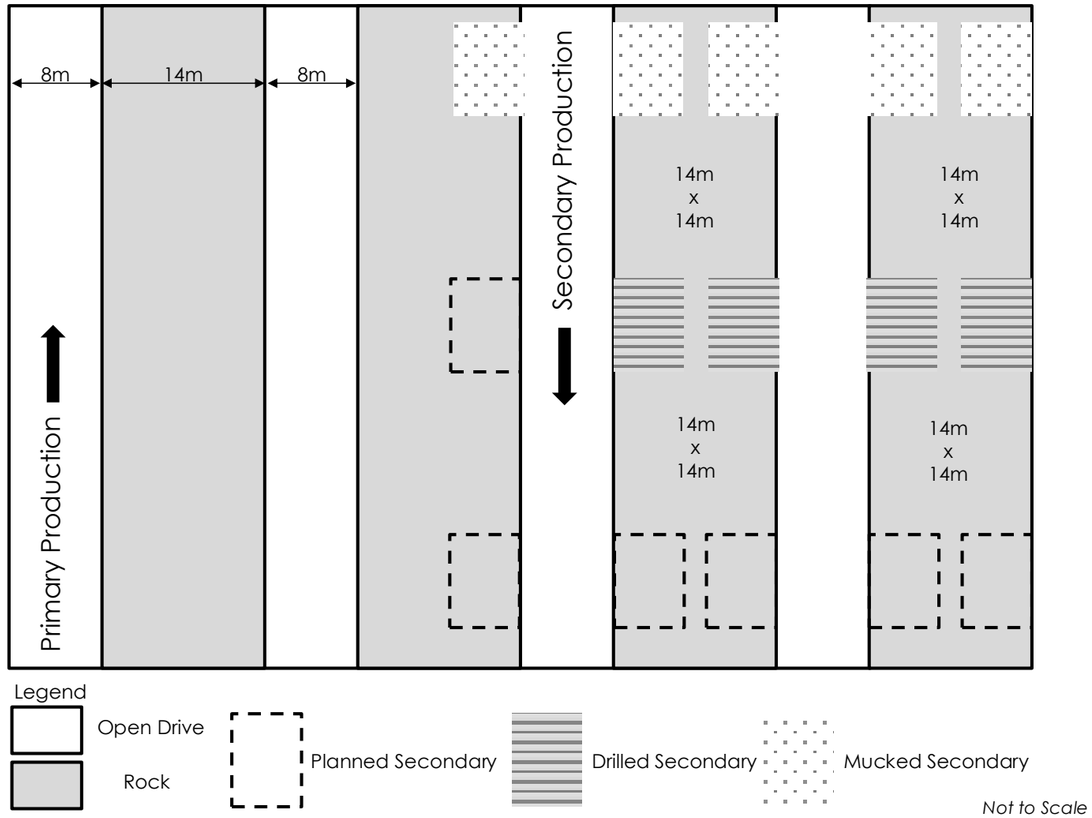
EMPLOYMENT SCHEDULE
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

Date: JULY 2026	Revision Date:	
DRAWN BY: MJG4	CHECKED BY: CER2	PROJECT: 25W006

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Typical Room and Pillar Layout



Modified Room and Pillar Sequencing

NOTES:

Left: Typical Room-and-Pillar layout.
Right: Modified Room-and-Pillar Mining Sequence

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

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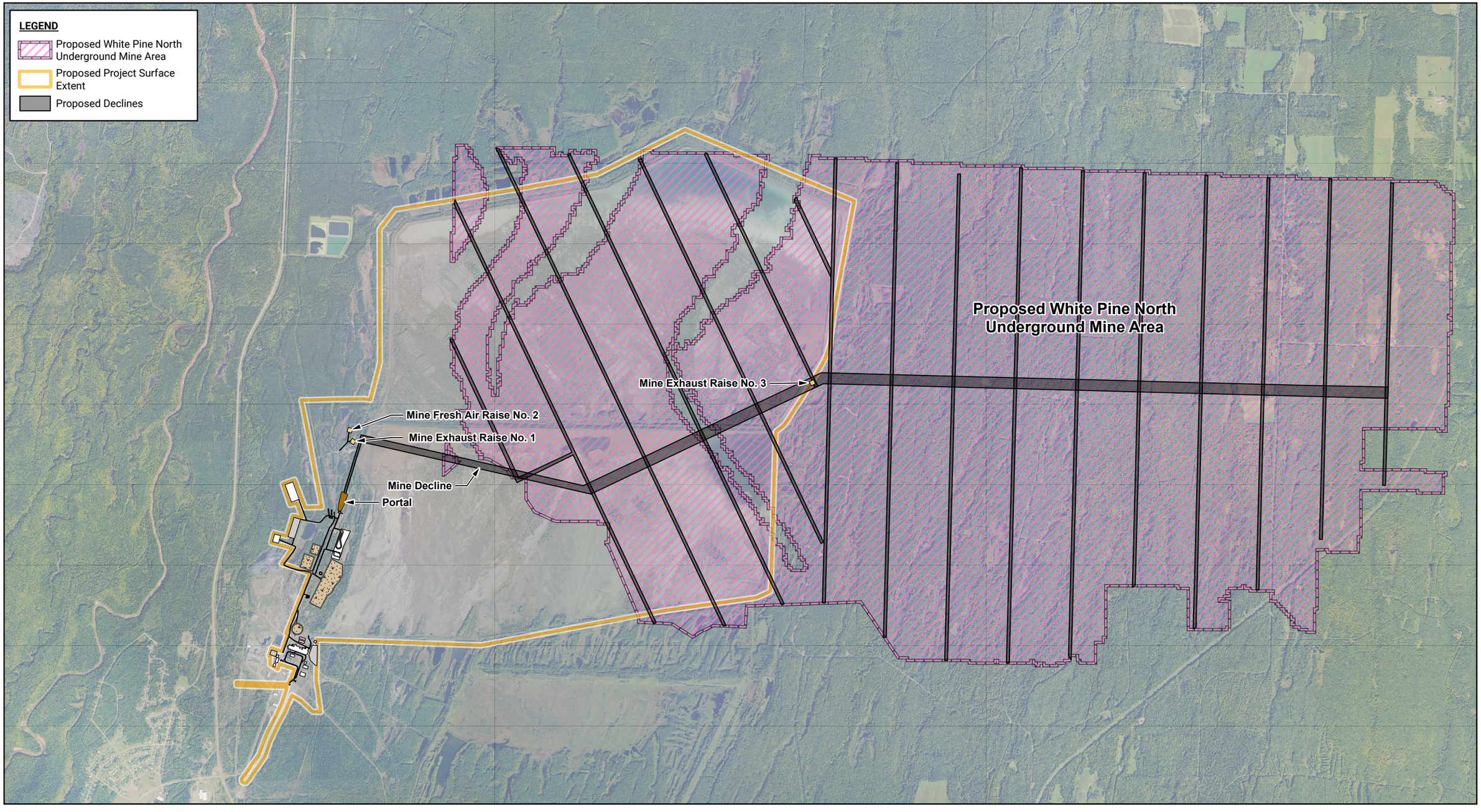
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FIGURE 4-3

MODIFIED ROOM-AND-PILLAR MINING METHOD
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

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NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. Site layout and infrastructure data from Ausenco, March 2026.

WHITE PINE COPPER

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REVIEWED BY:	MJG4	DATE:	AUG. '26
APPROVED BY:	CER2	DATE:	AUG. '26

WHITE PINE COPPER LLC

FIGURE 4-4
PLAN VIEW OF UNDERGROUND MINE
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

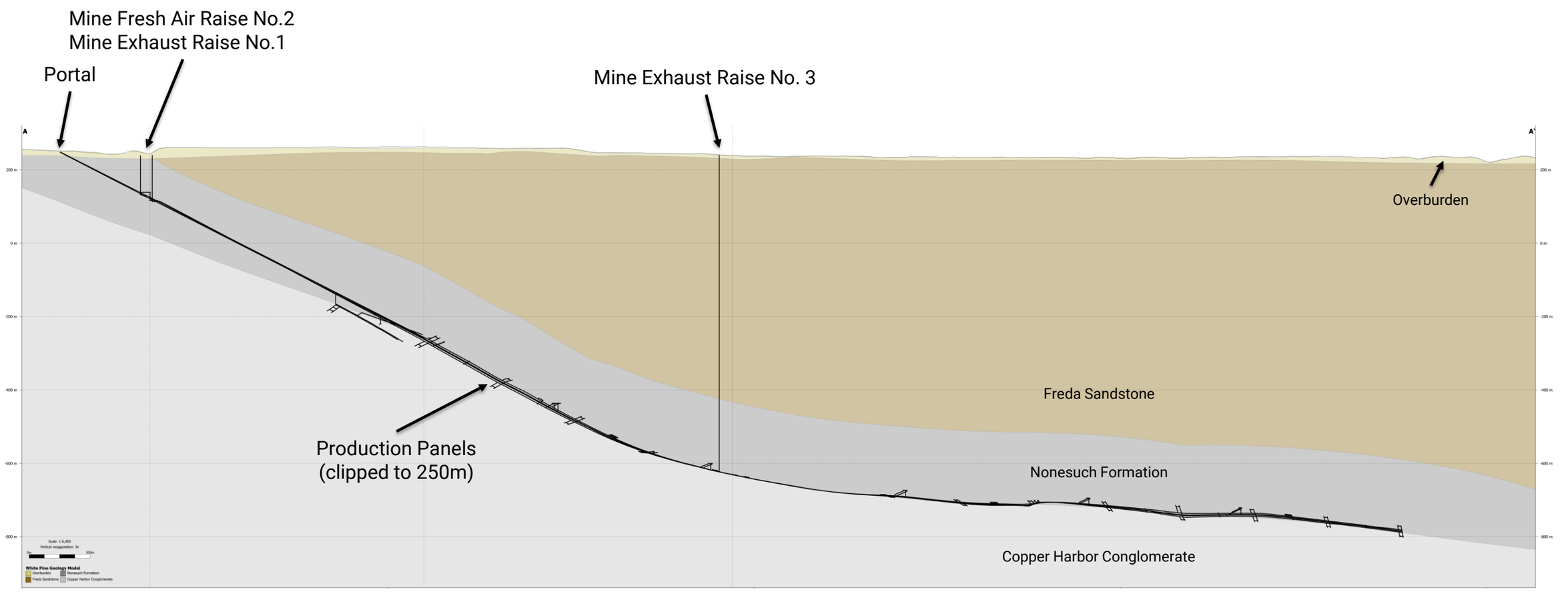
Scale: 0 1,500 3,000 Feet

Date: JULY 2026

Drafted By: DAT

Project: 25W006

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NOTES:

1. Long section aligned to underground decline with bedrock geology.
2. Section thickness is 250m.
3. Vertical Exaggeration = 3x

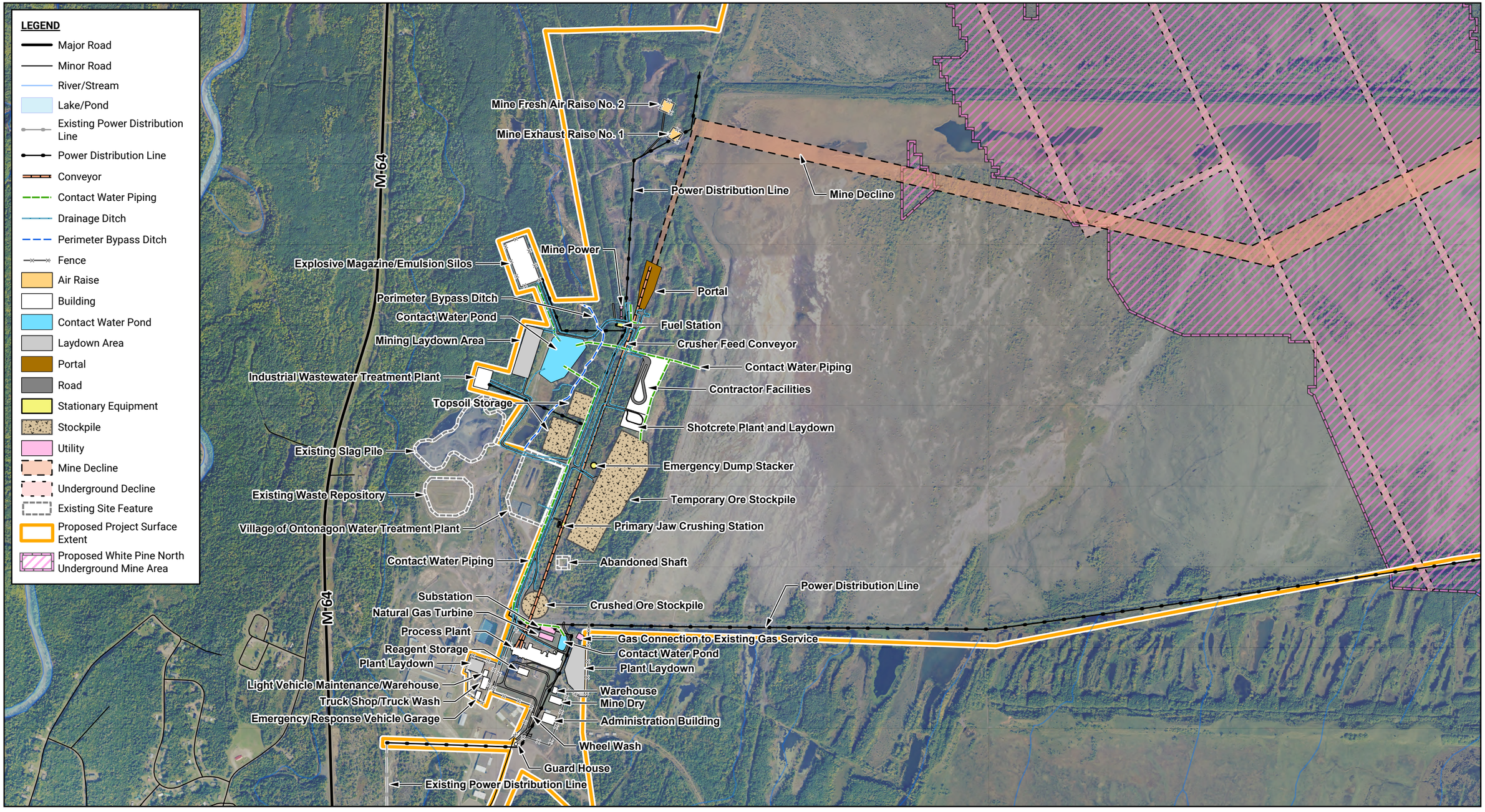
WHITE PINE COPPER LLC

FIGURE 4-5

LONG-SECTION OF MINE LAYOUT
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

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NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. Site layout and infrastructure data from Ausenco, March 2026.

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REVIEWED BY:	MJG4	DATE:	AUG. '26
APPROVED BY:	CER2	DATE:	AUG. '26

WHITE PINE COPPER LLC

FIGURE 4-6
MINE SITE LAYOUT
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

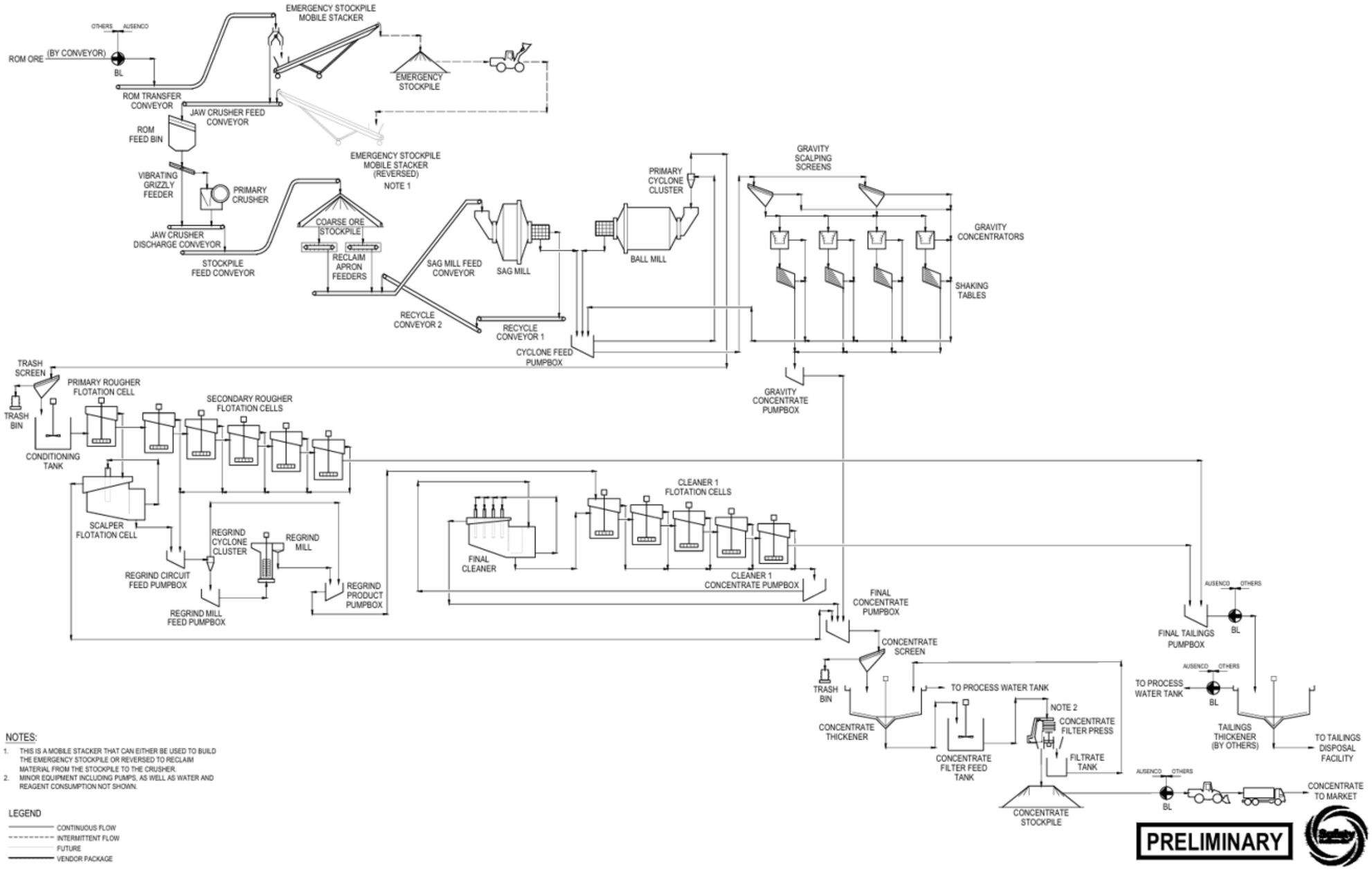
Scale: 0 600 1,200 Feet

Date: JUNE 2026

Drafted By: DAT

Project: 25W006

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NOTES:

Sourced from the White Pine North Project Pre-Feasibility Study by Ausenco, 2026.

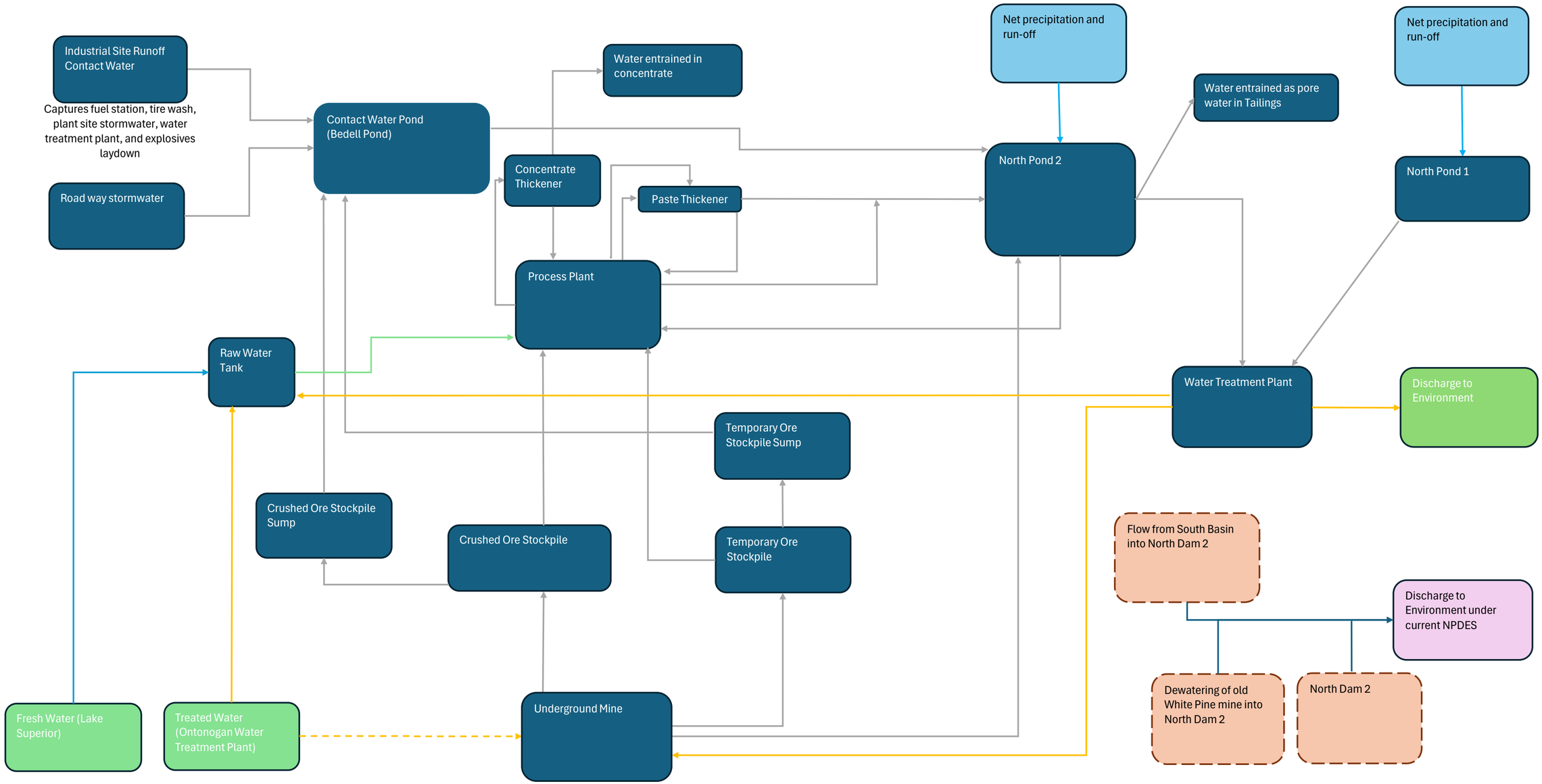
WHITE PINE COPPER LLC

FIGURE 4-7

BENEFICIATION FLOW DIAGRAM
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

Date: JULY 2026	Revision Date:	
DRAWN BY: MJG4	CHECKED BY: CER2	PROJECT: 25W006

Path: pw:\\foth-pw.bentley.com:foth-pw-01\Documents\Clients\White%20Pine%20Copper\23W200\10000%20Reports\2026%20Permitting%20Documents\MPA\Figures\



NOTES:

- FRESH WATER = water from Lake Superior
- TREATED WATER = water from water treatment plant
- RAW WATER = FRESH WATER + TREATED WATER
- PROCESS WATER = untreated water, made up of recycled water from process streams (such as conc and thickener o/f, decant from TDF) and water from surface contact water sources

WHITE PINE COPPER LLC

FIGURE 4-8

CONCEPTUAL WATER BALANCE

MINE PERMIT APPLICATION

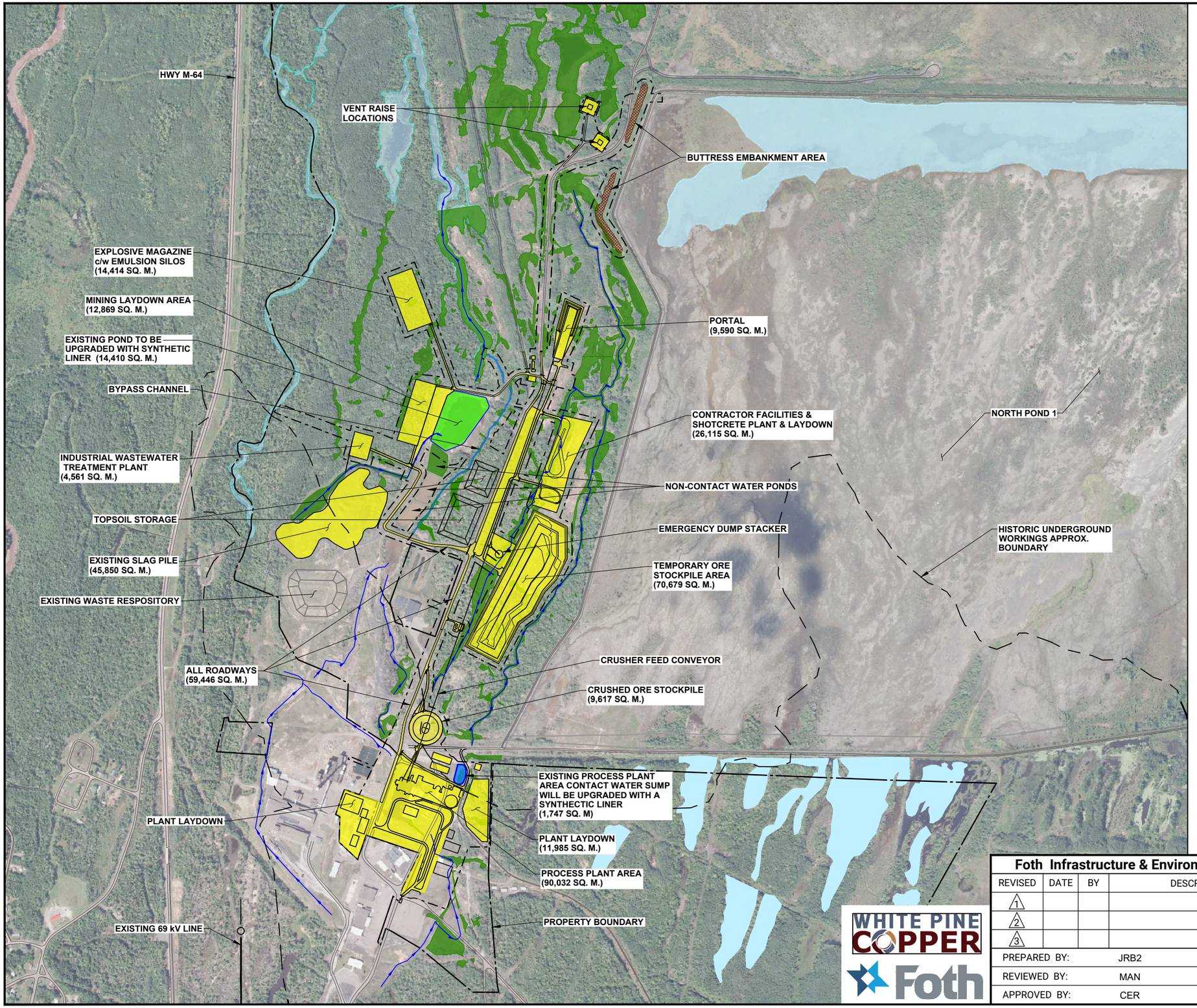
WHITE PINE NORTH, ONTONAGON COUNTY, MI

Date: JULY 2026	Revision Date:	
Drawn By: MJG4	Checked By: CER2	Project: 25W200

Foth

Path: pw:\\Clients\White Pine Copper\23W200\12000 Design Data and Calculations\GoldSim Modeling\Documentation Memo\Att 1 - WPC Operational Water Balance - Paste Tailings - 6.8.26_GPM.xlsx

Date: 2026-08-03



N

LEGEND

- APPROXIMATE PROPERTY LINE
- EXISTING ROADWAY
- EXISTING ELECTRIC LINE
- PROPOSED ROAD
- APPROXIMATE LIMITS OF DISTURBANCE
- PROPOSED BYPASS CHANNEL
- PROPOSED CONTACT WATER POND (NON-REGULATED WETLAND)
- EXISTING WATER AREA
- EXISTING DELINEATED WETLAND
- PROPOSED CONTACT WATER FACILITY AREAS

NOTES:

1. BASE AIR PHOTO FROM LATEST BING AERIAL IMAGES.
2. HORIZONTAL COORDINATE SYSTEM IS NAD 1983 UTM ZONE, 16N, UNITS IN METERS.
3. HYDROGRAPHIC FROM USGS.
4. ROAD AND BOUNDARY DATA FROM MICHIGAN GIS OPEN DATA AND THE USFS.
5. TOPOGRAPHY AND PLANIMETRIC FEATURES FROM QUANTUM SPATIAL (2014). CONTOUR INTERVAL = 1'.
6. ROAD CORRIDOR SHALL CONTAIN ALL THE PROPOSED PIPING.
7. RECLAIM AND TAILINGS PIPELINES ARE CONTAINED WITHIN THE PERIMETER BERM OF THE TAILINGS FACILITY. THEY ARE SHOWN OUTSIDE FOR CLARITY ONLY. THE FORMER MINE DEWATERING PIPELINE IS LOCATED WITHIN THE CONTAINMENT BERM ALONG THE SOUTH EDGE OF THE THE TAILINGS FACILITY AND THEN TRANSITIONS OUTSIDE OF THE PERIMETER BERM ON THE EAST SIDE.

50 0 100 200 300 400 500 600m
SCALE

WHITE PINE COPPER

Foth

Foth Infrastructure & Environment, LLC			
REVISED	DATE	BY	DESCRIPTION
1			
2			
3			
PREPARED BY: JRB2			DATE: AUG. '26
REVIEWED BY: MAN			DATE: AUG. '26
APPROVED BY: CER			DATE: AUG. '26

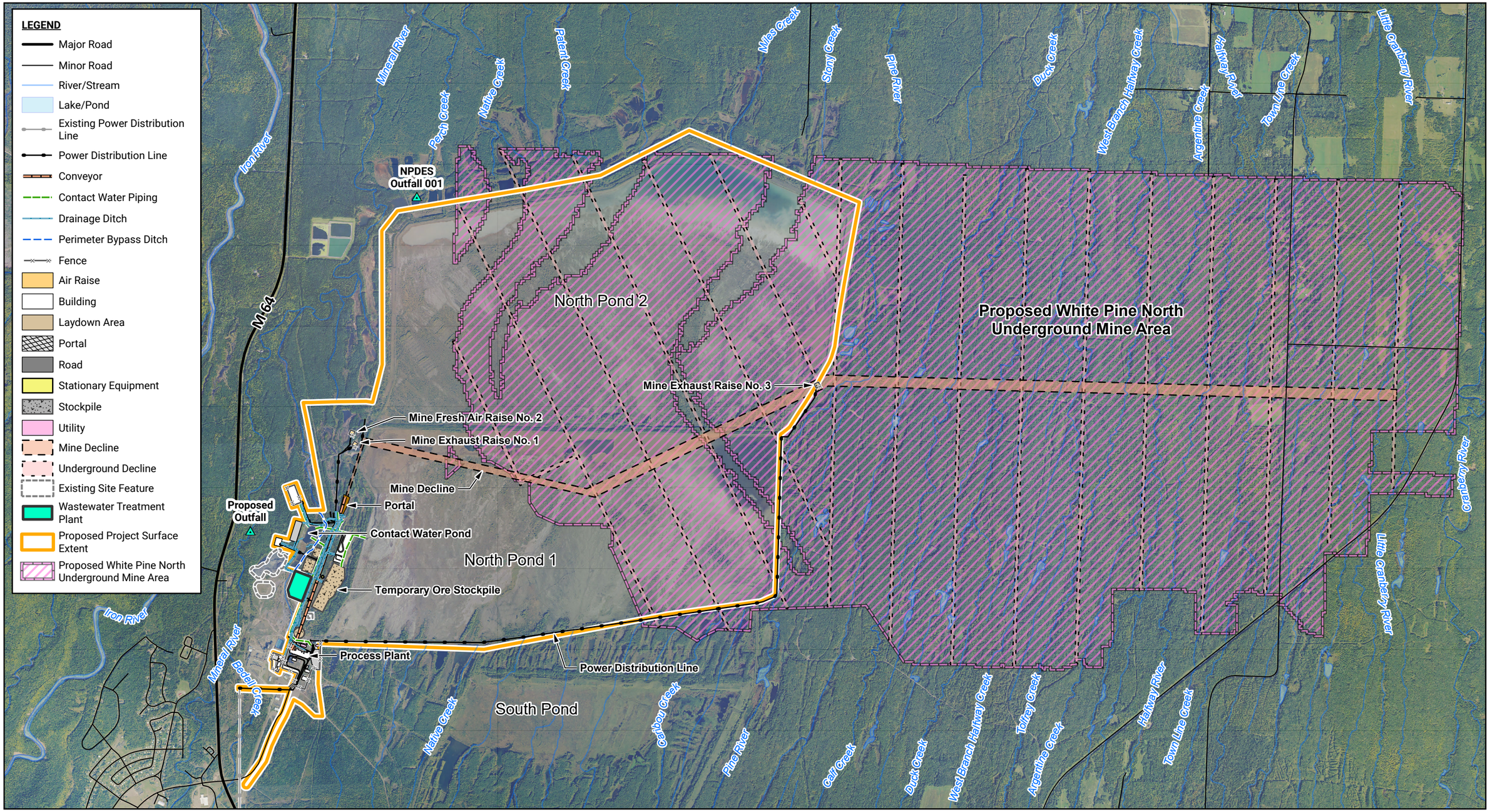
WHITE PINE COPPER LLC

FIGURE 4-9

CONTACT AND NON-CONTACT AREAS

Scale: SEE BAR SCALE	Date: AUG. 2026
Drafted By: JRB2	Project: 23W200

Thursday, August 27, 2026 11:03:18 AM
DWG Filename: figures 4-9 contact and non-contact water areas.dwg Layout: 4-9
DWG Folder Location:



NOTES:

1. 2024 - 18in resolution air photo from the USDA NAIP.
2. Horizontal coordinate system is NAD1983 UTM Zone, 16N, units in meters.
3. Road, boundary and hydrographic data from Michigan GIS Open Data.
4. Site layout and infrastructure data from Ausenco, March 2026.

WHITE PINE COPPER

Foth

N

Foth Infrastructure & Environment, LLC					
REVISED	DATE	BY	DESCRIPTION		
PREPARED BY:	DAT			DATE:	AUG. '26
REVIEWED BY:	MJG4			DATE:	AUG. '26
APPROVED BY:	CER2			DATE:	AUG. '26

WHITE PINE COPPER LLC

FIGURE 4-10
DISCHARGE LOCATIONS
MINE PERMIT APPLICATION
WHITE PINE NORTH, ONTONAGON COUNTY, MI

Scale: 0 1,500 3,000 Feet

Date: MAY 2026

Drafted By: BJW1

Project: 25W006

Q:\White Pine Copper\23W200\GIS\aprx\2026 Mine Permit Application.aprx 8/25/2026 1:29 PM

Appendix A

Regulatory Forms and Checklist

A-1 Mining Permit Application and Financial Assurance Form
A-2 Organization Report
A-3 MPA Checklist

A-1

Mining Permit Application and Financial Assurance Form

Appendix A-1
Surface and Underground Location of Mine
White Pine Copper LLC - Mining Permit Application

TOWNSHIP	RANGE	SECTION
50N	41W	4
50N	41W	5
50N	41W	6
50N	42W	1
50N	42W	2
50N	42W	3
50N	42W	4
50N	42W	5
50N	42W	8
50N	42W	9
51N	40W	17
51N	40W	18
51N	40W	19
51N	40W	20
51N	40W	29
51N	40W	30
51N	40W	31
51N	40W	32
51N	41W	13
51N	41W	14
51N	41W	15
51N	41W	16
51N	41W	17
51N	41W	18
51N	41W	19
51N	41W	20
51N	41W	21
51N	41W	22
51N	41W	23
51N	41W	24
51N	41W	25
51N	41W	26
51N	41W	27
51N	41W	28
51N	41W	29
51N	41W	30
51N	41W	31
51N	41W	32
51N	41W	33
51N	41W	34
51N	41W	35
51N	41W	36
51N	42W	25
51N	42W	36

Prepared by: MJG4

Checked by: CER2

For Cashier's Use Only	Hot Key
Accounting Template	

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Geologic Resources Management Division

Part 632 Nonferrous Metallic Mining Application

By authority of Part 632 of Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

Instructions:

Check one of the boxes below to indicate whether this is a new application or an amendment.

☑ NEW ☐ Amendment

An applicant shall submit to the department paper copies of the documents and shall also submit the documents in an electronic format approved by the department. An applicant shall submit the application/amendment fee, if required, according to the directions located on the lower portion of this form under Payment Remittance.

Applicant Information:

Name of mine or project permit number: White Pine North

Surface location of mine or project:

County: Ontonagon Township: Carp Lake

Applicant's name and business information:

Company name: White Pine Copper LLC
Name: Amanda Zeidler
Title: Senior Director, Environment
Email address: azeidler@whitepinecu.com
Telephone number (include area code): 906-204-6500
Address: P.O. Box 338
City: White Pine State: MI Zip Code: 49971

Certification:

"I state that I am authorized by said applicant. This application was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

Signature	Title	Date
	Senior Director, Environment	08/17/2026

Application Information:

Check items that are to be included:

- ☑ Application fee
- ☑ Environmental impact assessment
- ☑ Mining plan
- ☑ Reclamation plan
- ☑ Contingency plan
- ☑ Financial assurance
- ☑ Maps and illustrations
- ☐ Other (describe): _____

The applicant has the burden of establishing that the terms and conditions set forth in the permit application, mining reclamation and environmental protection plan, environmental impact assessment and subsequent revisions additions or modifications will result in a mining operation that reasonably minimizes actual or potential adverse impacts on air, water, and other natural resources and meets the requirement of this act.

Part 632 Rules and Regulations are available online at: Part 632 Nonferrous Metallic Mining

Payment Remittance (if required):

Make the check or money order payable to: **STATE OF MICHIGAN**

Additional information to be added to the payment memo line: **NM – 761RNONFERRPRMT**

Remit Payment to: **EGLE**
Cashiers Office
P.O. Box 30657
Lansing, MI 48909-8157

Return the original completed and signed Part 632 Nonferrous Metallic Mining Application form (EQP7201) and the application fee to the Cashiers Office address above. The remainder of the application documents, a copy of this form, and a copy of the payment minus any confidential banking information shall be submitted, both electronically and via paper copy, directly to the Geologic Resources Management Division at the following:

Send Application to: Michigan Department of Environment, Great Lakes, and Energy
Geologic Resources Management Division
416 Avenue C
Gwinn, MI 49841

Electronic Submittal: EGLE-GRMD-Records-UP@Michigan.gov

People with disabilities may request this material in an alternate format by emailing EGLE-Accessibility@Michigan.gov or calling 800-662-9278.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.

Customer	Customer ID	Reference #	Date	Memo	Amount
WHITE PINE COPPER LLC	121140391579813			NM-761RNONFERRPRMT	$5,000.00

7250-01-00-0000734-0001-0000846

All content is from Plooto US Inc, and Plooto US Inc and associated parties are solely responsible for this content. Contact Plooto US Inc with any questions at (844) 475-6686. Plooto US Inc provides payment processing services and sends payment instructions to Silicon Valley Bank, a division of First-Citizens Bank & Trust Company (SVB). Plooto US Inc uses a Custodial account at SVB that is held in SVB's name. SVB provides payments processing and related banking services to Plooto US Inc.

Detach this stub and retain for your records. Check # 78275092 attached below.

Plooto

SVB Custodial Account for the benefit of
PLOOTO US INC. as administrator for PLOOTO
US INC.'s customers
2810 N Church St PMB 971834
Wilmington, DE 19802-4447

svb Silicon Valley Bank
A Division of First Citizens Bank

90-4039/1211

Check #: 78275092
Date: 07/28/2026

PAY TO THE
ORDER OF STATE OF MICHIGAN

THE
SUM OF Five Thousand Dollars And 00/100 Cents

$5,000.00
Void after 180 days

MEMO
WHITE PINE COPPER LLC/121140391579813

Authorized Signer

LEAFLOCK ICON MUST BE VISIBLE

[redacted] [redacted]

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Geologic Resources Management Division

Permittee Organization Report

Required by authority of Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

Regulatory Program:

Check one of the boxes below to indicate which regulatory program applies to this organization report:

- ☐ Part 631 – Ferrous Mineral Mining
- ☒ Part 632 – Nonferrous Metallic Mining
- ☐ Part 637 – Sand Dune Mining

Purpose for Filing:

Check one of the boxes below to indicate the purpose of filing this organization report:

- ☒ New
- ☐ Change of Principal or Agent
- ☐ Address Correction
- ☐ Name Change
- ☐ Annual Reporting Requirement

Applicant or Permittee Information:

1. Name and business information:

   Company name (as shown on permit): White Pine Copper LLC

   Name of Authorized Representative: Chad Wolahan

   Title: Project Director

   Email address: cwolahan@whitepinecu.com

   Telephone number (include area code): 480-886-8804

   Federal ID Number (no S.S.#): 46-4936225

a. Mailing Address: P.O. Box 338

City: White Pine State: Michigan Zip Code: 49971

b. Street Address: TBD Wilcox Road

City: White Pine State: Michigan Zip Code: 49971

2. If organization listed above (Item 1) is a subsidiary or an assumed name (dba), give name and address of associated or parent company:

Name of subsidiary/parent company : Kinterra Copper USA, LLC

Address: 22 Adelaide Street West, Suite 3930

City: Toronto State: Ontario Zip Code: M5H 4E3

3. If this is a reorganization or name change, give name and address of previous organization:

Name of previous company: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Current Organization Plan (check one):

☐ Corporation ☐ Joint Venture ☐ Limited Partnership

☐ Partnership ☐ Trust ■ Limited Liability Company

☐ Sole Proprietorship ☐ Other: _____

Permit Information:

Mine or Project Name: White Pine North

Permit Number (if issued): _____

Surface location of mine or project:

Location Section see attached, Township_____, Range_____

Township: Carp Lake County: Ontonagon

Authorized Personnel:

List all corporate officers, directors, incorporators, partners, shareholders, limited liability company managers, employees or other persons who have authority to make, or are responsible for making, operational decisions including the construction, operation, closure, post-closure monitoring, reclamation and/or remediation of a mine or mine site.

Name	Title	Association (Input Principal, Agent or Employee)
Cheryl Brandon	Manager	Principal
Amanda Zeidler	Senior Director, Environment	Employee
Chad Wolahan	Project Director	Employee

Certification:

CERTIFICATION "I state that I am authorized by said applicant. This application was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

Chad Wolahan, Project Director Chad Wolahan 2026/08/18

Applicant/Permittee Name and Title Signature Date

Remittance:

Parts 631 or 632 mail original to: Department of Environment, Great Lakes, and Energy
Geologic Resources Management Division
416 Avenue C
Gwinn, MI 49841

Or email original to: EGLE-GRMD-Records-UP@Michigan.gov

Part 637 mail original to: Permit and Bonding Unit
Geologic Resources Management Division
Department of Environment, Great Lakes, and Energy
P.O. Box 30256
Lansing, MI 48909-7756

Or email original to: EGLE-GRMD-permitapplications@Michigan.gov.

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This form and its contents are subject to the Freedom of Information Act and may be released to the public.

Appendix A-1, Attachment
Surface and Underground Location of Mine
White Pine Copper - Mine Permit Application

TOWNSHIP	RANGE	SECTION
50N	41W	4
50N	41W	5
50N	41W	6
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50N	42W	5
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50N	42W	9
51N	40W	17
51N	40W	18
51N	40W	19
51N	40W	20
51N	40W	29
51N	40W	30
51N	40W	31
51N	40W	32
51N	41W	13
51N	41W	14
51N	41W	15
51N	41W	16
51N	41W	17
51N	41W	18
51N	41W	19
51N	41W	20
51N	41W	21
51N	41W	22
51N	41W	23
51N	41W	24
51N	41W	25
51N	41W	26
51N	41W	27
51N	41W	28
51N	41W	29
51N	41W	30
51N	41W	31
51N	41W	32
51N	41W	33
51N	41W	34
51N	41W	35
51N	41W	36
51N	42W	25
51N	42W	36

Notes:

Prepared by: MJG4
Checked by:CER2

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Geologic Resources Management Division

Part 632 Nonferrous Metallic Mine Financial Assurance Summary

By authority of Part 632 of Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

Contact Information:

Name of applicant or permittee: White Pine Copper LLC

Mine or beneficiation facility: White Pine North

Location: County: Ontonagon Township: See Attached Range: _____ Section: _____

Name of Authorized representative: Chad Wolahan

Title of Authorized representative: Project Director

Email Address: cwolahan@whitepinecu.com

Telephone Number (include area code): 480-886-8804

Amount of assurance instrument: _____

Address: P.O. Box 338

Address 2 (if needed): _____

City: White Pine State: Michigan Postal Code: 49971

Financial Assurance Information:

Check to indicate which instrument or instruments apply and fill in the dollar amount (in USD).

☐ Trust fund or escrow account, cf. Rule 425.303	$ _____
☑ Surety bond, cf. Rule 425.304	$ 51,552,437
☐ Irrevocable letter of credit, cf. Rule 425.305	$ _____
☐ Certificate of deposit, cf. Rule 425.306	$ _____
☐ Statement of financial responsibility, cf. Rule 425.307	$ _____
☐ Other assurance instrument, prior approval by the department required	$ _____
Total amount of financial assurance in US dollars	$ _____

Refer to appropriate Part 632 Rules for additional details and information.

Certification:

Chad Wolahan	Project Director	2026/08/18
Signature	Title	Date

“I state that I am authorized by said applicant. This application was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge.”

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Appendix A-1, Attachment
Surface and Underground Location of Mine
White Pine Copper - Mine Permit Application

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50N	41W	5
50N	41W	6
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50N	42W	2
50N	42W	3
50N	42W	4
50N	42W	5
50N	42W	8
50N	42W	9
51N	40W	17
51N	40W	18
51N	40W	19
51N	40W	20
51N	40W	29
51N	40W	30
51N	40W	31
51N	40W	32
51N	41W	13
51N	41W	14
51N	41W	15
51N	41W	16
51N	41W	17
51N	41W	18
51N	41W	19
51N	41W	20
51N	41W	21
51N	41W	22
51N	41W	23
51N	41W	24
51N	41W	25
51N	41W	26
51N	41W	27
51N	41W	28
51N	41W	29
51N	41W	30
51N	41W	31
51N	41W	32
51N	41W	33
51N	41W	34
51N	41W	35
51N	41W	36
51N	42W	25
51N	42W	36

Notes:

Prepared by: MJG4
Checked by:CER2

A-2

Organization Report

Appendix A-2
Organization Information
Mining Permit Application

WHITE PINE COPPER LLC

100% owned by Kinterra Copper USA, LLC

Registered Address:
1209 Orange Street
Wilmington, Delaware, 19801
USA

Business Address:
Bay Adelaide – East Tower
22 Adelaide Street West, Suite 3930
Toronto, ON, M5H 4E3

Managers:

Name	Title	Address
Cheryl Brandon	Manager	3930, 22 Adelaide St W, Toronto, ON M5H 4E3

Officers:

Name	Title	Address
Amanda Zeidler	Senior Director, Environment	3930, 22 Adelaide St W, Toronto, ON M5H 4E3
Chad Wolahan	Project Director	3930, 22 Adelaide St W, Toronto, ON M5H 4E3

Prepared by: MJG4
Checked by: CER2

A-3

MPA Checklist

Appendix A-3
Part 632 Rules Checklist
White Pine Copper LLC - Mining Permit Application

Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.201	**Permit requirements and application package contents for a Part 632 nonferrous metallic mineral mining permit.**	**Section 1.2; Appendix A**
R 425.201(1)	Lists required mining permit application components: application form, fee, EIA, mining/reclamation/environmental protection plan, contingency plan, financial assurance description, other permits, and organization report.	Section 1.2; Appendices A through I; Volume II Environmental Impact Assessment
R 425.201(1)(a)	Application must be on department-prescribed forms and signed by the operator or authorized representative.	Section 1.2.1; Appendix A-1
R 425.201(1)(b)	Permit application fee required by Part 632.	Section 1.2.1; submitted under separate cover
R 425.201(1)(c)	Environmental Impact Assessment required as part of the permit application.	Section 1.2; Volume II Environmental Impact Assessment and supporting appendices
R 425.201(1)(d)	Mining, Reclamation, and Environmental Protection Plan required as part of the permit application.	Sections 4, 5, 6, and 7; Appendices E, F, and G
R 425.201(1)(e)	Contingency Plan required as part of the permit application.	Section 8; Appendix H
R 425.201(1)(f)	Description of type and amount of financial assurance satisfying R 425.301 requirements.	Section 9; Appendix I
R 425.201(1)(g)	List of other applicable permits and licenses anticipated for construction and operation.	Section 1.2.5
R 425.201(1)(h)	Organization report on department-prescribed form.	Section 1.2.2; Appendix A-2
R 425.201(2)	Separate mining permit required for beneficiation if beneficiation is not within/adjacent to associated mining activities or not operated by the same operator.	Not separately triggered; beneficiation is part of the Project and is described in Section 4.7
R 425.201(2)(a)	Separate beneficiation permit required if beneficiation site is not within or adjacent to associated permitted mining activities.	Not applicable; beneficiation plant is within the Project site. Section 4.7
R 425.201(2)(b)	Separate beneficiation permit required if operator differs from associated mining activities.	Not applicable; WPC is the Project operator. Sections 1.2.2 and 4.7
R 425.201(3)	Applicant must submit paper and electronic copies of required application documents.	Application transmittal and final submittal package

Appendix A-3
Part 632 Rules Checklist
White Pine Copper LLC - Mining Permit Application

Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.201(4)	Department processing procedures for administrative completeness, public meeting, comment periods, proposed decision, hearing, and final decision.	EGLE procedural requirement; not an applicant narrative section
R 425.201(4)(a)	Application deemed administratively complete after 14 days unless EGLE identifies deficiencies.	EGLE procedural requirement; not an applicant narrative section
R 425.201(4)(b)	EGLE may notify applicant of missing information or unpaid fee, tolling administrative completeness period.	EGLE procedural requirement; not an applicant narrative section
R 425.201(4)(c)	Public meeting requirements after administrative completeness, including notice and application availability.	EGLE procedural requirement; supported by complete application package
R 425.201(4)(d)(i-vii)	Proposed decision and public hearing notice requirements, including hearing logistics, applicant/project information, proposed decision, application availability, other permits, EGLE contact, and participation process.	EGLE procedural requirement; supported by complete application package and Section 1.2.5 other permits
R 425.201(4)(e)	Written public comment period after hearing and EGLE response-to-comments report.	EGLE procedural requirement; not an applicant narrative section
R 425.201(4)(f)	EGLE final written decision to grant or deny permit after comment period; reasons required if denied.	EGLE procedural requirement; not an applicant narrative section
R 425.201(5)	EGLE may impose permit terms and conditions necessary to implement Part 632 and rules.	EGLE permit condition authority; Project commitments described throughout Sections 1 through 9
R 425.201(6)	Permit cannot authorize percolation leaching unless R 425.403 is demonstrated.	Not applicable; percolation leaching is not proposed. Section 4.7; R 425.203(l) checklist row
R 425.201(7)	Permit approval criteria: application must meet Part 632 requirements and project must not pollute, impair, or destroy natural resources/public trust under Part 17.	Entire MPA package; Sections 1 through 9; Volume II EIA
R 425.201(7)(a)	EGLE must determine the application meets Part 632 requirements.	Entire MPA package; Appendix A-3 regulatory checklist
R 425.201(7)(b)	EGLE must determine the operation will not pollute, impair, or destroy air, water, or other natural resources or the public trust.	Sections 4 through 8; Volume II Environmental Impact Assessment; Appendices E, F, G, H

Appendix A-3
Part 632 Rules Checklist
White Pine Copper LLC - Mining Permit Application

Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.201(8)	EGLE must deny permit if approval criteria are not met.	EGLE procedural requirement; not an applicant narrative section
R 425.201(9)	EGLE cannot issue or transfer a permit to a person in violation unless violation is corrected or subject to approved consent agreement.	Appendix A-2 Organization Report; applicant certification/administrative record
R 425.202	**Environmental Impact Assessment requirements for existing conditions, potential impacts, cumulative impacts, alternatives, methods, preparers, and information sources.**	**Volume II Environmental Impact Assessment and supporting EIA appendices**
R 425.202(1)(a - f)	EIA must identify and describe conditions/features, impacts, mitigation references, affected-area maps/photos; analyze cumulative impacts and alternatives; identify preparers, methods, QA/QC, and sources.	Volume II Environmental Impact Assessment; EIA alternatives analysis; EIA methods and references
R 425.202(2)(a - kk)	EIA conditions and features include topography, soils, geology, groundwater, surface water, water balance, water quality, wells, wetlands, land use, infrastructure, biota, T&E species, invasive species, cultural resources, air, meteorology, visual resources, noise, light, and seismicity.	Volume II Environmental Impact Assessment; baseline technical appendices
R 425.202(3)	Seasonal and long-term variations for groundwater, surface water, water quality, and meteorology must be characterized using site data and credible regional records/statistical analysis where feasible.	Volume II Environmental Impact Assessment; Section 4.8; Appendix E-3; Environmental Monitoring Plan Appendix F
R 425.202(4)	Applicant may describe public input sought in preparing EIA and summarize methods/comments.	Volume II Environmental Impact Assessment, public input section if included
R 425.202(5)	Information required under other laws may satisfy EIA requirements if it addresses Part 632 area and activities.	Volume II Environmental Impact Assessment; cross-referenced permit applications and technical appendices

Appendix A-3
Part 632 Rules Checklist
White Pine Copper LLC - Mining Permit Application

Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.203	**Mining Plan requirements for proposed mining operations and environmental protection methods.**	**Sections 2 through 7; especially Section 4**
R 425.203(a)	Type and method of mining, expected operating life, and anticipated rate and schedule of mining.	Sections 4.1 and 4.5.1
R 425.203(b)	Estimated number of employees required and variation over life of mine.	Section 4.2
R 425.203(c)	Maps, cross-sections, drawings, photos, documents, and engineering information depicting mining activities and associated facilities/items listed in R 425.203(c)(i)-(xxiv).	Sections 3, 4, 5, 6, and 7; associated figures, tables, and appendices
R 425.203(c)(i)	Area, thickness, characteristics, stockpiling, and stabilization of stripped topsoil until reclamation use.	Sections 4.3.1 and 4.3.2
R 425.203(c)(ii)	Area, volumes, characteristics, excavation plans/schedules, and stockpile/final placement locations/dimensions for overburden and waste/development rock.	Section 4.3.3
R 425.203(c)(iii)	Area, volumes, types, mineralogy, and schedule for mining and stockpiling ore.	Sections 4.3.4 and 4.5.2
R 425.203(c)(iv)	Access limits for stockpiles and storage/disposal facilities to prevent unauthorized material disposal.	Section 4.3.5
R 425.203(c)(v)	Geochemical characterization of ore, waste rock/development rock, overburden, peripheral rock, and tailings.	Section 4.4 and subsections 4.4.1 through 4.4.4; Appendix B-2
R 425.203(c)(v)(A)	Chemical/physical testing and modeling to predict potential acid generation, dissolved metals, and related leaching substances.	Section 4.4.1; Appendix B-2
R 425.203(c)(v)(B)	Testing and modeling methodology.	Section 4.4.2; Appendix B-2
R 425.203(c)(v)(C)	Plan to monitor characterization during mining and recalibrate/adjust geochemical model and predictions as needed.	Section 4.4.3; Appendix B-2; Section 7/Appendix F operational water monitoring
R 425.203(c)(v)(D)	Identification of reactive ore, waste rock/development rock, overburden, peripheral rock, and tailings.	Section 4.4.4; Appendix B-2
R 425.203(c)(vi)	Lithology and thickness of rock surrounding and overlying ore body.	Section 3 and subsections 3.1 through 3.3; Appendix B-1

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Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.203(c)(vii)	Locations, depths, and contours of open pits.	Not applicable; Project is underground and no open pit is proposed. Section 4.5
R 425.203(c)(viii)	Locations and dimensions of shafts, portals, or other openings between land surface and underground workings.	Section 4.5.3.1
R 425.203(c)(ix)	Areal extent, depth, and dimensions of underground workings.	Section 4.5.3.2
R 425.203(c)(x)	Types and uses of grouting for open pit walls or underground walls, floors, and roof.	Section 4.5.4
R 425.203(c)(xi)	Plan to prevent damage to environment, public health, or safety from subsidence, caving, or collapse of underground workings.	Section 4.5.5 and subsections 4.5.5.1 through 4.5.5.4; Appendix C-1
R 425.203(c)(xi)(A)	Description of planned or intentional caving and subsidence.	Sections 4.5.5.1 and 4.5.5.2
R 425.203(c)(xi)(B)	Provisions to prevent adverse impacts to public/private water supplies or aquifers in affected area.	Section 4.5.5.3; Section 4.8; Section 7/Appendix F
R 425.203(c)(xi)(C)	Provisions to assure underground mining will not cause material damage to structures not owned or controlled by operator.	Section 4.5.5.4; Section 2.5
R 425.203(c)(xi)(D)	Provisions to assure underground mining will not cause material damage to natural features on lands not owned by operator.	Section 4.5.5.4; Section 2.5
R 425.203(c)(xii)	Water used in mining operations, including sources and intended rates/durations of pumping, diversion, or withdrawal.	Sections 4.6.10.4, 4.7.7, and 4.8; Appendix E-3
R 425.203(c)(xiii)	Water stored, transferred, or discharged in mining operations.	Section 4.8; Appendix E-3
R 425.203(c)(xiii)(A)	Location, size, and capacities of ponds, impoundments, dewatering systems, diversions, water control structures, and treatment facilities.	Sections 4.8.4.1 and 4.8.4.2; Appendix E-3
R 425.203(c)(xiii)(B)	Estimated volumes, rates, water quality, and discharge locations.	Section 4.8.4.3; Appendix E-3; NPDES permit application
R 425.203(c)(xiv)	Storage areas for equipment and vehicles.	Section 4.6.2
R 425.203(c)(xv)	Buildings and other facilities or structures.	Section 4.6.3
R 425.203(c)(xvi)	Storage and transfer areas for chemicals, fuel, and explosives.	Section 4.6.4
R 425.203(c)(xvii)	Truck and mining equipment wash-down areas.	Section 4.6.5
R 425.203(c)(xviii)	Roads, transportation infrastructure, and controls to prevent contaminant release during ore/waste rock transportation.	Section 4.6.6

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White Pine Copper LLC - Mining Permit Application

Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.203(c)(xix)	Beneficiation processes, materials, and activities.	Section 4.7; Appendix E-2
R 425.203(c)(xix)(A)	Types, extent, and sequence of beneficiation, including physical and chemical characterization of materials, wastes, and products.	Section 4.7.1
R 425.203(c)(xix)(B)	Description of mills, concentrators, separators, filters, flotation cells, and other beneficiation equipment.	Section 4.7.2
R 425.203(c)(xix)(C)	Type and amount of chemicals to be added during beneficiation.	Section 4.7.3
R 425.203(c)(xix)(D)	Types, amounts, locations, sequence, schedule, and means of waste rock and tailings disposal.	Sections 4.3.3 and 4.7.4; Appendix E-2
R 425.203(c)(xix)(E)	Provisions to prevent release of contaminants from beneficiation equipment.	Section 4.7.5
R 425.203(c)(xix)(F)	Tailings transport system design, inspection access, emergency routing/storage, surface water protection, and power failure provisions.	Section 4.7.6; Appendix E-2
R 425.203(c)(xx)	Plans/schedules for controlling drainage within diked tailings areas during and after mining and preventing noncompliant releases during 24-hour, 100-year precipitation events.	Sections 4.6.7, 4.8.2.3, 4.8.5; Appendix E-2 and E-3
R 425.203(c)(xxi)	Monitoring, containment, and treatment of runoff contacting or potentially contacting reactive ore, waste rock, overburden, or tailings to minimize groundwater/surface water impacts.	Sections 4.6.8 and 4.8; Section 5; Appendix D and Appendices E-2, and E-3.
R 425.203(c)(xxii)	Part 91-compliant soil erosion and sedimentation control plan to reduce accelerated erosion and sedimentation.	Section 4.6.9; Appendix D
R 425.203(c)(xxii)(A)	Location, description, and schedule for installing/removing temporary SESC measures.	Section 4.6.9.1; Appendix D
R 425.203(c)(xxii)(B)	Description/location of permanent SESC measures and provisions to establish them promptly after earth change or cessation.	Section 4.6.9.2; Appendix D
R 425.203(c)(xxii)(C)	Limit exposed disturbed land to shortest feasible period.	Section 4.6.9.3; Appendix D
R 425.203(c)(xxii)(D)	Remove sediment from runoff before water leaves the mining area.	Section 4.6.9.4; Appendix D
R 425.203(c)(xxii)(E)	Temporary/permanent water conveyance controls to maintain non-erosive velocities.	Section 4.6.9.5; Appendix D

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Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.203(c)(xxii)(F)	Install temporary SESC measures before/upon commencement, maintain daily, and remove after permanent measures and stabilization.	Section 4.6.9.6; Appendix D
R 425.203(c)(xxii)(G)	Stabilize areas with permanent erosion control measures as soon as practicable after earth change or cessation.	Section 4.6.9.7; Appendix D
R 425.203(c)(xxiii)	Plans for conducting reclamation concurrently with mining to the extent feasible.	Section 6; Appendix G
R 425.203(c)(xxiv)	Plans for at least monthly inspection, monitoring, and maintenance of liners, final covers, leachate collection, leak detection, berms, and embankments.	Sections 4.11 and 7; Appendix F; Appendix E-2
R 425.203(d)	Map and description of ownership of all tracts in mining area and within 1,320 feet.	Sections 2.1 through 2.4
R 425.203(d)(i)	Ownership of surface rights.	Section 2.2
R 425.203(d)(ii)	Ownership of mineral rights.	Section 2.3
R 425.203(d)(iii)	Conservation easements as defined in section 2140 of the act.	Section 2.4
R 425.203(d)(iv)	Historic preservation easements as defined in section 2140 of the act.	Section 2.4
R 425.203(e)	Measures to prevent damage to property not owned or controlled by operator within and adjacent to mining area.	Section 2.5; Sections 4.5.5, 4.8, 4.10, and 4.11
R 425.203(f)	Measures to minimize impacts to groundwater and surface water recharge, flow, discharge, quantity, and quality, including seasonal and long-term variation.	Sections 4.3.6 and 4.8; Section 7; Appendix E-3 and Appendix F
R 425.203(g)	Monitoring plan for groundwater/surface water quality, groundwater levels, surface water stage/discharge during operations and post-closure monitoring.	Section 7; Appendix F
R 425.203(g)(i)	Monitoring locations must be where mining activities have reasonable potential for measurable groundwater/surface water impact.	Section 7; Appendix F
R 425.203(g)(i)(A)	Monitoring design considers proximity to mining activity.	Section 7; Appendix F monitoring network rationale

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Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.203(g)(i)(B)	Monitoring design considers diffusion and dispersion potential.	Section 7; Appendix F groundwater/surface water monitoring rationale
R 425.203(g)(i)(C)	Monitoring design considers horizontal and vertical groundwater gradients.	Section 7; Appendix F; Appendix E-3 hydrogeology/water management support
R 425.203(g)(i)(D)	Monitoring design considers seasonal variations in flow.	Section 7; Appendix F; Section 4.8.2.3
R 425.203(g)(i)(E)	Monitoring design considers topography, access, and practical limitations.	Section 7; Appendix F monitoring locations and access considerations
R 425.203(g)(ii)	Monitoring plan must comply with R 425.406.	Section 7; Appendix F; R 425.406 monitoring well provisions
R 425.203(g)(iii)	Monitoring plan must include locations, frequencies, procedures, parameters, data evaluation, water-level methods, well depths/screens, and well construction/abandonment provisions.	Section 7; Appendix F
R 425.203(g)(iii)(A)	Number and location of monitoring wells and structures.	Section 7; Appendix F
R 425.203(g)(iii)(B)	Sampling frequency and sampling procedures.	Section 7; Appendix F
R 425.203(g)(iii)(B)(aa)	Sampling method and volume removed during sampling.	Section 7; Appendix F
R 425.203(g)(iii)(B)(bb)	Steps to prevent cross contamination.	Section 7; Appendix F
R 425.203(g)(iii)(B)(cc)	Sample handling and preservation methods.	Section 7; Appendix F
R 425.203(g)(iii)(B)(dd)	Laboratory analytical methods.	Section 7; Appendix F
R 425.203(g)(iii)(B)(ee)	Laboratory method detection limits.	Section 7; Appendix F
R 425.203(g)(iii)(B)(ff)	QA/QC procedures approved by department.	Section 7; Appendix F
R 425.203(g)(iii)(B)(gg)	Routine monitoring at least quarterly.	Section 7; Appendix F
R 425.203(g)(iii)(C)	Required sampling parameters list.	Section 7; Appendix F
R 425.203(g)(iii)(C)(aa)	Specific conductance.	Appendix F
R 425.203(g)(iii)(C)(bb)	Temperature.	Appendix F
R 425.203(g)(iii)(C)(cc)	pH.	Appendix F
R 425.203(g)(iii)(C)(dd)	Dissolved oxygen.	Appendix F
R 425.203(g)(iii)(C)(ee)	Calcium, sodium, magnesium, potassium, and iron.	Appendix F
R 425.203(g)(iii)(C)(ff)	Chloride, sulfate, and bicarbonate.	Appendix F
R 425.203(g)(iii)(C)(gg)	Other total/dissolved elements and compounds introduced or affected by mining, as identified in EIA.	Appendix F

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Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.203(g)(iii)(D)	Techniques for presenting and evaluating water-quality monitoring data.	Section 7; Appendix F
R 425.203(g)(iii)(E)	Method for collecting static water levels and presenting groundwater flow data; precision to 0.01 foot.	Appendix F
R 425.203(g)(iii)(F)	Depth and screened interval for each monitoring well.	Appendix F
R 425.203(g)(iii)(G)	Design, construction, and abandonment provisions for monitoring wells/structures per R 425.406(2).	Appendix F; R 425.406 well construction/abandonment provisions
R 425.203(h)	Treatment and containment plan to prevent groundwater/surface water contamination from acidic water or dissolved metals.	Section 5; Appendix E-2
R 425.203(h)(i)	Treatment and containment plan applies to reactive materials and describes measures for stockpiles/storage/disposal and peripheral rock management.	Section 5; Appendix E-2; Section 4.4
R 425.203(h)(i)(A)	Design, construction, and operation of stockpiles and storage/disposal facilities for ore, waste rock, overburden, and tailings.	Section 5; Appendix E-2; Sections 4.3.3, 4.3.4, and 4.7.4
R 425.203(h)(i)(B)	Management of peripheral rock with potential to contaminate groundwater or surface water.	Section 5; Appendix E-2; Section 4.4.4
R 425.203(h)(ii)	T&C Plan must account for volume, rate, movement of leachate and weather/severe event influence.	Section 5; Appendix E-2; Section 4.8; Appendix D-2
R 425.203(h)(iii)	T&C Plan must meet applicable R 425.409 requirements.	Section 5; Appendix E-2
R 425.203(i)	General description of blasting materials and methods.	Section 4.5.6
R 425.203(j)	Plan to protect threatened/endangered species where they may be impacted.	Section 4.9; Volume II EIA; Appendix F
R 425.203(k)	Plans to monitor, prevent, minimize, and mitigate adverse impacts to flora, fauna, fish/wildlife habitats, and biodiversity.	Section 4.10; Section 7; Appendix F; Volume II EIA
R 425.203(l)	Plans demonstrating compliance with R 425.403 when percolation leaching is proposed.	Not applicable; percolation leaching is not proposed
R 425.203(m)	Plan and schedule for inspection or monitoring of all mine-related facilities at least monthly.	Section 4.11; Section 7; Appendix F
R 425.203(n)	Names and qualifications of preparers of mining operations plan.	Section 1.2.3

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Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.204	**Reclamation Plan for final reclamation operations, including schedule, sequence, duration, final configuration, performance standards, post-closure water monitoring, and preparer qualifications.**	**Section 6; Appendix G**
R 425.204(a)	Depict and describe reclamation items on maps/drawings/cross-sections as appropriate, including final contours, final land use, remaining water/road/drainage/SESC features, and stabilization plans.	Section 6; Appendix G;
R 425.204(a)(i)	Final land contours.	Section 6; Appendix G;
R 425.204(a)(ii)	Proposed final land use and relationship to surrounding land uses.	Section 6; Appendix G
R 425.204(a)(iii)	Ponds, streams, wetlands, roads, dikes, drainage ditches, and SESC structures remaining after reclamation.	Section 6; Appendix G; Appendix D where applicable
R 425.204(a)(iv)	Plans/schedules to stabilize waste rock piles, settling ponds, TDF, overburden banks, open pit banks/walls, roads, and plant site using sloping, grading, terracing, and revegetation.	Section 6; Appendix G; Appendix E-2 for TDF closure
R 425.204(a)(iv)(A)	Prevent public safety hazards associated with underwater open pit slopes or comparable measures.	Not applicable; no open pit is proposed
R 425.204(a)(iv)(B)	Replace topsoil on disturbed areas as appropriate for approved final land use.	Section 6; Appendix G; Section 4.3.2
R 425.204(a)(iv)(C)	Vegetation species/quantities, seedbed preparation, planting/seeding methods, mulching, fertilization, maintenance, and final plant density.	Section 6; Appendix G
R 425.204(b)	Evidence that reclamation will satisfy minimum performance standards for waste disposition, openings, structures, stabilization, revegetation, and self-sustaining ecosystem goals.	Section 6; Appendix G; Section 9/Appendix I
R 425.204(b)(i)	Final disposition of toxic/hazardous waste, refuse, tailings, and other solid waste protective of environment and health and compliant with applicable laws.	Section 6; Appendix G; Section 5/Appendix E-2

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Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.204(b)(ii)	Seal shafts, portals, and other surface-to-underground openings to protect environment, resources, and public health/safety.	Section 6; Appendix G; Section 4.5.3.1
R 425.204(b)(iii)	Remove surface structures/infrastructure/stockpiles/TDFs unless converted to alternate approved final use.	Section 6; Appendix G
R 425.204(b)(iv)	Stabilize disturbed surface areas to prevent accelerated wind or water erosion.	Section 6; Appendix G; Section 4.6.9
R 425.204(b)(v)	Revegetate disturbed areas with native species where appropriate, with approved exceptions for final land use or temporary stabilization.	Section 6; Appendix G; Section 4.10.5
R 425.204(b)(vi)	Reclaim mining/affected area to self-sustaining ecosystem appropriate for region without perpetual care goal, subject to legal use of applicant-owned land.	Section 6; Appendix G; Section 4.10.5
R 425.204(c)	Plans for post-closure monitoring of groundwater and surface water quality.	Section 7; Appendix F; Section 6/Appendix G
R 425.204(d)	Names and qualifications of preparers of final reclamation operations plan.	Section 1.2.3; Section 6/Appendix G
R 425.205	**Contingency Plan requirements for accident/failure risk assessment, response measures, emergency procedures, phone numbers, testing, and distribution to emergency management coordinators.**	**Section 8; Appendix H**
R 425.205(1)	Contingency Plan must include risk/response measures, emergency procedure section, emergency phone numbers, and plan testing.	Section 8; Appendix H
R 425.205(1)(a)	Risk assessment and response measures for credible accidents/failures, including toxic/acid-forming releases, explosives, fuel, fires, wastewater, embankment failure, air emissions, spills, natural risks, power disruption, subsidence, and containment leaks.	Section 8; Appendix H

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Rule 425 Part 2	Rule 425 Part 2 - Nonferrous Metallic Mineral Mining Permit	Location in Application
R 425.205(1)(b)	Emergency procedures for public/agency notification, personnel contacts and duties, access restriction, evacuation, and emergency equipment locations.	Section 8; Appendix H
R 425.205(1)(c)	Emergency telephone numbers for operator representatives, emergency management, ambulance, hospitals, fire/police, EGLE, PEAS, federal agencies as appropriate, MDNR, and local government.	Section 8; Appendix H
R 425.205(1)(d)	Plan for testing contingency plan effectiveness.	Section 8; Appendix H
R 425.205(2)	Applicant must submit contingency plan to each emergency management coordinator with jurisdiction over affected area at permit application submittal.	Section 8; Appendix H; application transmittal record

Prepared by: MJG4

Checked by: CER2

Appendix B

Geology

B-1 Geology of the White Pine Copper Deposit
B-2 Baseline Geochemical Characterization Interim Report

B-1

Geology of the White Pine Copper Deposit

Geology of the
White Pine Copper Deposit

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Report Date: July 24, 2026

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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
ALS	ALS Geochemistry
AMI	Anomalous Magnetic Intensity
AQ	AQ-size diamond drill core
ASL	Analytical Solutions Ltd.
ASL_CSBLK	Coarse blank material supplied by Analytical Solutions Ltd.
ASTM	American Society for Testing and Materials
ATV	Acoustic Televiewer
BL-10	Certified coarse blank material
BQ	BQ-size diamond drill core
BTS	Brazilian Tensile Strength
CDN	CDN Resource Laboratories Ltd.
CEP	Circular Error Probable
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CN	Canadian National
CRC	Copper Range Company
CRM	Certified Reference Material
CVG	Calculated Vertical Gradient
DEM	Digital Elevation Model
DGC / Dahrouge	Dahrouge Geological Consulting USA Ltd.
DGI	DGI Geoscience Inc.
FDUP	Field Duplicate
GMS	G Mining Services Inc.
GPS	Global Positioning System
HQ	HQ-size diamond drill core

HQ3	HQ3-size diamond drill core
ICP	Inductively Coupled Plasma
ICP-AES	Inductively Coupled Plasma Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometry
ID^2	Inverse Distance Squared
ID^3	Inverse Distance Cubed
IRS	Intact Rock Strength
ISO	International Organization for Standardization
LCI	Least Common Interval
LOD	Limit of Detection
ME-MS61	ALS four-acid digestion ICP-MS multi-element method
MRE	Mineral Resource Estimate
MRS	Midcontinent Rift System
NI 43-101	National Instrument 43-101
NN	Nearest Neighbor
NQ	NQ-size diamond drill core
OK	Ordinary Kriging
OPTA	Certified coarse blank material
OREAS	Ore Research and Exploration Pty Ltd.
OTV	Optical Televiewer
OVBD	Overburden
PEA	Preliminary Economic Assessment
PFS	Pre-Feasibility Study
PGW	Paterson, Grant & Watson Limited
PLT	Point Load Test

PQ	PQ-size diamond drill core
QAQC	Quality Assurance / Quality Control
RMI	Residual Magnetic Intensity
RPD	Relative Percent Difference
RQD	Rock Quality Designation
RTP	Reduced to Pole
SCR	Solid Core Recovery
SG	Specific Gravity
SOP	Standard Operating Procedure
SRK	SRK Consulting
TCR	Total Core Recovery
TD	Total Depth
UCS	Uniaxial Compressive Strength
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VOI	Volume of Interest
VWP	Vibrating Wire Piezometer
WAAS	Wide Area Augmentation System
WPC	White Pine Copper LLC
WSP	WSP USA (geotechnical consultants)

1 SUMMARY

This report presents the geology of the White Pine Copper Deposit, located in Ontonagon County, Michigan, on the site of the historical White Pine Mine. The White Pine North Project is a reduced-facies, sediment hosted copper deposit hosted within the lower Nonesuch Formation. The Nonesuch Formation is a Keweenawan-aged (~1.1 Ga) continental rift-fill sequence on the southern flank of the Midcontinent Rift System. The geological framework of the deposit has been well defined through historical production and extensive drilling.

Copper mineralization occurs in the bottom ~20 m of the Nonesuch Formation, primarily as chalcocite and native copper in laminations within the lower parting shale units (the ore zone). Mineralization is the result of copper-rich hydrothermal brines, sourced from the underlying Portage Lake Volcanics, precipitating across a redox boundary created by carbonaceous shales.

This report summarizes exploration and drilling activities on the Property from historical programs through the 2026 Phase III drill program. A total of 609 drillholes totalling 314,835 m have been completed on the Property to date. Modern programs include the 2014–2015 infill drilling (42 holes, 30,481 m), a 2022–2023 infill program (3 holes, 2,714 m), the 2024 Winter metallurgical program (Phase I; 10 holes, 6,770 m), the 2024 Summer infill program (Phase II; 14 holes and 28 wedges, 15,098 m), and the 2026 Winter program (Phase III; 14 holes and 8 wedges, 11,702 m).

Sampling, laboratory analysis, and Quality Assurance/Quality Control (QAQC) procedures followed industry best practices throughout all modern programs. Analytical work was performed by Activation Laboratories Ltd. (ActLabs) and ALS Laboratories. QAQC results, including field duplicates, certified reference materials, and coarse blanks, demonstrated acceptable performance across all programs, with minor contamination events investigated and resolved via re-assay.

2 BACKGROUND INFORMATION

2.1 LOCATION & ACCESS

White Pine Copper LLC (WPC) is wholly owned by Kinterra Copper USA LLC. WPC is seeking to develop the White Pine North Project (the Project), located in the Upper Peninsula of the State of Michigan, USA. The project is approximately 7.5 kilometers ("km") south of Lake Superior in Ontonagon County at 46° 45' 42" N latitude and 89° 33' 52' W longitude (UTM coordinates 5181816N, 304,170E). The county seat is Ontonagon, 25 km northeast of the Project.

The area is accessible via Michigan State Highway 64, which runs north-south 0.5 km west of the Project footprint. The Project is close to several communities including Silver City and Bergland. It is approximately 14 miles southwest of Ontonagon, Michigan. The unincorporated townsite of White Pine lies immediately across Michigan State Highway 64, 0.6 km to the southwest of the Project area. White Pine had a population of 339 persons in the 2020 census. The town was originally built during the construction of the historic White Pine Mine in 1952 to house mine employees.

The Michigan Upper Peninsula has well developed infrastructure, including paved roads, optic fiber, natural gas, power grid, and rail assets. The Project area is accessible by a Canadian National ("CN") rail spur, which leads to the Morengo junction in Ashland County, Wisconsin. The nearest additional rail spur is located in Ontonagon County, owned by the Escanaba and Lake Superior Railroad. This spur runs southwest to Escanaba and connects to the CN rail grid. Both rail spurs would require refurbishment prior to commercial use.

The historical White Pine Mine was operated as an underground room and pillar operation with three tailing impoundments at surface. Following closure of the White Pine Mine in 1995, the Copper Range Company ("CRC") sold the existing facilities. Various buildings and parcels of land were sold as part of what became known as the "White Pine Industrial Park." While the processing plant and smelter were dismantled, the power plant, refinery, and several other structures remain at the White Pine Mine site (GMS, 2023).

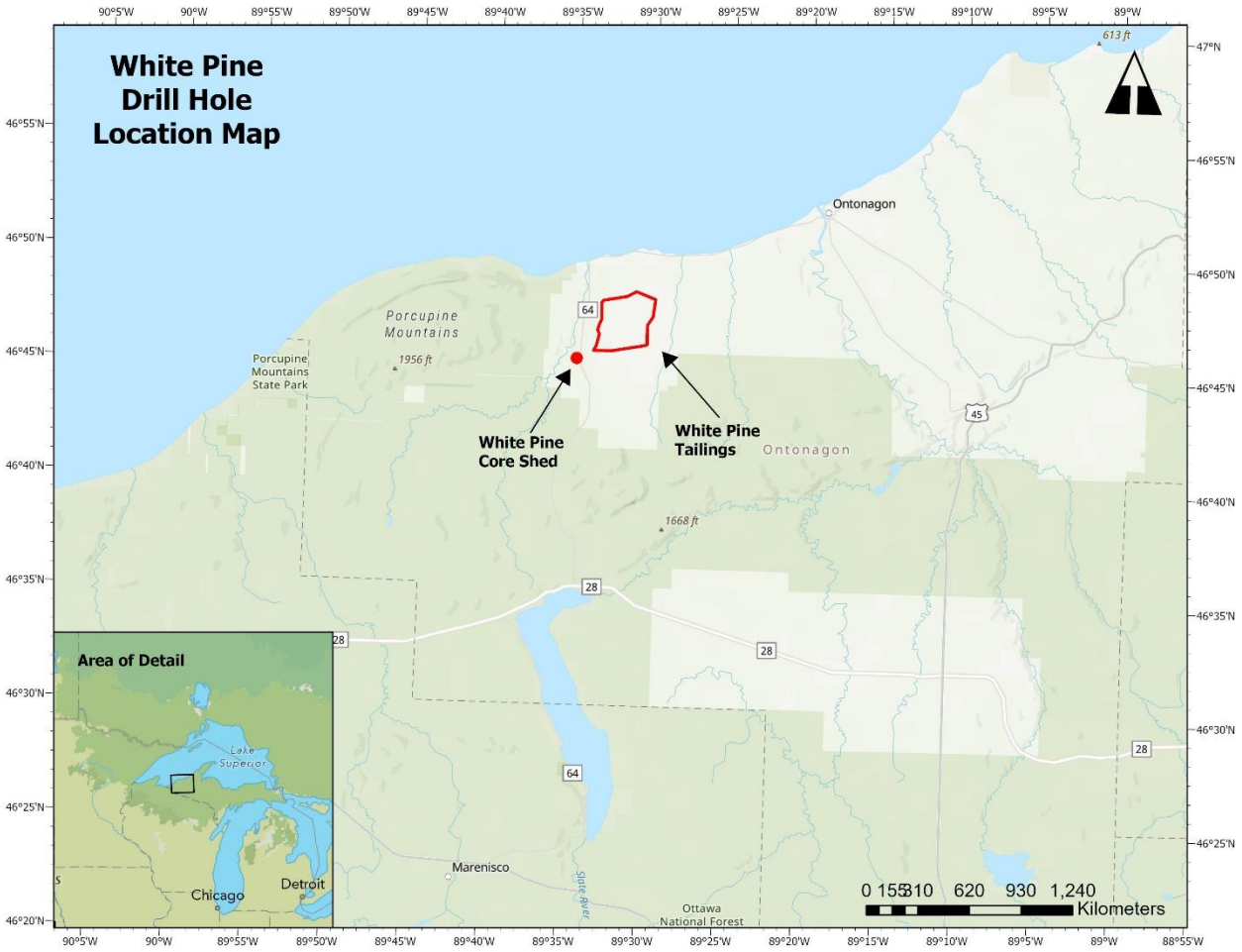


Figure 2-1: Property Location Map

2.2 CLIMATE

The Project area is located in a humid continental climate which is strongly influenced by its proximity to Lake Superior. As a result, "lake effect" weather patterns can have a significant impact on temperature, precipitation, and cloud cover. The Project's proximity to Lake Superior generally results in significant precipitation events due to the large amount of moisture available for air masses as they travel across the lake. This phenomenon is exacerbated in the winter leading to heavy snow fall and accumulation.

The average annual rainfall in Ontonagon County is 86 cm with an annual snowfall of 459 cm. There are, on average, 185 sunny days and 142 days with precipitation during the year. During the months of January through April, the average high temperature ranged from 5.56 to 25.56°C (42 to 78°F) with the average low ranging from -24.4 to -11.11°C (-12 to 12°F) (National Weather Service, 2026).

2.3 PHYSIOGRAPHY

The Project area sits on the eastern edge of the Porcupine Mountains. The landscape in this region is comprised of nearly 60,000 acres of forest, Lake Superior shoreline, rivers, ridges, and escarpments. The range has a vertical relief of 305 m (1,000 ft) above Lake Superior, with the highest peak at an

elevation of 595 m (1,952 ft). The Project area itself is relatively flat, with dense vegetation in undisturbed areas. Notable vegetation includes old-growth hemlock and sugar maple trees.

2.4 HISTORY

The White Pine Project (the Project) has a lengthy history of discovery, development, production, and ownership transition spanning more than 160 years. The key events in the ownership and operational history of the property are summarized in Table 2-1 below.

Table 2-1: White Pine Project: Ownership and Operational History

Year	Owner / Operator	Key Event
1865	Frank Cadotte	Discovery of copper-bearing Nonesuch shale in outcrop along the Little Iron River; leading to later opening of Nonesuch Mine, 3.2 km west of White Pine.
1879–1881	Thomas Hooper	Original White Pine Mine established on the bank of the Mineral River, targeting native copper in conglomerate. Closed 1881 due to lack of capital.
1907–1920	Calumet and Hecla Mining Company (C&H)	Purchased property; extensive diamond drilling program; shaft deepening; railroad and mill constructed 1915. Produced 18 million pounds of copper and 260,000 oz of silver before closing in 1920 due to recession and low copper prices.
1929	Copper Range Company (CRC)	Acquired White Pine properties at a sheriff's auction for back taxes.
1950–1952	CRC / U.S. Federal Government	Korean War prompted federal support. The mine received a $68M loan under the Defense Production Act. Construction of modern White Pine Mine began March 1952.
1953–1977	CRC	First ore hoisted March 31, 1953; first copper pour January 13, 1955. One-billionth pound of copper poured 1965. Mine expansion added shaft, mill section, and second furnace. Total production through 1977 exceeded 1 billion pounds of copper.
1977–1982	Louisiana Land & Exploration Company (LL&E)	Purchased White Pine Mine; CRC became wholly owned subsidiary. Closed mine in 1982 due to low copper prices and escalating costs.
1984–1985	Echo Bay Mines Ltd.	Acquired LL&E interest as part of separate transaction; immediately initiated permanent closure plan. Sold CRC to employee/management group in 1985.
1985–1989	CRC (Employee/Management Owned)	CRC reorganized; 70% employee stock ownership plan (ESOP), 30% management group (Northern Copper Corporation). IPO plans abandoned following major 1987 ground failure in southwest mine workings.
1989–1995	Metall Mining Corporation / Inmet Mining Corporation	Metall acquired CRC in 1989; renamed Inmet Mining. Conventional mining and milling suspended September 30, 1995. Solution mining explored 1993–1997; ultimately abandoned.
1997	CRC / Inmet	All operations ceased; mine flooding and reclamation of tailings disposal sites begun under 1997 Consent Decree with State of Michigan.
1998–2013	CRC / First Quantum Minerals Ltd.	Refinery sold to BHP in 1998, subsequently to HudBay (2000), then Traxys (2011). First Quantum acquired Inmet (and indirect ownership of CRC) in 2013.

2014–2021	Highland Copper Company Inc. / White Pine Copper LLC (WPC)	Highland's subsidiary Upper Peninsula Copper Holdings Inc. completed interim acquisition of White Pine Project from CRC/First Quantum in 2014; final closing completed July 2021. WPC assumed all obligations under 1997 Consent Decree.
2015	WPC (Highland)	20-year mineral rights lease executed over approximately 1,816 acres within the White Pine North project area.
2023	Highland Copper / Kinterra Copper USA LLC	Joint venture agreement signed July 2023; Kinterra acquired a 66% stake. Joint venture committed to spend a further $30 million to advance the project through permitting, infill drilling, and feasibility study.
2026	Kinterra Copper USA LLC	Kinterra Copper USA LLC obtained 100% ownership of the White Pine Project.

The current owner of the White Pine Project is Kinterra Copper USA LLC, which obtained 100% ownership in early 2026.

3 METHODS

The information reported in this section will summarize the exploration, drilling, and sampling efforts that have occurred at the White Pine Copper project. Historical information will be presented where available, but the primary focus will be on work completed between 2014 and 2026.

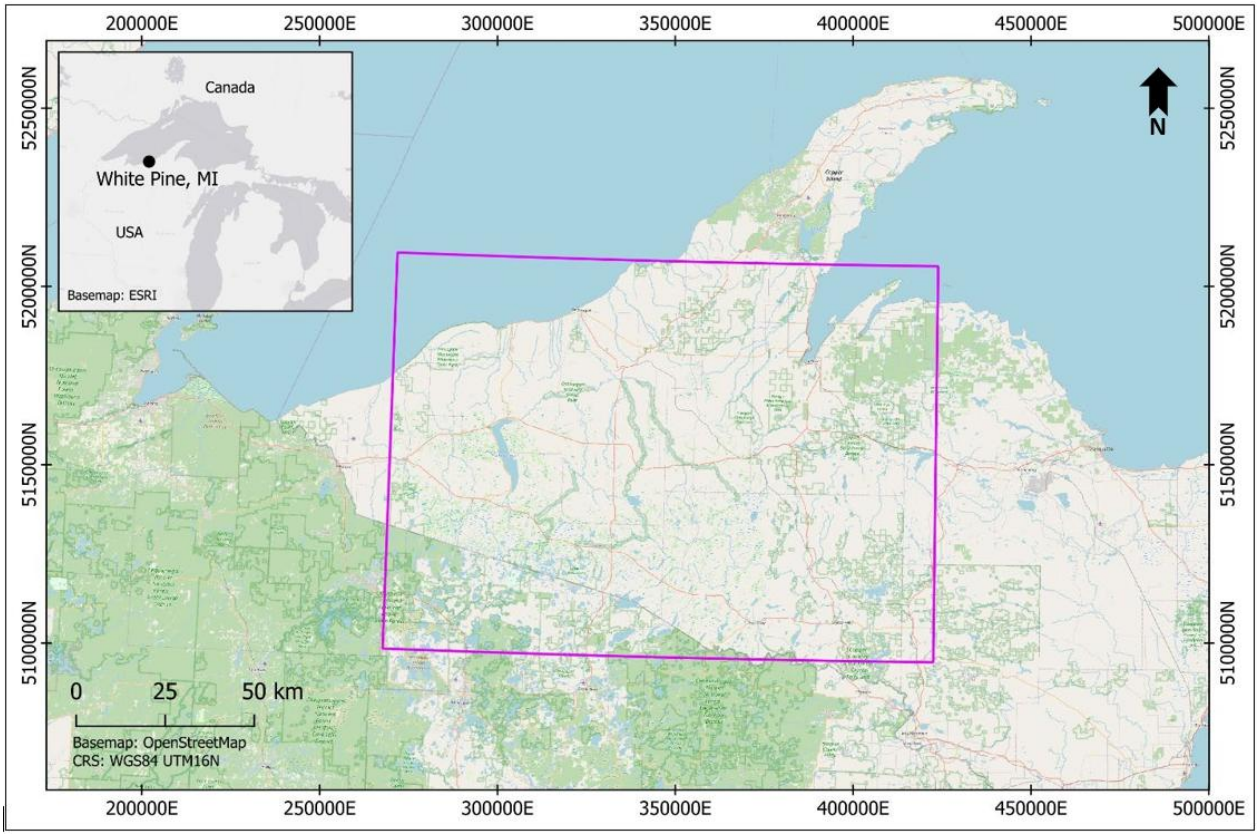
3.1 EXPLORATION

3.1.1 Geophysics

In 2024, White Pine Copper carried out a desktop evaluation of previously collected historical aeromagnetic datasets that covered the Iron River quadrangle, which covers the White Pine Copper Project area (Figure 3-1). This desktop study was carried out by Paterson, Grant & Watson Limited (PGW) to support the structural evaluation of the Project area.

PGW identified seventeen total aeromagnetic datasets within the Iron River quadrangle. Of these, sixteen were downloadable and twelve were used in the final compilation and evaluation. These datasets were acquired between 1947 and 2018. All surveys available for the structural evaluation are noted in Table 3-1 below.

Figure 3-1: Location Map of the Iron River Quadrangle



Source: PGW, 2024

Table 3-1: Iron River Quadrangle Aeromagnetic Datasets

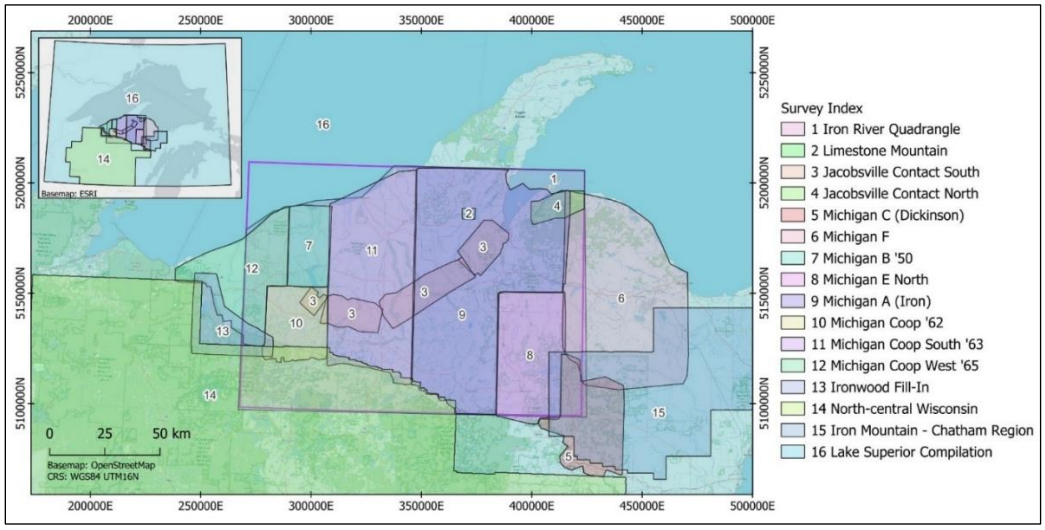
Survey Name	USGS Code	Year	Line Spacing	Clearance	Used

Iron River Quadrangle	—	1977	4.8 km	122 m	No
Limestone Mountain	MI_4033	1983	800 m	122 m	No
Jacobsville Contact South	MI_4036A	1983	800 m	122 m	No
Jacobsville Contact North	MI_4036B	1983	800 m	122 m	Yes
Michigan C (Dickinson)	MI0072	1948	800 m	152 m	No
Michigan F	MI0073	1950	800 m	152 m	Yes
Michigan B '50	MI0075C	1950	800 m	152 m	Yes
Michigan E North	MI0458A	1949	800 m	152 m	Yes
Michigan A (Iron)	MI-WI0071	1947	800 m	152 m	Yes
Michigan Coop '62	MI_WI0500	1962	800 m	152 m	Yes
Michigan Coop South '63	MI_WI0518A	1963	800 m	152 m	Yes
Michigan Coop West '65	MI-WI0548	1965	800 m	152 m	Yes
Ironwood Fill-In	WI_4206	1997	800 m	305 m	Yes
North-central Wisconsin	WI_WI04	Various (1993)	Various	Various	Yes
Iron Mountain – Chatham Region	P91EF3CI	2018	150 m	80 m	Yes
Lake Superior Compilation	—	Various (2018)	Various	Various	Yes
Michigan Upper Peninsula*	P98CW91W	2008	100 m	40 m	No[1]

Note: * Unavailable from the USGS at time of work.

Survey datasets, except the North-central Wisconsin compilation were sourced from the USGS Mineral Resources Online Spatial Data portal. The North-central Wisconsin compilation was obtained from the University of Wisconsin–Madison publication catalog. PGW noted that all surveys completed prior to 1965 were collected in analogue form and subsequently digitized by the USGS via contour line tracing or flight-line/contour intersection picking. Surveys from the late 1970s onward were acquired digitally. All pre-digital surveys lack altimeter channel data, and reported terrain clearance values cannot be independently verified. Approximate locations of each of the surveys outlined in Table 3-1, are outlined in Figure 3-2 below.

Figure 3-2: Index Map of the Iron River Quadrangle



Source: PGW, 2024

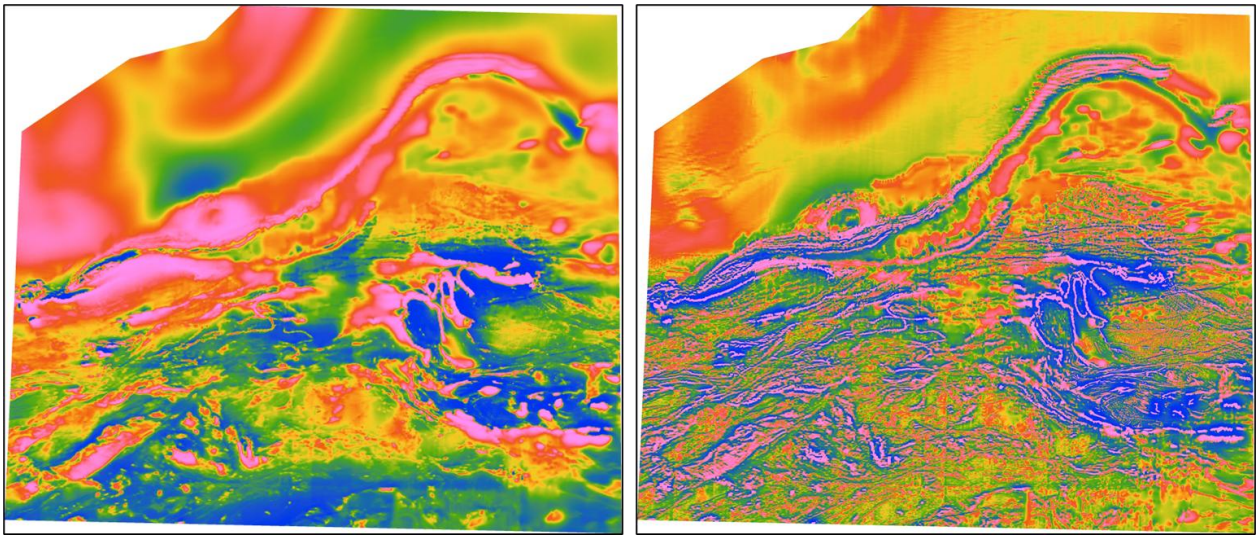
3.1.2 PGW Data Processing

PGW carried out data processing in five main steps:

- Coordinate Transformation: NAD27 latitude/longitude were converted to WGS84 UTM Zone 16N for all surveys.
- Survey Gridding: Anomalous magnetic intensity (AMI) grids were produced using minimum curvature algorithm (Briggs, 1974). Grid cell sizes range from 30 to 300 m, which was dependent on line spacing and survey quality.
- Micro-leveling: This was applied to seven of the twelve surveys (all legacy surveys that were digitized by the USGS) to suppress along-line corrugations attributable to residual leveling and diurnal errors using Minty, 1991 micro-leveling techniques.
- Grid Merging: Surveys combined by Geosoft GridKnit utility and static shift was applied to align joining grids based on average overlap values.
- Final Compilation Grid: Final grid was resampled to a uniform 100 m cell size and a single pass of a 3x3 Hanning Filter was applied to reduce residual suturing artifacts.

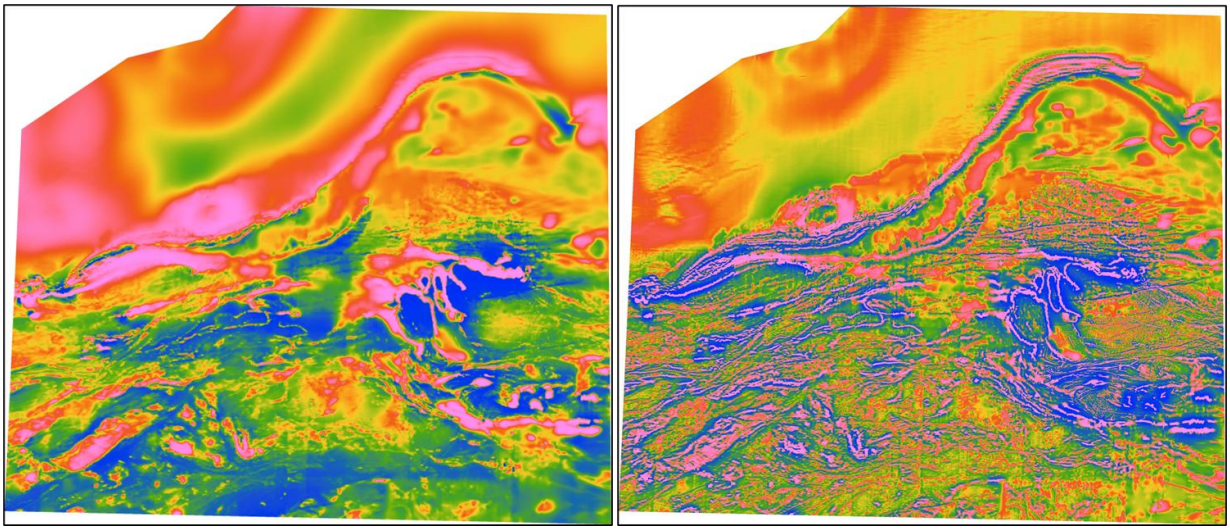
Selected survey outputs generated by PGW can be seen in Figure 3-3 and Figure 3-4 below.

Figure 3-3: Anomalous Magnetic Intensity (AMI) and AMI 1D Comparison



Source: PGW, 2024

Figure 3-4: Reduced to Pole (RTP) and RTP 1D Comparison



Source: PGW, 2024

3.1.3 Geotech Ltd. Survey

White Pine Copper subsequently commissioned a helicopter-borne aeromagnetic geophysical survey which was completed between January 14th and February 6th, 2025, by Geotech Ltd. This survey was conducted to support mineral exploration on the Property considered prospective for sediment-hosted copper mineralization and covered a single block of 101 km^2 totalling 2,226 line-kilometres of aeromagnetic data with the survey specifications and survey area coordinates outlined in Figure 3-5.

Figure 3-5: Survey Flight Paths



Source: Geotech Ltd., 2025

Table 3-2: Survey Specifications

Survey Block	Line Spacing (m)	Area (km²)	Planned Line-km	Actual Line-km	Flight Direction	Line Numbers
White Pine North	Traverse: 50	101	2,203	2,226	N 45° E / N 225° E	L1000:2 - L3940:1
	Tie: 500				N 135° E / N 315° E	T4000:7 - T4260:7

Table 3-3: Survey Area Coordinates

Coordinate System	Zone	X Easting (m)	Y Northing (m)
WGS84 UTM	16N	304395	5181062
		304415	5182416
		303481	5182425
		303481	5187941
		317533	5187895
		317527	5181062

The survey was flown using an Aerospatiale A-Star 350 B3 helicopter (registration C-FVOW), owned and operated by Geotech Aviation. Installation of all geophysical and ancillary equipment was completed by the Geotech Ltd. crew. Additional details regarding implemented equipment is summarized below.

The airborne magnetometer sensor was a Geometrics optically pumped cesium vapour magnetic field sensor installed inside a nose-mounted stinger. The sensor has a sensitivity of 0.01 nT at a sampling interval of 0.025 seconds (40 Hz).

Terrain clearances were recorded using two independent systems: a Terra TRA 3000/TRI 40 radar altimeter (antenna mounted beneath the helicopter cockpit bubble) and a Schmitt Industries AR300 laser altimeter with an altitude range of 0.5 to 300 m and accuracy of ±5 cm. Both systems logged at 0.1–0.2 second intervals.

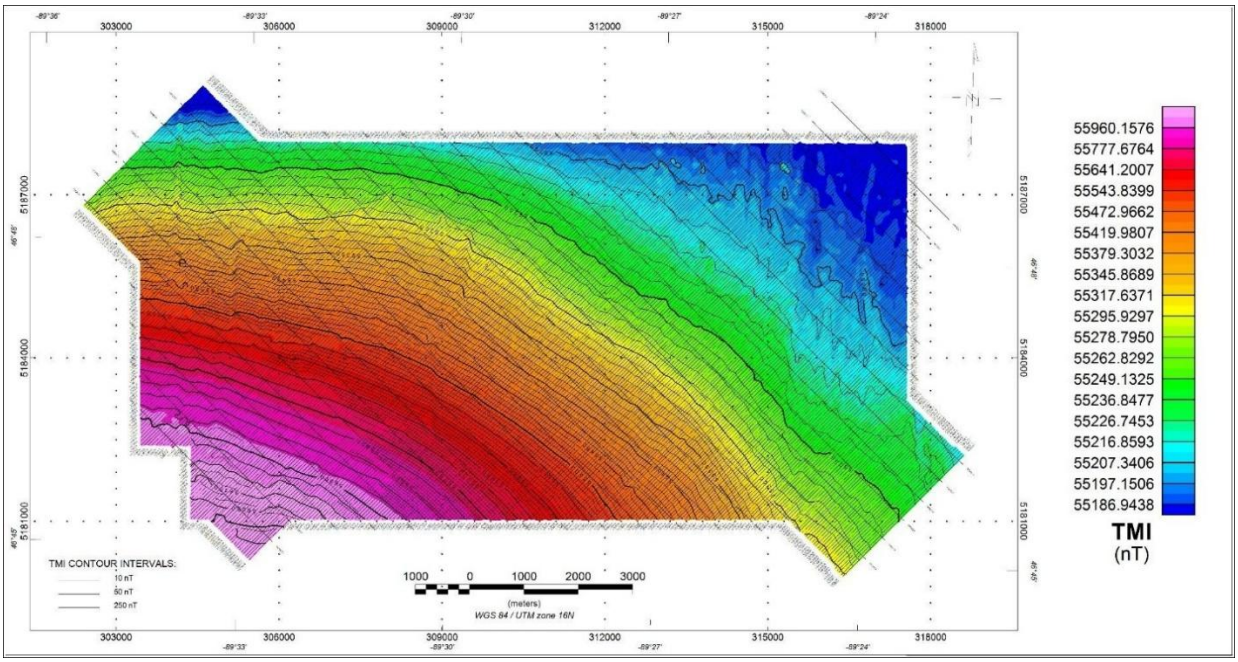
Navigation utilized a Geotech PC104-based system with a NovAtel WAAS-enabled GPS receiver and NovAtel GPS antenna mounted on the helicopter tail. Up to 11 GPS and two WAAS satellites were monitored simultaneously, yielding a positional accuracy Circular Error Probable (CEP) of 1.8 m (1.0 m with WAAS active).

A Geometrics G822B high-sensitivity cesium vapour magnetometer with integrated GPS was operated continuously as a ground base station throughout the survey. Sensitivity was better than 0.01 nT at a 0.1-second sampling interval (10 Hz). The base station was sited near the Gogebic airstrip, clear of electrical transmission lines and moving ferrous objects. Data was backed up to the processing computer at the end of each survey day.

A NovAtel PROPAK-V3_TR20 GPS receiver with a dedicated ground antenna recorded raw GPS data at 10 Hz. Post-flight differential GPS processing using NovAtel GrafNav 8.3 software yielded sub-metre positional accuracy for the airborne system at 10 Hz.

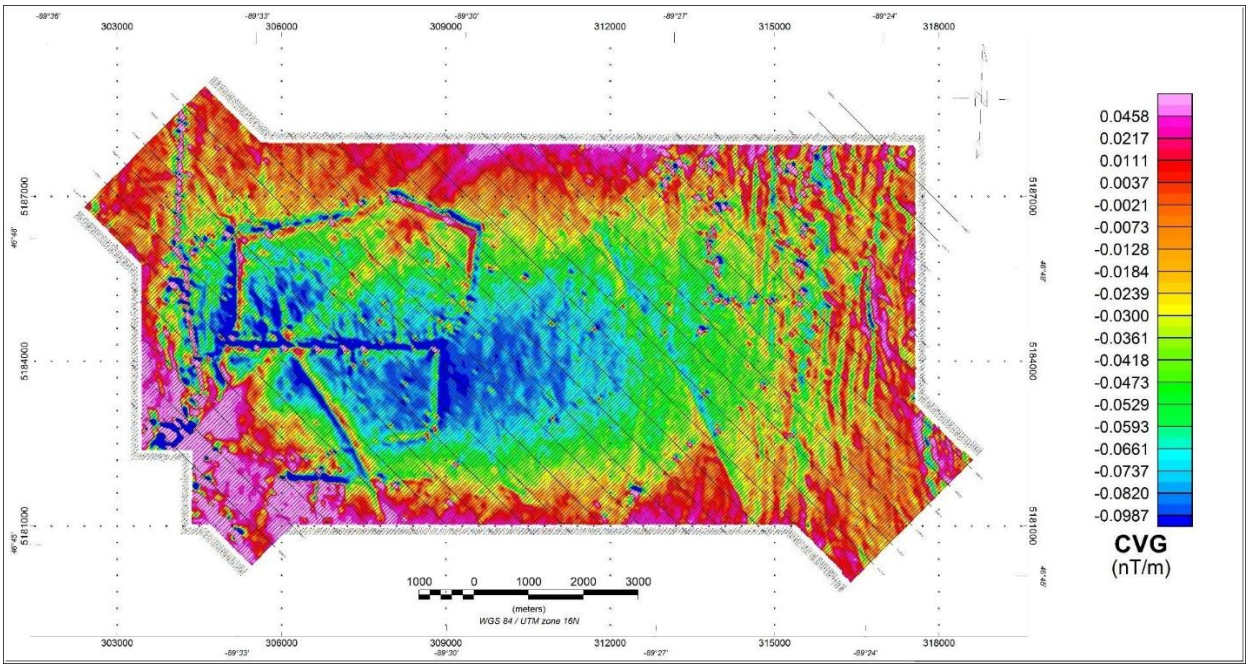
The final results from the airborne survey yielded a Total Magnetic Intensity (TMI) map (Figure 3-6), a Calculated Vertical Gradient (CVG) map (Figure 3-7) and a Digital Elevation Model (DEM) map (Figure 3-8) of the Project area.

Figure 3-6: Total Magnetic Intensity



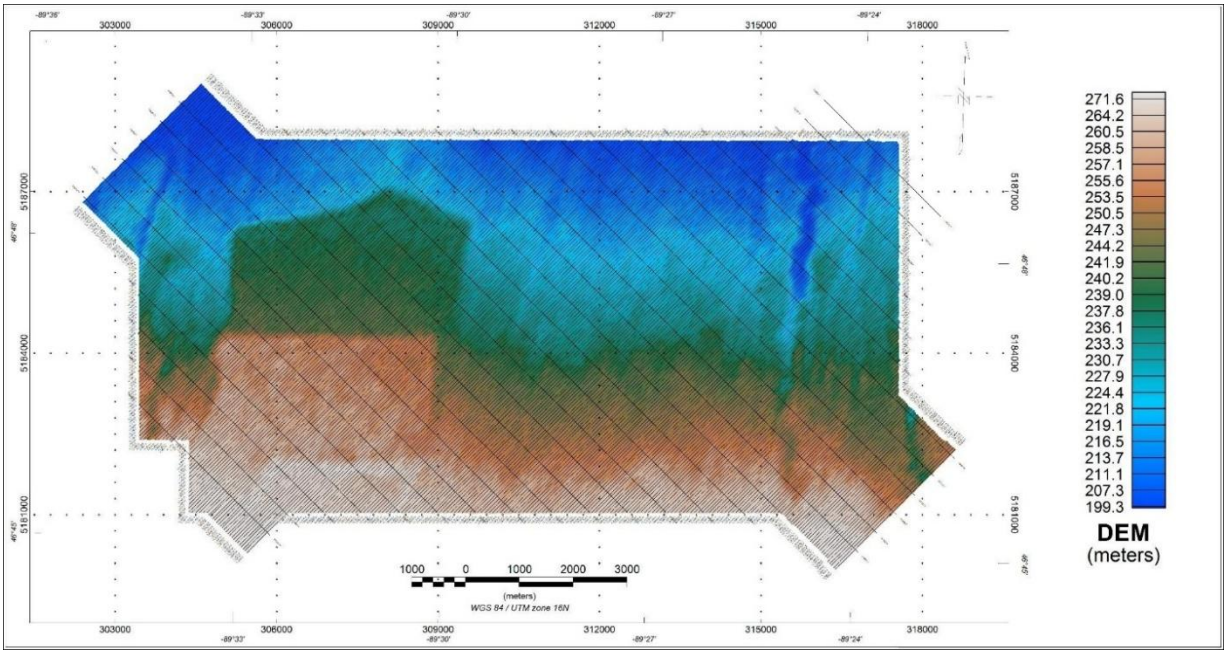
Source: Geotech Ltd., 2025

Figure 3-7: Calculated Vertical Gradient



Source: Geotech Ltd., 2025

Figure 3-8: Digital Elevation Model

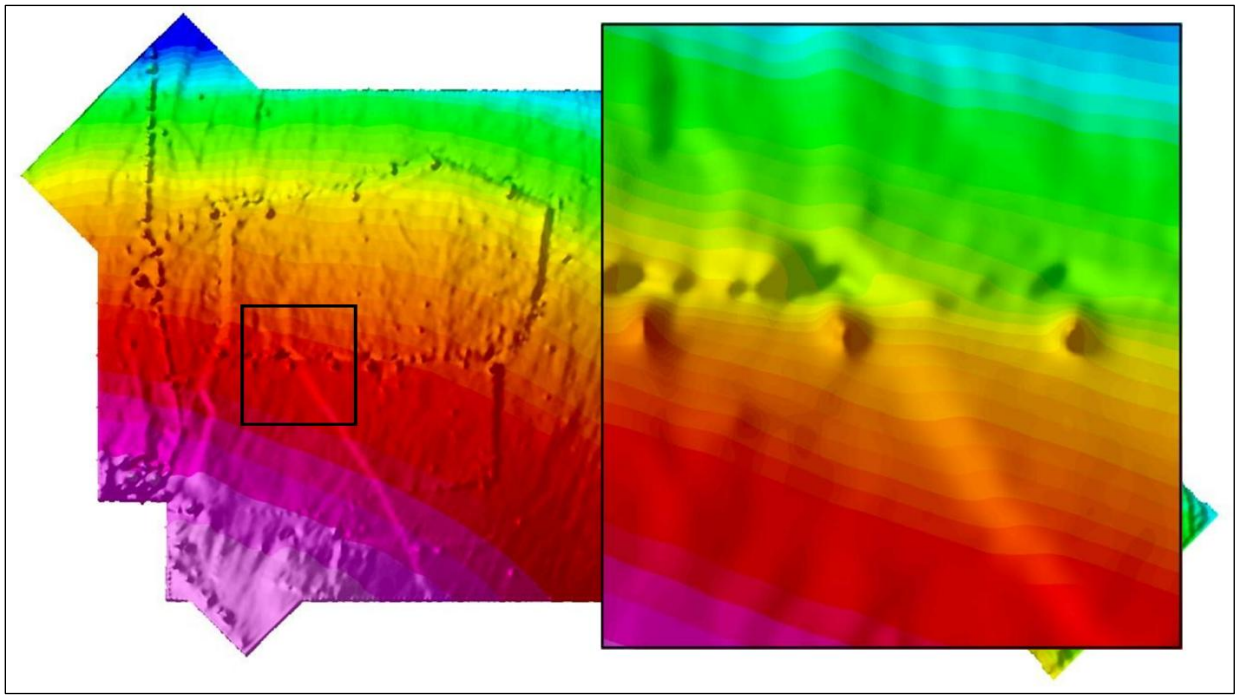


Source: Geotech Ltd., 2025

3.1.4 PGW Reprocessing

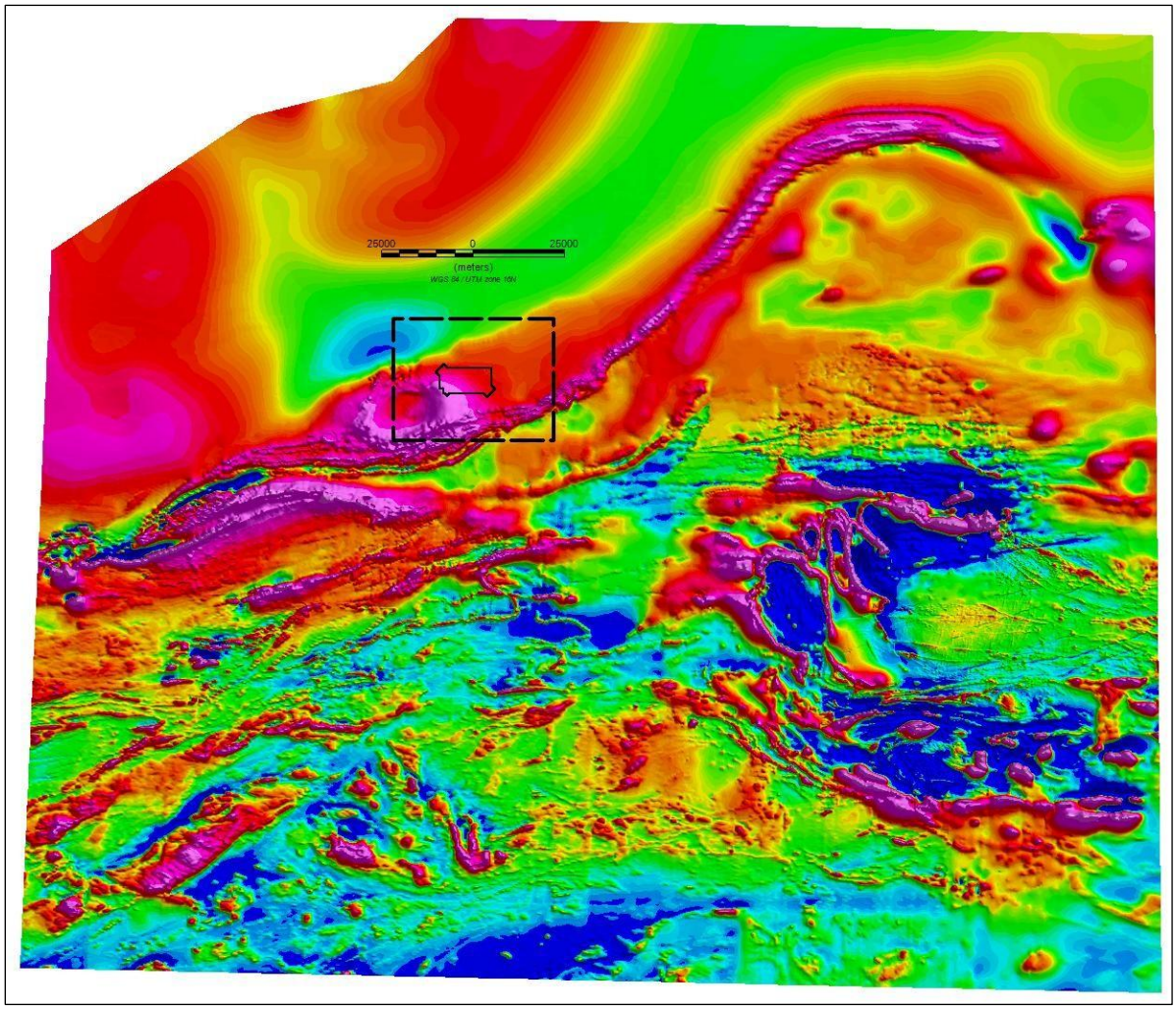
Following completion of the Geotech Ltd. airborne survey, the processed data was provided to PGW and merged with the legacy dataset PGW had compiled in June 2024. The incorporation of the data collected by Geotech Ltd. with the original legacy data processing by PGW yielded the following outputs show in below.

Figure 3-9: RMI Reprocessing using Lower Tolerance Gridding Parameters



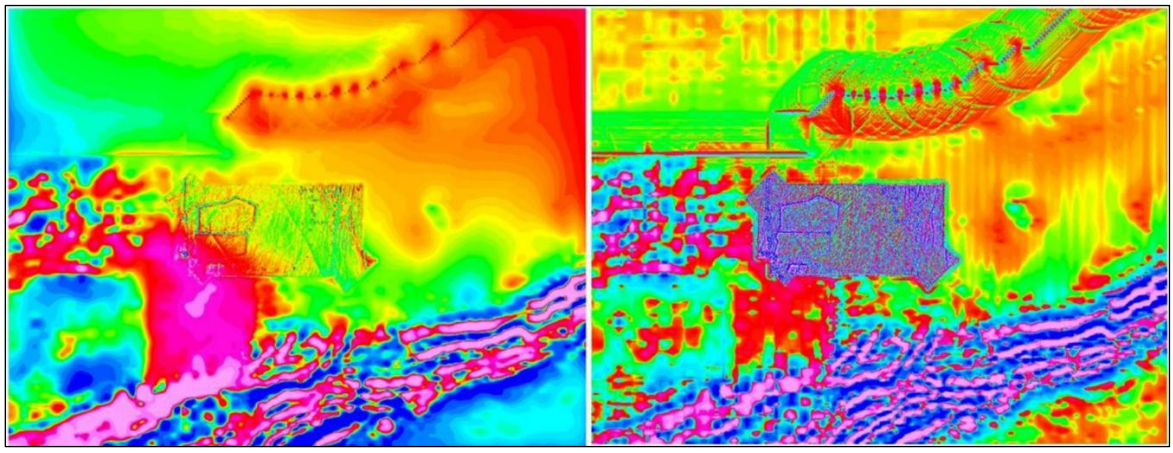
Source: PGW, 2025

Figure 3-10: Original Clipped & Merged Legacy Data for RMI



Source: PGW, 2025

Figure 3-11: Merged of Legacy Data with Geotech Data (RMI1VD left & RMI2VD right)



Source: PGW, 2025

3.2 DRILLING

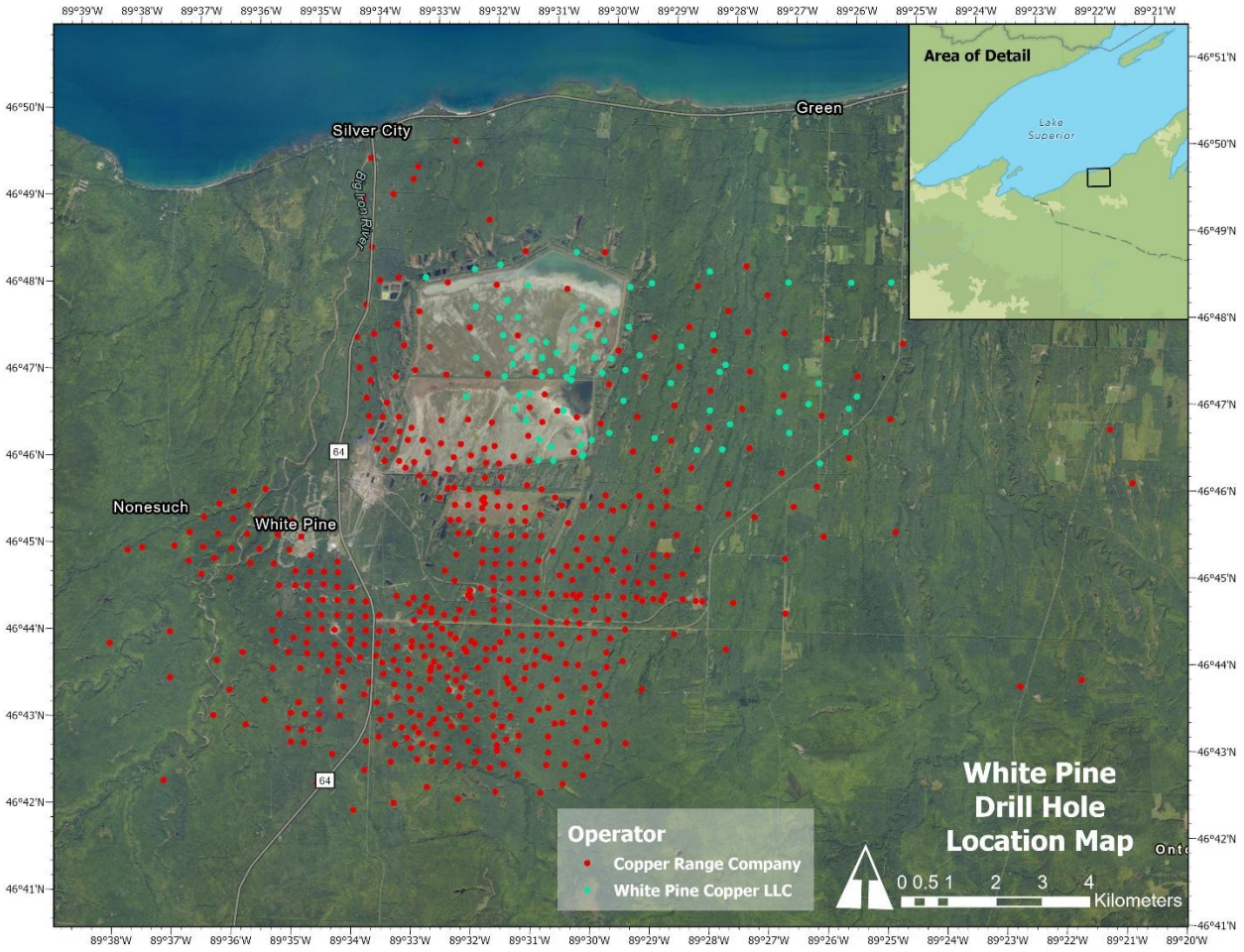


Figure 3-12: Drillhole Location Map

3.2.1 Historical Drilling

Drilling has been the primary means of defining copper mineralization at the White Pine Mine. Natural exposures of the Nonesuch Shale are limited and mineralization on the Property is generally located at depth. Drilling occurred throughout the historic mine's producing years, although data from these efforts is limited.

The Copper Range Company conducted continuous drilling at the White Pine Mine to support production through the early 1970s. Additional drilling was completed in 1994–1995. Early drilling used BQ core (36.5 mm diameter), with glacial overburden cased to bedrock. Core recovered from above the ore zone was laid on the ground and logged. Core spanning the Fringe Zone through the Lower Transition units (the ore zone) was stored in five-foot-long spruce boxes and transferred to the White Pine Mine laboratory for detailed logging and stratigraphic identification. Early diamond drill holes were abandoned without cementing. Later holes were cemented through the overburden. The 1994–1995 program used NQ core (47.6 mm diameter), again cased to bedrock.

Several reflection seismic surveys were conducted by CRC in 1975, 1994, and 1995. These surveys were designed to aid drill targeting, investigate caved areas of the mine, and to identify the location/extent of faulted offsets along thrust and strike-slip faults (GMS, 2023).

3.2.2 2014-2015 Drilling

The 2014-2015 drilling program was executed by Highland Copper through White Pine Copper LLC. It consisted of 42 HQ (63.5 mm diameter) diamond drill holes and 18 associated wedges. A total of approximately 30,481 m of core was drilled across two phases between March 2014 and March 2015. Total material recovery for the program averaged over 99%. The program was designed to infill the historical drill grid, complete a mineral resource estimate, obtain mineralized samples for metallurgical testing, and gather information to support underground mine planning.

The first phase of drilling was completed between March and August 2014. The program included 14 diamond drill holes totalling 10,481 m. The second phase, completed between January and March 2015, consisted of 28 diamond drill holes totalling 20,000 meters. Drilling covered an area of approximately 8 km^2, with six holes drilled at inclination in order to obtain structural data for geotechnical studies. Three additional holes were drilled during the second phase but had to be abandoned. These three holes have been excluded from the database.

Wedges were completed across both phases to obtain approximately 635 kg of mineralized core for metallurgical testing. Six holes were surveyed with acoustic televiewer technology to characterize the in situ geotechnical properties of the host rock. Downhole survey data was collected for each hole.

In January 2014, WPC initiated a validation program to verify historical CRC assay results from 51 drill holes in the White Pine North deposit. The validation used quarter-cut splits of original core from 883 historic sample intervals. The validation analytical technique used both a screen metallic assay method and 2.5 g digestion Inductively Coupled Plasma (ICP) assay method to determine total copper. Results from both methods were in good agreement and showed no bias relative to the historical assays (GMS, 2023).

3.2.3 2022-2023 Drilling

WPC performed an infill drilling program in Winter 2022-2023. Three holes were drilled, totalling 2,714 m. The main purpose of these holes was to aid in converting the resource from Inferred to Indicated (GMS, 2023). Much of the methodology for this program was consistent with the 2014-2015 drill program.

3.2.4 2024 Winter Drilling (Phase I)

The 2024 winter drilling program was managed jointly by Dahrouge Geological Consulting USA (Dahrouge) and White Pine Copper. It consisted of seven HQ and three PQ diamond drill holes, totaling 6,770 m of core drilled between January 15 and March 31, 2024. All drilling was completed by Timberline Drilling Inc. of Elko, Nevada, using track-mounted CS1000 (HQ) and CS3000 (PQ) rigs. Total core recovery for the program was 99%.

The program was designed to infill the historical drill grid and to obtain sufficient mineralized material for metallurgical analysis on the primary mineralized horizons of the historical White Pine mine tailings. Drilling was conducted from gravel roads and pads developed and maintained on the

legacy tailings impoundments throughout the program. Due to warmer-than-expected winter temperatures associated with El Niño (average high of 1.3°C / 34°F) and significantly reduced snowfall, the seasonally frozen layer beneath the tailings began to thaw, causing equipment to sink; mats were placed beneath drill platforms to improve stability, and several planned holes were relocated closer to the tailings dams to provide more solid ground.

Core orientation was utilized on one HQ drillhole (WP582), beginning 20 m above the Marker Bed and continuing to the end of the hole; the remaining nine drillholes were not oriented. Downhole geophysical surveys were completed by DGI on all drillholes following the completion of drilling. Drillholes WP585 and WP586 encountered significant deviations from the projected ore-zone depths, with the Marker Bed intersected approximately 20 m deeper than expected in WP585 (~672 m) and approximately 20 m shallower than expected in WP586 (~730 m). All holes were terminated approximately 15 m into the Copper Harbor Conglomerate.

A total of 191 metallurgical samples representing 884.6 kg of cumulative material were collected along lithologic boundaries from the Widely through the Lower Transition units. The Thinly and Upper Transition, and the Domino and Lower Transition units were combined into a single sample interval. This was done to ensure sufficient sample mass given their thin average thicknesses.

Detailed geotechnical logging, including Total Core Recovery (TCR), Solid Core Recovery (SCR), Rock Quality Designation (RQD), joint characterization, and Intact Rock Strength (IRS) via Ball Peen Hammer Test and Point Load Tests (PLT), was conducted jointly by Dahrouge and SRK Consulting (SRK) using SRK-generated standard operating procedures.

Drillhole WP585 was left open following completion for the purpose of hydrology, packer, and pump-tests. WP585 was cemented at the end of the Phase II program.

3.2.5 2024 Summer Drilling (Phase II)

The 2024 summer drilling program was managed jointly by Dahrouge Geological Consulting USA and White Pine Copper LLC. It consisted of 14 HQ diamond drill holes and 28 related HQ3 (61.1 mm diameter) wedges, totaling 15,098 m of core drilled between May 25 and October 2, 2024. All drilling was completed by Timberline Drilling Inc. using four, track-mounted HQ rigs. Total material recovery for the program was 99%.

The program was designed to infill the historical drill grid to support a mineral resource estimate update. Additional mineralized samples were also collected for metallurgical testing. Each drillhole was collared with an HQ core barrel. Tooling was switched to HQ3 within the mineralized zone to enable core orientation in pilot drillholes. Core orientation began 152.4 m (500 ft) below the upper Nonesuch contact and continued to the end of each drillhole. Wedges were completed using HQ rods and were not oriented.

Downhole surveys were completed using the OMNI38 tool in continuous or multishot mode, with wedges surveyed using the Reflex OMNI42 tool. All surveys were verified in real time by Dahrouge or White Pine Copper geologists and reviewed and approved by Kinterra geologists.

Select drillholes were left temporarily uncemented to accommodate post-drilling hydrology, packer, and pump tests by third-party contractors. All holes were eventually grouted, with the exception of

WP-598, which had a vibrating wire piezometer (VWP) installed. End-of-hole depths were calculated to approximately 12 m (40 ft) past the Lower Sandstone contact for pilot drillholes and 3-4.5 m (10–15 ft) past the contact for wedges. Following drilling and a 12-hour flushing protocol, acoustic televiewer (ATV) and optical televiewer (OTV) surveys were completed by DGI Geoscience.

3.2.6 2026 Drilling (Phase III)

The Phase III Program consisted of 14 diamond drillholes and 8 wedges, totaling 11,702 m of core. Drilling occurred between January 7th and March 31st, 2026. Core size was a combination of HQ and HQ3. Total material recovery was 99.3%.

Casing was set at an average depth of approximately 70 ft (21.34 m) and left in place upon hole abandonment. Each pilot drillhole was collared using an HQ core barrel and progressed to a predicted depth approximately 30 m above the ore zone. At this depth, drill crews switched to HQ3 orientation tooling, using the Axis Champ™ Ori orientation aligner. Oriented core drilling procedures were outlined by WSP. Subsequent wedges were drilled using HQ rods and 5-ft tooling, with kick-off depths set approximately 10–15 m above the observed Marker Bed contact from the pilot drillhole.

Pilot drillholes were terminated 20 m (65 ft) below the Lower Transition to Lower Sandstone contact. Wedges were terminated 3 m (10 ft) below the Lower Transition to Lower Sandstone contact. All drillholes were abandoned from total depth (TD) to surface with Portland Cement.

Drilling was completed by Timberline Drilling Inc. using five drill rig models. Drill crews generally consisted of one driller and two drill hands. Drilling occurred over two 12-hour shifts per day with shift rotations at 7:00 AM and 7:00 PM.

Pad construction was completed by a third-party earthwork contracting company with oversight from a White Pine Copper geologist.

Table 3-4: Drilling Summary

Company	Period	Core Size	Drill Hole Count	Length (m)
Copper Range Company	1956 to 1998	AQ, BQ, NQ	526	248,070
White Pine Copper LLC.	2014-2015	HQ	42	30,481
White Pine Copper LLC.	2022-2023	HQ	3	2,714
White Pine Copper LLC.	2024 (Phase I)	HQ, PQ	10	6,770
White Pine Copper LLC.	2024 (Phase II)	HQ	14	15,098
White Pine Copper LLC.	2026 (Phase III)	HQ	14	11,702
Total			609	314,835

3.3 SAMPLING

3.3.1 Analytical Sampling

2014-2015

Sampling intervals for the 2014–2015 drill core were determined by WPC geologists based on lithological contacts and the presence of mineralization, with a maximum interval length of 0.5 m. Intervals were not permitted to cross geologic contacts. After core logging was completed, the intervals to be assayed were identified in the core box, then cut. The left half was placed in a sealed sample bag by the core cutter. The right half was returned to the core box as reference material. Each sample was assigned a unique number that contained no reference to the drill hole ID or downhole meterage to avoid biasing the analytical results. Certified Reference Materials (CRMs), coarse blanks, and core duplicates were inserted by the geologist following QC manual guidelines (GMS, 2023).

The same procedures described for the 2014-2015 program were used for the three drillholes completed in 2022-2023.

Phase I (Winter 2024)

Phase I was a metallurgical sampling program only. No analytical sampling was completed.

Phase II (Summer 2024)

Analytical sampling of pilot drillholes was conducted following the completion of all geological and geotechnical logging. Samples were generally selected on 0.5 m intervals. Special care was taken to ensure samples did not cross lithologic boundaries. Each interval was assigned a unique sequential sample number, using sampling books provided by White Pine Copper. Sample IDs were marked on the core with a red Tombow grease marker with a solid vertical line and an arrow pointing toward the center of the sample, with the same markings repeated on the core box side walls. Sampled sections were then photographed.

The first sample of each pilot drillhole was taken from 50 cm above the Widely Laminated siltstone unit (WIDE) contact in the Red and Grey (RAGR) subunit. Samples were taken continuously through each unit in the ore zone. The Copper Harbor Conglomerate (CCGL) was sampled to a minimum of 1.5 m below the Lower Sandstone subunit (LWSA)-to-CCGL contact. Where subunits were greater than the 0.5 m maximum sample length, subunit lengths were broken into equal sections. Sample breaks were preferentially chosen on pre-existing fractures. Where no fracture was present, core was cut. In rare cases where subunits such as the Thinly subunit (THIN) or Domino subunit (DOMN) were too thin for individual samples, the smaller unit was combined with its underlying transitionary unit (THIN combined with Upper Transition (UTRA), DOMN combined with Lower Transition (LTRA)). This occurred in holes WP588, WP590, WP590A, and WP590B. A complete description of deposit stratigraphy can be found in Section 4.3.

For pilot drillholes, core was first cut in half for metallurgical sampling, and then one of the two halves was quartered for analytical sampling. Once cut, one quarter of the core was placed individually in 18"×36" polyethylene plastic sample bags with the sample ID written in permanent marker and a barcoded White Pine Copper sample tag placed inside. The same sampled quarter-core side was maintained consistently throughout the drillhole. Samples were sealed with zip-ties, individual

weights captured and placed in labeled rice bags (generally <20 kg each). Rice bags were grouped by drillhole ID and placed in super sacks for shipment to Activation Laboratories (1204 Walsh St W, Thunder Bay, ON) (ActLabs), for analysis.

Field duplicates were captured in all pilot drillholes as quarter-core from the first sample of each drillhole, (always in the RAGR subunit,) in order to preserve material weights for metallurgical testing. The field duplicate received its own sequential sample ID correlating to the parent sample. Additional control samples were inserted at a 20% insertion rate inclusive of blanks and standards. A Coarse Blank (ASL_CSBLK: a coarse blank material received from Analytical Solutions Ltd., also used in Phase II) was inserted randomly once every ten parent samples. An OREAS CRM was inserted randomly once every ten samples, alternating between three standards: OREAS 97, OREAS 162, and OREAS 930. All control samples were given a unique sequential sample ID and marked by a core block placed between samples.

Phase III (Winter 2026)

Analytical sampling in Phase III followed the same general workflow established in Phase II. Sampling occurred following the completion of all geological and geotechnical logging. Analytical samples were collected from drillholes WP602 to WP614. Of the 14 final drillholes, 8 included a subsequent wedge. Where a wedge was available, analytical samples were preferentially taken from the wedge, and the pilot drillhole was reserved for geotechnical sampling. In drillholes that did not include a wedge, core from ore zone was used for analytical sampling only, with no geotechnical samples taken. Drillhole WP615 was reserved entirely for geotechnical sample collection and was not sampled for analytical or metallurgical purposes.

Sample intervals were targeted at 0.5 m in length and marked on core and recorded in both the geologic database and in sample books provided by White Pine Copper. Special care was taken to ensure samples did not cross lithologic boundaries, and each interval was assigned a unique sequential sample number. Sample bags were labeled with the corresponding sample ID in black permanent marker. A printed barcode label corresponding to the sample ID was placed both on and inside the sample bag. Sample start and end locations were marked on the core with a solid red vertical line and arrows pointing inward, with the same markings on core box side walls.

The first sample of each pilot drillhole was taken 50 cm above the WIDE contact in the RAGR subunit. Subsequent samples were taken through each lithology layer down to a minimum of 1.5 m below the LWSA-to-CCGL contact. Where subunits exceeded 0.5 m, lengths were broken into even, equal sections. Unlike Phase II, where units thinner than 0.5 m were combined into adjacent units, in Phase III all units were kept as individual samples regardless of thickness (sometimes as thin as 4–5 cm), to obtain more accurate analytical results per subunit.

For both pilot drillholes and sampled wedges, core was halved for metallurgical sampling and then one of those two halves was quartered for analytical sampling. Samples were collected from top to bottom of the ore zone and placed into corresponding sample bags. QAQC was inserted digitally into sample logs and physically denoted by core blocks. A photo was taken of each standard or coarse blank insertion alongside the corresponding sample bag as a secondary backup in the event of a CRM swap before the identifier was removed from the standard packet. Samples were zip-tied closed and

documented in a sample tracking master database with weights measured and recorded. The bagged samples were assigned a pail number for tracking (batched by drillhole ID) and shipped via FedEx to ALS Reno (4977 Energy Way, Reno, NV, USA) for preparation, and ALS Vancouver (2103 Dollarton Hwy, North Vancouver, BC, Canada) for analysis. Remaining quarter-core was stored in labeled core boxes for future reference or further sampling.

Field duplicates (FDUP) were captured in all pilot drillholes as quarter-core from the first sample of each drillhole. The field duplicate received its own sequential sample number following the parent. Additional control samples were inserted at a 19.5% insertion rate. A coarse blank (ASL_CSBLK) was inserted randomly once every ten parent samples. An OREAS CRM was also inserted randomly once every ten parent samples. The three OREAS CRMs used are: OREAS 97 (6.31 wt% Cu, 19.6 ppm Ag), OREAS 162 (0.772 wt% Cu, 3.5 ppm Ag), and OREAS 930 (2.52 wt% Cu, 9.03 ppm Ag). In total, one blank and one standard were inserted for every ten parent samples. A total of 5 analytical shipments were sent to ALS over the course of the Phase III program.

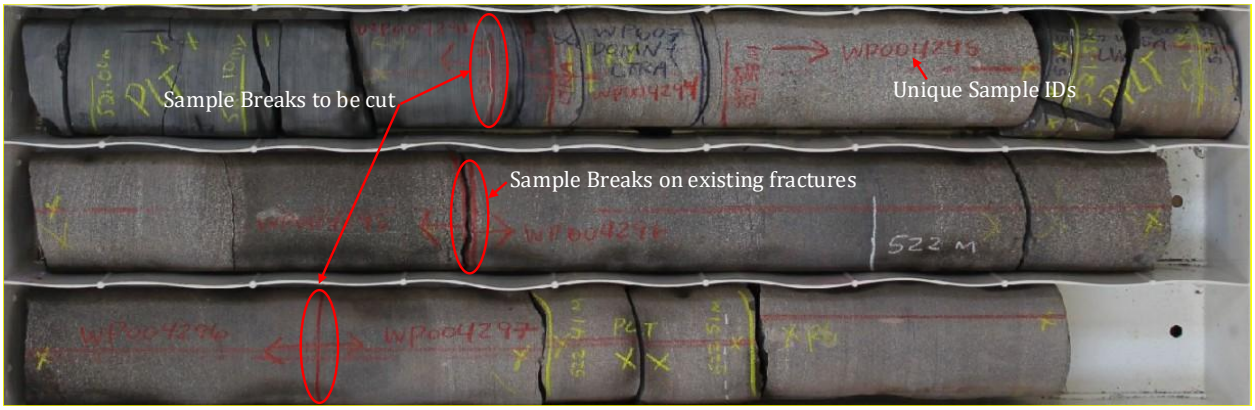


Figure 3-13: Example of Sample Nomenclature and Sample Break Locations (2024-2026)

3.3.2 Geotechnical Sampling

2014-2015

The geotechnical data collected during the 2014–2015 drill program was limited in scope. Six holes were drilled at inclination specifically to obtain structural data for geotechnical studies. Six holes were also surveyed with acoustic televiewer technology to characterize the in situ geotechnical properties of the host rock. No rock mechanics laboratory testing, oriented core logging for structural purposes, or geomechanical characterization programs were completed (GMS, 2023).

Phase I (Winter 2024)

Phase I included geotechnical logging (core recovery, RQD, mechanical break identification, joint characterization, and Point Load Tests (PLT)), conducted jointly by Dahrouge and SRK Consulting following SRK-generated Standard Operating Procedures.

PLT samples were collected every 30 m in the Freda Formation, every 3 m in the Nonesuch Formation until the Marker Bed was reached. From that point, PLT tests were completed every 1 m. Once past the LTRA-to-LWSA contact, PLT collection was reduced to one sample every 3 m through the end of

the hole. One oriented drillhole, WP582, was completed with orientation initiated 20 m above the Marker Bed. The oriented core was jointly logged by Dahrouge and SRK geologists.

Phase II (Summer 2024)

Geotechnical logging in Phase II was conducted jointly by Dahrouge geologists and SRK Consultants following the SRK Standard Operating Procedures. Core recovery measurements (TCR), RQD, mechanical break identification, natural joint characterization, and IRS/hammer drop tests were completed at the core logging facility.

PLT samples were tested every 30 m in the Freda Formation and every 10 m in the Nonesuch. Once the Marker Bed was reached, PLT samples were tested every meter and/or at every lithology subunit (depending on length) through the ore column. Units less than 10 cm in width, such as the Thinly, Domino, and in some cases the Upper and Lower Transition, were not tested. PLT's were reduced to one sample every 3 m below the LTRA-to-LWSA.

Initially, one wedge from each hole was planned for geotechnical laboratory testing by SRK at Advanced Terra Testing (833 Parfet St, Unit A, Lakewood, CO, USA). This was expanded mid-program to ensure sufficient material availability without compromising metallurgical test volumes. Geotechnical samples were collected for one of three tests: Uniaxial Compressive Strength (UCS), Brazilian Tensile Strength (BTS), or Slake testing. Core selected for these tests needed to be greater than 10 cm in length. Samples were labeled in yellow or white Tombow marker with depth and sample number, documented, wrapped in bubble wrap, and placed into five-gallon buckets for shipment. Bucket lids included the names of samples inside, total sample count, and total weight.

A total of 132 geotechnical samples were collected. UCS or BTS samples that were broken during transit to Advanced Terra Testing may have been redirected to Slake testing. UCS and BTS samples, following laboratory testing, were forwarded to BaseMet Laboratories for metallurgical testing. Slake-tested samples were considered unsuitable for subsequent metallurgical testing.

Phase III (Winter 2026)

Geotechnical logging in Phase III was conducted jointly by Dahrouge geologists and WSP Consultants following WSP Standard Operating Procedures. These procedures were modified by WSP from the SRK SOPs established in Phases I and II to better capture the data WSP required. Core recovery (TCR), RQD, mechanical break identification (parallel and nonparallel to bedding counted separately), natural joint characterization (using the same joint classification parameters as Phase II), and hammer drop testing were performed. Geotechnical sampling and point load testing occurred at prescribed intervals. PLT data was recorded using WSP-specified failure types.

Within the Freda and Nonesuch Formations (up to 50 m above the Marker Bed), geotechnical logging was completed only in the 10 m above and below structures, with one valid diametral and one axial PLT per 3 m in fault-adjacent zones. Two to three geotechnical samples were also collected within the Freda Formation. From 50 m above the Marker Bed to the Marker Bed itself, one PLT test was completed every 10 m. From the Marker Bed to 5 m into the LWSA, one sample was collected per lithologic unit (or at 1 m intervals within larger units), with 1-3 valid diametral and axial PLTs per unit or per meter. Units less than 0.1 m in thickness (primarily Thinly and Domino) were sampled

where possible. Below the LWSA contact, PLT collection was reduced to one sample every 3 m to the end of the hole. No geotechnical samples were collected from wedge holes in order to preserve material for metallurgical testing.

Physical geotechnical samples were collected by a Dahrouge geologist at the rig as runs were drilled. This was done in order to prevent core breakage by drill crews during the boxing and transport process. Samples needed to meet a length requirement of 0.15 to 0.25 m whenever possible and were to contain minimal microdefects or jointing. Samples were marked on core with two vertical lines in solid yellow Tombow grease marker with start depth, end depth, Hole ID, 4-letter subunit code, length, and date collected noted. Samples were photographed on all sides, wrapped in saran wrap, and kept in the Dahrouge truck during collection to minimize breakage.

After transport to the core processing facility, samples were unwrapped for final core logging documentation, then rewrapped with saran wrap, a layer of bubble wrap, and duct tape for shipping preparation. The outside of the sample wrap was labelled with sample information. Locations in core boxes where samples had been removed were replaced with core blocks detailing which samples had been taken. Geotechnical samples were shipped via FedEx in plastic coolers to WSP's internal laboratory.



Figure 3-14: Geotechnical Sample Packaging

Table 3-5: Summary of Geotechnical Sample Collection (Phase III – WSP)

Interval	Description	Geotechnical Samples
1	Top of hole to 50m above Marker Bed	2-3 samples in Freda
2	50m above Marker Bed to Marker Bed	1 sample per 10m
3	Marker Bed to 5m into LWSA	1 sample per unit; 1 sample per meter for larger units (>1m)
4	5m into LWSA to end of hole	1 sample per 10m

3.3.3 Metallurgical Sampling

2014-2015

As part of the 2014-2015 drilling program, WPC initiated a preliminary metallurgical testing program at COREM laboratories (1180 Rue de la Minéralogie Québec, QC, Canada). The objective was to validate and improve the historical metallurgical performance of the White Pine deposit, targeting a final concentrate grading of approximately 30% Cu at an average recovery of 88%. Flotation testing focused on the Parting Shale (PS) formation.

Metallurgical samples were collected from the 2014-2015 drill program using a combination of quarter (¼) core splits, wedge core, and bulk samples. Samples covered multiple lithological configurations including the Parting Shale, Full Column, Upper Shale Sandstone (UPSA), Upper Shale, and Lower Sandstone units. In total, 18 wedges were completed to collect approximately 635 kg of mineralized core for metallurgical purposes.

The first testing campaign was largely completed in Q1 2015. A second batch of Parting Shale metallurgical samples was subsequently generated and submitted to COREM for storage in support of future pre-feasibility study (PFS) testing. Comminution testing including Bond Ball Mill and Rod Mill Work Index tests was conducted at COREM, SAG Mill Comminution (SMC) tests were performed by JKTech, and Crushing Work Index (CWi) tests were conducted at FLSmidth laboratories (GMS, 2023).

Phase I (Winter 2024)

Metallurgical sampling was the primary objective of Phase I. Sampling was supervised by Dahrouge geologists under the oversight of a qualified professional geologist, with trained staff involved at all stages. The focus of sampling was the full ore column, from the Widely through the Lower Transition units, with an additional 0.5 m of material collected in both the footwall (below LTRA) and the hanging wall (above WIDE).

Core within the full column was marked up and cut along lithologic contacts using an electric-powered, water-cooled diamond bladed masonry saw at the preparation and storage facility. Sample intervals were targeted at 0.5 m in length, marked on core, recorded in both the geologic database and sample books, and photographed on core boxes. Special care was taken to ensure samples did not cross lithologic boundaries so that individual metallurgical data could be obtained for each sub-unit. Each interval was assigned a unique sample number. Whole core samples were placed in clearly labelled sample bags with backup sample tags inside. Sample bags were confirmed and secured in sand bags, then placed in larger shipping containers. Detailed shipping logs were sent in both digital and hard copy to the primary analytical laboratory. Samples were shipped via bonded commercial transport. Un-sampled core was stored in labelled core boxes for reference or further sampling.

A total of 191 samples were sent to Base Metallurgical Laboratories (200-970 McMaster Way Kamloops, BC, Canada) for analysis, all of which were original whole-core sections. The cumulative weight of material available for sampling was 884.6 kg.

Phase II (Summer 2024)

Metallurgical sampling was conducted on all pilot drillholes and wedges, with the exception of core taken for geotechnical sampling (as outlined above). Half-core was used for all metallurgical samples in pilot drillholes and whole-core was used for wedges.

In pilot drillholes, metallurgical samples followed the same intervals and sample IDs as analytical samples, with the addition of "M" at the end of the sample ID as a unique classifier. No field duplicates, blanks, or standards were included in the metallurgical sample sequence. Because field duplicates were captured on the first sample of each pilot drillhole (taking the remaining quarter-core for that interval), no core was available for a metallurgical sample from that first interval. For all other pilot drillhole intervals, one quarter-core piece was retained in the core boxes for future reference. In wedges, the same workflow was used with the addition of the "M" suffix and exclusion of control sample insertion. Cutting on wedges occurred only on unbroken sample boundaries. Metallurgical samples were zip-tied closed, accumulated in rice bags, and shipped to BaseMet Laboratories Ltd.

Phase III (Winter 2026)

Metallurgical samples were taken on all sections of core that were analytically sampled, following the same general workflow as was used in Phase II. Half-core was used for all metallurgical samples. Metallurgical samples followed the same intervals and sample IDs as analytical samples with the addition of "M" at the end of the sample ID. No field duplicates, blanks, or standards were included in the metallurgical sample sequence. Because a field duplicate was collected for every first sample in ore column sampling (taking the quarter-core), no remaining core was available for a metallurgical sample from that first interval. For all subsequent pilot drillhole samples, one quarter-core piece remained in the core boxes for future reference.

Metallurgical samples were zip-tied closed, collected and sealed in labeled 5-gallon pails for future metallurgical test work.

3.3.4 Specific Gravity Sampling

2014-2015

For the 2014-2015 drill program, bulk density measurements at the White Pine North Project were collected using two methods. In-house specific gravity (SG) was determined by the water immersion method on whole core. Samples were dried at 60°C until completely free of moisture (4-16 hours), weighed for dry mass, and submerged to determine specific gravity. Water temperature was recorded at each measurement to refine the water density correction.

Quarter (¼) core was also sent to Actlabs for bulk density determination using the wax immersion method (ASTM Designation C914-09). Samples were weighed using a calibrated Radwag balance (0.01 g accuracy, calibrated and re-certified annually), carefully wax-coated to remove trapped air, and the cumulative suspended weight determined using a submerged wire basket. Specific gravity values from the wax immersion method were multiplied by the density of water to yield bulk density, with a laboratory temperature of 23°C ±1°C corresponding to a water density of 0.997 g/cc.

A total of 518 SG measurements were collected at the White Pine North Project spanning 1958 to 2015. Per-bed statistics showed some variation between lithological units, ranging from a mean of 2.68 g/cc for the Lower Sandstone to 2.77 g/cc for the DGMA unit. A homogenous density value of 2.74 g/cc was adopted for use in the subsequent PEA (GMS, 2023).

Phase II (Summer 2024)

Representative samples of each lithology from the full ore column were selected for specific gravity testing. Sample length was dependent on the total recovered core available and ranged from 4 cm to no greater than 25 cm per lithology. Units with very thin core, such as the Domino (DOMN) and Thinly (THIN), had average core lengths of approximately 4 cm and called for the entirety of the recovered unit to be selected for testing. Units with substantially larger available sections, such as the Red and Grey (RAGR) or Upper Sandstone (UPSA), allowed for sections up to 25 cm to be selected. Once each sample was selected, depths were written directly on the core and noted in the respective drillhole geological logging Excel sheet.

Dahrouge geologists used a water-submersion method to collect all Phase II SG measurements. No external SG measurements were completed. To minimize the effect of internal fluid content on results, each sample was placed in a bake oven onsite and baked for no less than 40 minutes at 250°F prior to testing. Following baking, specific gravity was determined using the following procedure: (1) measure the mass of the dry sample in grams; (2) suspend the sample in water and measure the submerged mass in grams via downward pull on a string attached to the bottom of a calibrated scale; (3) subtract the submerged mass from the dry mass; (4) divide the dry mass by the value obtained in step 3, yielding a specific gravity value. Ideal core selected for testing lacked chips, heavy fractures, or redrill/drill spin. After SG testing was completed, core was returned to the respective core box for subsequent cutting and sampling for metallurgical, geotechnical, and/or analytical purposes.

Of the 570 SG measurements taken during the Phase II program, 546 samples were used in the final analysis. A small number of samples where units had been combined due to their size, were removed as they were not consistent with rest of the data set. Drillholes WP594C and WP599C were removed entirely from the analysis because all values returned significantly lower than the subunit values in the remainder of the data. This consistent error was suspected to stem from instrumentation malfunction.

Overall, the relative percent difference (RPD) between the Phase II SG data and the PEA-reported values was very small, although the PEA values generally trended slightly higher than the Phase II averages across subunits. The small difference may reflect variations in sample selection and measurement methodology. Unlike the wax-sealed measurements described in the PEA, the Phase II measurements were completed on unsealed core following a shorter oven-baking period. Measurements may therefore have been influenced by differences in drying duration, sample porosity, water absorption, trapped air, immersion time, and other procedural factors. These factors can affect immersion-based measurements in different ways, and the small systematic difference cannot be attributed conclusively to a single cause.

Statistical analysis of the Phase II SG data identified several subunits with kurtosis greater than the selected screening threshold of 2 and skewness outside the range of -0.5 to 0.5. These results indicate non-normal or asymmetric distributions but do not, by themselves, demonstrate unreliable data. The observed distributions may reflect natural heterogeneity within the rock, variability in measurement conditions, localized outliers, or the relatively small number of measurements available for some subunits.

Phase III (Winter 2026)

The same water-submersion method used in Phase II was applied in Phase III. Representative samples of each lithology from the full column were selected, with sample lengths ranging from 3 cm to no greater than 25 cm per lithology.

Of the 133 SG measurements taken during the Phase III program, 125 samples were used in the final analysis. The 8 removed samples had values that were statistically higher or lower than expected, with the discrepancies attributed to equipment failures.

Overall, the relative percent difference (RPD) between the Phase III SG data and the PEA-reported values was very small. As with Phase II, the PEA SG values generally trended slightly higher than the Phase III averages across subunits. The small difference may reflect variations in sample selection and measurement methodology, including differences in sample drying, sealing, porosity, trapped air, and immersion procedures. Because these factors can affect immersion-based measurements in different ways, the observed difference cannot be attributed conclusively to a single cause.

Table 3-6 Summary of SG Samples Collected at White Pine

Rock Code	2023 PEA SG (n)	Phase II SG (n)	Phase III SG (n)
RAGR	2.73 (1)	2.70 (39)	2.68 (8)
WIDE	2.73 (36)	2.70 (39)	2.69 (9)
UZVA	2.74 (41)	2.68 (39)	2.67 (9)
BMAS	2.72 (42)	2.70 (39)	2.66 (10)
THIN	2.76 (28)	2.67 (32)	2.65 (7)
UTRA	2.75 (34)	2.73 (37)	2.69 (9)
UPSA	2.69 (43)	2.68 (39)	2.62 (10)
TIGR	2.74 (51)	2.71 (35)	2.68 (9)
TOPZ	2.73 (31)	2.70 (40)	2.68 (10)
DGMA	2.74 (38)	2.72 (38)	2.67 (9)
RMAS	2.74 (32)	2.69 (38)	2.67 (10)
DOMN	2.77 (55)	2.67 (32)	2.69 (6)
LTRA	2.73 (48)	2.73 (36)	2.70 (9)
LWSA	2.68 (38)	2.64 (39)	2.61 (11)
CCGL	—	2.69 (24)	2.63 (7)

SG Data Used in 2026 Resource Model Update

SG data informs the bulk density assumptions used in the Mineral Resource estimate (MRE). The density model for the current estimate draws on all available SG measurements, combining the historical 1958–2015 dataset reported in the 2023 PEA with the more recent Phase II and Phase III programs into a single dataset.

The close agreement with the 2023 PEA values confirms that the Phase II and Phase III measurements are consistent with the historical dataset. 125 SG measurements from Phase III were incorporated into the combined SG dataset used for the current density model. 134 SG values from the Phase II data were incorporated. All other values from Phase II were pending incorporation into the database at the time of modeling.

3.3.5 Historical Sampling

Historical exploration and drilling work completed at the White Pine North Project was performed by the Copper Range Company and its predecessors, with drilling spanning from 1956 to 1998. During that period, core from above the ore zone was laid on the ground and logged. Core from the Top of Mineralization through the Lower Transition units was stored in five-foot-long spruce boxes and transferred to the White Pine Mine laboratory for logging and stratigraphic identification.

Historical assay grades were recorded in the original logbooks in imperial units (copper in lbs/short ton and silver in oz/short ton). Limited QA/QC documentation is available for the historical programs. Records on specific analytical methods (such as fire assay specifications) are also limited.

In January 2014, WPC conducted a resampling program to validate the historical CRC assay database, collecting ¼-cut splits from 883 sample intervals across 51 historical drill holes. Results from both screen metallic assay and 2.5 g digestion ICP methods showed good correlation with the historical assay values (GMS, 2023).

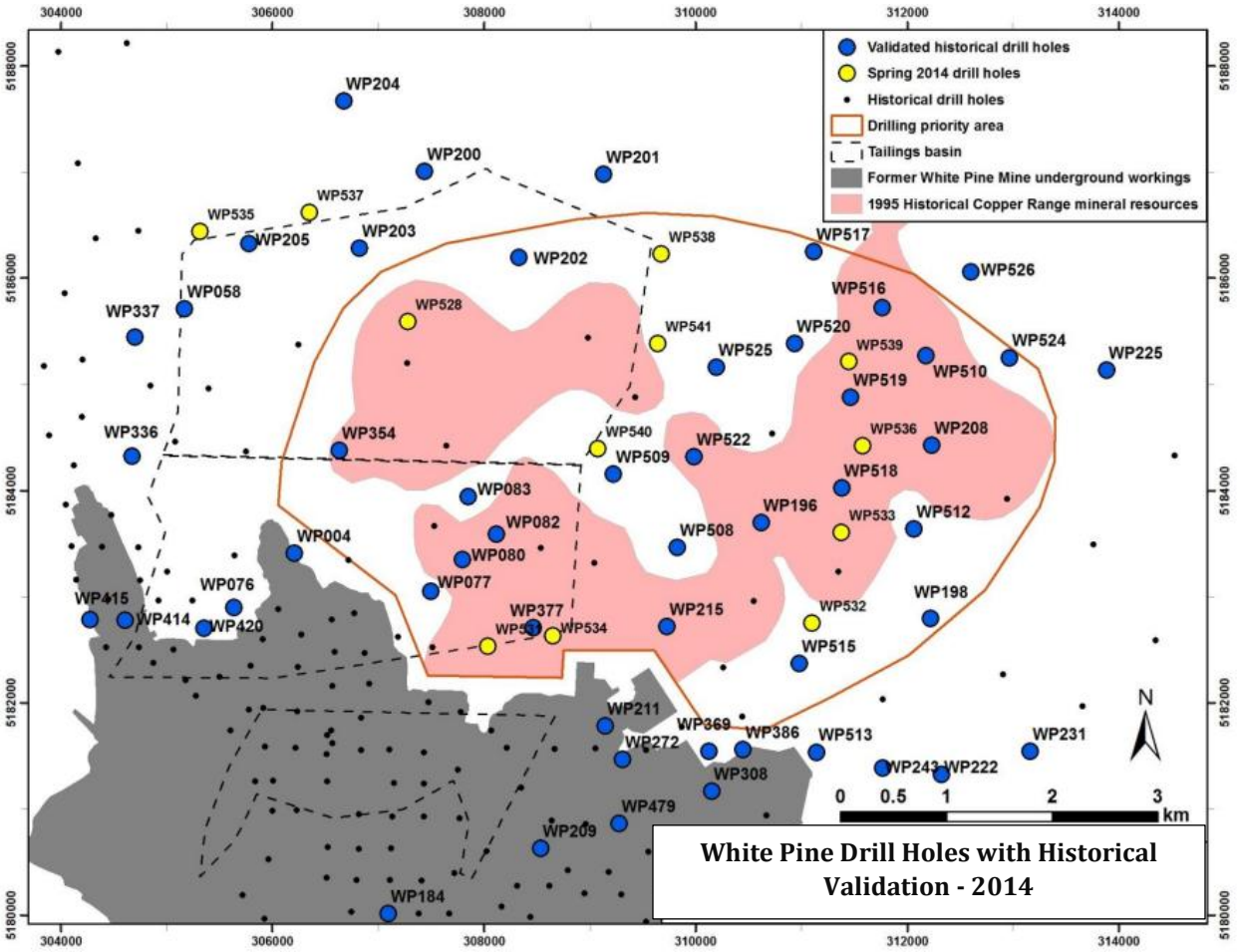


Figure 3-15: Historical Diamond Drill Holes Location Map – Validation 2014 (GMS, 2019)

3.4 LABORATORY ANALYSIS

3.4.1 Analytical Lab Sample Preparation and Analysis Methods

2014-2015

For the 2014-2015 Drilling efforts, all sample preparation and assaying was handled exclusively by Activation Laboratories Ltd. (Actlabs) of Thunder Bay, Ontario, Canada. Actlabs holds accreditations to ISO 9001, ISO/IEC 17025, and CAN-P-1579 for mineral analysis testing laboratories. Prior to assaying, the entire sample mass (up to 7 kg) was crushed to 80% passing 2 mm using a jaw crusher, after which a 250 g split was pulverized to 95% passing 140 mesh (105 µm). All remaining pulps were retained and returned to WPC for storage.

All 2014-2015 drill core samples were analyzed for Ag and Cu using 4-Acid Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) (method code 8), which is the higher-ranked method for silver and copper, with lower detection limits of 0.001% Cu and 3 g/t Ag. A complementary 36-element ICP Total Digestion suite (method code 1F2), including Ag and Cu, was also run on all samples. In total, 171 CRMs, 94 blanks, 15 core duplicates, and 120 preparation duplicates were submitted for quality assurance purposes. A total of 1,701 assays were completed for the 2014-2015 programs.

The same procedures described for the 2014-2015 program were used for the three drillholes completed in 2022-2023.

Phase I (Winter 2024)

Phase I was a metallurgical sampling program only. No geochemical assays were completed.

Phase II (Summer 2024)

Similar to the 2014-2015 program, ActLabs in Thunder Bay, Ontario, was selected to provide geochemical analysis for the Phase II program. Multi-element assays were completed for pilot drillholes WP587, WP588, and WP590 through WP601. In total, 394 samples were submitted for analytical analysis, of which 343 were not control samples.

Lab sample preparation followed the RX1 method, which consisted of:

- Dry and crush (samples less than 7 kg) to 80% passing 2 mm (10 mesh)
- Riffle split of 250 g and pulverize using mild steel to 95% passing 105 µm (150 mesh)

The primary method for multi-element analysis was 1F2-Tbay Total Digestion ICP (referred to as TOTAL), which consisted of:

- 0.25 g sample digestion using hydrofluoric, nitric, and perchloric acids
- Sample heated to incipient dryness
- Sample brought back into solution using aqua regia
- Final solution analyzed by ICP

For samples with Cu values greater than 10,000 ppm and Ag values greater than 50 ppm that exceeded the detection limit of the primary method, a secondary overlimit method, Keweenaw Bay 8-4 Acid ICP-OES was applied:

- Sample digestion with nitric, perchloric, hydrofluoric, and hydrochloric acids heated to temperatures of 260°C
- Final solution analyzed by ICP-OES

For samples with Ba values greater than 1,000 ppm that exceeded the detection limit of the primary method, a secondary Sample Fusion followed by ICP (FUS-ICP) method was applied:

- Samples mixed with a flux of lithium metaborate and lithium tetraborate and fused in an induction furnace
- The molten melt poured immediately into a solution of 5% nitric acid containing an internal standard and mixed continuously until completely dissolved
- Samples run for major oxides and selected trace elements by ICP

Phase III (Winter 2026)

ALS was selected to provide geochemical results for the Phase III program. Sample preparation work was completed at ALS Reno, while analytical work was done at ALS Vancouver. Multi-element analysis was completed for 5 drillholes, and for 8 wedges. One hole was reserved for geotechnical sampling only and was not analytically sampled. In total, 493 samples were shipped for analytical analysis, of which 400 were not control samples.

ALS Reno used the PREP-31 method for sample preparation, completed at the ALS Reno location. This preparation consisted of:

- Samples weighed and logged in kilograms upon receipt
- Each sample dried and crushed to a target of 70% passing 2 mm (10 mesh)
- Samples riffle split to a 250 g subsample and pulverized to a target of 85% passing 75 µm (200 mesh)
- Where samples contained greater than 1% visible copper as identified during mineralogy logging, Dahrouge geologists instructed ALS to apply preparation codes WSH-21 (crusher wash) and WSH-22 (pulverizer wash) to minimize the risk of contamination adjacent to known high-grade samples

Once preparation was complete, samples were shipped to ALS Vancouver for analytical using the following methods:

- Multi-element analysis by ME-MS61, consisting of digestion of a 0.25 g sample using nitric, perchloric, hydrofluoric, and hydrochloric acids, followed by analysis by inductively coupled plasma–mass spectrometry (ICP-MS)
- Gold analysis by Au-ST34

For samples with Cu greater than 10,000 ppm and Ag greater than 100 ppm that exceeded the detection limit of the primary ME-MS61 method, a secondary overlimit detection method was applied, Cu-OG62 for copper and Ag-OG62 for silver:

- 0.4 g sample digestion with Four Acid (Nitric-Perchloric, Hydrofluoric, and Hydrochloric acids)
- Analysis by ICP-AES (Inductively Coupled Plasma Atomic Emission Spectroscopy) instrumentation for ore-grade overlimit detection

All samples also received analysis by method Au-ST43, a super-trace gold detection analysis, at the request of Kinterra. This consisted of:

- 25 g sample extraction by aqua regia (a concentrated 1:3 molar mixture of nitric and hydrochloric acid)
- Analysis by ICP-MS instrumentation finish

Once results were complete, ALS reported certificates back in Excel workbook and locked PDF form to Dahrouge project managers, White Pine Copper management, and Kinterra staff.

3.5 QUALITY ASSURANCE, DOCUMENTATION, AND VALIDATION

3.5.1 Field Duplicates

2014-2015

The 2014-2015 QA/QC program at White Pine North included two types of field and preparation duplicates: sampling-stage core duplicates and crushing-stage preparation duplicates.

Sampling-stage core duplicates were collected by WPC geologists on site by taking a quarter (¼) core split from the same assay interval as the primary sample. Core duplicates were inserted at an approximate rate of one per 20 samples (0.9% of total samples), resulting in 15 core duplicate pairs across the 2014-2015 programs. Crushing-stage preparation duplicates were collected in the preparation laboratory by Actlabs after jaw crushing, at a rate of approximately 4 per 100 samples (7.0%), yielding 120 preparation duplicate pairs.

Core duplicate performance was considered acceptable, reflecting good overall precision and negligible sampling and analytical error. Three of the 15 copper core duplicate pairs (20%) exhibited a mean pair relative difference greater than 20%, which was attributed to natural grade variability characteristics of the ore deposit rather than sampling error. Three silver core duplicate pairs also exceeded the 20% mean pair relative difference threshold, with one of these coinciding with one of the three deviating copper pairs.

Crushing-stage preparation duplicates demonstrated acceptable performance, reflecting good overall laboratory precision and negligible preparation and analytical error. Of the 120 copper preparation duplicate pairs, 93% (111 pairs) had a mean pair relative difference of less than 20%, with no significant outliers. One silver preparation duplicate was marginally over the 20% threshold.

A paired t-Test (t-Test: Paired Two Samples for Mean) was conducted on the original and duplicate sample values for both preparation duplicates. No bias was detected. The average copper grade from

the original values was 1% lower than the duplicate sample values (means of 0.724% Cu vs. 0.719% Cu; Pearson correlation = 0.9997). The average silver grade from the original values was similarly 1% lower than the duplicate sample values (means of 11.37 g/t Ag vs. 11.21 g/t Ag; Pearson correlation = 0.9994) (GMS, 2023).

The same procedures described for the 2014-2015 program were used for the three drillholes completed in 2022-2023.

Phase I (Winter 2024)

Phase I was a metallurgical sampling program only. No analytical assay field duplicates were collected or evaluated.

Phase II (Summer 2024)

Field duplicates were inserted in the last 0.5 m of the RAGR subunit as the first sample in every pilot drillhole. Parent and child samples were taken from the same depths and cut into quarter-core. Both samples were sent to the lab with separate and sequential sample IDs and no unique identifiers that would indicate their relationship, ensuring blind analysis. A total of 14 field duplicates were collected and submitted, one from each drillhole. To evaluate duplicate performance, an R-squared value was calculated to summarize cumulative parent-child correlation, and a Relative Percent Difference (RPD) was calculated for each parent-field duplicate pair.

Cu: The Cu field duplicate comparison showed an R-squared value of 0.9854, which is within acceptable limits and demonstrates strong positive correlation between field duplicates and their associated parent sample assay values. No individual parent-field duplicate comparison displayed a percent error above 20%. Both the primary (TD-ICP) and secondary (4 Acid ICP-OES) analysis methods showed very little heterogeneity between parent and field duplicate samples. Because field duplicates were only taken in one specific unit (RAGR) with known lower Cu concentrations, assays may be biased and exhibit a level of homogeneity that is not representative of higher-concentration subunits.

Ag: The Ag field duplicate comparison showed an R-squared value of 0.0814, indicating poor correlation between field duplicates and their associated parent sample assay values. Individually, 8 of the 14 field duplicates had RPDs over 20%. This poor performance has been primarily attributed to the fact that the overall Ag assay values across the RAGR subunit are on a much smaller scale and were at or below the detection limit of 0.3 ppm in many cases. Values below the detection limit were replaced with half the detection limit (0.15 ppm), which creates high variability that may not be representative of the true relationship between field duplicate and parent assays.

Phase III (Winter 2026)

Field duplicates were inserted after the first sample taken within each sampled drillhole ore zone, in the last 0.5 m of the RAGR subunit. Parent and child samples were taken from the same depths, cut into quarter-core, and sent to the analytical lab with unique sample IDs and no other identifiers which could indicate that the two samples were from the same section of core. A total of 13 field duplicates were collected across the 13 sampled drillholes. An R-squared value was calculated to summarize

overall correlation and an RPD was calculated for each parent-child pair. Due to the small sample size, these values are likely not statistically significant.

Cu: The Cu field duplicate comparison showed an R-squared value of 0.9662, within acceptable limits and demonstrating strong positive correlation between field duplicates and their associated parent sample assay values. No individual parent-child comparison displayed a percent error above 20%. Both methods of statistical analysis showed positive homogeneity between parent and field duplicate samples. As with Phase II, since field duplicates were only taken in one specific unit (RAGR) with known low Cu concentrations, assays could be biased and exhibit a level of homogeneity not representative of the other subunits.

Ag: The Ag field duplicate comparison showed an R-squared value of 0.2509, indicating little to no correlation between field duplicates and their associated parent sample Ag assay values. Individually, 8 of the 13 field duplicates were over 20% RPD. The overall Ag assay values in the RAGR subunit are on a much smaller scale and are just above the detection limit of the ME-MS61 method (0.01 ppm), which can lead to high variability that may not be representative of the true relationship between field duplicate and parent assays.

3.5.2 Standards

2014-2015

WPC's protocol for the 2014-2015 drilling program was to insert two Certified Reference Materials (CRMs) with each set of samples from a single drill hole at an approximate rate of one CRM per 20 samples, for an overall insertion rate of 10.1%. The site geologist alternated insertions between low-grade, medium-grade, and high-grade standards matched to the mineralization intensity of the surrounding interval. CRMs were submitted alongside core samples to identify problems with specific sample batches or long-term laboratory biases.

Six CRMs were used in total. Three were manufactured by Ore Research and Exploration Pty Ltd. (OREAS) of Australia: OREAS 95, OREAS 97, and OREAS 162. The other three were produced by CDN Resource Laboratories Ltd. (CDN Labs) of Canada: CDN-ME-13, CDN-ME-19, and CDN-ME-1205. All six are certified in accordance with ISO recommendations. Three additional CRMs (CDN-CM-17, CDN-ME-11, and OREAS 98) were excluded from the program summary as fewer than three samples of each were inserted.

For copper, performance was assessed against ±3 standard deviations (±3σ) for the primary 4-Acid ICP-OES method and against ±5% limits for the geochemical ICP total digestion method (1F2). For silver, results were assessed against ±3σ limits. Cu expected values ranged from 0.218% Cu (CDN-ME-1205) to 6.31% Cu (OREAS 97). Ag expected values ranged from 3.5 g/t Ag (OREAS 162) to 103 g/t Ag (CDN-ME-19).

A total of 171 CRM insertions were submitted to Actlabs for assaying across the 2014–2015 programs. Overall CRM performance was within acceptable industry parameters, indicating no significant laboratory bias. All 171 CRMs had copper analytical values within ±3σ of their certified value. For silver, seven CRMs had analytical values outside ±3σ of their certified value; however, one of these failures was determined to be marginal, with an assayed value of 66 g/t Ag against a lower

acceptance limit of 66.3 g/t Ag for CDN-ME-13, and was considered to have passed the QA/QC threshold (GMS, 2023).

Phase I (Winter 2024)

No CRMs were used in the Phase I metallurgical sampling program.

Phase II (Summer 2024)

Standards were inserted every 20 parent samples, alternating between OREAS 162, OREAS 930, and OREAS 97. This resulted in an overall CRM insertion rate of 6.41%. Each standard came pre-separated in unique bags of relatively equal sample weight. The label indicating the standard name on each standard packet was removed and a new unique sequential sample tag was included with the packet, with sample IDs chosen in sequential order relative to surrounding core samples. A total of 22 standards were submitted: 10 OREAS 162, 8 OREAS 930, and 4 OREAS 97 against a target of even thirds. All certified reference material values were taken from OREAS certificates, which display rounded values for the calculated 1st, 2nd, and 3rd standard deviations. For OREAS 162 and OREAS 930, the 1st, 2nd, and 3rd standard deviation values were calculated from the standard deviation supplied by OREAS. For OREAS 97, the certificate did not provide a standard deviation value but did provide calculated 1st, 2nd, and 3rd standard deviations from which a standard deviation was derived.

OREAS 162 (certified value: 0.772 wt% Cu): Cu performed within acceptable limits, with all values returning within the 1st and 2nd standard deviation bands. No further analysis could be performed; more data is necessary to identify statistically significant trends. Ag performed very well with little to no indication of contamination, with values trending slightly toward the upper 1st standard deviation.

OREAS 930 (certified value: 2.52 wt% Cu): Cu performed within acceptable limits. Ag showed 3 of the 8 inserted standards failing high past the 3rd standard deviation (samples WP003215, WP003608, and WP003818), which merited re-runs; the re-assay values came back within acceptable limits. Sample WP003813 (an adjacent core sample, not the standard) was recorded by the lab as containing "nuggety Ag," which may have influenced the initial failures through batch contamination. There was likely contamination of Ag introduced somewhere in the sampling process, with 3 of 8 insertions failing on first run. Further investigation into potential contamination or assay/lab bias for this standard was recommended.

OREAS 97 (certified value: 6.31 wt% Cu): Cu performed within acceptable limits, with all 4 values returning within the 1st and 2nd standard deviation bands. Ag performed very well with little to no indication of contamination. One sample (WP004251) failed high for Sb; all other additional analytes with certified values performed within acceptable limits.

Phase III (Winter 2026)

Standards were inserted every 10 parent samples, alternating between OREAS 162, OREAS 930, and OREAS 97. This resulted in a CRM insertion rate of 8.32%. Each standard came pre-separated in unique bags of relatively equal sample weight. The label indicating the standard name on each

standard packet was removed and a new unique sequential sample tag was included. Sample IDs were chosen in sequential order relative to the surrounding core samples. A total of 41 CRM standards were submitted: 13 OREAS 162, 15 OREAS 930, and 13 OREAS 97, against a target of even thirds. All certified reference material values were taken from OREAS certificates, which display rounded values for the calculated 1st, 2nd, and 3rd standard deviations. More data is necessary to properly identify trends in assay/lab bias, contamination, or instrument/method drift. ALS also completed their own standard internal QAQC on all assay batches, including inserted internal lab duplicates, blanks, and standards.

OREAS 97 (certified value: 6.31 wt% Cu, 19.6 ppm Ag): Cu performed very well with little to no indication of contamination, with all lab-reported values within 1 standard deviation of the certified value. No reruns were requested due to failures of the OREAS 97 CRM. Ag performed well within acceptable limits; all but one CRM were within 1 standard deviation for Ag, and all values returned within 2 standard deviations. No reruns were requested.

OREAS 162 (certified value: 0.772 wt% Cu, 3.5 ppm Ag): Cu performed within acceptable limits, with 2 values reported within the 2nd standard deviation of certified values and 11 values reported within the 1st standard deviation. No reruns were requested due to failures of the OREAS 162 CRM. Ag performed well within acceptable limits; all values returned within 1 standard deviation of the certified value. Most samples ran slightly low within the 1st standard deviation, noted as no major concern. No reruns were requested.

OREAS 930 (certified value: 2.52 wt% Cu, 9.03 ppm Ag): Cu performed within acceptable limits, with 1 value within the 2nd standard deviation of the certified value and the remaining values within 1 standard deviation. There was no concern for this CRM regarding Cu. Ag showed 2 failures well outside the 3rd high standard deviation of the certified value (CRM WP004632, CRM WP004364). Of the remaining 13 CRM insertions, 1 fell within the 3rd high standard deviation, 1 fell within the 2nd high standard deviation, and the remaining 9 passed within 1 standard deviation of the certified value.

The 10 samples surrounding the 2 significant failures were re-assayed by ALS. The rerun for failed CRM WP004632 (samples WP004627–WP004637) returned a pass within 1 standard deviation, with surrounding values showing a coefficient of variation of 20.66%. The rerun for failed CRM WP004364 (samples WP004359–WP004369) required two reanalysis passes by ALS to confirm. Some variability was noted in both reruns, attributed in part to values near the Ag detection limit, but the CRM passed on both reruns. Both OREAS 930 Ag failures are therefore considered resolved.

3.5.3 Blanks

2014-2015

To monitor contamination during sample preparation and assaying, WPC inserted three types of certified coarse blank materials into the 2014-2015 sample stream at an approximate rate of one per 20 samples: OPTA, BL-10, and WPB-HC. A total of 94 blank insertions were made across the two programs: 72 OPTA (77%), 17 BL-10 (18%), and 5 WPB-HC (5%).

For copper, 96% of the 94 blanks returned values below 0.01% Cu, which represents 10 times the lower detection limit (10× DL) of the 4-Acid Total Digestion ICP analytical method. Of the three blanks that returned values above 0.01% Cu, none exceeded 1% Cu. Descriptive statistics for the OPTA blank (n=72) showed a mean of 0.0025% Cu and a median of 0.001% Cu, with a maximum of 0.015% Cu, demonstrating no significant contamination. For silver, 100% of blank assay values across all three blank types were below the detection limit of 3 g/t Ag. Performance of the BL-10 blank showed 100% of both copper and silver values within acceptable limits. These results indicate that no significant contamination occurred during sample preparation, delivery, or laboratory analysis (GMS, 2023).

Phase I (Winter 2024)

No coarse blank control samples were used in the Phase I metallurgical sampling program.

Phase II (Summer 2024)

The certified blank used for Phase II was the ASL_CSBLK coarse blank from Analytical Solutions Ltd. (ASL), located at 1403-3230 Yonge Street, Toronto, Ontario, Canada M4N 3P6. Coarse blanks were inserted randomly once every 20 parent samples, resulting in an insertion rate of 4.37%. A total of 15 blanks were submitted against a target insertion rate of 5%. Blank assays were analyzed based on a failure cut-off of 10 times the detection limit of the method. Key composition statistics values include Ag <2 ppm, Cu 18 ppm, Fe 4.3%, Ba 655 ppm, Mn 727 ppm, and Sr 395 ppm.

Cu: Blanks performed very well overall, with only one value reaching 10 times the detection limit (0.001% Cu) and no values surpassing this limit. No further analysis could be carried out; more data is necessary to identify statistically significant trends.

Ag: All blanks performed very well, with all Ag values returning below the detection limit of 0.3 ppm. More data is necessary to identify statistically significant trends.

Phase III (Winter 2026)

The certified blank used for Phase III was the same ASL_CSBLK coarse blank material from Analytical Solutions Ltd. This same material was also used in Phase II. Extra blank ASL_CSBLK material was additionally sent to ALS to determine a baseline elemental composition of the blank for final analysis and determination of which blanks are failures. Coarse blanks were inserted randomly once every 10 parent samples, resulting in an insertion rate of 7.75%. A total of 31 blanks were submitted against a target insertion rate of 5%. Blank assays were analyzed based on a failure cut-off of 10 times the detection limit of the method for Ag (0.01 ppm detection limit; 10x LOD = 0.10 ppm).

For Cu blank failure, average Cu grades noted from previous programs using this blank material, showed Cu to be approximately 4.3 ppm with a standard deviation of approximately 10 ppm. Cu blanks were therefore treated as failures if results were returned at greater than 35 ppm Cu (approximately 3 standard deviations above background). Using this criterion, 7 blanks failed for Cu. Following re-assay, all blanks submitted performed within acceptable limits.

For Ag, the standard blank performance method of 10 times the limit of detection was used (10x LOD = 0.10 ppm Ag). By this criterion, 7 blanks also failed for Ag. A total of 7 blanks failed for Cu and/or Ag combined across the Phase III program.

3.5.4 Historical QAQC

Due to the absence of historical QA/QC records, WPC initiated a resampling and validation program in January 2014 prior to commencing new drilling. This program collected quarter (¼) core splits from 883 historical sample intervals across 51 CRC drill holes. 36 of these holes drilled between 1958 and 1980 in BQ and AQ core, and 15 drilled in 1994-1995 in NQ core. The core splits were analyzed using both screen metallic assay and 2.5 g digestion ICP methods. Results from both methods were in good agreement, and comparison against the original CRC assay values showed excellent correlation with no systematic bias. Based on these results, the historical assay values were accepted as suitable for use in the current Mineral Resource Estimate.

Additionally, a database verification program in January 2014, reviewed 41 drill holes in the Priority Zones area by comparing original paper logbooks against the digital database. The verification identified a 0.3% error rate in sample interval transcription (3 errors from 967 intervals checked), a 0.1% error rate in lithology transcription (1 error from 986 samples), and a 0.1% error rate in assay transcription (1 error from 908 samples checked). A further independent check of approximately 50% of the 2014–2015 assay certificates (1,701 assays) was completed in August 2019, finding no typographical errors, wrong sample numbers, or duplicates (GMS, 2023).

4 GEOLOGICAL SETTING & MINERALIZATION

4.1 REGIONAL GEOLOGY

The Western Upper Peninsula of Michigan, on the south side of Lake Superior, lies on the south flank of the Midcontinent Rift System (MRS), a 2,500-kilometer-long structure of Precambrian age. The region's geology is dominated by a Keweenawan-aged (~1.1 Ga) continental rift-fill sequence, with rock formations of the Porcupine Mountains area including one unit of igneous origin and three sedimentary formations with a combined thickness of approximately 2,240 m (8,000 ft).

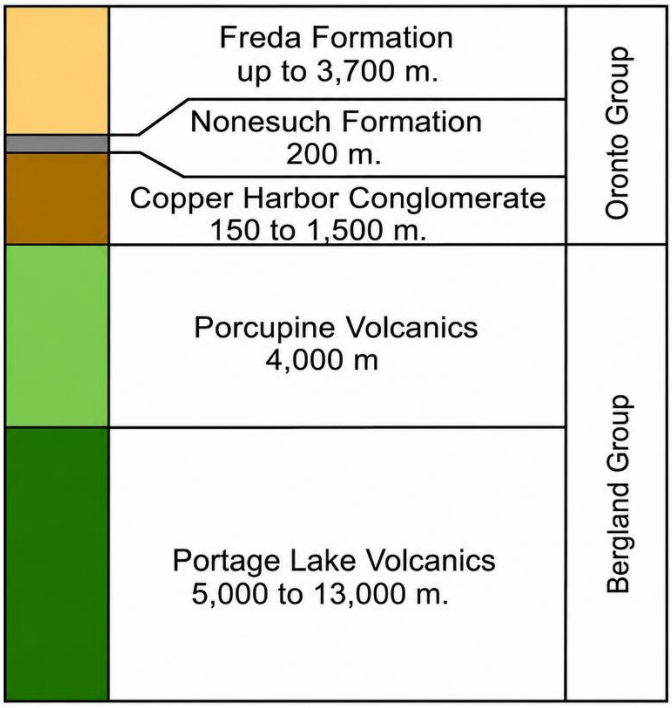


Figure 4-1: Generalized Stratigraphic Column in the White Pine Area (GMS, 2023)

The Porcupine Mountains form an anticline on the southern flank of the larger structural syncline associated with the Midcontinent Rift. The local stratigraphy, from oldest to youngest, comprises the Portage Lake Volcanics, the Porcupine Volcanics (also referred to as the Oak Bluff Formation in some literature), the Copper Harbor Conglomerate, the Nonesuch Formation, and the Freda Formation.

At the base of the MRS, the Portage Lake Volcanics are primarily composed of olivine tholeiite lava flows. These copper-rich basaltic volcanic rocks are renowned for their native copper lodes (the Native Copper Belt) and chalcocite occurrences (the Chalcocite Belt), and they serve as the source material for copper mineralization in the region. The Portage Lake Volcanics are bounded to the southeast by the major Keweenaw Fault, a reversely activated thrust fault that places the younger post-rift Jacobsville Sandstone in contact with the older syn-rift volcanic units (the Porcupine and Portage Lake Volcanics).

Overlying the Portage Lake Volcanics are the Porcupine Volcanics, composed of intermediate to felsic volcanic rocks. These are in turn overlain by the Copper Harbor Conglomerate, a coarse-grained to

conglomeratic alluvial fan deposit. In this area, the Copper Harbor Conglomerate is composed of red (oxidized) lithic sandstone with subordinate amounts of conglomeratic sandstone.

The Nonesuch Formation overlies the Copper Harbor Conglomerate, with its base interfingering with the top of the underlying unit. The Nonesuch Formation is composed of grey to black to red-brown thinly interbedded siltstone, mudstone, carbonaceous shales, and minor shale and sandstone. It hosts copper mineralization throughout the region, with mineral deposition occurring as circulating fluids and remobilized metals sourced from the Portage Lake Volcanics precipitated out of solution across the reducing boundary created by the carbonaceous shales.

The Freda Formation overlies the Nonesuch Formation and is composed of red to red-brown fluvial sandstones. Regional stratigraphic thickening and a slight northeastern dip are characteristic of the area.

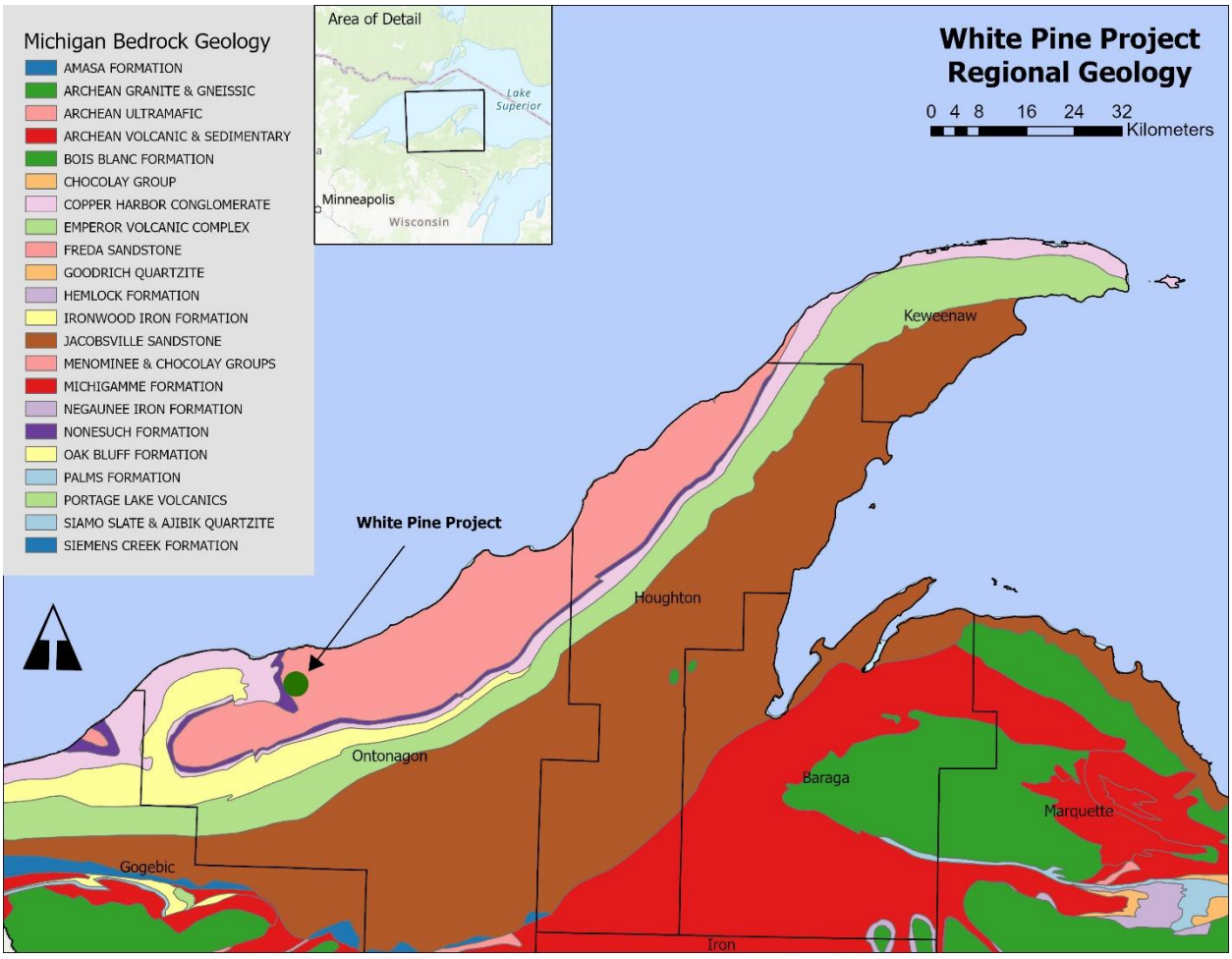


Figure 4-2: Regional Geology Map

4.2 PROPERTY GEOLOGY

The Project is bounded by two major north-dipping faults in the Southwest Mine, strike-slip faults in the North Mine, and a shallow east-southeast plunging anticline immediately north of the White Pine fault.

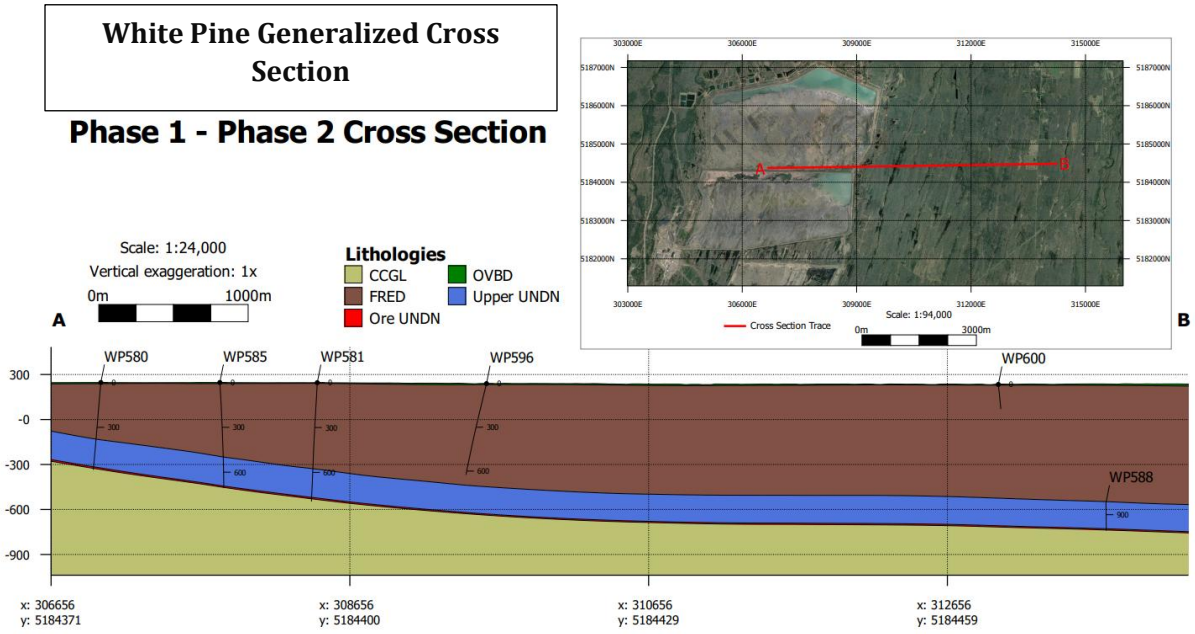
The Nonesuch Formation is the deposit's host of copper mineralization, characterized by interbedded grey siltstones, carbonaceous shales, and minor brown-grey sandstones. Mineral deposition occurred as circulating fluids and remobilized metals sourced from the Portage Lake Volcanics precipitated out of solution across the reducing boundary created by carbonaceous shales. Only the bottom 20 m of the Nonesuch Formation is mineralized.

The Undifferentiated Nonesuch averaged 184 m in thickness across Phase III (range: 169–203 m). The Freda Formation, comprised of reddish-brown fluvial sandstones, ranged from 196–955 m thick across the 14 pilot Phase III drillholes (average ~581 m). This compares to 300–650 m in Phase I and 580–800 m in Phase II, consistent with the stratigraphic thickening and slight northeastern dip of the region.

The most significant structural feature is the White Pine Fault, a reverse right-hand fault trending northwest along the western margin of the historical mine area. To the southwest are several major thrust faults; to the northeast are less significant thrust faults and common strike-slip faults. Evidence of faulting in core is mainly expressed as soft-sediment deformation, minor calcite veinlets, and fracture/joint zones. The most notable structure observed in Phase III core was a fault in WP614 that displaced the ore column upward by approximately 27 m.

A generalized cross section geology in the White Pine area is shown below in Figure 4-3.

Figure 4-3: Generalized Geologic Cross Section of White Pine Stratigraphy



4.2.1 Deposit Type

The mineralization of the White Pine North Project is classified as a reduced-facies, sediment-hosted stratiform (stratabound) copper deposit. Deposits of this style consist of fine-grained copper and copper-iron sulfide minerals that occur as disseminations, matrix cements and replacements that

conform closely – though not perfectly – to bedding within the host sedimentary succession (Zientek et al., 2015).

The White Pine North mineralization exhibits many characteristics consistent with reduced-facies sediment-hosted copper deposits recognized elsewhere globally, including stratigraphic confinement of mineralization, association with reduced shale units, and evidence for basin-scale fluid migration. The Kupferschiefer deposits of Germany and Poland are considered important analogues for this style of mineralization.

4.2.1.1 Kupferschiefer Copper-Silver Model

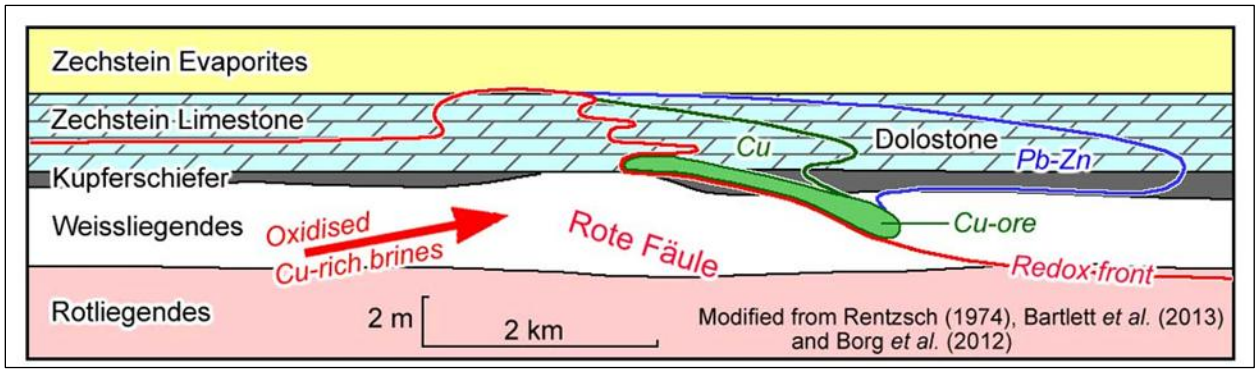
The Kupferschiefer is a thin, bituminous black shale and marl unit, generally less than a metre thick, that extends across roughly 600,000 km^2 of the Southern Permian Basin (Zientek et al., 2015). It marks the base of the Zechstein Group and was laid down immediately after a rapid, late-Permian marine transgression flooded a continental basin. This flooding event abruptly switched the depositional environment from oxidizing to reducing conditions. The unit accumulated as laminated mudstone, marl and carbonate well below wave base under largely anoxic, stratified-sea conditions, and yields a rhenium-osmium depositional age of 257.3 ± 1.6 Ma (Zientek et al., 2015).

Economically, the most important feature of the Kupferschiefer system is the consistent association of high-grade copper with barren, red-stained rock. These oxidized zones owe their color to disseminated hematite and goethite produced where oxidized, copper-bearing brines reacted with the host sediments. In this configuration the Kupferschiefer bed serves a dual role, acting both as the chemical trap that fixes the metals and as the low-permeability seal that confines fluid migration. Because of this relationship, the contact between oxidized and reduced facies has long been used as the most reliable exploration guide to copper ore within the district (Zientek et al., 2015).

Across the redox front the ore and gangue minerals are systematically zoned, passing from hematite (essentially barren) through a copper zone dominated by chalcocite, covellite and bornite, into successive lead and zinc zones, and finally into a distal, largely barren pyrite zone. Ore-grade copper, generally above one percent, develops only where chalcocite, covellite or bornite is the dominant sulfide. The ore-stage mineralization is interpreted as late-diagenetic, introduced by oxidized, metal-rich brines at temperatures of about 130 °C, with the sulfur required to fix the metals supplied by bacterial reduction of sulphate (Zientek et al., 2015).

Modern resource assessments treat sediment-hosted stratabound copper deposits as the product of a mineral system in which a series of geological ingredients must be present, and must operate in the correct order, for an orebody to form (Zientek et al., 2015). The essential ingredients are a source of copper, an oxidized brine capable of leaching and transporting that copper, a permeable pathway and hydraulic drive to move the brine, and a reduced, typically pyrite-bearing trap together with an overlying seal. If any one of these elements is absent, or develops out of sequence, the deposit will not form (Zientek et al., 2015).

Figure 4-4: Kupferschiefer-Type Mineralization Model (Porter, 2013)



4.3 STRATIGRAPHIC UNITS

Three significant units of the White Pine Project have been observed in the modern drilling programs: the Freda Formation, the Nonesuch Formation, and the Copper Harbor Conglomerate. Subunits, particularly within the Lower Nonesuch, were broken out (Figure 4-5). These formations, subunits and their defining characteristics are described below. Copper mineralization at the White Pine Project most commonly occurs in the form of chalcocite and native copper, found in laminations at the base of the Nonesuch Formation in the lower parting shale units. This is referred to as the ore column.

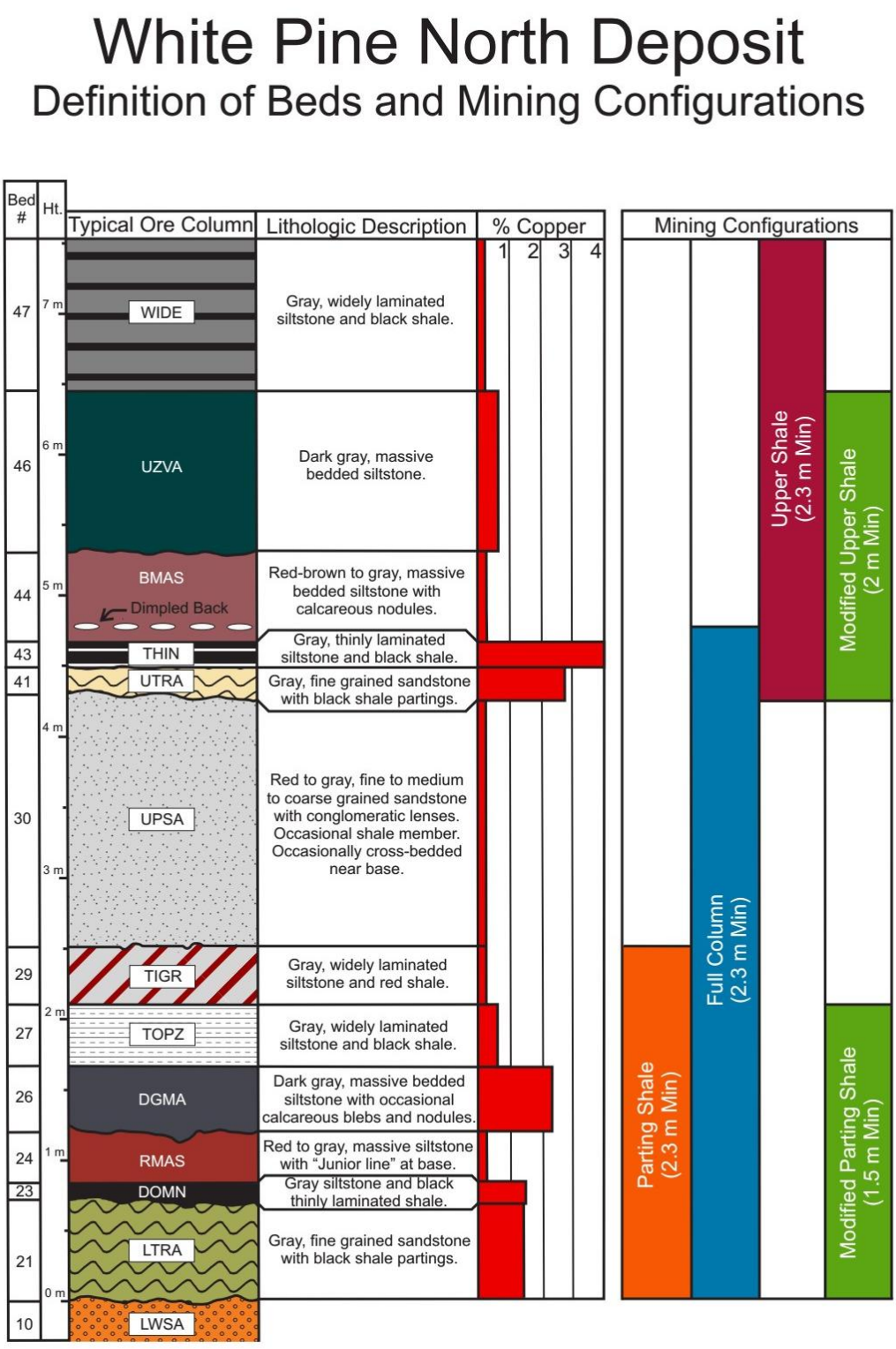


Figure 4-5: Generalized Stratigraphic Section of the Lower Nonesuch Formation (Mauk, 1993)

4.3.1 Freda Formation

Freda Formation (UNDF) – Formation which consists of a significant overburden unit of fluvial sandstones, reddish-brown to brownish grey in color, with common soft-sediment features such as crossbedding, ripple marks, turbidites, and some fluid escape structures (Figure 4-6).



Figure 4-6: Freda Formation

The Freda Conglomerate subunit is a coarse grained semi-conglomeratic sandstone lens generally found in the middle of the Freda package. It averages about 22 m thickness in the drilled area of the Project (Figure 4-7).



Figure 4-7: Freda Formation, Conglomeratic Lens Example

4.3.2 Nonesuch Formation

Nonesuch Formation (Undifferentiated, UNDN) – The Freda to Nonesuch contact is denoted at first occurrence of black carbonaceous shale laminations (Figure 4-8). The Nonesuch unit is a mix of interbedded very fine-grained sandstones, siltstones, and carbonaceous shales.

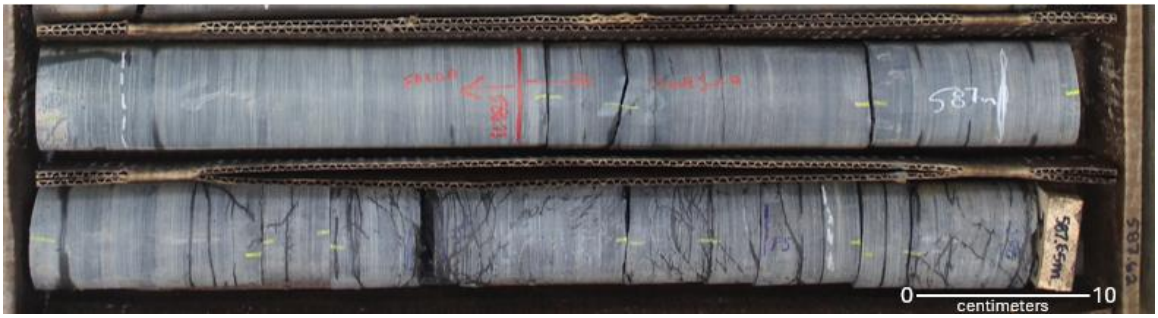


Figure 4-8: Freda to Nonesuch Contact

Within the Nonesuch Formation, the lower units approaching the mineralized zone are broken out as follows:

Marker Bed (MARK) – Dark grey to black siltstone (Figure 4-9), thinly laminated with common white to light-grey calcareous bands following laminations. The Nonesuch to Marker Bed contact is denoted at the first consistent appearance of calcareous laminations at the upper contact.

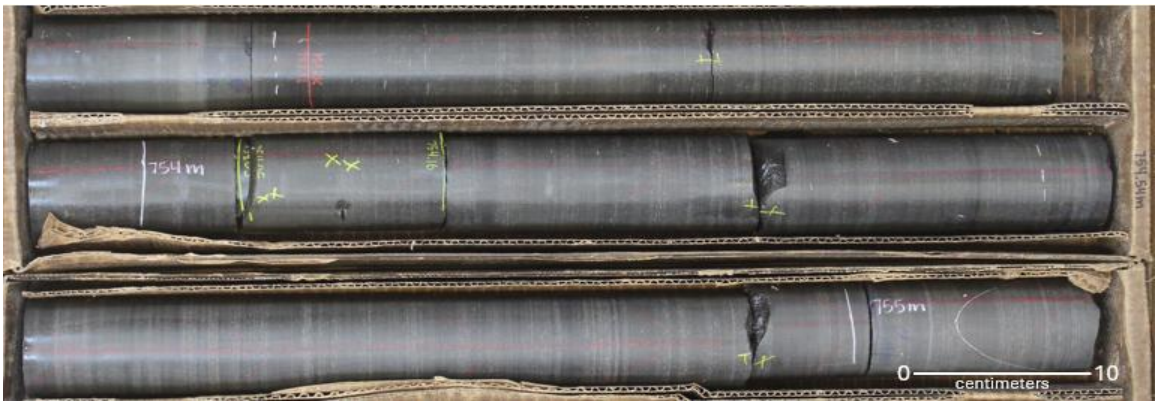


Figure 4-9: Nonesuch to Marker Bed Contact

Massive Black Siltstone (MBSI) – Massive black siltstone (Figure 4-10). Marker Bed to Massive Black Siltstone contact is denoted at the last occurrence of calcareous laminations present in Marker Bed.

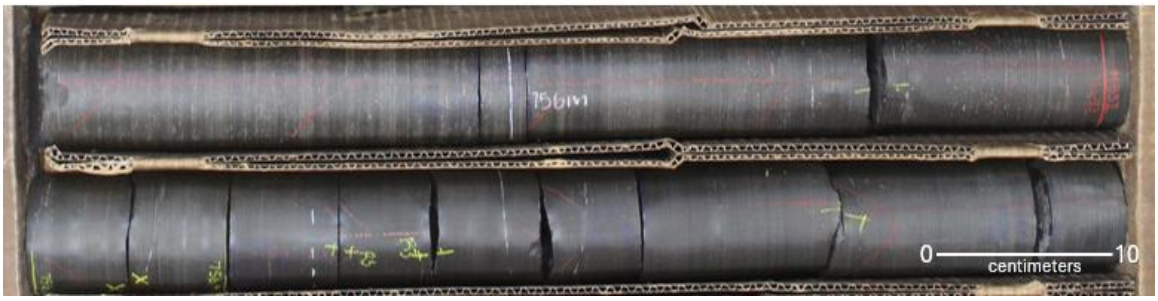


Figure 4-10: Massive Black Siltstone

Stripey (STRP) – Thinly to thickly laminated lenticular, alternating black siltstones and white to light-grey calcareous laminations (Figure 4-11). Massive Black Siltstone to Stripey contact was denoted at the first appearance of light-grey laminations.



Figure 4-11: Stripey

Tiebel Sandstone (TBLS) – Greenish-grey fine-grained to medium-grained sandstone with intermittent pulses of light grey to tan strongly calcareous "blebs" generally 0.6-1.5 centimeters thick (Figure 4-12). The Stripey to Tiebel contact was chosen at the last calcareous, light grey lamination of Stripey.

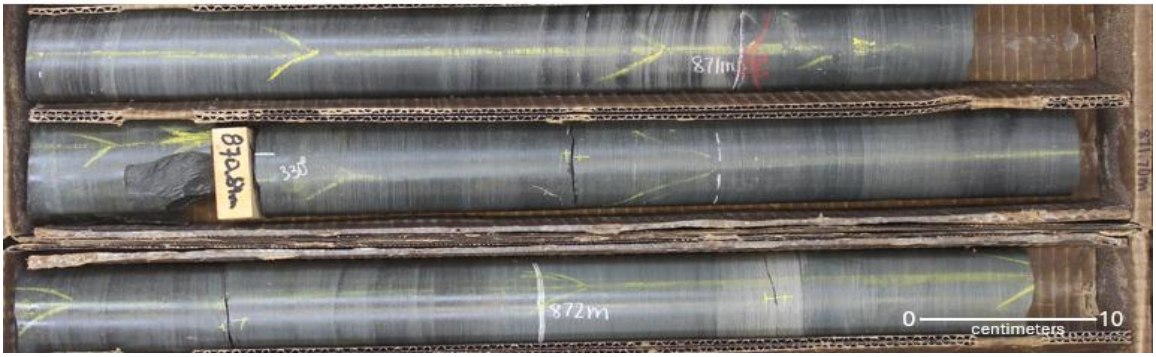


Figure 4-12: Tiebel Sandstone

Massive Grey Siltstone (MGSI) – Massive grey siltstone (Figure 4-13). This subunit is not continuous over the project area. Limited intersections of the MGSI indicate that the subunit most likely pinches out away from the hinge axis of the main structural anticline of the deposit.

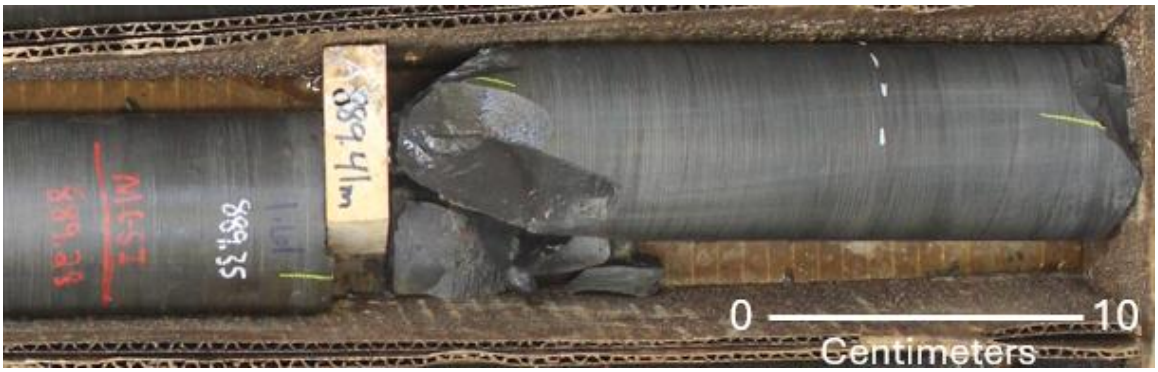


Figure 4-13: Massive Grey Siltstone

Red and Grey (RAGR) – Interbedded olive-grey and red-brown siltstone and shale laminations (Figure 4-14). The Tiebel Sandstone/Massive Grey Siltstone contact to Red and

Grey was denoted at the first prominent reddish-brown siltstone lamination. Rarely calcareous light-grey sandstone "blebs" are observed in this subunit.

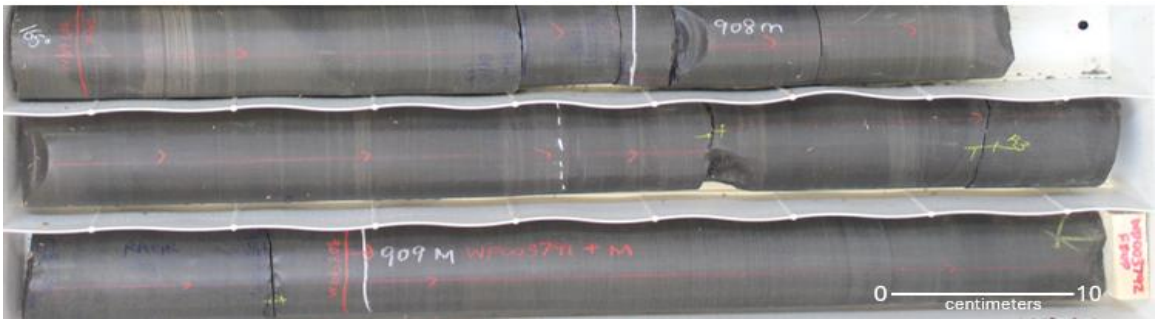


Figure 4-14: Red and Grey

Widely (WIDE) – Widely laminated olive-black, grey-green, and minor light-grey siltstones and shales (Figure 4-15). Occasional minor pyritic laminations have been observed, although this is rare. The Red and Grey to Widely contact was denoted at first appearance of thin black laminations between wider olive grey siltstones.

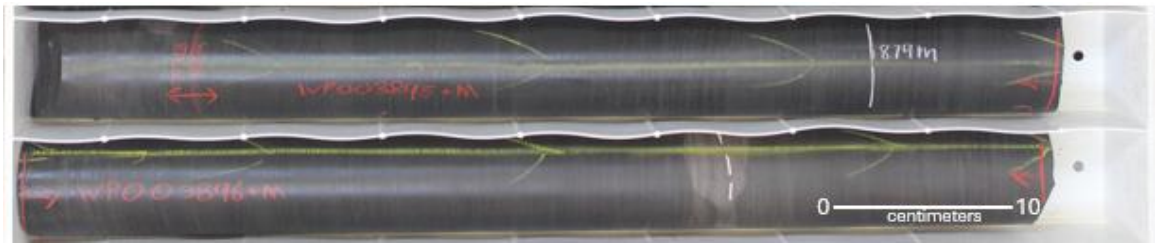


Figure 4-15: Widely

Upper Zone of Values (UZVA) – Massive to thinly laminated dark grey to olive-black shale and siltstone unit (Figure 4-16). Within this unit is the "Fringe Zone", a "rusty" colored thin sulfide lamination marking the top of copper mineralization and redox boundary.



Figure 4-16: Upper Zone of Values

Brown Massive (BMAS) – Reddish-brown to greenish-grey, fine-grained to very fine-grained sandstone package which often contains minor calcareous nodules (Figure 4-17). The Upper Zone of Values to Brown Massive contact is denoted at the termination of black carbonaceous laminations.

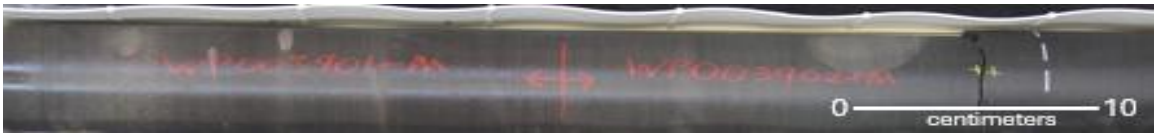


Figure 4-17: Brown Massive

Thinly (THIN) – With a thinly laminated to massive texture, this relatively thin unit of carbonaceous black shales is generally no thicker than 4-6 cm. Occasional chalcocite laminations 1-3 mm thick are present in unit (Figure 4-18).



Figure 4-18: Thinly

Upper Transition (UTRA) – Thinly laminated subunit with interbedded dark grey to black carbonaceous shales and fine-grained to medium-grained, greyish green to brown sandstone (Figure 4-19). Chalcocite in laminations and blebs is common. Calcite also follows laminations occasionally. The Thinly to Upper Transition contact was denoted at the first sandstone lamination.



Figure 4-19: Upper Transition

Upper Sandstone (UPSA) – Green grey to reddish-brown medium-grained to coarse-grained sandstone unit with some intermittent zones of conglomerate textures present (Figure 4-20). Chalcocite blebs are sometimes present near the top of the Upper Sandstone subunit. Chalcocite was rarely associated with calcite nodules. The contact was typically picked at the end of the last shale lamination.

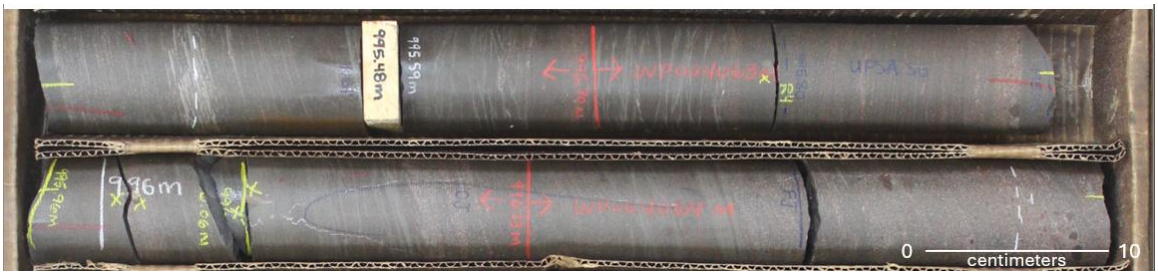


Figure 4-20: Upper Sandstone

Tiger (TIGR) – Thinly to widely laminated red-brown and green-brown beds of siltstone and shale (Figure 4-21). The contact of Upper Sandstone to Tiger was denoted on the last present sandstone laminae.



Figure 4-21: Tiger

Top Zone (TOPZ) – Dark grey-black thin to widely laminated siltstone and shale (Figure 4-22). Common chalcocite laminations and cross cutting veinlets perpendicular to bedding may be present, and some minor native copper occurrences along lamination were observed. Turbid features are common at the base of the subunit nearing Top Zone to Dark Grey Massive contact.



Figure 4-22: Top Zone

Dark Grey Massive (DGMA) – Thinly laminated to massive, dark grey to olive-black shale unit with common calcareous nodules and minor turbid features present (Figure 4-23). Chalcocite and native copper are common along rims of calcareous "blebs" and nodules. The contact is denoted where a change in lamination texture, increased presence of native copper along laminations, and pick-up of calcareous blebs occurs.

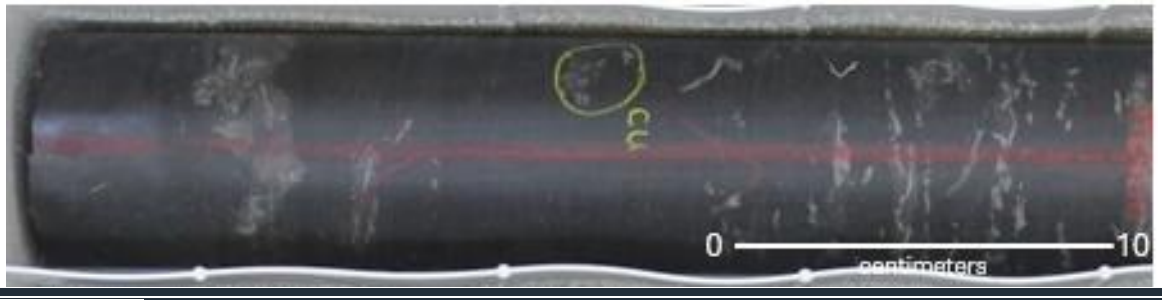


Figure 4-23: Dark Grey Massive

Red Massive (RMAS) – Reddish-brown to grey-green massive siltstone to very fine-grained sandstone (Figure 4-24). Light grey, calcareous "Junior" layer stands out at base of Red Massive on contact with Domino, making the contact relatively consistent and identifiable.

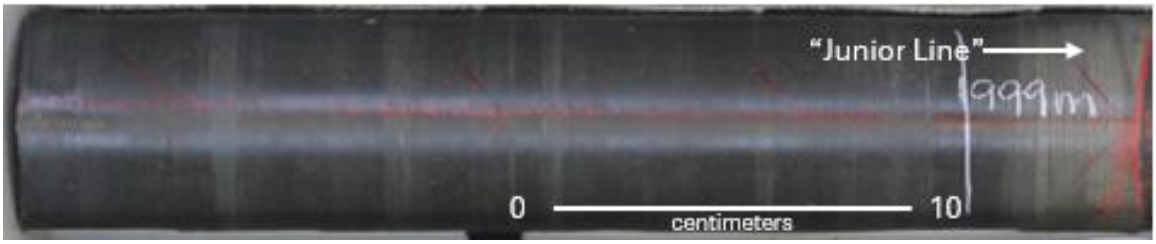


Figure 4-24: Red Massive

Domino (DOMN) – Small package of thinly laminated to massive black carbonaceous shale with common to abundant fine grained native copper laminations (Figure 4-25). Occasionally, the subunit contains chalcocite laminations and minor calcite veinlets.



Figure 4-25: Domino

Lower Transition (LTRA) – Interbedded, thinly laminated black carbonaceous shales and reddish-brown fine-grained sandstones (Figure 4-26). Native copper laminations are often present and gradually diminish down section. The Domino to Lower Transition contact is denoted at the first present sandstone lamination.

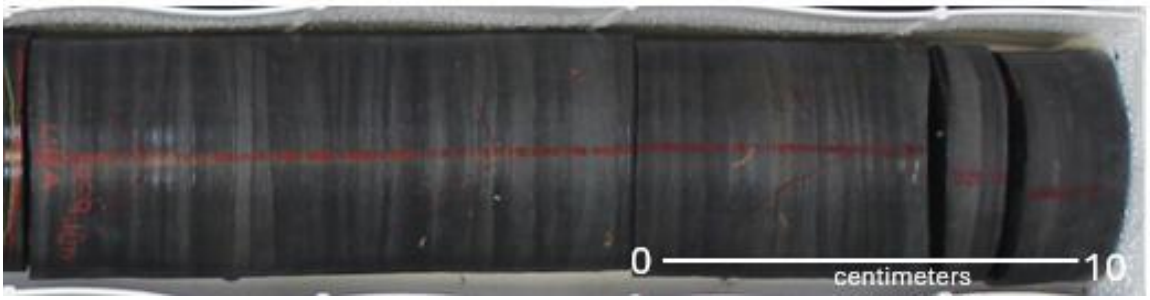


Figure 4-26: Lower Transition

The Lower Transition subunit marks the overall formation change from the Nonesuch Formation into the Copper Harbor Conglomerate.

4.3.3 Copper Harbor Conglomerate

Lower Sandstone (LWSA) – Reddish-brown to light-brown medium-grained to coarse-grained sandstone package with few fine-grained dusky-brown sandstone laminations and intermittent conglomeratic textures (Figure 4-27). The Lower Transition to Lower Sandstone contact is denoted at the last significant carbonaceous shale lamination.



Figure 4-27: Lower Sandstone

Copper Harbor Conglomerate (Undifferentiated, CCGL) – Moderately variable stratigraphic unit which interfingers with the overlying Nonesuch formation. The unit contact is denoted by the first "true conglomeratic zone" and overall is characterized as a fine-grained to coarse-grained sandstone with common conglomeratic intervals intermittent and red to brown coloration (Figure 4-28).

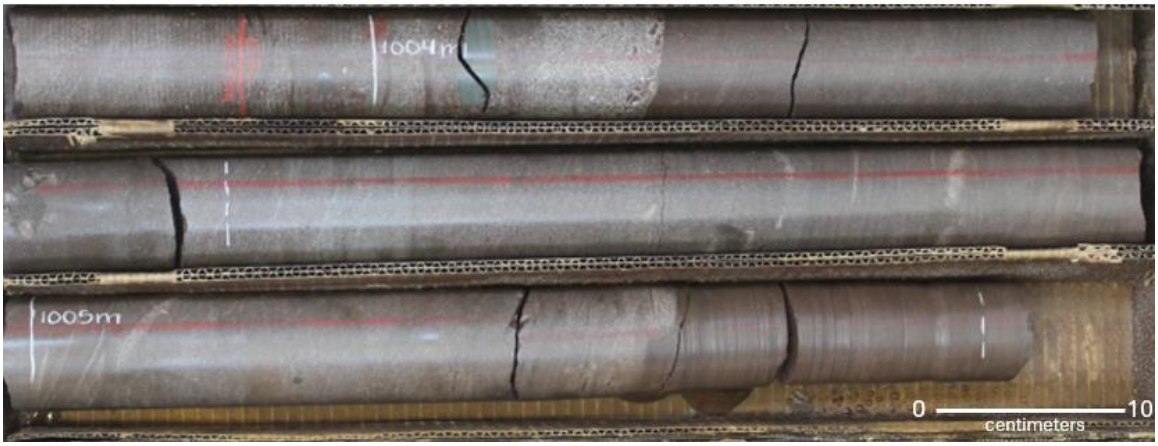


Figure 4-28: Copper Harbor Conglomerate

Below the Copper Harbor Conglomerate unit are the underlying Porcupine Volcanics and Portage Lake Volcanics.

4.3.4 Stratigraphic Thickness Variability

The stratigraphic thickness of units and subunits can be somewhat variable across the project area. This is most likely due to topographical highs and lows, in conjunction with weathering conditions present at the time of deposition. Average thicknesses of units and subunits from the property's most recent drilling campaign are shown below in Table 4-1.

Average Unit Thickness		
Rock Code	**Lithology Unit**	**Average Thickness (m)**
OVBD	Overburden	7.15
UNDF	Freda Undivided	581.57
UNDN	Nonesuch Undivided	184.05
MARK	Marker Bed	2.73
MBSI	Massive Black Siltstone	0.95
STRP	Stripey	0.27
TBLS	Tiebel Sandstone	6.20
MGSI	Massive Grey Siltstone	0.73
RAGR	Red and Grey	1.75
WIDE	Widely	1.51
UZVA	Upper Zone of Values	1.05
BMAS	Brown Massive	0.77
THIN	Thinly	0.04
UTRA	Upper Transition	0.20
UPSA	Upper Sandstone	1.98
TIGR	Tiger	0.99
TOPZ	Top Zone	0.64
DGMA	Dark Grey Massive	0.48

RMAS	Red Massive	0.40
DOMN	Domino	0.04
LTRA	Lower Transition	0.56
LWSA	Lower Sandstone	1.38

Table 4-1: Average Thickness of White Pine Units and Subunits for 2026 Phase III Drill Program

4.4 MINERALOGY

Copper minerals at the White Pine Project most commonly occur in the form of fine-grained chalcocite and native copper. Sulfide mineralization is estimated to account for 85-90% of the copper in the deposit, but both modes of copper are intimately associated throughout the deposit. These minerals are generally found in laminations at the base of the Nonesuch Formation in the lower parting shale units - specifically between the WIDE and the LTRA (Figure 4-5, Figure 4-29). Chalcocite (Cu_2S) and native copper are most abundantly present within the Domino, Lower Transition, Thinly, Upper Transition, Dark Grey Massive, Top Zone, and Upper Zone of Values. Chalcocite blebs have also (rarely) been observed in the Upper Sandstone unit. This is noteworthy as this subunit historically has shown little to no copper grade.

On the Property, copper mineralization occurs through the drop-out of metals held in copper rich saline brine solutions. These solutions have been enriched by hydrothermal/geothermal movement from underlying Portage Lake Volcanics. The drop out of metals occurs in the base subunits of the Nonesuch's carbonaceous and pyritized shale units. Figure 4-29 (below) shows the relative occurrence of the mineralization styles present in the White Pine Project.

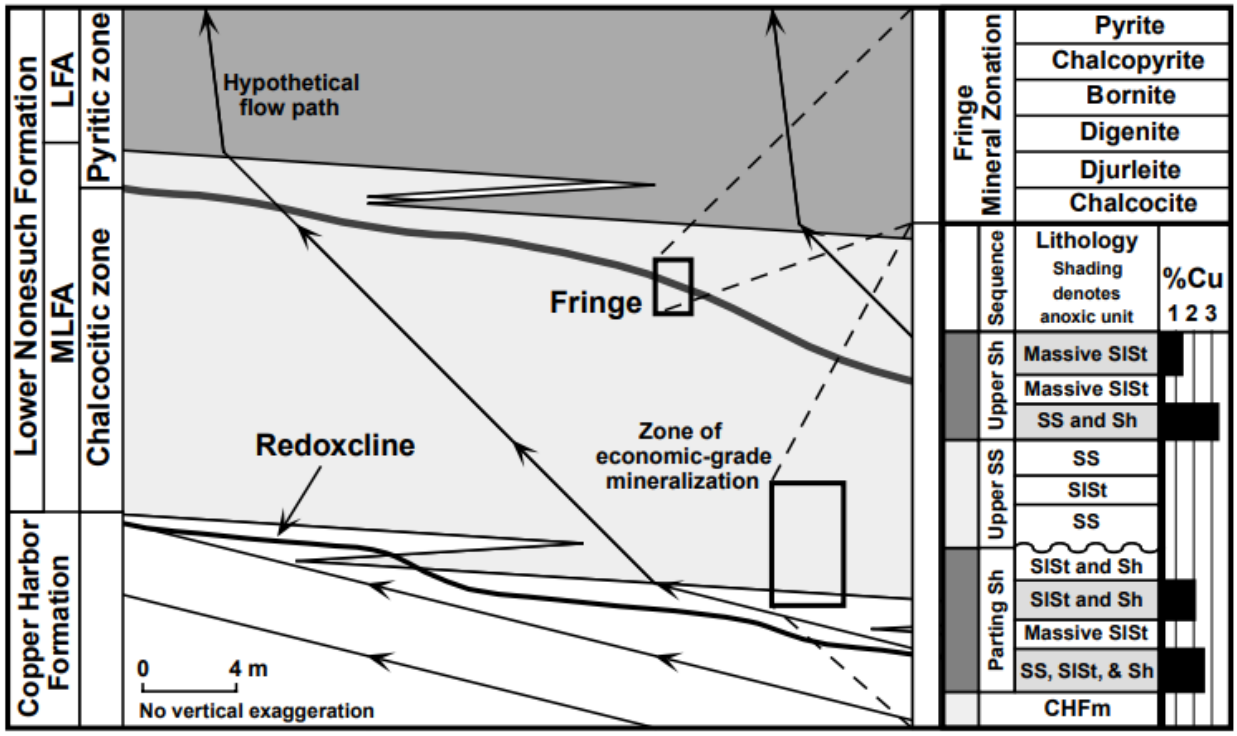


Figure 4-29: Relative Fringe Zone and Copper Occurrence

Fringe Zone: The Fringe Zone (Figure 4-30) is one of the upper-most relevant mineralized zones of the ore column. It is located in the Upper Zone of Values. Fringe mineralization is consistent and trackable across the White Pine Project. Because of this, it serves as a visual marker of the upper bounds of copper mineralization within the ore column. Above this marker is the pyritic zone and below is the cupriferous zone (Mauk, 1993).

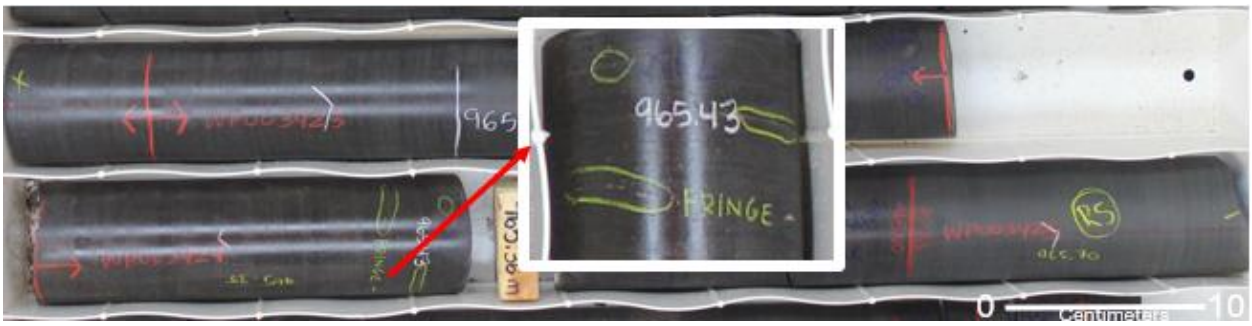


Figure 4-30: Fringe Zone Hosted in Upper Zone of Values

The Fringe Zone has historically been characterized as a bornite-chalcopyrite-rich blanket, typically ranging from a millimeter to approximately half a meter in thickness.

Chalcocite: Visible chalcocite is common through the lower Nonesuch units of interest, beginning as high as the Upper Zone of Values, below the above-mentioned Fringe Zone. Most commonly, chalcocite at the White Pine Project occurs as thin (less than or up to 1 mm) laminations of silvery steel-grey to silvery-blue mineralization. It has also been observed as a bluish-purple metallic sulfide, hosted in laminations and on fracture surfaces in the Upper Zone of Values. Chalcocite is also observed as rims on or replacing calcareous blebs through some of the units, such as the Dark Grey Massive and the Top Zone. Within the Top Zone, chalcocite forms cross-cutting veinlets perpendicular to bedding planes. In zones where native copper is present, chalcocite occurs with a very fine-grained disseminated habit rather than as a thin lens along lamination.

4.5 ALTERATION

Alteration at White Pine is weak and rarely present beyond calcite veinlets, which are observed commonly throughout all drillholes. Very rarely, minor calcite veins within both the Freda and Nonesuch formations display 1–2 mm thick weakly altered rims (selvedge to veins with oxidation). Alteration in calcite veins is noted to occur proximal to structures within the project area.

4.6 STRUCTURES

The White Pine Project lies on the southern flank of the Midcontinent Rift System and is cut by a series of brittle faults that post-date deposition of the Nonesuch Formation. The most significant is the White Pine Fault, a reverse right-hand fault trending northwest along the western margin of the historical mine area. Major thrust faults occur to the southwest, while less significant thrust faults and common strike-slip faults occur to the northeast. A shallow, east-southeast plunging anticline is present immediately north of the White Pine Fault (Figure 4-31).

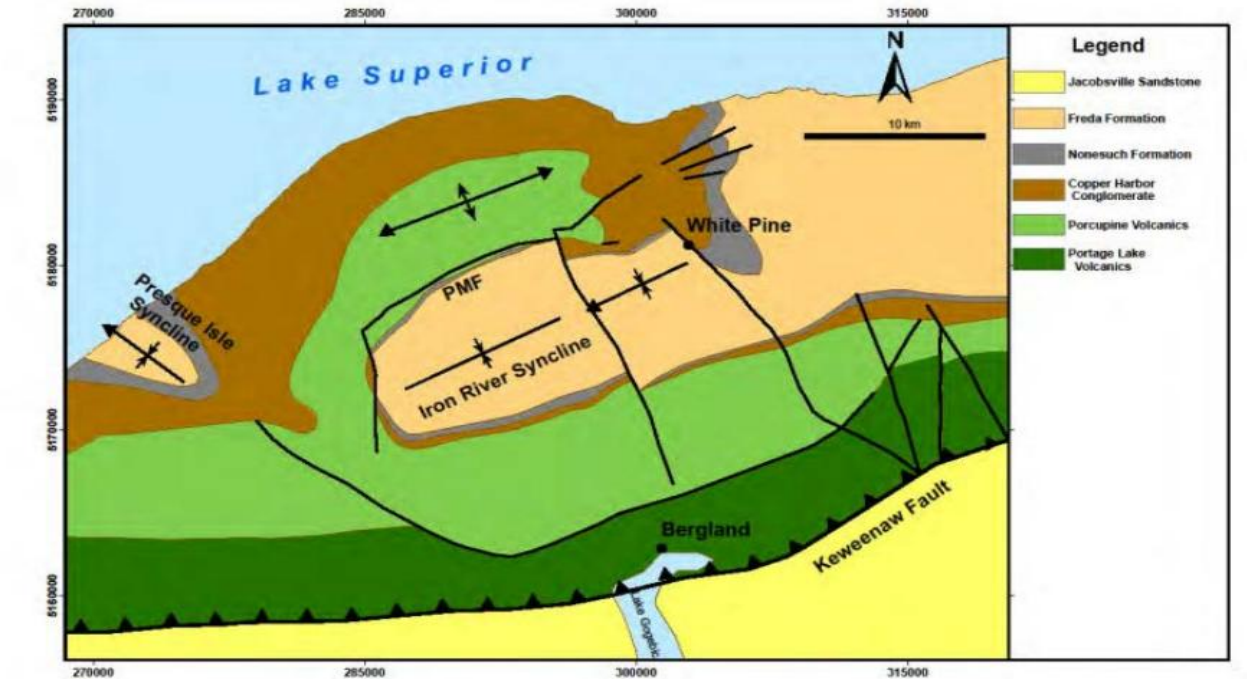


Figure 4-31: Significant Structures of Interest Related to the White Pine Project (GMS, 2023)

An updated structural interpretation was completed by SRK as part of the 2026 geological model update (Gloyn-Jones, 2026a; Gloyn-Jones, 2026b). It builds on the structural model SRK developed in 2025 and incorporates the 2026 Phase III drilling together with four additional downhole acoustic televiewer (ATV) surveys, bringing the database used for the update to 651 drillholes and 30 downhole ATV surveys (Gloyn-Jones, 2026a). Modelling was completed in Leapfrog Geo over a volume of interest (VOI) encompassing the claim and geophysical interpretation boundaries. The interpretation integrates four independent datasets: reprocessed airborne magnetic data; historical underground structural mapping within the mined-out area; downhole ATV structural measurements; and the dip, azimuth, thickness and displacement attributes of the modelled lithostratigraphic domain surfaces. The model comprises 58 fault segments modelled within a single fault system (Figure 4-32), together with 26 lower-confidence secondary structures interpreted from damage and fracture zones or from structures identified within the downhole ATV data. The secondary structures are modelled as planar surfaces from single data points and are confined to the domains defined by the interpreted faults. Faults for which supporting data warrant a modelled dip carry that dip; all remaining faults are modelled with an inferred vertical dip. Each fault is assigned a degree of confidence based on the spatially relevant independent datasets supporting it, with the associated metadata catalogued as attributes in the structural network linework files.

Changes to the 3D network in the 2026 update are minor and are attributed to the incorporation of the new downhole ATV data and of linear discontinuities within the face dip- and azimuth-shaded lithostratigraphic domain surfaces. These changes affect N-S Faults 8, 19, 21 and 22.

To improve the delineation of magnetic susceptibility discontinuities within the airborne magnetic data described in the Geophysics Section, SRK reprocessed the RTP first vertical derivative (RTP1VD) and RTP second vertical derivative (RTP2VD) grids, generating four enhanced-texture products.

Nineteen moderate to strong linear discontinuities were interpreted within this imagery across the VOI. These are interpreted to represent continuous faults and fall into three trending sets: northwest-southeast (n = 5), northeast-southwest (n = 3) and north-south (n = 11). The orientations are consistent with the regional structural framework, the downhole ATV data, field mapping data and historical mapping. On the basis of consistent temporal and spatial relationships, the nineteen faults were subdivided into a 2D structural network of 58 individual fault segments (Figure 4-32). This network was interpreted in 2025 and remains unchanged in the 2026 update.

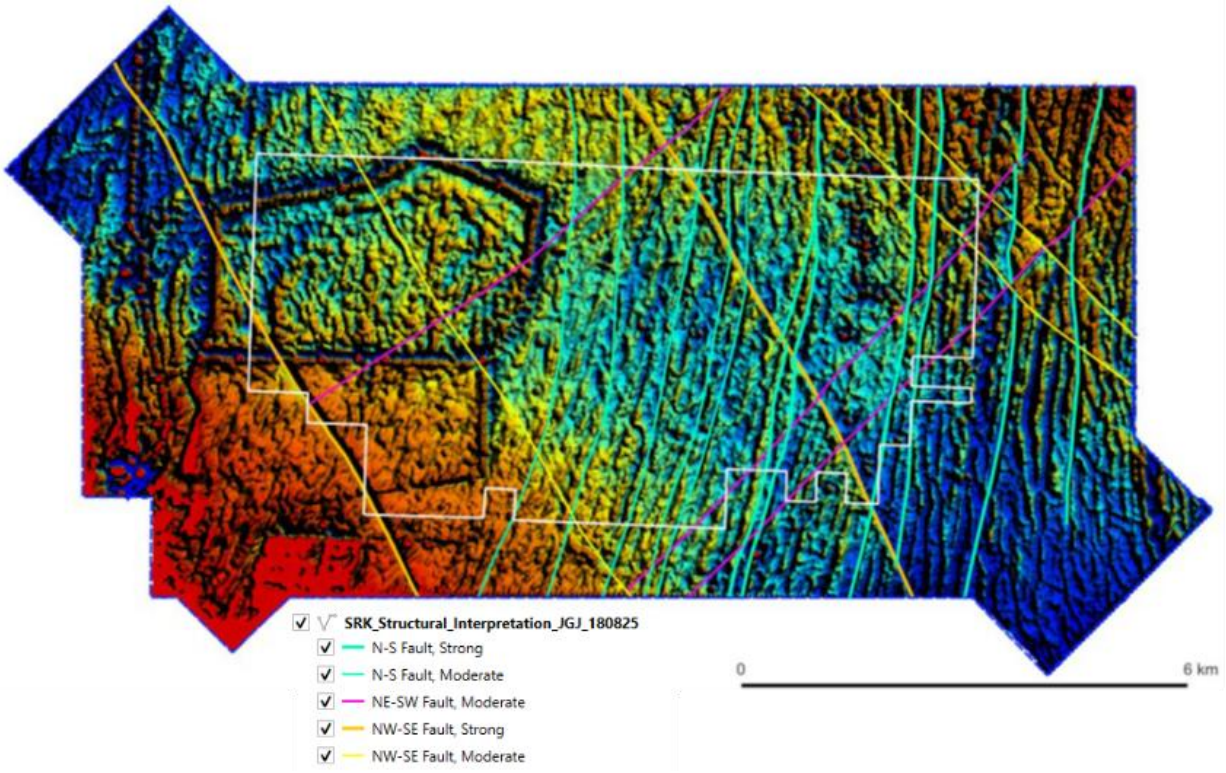


Figure 4-32: Interpreted 2D Structural Network Displayed on the Enhanced-Texture RTP1VD Image (sun-shaded 045°/55°) (Gloyn-Jones, 2026b)

The interpretation was compared against 4,509 historically mapped structures recorded within the previously mined area, which define a complex brittle fault-fracture network dominated by subparallel, anastomosing faults with secondary splays and step-over geometries. Damage zones are of variable width and are controlled by continuous north-south to north-northeast/south-southwest and northwest-southeast trending fault sets, which support the interpreted structural network. SRK reports a positive correlation between the interpreted network and the historically mapped faults. NW-SE Fault 1 is coincident with discrete and continuous mapped faults of the same trend and an associated damage zone in which subparallel faults branch and coalesce, with spacing between continuous segments of approximately 60 m to 100 m. N-S Fault 9 lies directly along strike of three to four discrete north-south to north-northeast/south-southwest oriented faults recorded in underground mapping, with widths between mapped features of approximately 12 m to 205 m.

Evidence of faulting/displacement in drill core is generally subtle and is primarily expressed as soft-sediment deformation, minor calcite veinlets, and fracture/joint zones. The resolution of the available structural dataset was assessed as insufficient to confidently incorporate fault displacement into the lithostratigraphic domain model, and mineralization continuity across the deposit is therefore represented using continuous stratigraphic horizons rather than fault-bounded domains.

5 RESOURCE MODEL

The White Pine North deposit has been the subject of several resource estimates over the past three decades. The earliest was a historical estimate prepared in 1995 by the Copper Range Company, built from the available drillhole data at the time the mine closed. This estimate predates modern reporting standards (ex: NI 43-101). It is considered a historical estimate only, and has not been verified by a Qualified Person.

Two NI 43-101 compliant Mineral Resource Estimates were subsequently completed by G Mining Services Inc. (GMS). The 2019 estimate drew on the combined historical and modern database of 526 CRC drillholes and the 42 drillholes completed during the 2014–2015 program, totaling approximately 275,000 m drilled between 1956 and 2015. Another estimate, completed in 2023, updated and replaced the 2019 model using the same drillhole database. It reclassified the ore column to include both mineralized horizons.

The 2026 resource model update presented below incorporates the drilling completed since the 2023 estimate.

5.1 2026 RESOURCE MODEL UPDATE

A Mineral Resource Estimate was prepared for the White Pine North Project using a validated geological, analytical, density, and drilling database provided by White Pine Copper LLC. The database was current as of June 5, 2026 and the Mineral Resource Estimate has an effective date of July 16, 2026. The estimate was prepared in accordance with the *CIM Definition Standards for Mineral Resources and Mineral Reserves* adopted by CIM Council on May 10, 2014, and the *CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines* adopted on November 29, 2019. The current estimate builds upon previous geological models through incorporation of additional drilling, refinement of the geological model, updated estimation and density methodologies, and a revised resource classification workflow.

The resource estimation database contains 653 drillholes (approximately 347,152 m of drilling) completed between 1956 and 2026. Of these, 589 drillholes containing assay data were used to support resource estimation.

Copper and silver grades were estimated using Ordinary Kriging (OK). Search orientations were controlled using locally varying anisotropy parameters derived from the interpreted geological trends of the mineralized horizons, allowing interpolation searches to remain aligned with local bedding orientation while minimizing grade smearing between adjacent stratigraphic units. Inverse distance squared (ID^2) and nearest-neighbor (NN) estimates were also generated for comparison and validation.

Sulfur was estimated to support metallurgical evaluation. Because sulfur is strongly correlated with copper, the copper estimation parameters and search orientations were also applied to the sulfur estimate.

5.1.1 Estimation Domains

Resource estimation was controlled using a domained coding system. The estimation domain framework consists of six domains: Overburden (99), the Hangingwall Package (100), the Upper Mineralized Zone (200), the Interburden (300), the Lower Mineralized Zone (400), and the Footwall Package (500). Domains 200 and 400 comprise the principal mineralized horizons and contain the majority of the estimated copper and silver inventory. Domain 400 represents the principal resource horizon and exhibits the greatest thickness and lateral continuity. Although both domains belong to the same stratiform mineralizing system, they were modeled and estimated independently because they occupy different stratigraphic positions and exhibit distinct lithological associations, thickness characteristics, grade distributions, and spatial continuity. Table 5-1 shows the six domains and their corresponding stratigraphy.

Table 5-1: Estimation Domain Summary

Model Domain	Domain Name	Geological Interpretation	Principal Lithologies
99	Overburden	Units above the principal mineralized sequence	RAGR, TBLS, STRP, MARK
100	Hangingwall Package	Upper sedimentary sequence immediately above the upper mineralized horizon	WIDE, UZVA, BMAS
200	Upper Mineralized Zone	Upper copper-silver mineralized horizon	THIN, UTRA
300	Interburden	Lower-grade interval separating the principal mineralized horizons	UPSA, TIGR, TOPZ
400	Lower Mineralized Zone	Principal copper-silver mineralized horizon and primary resource domain	DGMA, RMAS, DOMN, LTRA
500	Footwall Package	Units below the lower mineralized horizon	LWSA, CCGL, MBSI, MGSI

During the 2026 geological update, SRK reviewed and refined the structural framework using additional drilling, downhole acoustic televiewer data, aeromagnetic interpretations, and historical structural mapping. This work improved the interpretation of the principal structural trends and identified areas where faulting locally affects stratigraphic elevation and continuity.

Although the overall structural framework is considered adequately supported, confidence varies in the exact location, continuity, and displacement of individual interpreted faults. The available drill spacing and structural data were not considered sufficient to impose discrete fault offsets consistently throughout the resource model. Consequently, interpreted faults were retained as supporting geological information but were not used to subdivide the estimation domains or directly control grade interpolation. The Mineral Resource Estimate was therefore developed using continuous stratigraphic horizons, with locally varying search orientations aligned to the interpreted bedding geometry.

5.1.2 Density

A total of 790 valid raw specific gravity (SG) measurements were reviewed for the 2026 Mineral Resource Estimate. Following domain-constrained compositing, 777 SG intervals were available for density estimation. These comprise 518 historical measurements collected between 1958 and 2015, 134 measurements from the 2024 Summer Phase II drilling program, and 125 measurements from the 2026 Winter Phase III drilling program. The previous (2023) Mineral Resource Estimate applied a single density value of 2.74 g/cm^3 throughout the block model. For the current Mineral Resource Estimate, the SG database was re-evaluated within the geological estimation domains, allowing density to vary between lithologic packages in a manner consistent with the geological interpretation and the domained grade estimation methodology.

Table 5-2: Domain-Average Density Used in Model

Model Domain	Mean SG (g/cm^3)
99	2.730
100	2.709
200	2.726
300	2.705
400	2.722
500	2.658

5.1.3 Cut-off Grade and Classification

The White Pine North Mineral Resource is reported above a cut-off grade of 0.90% Cu. The selected reporting threshold is retained for consistency with previous Mineral Resource reporting for the Project and is supported by the underground room-and-pillar mining concept and engineering work completed for the PFS. The PFS net smelter return calculation uses long-term metal prices of US$4.25/lb copper and US$27.50/oz silver, together with metallurgical recoveries of 86.7% for copper and 95.1% for silver.

The 0.90% Cu reporting threshold has not been recalculated as a current operating break-even cut-off. It is retained as a Mineral Resource reporting threshold supporting reasonable prospects for eventual economic extraction. Different criteria may be applied during Mineral Reserve estimation, mine design, scheduling, and economic evaluation. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Mineral Resources were classified as Indicated and Inferred in accordance with the CIM Definition Standards using a combination of drillhole support, average three-hole distance, kriging efficiency, and Qualified Person review. Indicated classification required support from at least three drillholes, whereas Inferred classification required support from at least one drillhole. The preliminary quantitative classification was subsequently reviewed and refined using classification solids to maintain geologically coherent reporting boundaries and remove isolated classified volumes.

5.1.4 Mineral Resource Summary

The White Pine North Mineral Resource Estimate, with an effective date of July 16, 2026, is reported using a cut-off grade of 0.90% Cu, is constrained to the patented claim boundary, and excludes blocks located within interpreted historical mine workings.

Figure 5-1: White Pine North Mineral Resource Estimate, effective July 16, 2026

Description *Class = Indicated* *Inside Claims* *Outside Historical Workings*	**Tonnes**	**Cu (%)**	**Ag (ppm)**	**Cu Contained (Tonnes)**	**% of Total Cu Metal**
DOMAIN 100 Hanging wall	2,762	0.911	5.87	25	0.0%
DOMAIN 200 Upper Mineralized Zone	26,769,816	3.076	13.17	823,308	29.7%
DOMAIN 300 Inter-burden	-	-	-	-	0.0%
DOMAIN 400 Lower Mineralized Zone	142,364,072	1.369	22.07	1,949,665	70.3%
Total Indicated	**169,136,650**	**1.640**	**20.66**	**2,772,999**	

Description *Class = Inferred* *Inside Claims* *Outside Historical Workings*	**Tonnes**	**Cu (%)**	**Ag (ppm)**	**Cu Contained (Tonnes)**	**% of Total Cu Metal**
DOMAIN 100 Hanging wall	-	-	-	-	0.0%
DOMAIN 200 Upper Mineralized Zone	3,473,521	2.433	13.87	84,499	25.3%
DOMAIN 300 Inter-burden	-	-	-	-	0.0%
DOMAIN 400 Lower Mineralized Zone	18,618,328	1.337	24.30	248,856	74.7%
Total Inferred	**22,091,848**	**1.509**	**22.66**	**333,355**	

Note: *Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Indicated and Inferred Mineral Resources are reported separately and should not be aggregated.*

The reported resource represents an in-situ, geologically constrained estimate. Tonnage and grade are constrained by the interpreted geological domains and do not incorporate mining dilution, mining recovery, minimum mining width, or other mining-shape or selectivity considerations.

The Mineral Resource may be materially affected by changes to metal prices, metallurgical recoveries, mining and processing costs, royalty and concentrate-marketing terms, geotechnical and hydrogeological conditions, mine-design assumptions, permitting requirements, environmental considerations, mineral tenure, and other legal or socioeconomic factors. The potential effects of these factors are being evaluated through the ongoing pre-feasibility, environmental, and permitting studies.

6 INTERPRETATION AND CONCLUSIONS

The following is a summary of conclusions drawn from the geological and drilling data for the White Pine North Project:

- The White Pine North Project is a reduced-facies, sediment-hosted stratiform (stratabound) copper-silver deposit hosted within the lower Nonesuch Formation, part of a Keweenawan-

aged (~1.1 Ga) continental rift-fill sequence on the southern flank of the Midcontinent Rift System. The geological framework of the deposit is defined by historical production and by extensive drilling across historical and modern programs.

- Copper occurs primarily as fine-grained chalcocite and native copper in laminations within the lower parting shale subunits, between the Widely (WIDE) and Lower Transition (LTRA) horizons, which together form the ore column. Only the lowest approximately 20 m of the Nonesuch Formation is mineralized.
- Mineralization is attributed to the migration of oxidized, copper-rich brines through pyrite-bearing carbonaceous shale, with the copper sourced from the underlying Copper Harbor Conglomerate red beds and associated mafic volcanic rocks, and the reduced laminites at the base of the Nonesuch Formation providing the chemical trap.
- Characteristics of the deposit are consistent with reduced-facies, sediment-hosted copper deposits recognized elsewhere, including Kupferschiefer-type deposits.
- The lower Nonesuch has been subdivided into subunits that are correlated across the deposit through the modern drilling programs. Unit thicknesses vary across the project area, and regional stratigraphic thickening with a slight northeastern dip is evident in the drilling.
- The deposit is cut by a series of brittle faults that post-date deposition of the Nonesuch Formation, the most significant being the northwest-trending White Pine Fault. The 2026 structural interpretation by SRK refined the fault framework and identified fault sets consistent with the regional setting.
- Evidence of faulting in drill core is commonly subtle, and confidence in the precise location, continuity, and displacement of individual interpreted faults was not sufficient to incorporate discrete fault offsets consistently into the domain model used for Mineral Resource estimation.
- Sampling, laboratory analysis, and QAQC procedures for the modern programs followed industry practice, and results were within acceptable limits. Resampling and validation of the historical Copper Range Company dataset in 2014 returned good agreement with modern results and supported its continued use in the geological and resource models.
- The stratabound, stratigraphically controlled nature of the mineralization provides lateral continuity and vertical constraint of the mineralized horizons across the deposit.

The 2026 geological and Mineral Resource update incorporates additional drilling, revised geological and density modelling, updated estimation and classification methods, and refinement of the Project structural framework. The principal mineralized horizons remain laterally continuous and stratigraphically controlled. Faulting locally affects stratigraphic elevation and continuity; however, uncertainty in the precise location and displacement of individual structures does not materially alter the regional geological interpretation supporting the current Mineral Resource Estimate.

The Mineral Resource Estimate, with an effective date of July 16, 2026, is reported above a cut-off grade of 0.90% Cu. The selected cut-off is supported by the underground mining concept and the engineering and economic assumptions developed for the PFS. It is a Mineral Resource reporting cut-off and is not a current operating break-even cut-off calculated directly from current copper and silver spot prices. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

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B-2

Baseline Geochemical Characterization Interim Report

Baseline Geochemical Characterization Interim Report

White Pine North Project, Ontonagon County, Michigan, USA
White Pine Copper, LLC



SRK Consulting (U.S.), Inc. ▪ USPR001955 ▪ August 2026

srk consulting

Baseline Geochemical Characterization Interim Report

White Pine North Project, Ontonagon County, Michigan, USA

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Appendices

Appendix A Static Test Results
Appendix B NAG Leachate Results
Appendix C HCT Results
Appendix D HCT Time-Series Charts

Useful Definitions

This list contains definitions of symbols, units, abbreviations, and terminology that may be unfamiliar to the reader.

AAS	Atomic Absorption Spectroscopy
ABA	Acid Base Accounting
ACA	Average Crustal Abundance
AGP	Acid Generation Potential
amsl	above mean sea level
ANP	Acid Neutralization Potential
ARD	Acid Rock Drainage
ASTM	ASTM International (formerly American Society for Testing and Materials)
bgs	below ground surface
°C	degrees Celsius
$CaCO_3$	calcite or calcium carbonate
CHC	Copper Harbor Conglomerate
cm	centimeter
CRC	Copper Range Company
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EPA	(United States) Environmental Protection Agency
EU	European Union
°F	degrees Fahrenheit
ft	foot (12 inches)
Ga	gigaannum (1 billion years)
GMS	G Mining Services, Inc.
GPS	Global Positioning System
>	greater than
H_2SO_4	sulfuric acid
HCT	Humidity Cell Test
HQ	drill core diameter 2.5 inches
ICP-MS	Inductively Coupled Plasma – Mass Spectroscopy
ICP-OES	Inductively Coupled Plasma – Optical Emission Spectroscopy
kg	kilogram (1,000 grams)
km	kilometer (1,000 meters)
<	less than
L	liter
LEAF	Leaching Environmental Assessment Framework
LECO	Trademark brand of combustion furnace for determination of sulfur and carbon abundance

LOM	Life of Mine
LWSA	Lower Sandstone
µg/L	micrograms per liter
µm	micron, one millionth of a meter
µS/cm	microsiemens per centimeter
m	meter
Ma	megaannum (1 million years)
MDN	Mercury Deposition Network
meq/L	milliequivalents per liter
mg/L	milligrams per liter
MI	Michigan
ML	Metal Leaching
mm	millimeter
MRS	Midcontinent Rift System
mV	millivolts
Mt	megatonne (1,000,000,000 kilograms)
MW	monitoring well
NAD	North American Datum
NADP	National Atmospheric Deposition Program
NAG	Net Acid Generation
ND1	North Dam 1 (existing tailings)
ND2	North Dam 2 (existing tailings)
ng/L	nanograms per liter
NMD	Neutral Mine Drainage
NNP	Net Neutralization Potential
Non-PAG	Non-Potentially Acid Generating
NPDES	National Pollutant Discharge Elimination System
NPR	Neutralization Potential Ratio
NREPA	Michigan Natural Resources and Environmental Protection Act NSS
NTN	National Trends Network
ORP	Oxidation Reduction Potential (Redox)
%	percent
PAG	Potentially Acid Generating
PEA	Preliminary Economic Assessment
PCOC	Potential Constituent of Concern
ppm	parts per million
PS	Parting Shale mineralized unit

PSD	Particle Size Distribution
SEM	Scanning Electron Microscopy
SGS	SGS Labs, Burnaby, British Columbia
South Dam	Historical South Dam tailings basin (existing)
SPLP	Synthetic Precipitation Leaching Procedure
SRK	SRK Consulting (U.S.), Inc.
s.u.	standard units (absolute value of log ($10^{-x.xx}$) of hydrogen ion activity, pH)
t	metric tonne (1,000 kg)
TDF	Tailings Disposal Facility (proposed)
TDS	Total Dissolved Solids
TIC	Total Inorganic Carbon
TOM	Top of Mineralization
UG Mine	Underground Mine (proposed)
UG Mine Area	Underground Mine (proposed) Area at ground surface
UPSA	Upper Sandstone (not mineralized) between US and PS
US	Upper Shale mineralized unit
US EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTM	Universal Transverse Mercator projection
WI	Wisconsin
WIDE	Widely Laminated siltstone unit (above Upper Shale)
WPC	White Pine Copper, L.L.C.
WPM	White Pine Mine (historical mine)
WPN	White Pine North (WPC project)
wt %	weight percent
WWTP	Wastewater Treatment Plant
XRD	X-Ray Diffraction

Executive Summary

On behalf of White Pine Copper, LLC (WPC), wholly owned by Kinterra Copper USA LLC, SRK Consulting (U.S.), Inc. (SRK) has completed a baseline geochemical characterization study for the White Pine North Project. The White Pine North Project is a proposed underground copper and silver mine located adjacent to the historic White Pine Mine on the Upper Peninsula of Michigan (MI), northeast of the historical White Pine Mine, in Carp Lake Township, Ontonagon County. Copper ore consisting of chalcocite hosted in shale will be extracted using conventional drill and blast, room, and pillar mining methods. A processing plant will be constructed on site to produce a copper concentrate, and processing will include crushing, grinding, flotation, concentrate thickening, and filtration. Tailings will be managed through re-use of the historic tailings dams, North Dam 1 (ND1) and North Dam 2 (ND2).

The purpose of this baseline geochemical characterization program is evaluate the geochemical characteristics of mine waste and exposed underground mine workings that will be produced by mine development. The program focused on three waste rock units, five mining column units, legacy tailings collected from ND2, and fresh tailings generated from the Upper Shale unit during the metallurgical test program. Overburden units include Glacial Till (Till), Freda Formation (Freda), and Nonesuch Siltstone (Nonesuch) that will be intersected during portal development and construction of three vent raises and will be treated as waste rock. The Mineralized Column includes five main units which will all be treated as ore, the widely laminated siltstone (WIDE), the upper shale (US), the upper sandstone (UPSA), the Parting Shale (PS), and Lower Sandstone (LWSA). The PS is the main economic ore unit. The LWSA unit is expected to be exposed in the sill (floor) of mine workings at the end of operations. The proposed mine plan includes about 138 million metric tonnes (Mt) of ore and 1.5 Mt of waste rock from underground mine development. The waste rock will be produced before the tailings are deposited and placed on ND1. The mass of waste rock is about 1% of the mass of tailings.

The geochemical characterization testwork includes static and kinetic testing methods. The static testing program included 170 samples: 40 samples of waste rock, 119 rock samples of ore from the mining column, five samples of fresh tailings from metallurgical test residues, and six samples of weathered legacy tailings from the existing ND2 facility. The kinetic humidity cell testing program included one sample of each of the five mining column units plus a composite of two tailings samples generated from the US unit and one blank.

Static testing included:

- Multi-element analysis
- Acid base accounting (ABA)
- Net acid generation (NAG) test that reported NAG pH and final NAG value
- NAG leachate analysis
- Synthetic Precipitation Leaching Procedure (SPLP)
- Leaching Environmental Assessment Framework (LEAF) methods, including:
  - Liquid-Solid Partitioning with Variable pH, EPA Method 1313
  - Liquid-Solid Partitioning with Variable Liquid to Solid (L:S) Ratio, EPA Method 1316

- Quantitative mineralogy by X-ray diffraction (XRD) with Rietveld refinement

Kinetic testing included:

- Humidity Cell Test (HCT), ASTM International (ASTM) D5744-13 Option A, using a 0.5:1 liquid: solid ratio due to the low concentrations expected from the samples

Elements that were significantly enriched relative to average crustal abundance (ACA) included:

- Copper in all materials except WIDE and LWSA
- Silver in US and PS
- Cadmium in US

Sulfide sulfur is attributed to the minerals pyrite and pyrrhotite and varied from below detection to nearly 2 weight percent (wt%) in the Nonesuch waste rock, an order of magnitude higher than the highest sulfide sulfur results for mining column units. Sulfate sulfur values were near or below the method detection limit of 0.01 wt% for all samples, indicating that sulfate minerals (e.g., gypsum) are not a significant component. Insoluble sulfur was the main component of total sulfur in the materials from the mining column and is attributed to chalcocite at WPN. Chalcocite does not generate acid upon oxidation under circumneutral conditions, and was not factored into the acid generation potential (AGP). Calcite is the primary contributor to acid neutralizing potential in rock samples. Samples for the Nonesuch had the highest total sulfur concentrations and the highest sulfide sulfur concentrations. Nonesuch also had the lowest acid neutralizing potential due to the absence of carbonate minerals.

Paste pH results were between 7.1 and 9.4 standard units (s.u.). This indicates readily available alkalinity and absence of acidic salts.

All Till and Freda waste rock, Mineralized Column, and tailings samples are classified as non-potentially acid generating (Non-PAG). The Nonesuch waste rock samples had a range of results from Non-PAG to PAG including:

- Eleven of 17 Nonesuch samples met the criteria for Non-PAG.
- One sample of Nonesuch was classified as Uncertain PAG.
- Five samples of Nonesuch were classified as PAG.

Two samples from the Nonesuch also produced NAG pH values less than 4.5 s.u., indicative of PAG materials. The rest of the materials intersected in the mine plan met the NAG pH criterion for Non-PAG classification. NAG leachate from Nonesuch showed elevated antimony, cadmium, copper, iron, lithium, and manganese relative to all other samples, suggesting the Nonesuch samples may be comparatively more reactive. The proportion of Nonesuch Formation that is PAG was not determined, but not all of the Nonesuch Formation subunits are PAG. Overall, the amount of waste rock compared to tailings in the proposed mine plan is small; the mass of waste rock is around 1% of the mass of the tailings.

SPLP tests on rocks from the Mineralized Column and tailings produced a slightly basic pH between 8.57 (LWSA) and 9.24 (US) relative to the SPLP blank (pH 4.24 s.u.). SPLP pH results are slightly more basic than Paste pH results due to the longer reaction time (18 hours vs. 10 minutes). SPLP results identified copper from the PS as a potential constituent of concern (PCOC) and TDS from the LWSA as a PCOC.

LEAF tests using variable pH (EPA Method 1313) found evidence of carbonate dissolution above pH 5, and chalcocite oxidation by ferrous iron below pH 5 which produced ferric iron, the oxidation of which further lowered pH. Results from 1313 tests indicated that copper and manganese will likely be mobilized under site pH conditions, at pH 4 to 9 s.u.

LEAF tests using variable L:S ratios (1316) also show evidence of pH increasing through the dissolution of carbonate minerals. For arsenic, copper and zinc, dissolved concentrations were constant and typically low irrespective of the L:S ratio, indicating a solubility control.

Mineralogy testing identified the presence of the carbonate mineral calcite with trace amounts of dolomite and ankerite. The main sulfide mineral identified was troilite [FeS], which is a member of the pyrrhotite family, with a trace amount of pyrrhotite [$Fe_{(1-x)}S$, x = 0 to 0.2] found in one sample. FeS is commonly found in meteorites but rare on Earth. For WPN, FeS will be grouped with pyrrhotite for interpretation of XRD results. No sulfate minerals were identified in the mineralogical analysis, consistent with ABA results.

The objectives of kinetic testing (HCTs) were to confirm long-term geochemical behavior as predicted from static testing, and to provide data to develop source terms for water in contact with underground workings and exposed tailings during operations and after closure. All six HCTs on Mineralized Column units and tailings were terminated at 48 weeks in July of 2026. Results were evaluated through Week 39. Chemical parameters and concentrations were stable for the five cells of the mining column / wall rock materials and the objectives of the test have been met. For the T-1, US Tailings Composite, calcium, magnesium, sulfate and TDS concentrations oscillated over the 39 week dataset.

HCT results affirmed ABA and NAG pH interpretations; all rock units in the mining column plus tailings are classified as Non-PAG and maintained neutral pH conditions during the kinetic tests. PCOCs include total dissolved solids (TDS), barium, beryllium, cadmium, copper, manganese, and strontium. TDS, barium, beryllium, manganese and strontium appear to be short term PCOCs associated with residual saline formation water in sample porewater which rapidly flushes from the samples during leaching. Cadmium and copper appear to be long term PCOCs associated with sulfide mineral oxidation, notably from the US and PS. In contrast, total mercury concentrations were well below the strictest applicable water quality criteria established for the Great Lakes, suggesting rock from the Mineralized Column and tailings are not sources of mercury.

Based on the HCT and static leach test results, materials at WPN are not likely to generate Acid Mine Drainage (AMD). However, neutral mine drainage (NMD) with circumneutral pH and elevated copper, and possibly elevated cadmium, is likely. Water pumped from the underground mine during operations may also have elevated TDS, chloride, and other ions associated with saline formation water.

1 Introduction

1.1 Purpose and Scope

White Pine Copper, LLC (WPC), wholly owned by Kinterra Copper USA LLC retained SRK Consulting (U.S.), Inc. (SRK) to undertake a baseline geochemical characterization study for the White Pine North Project (WPN or Project). WPC is seeking to develop the brownfield site of White Pine Mine (WPM) located approximately 7.5 kilometers (km) (5 miles) south of Lake Superior, east of highway M-64, in Carp Lake Township, Ontonagon County, MI. WPM was part of the MI's Upper Peninsula historical copper mining district. Underground mining on site began in the late 1800's. In 1952, the Copper Range Company (CRC) began construction of a fully functioning underground mine and surface processing facilities including a concentrator, smelter, and refinery. Tailings were placed in three tailings areas: North Dam 1 (ND1), North Dam 2 (ND2), and South Dam. Mining and processing ceased in 1997, and a State of Michigan Consent Decree was established.

For the WPN project, WPC is proposing to mine underground, north and east of the historical underground mine workings of WPM. Copper ore consisting of chalcocite hosted in shale will be extracted using conventional drill and blast, room and pillar mining methods. A processing plant will be constructed on site to produce a copper concentrate, and processing will include crushing, grinding, flotation, concentrate thickening, and filtration. Tailings will be managed through re-use of one or more of the existing tailings dams.

The purpose of the baseline geochemical characterization program is to assess the geochemical characteristics of mine waste, exposed underground mine workings in the mining column, and future tailings material that will be produced by the proposed WPN mine development. Materials examined in this study included:

- Waste rock generated from decline and vent raise development, also called Hanging Wall materials
- Exposed rock in underground workings that will be in direct contact with the flooded mine pool after closure
- Fresh tailings expected from processing of ore from the US and PS horizons and adjacent wall rock
- Weathered tailings from previous mining stored in ND2

The results of the geochemical characterization program will be applied to water quality predictions to assess the potential for Acid Rock Drainage (ARD) and Metal Leaching (ML) associated with the Project. Data produced during this study can be used in the project design process and as an operational tool for identifying material types that require special handling during operations and to inform the design of water treatment facilities. Characterization results available as of May 4, 2026, from ongoing testing are presented in this report.

1.2 Background

WPC is wholly owned by Kinterra Copper USA, LLC and holds a 100% interest in the WPN Project, a sediment-hosted copper and silver deposit. The historical WPM, southwest of the Project, operated intermittently between 1879 and 1995 (USGS 2025). The Project location is shown in Figure 2-1.

Copper mineralization in the Project vicinity occurs in the bottom 6 meters (m) (20 feet (ft)) of the Nonesuch Formation shale, at the contact with the Copper Harbor Conglomerate (CHC). The nearby Copperwood Project has the same copper deposit geology and is considered an analog for the White Pine deposit. At the Project, the mineralized contact zone dips 10 to 20 degrees (°) northeast and most of the proposed underground mine development will be in the mineralized horizon. This mine design is similar to the historical WPM design.

1.3 Regulatory Requirements

The geochemical characterization work undertaken for the Project was developed to meet the requirements set forth by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for permitting a nonferrous metallic mine within the watershed of Lake Superior. Characterization work also provides "*a description of the geochemistry of the ore, waste rock, overburden, peripheral rock, and tailings, including characterization of leachability and reactivity.*" This description is a required part of the mining, reclamation plan and environmental protection plan included in the mining permit application (Section 324.63205) under Part 632 Nonferrous Metallic Mineral Mining of the Michigan Natural Resources and Environmental Protection Act of 1994. International guidance on best practices for geochemical characterization was considered and applied as practical. This document was prepared for WPC to be used as a guide for engineering studies related to mine plan development and environmental permitting.

1.4 Units of Measure, Abbreviations, and Nomenclature

Unless otherwise specified, this report uses US English, spelling, and metric units. Location coordinates are presented in meters using the Universal Transverse Mercator ("UTM") projection (UTM Zone 16, NAD83 datum). Elevations are reported as meters above mean sea level (m amsl). Mine plan quantities are reported in metric tonnes (t), as 1,000 kilograms per metric tonne (kg/t). A list of abbreviations and terms used throughout this report is presented above, between the Table of Contents and the Executive Summary.

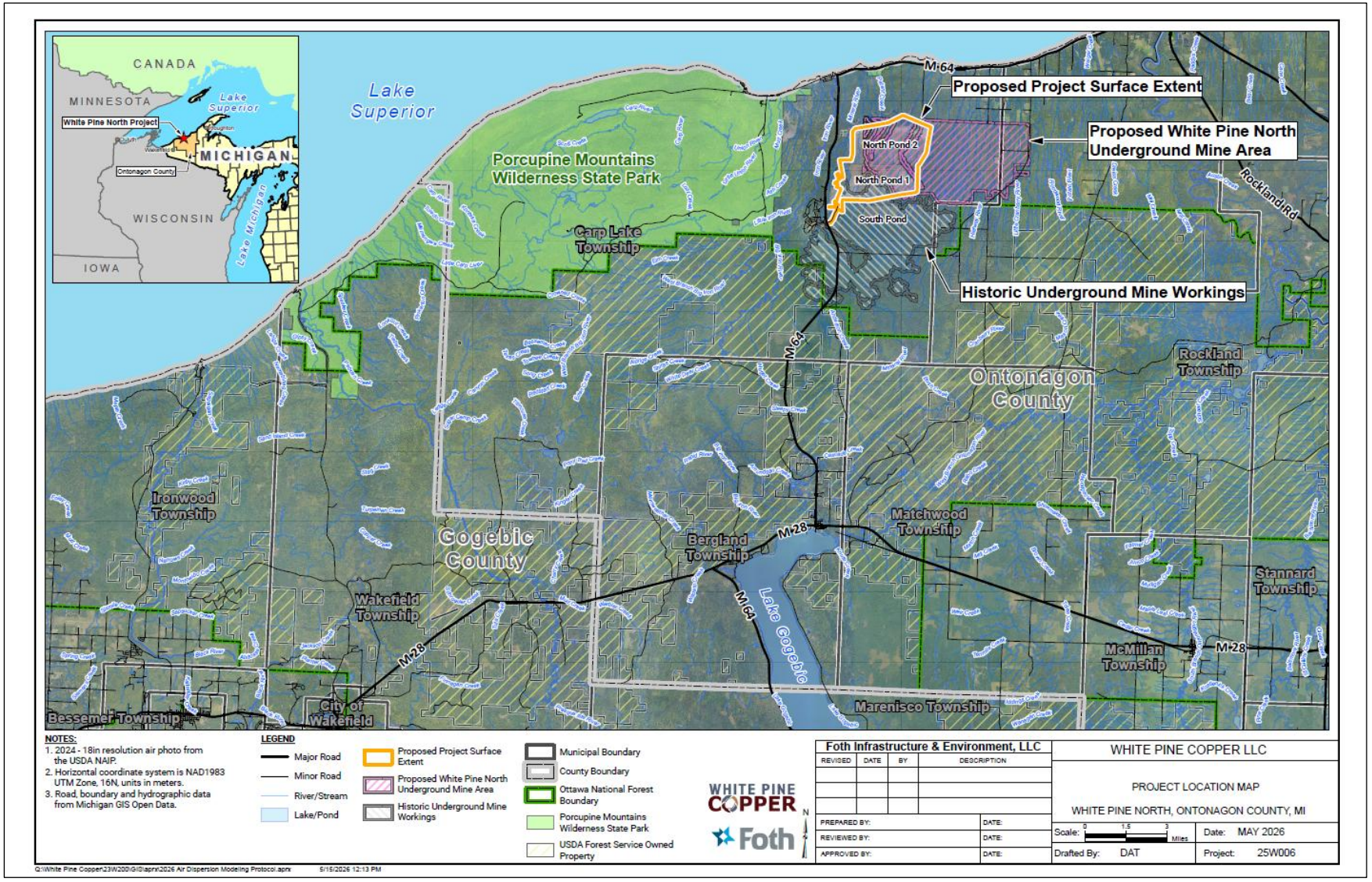
2 Site Conditions

The text below in sections 2.1, 2.2, and 2.3 is from the Preliminary Economic Assessment (PEA) for the Project, produced by G Mining Services Inc. (GMS) for WPC (GMS 2023) unless otherwise cited. Minor changes have been made to conform with the style of this document.

The Project is located in the western Upper Peninsula of the State of MI, USA, approximately 7.5 km south of Lake Superior in Ontonagon County at 46° 45’ 42” N latitude and 89° 33’t 52’ W longitude (UTM coordinates 5,181,816N, 304,170E). The county seat is Ontonagon, 25 km northeast of the Project. The area is accessible via MI State Highway 64, which runs north-south 0.5 km west of the Project footprint. The nearest airports serviced by commercial flights are Ironwood, Hancock, and Marquette.

The Project covers approximately 4,500 hectares (ha) (11,000 acres) of surface rights and approximately 11,990 ha (29,615 acres) of mineral rights. Surface and mineral rights are located in portions of Township 51N Range 42W, Township 51N Range 41W, Township 50N Range 42W, and Township 50N Range 41W in the Township of Carp Lake, Ontonagon County, MI as shown on Figure 2-1. Third party properties are also shown on Figure 2-1. These areas overline mined-out portions of the former WPM, the mine portal, a refinery, and a power plant, none of which are being acquired by the Company.

Figure 2-1: Project Location Map



Source: Foth Infrastructure & Environment, LLC, 2026

2.1 Topographic Setting and Climate

The elevation at the historic WPM portal is 265 m amsl. The Project area is in the Lake Superior Lake Plain regional ecosystem, consisting of a landscape formed by water-reworked moraine and Till, drained by numerous small streams and wetlands, sloping gently north toward Lake Superior. On a larger scale, the region is within the southern boundary of the boreal forest (taiga) ecosystem which, locally, contains a variation noted as northern forest. This variation is characterized by coniferous forests, consisting mainly of pine, spruce, and larch mixed with areas of northern hardwoods, paper birch, and aspen. Nearly all the virgin white pine in the area was logged off in the late 19th century and the area is now covered by second and third growth forest. The system is noted for the abundance of water but poor topsoil due to repeated glaciation.

The Project area has a humid continental climate strongly influenced by the proximity to Lake Superior, characterized by weather patterns usually known as “lake effect”, which affects temperature, precipitation, and cloud cover. This lake effect phenomenon exists because the Lake Superior water warms and cools more slowly than the surrounding air. This proximity also results in increased precipitation because large amounts of moisture are available for air masses as they travel across the lake. With the predominant wind direction from the west, the lake effect is exacerbated in the winter as cold air blows across the warmer lake, acquiring moisture and dumping heavy snowfall as it meets the colder land mass.

The average annual rainfall in Ontonagon County is 86 centimeters (cm) (33.9 inches) with snowfall of 459 cm (177 inches) at White Pine. There are on average 185 sunny days and 142 days with precipitation. The average July high temperature is 26°C (78.8°F) and the average January low temperature is -16°C (3.7°F).

2.2 Geology

The geology of the Upper Peninsula, the Project area, and the WPN deposit is described below.

2.2.1 Regional Geology

The Project lies on the south flank of the Mid-continent Rift System (MRS), a 2,500 km long structure of Precambrian age exposed south of Lake Superior. The regional bedrock geology is shown in Figure 2-2. The Project is located at the east end of the Iron River syncline (Figure 2-3). The Nonesuch Formation, the host of copper and silver mineralization, is part of a Keweenawan-aged (~1.1 Ga.) continental rift-fill sequence, illustrated in the stratigraphic column presented in Figure 2-4. At the base of the MRS is the Portage Lake Volcanics, which are primarily composed of olivine tholeiite lava flows. In the Project area, these basaltic volcanic rocks are overlain by the Porcupine Volcanics, which are composed of intermediate to felsic volcanic rocks. The Porcupine Volcanics are in turn overlain by the CHC, an alluvial fan deposit. In the Project area the CHC is composed of oxidized red lithic sandstone with subordinate amounts of conglomeratic sandstone. Overlying the CHC is the Nonesuch Formation, composed of grey to black to red-brown, thinly interbedded siltstone, mudstone, and minor shale and sandstone. The base of the Nonesuch Formation interfingers with the top of the CHC. Overlying the Nonesuch Formation is the Freda, composed of red to red-brown fluvial sandstone.

The Portage Lake Volcanics are renowned for their native copper lodes in the Native Copper Belt and chalcocite occurrences in the Chalcocite Belt and are bounded to the south-east by the major Keweenaw Fault, a reversely activated thrust fault. This thrust fault put the younger, post-rift, Jacobsville Sandstone in contact with the Porcupine and Portage Lake Volcanics, the older syn-rift volcanic units.

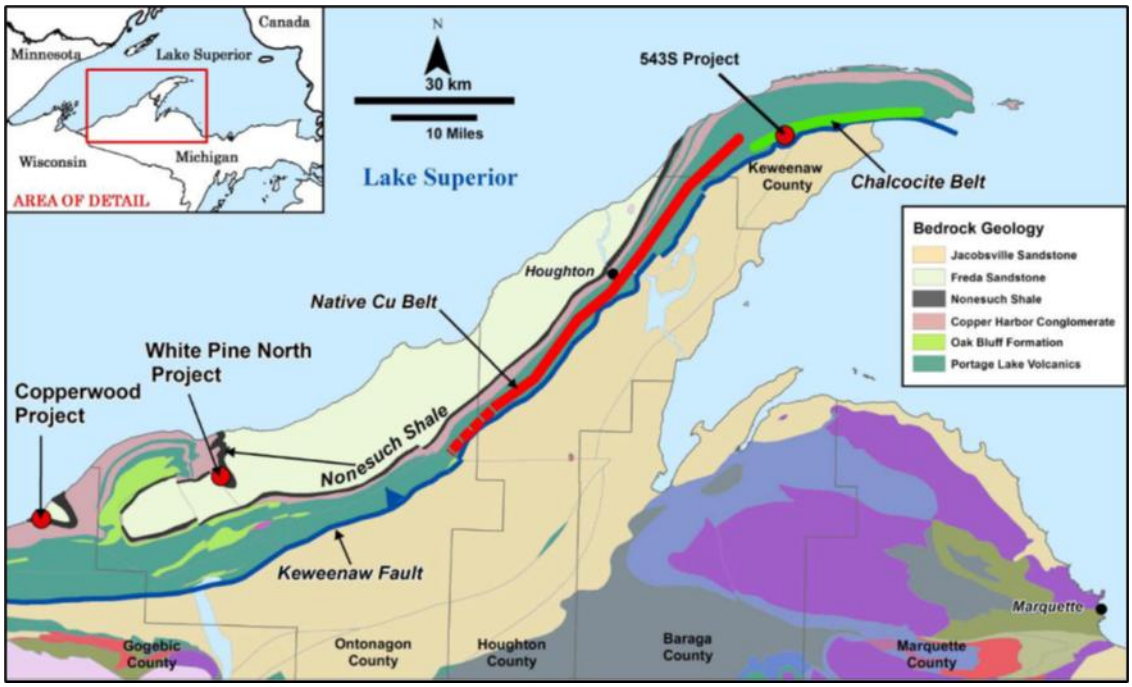
Two major north-dipping, moderate to steep, reverse faults, The Keweenaw Fault and the eastern extension of the Porcupine Mountain Fault, shown in Figure 2-3, bound the Project area. The major structural features of the area are the White Pine Fault, thrust faults in the Southwest Mine, strike-slip faults in the North Mine, and a shallow east-southeast plunging anticline immediately north of the White Pine Fault.

The Middle Proterozoic rocks of the Midcontinent Rift System (MRS), including those of the WPM area, have been subjected to at least two periods of deformation. An early period of extension contemporaneous with Keweenawan-aged rifting and a later period of compression associated with the development of the Keweenaw Fault and Lake Superior syncline.

The rocks of the WPM area show the effects of the earliest period of deformation from extension in soft-sediment deformation features, growth faults, and possibly the development of steep normal faults associated with listric faults. The later stage of deformation can be identified by folds and strike-slip and thrust faults.

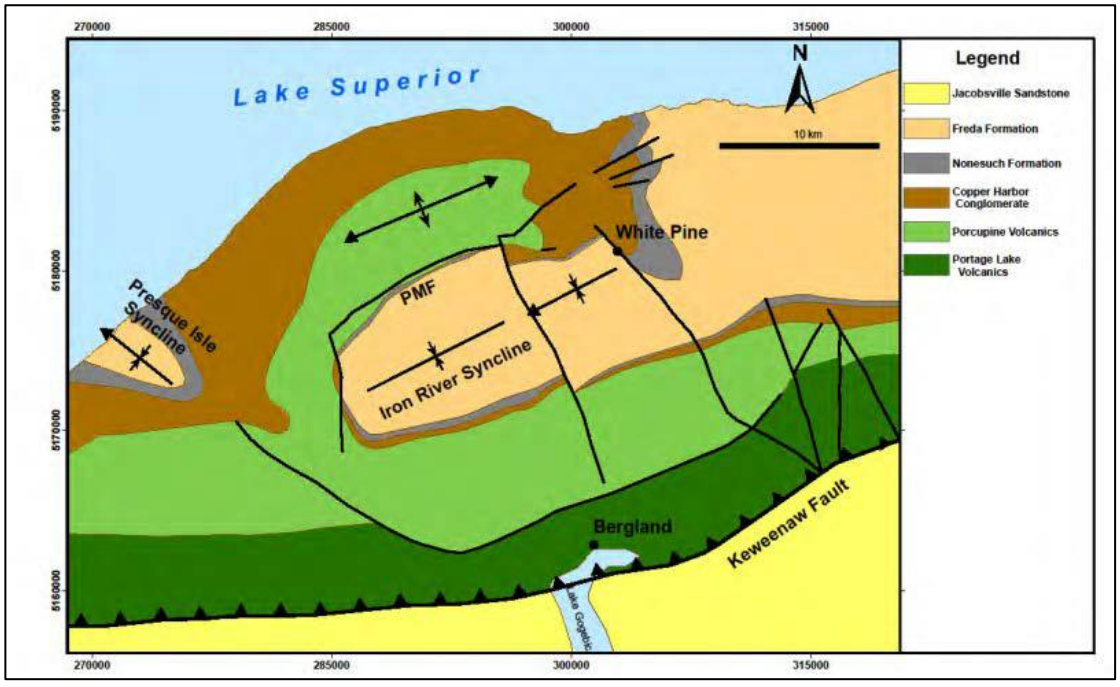
The WPM area can be divided into two major structural domains, the Northeast and Southwest, illustrated in Figure 2-5. The domains are separated by the White Pine Fault, the major structural feature of the deposit. The Southwest Domain is distinguished from the Northeast Domain by the presence of north and south dipping thrust faults. The Northeast Domain contains few thrust faults but does contain strike-slip faults that can be followed for thousands of feet. Both domains contain abundant strike-slip faults.

Figure 2-2: Regional Geologic Map, Michigan's Keweenaw Peninsula



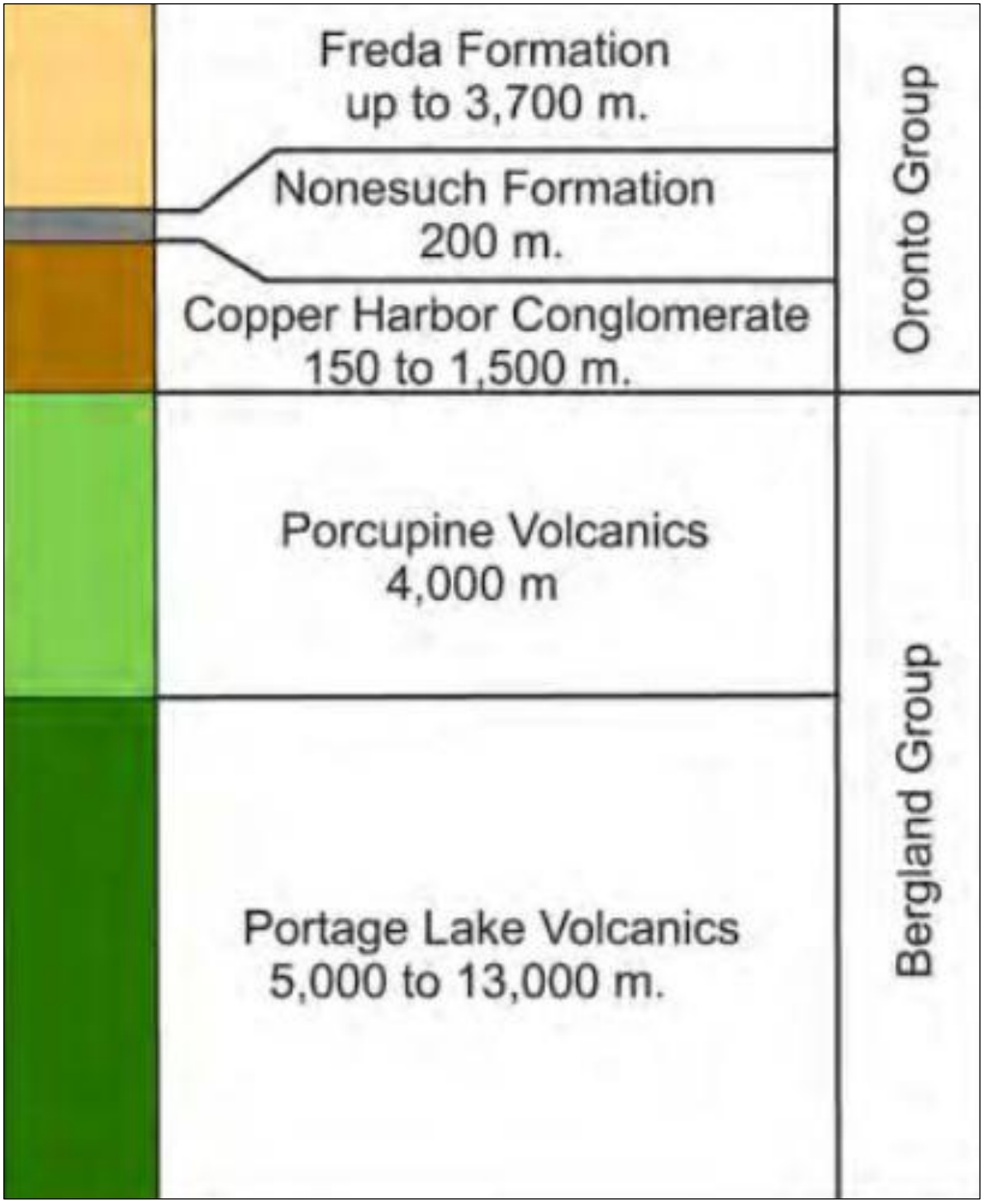
Source: GMS, 2023 and Highland Copper Company website

Figure 2-3: Geologic Map of the White Pine North Project Area



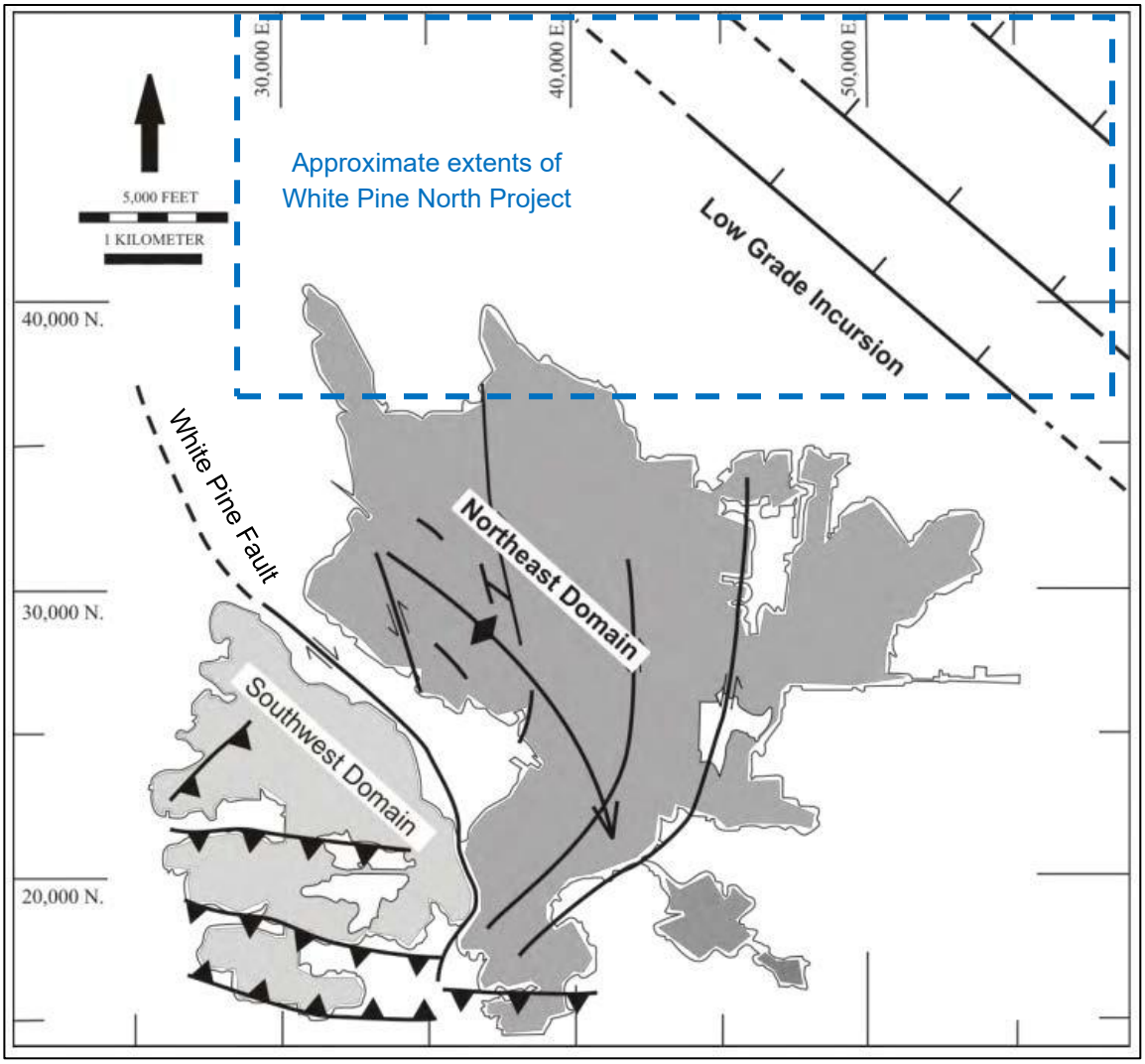
Source: GMS, 2023 and Highland Copper Company website

Figure 2-4: Generalized Stratigraphic Column for the White Pine North Project Area



Source: GMS, 2023

Figure 2-5: Map of Major Structures and Structural Domains in the Project Area (see Figure 2-1)



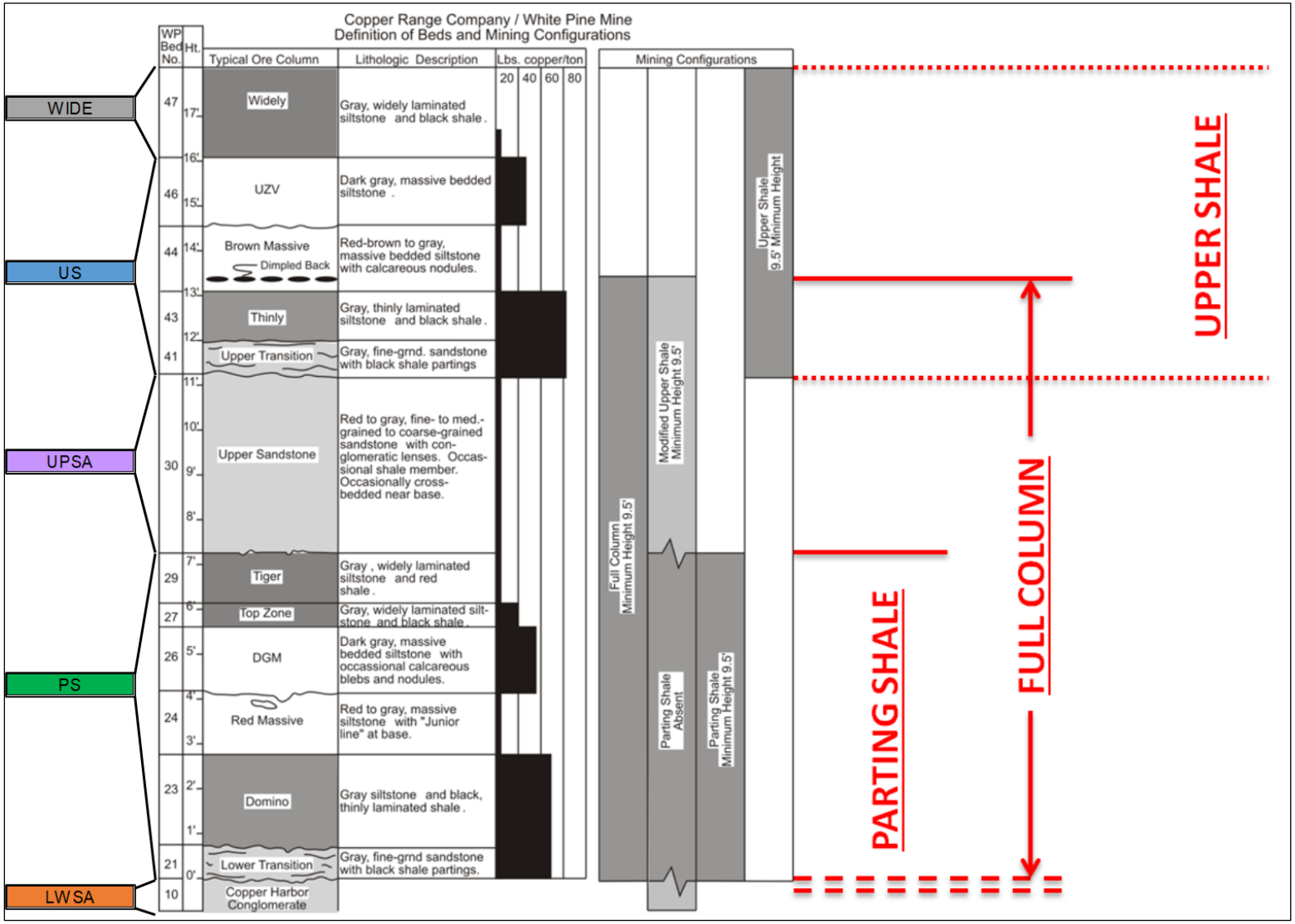
Source: GMS, 2023; annotated by SRK for this report

Note: Mined-out areas are shaded in gray

2.2.2 Project Area Geology and Stratigraphy

The copper mineralization in the former WPM occurs in the bottom 6 m (20 ft) of the Nonesuch Formation at the contact with the CHC. The shale and siltstone in the lower part of the Nonesuch Formation are divided into two shale units, the lower “Parting Shale” and the upper “Upper Shale”, separated by the UPSA. Both shale units are present throughout the northern Project area, but the Parting Shale mineralized unit (PS) pinches out and is not present in the southwestern Project area. A detailed stratigraphic column illustrating the beds and mining configurations is presented in Figure 2-6. Full descriptions of the recognized beds in the Nonesuch Shale and CHC in the White Pine deposit are available in the 2023 PEA study technical report (GMS. 2023).

Figure 2-6: Mineralized Zones and Grouped Units for the White Pine Mine



Source: GMS, 2023; annotated by SRK for this report.

2.2.3 Mineralogy and Mineralization

The mineralization of the Project is classified as a reduced facies, stratiform, sediment-hosted copper deposit. Copper mineralization is attributed to the flow of copper-rich brines through pyrite-bearing shale. The source of the copper in the brines is either the CHC or the underlying mafic volcanic rocks. Copper mineralization occurs as chalcocite (Cu_2S) or native copper in the shale subunits of the Nonesuch Formation. Chalcocite (sulfide) mineralization is estimated to comprise 85% to 90% of the copper contained in the White Pine deposit but both modes of mineralization are present throughout the deposit. Drillhole intercepts indicate that the mineralized horizons have consistent thickness in the proposed mining area, except the beds that comprise the PS pinch out in the southwestern area of the historical WPM.

Chalcocite occurs as fine-grained laminae in interbedded sandstone and shale, very-fine grained disseminations and discrete clots in siltstone, and in veinlets and veins. The top of the copper mineralization is identified as the Top of Mineralization (TOM) Line or “fringe,” a narrow transition zone between cupriferous and pyritic zones. The fringe is typically very narrow (around 1 cm) and is identified by the sequence: chalcocite, digenite, bornite, chalcopyrite, and pyrite. Immediately above the cupriferous zone is a narrow zone containing disseminated greenockite, galena, and wurtzite. The yellow color of greenockite is distinctive in drill core when present, but SRK did not observe any during the site visit. The TOM Line crosscuts stratigraphy. In the shallow areas of the historical WPM near the portal, the TOM Line is typically 9.5 m (30 ft) above the Lower Sandstone (LWSA) while, to the east, the TOM Line descends through the otherwise normally mineralized beds.

Native copper mineralization occurs throughout the deposit with chalcocite. The most significant occurrences are sheet copper and mineralized sandstone. Mineralized sandstone occurs in the uppermost part of the CHC and is associated with trapped hydrocarbons. Native copper is found in close relationship to copper sulfide in sandy lenses and pods (load casts) in the Lower Transition, common in channels incised into the top of the CHC. The greatest amounts of mineralized sandstone were found in areas adjacent to the White Pine fault. The Dark Gray Massive bed also hosts native copper with chalcocite, which occurs as very fine-grained disseminations, with discrete blebs of native copper. Sheet copper forms along thrust surfaces in the southwest deposit area. The sheet copper in thrust surfaces is parallel to bedding or it cross-cut stratigraphy. Some sheets could be traced through entire pillars in the historical mine. An example of sheet copper from the historical WPM, shown in Figure 2-7, is on display in the Mineral Gallery at the Smithsonian’s National Museum of Natural History in Washington, D.C.

Figure 2-7: Sheet Copper Specimen from White Pine Mine



Source: SRK, 2025

Notes: Recovered in 1985, weighs 147 kilograms (kg), approximately 1.5 by 2.5 m. Displayed in the Mineral Gallery at the Smithsonian's National Museum of Natural History, Washington, D.C.

2.3 Existing Facilities

The discovery by the CRC in the 1930's that zones of chalcocite mineralization extended over a very large area, coupled with increasingly sophisticated metallurgical techniques for treating fine-grained sulfide mineralization, led to development of the WPM, which was in production between 1953 and 1995, except for a two-year period in 1984 to 1985. Over 2.04 billion kg of copper were produced from the historical underground mine. The WPM was a room and pillar operation accessed with a decline. The proposed mine plan for WPN includes the same mining method.

CRC sold existing facilities upon closure in 1995 and several parties bought various buildings and parcels of land of what was called "White Pine Industrial Park". This is separate from the land holdings of WPC. WPC has surface rights for the three historical tailings basins; ND1, ND2, and South Dam. The historical mining, mineral processing and smelting operations at the former WPM property (the Mine Property) until 1995 resulted in releases of hazardous substances on and beneath the former Mine Property and the site is regulated by Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The Mine Property

includes a portion of the area identified as the “White Pine Mine Facility” in a consent decree between WPC, Michigan’s Attorney General, and Michigan Department of Environment, Great Lakes, and Energy (EGLE), dated October 1997, as amended (the Consent Decree). Pursuant to the Consent Decree, WPC (and previously CRC), has been addressing the identified environmental impacts at the Mine Property by undertaking certain environmental response activities. These include soil relocation, source control, capping and re-vegetation, groundwater monitoring, and storm water management with effluent discharges as permitted under a National Pollutant Discharge Elimination System (NPDES) permit, and land use restrictions in the form of recorded declarations of restrictive covenants.

2.4 Water Resources

The Project is adjacent to Mineral River and 7.5 km (5 miles) south of Lake Superior. Ongoing water quality monitoring by WPC includes sampling and testing for surface water and groundwater monitoring points. A summary of water quality data is presented in this section for context. Surface water and groundwater quality monitoring points for the Project are established, and monitoring programs are ongoing. The water quality monitoring analyte lists, and detection limits were considered to design the leach testing portion of the geochemical characterization program.

Regional precipitation chemistry monitoring by National Atmospheric Deposition Program (NADP) is ongoing. Precipitation monitoring stations in the National Trends Network (NTN) relevant to the Project, and key results from them, are summarized below.

2.4.1 Precipitation

The NADP NTN quantifies the pH and concentration of eight major ions present in precipitation samples for 250 sites located in the United States, away from urban areas and point sources of pollution (NTN, 2025). The monitoring network was established to track “acid rain” resulting from industrial activities. Each monitoring station has an automated precipitation collector that ensures the sample is only exposed to the atmosphere during precipitation and includes a gauge to measure quantity of precipitation. Samples are collected weekly for analysis. The NTN was established in 1980 and is the only network that provides a long-term record of precipitation chemistry across the US. Monitoring stations in the vicinity of the Project are listed in Table 2-1. Stations MI22 and MI99 near Houghton, MI have similar geography to the Project. These sites are dominated by the influence of Lake Superior. No water quality data are available from MI22, and the other monitoring stations near Lake Superior are farther from the Project and have shorter reporting periods than MI99. Although the Trout Lake monitoring station (WI36) in northern Wisconsin is about the same distance from the Project as the Houghton stations, it is much farther from Lake Superior and may not be representative of precipitation at the Project site. Due to the location and recording period of MI99, the dataset from this station is most representative of the precipitation at the Project.

Average pH values by water year, which starts the first of October, for the Chassell (Houghton) and Trout Lake (Boulder Junction) stations, are plotted in Figure 2-8. Except for 2003, between 1983 and 2006, pH values at Chassell station were between 4.6 and 5.0 s.u. Precipitation pH increased steadily during the monitoring period and has been between 5.2 and 5.6 s.u. since 2011. Generally, pH values at Trout Lake station were higher by 0.1 to 0.5 s.u. Current precipitation pH values are comparable to the pH of deionized (D.I.) water used for laboratory testing.

Table 2-1: NTN Precipitation Monitoring Stations Near the Project

Station ID	Station Name	Nearest Town	Distance from WPN	Available Data
MI22	Houghton	Houghton, MI	88 km northeast	1980 to 1983
MI99	Chassell	Houghton, MI	87 km northeast	1983 to 2019
WI36	Trout Lake	Boulder Junction, Wisconsin	80 km south	1980 to 2019
WI92*	Chequamegon Bay	Ashland, Wisconsin	110 km west	2022 to 2023
WI08	Brule River	Port Wing, Wisconsin	156 km west	2014 to 2019
WI10**	Potawatomi	Crandon, Wisconsin	150 km southeast	2005 to 2025

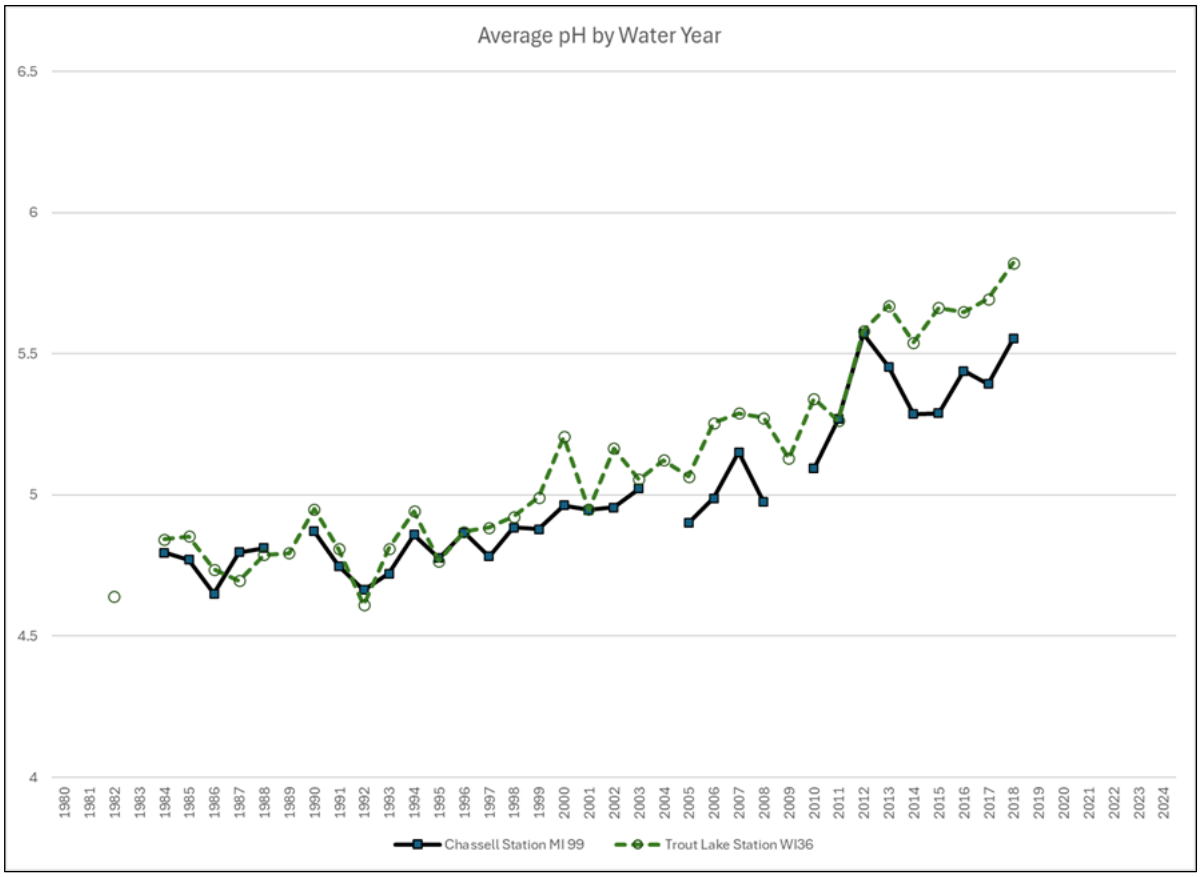
Source: NTN, 2025 and MDN, 2026

Notes:

* No data available through NTN. Information is from Federal Land Manager Environmental Database administered by Colorado State University.

** Mercury Deposition Network (MDN) site.

Figure 2-8: Average Precipitation pH by Water Year



Source: NTN, 2025 and SRK, 2025

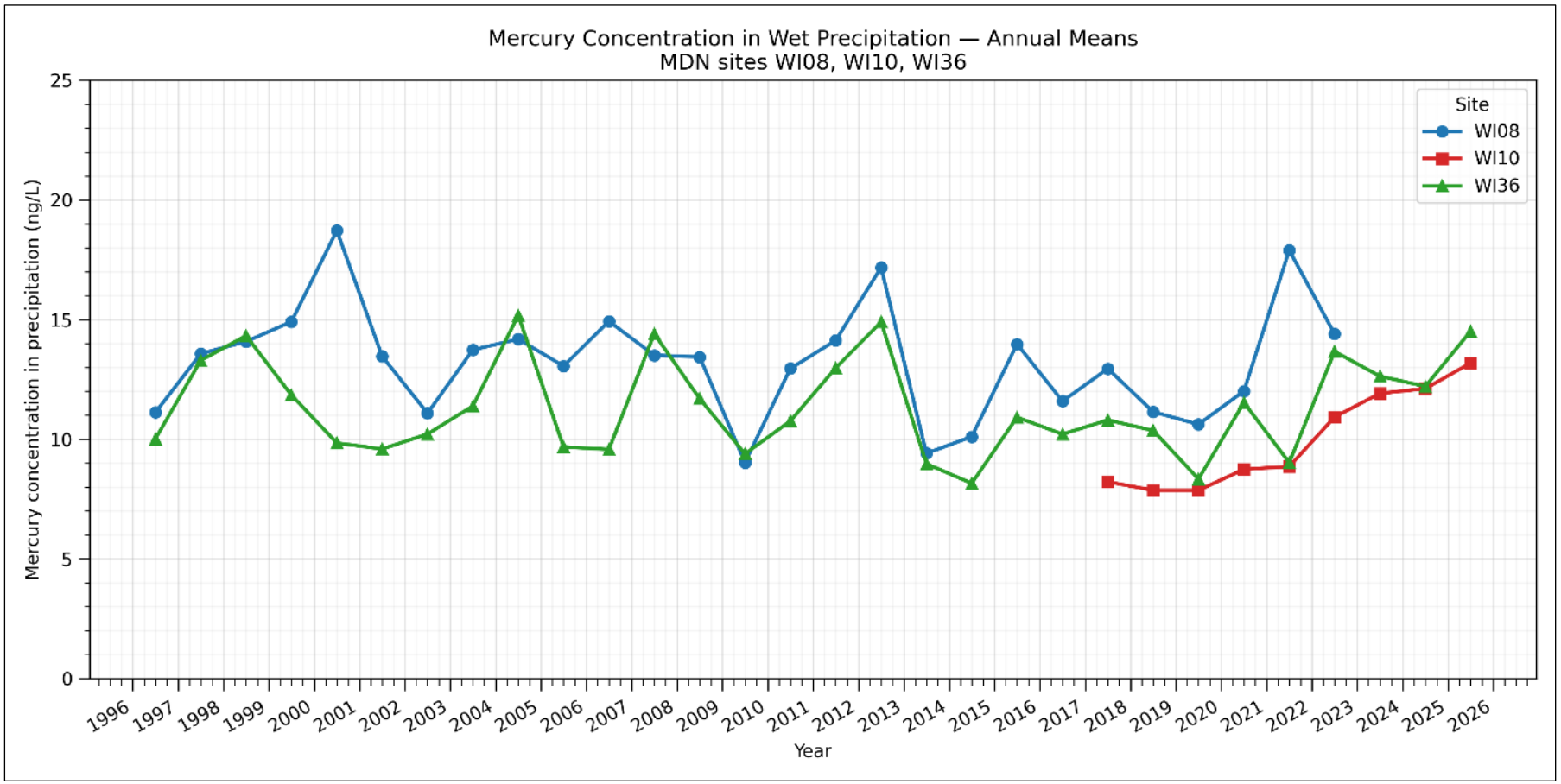
Note: Data for Chassell Station and Trout Lake Station

Rainwater in the Upper Peninsula of MI is known to contain elevated concentrations of mercury. Monitoring stations at Port Wing, Wisconsin (WI08, Brule River) and Boulder Junction, Wisconsin (WI36, Trout Lake) are part of the MDN managed by the University of Wisconsin-Madison (NADP, 2026). Station WI08 is approximately 156 km west of WPN on the shore of Lake Superior. Stations

WI36 and WI10 are located in northern Wisconsin, 80 km south and 150 km southeast of WPN, respectively. Total mercury concentrations in weekly rainwater samples were measured from 1996 to 2022 (WI08), 2005 to 2025 (WI10), and 1994 to 2026 (WI36). Figure 2-9 shows a time series plot of the average annual, total mercury concentration in rainwater from these three sites. Each data point represents the average of 30 to 53 samples per year.

Importantly, observed concentrations in rainwater are six to ten times higher than 1.3 nanograms per liter (ng/L), the discharge limit for the Great Lakes (US EPA, 1995). During development and operations, care should be taken to quantify mercury landing as direct precipitation on WPN facilities (e.g., the contact water pond, ND1, and ND2), and in runoff from the tailings beaches, so that the load of mercury arriving at the water treatment plant is not mistakenly attributed to mine workings, ore, and tailings. Robust monitoring before and during operations could lessen the environmental liability of WPN during site closure with respect to total mercury.

Figure 2-9: Annual Average of Total Mercury Concentration in Precipitation Near WPN



Source: Mercury Deposition Network (NADP, 2026)

Note:

WI08 - Brule River Station, in Port Wing, Wisconsin

WI10 - Potawatomi Station, in Crandon, Wisconsin

WI36 - Trout Lake Station, in Boulder Junction, Wisconsin

2.4.2 Surface Water and Groundwater Monitoring

The following discussion of previous water quality investigations is from the 2023 PEA Technical Report (GMS, 2023). CRC completed surface water and groundwater sampling in the vicinity of the WPM as part of its remedial investigation. A limited amount of sampling was done in off-site streams and in monitoring wells considered to be outside the influence of historical mining impacts. Constituents of concern (COCs) identified for impacted surface water were boron, copper, lithium, manganese, strontium, and zinc. Elevated copper concentrations are common in surface waters of the WPM area, especially the Mineral River, which is as close as 0.5 km to the tailings basins. Some of the copper can be attributed to naturally occurring Nonesuch formation outcrops in stream beds, with contributions from previous mining and mineral processing operations. Duck Creek, which is less than 1 km east of the mine influenced areas, also exhibits elevated copper concentrations. Perch Creek is influenced by the current tailings pond discharge that includes precipitation runoff from the North and South Tailings Ponds and a significant amount of underground mine water that is pumped into ND1 to maintain the water elevation in the mine. The deep bedrock water infiltrating into the historical mine workings is high in dissolved solids, especially chloride, and is mixing with a freshwater cap that CRC flooded most of the former mine workings with as part of their site closure activities. COCs identified for groundwater were barium, boron, manganese, lithium, and strontium. These elements are naturally present as trace metals in deep bedrock groundwater at the WPM and throughout the Canadian Shield.

As part of the geochemical characterization study, SRK and WPC did an initial review of groundwater monitoring points and determined that three wells may be relevant as analogs for predictions of future contact water quality from proposed mine development. Two wells, BMW-3 and BMW-4, are near the historical WPM workings, and one, BMW-1, is in the tailings basin area. These wells are screened in bedrock. BMW-1 and BMW-3 are not routinely monitored. Water quality data for BMW-1 and BMW-3 are limited to two sampling events in 1994. BMW-4 had water elevation data but no water quality data available.

The water discharged from the historical WPM to ND1, to maintain the groundwater elevation below the elevation of Lake Superior, is sampled weekly during pumping for water quality analysis. Parameters currently tested include pH, Total Dissolved Solids (TDS), and concentrations of chloride and copper.

2.5 Available Geochemical Characterization Data

Previous geochemical characterization for the Project includes a study completed by Golder Associates (1998) for CRC's remedial investigation (MFG, Inc., 1999). Acid Base Accounting (ABA) and Synthetic Precipitation Leaching Procedure (SPLP) tests were performed on samples of White Pine tailings to evaluate acid generation and leaching potential. The historical White Pine tailings are permanently disposed of and are interacting with interstitial pore water, precipitation and, to a limited extent, ambient oxygen. Neutralization potential of the tailings was found to be high and Acid Generation Potential (AGP) was calculated as zero with pyritic sulfur in the samples being less than the analytical detection limit of 0.01 weight percent (wt%). The SPLP test results were less definitive due to analytical detection limits and the limitations on the procedure as an indicator of short-term mobility of leachable metals. Although these results are not directly applicable to the characterization of

the proposed mining area, the testing methods are still used today, and this historical data can be compared qualitatively to the results of this study.

The exploration drillhole database for WPN includes results from two assay packages; a copper and silver package, and a multi-element package that includes calcium and sulfur, completed at Activation Labs (ACT) in Thunder Bay, Ontario. The method used for both was 4-acid “near-total” digestion, which is required to completely dissolve chalcocite. Results were collated in a comprehensive database and provided to SRK for sample selection. The logged geology and the copper grades were used to define sample intervals for geochemical testing.

Quantitative Evaluation of Minerals by Scanning Electron Microscopy (QEMSCAN) mineralogy results were available for most of the metallurgical test head samples. One of these had adequate material available to use in the geochemical characterization program. The rest of the PS and US metallurgical samples that have QEMSCAN results may be analogous to those material types in the geochemical characterization program.

3 Mine Plan

The Project consists of a copper and silver deposit in a district with similar deposits and a long history of mining. The Project will be developed as an underground mine with an expected operational mine life of about 25 years. Mine development will include a portal and three vent raises, which will intersect Till and bedrock from the Freda and Nonesuch Formations above the mining column, which is at the base of the Nonesuch. For ground control, the decline and vent raises will be lined with shotcrete. All mine access development will intersect the mining column comprised of US and/or PS and adjacent units, and the resulting muck will be processed as ore. The proposed mining method is room and pillar, without additional ground support from backfill. This is the same method that CRC used in the historical WPM.

The proposed mine design includes 137,450,000 tonnes (t) of ore and about 1,530,000 t of waste rock. Waste rock from the decline (1,457,500 t) and two short vent raises (11,000 t) will be used to construct an interior berm that is required as part of the deposition plan on the existing ND1 tailings impoundment. A portion of the waste rock from the Nonesuch Formation above the mining column in the decline and vent raise areas has the potential to generate acid during weathering and should be handled appropriately to mitigate potential impacts to water resources. Waste rock from the third vent raise (61,500 t) will be placed in one of the mined-out panels, rather than hauling it to surface. Fresh tailings generated from the processing of ore from the WIDE, US, UPSA, PS, and LWSA mining column will be deposited on top of legacy tailings in ND1 (operational years 1 to 11) and ND2 (operational years 12 to 26). At the conclusion of room and pillar mining, WIDE, US, UPSA, PS, and LWSA units will be exposed rock in the underground mine with WIDE or UPSA comprising the back and LWSA comprising the sill.

Estimated quantities of waste rock and tailings from ore processing are presented in Table 3-1 with the approximate exposed areas of each material type in the mine plan. This mine plan, developed in February 2026, is illustrated in Figure 3-1 through Figure 3-4. Mine development elevations of the decline and vent raises are between -619 and +254 m amsl. The ore production area elevations range from -960 to -33 m amsl. Water that accumulates during mining will be pumped out of the mine to ND1 during operational years 1 to 11 or to ND2 during operational years 12 to 26 where it will mix with beach runoff, discharge from the contact water pond, mill process water, existing pond water, and direct precipitation prior to reuse in the mill as reclaim water or treatment at the water treatment plant (WTP). Treated water will be either (a) returned to the underground mine for use in dust control, drilling and ore mucking, (b) returned to the mill, or (c) discharged to the environment.

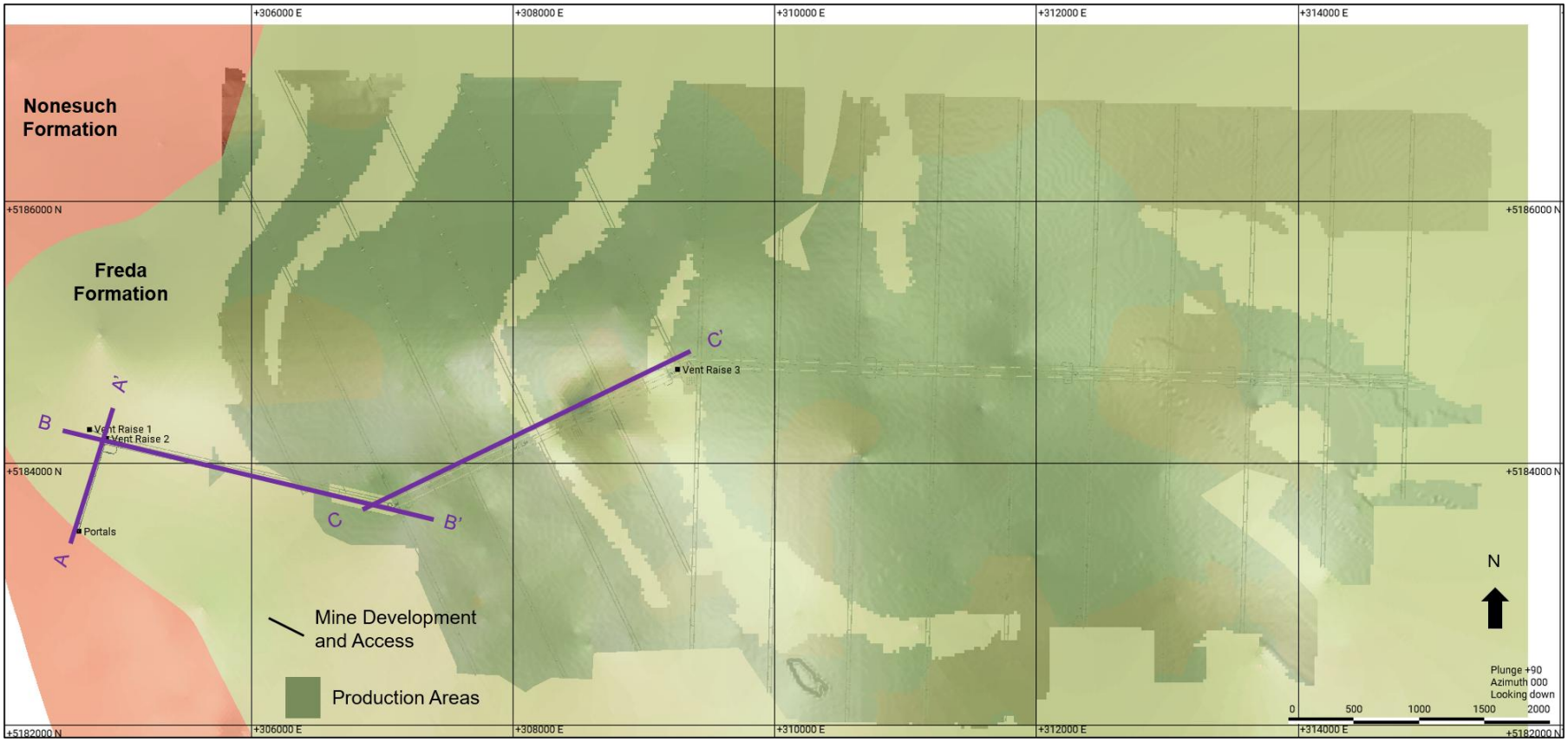
Selection of geochemical characterization samples was based on available material in the mining column for the first batch (2024), and drillholes located near the proposed mine development for the second batch (waste rock only, 2025). The mine plan and the understanding of the geology it intersects evolved since the characterization study began in 2024. As engineering studies progress, additional characterization samples may be recommended if any gaps in the current program are recognized.

Table 3-1: Mine Plan Tonnage and Exposed Areas by Geological Unit

Geologic Unit	Stratigraphic Unit	Material Handling	Surface Area of Mine Design (sq m)	Waste (t)	Ore (t)	Total (t)
Till	Till - Unconsolidated Sediments	Waste Rock; Placed on ND1 tailings facility or underground	4,979	20,413	-	**20,413**
Freda	Freda Formation - Undifferentiated		84,163	281,978	-	**281,978**
Nonesuch	Nonesuch Formation - Above Mining Column		460,939	1,227,560	-	**1,227,560**
WIDE	Widely Laminated Siltstone	Ore; Milled and will become tailings; Represents exposed wall rock in underground during flooding	1,233,832	-	1,020,865	**1,020,865**
US	Upper Shale ore horizon		896,520	-	400,682	**400,682**
UPSA	Upper Sandstone of Nonesuch Fm		21,635,460	-	42,064,772	**42,064,772**
PS	Parting Shale ore horizon		6,364,114	-	71,135,273	**71,135,273**
LWSA	Copper Harbor Conglomerate- Lower Sandstone		22,009,212	-	23,123,519	**23,123,519**
		Sum:	**52,689,219**	**1,529,951**	**137,745,111**	**139,275,062**

Source: SRK prepared for this report

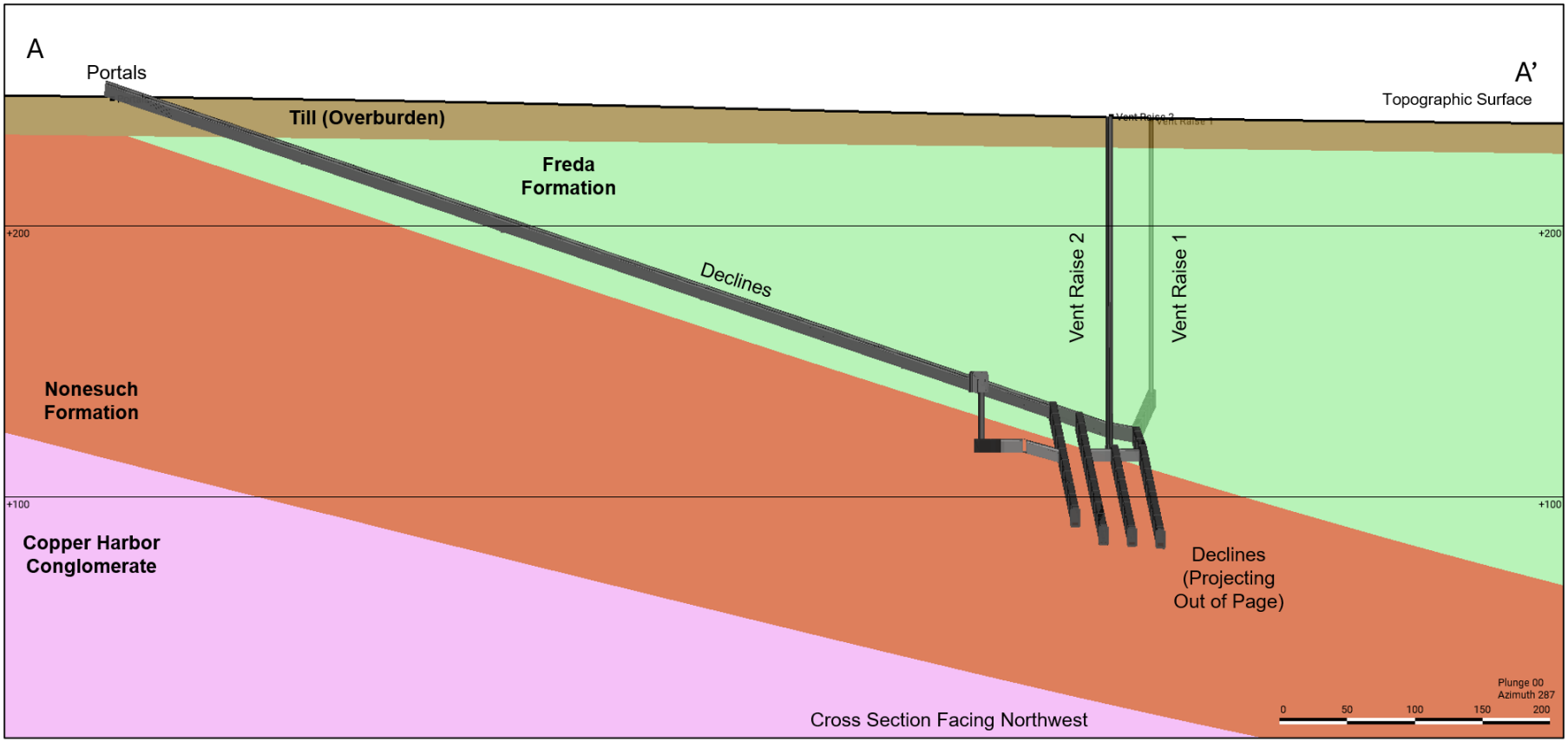
Figure 3-1: Mine Design, Modeled Bedrock Geology, and Cross Section Locations, Plan View



Note: Coordinates are in UTM and scale bar is in meters

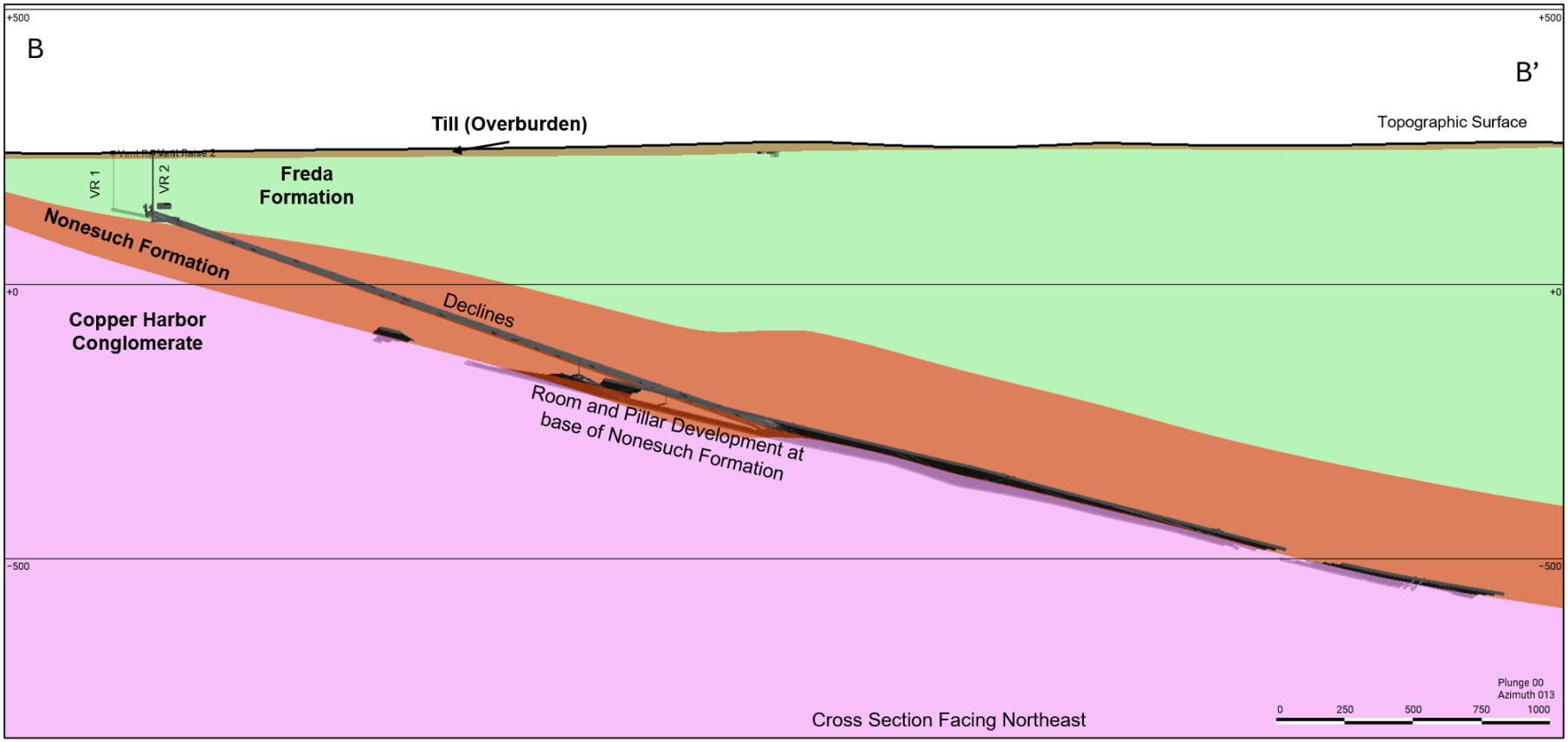
Till of variable thickness overlies the bedrock

Figure 3-2: Cross Section A Showing Mine Design and Modeled Geology



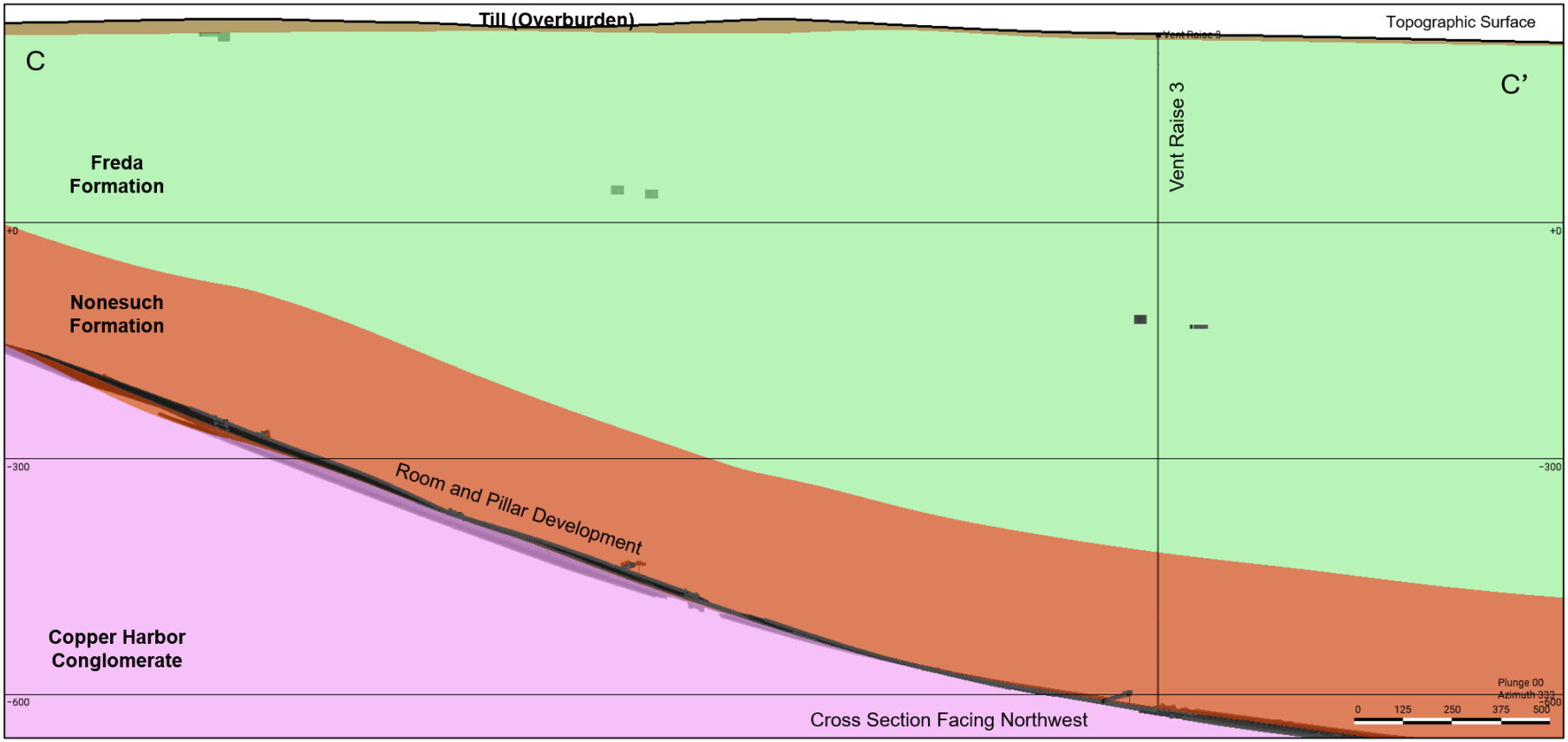
Note: Elevations are m amsl and scale bar is in meters.

Figure 3-3: Cross Section B Showing Mine Design and Modeled Geology



Note: Elevations are m amsl and scale bar is in meters.

Figure 3-4: Cross Section C Showing Mine Design and Modeled Geology



Note: Elevations are m amsl and scale bar is in meters.

4 Characterization Program Design

This section describes the grouping of lithological units in the mine design and the material that was available for characterization as the mine design was refined during the Prefeasibility Study (PFS) in 2025.

4.1 Material Type Definition

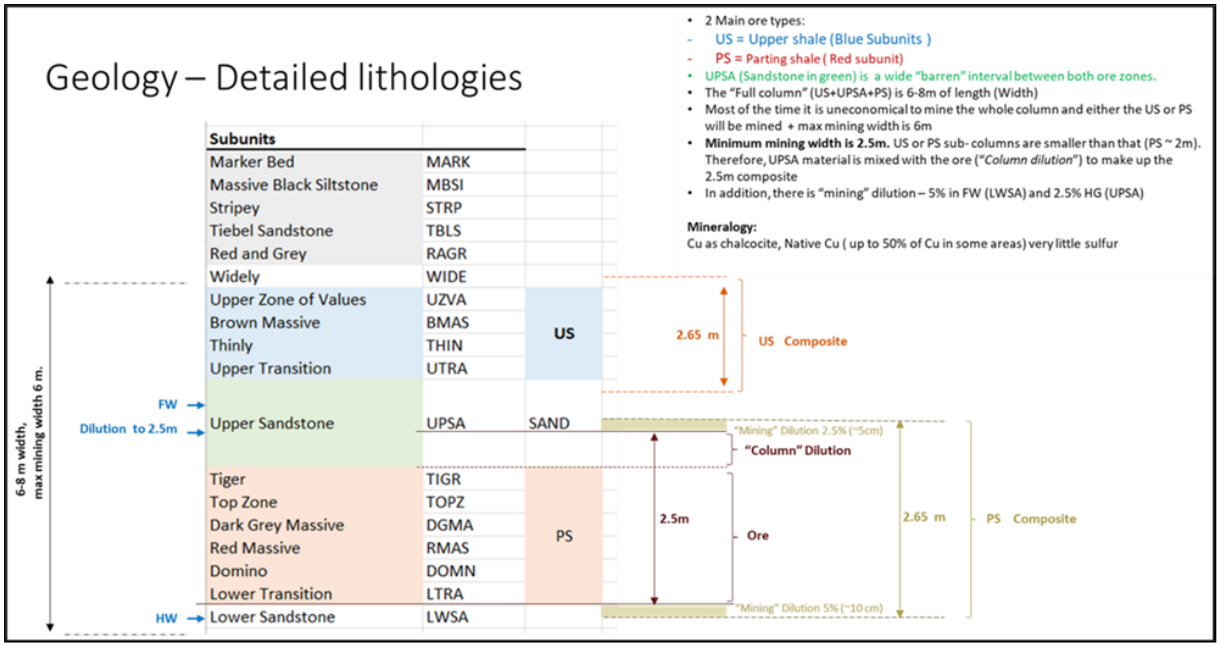
The proposed mine plan includes development of the copper deposit hosted in the base of the Nonesuch Formation, which bears copper-silver mineralization as chalcocite. The portal and vent raises will be collared in Till at surface. The mine development designs for the decline and vent raises intersect the Freda sandstone and the Nonesuch Formation siltstone and shale below that. Development rock from these upper units will be handled as waste rock. Access to the production areas will be developed in the mining column of the basal Nonesuch Formation and all material will be processed as ore. The top of the CHC, called the LWSA unit, is expected to be exposed in the sill (floor) of mine development. Development rock from the mining column will be processed as ore. Mine waste, comprised of till, Freda, and the Nonesuch Formation from above the mining column, will be stored on ND1 with the material being used to construct an interior berm required by the deposition plan.

A schematic diagram of the detailed lithology types and mining column is provided in Figure 4-1. The mining width, or height of the workings, is between 3 and 6 m. Depending on the thickness of the PS and US, one or both of these mineralized horizons will be mined out. Generally, the Lower Transition subunit of the PS is the lowest extent of mining, and the LWSA below it will be exposed in the sill. Depending on the width of the ore column, either the UPSA, between the PS and US, or the Widely Laminated Shale, above the US, will be exposed in the back. The material types for geochemical characterization were defined based on the proposed mine plan and are listed in Table 4-1. These groups of logged lithology types were targeted in drillholes for sample collection. Copper and silver assays were reviewed with the logged lithology to confirm mineralization, or lack thereof, to select intervals to composite that would be representative of the material types in the mine plan.

Legacy tailings material from the existing ND2 tailings impoundment, that has been subjected to atmospheric conditions and weathering for at least thirty years, was collected for characterization (see Table 4-3). The legacy tailings are a blend of US, PS, and the dilution from Widely Laminated, UPSA, and LWSA subunits. Analysis of this material will allow comparison of the composition and geochemical behavior between unprocessed drill samples and metallurgical test residues to weathered mine waste from previous operations.

Residues from recent metallurgical testing were also sampled for geochemical characterization (discussed in Section 5). The selected samples represent the US and PS columns separately, with dilution from adjacent units. Residues from metallurgical testing were characterized to represent the tailings material that will be deposited in the proposed tailings storage facility (Table 4-3).

Figure 4-1: Stratigraphic Summary and Mining Zones



Source: WPC, 2024

Note: Geological subunits are grouped into PS and US. The adjacent units that are not mineralized are WIDE, UPSA, and LWSA, logged as single geological units.

Table 4-1: Material Types from Drillhole Samples

Group	Material Type
Waste Rock	Till
	Freda
	Nonesuch
Ore and Wall Rock	WIDE
	US
	UPSA
	PS
	LWSA

Source: SRK, 2026

4.2 Sample Selection

Samples were selected to be spatially and lithologically representative to the extent possible (Figure 4-2, Figure 4-3, and Table 4-3). Some spatial gaps exist in the resulting sample set due to the paucity of available sample material. However, there is low variability in the composition of each material type across the deposit area, as demonstrated with the static test results (Section 6). Therefore, the sample set is considered representative of the material that will be encountered during mining.

Sources of material available for geochemical characterization are described in the following sections. Pulverized samples from assaying were excluded from the program to retain the material for the exploration data archives, if needed for verification of the mineral resource.

4.2.1 Drill Core

Drill core samples were selected to represent wall rock exposures and waste rock mass. For Batch 1 testing, Drillholes WP572 and WP573 were drilled in 2022 and the core from the mineralized zones was split in anticipation of metallurgical testing. This material was not used for metallurgical testing because these holes were outside of the mine plan, but adjacent to the eastern extent of the potential mining area, as shown in Figure 4-2. These two holes provided an opportunity to sample the full Mineralized Column from locations adjacent to the current mine plan, with the largest particle size, up to about 60 millimeters (mm), and higher sample mass than the other drillhole samples provided.

As the PFS mine design was advanced, the designs for the mine portal and vent raises were determined. For Batch 2 testing, completed drillholes with available core were identified by SRK and WPC to sample for characterization of the waste rock material types. The selected holes, WP530, WP588, and monitoring well SMW-1SB were selected for proximity to mine design components. The locations of these holes are shown in Figure 4-2. WP588 was close to a fourth vent raise that was removed from the mine design after sample collection.

4.2.2 Coarse Reject Samples

The crushed material remaining after samples were generated for assay was available from many recently completed core holes that were not consumed for metallurgical testing. These coarse reject samples were stored at ACT and made available for this study. Several metallurgical composite samples stored at BaseMet Labs also had available material that was not consumed. Particle size distribution (PSD) for this material was 100% passing 2 or 3 mm after crushing. Composites of PS and US from single drillholes, with minimal dilution from adjacent material, were selected for characterization. The locations of drillholes with coarse reject samples in the geochemical characterization program are shown in Figure 4-3.

4.2.3 Metallurgical Test Residues

Residues from flotation testing at BaseMet Labs were identified as the best source of material to characterize the new tailings that will be generated by the proposed Project. Two samples of US and three samples of PS residues were identified by WPC as representative of each ore type, collected by BaseMet staff, and sent to the environmental geochemical lab with core sample composites for characterization of material to represent the tailings mine waste stream. PSD for the met test residues was much finer than both the core samples and the coarse reject samples, at 80% passing 50.8 microns (µm) after grinding or pulverization. The targeted grind size for flotation processing was 80% passing 38 µm with a portion of the material subject to regrinding to 80% passing 12 µm.

4.2.4 Samples of Legacy Tailings

SRK used aerial photographs to identify accessible sample locations that represent legacy tailings material deposited throughout the previous mining operations. Sample locations in UTM NAD83

meters are listed in Table 4-2 and shown in Figure 4-4. Sample coordinates were obtained with a consumer-grade handheld Global Positioning System (GPS) device with resolution of approximately 4 m. At each location, a sample from the surficial material, up to 6 inches (15 cm) below surface, and a sample of lower material, about 12 to 24 inches (30 to 60 cm) below surface, was collected separately by WPC geologists. Samples were collected with hand tools and sent to SGS with the drill samples stored on site.

Table 4-2: Location and Depth of Legacy Tailings Samples from North Dam 2

Sample ID	Easting (m)	Northing (m)	From (inch)	To (inch)
WPT01-S	308448	5185339	0	6
WPT01-L			12	24
WPT02-S	307057	5185921	0	6
WPT02-L			12	24
WPT03-S	305568	5184398	0	6
WPT03-L			12	24

Notes:

Location coordinates are in UTM meters.

Sample depths are in inches to match field logs.

Figure 4-2: Drill Core Sample Locations with PFS Mine Design

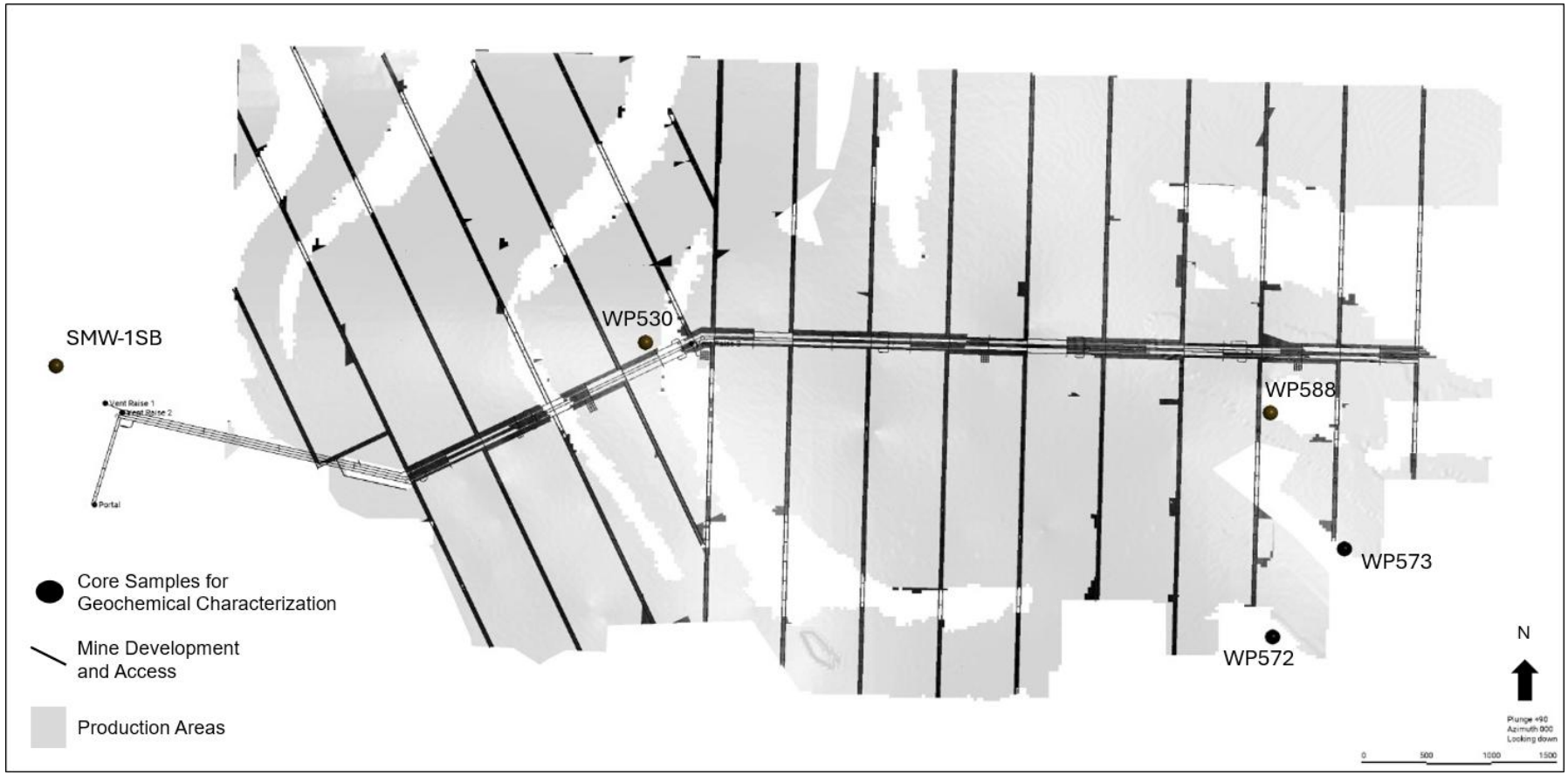


Figure 4-3: Coarse Reject Sample Locations with PFS Mine Design

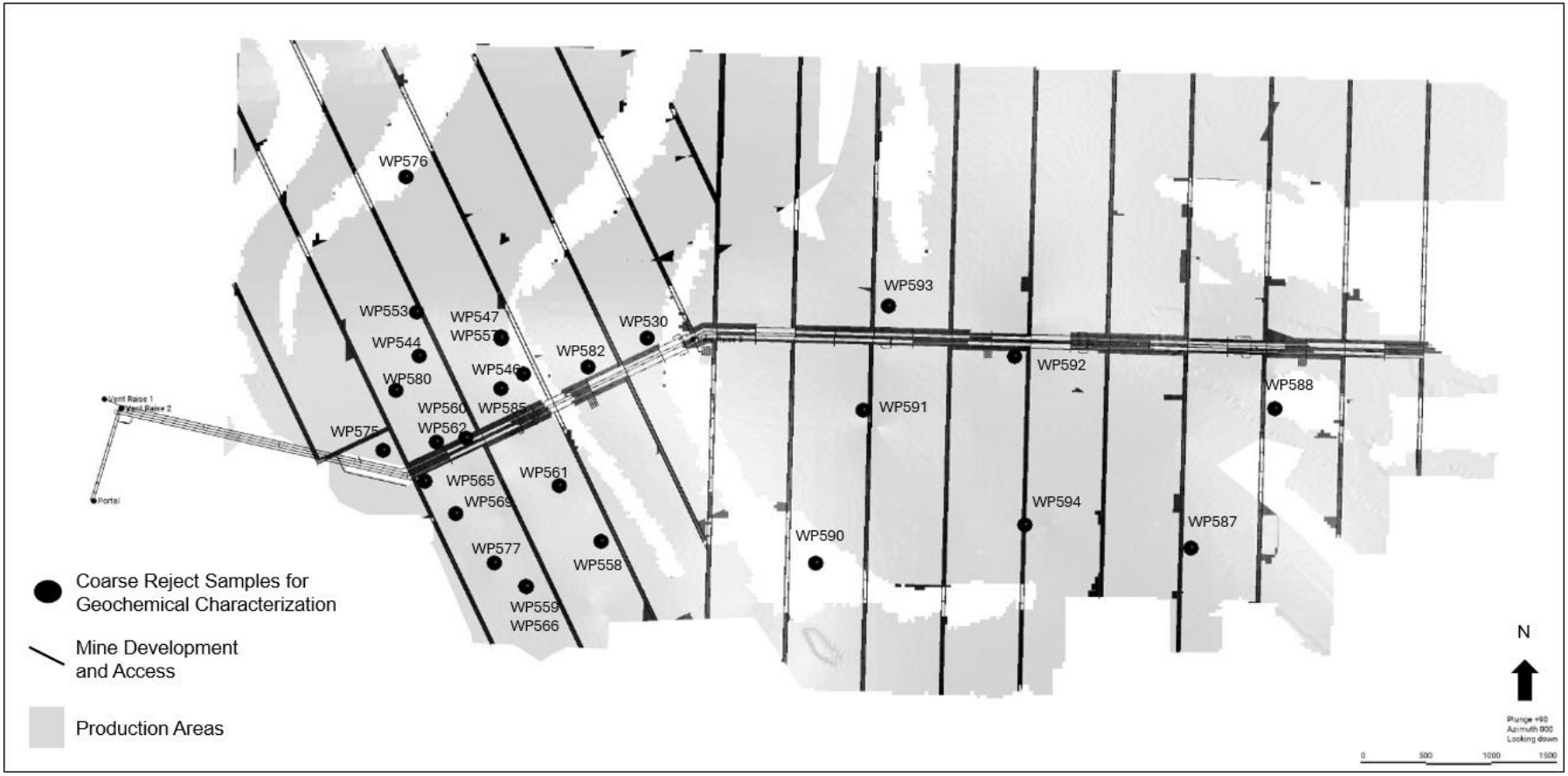
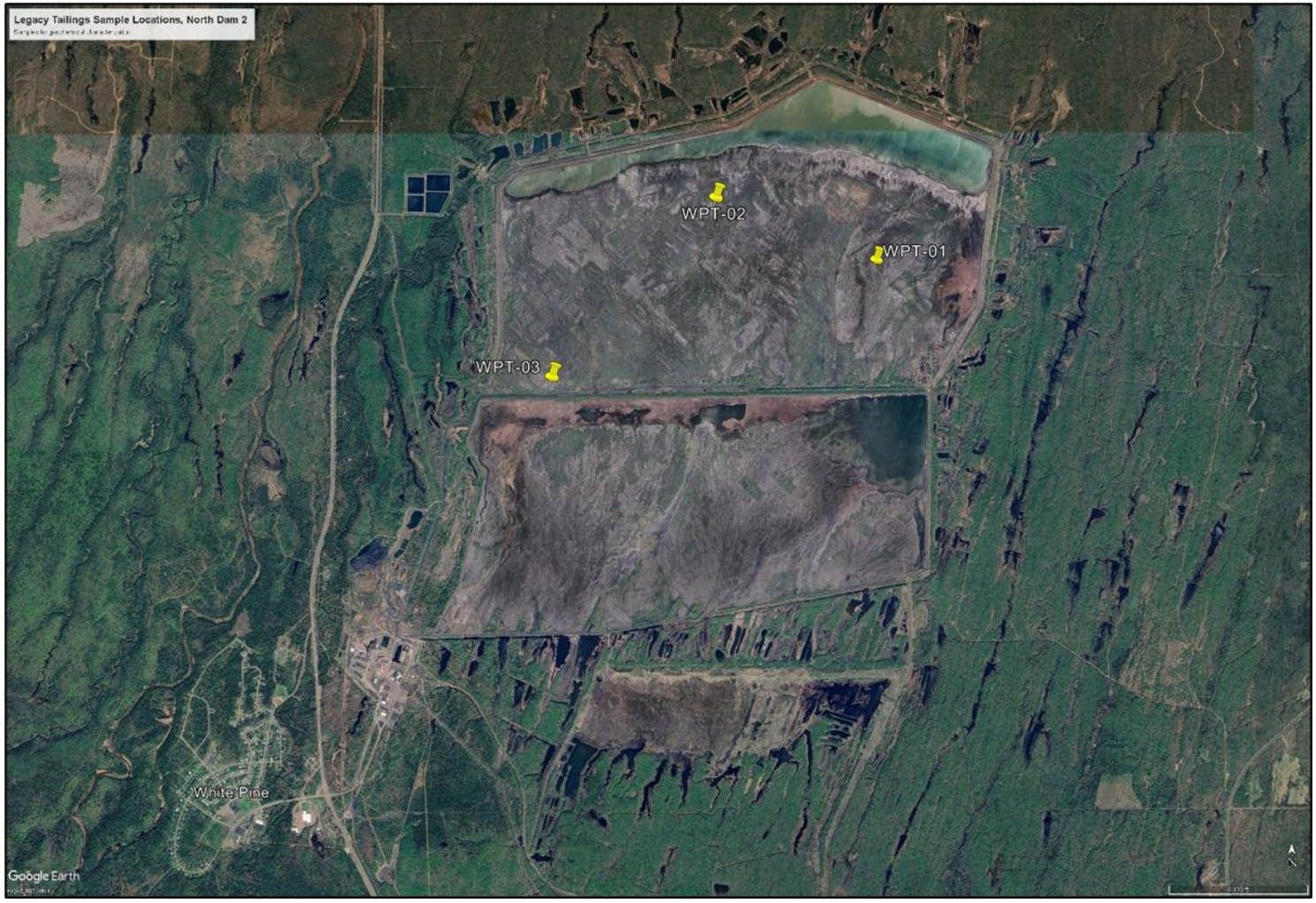


Figure 4-4: Legacy Tailings Sample Locations in North Dam 2



4.3 Sample Collection

Geochemical characterization samples of core and shallow samples from ND2 were collected by WPC geologists. The rest of the samples in this program were from material housed at third party laboratories. The coarse reject samples were collected by laboratory staff at ACT Labs or BaseMet and the metallurgical test residues were collected by BaseMet staff.

Due to the limited quantity of available material from the mining column and because most of it was located at various testing facilities, SRK did not do a visual assessment before the samples were collected. During the site visit in May 2025, SRK reviewed half core archived at site for many of the selected sample intervals from the mining column. This site visit was done before the second batch of characterization samples to represent the hanging wall units was collected. Geologic field logs and photographs were completed during the site visit to aid in the interpretation of characterization results from the first batch of samples that represent the mining column.

The review of many holes located across the proposed mine area showed that the deposit appears homogeneous, with little variability with depth or location. The low variability and strong continuity of mineralization is quantified in the Mineral Resource Estimates section of the PEA technical report (GMS 2023). Although a visual assessment of selected samples is typically done prior to or during sample collection, the completion of this task after sample collection was not a detriment to the study. The quantities of characterization samples by method and material type are summarized in Table 4-3. Note that the quantities of mineralized shale units are slightly greater than the quantities of the host rock, due to the availability of several samples created as metallurgical composites and not consumed in metallurgical testing.

The static test sample set includes 40 samples of waste rock, 119 rock samples of ore from the mining column, 5 samples of fresh tailings from metallurgical test residues, and 6 samples of weathered legacy tailings from the existing ND2 facility. The waste rock samples were collected in 2025, and the rest were collected in 2024.

One sample of each of the ore and wall rock material types was selected for leach testing. Representative samples of each of these materials were selected based on the chemical composition of each and minimum mass required to complete all tests. Splits of these five samples were generated for each of the leach test methods, detailed in Section 5.5 through 5.8. The two samples of US tailings were combined, then splits were generated for leach testing.

Table 4-3: Summary of Static Test Samples

Group	Material Type	Static Test Samples
Waste Rock	Till	4
	Freda	19
	Nonesuch	17
Ore and Wall Rock	WIDE	23
	US	29
	UPSA	19
	PS	25
	LWSA	23
Fresh Tailings	US	2
	PS	3
Weathered Tailings (ND2)	Surface	3
	Lower	3
Total		**170**

5 Characterization Program Methodology

The geochemical characterization testwork completed to date for the Project includes static and kinetic testing methods. Static testing is a general term describing the analytical methods applied to characterize acid generation and ML characteristics of material at the time of testing and does not account for temporal changes that may occur in the material as chemical weathering proceeds. Static tests provide a balance of acid generating and acid consuming reactions at an end point and may be used to determine the potential magnitude of leaching metals from a given material. SGS Canada's laboratory in Burnaby, British Columbia (SGS), was selected for the analytical program.

Static testing is distinguished from kinetic testing, which evaluates the rate of sulfide oxidation and metal release over time. Static testing provides a conservative approximation of acid generation and trace metal release potential, which is used to select representative samples for a more comprehensive kinetic test program. Based on the results of the static testwork, materials that exhibit uncertain or highly variable geochemical behavior may require further characterization using kinetic test methods to determine the rates and character of longer-term leaching.

The testing methods selected for the Project were designed to address the bulk geochemical characteristics of the rock and tailings samples and constituent mobility under simulated weathering are listed below:

- Multi-element analysis using four acid digestion and Inductively Coupled Plasma (ICP) – Optical Emission Spectroscopy (OES) or Mass Spectroscopy (MS) analysis to determine total metal and metalloid chemistry for 49 elements (Method ICP40Q12) and mercury analysis using Cold Vapor extraction and Atomic Absorption Spectroscopy (AAS) (Method CVA37A25)
- ABA using the modified Sobek method (Sobek, 1978) with sulfur speciation by hydrochloric acid and nitric acid extraction, including:
  - Paste pH
  - Total Sulfur and Total Carbon determination on the solid sample with a LECO-style combustion furnace (Method CSA06V)
  - Sulfate sulfur by hydrochloric acid digestion and ICP analysis of the leachate (Method CSA07V)
  - Sulfide sulfur by hydrochloric acid digestion, followed by nitric acid digestion, with ICP analysis of the leachate (Method CSA08C1)
    - Note: Chalcocite is a sulfide mineral, but it is not soluble in nitric acid and therefore, does not report as sulfide sulfur in the sulfur speciation procedure.
  - Insoluble sulfur calculated from Total sulfur minus sulfate and sulfide sulfur; this quantity was assumed to be equal to the chalcocite concentration as there is little to no barite in the samples
  - Acid Neutralization Potential (ANP) including fizz test
  - Total Inorganic Carbon (TIC) determination from acidifying the sample and measuring the resulting carbon dioxide gas (CO_2) with coulometry

- Net Acid Generation (NAG) test that reports the NAG pH and final NAG value after a two-stage hydrogen peroxide digestion and titration with sodium hydroxide (NaOH) to solution pH of 4.5 and 7.0 s.u.
- NAG leachate analysis that determines the general chemistry and concentrations of 38 parameters in the leachate produced during the NAG test.
- SPLP, United States Environmental Protection Agency (EPA) Method 1312, an agitated extraction method designed to determine metal mobility under mildly acidic conditions in a solution of nitric and sulfuric acid (H_2SO_4) that requires particle size reduction to < 9.5 mm. This method was also used in the 1999 closure study for the Project.
- Leaching Environmental Assessment Framework (LEAF) methods relevant to this study:
  - Liquid-Solid Partitioning with Variable pH, EPA Method 1313 to evaluate the partitioning of constituents between liquid and solid phases at or near equilibrium conditions over acidic to basic pH values between 2 and 12 s.u.
  - Liquid-Solid Partitioning with Variable L:S Ratio, EPA Method 1316 to evaluate changes in leachate solution compositions as a function of the L/S ratio, or proportion of D.I. water solvent to the substrate, at the natural pH of the solution.
- Humidity Cell Test (HCT), ASTM D5744-13 Option A simulates weathering of mine waste materials over time. Samples are subjected to weekly cycles comprised of three days of dry air (<10% relative humidity) and three days of water-saturated air (~95% relative humidity) followed by a leach with water on day seven. Key leachate parameters including pH, alkalinity, acidity, electrical conductivity, sulfate and others will be measured for each solution extract (weekly) to provide intermediate reference points between full analyses of dissolved constituents conducted every four weeks.
- Mineralogy on splits of the leach test samples prior to leaching using X-Ray Diffraction (XRD) with Rietveld refinement.

These test methods are described in section 5.1 through 5.8 below. A matrix summarizing the number of samples submitted for each test method is provided in Table 5-1. Sample preparation for all methods listed above except SPLP, LEAF, HCT and XRD methods included crushing the entire sample to 75% passing 2 mm, if needed, then splitting it to obtain a subsample of 1,000 grams (g) and pulverizing the subsample to 90% passing 75 µm. Splits of the pulverized sample were generated as needed for the static testing methods and any remaining “pulp” was retained. The remaining crushed sample, called the “coarse reject”, was also retained for leach testing.

Table 5-1 Testing Matrix by Material Type

Group	Material Type	Static Test Samples[1]	NAG Leachate Samples[2]	Leach Test and XRD Samples[3]
Waste Rock	Till	4	2	-
	Freda	19	5	-
	Nonesuch	17	7	-
Ore and Wall Rock	WIDE	23	2	1
	US	29	2	1
	UPSA	19	2	1
	PS	25	2	1
	LWSA	23	2	1
Fresh Tailings	US	2	2	1
	PS	3	3	-
Legacy Tailings (ND 2)	Surface	3	-	-
	Lower	3	-	-
Total		**170**	**29**	**6**

[1] Methods are Multi-element, ABA, and NAG. Batch 1 and Batch 2 samples.

[2] Includes Batch 1 and Batch 2 samples.

[3] Methods are SPLP, LEAF, HCT, and XRD with Rietveld correction. Batch 1 samples only.

5.1 Multi-Element Analysis

Multi-acid digestion uses a combination of HNO_3 (nitric acid), HF (hydrofluoric acid), $HClO_4$ (perchloric acid) and HCl (hydrochloric acid). Because hydrofluoric acid dissolves silicate minerals, these digestions are often referred to as “near-total digestions”. In contrast, aqua regia digestion uses nitric and hydrochloric acids, and will not dissolve silicate minerals, sulfates with low solubility, like barite, or refractory sulfides, such as chalcocite. Due to the prevalence of chalcocite in the WPN deposit, the multi-acid digestion method was selected. A similar method was used for exploration drill samples, due to the limited solubility of chalcocite in weak acids.

Results of multi-element analysis are applied to determine elemental enrichment and to compare to results from the ABA method. By having multi-element analysis results for static test samples, the results of specialized geochemical characterization testing may be linked to the multi-element results in the broader exploration drillhole dataset.

5.2 Acid Base Accounting

ABA using the Modified Sobek method has many components, as listed above. Each of these is described below.

Paste pH is a contact test to measure the solution pH of deionized (D.I.) water in contact with pulverized sample at a L:S ratio of 1:1. Certain sulfate minerals are readily soluble and generate acidic pH in water. Presence of these minerals indicates prior acid generation. The paste pH test will determine the immediate reactivity of a sample.

Sulfur speciation is used to determine total sulfur (wt%) and the amount of sulfur present in sulfate minerals, sulfide sulfur minerals (pyritic sulfur), and insoluble sulfur minerals (chalcocitic sulfur). The

sulfur speciation parameters and analytical methods are summarized in Table 5-2. All reported “pyritic sulfur” is assumed to produce acid although some may be present in non-acid generating sulfides, and the amount of sulfide sulfur, as pyrite, is applied to calculate AGP. Each mole of pyritic sulfur produces two moles of acid, when pyrite oxidizes to produce H_2SO_4. Two moles of acid are neutralized by one mole of calcium carbonate ($CaCO_3$). Using the molar weight ratio of sulfur to calcium carbonate, the AGP is calculated as 31.25 kg $CaCO_3$ per wt% sulfur (in pyrite) and reported as kg $CaCO_3$ equivalent per tonne of material.

The main sulfide mineral in the deposit is chalcocite, which does not produce acid upon oxidation. Chalcocite is not soluble in nitric acid and therefore, does not report as sulfide sulfur in the sulfur speciation procedure; the insoluble sulfur fraction is assumed to be chalcocite. Therefore, the ABA method will not overpredict acid generation due to the presence of chalcocite and the reported “sulfide” sulfur values can be applied to predict AGP for the White Pine deposit. Total sulfur would overpredict AGP.

Table 5-2: Sulfur Speciation Methods

Parameter	Method	Notes
Total Sulfur	CSA06V	Combustion Furnace (LECO)
Sulfate Sulfur	CSA07V	Hydrochloric Acid digestion, ICP analysis of leachate
Sulfide Sulfur	CSA08C1	Nitric Acid digestion after HCl digestion, ICP analysis of leachate
Insoluble Sulfur	Calculated	Total Sulfur minus Sulfide Sulfur and Sulfate Sulfur

ANP is determined from application of hydrochloric acid to consume any base present, then titration with sodium hydroxide to pH 7.0 s.u. The amount of basic solution (NaOH) added is used to calculate the amount of base consumed from application of acid. Before the acid is applied, the hydrochloric acid fizz test is done as a screening procedure. The fizz test is a qualitative method to determine the presence of carbonate minerals, principally calcite, based on the intensity of effervescence when diluted hydrochloric acid is applied to the sample. The fizz rating is assigned to each sample to determine the concentration and quantity of HCl to be applied to the sample to consume all base present before titration with NaOH. ANP is reported in the same units as AGP, kg $CaCO_3$ equivalent per tonne of material.

Total Carbon is determined with Total Sulfur, with a solid sample reacted in a combustion furnace (LECO or similar). Carbon is typically present as organic compounds, graphite, or in carbonate minerals. TIC is the amount of carbon present in carbonate minerals and can be useful to interpret ANP results. The Coulometry method to determine TIC measures the mass of CO_2 produced when acid is applied to the solid sample. If carbonate minerals are the main neutralizing minerals present, TIC and ANP results will be correlated. If other neutralizing minerals are present, such as clay and feldspar minerals, TIC results would be lower than ANP results from the ABA method.

5.3 Net Acid Generation

NAG testing determines the balance between the acid producing and acid consuming components within a sample by complete oxidation of acid-generating sulfides using hydrogen peroxide. Acid that is produced by sulfide oxidation is consumed by carbonates and/or other acid consuming components of the material, such as clays or feldspars. In this process, ferrous iron and carbonate from siderite ($FeCO_3$) are also released. The pH of the solution is measured (NAG pH), and the acid remaining, after

the reaction is complete, is titrated with standardized NaOH to determine the net acid generated by the reaction. The NAG results provide confirmation of the ARD characteristics that may be incorrectly predicted from ABA, depending on the mineralogy.

5.4 NAG Leachate

The leachate produced from the NAG test contains the metals released during oxidation. Leachates from some of the NAG tests were analyzed for dissolved metals using ICP with a Mass Spectrometry finish (ICP-MS), similar to the method used for whole-rock multi-element analysis. Metals concentrations in NAG leachates represent the maximum total for solute release. Multi-element analysis of the generated NAG solution can reveal information on potential release of metals, metalloids and salts from the sample after complete sulfide weathering (Barnes et al 2015). The NAG leachate procedure is very dilute compared to the other leach tests selected for this study, with L:S ratio of 100:1. The list of parameters and detection limits for the NAG leachate analysis is provided in Table 5-3. Note that the standard mercury analysis method was used for NAG leachate analysis, not the low-level method.

Table 5-3: NAG Leachate Parameters and Detection Limits

Parameter	Method	Units	Method Detection Limit
General Chemistry			
pH	meter	s.u.	0.01
Redox	meter	mV	1
Conductivity	meter	µS/cm	1
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.1
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	0.1
Alkalinity	titration	mg CaCO3/L	0.1
TDS		mg/L	30
Chloride		mg/L	1
Fluoride		mg/L	0.06
Sulfate	Turbidity	mg/L	0.2
Dissolved Metals			
Hardness	Calc	mg/L as CaCO3	1.0
Aluminum	ICP-MS	mg/L	0.001
Antimony	ICP-MS	mg/L	0.0009
Arsenic	ICP-MS	mg/L	0.0002
Barium	ICP-MS	mg/L	0.00002
Beryllium	ICP-MS	mg/L	0.000007
Bismuth	ICP-MS	mg/L	0.00001
Boron	ICP-MS	mg/L	0.002
Cadmium	ICP-MS	mg/L	0.000003
Calcium	ICP-MS	mg/L	1.0
Chromium	ICP-MS	mg/L	0.00008
Cobalt	ICP-MS	mg/L	0.000004
Copper	ICP-MS	mg/L	0.001
Iron	ICP-MS	mg/L	0.007
Lead	ICP-MS	mg/L	0.00009
Lithium	ICP-MS	mg/L	0.0001
Magnesium	ICP-MS	mg/L	1.00
Manganese	ICP-MS	mg/L	0.00001
Mercury	ICP-MS	mg/L	0.01
Molybdenum	ICP-MS	mg/L	0.0004
Nickel	ICP-MS	mg/L	0.0001
Phosphorus	ICP-MS	mg/L	0.1
Potassium	ICP-MS	mg/L	1.0
Selenium	ICP-MS	mg/L	0.00004
Silicon	ICP-MS	mg/L	0.02
Silver	ICP-MS	mg/L	0.00005
Sodium	ICP-MS	mg/L	0.1
Strontium	ICP-MS	mg/L	0.0002
Sulfur	ICP-MS	mg/L	5
Thallium	ICP-MS	mg/L	0.000005
Tin	ICP-MS	mg/L	0.00006
Titanium	ICP-MS	mg/L	0.0001
Uranium	ICP-MS	mg/L	0.000002
Vanadium	ICP-MS	mg/L	0.00001
Zinc	ICP-MS	mg/L	0.00002
Zirconium	ICP-MS	mg/L	0.002

5.5 Synthetic Precipitation Leaching Procedure

The SPLP, EPA Method 1312, (EPA, 2023a) is an agitated extraction method designed to determine metal mobility under mildly acidic conditions. This method was used in the 1999 closure study for the Project and selected for this study for comparison, although the results may have limited utility. The SPLP has L:S of 20:1 (2,000 g6 lixiviant to 100 g sample), using D.I. water with nitric and H_2SO_4 added to finely crushed material of 100% passing 9.5 mm and agitated for 18 + / - 2 hours. The standard method, with acidic lixiviant initially at pH 4.2 s.u., was used to be consistent with the previous characterization programs. The list of parameters and detection limits for the SPLP leachate analysis is provided in Table 5-4.

The results of the SPLP provide a qualitative evaluation of constituents that could be mobilized from the materials; however, concentrations are not considered to be conclusive or to represent actual predictions of water quality. It should also be noted that the solubility of trace elements in leachate is commonly pH-dependent, and the SPLP test does not account for future changes in pH conditions that could occur (e.g., as a result of sulfide mineral oxidation). Other limitations are due to the fine particle size and high L:S ratio that may not represent field conditions.

Table 5-4: SPLP Leachate Parameters and Detection Limits

Parameter	Method	Units	Method Detection Limit
General Chemistry			
pH	meter	s.u.	0.01
Redox	meter	mV	1
Conductivity	meter	µS/cm	1
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.1
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	0.1
Alkalinity	titration	mg CaCO3/L	1.0
TDS		mg/L	30
Bromide		mg/L	0.3
Chloride		mg/L	1
Nitrite (as N)		as N mg/L	0.03
Nitrate (as N)		as N mg/L	0.06
Fluoride		mg/L	0.06
Phosphorus (total)		mg/L	0.03
Sulfate	Ion Chromatography	mg/L	0.1
Ion Balance			
Major Anions	Calc	meq/L	-
Major Cations	Calc	meq/L	-
Difference	Calc	meq/L	-
Balance (%)	Calc	%	-
Dissolved Metals			
Hardness	Calc	mg/L	0.05
Aluminum	ICP-MS	mg/L	0.001
Antimony	ICP-MS	mg/L	0.0009
Arsenic	ICP-MS	mg/L	0.0002
Barium	ICP-MS	mg/L	0.00002
Beryllium	ICP-MS	mg/L	0.000007
Bismuth	ICP-MS	mg/L	0.000010
Boron	ICP-MS	mg/L	0.002
Cadmium	ICP-MS	mg/L	0.000003
Calcium	ICP-MS	mg/L	0.01
Chromium	ICP-MS	mg/L	0.00008
Cobalt	ICP-MS	mg/L	0.000004
Copper	ICP-MS	mg/L	0.0002
Iron	ICP-MS	mg/L	0.007
Lead	ICP-MS	mg/L	0.000090
Lithium	ICP-MS	mg/L	0.0001
Magnesium	ICP-MS	mg/L	0.001
Manganese	ICP-MS	mg/L	0.00001
Mercury (total)	T00120 Flett	ng/L	0.10
Molybdenum	ICP-MS	mg/L	0.00004
Nickel	ICP-MS	mg/L	0.0001
Potassium	ICP-MS	mg/L	0.009
Selenium	ICP-MS	mg/L	0.00004
Silicon	ICP-MS	mg/L	0.02
Silver	ICP-MS	mg/L	0.00005
Sodium	ICP-MS	mg/L	0.01
Strontium	ICP-MS	mg/L	0.00002
Sulfur	ICP-MS	mg/L	1
Thallium	ICP-MS	mg/L	0.000005
Tin	ICP-MS	mg/L	0.00006
Titanium	ICP-MS	mg/L	0.00005
Uranium	ICP-MS	mg/L	0.000002
Vanadium	ICP-MS	mg/L	0.00001
Zinc	ICP-MS	mg/L	0.002
Zirconium	ICP-MS	mg/L	0.002

5.6 Leaching Environmental Testing Framework

The Leaching Environmental Testing Framework (LEAF) (EPA, 2023b) is a leaching evaluation protocol that consists of up to four leaching methods, data management tools, and scenario assessment approaches designed to work individually or to be integrated to provide a description of the release of inorganic potential constituents of concern (PCOC) for a wide range of solid materials. The LEAF methods were originally developed in the European Union (EU) for evaluating coal combustion products and are designed to consider the effect of key environmental conditions and waste properties on leaching.

Of the four LEAF test methods available, the following two were applied to the White Pine samples:

- EPA Method 1313: Liquid-Solid Partitioning as a Function of Eluate pH Using a Parallel Batch Extraction Procedure
- EPA Method 1316: Liquid-Solid Partitioning as a Function of Liquid-to-Solid Ratio Using a Parallel Batch Extraction Procedure

The list of parameters and detection limits for the Method 1313 and Method 1316 leachate analysis is provided in Table 5-5. Note that leachate volumes from Method 1313 were insufficient for low-level mercury analysis.

The EPA 1313 method is designed to evaluate the partitioning of constituents between liquid and solid phases at or near equilibrium conditions over acidic to basic pH values (2 to 12 s.u.). The method consists of a series of parallel batch extractions of solid material at various target pH values, achieved with an aliquot of either dilute acid or base. Testing is undertaken on a pulverized sample at a fixed L:S ratio of 10:1. Results provide indications of constituent mobility at different solution pH values.

The EPA 1316 method is a series of batch dilution tests intended to provide eluate solutions as a function of the L:S ratio. This method consists of five parallel batch extractions in reagent water over a range of L:S ratios (2:1, 5:1, 10:1, 50:1, and 100:1). The method provides liquid-solid partitioning at the natural pH of a solid material as a function of L:S ratio. The reagent in this procedure was D.I. water, which has a comparable pH value to meteoric precipitation at the Project.

Table 5-5: Method 1313 and Method 1316 Leachate Parameters and Detection Limits

Parameter	Units	Method Detection Limit	Method 1313	Method 1316
General Chemistry				
pH	s.u.	0.01	X	X
Conductivity	µS/cm	1	X	X
Alkalinity	mg/L as $CaCO_3$	0.1	X	X
Acidity	mg/L as $CaCO_3$	0.1	X	X
Redox	mV	1	X	-
TDS	mg/L	30	X	-
Bromide	mg/L	0.3	X	-
Chloride	mg/L	2	X	-
Nitrite (as N)	as N mg/L	0.03	X	-
Nitrate (as N)	as N mg/L	0.06	X	-
Fluoride	mg/L	0.06	X	-
Phosphorus (total)	mg/L	0.03	X	X
Sulfate	mg/L	0.2	X	-
Dissolved Metals				
Aluminum	mg/L	0.001	X	X
Antimony	mg/L	0.0009	X	X
Arsenic	mg/L	0.0002	X	X
Barium	mg/L	0.00002	X	X
Beryllium	mg/L	0.000007	X	X
Bismuth	mg/L	0.00001	X	X
Boron	mg/L	0.002	X	X
Cadmium	mg/L	0.000003	X	X
Calcium	mg/L	1.00	X	X
Chromium	mg/L	0.00008	X	X
Cobalt	mg/L	0.000004	X	X
Copper	mg/L	0.001	X	X
Iron	mg/L	0.007	X	X
Lead	mg/L	0.00009	X	X
Lithium	mg/L	0.0001	X	X
Magnesium	mg/L	1.00	X	X
Manganese	mg/L	0.00001	X	X
Mercury (Low level)	µg/L	0.00010	-	X
Molybdenum	mg/L	0.0004	X	X
Nickel	mg/L	0.0001	X	X
Potassium	mg/L	1.0	X	X
Selenium	mg/L	0.00004	X	X
Silicon	mg/L	0.02	X	X
Silver	mg/L	0.00005	X	X
Sodium	mg/L	0.1	X	X
Strontium	mg/L	0.0002	X	X
Thallium	mg/L	0.000005	X	X
Thorium	mg/L	0.0001	X	X
Titanium	mg/L	0.0001	X	X
Tin	mg/L	0.00006	X	X
Uranium	mg/L	0.000002	X	X
Vanadium	mg/L	0.00001	X	X
Tungsten	mg/L	0.0002	X	X
Yttrium	mg/L	0.00002	X	X
Zinc	mg/L	0.002	X	X

5.7 Mineralogy from X-Ray Diffraction

Quantitative XRD by Rietveld Refinement was done for the six leach test samples at SGS using a Panalytical X'pert Pro Diffractometer. Results were interpreted with the PDF2 / PDF5+ powder diffraction databases issued by the International Center for Diffraction Data (ICDD) with DiffracPlus Eva and Topas software. Detection limit was between 0.5% and 2% by volume, dependent on crystallinity. More crystalline samples have lower detection limits than less crystalline samples.

The following description of the XRD method was provided by SGS. Mineral identification and interpretation involve matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards-International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds, except when internal standards have been added by request. Mineral proportions may be strongly influenced by crystallinity, crystal structure and preferred orientations. Mineral or compound identification and quantitative analysis results should be accompanied by supporting chemical assay data or other additional tests.

Quantitative Rietveld Analysis is performed by using Diffrac Topas 7 (software by Bruker.com), a graphics-based profile analysis program built around a non-linear least squares fitting system, to determine the amount of different phases present in a multicomponent sample. Whole pattern analyses are predicated by the fact that the XRD pattern is a total sum of both instrumental and specimen factors. Unlike other peak intensity-based methods, the Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the obtained experimental patterns. Rietveld refinement is completed with a set of minerals specifically identified for the sample. Additional notes about interpretation of the results are presented below in Section 6.8.

Mineralogy for metallurgical test samples was done using the QEMSCAN method developed by (CSIRO, 2026). This method employs a scanning electron microscope, four X-ray detectors and a software package to enable rapid discrimination of minerals, without reliance on visual judgments. It can make 12,000 mineral analyses per minute and be used to assess the value of exploration discoveries and to streamline metallurgical processes. The detailed QEMSCAN analysis establishes:

- The percentage of each mineral in the sample
- If each mineral is in an easily accessible form
- How much mineral is recoverable economically

Although QEMSCAN was not a method included in the geochemical characterization program, and the results are not presented in this report, they may be applied to confirm the mineralogy and composition of the materials in the mining column in the future.

5.8 Humidity Cell Test

HCTs were conducted according to ASTM method D5744-13e1 Option A that simulates weathering of mine waste materials over time. In this method, 1,000 g samples are subjected to weekly cycles composed of three days of dry air (<10% relative humidity) and three days of water-saturated air

(~95% relative humidity) followed by a leach with 500 milliliters (mL) of deionized water on day seven. SGS recommended the 0.5:1 Liquid: Solid ratio for this sample suite because the concentrations of parameters were expected to be low. Key leachate parameters including pH, alkalinity, acidity, electrical conductivity, sulfate and others were measured for each solution extract (weekly) to provide intermediate reference points between full analyses of dissolved constituents conducted every four weeks. Major and trace element chemistry was measured on a weekly basis for the first four weeks of the test, after which the frequency of analysis was reduced to every fourth week. The duration of each HCT is a minimum of 20 weeks and will depend on the stability of parameters concentrations and other indicators of reactivity. More typically, HCTs run for 40 weeks or more. The HCT results will be evaluated throughout the tests for data quality and indications of geochemical stability or reactivity. The list of parameters and detection limits for HCT leachate analysis is provided in Table 5-6. The analytical program for the WPN HCT program was developed to have sufficiently low detection limits to be relevant for future water quality predictions. Water quality limits established for the historical WPM and the nearby Copperwood Project were considered for defining the analyte list and lower method detection limits for each. In the Lake Superior watershed of the Great Lakes system, mercury is one of the main ecological risks. Therefore, the low-level mercury analytical method was selected for analysis of leachates from HCTs and other test methods.

Table 5-6: HCT Leachate Parameters and Detection Limits

Parameter	Units	Method Detection Limit	Weekly Analysis (Short List)	Every Fourth Week (Long List)
General Chemistry				
pH	s.u.	0.01	X	X
ORP (Redox)	mV	1	X	X
Conductivity	µS/cm	1	X	X
Acidity	mg/L as $CaCO_3$	1.0	X	X
Alkalinity	mg/L as $CaCO_3$	1.0	X	X
TDS	mg/L	30	-	X
Hardness	mg/L as $CaCO_3$	1.0	-	X
Bromide	mg/L	0.3	-	X
Chloride	mg/L	1	-	X
Nitrite (as N)	as N mg/L	0.03	-	X
Nitrate (as N)	as N mg/L	0.06	-	X
Fluoride	mg/L	0.06	-	X
Phosphorus (total)	mg/L	0.03	-	X
Sulfate	mg/L	0.2	X	X
Dissolved Metals				
Aluminum	mg/L	0.001	-	X
Antimony	mg/L	0.0009	-	X
Arsenic	mg/L	0.0002	-	X
Barium	mg/L	0.00002	-	X
Beryllium	mg/L	0.000007	-	X
Bismuth	mg/L	0.00001	-	X
Boron	mg/L	0.002	-	X
Cadmium	mg/L	0.000003	-	X
Calcium	mg/L	1.0	X	X
Chromium	mg/L	0.00008	-	X
Cobalt	mg/L	0.000004	-	X
Copper	mg/L	0.001	-	X
Iron	mg/L	0.007	X	X
Lead	mg/L	0.00009	-	X
Lithium	mg/L	0.0001	-	X
Magnesium	mg/L	0.20	X	X
Manganese	mg/L	0.00001	-	X
Mercury (Low level)	ng/L	0.05	-	X
Molybdenum	mg/L	0.0004	-	X
Nickel	mg/L	0.0001	-	X
Phosphorus	mg/L	0.003	-	X
Potassium	mg/L	0.20	-	X
Selenium	mg/L	0.00004	-	X
Silicon	mg/L	0.02	-	X
Silver	mg/L	0.00005	-	X
Sodium	mg/L	0.1	-	X
Strontium	mg/L	0.0002	-	X
Sulfur	mg/L	5	-	X
Thallium	mg/L	0.000005	-	X
Tin	mg/L	0.00006	-	X
Titanium	mg/L	0.0001	-	X
Uranium	mg/L	0.000002	-	X
Vanadium	mg/L	0.00001	-	X
Zinc	mg/L	0.002	-	X
Zircon	mg/L	0.002	-	X

6 Characterization Results

Results from static testing are presented below. Complete laboratory results are provided in Appendix A.

6.1 Multi-Element Analysis

Multi-element analysis was completed on 170 samples to determine whole-rock composition. Results for 50 elements were reported in milligram per kilogram (mg/kg) units for trace elements or by wt % for major elements. Mercury was determined with a cold vapor extraction method, and the rest of the elements were determined with ICP-OES / MS after four-acid digestion. This digestion method provides near-total results for the White Pine materials.

One measure of enrichment of elements in whole rock samples is the Geochemical Abundance Index (GAI) (International Network for Acid Prevention [INAP], 2009). The GAI compares the actual concentration of an element in a sample with the median abundance for that element in the most relevant media; for this study, ACA was applied (Mason, 1966). The main purpose of GAI analysis is to provide an indication of any elemental enrichments that may be of environmental importance. The GAI for an element is calculated as follows:

$$GAI = log2 [C / (1.5*S)]$$

C = concentration of the element in the sample (mg/kg or parts per million [ppm])

S = ACA for that element (mg/kg or ppm)

The GAI values are truncated to integer increments where a GAI of 0 indicates the element is present at a concentration similar to, or less than, median abundance and a GAI of 6 indicates approximately a 100-fold, or greater, enrichment above median abundance. The actual enrichment ranges for the GAI values are listed in Table 6-1.

Table 6-1: Geochemical Abundance Index Enrichment Ranges

GAI	Enrichment Range
0	< 3 times ACA
1	3 - 6 times ACA
2	6 - 12 times ACA
3	12 - 24 times ACA
4	24 - 48 times ACA
5	48 - 96 times ACA
6	> 96 times ACA

As a general guide, a GAI of 3 or above is considered significant enrichment and may warrant further examination for geochemical characterization. However, mobility of each parameter depends upon host mineralogy and environmental conditions, and enriched elements are not necessarily mobile during weathering or in contact with groundwater. Table 6-2 presents the average composition by material type and corresponding GAI values calculated from ACA values for enriched elements. Elements not listed had GAI values of zero, or GAI values were inconclusive due to analytical limitations of method detection limits. Mercury results were near or below the method detection limit of

0.005 ppm for all materials except for PS, which had average mercury abundance less than the ACA of 0.08 ppm. The method detection limits for selenium and tellurium were higher than the respective ACA values and GAI analysis was inconclusive for these elements. Although ACA and lower method detection limits were close for arsenic and silver, results indicate that silver is consistently enriched, and arsenic enrichment is variable, in the White Pine deposit.

Elements that were significantly enriched, with GAI of 3 or greater, included:

- Copper in all materials except WIDE and LWSA
- Silver in US and PS
- Cadmium in US

The degree of elemental enrichment varied between material types. Some of the elements analyzed were not consistently enriched above ACA, including cobalt, iron, and lead; these are not discussed below. Enrichment of each element is described below:

- Antimony enrichment only occurred in two material types:
  - Surficial material in the TDF ND2 facility averaged 1.65 mg/kg and had an average GAI around 2.
  - The tailings composite samples and the US samples had antimony values around 0.65 mg/kg and GAI around 1.
- Arsenic in the surficial ND2 samples averaged 10 mg/kg, GAI around 1. No other materials show arsenic enrichment.
- Cadmium values in surficial ND2 material and US Tailings Composites were between 1.14 and 1.69 mg/kg, with GAI around 2. Cadmium values in WIDE were more variable, between 0.05 and 40 mg/kg and GAI values between 0 and 6, with average GAI value around 2. US samples were consistently enriched, with cadmium between 0.36 and 224 mg/kg and GAI of 0 for one sample, and GAI of 3 or greater for the rest of the samples.
- Cesium enrichment was weak, with GAI values of 1, in US Tailings Composite and WIDE. The rest of the materials did not show cesium enrichment.
- Copper enrichment was significant in all materials except the WIDE, which had average GAI of zero, and LWSA, which had average GAI values of 2.
- Molybdenum enrichment was evident only in ND2 samples and Tailings Composite samples, potentially due to contamination from steel during comminution.
- Silver enrichment was notable, with GAI between 2 and 6, in US and PS samples. UPSA samples had variable silver enrichment, with GAI values from 0 to 3 and averaging 2. ND2 samples and Tailings Composite samples had GAI values from 1 to 3, suggesting that a portion of the initial silver was recovered during processing. The other rock types showed weak or absent silver enrichment.
- Sulfur enrichment was moderate in the US and PS rock samples but absent in the other materials. This indicates that the other materials do not contain sulfides, and that the processing method removes sulfides from the mineralized shale units.

- Zinc in the surficial ND2 samples averaged 255 mg/kg, GAI around 1. No other materials were enriched in zinc.

The actual metal mobility will be determined with leach tests and water quality data. Metal mobility is dependent on contact water pH, mineralogy, particle size, and other factors that are not accounted in laboratory testing. Parameters that are enriched, and parameters that may mobilize and have potential receptors, are listed below and discussed in the leach test results sections as relevant. Some of the key parameters for the Project are:

- Antimony
- Arsenic
- Beryllium
- Cadmium
- Copper
- Mercury
- Nickel
- Silver

Although chloride abundance is not available from multi-element analysis results, it is also discussed in the leach test results. Not all of the parameters listed above were mobilized in the laboratory tests.

Table 6-2: Mean Composition and GAI Enrichment for Enriched Elements

Material Type	Sample Count	Antimony (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Cesium (mg/kg)	Copper (mg/kg)	Molybdenum (mg/kg)	Silver (mg/kg)	Sulfur (mg/kg)	Zinc (mg/kg)
Till (Waste)	4	0.56	4	0.10	3	42	0.49	0.08	175	48
Freda Formation (Waste)	19	0.73	4	0.07	4	43	0.52	0.06	100	78
Nonesuch Formation (Waste)	17	1.47	13	0.33	6	41	4.87	0.10	4024	100
ND2 - Surface	3	1.65	10	1.43	5	2393	79.74	0.64	300	255
ND2 - Lower	3	0.95	6	0.63	5	2040	63.89	0.47	167	151
US Tailings Composite	2	0.70	2	1.30	9	1297	6.49	0.35	550	114
PS Tailings Composite	3	0.66	2	0.07	7	1313	7.25	0.48	467	127
WIDE	23	0.56	2	6.29	10	198	0.44	0.17	565	117
US	29	0.65	3	40.67	8	6594	1.48	4.51	2334	108
UPSA	19	0.43	1	0.14	5	1699	0.65	0.62	521	77
PS	25	0.51	6	0.15	8.4	8045	0.56	8.79	2100	126
LWSA	23	0.47	2	0.08	2	1380	1.04	0.51	478	109
Total	**170**									

Notes:

Values listed are average for each element and material type, in mg/kg.

Colors of values represent GAI enrichment range according to the following table:

Enrichment Range
< 3 times ACA
3 - 6 times ACA
6 - 12 times ACA
> 12 times ACA

6.2 Acid Base Accounting

The results from the suite of test methods that comprise ABA are presented below.

6.2.1 Sulfur Speciation and Acid Generation Potential

Sulfur speciation analysis was done for all 170 characterization samples.

As noted in Section 5.2 above, total sulfur for ABA is determined using a LECO-type combustion furnace. This method differs from the multi-element analysis method, which relies on a mixture of acids to digest the solid sample, and ICP analysis on the resulting solution. Depending on the digestion method and mineralogy of the sample, the ICP results may indicate lower total sulfur abundance than the LECO method, which is a direct measurement of the solid sample composition. Total sulfur results from multi-element and LECO analysis are compared in Figure 6-1. The points plot near the 1:1 line, indicating that the results from the different methods compare well. Samples of tailings residues from recent metallurgical testing and from the existing ND2 facility have much lower total sulfur values than the source materials, PS and US. This indicates that most of the sulfur is removed in the copper recovery process.

The comparison of sulfur values from different methods is useful to ensure that the ICP results are not systematically biased low, due to incomplete dissolution of sulfur minerals in the digestion process. It is also a tool to identify data quality issues, such as sample mix-ups at the laboratory. No quality control issues were evident in the dataset for this study. The total sulfur results from the ICP and LECO methods compare well, and therefore, all sulfur-bearing minerals were digested prior to ICP analysis. The total sulfur ICP results in the exploration database could be a proxy for LECO total sulfur values.

Sulfur speciation allows sulfate, sulfide, and refractory sulfur species to be quantified. Splits of the solid sample are digested with hydrochloric acid (HCl), or nitric acid (HNO_3) after HCl. The resulting leachates are analyzed for sulfur concentration to determine the proportion of each main type of sulfur mineral. Sulfur-bearing minerals soluble in HCl include gypsum, jarosite, and magnesium sulfate, and the fraction of sulfur mobilized in HCl is grouped as sulfate. Note that barite ($BaSO_4$) is only soluble in hot concentrated H_2SO_4 and does not report to the “sulfate” extraction step. The second split of the solid sample is digested with HCl, then with HNO_3. This combination of weak acid extraction dissolves pyrite, marcasite, chalcopyrite, and most other sulfides. Pyrite is the main source of acid generation, but not all sulfides produce acid during weathering. Although chalcocite is a sulfide, it is not soluble in nitric acid, and it is not included in the “sulfide” extraction step. Because it does not generate acid, the reported “sulfide” sulfur values can be applied to predict AGP. Insoluble sulfur is determined by subtracting the “sulfate” and “sulfide” sulfur fractions from the total sulfur value. Insoluble sulfur is present as chalcocite at the Project but can include barite, alunite, and other refractory minerals, depending on the deposit mineralogy.

Sulfur speciation results for each sample are plotted by material type in Figure 6-2 through Figure 6-10. For plotting, values reported <0.01 wt% were assigned 0.01 wt%. For samples with total sulfur less than 0.03 wt%, the sum of the sulfur species will plot greater than the reported total sulfur value.

Sulfate sulfur values were near or below the method detection limit of 0.01 wt% for all samples, indicating that sulfate minerals are not a significant component. Sulfide sulfur occurred in some of the Nonesuch Waste Rock, in discrete horizons, and was consistently prevalent in the Widely Laminated (<0.01 to 0.1 wt%) and US (<0.01 to 0.22 wt%). PS had variable sulfide sulfur abundance, below detection to 0.15 wt%, but the Upper and LWSA units had consistently low sulfide sulfur, as did the legacy tailings samples from ND2 and tailings residues from recent metallurgical testing. Sulfide sulfur abundance varied from below detection to nearly 2 wt% in the Nonesuch waste rock, an order of magnitude higher than the highest sulfide sulfur results for US. Insoluble sulfur was most abundant in PS and US, and in one sample of LWSA. Insoluble sulfur was the main component of total sulfur in the materials from the mining column. From the comparison of insoluble sulfur to copper in Figure 6-11, insoluble sulfur abundance mirrors copper abundance, indicating that the main component of insoluble sulfur is chalcocite.

Although sulfur speciation results indicate minor sulfide (pyritic) sulfur present in the mining column materials, no pyrite or chalcopyrite were noted in hand samples. The chart of iron vs. “sulfide” sulfur in Figure 6-12 shows that all samples of the mining column and waste rock have 4.0 to 6.5 wt % total iron, and many have no reported sulfide sulfur, indicating that iron is present in minerals other than pyrite, such as pyrrhotite. Iron is plotted against TIC in Figure 6-13, which does not show a clear relationship between the two. Therefore, iron carbonate (siderite) does not appear to be present, although it is a common diagenetic mineral in shales. The Till samples and one of the Freda waste rock samples have between 2 and 4 wt% iron, which is depleted compared to the rest of the rock samples. The lower iron abundance could be a result of weathering, especially for the Till samples. The Nonesuch waste rock samples from above the mining column had a bimodal distribution of sulfide sulfur, with some low or below detection, and six of 17 with sulfide sulfur abundance between 0.34 and 1.86 wt%. The reported “sulfide” sulfur values appear to be a reliable and conservative estimate of the abundance of minerals that could generate acid. Sulfide sulfur was applied to calculate AGP because it is the best available data to quantify AGP. However, it may overestimate the true potential for acid generation, and the NAG results will be helpful to confirm the ABA results.

Figure 6-1: LECO vs. ICP Total Sulfur

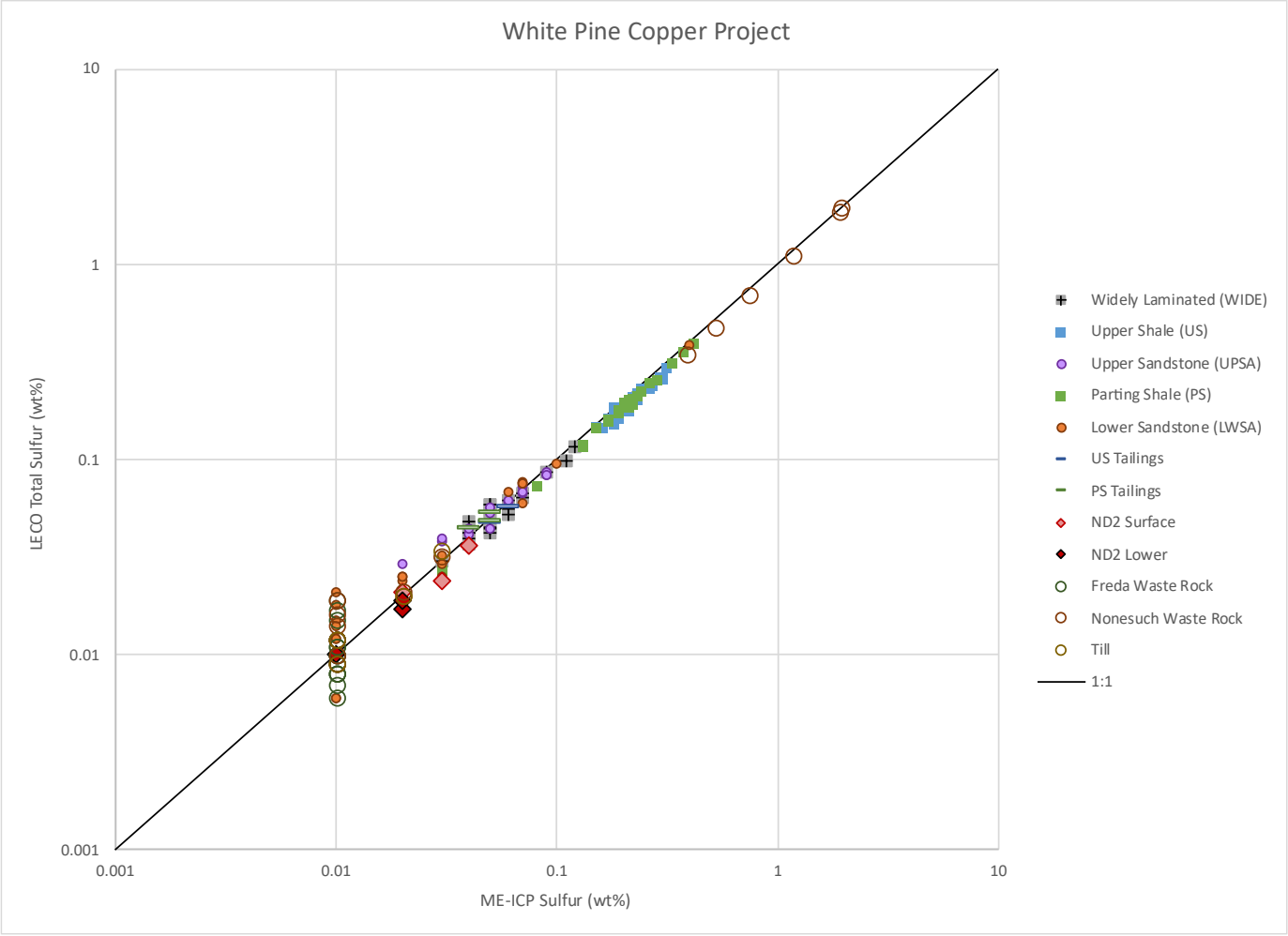


Figure 6-2: ABA Sulfur Speciation Results, WIDE Samples

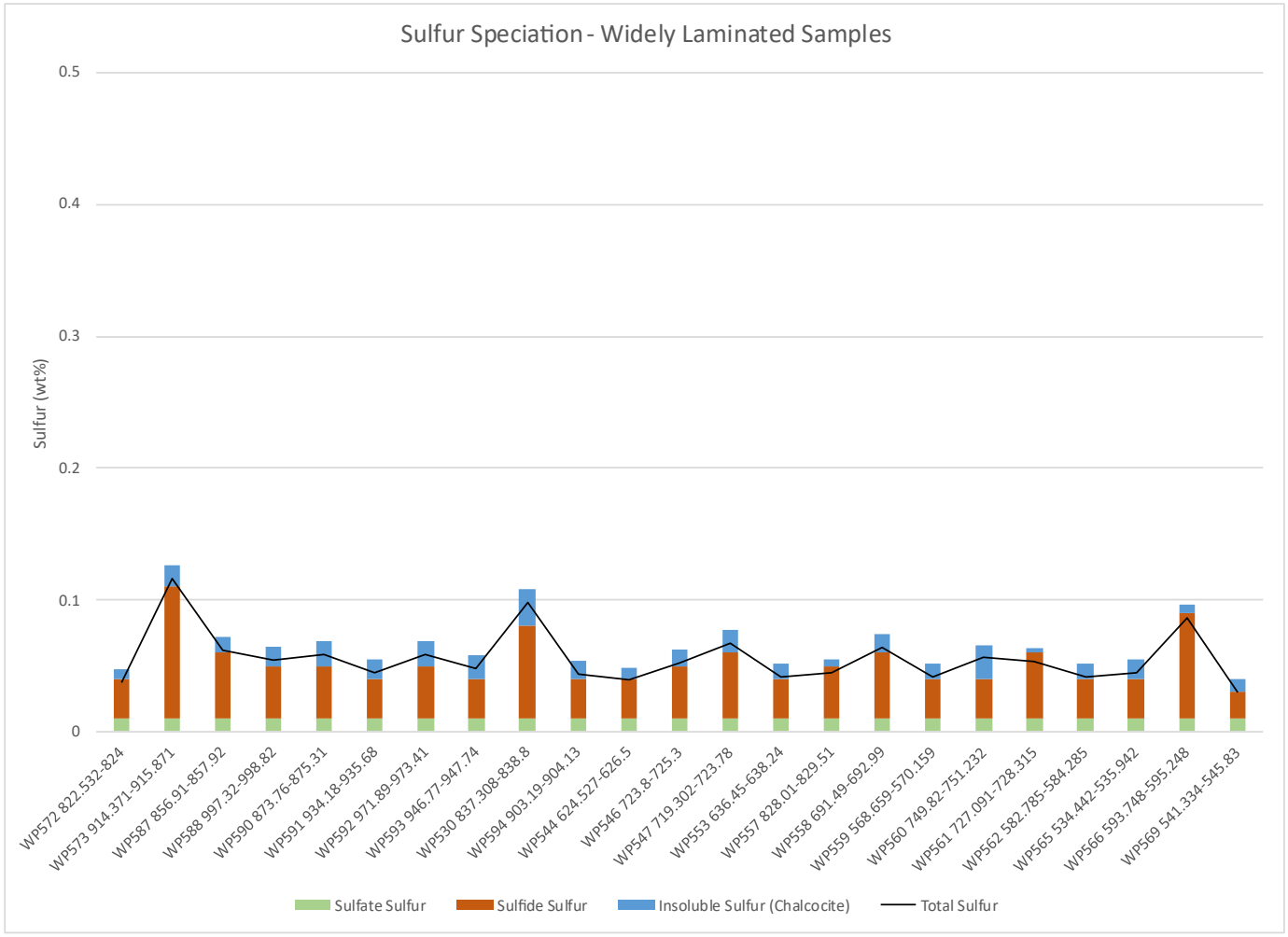


Figure 6-3: ABA Sulfur Speciation Results, US Samples

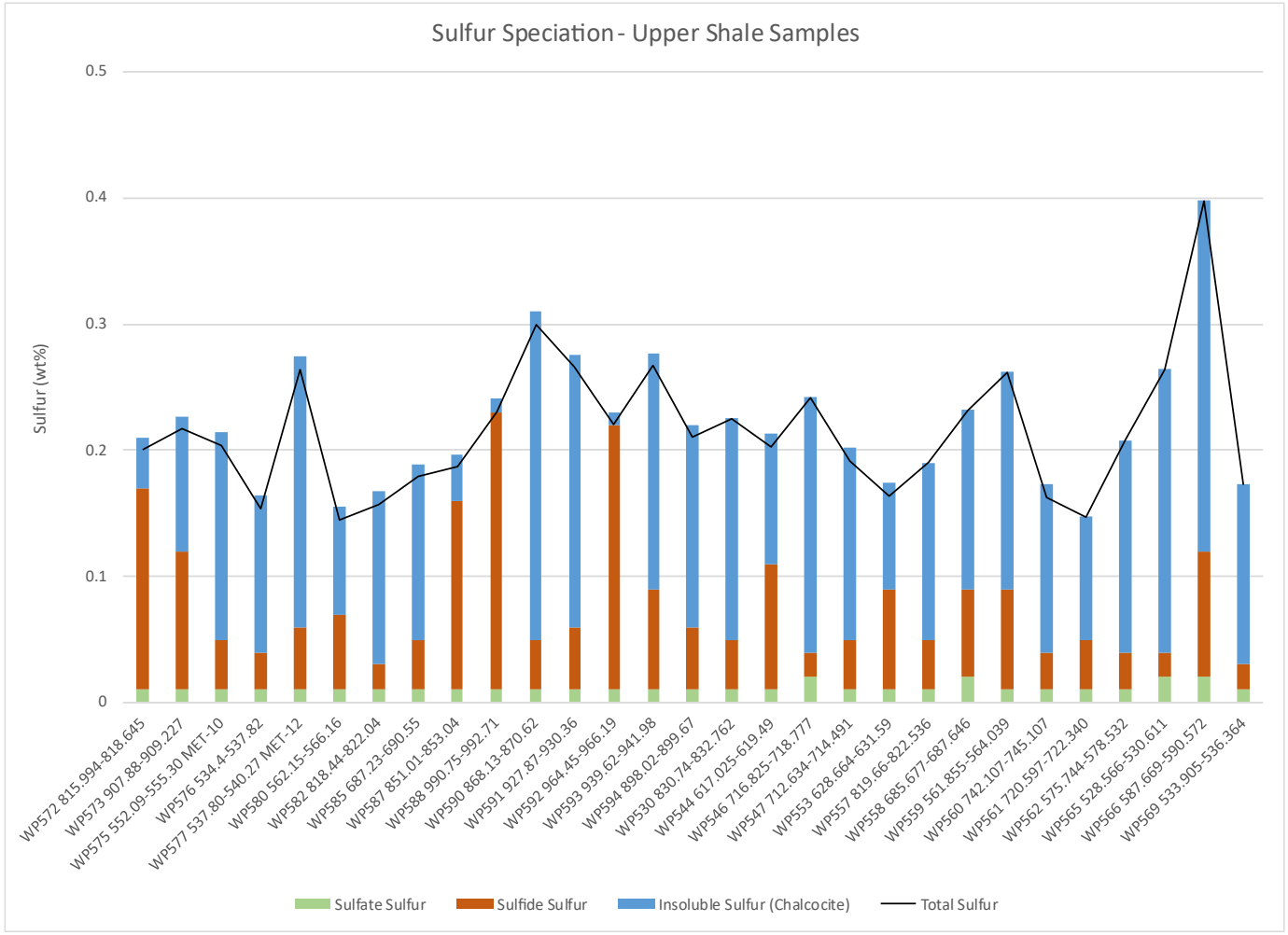


Figure 6-4: ABA Sulfur Speciation Results, UPSA Samples

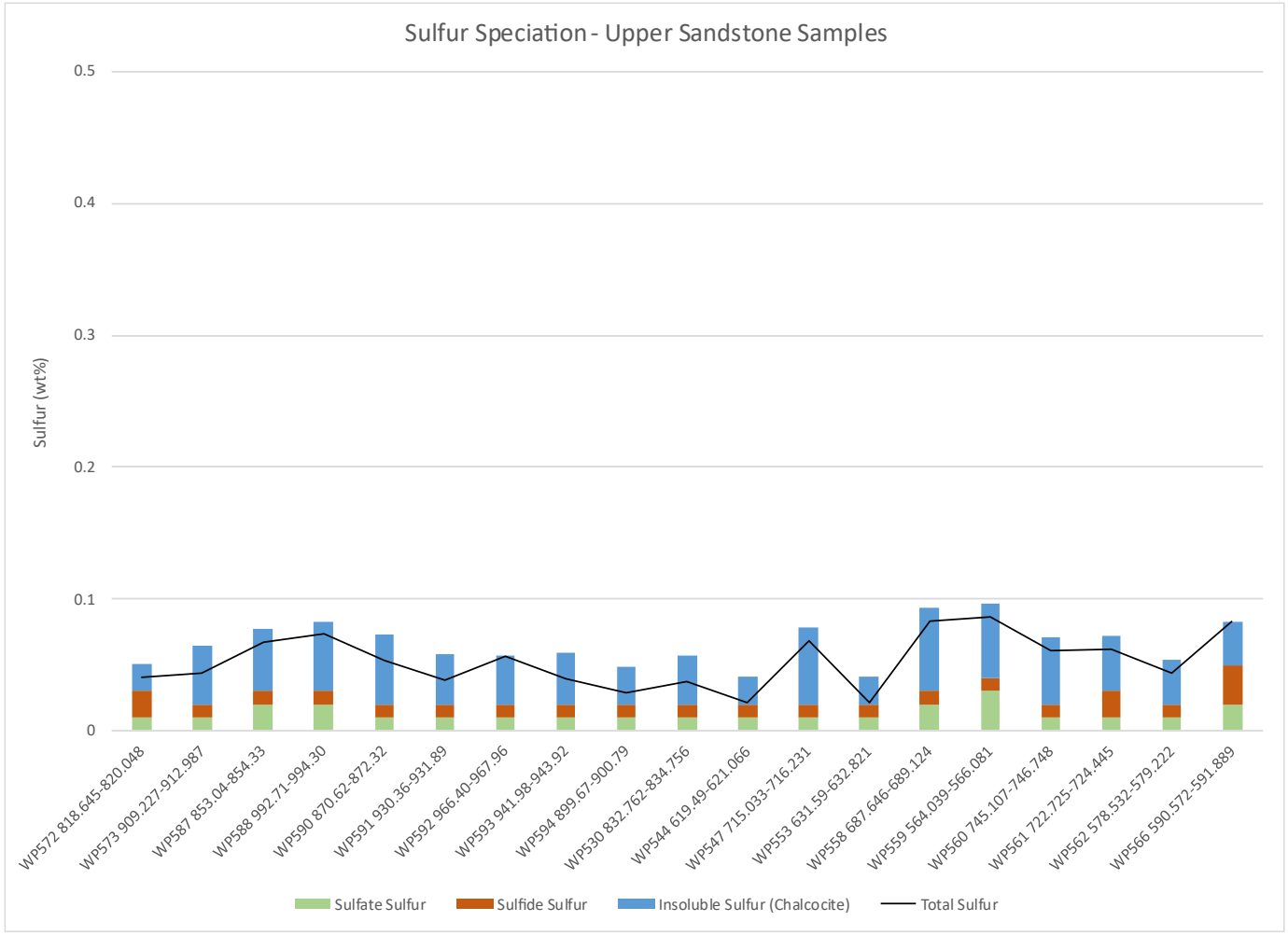


Figure 6-5: ABA Sulfur Speciation Results, PS Samples

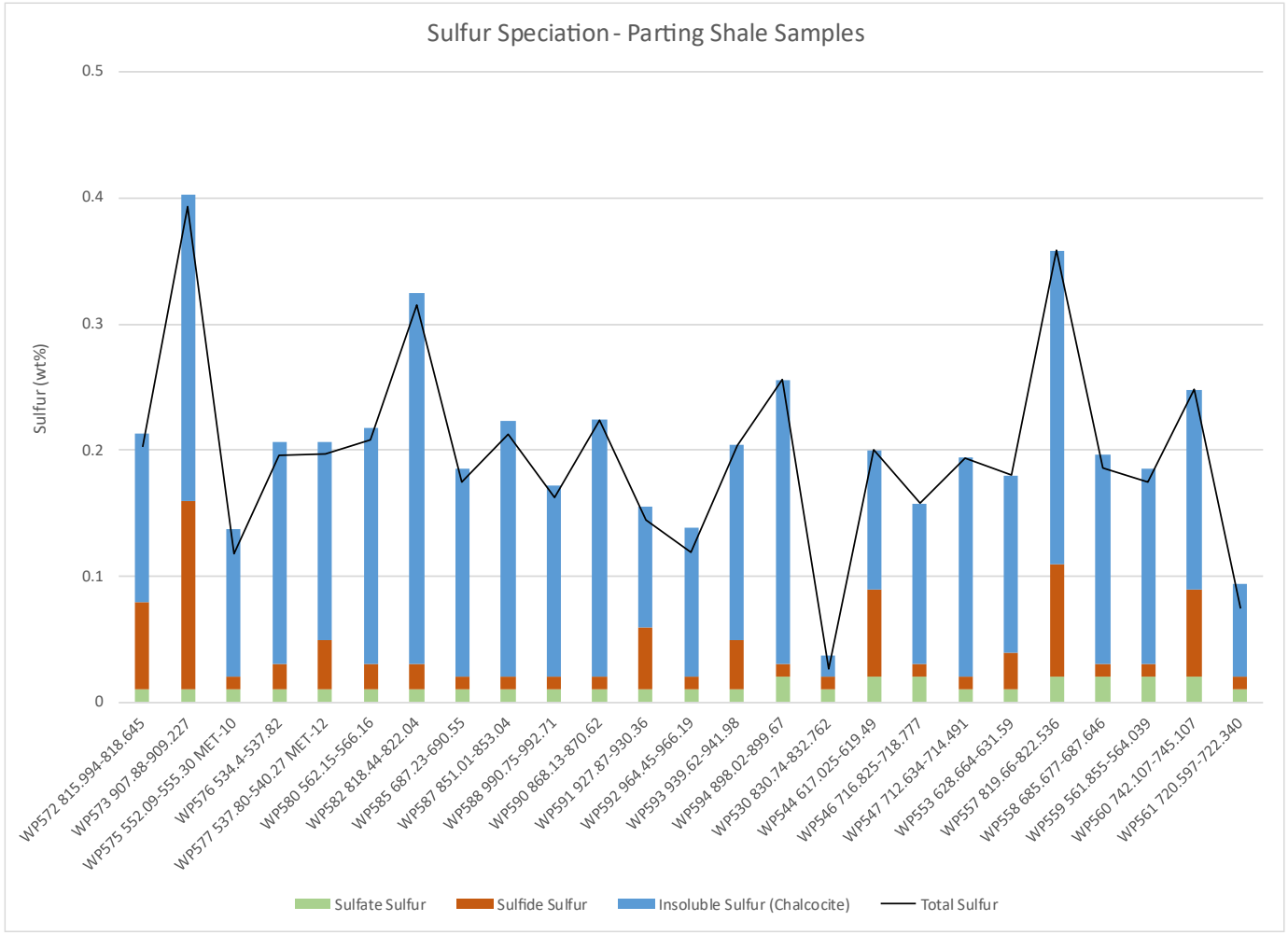


Figure 6-6: ABA Sulfur Speciation Results, LWSA Samples

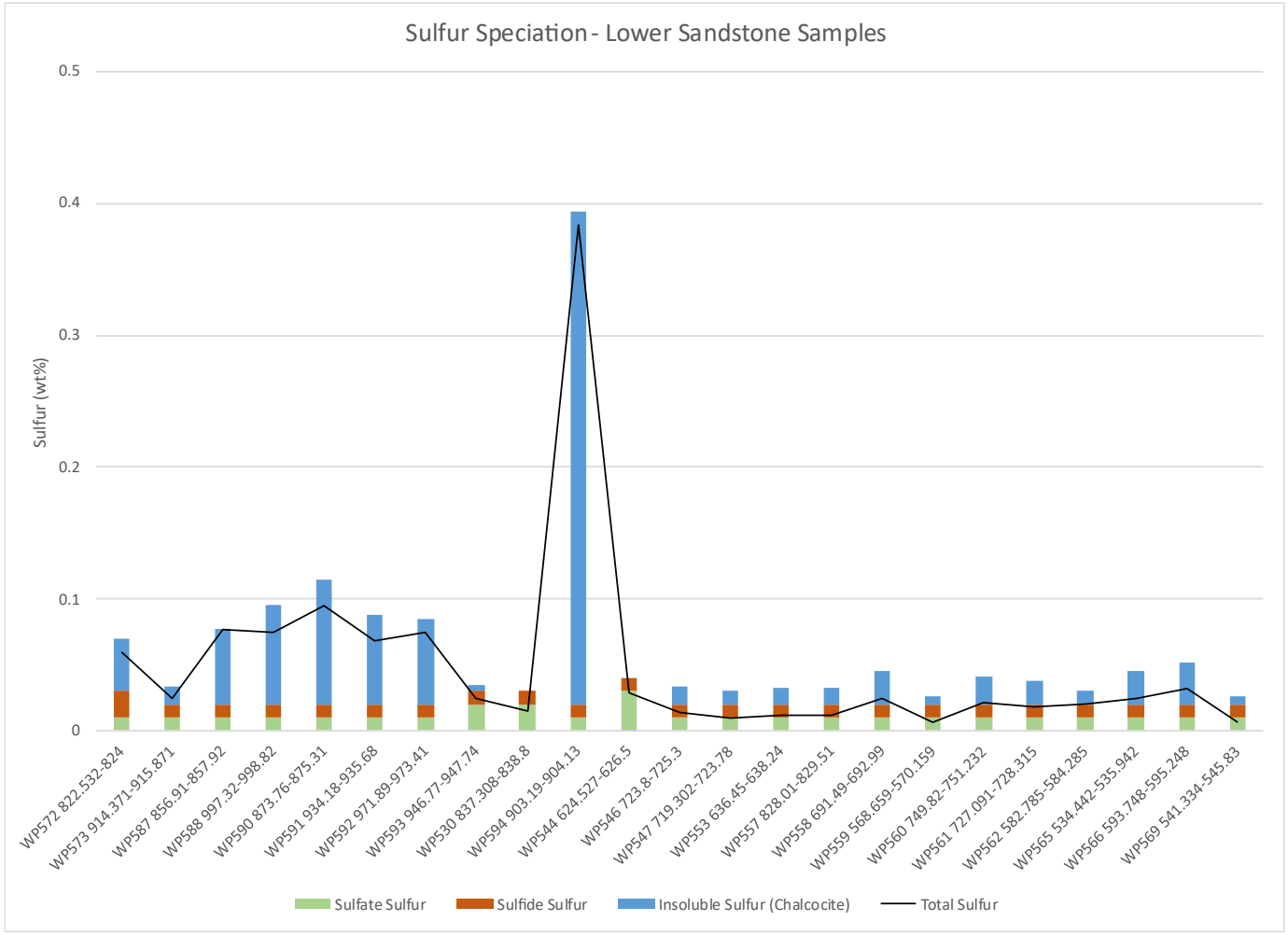


Figure 6-7: ABA Sulfur Speciation Results, Tailings Samples

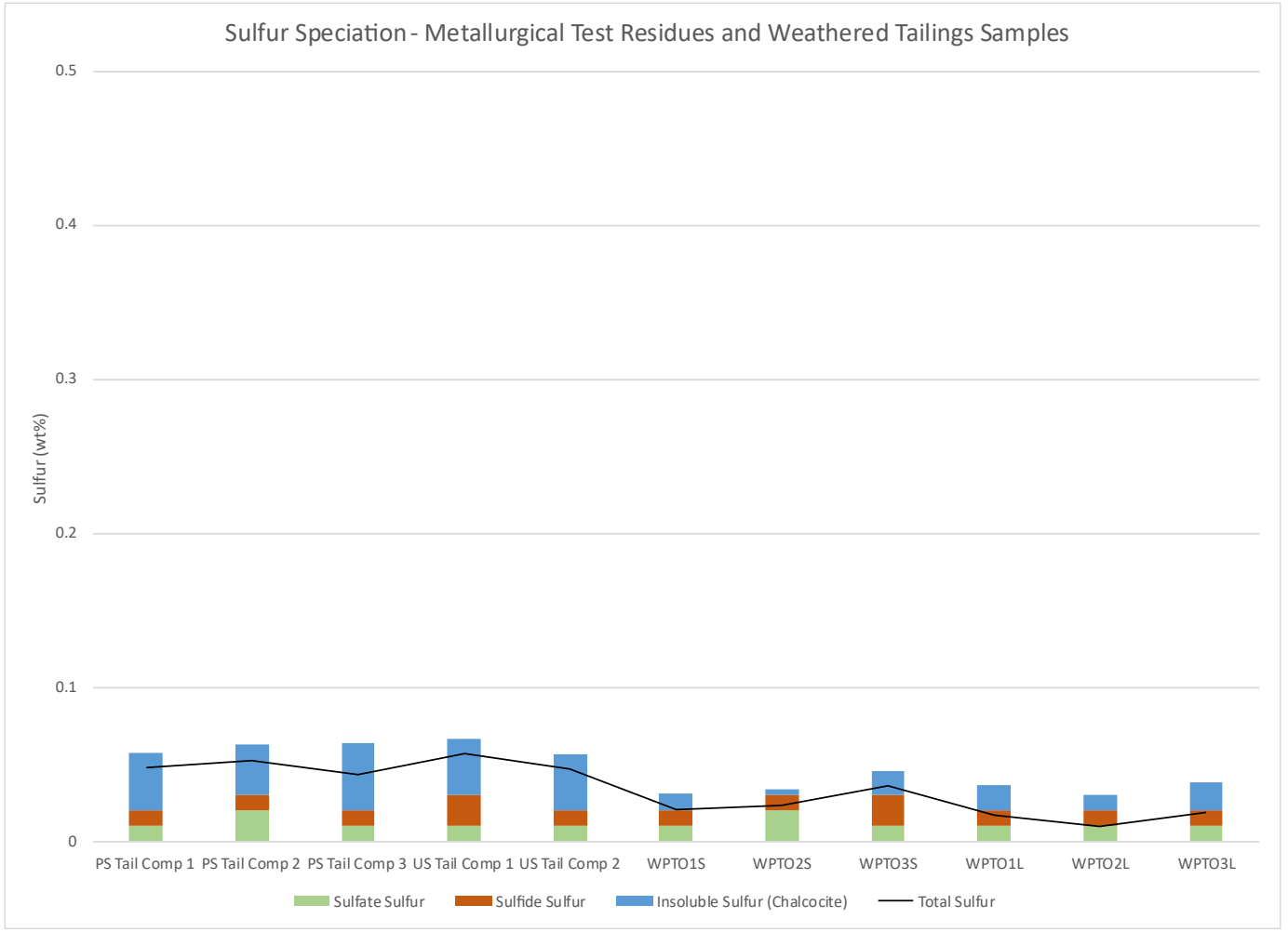


Figure 6-8: ABA Sulfur Speciation Results, Glacial Till Samples

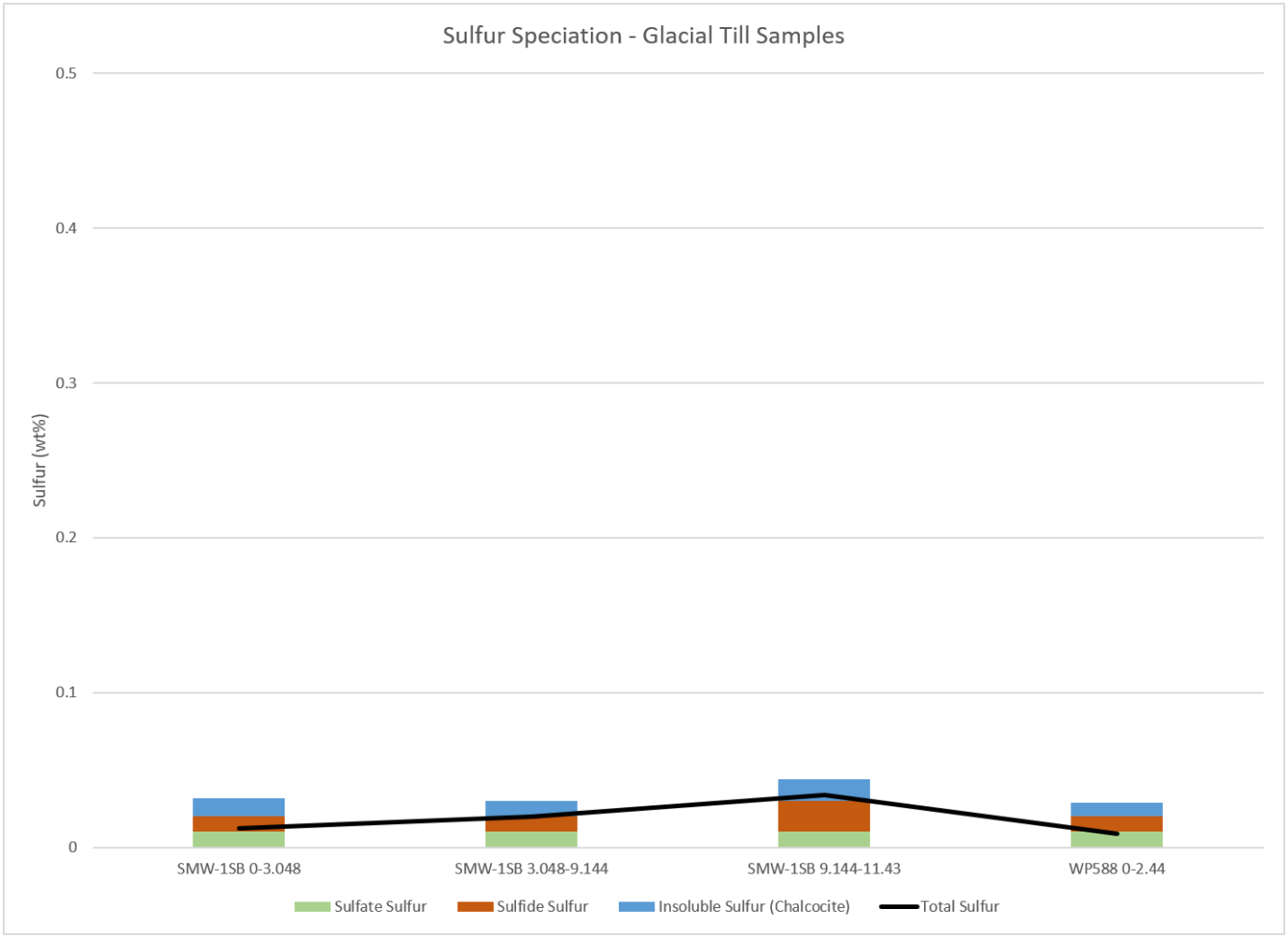


Figure 6-9: ABA Sulfur Speciation Results, Freda Waste Rock Samples

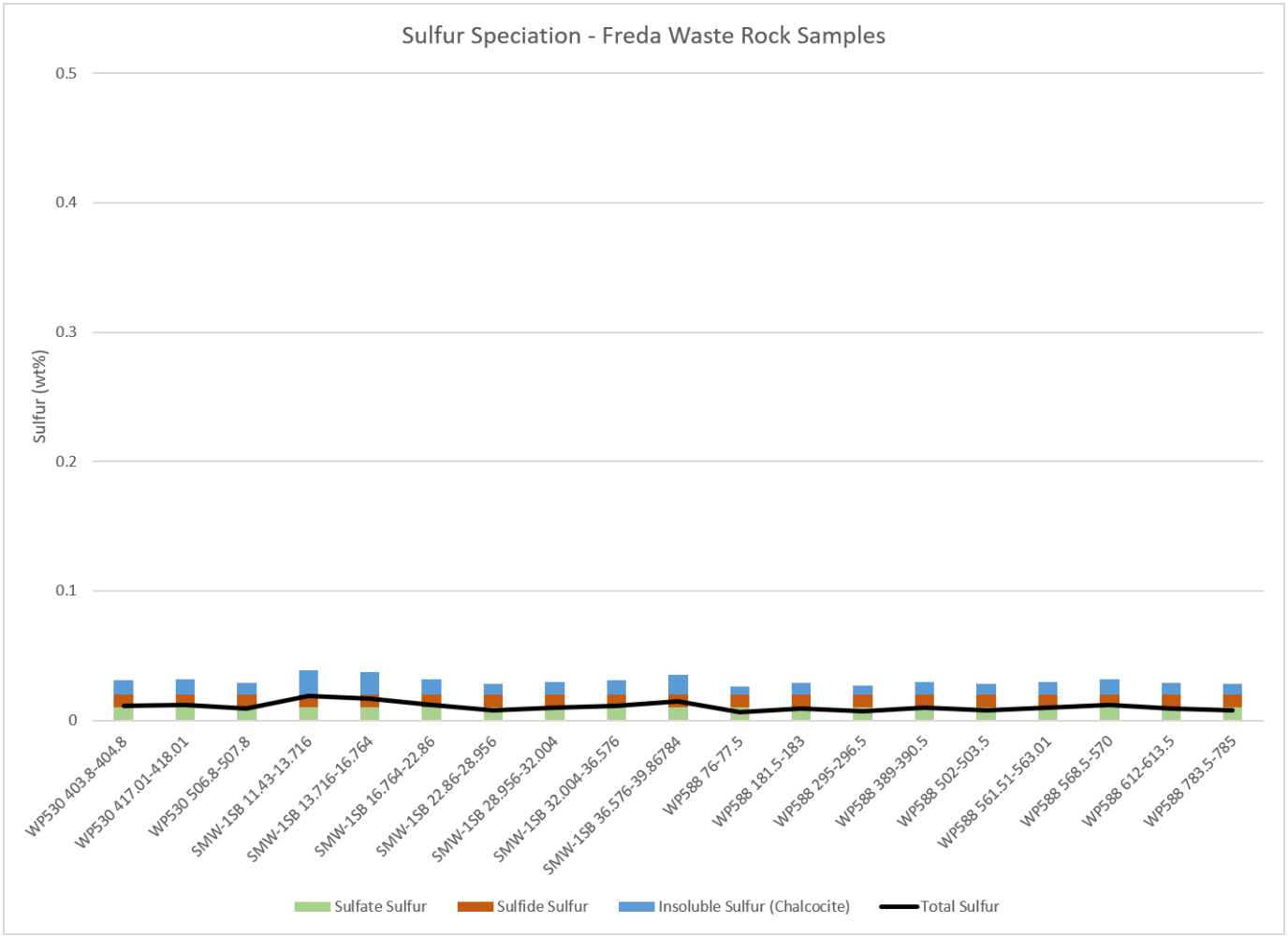


Figure 6-10: ABA Sulfur Speciation Results, Nonesuch Waste Rock Samples from Above the Mining Column

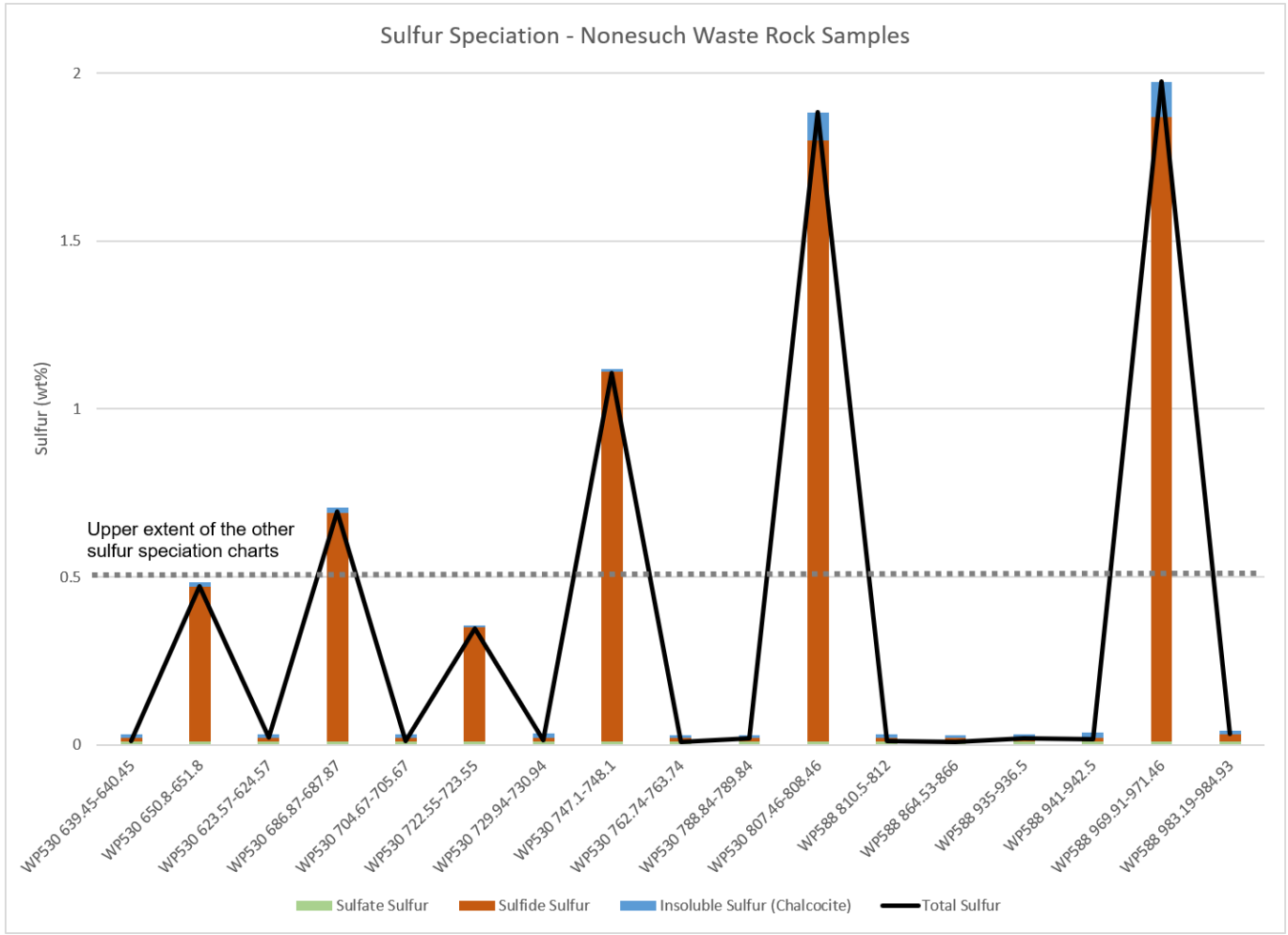


Figure 6-11: Copper vs. Insoluble Sulfur

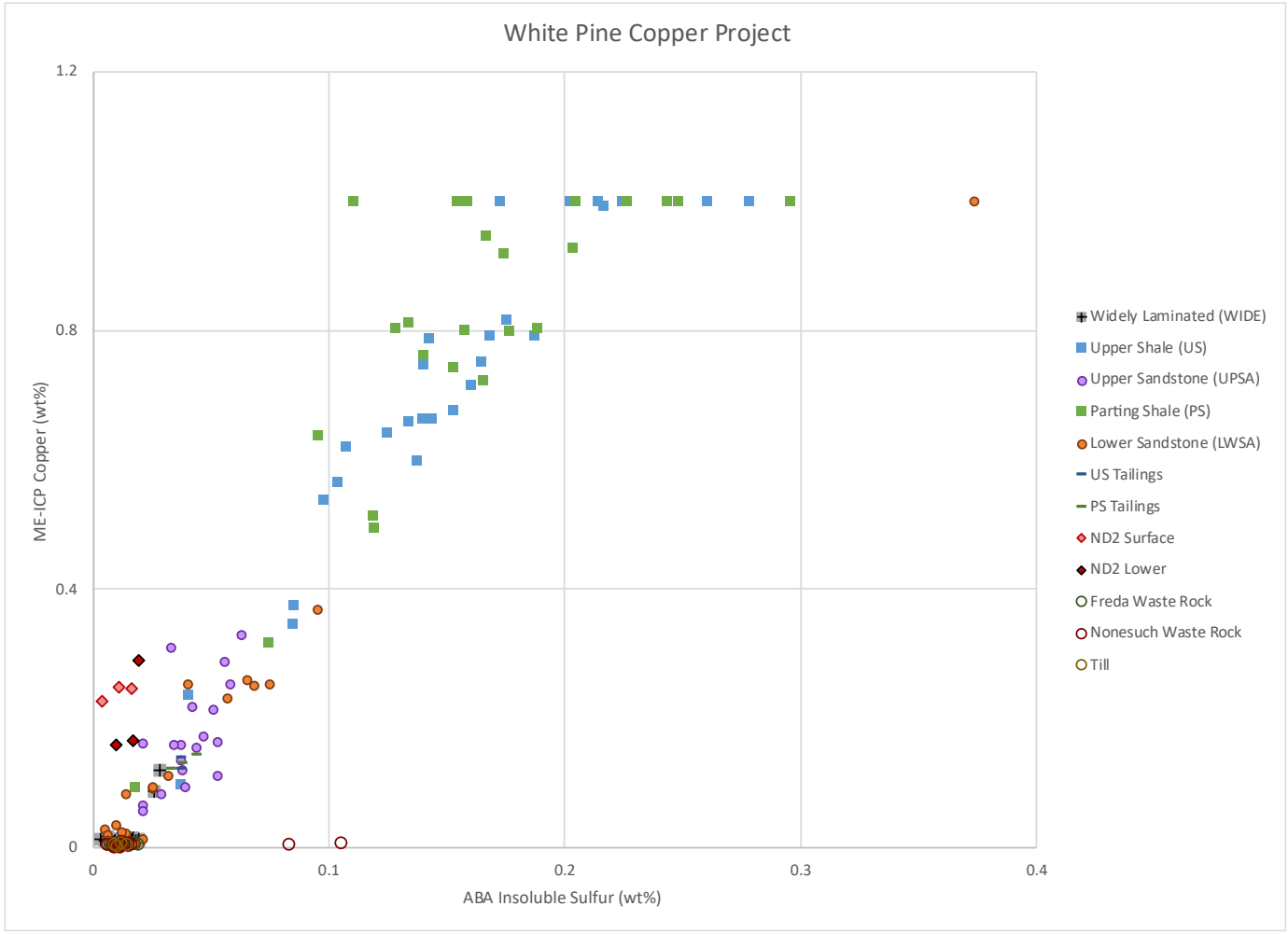


Figure 6-12: Iron vs. Sulfide Sulfur

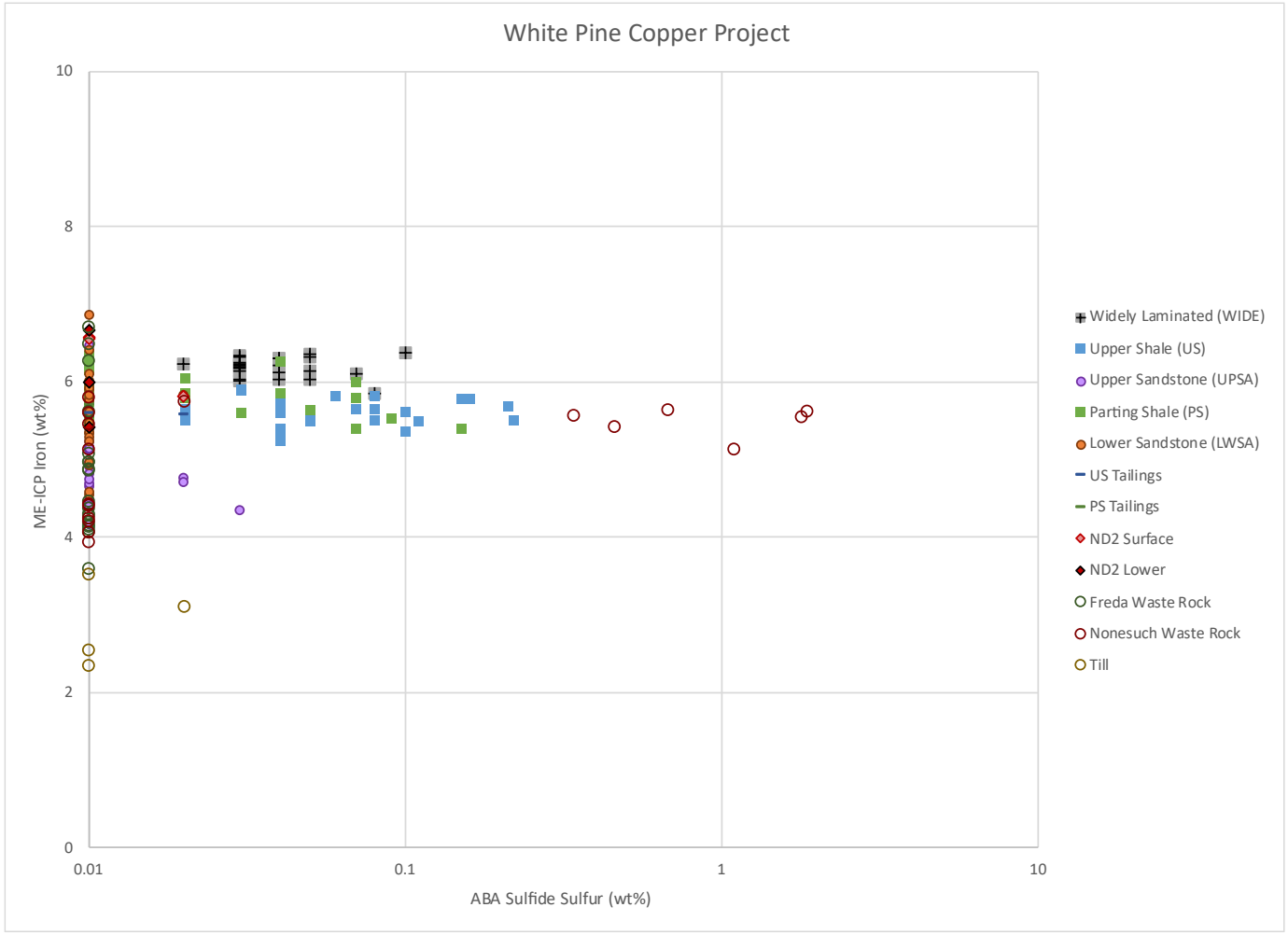
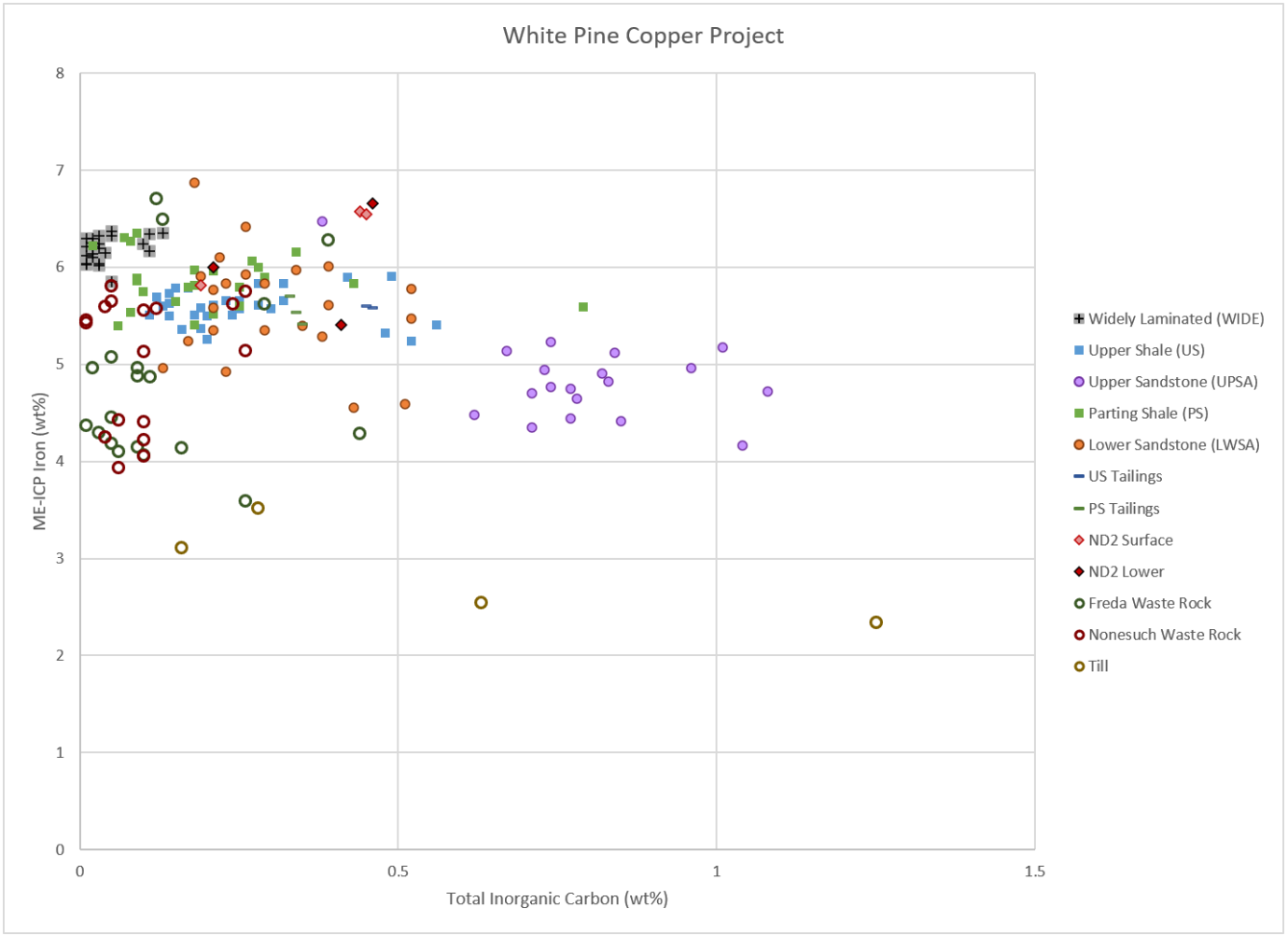


Figure 6-13: Iron vs. Total Inorganic Carbon



6.2.2 Acid Neutralization Potential by Titration

ANP is a measurement of all available acid neutralizing capacity in the solid sample. Carbonate minerals, primarily calcite, are the main sources of ANP, but clays, feldspars, and other silicate minerals can also contribute. In the White Pine deposit, carbonate is the main component of ANP, demonstrated by the strong correlation between ANP and TIC results plotted in Figure 6-14. The groupings of values by material type show that Till and UPSA had the most carbonate, while Nonesuch waste rock Widely Laminated had low or absent carbonate. Freda waste rock, LWSA, the Shale units, and the fresh tailings samples have low to moderate carbonate and ANP. The surficial legacy tailings samples and one sample at depth from the existing ND2 facility plot above the ANP-TIC trend line, indicating a component of acid neutralization that is not from carbonate. The strong relationship between ANP and TIC for waste rock, mining column/ wall rock, and fresh tailings samples indicates that TIC is a reliable indicator of ANP for the materials intersected by the proposed mine design.

ANP values are plotted against calcium values from multi-element analysis in Figure 6-15. The strong relationship between ANP and calcium indicates that calcium is present in minerals that contribute to acid neutralization, mainly calcite, rather than gypsum, which has no acid neutralization capacity, or in clinopyroxene (diopside) and plagioclase feldspar, which contribute minor acid neutralization in comparison to carbonate minerals. The trend of Freda waste rock, some of the Nonesuch waste rock, LWSA and ND2 samples with slightly higher calcium values with the same range of ANP values suggests a portion of the calcium is present in non-neutralizing minerals. Results from NAG testing and mineralogy determination can be applied to interpret the ANP results.

Figure 6-14: ANP vs. TIC

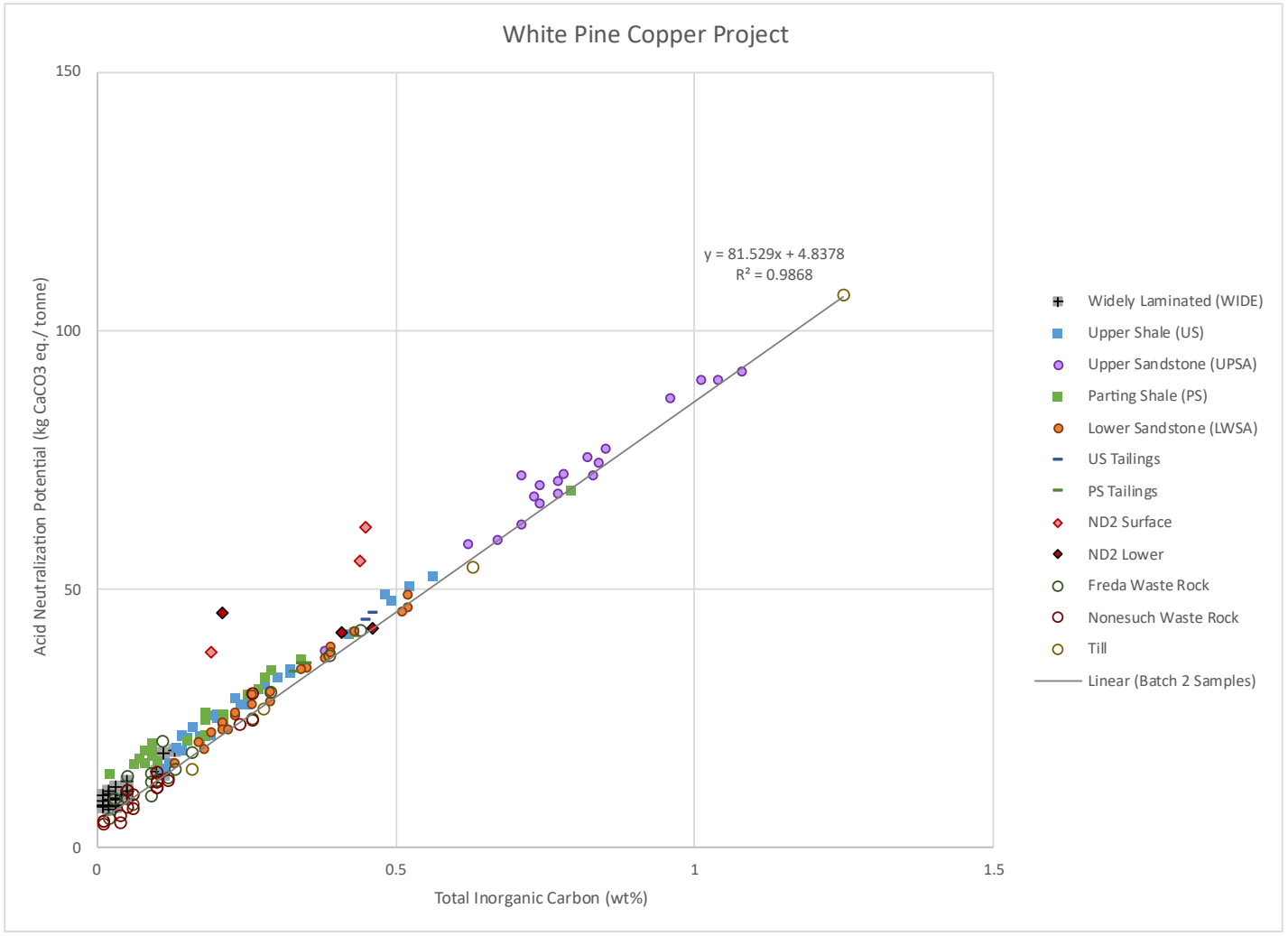
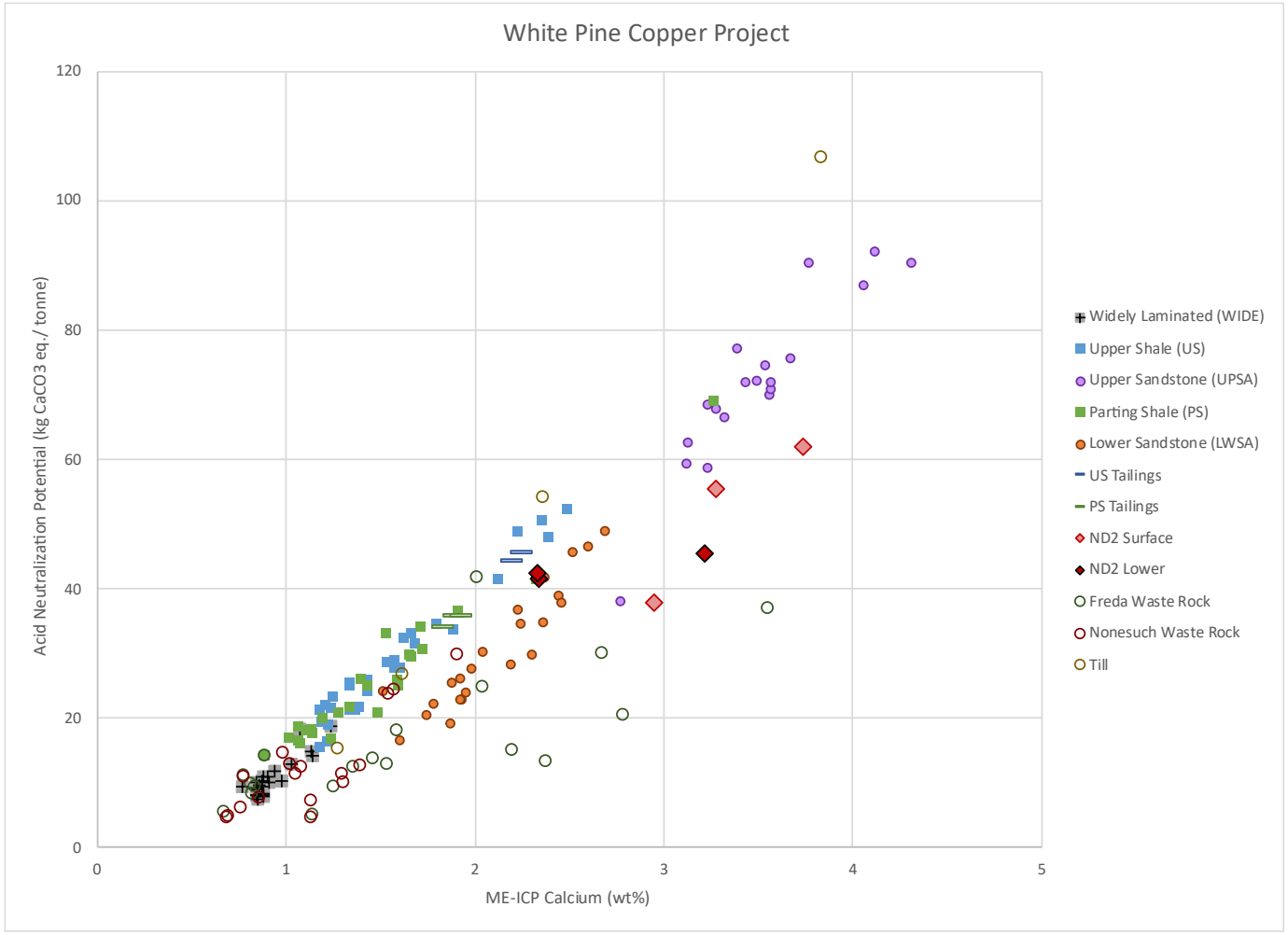


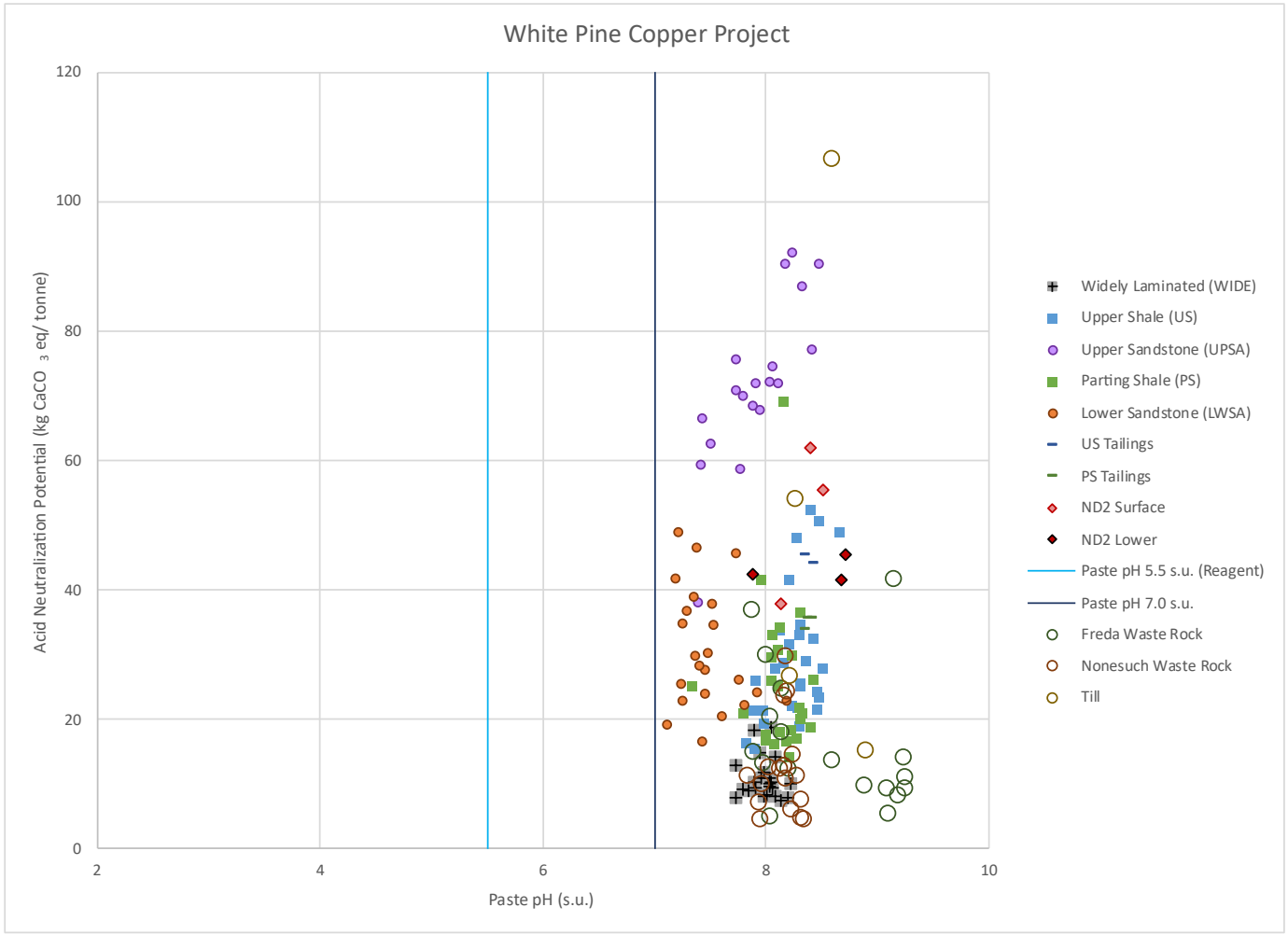
Figure 6-15: ANP vs. Calcium



6.2.3 Paste pH

The Paste pH procedure is a component of the ABA test and includes determining the pH of a slurry made with de-ionized (D.I.) water and a split of pulverized sample. Paste pH results are plotted with ANP results in Figure 6-16 and show ANP values are not correlated with Paste pH values. Paste pH results were between 7.1 and 9.4 s.u., indicating readily available alkalinity and absence of acidic salts. There appears to be some correlation between Paste pH and material type, with lower Paste pH values between 7 and 7.5 s.u. mainly associated with the LWSA and UPSA units. The group of Freda waste rock samples with Paste pH around 9 s.u. and low ANP, below 20 kg $CaCO_3$ eq/ t, is unlike the rest of the results but the causes for this pattern are unclear.

Figure 6-16: ANP vs. Paste pH



6.2.4 ABA Results Interpretation

The results from ABA testing are applied to calculate Net Neutralization Potential (NNP) and Net Neutralization Potential Ratio (NPR). These values are determined from the calculated AGP value based on sulfide (pyritic) sulfur described in Section 5.2 and from the ANP value determined from the titration procedure. The equations for NNP and NPR are:

NNP = ANP – AGP

NPR = ANP / AGP

Criteria for interpreting NPR values to categorize samples as Potentially Acid Generating (PAG), Non-PAG, or Uncertain PAG are established in the Mine Environment Neutral Drainage (MEND) Prediction Manual (MEND, 2009) as follows:

- Non-PAG: NPR > 2
- Uncertain: 1 ≤ NPR ≤ 2
- PAG: NPR < 1

Classification criteria vary by jurisdiction and should be applied with a full understanding of the deposit mineralogy and climate factors, such as precipitation chemistry and waste rock handling approaches. The ABA results for the Project indicate a lack of acid generating minerals in most samples and variable carbonate abundance. The mineralogy is amenable to the ABA method for prediction of acid generation and neutralization potential. Therefore, it is appropriate to apply the MEND criteria for PAG classification of the materials in the White Pine deposit.

NPR is represented visually in Figure 6-17, a plot of ANP vs. AGP values.

PAG classification criteria in some jurisdictions (BLM, 2013) include NNP values and these results are shown for context in Figure 6-18, a scatter plot of NNP vs. NPR values. However, MEND (2009) does not recommend applying NNP values to PAG classification. All Till and Freda waste rock, Mineralized Column, and tailings samples had NNP values greater than zero and NPR values greater than 2, and are not expected to generate acid. The Nonesuch waste rock samples had a range of NPR results from Non-PAG to PAG. One had NPR of 1.2 (Uncertain PAG) and five had NPR less than one (PAG). Eleven of 17 had NPR greater than 2 and met the criteria for Non-PAG. Results from the NAG test, presented below, were also considered to classify the samples.

Figure 6-17: ANP vs. AGP

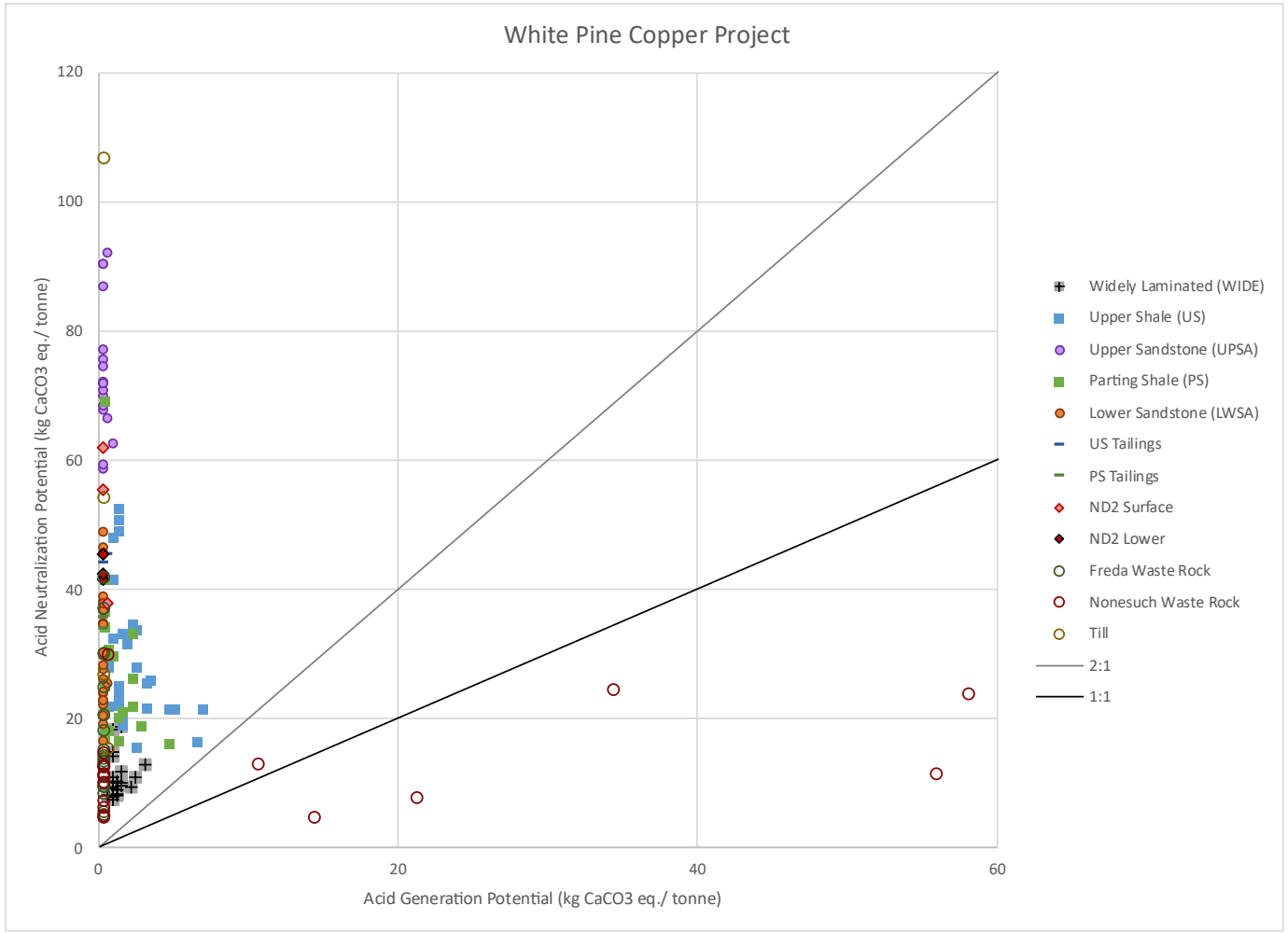
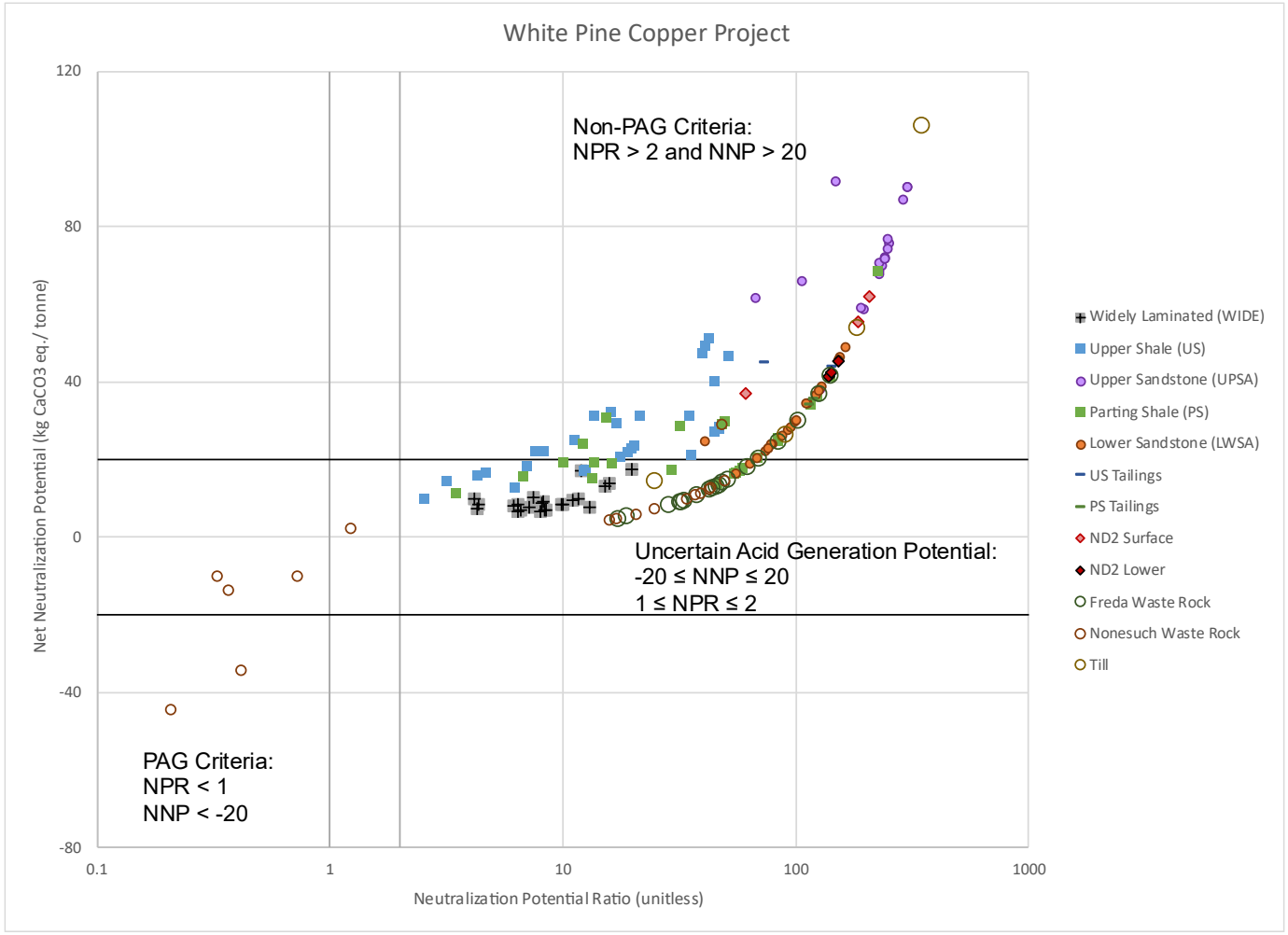


Figure 6-18: NNP vs. NPR

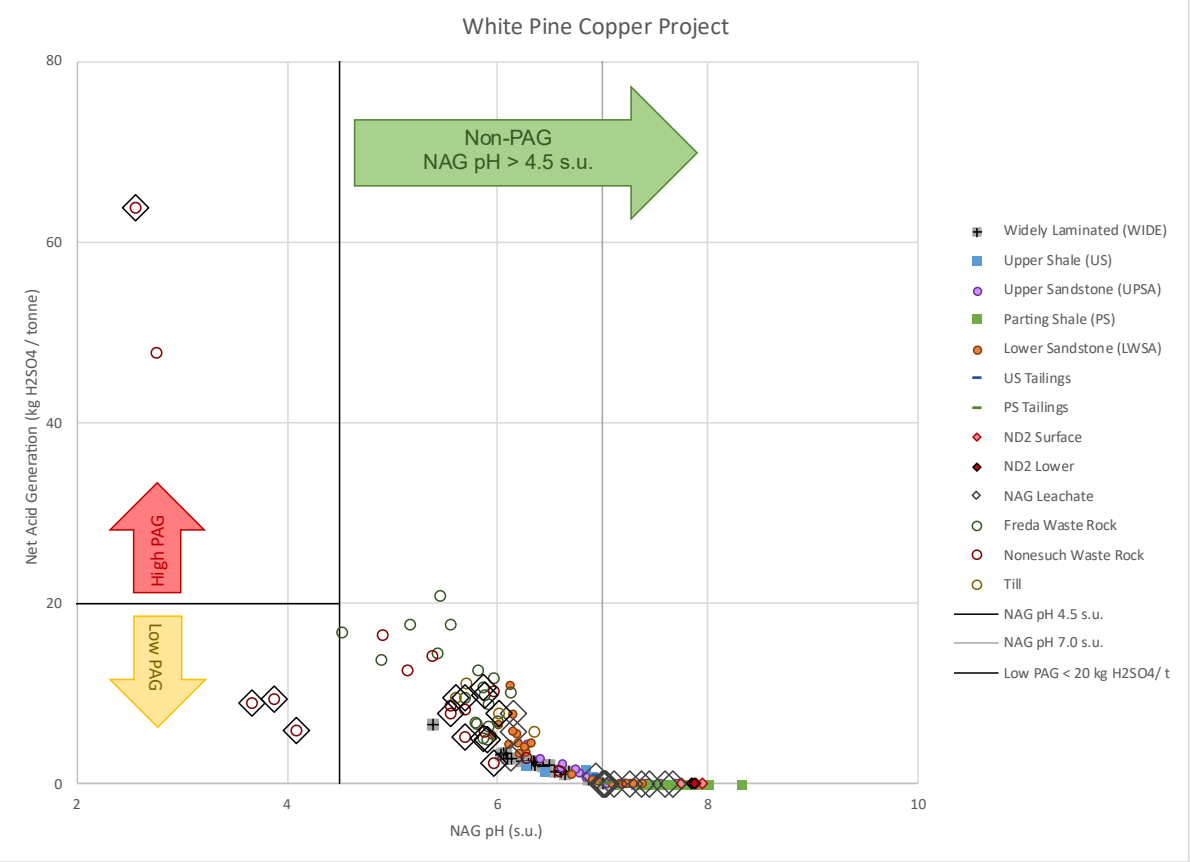


6.3 Net Acid Generation

NAG results reflect the maximum AGP from complete oxidation of the sample. The Total NAG and NAG pH results are plotted in Figure 6-19. All samples but five had NAG pH values greater than 4.5 s.u., which is the criterion for Non-PAG classification (MEND, 2009). The five samples with NAG pH less than 4.5 s.u. also had NPR less than 1, indicating that the NAG results confirm the ABA results. NAG results were consistent for most material types, excluding LWSA, which had NAG pH between 6 and 8 s.u., and Nonesuch waste rock, with NAG pH between 2.5 and 6.6 s.u. NAG test results confirm the application of pyritic sulfur abundance to calculate AGP for ABA results interpretation. Although several samples of Nonesuch waste rock contained pyritic sulfur and met the NAG pH criterion for PAG classification, the rest of the materials intersected in the mine plan met the criterion for Non-PAG classification.

The leachate resulting from the NAG test contains the dissolved constituents produced from complete oxidation. NAG leachates from a subset of the static test samples indicated with diamond-shaped outlines in Figure 6-19 were selected for dissolved metals analysis. The results of NAG leachate testing are presented below.

Figure 6-19: Total NAG vs. NAG pH



6.4 NAG Leachate

The NAG test provides confirmation of ARD potential with complete oxidation of sulfides. Metals contained in the sulfides are dissolved and the resulting metals concentrations represent the maximum mobility from weathering. NAG leachate samples from 14 waste rock samples, ten rock samples in the mining column, and the five metallurgical test residues, were analyzed to determine the concentrations of major ions and metals. These results can be an initial guide for metals release to predict the constituents that may be mobilized during weathering. However, complete oxidation of the material is unlikely, and the NAG leachates should be considered the upper limit of constituent mobility, diluted at L:S ratio of 100:1. Tabulated NAG leachate results, as parameter concentrations in milligrams per liter (mg/L), are provided in Appendix B.

All parameters listed above in Table 5-3, except boron and chloride, have whole-rock multi-element results and NAG leachate concentrations. Leachate concentrations were plotted against the multi-element abundances with available paired data. Most parameters did not have a clear relationship between initial abundance and leachate concentration, except for antimony, cadmium, and lithium, which are plotted in Figure 6-20, Figure 6-21, and Figure 6-24, respectively. Other parameters of interest included copper, iron, and manganese, which are plotted in Figure 6-22, Figure 6-23, and Figure 6-25, respectively. Generally, the NAG leachate concentrations were not proportional to the reported initial abundance from multi-element analysis. Dilution of the NAG leachate and analytical detection limits may have contributed to the discrepancy.

Overall, NAG leachate concentrations of metals were low, and many were below detection. Although the NAG leachate has essentially all metal in solution, the liquid: solid ratio of the test is 100:1 and the resulting leachate is dilute compared to the other leach test methods. The NAG leachate results can provide insight into PCOCs for materials with limited leach test results. These results were considered for selection of the leach test samples to represent the range of solute concentrations. The total solute load from NAG leachates may be an overestimate compared to natural weathering, and should not be directly applied to determine requirements for meeting water quality standards.

Figure 6-20: Antimony - NAG Leachate Concentration vs. Initial Abundance

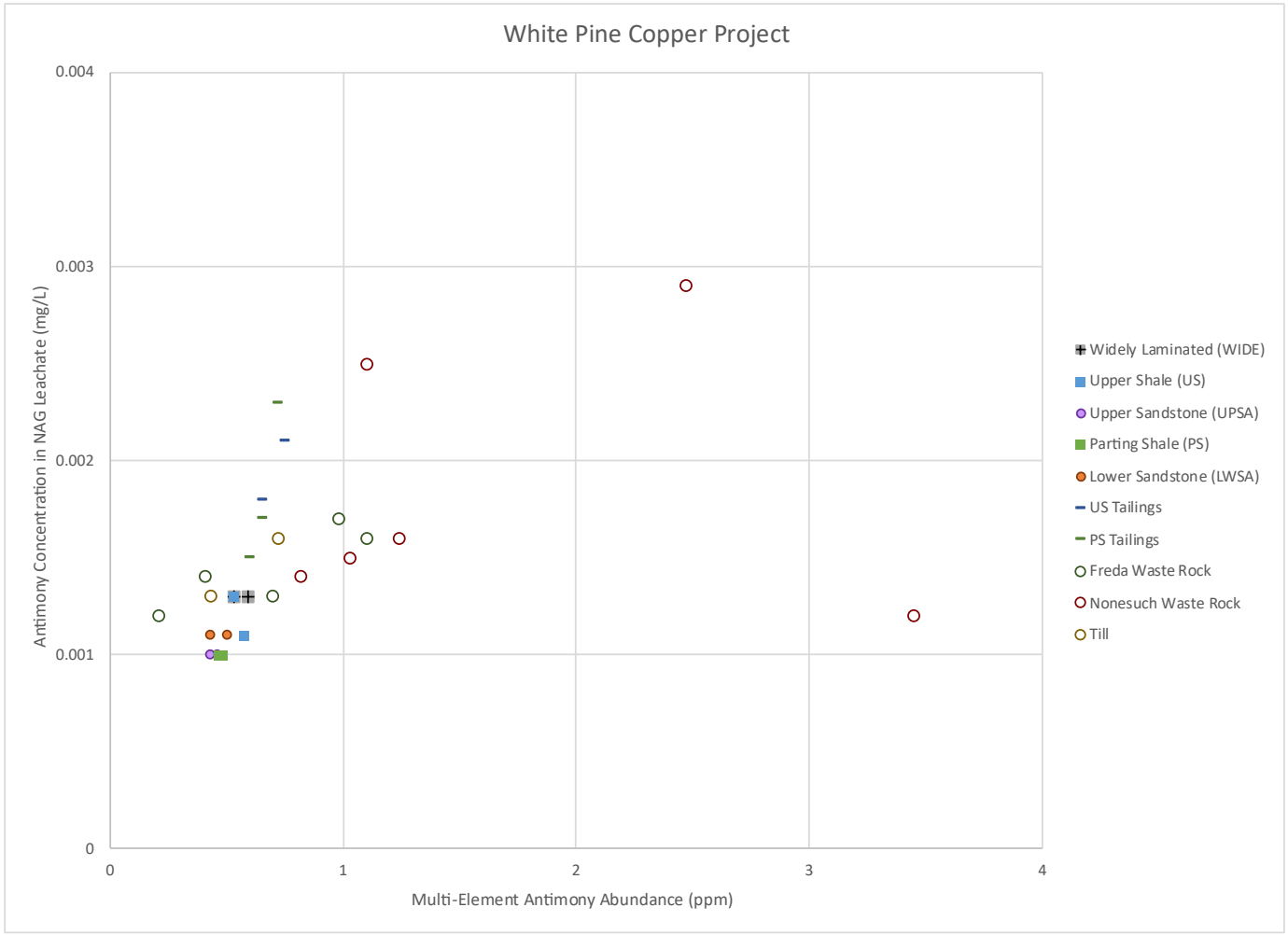


Figure 6-21: Cadmium - NAG Leachate Concentration vs. Initial Abundance

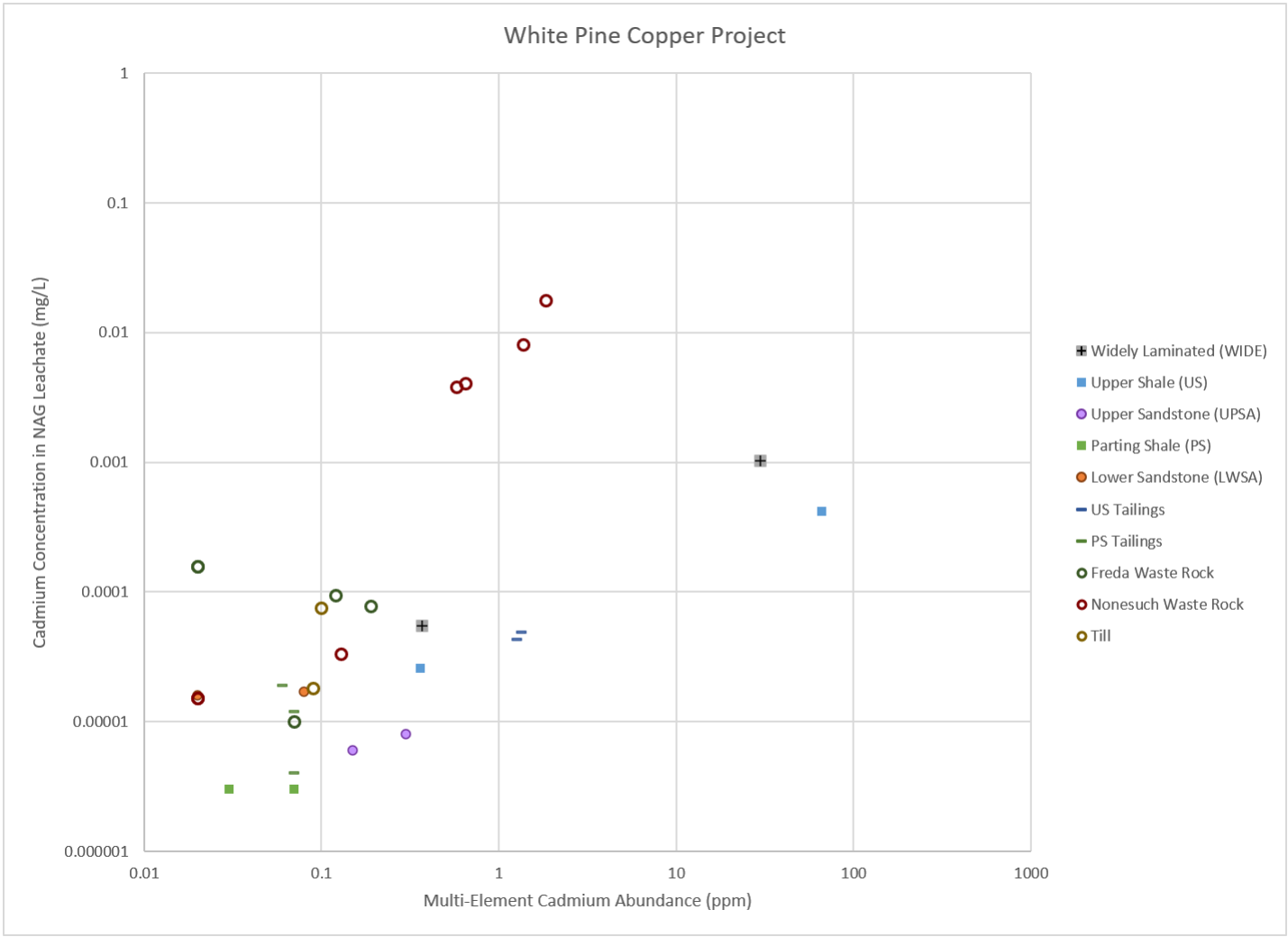


Figure 6-22: Copper - NAG Leachate Concentration vs. Initial Abundance

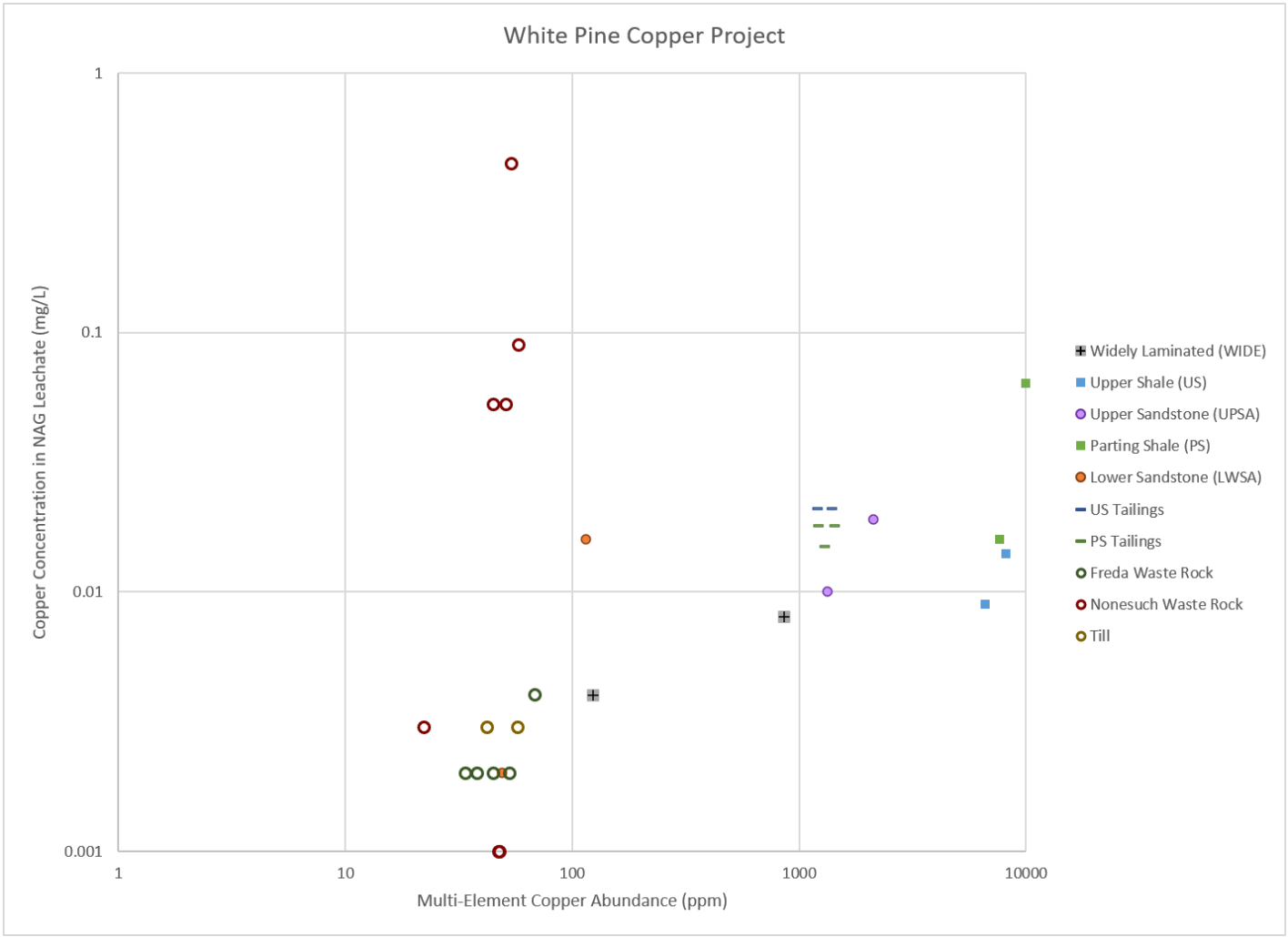


Figure 6-23: Iron - NAG Leachate Concentration vs. Initial Abundance

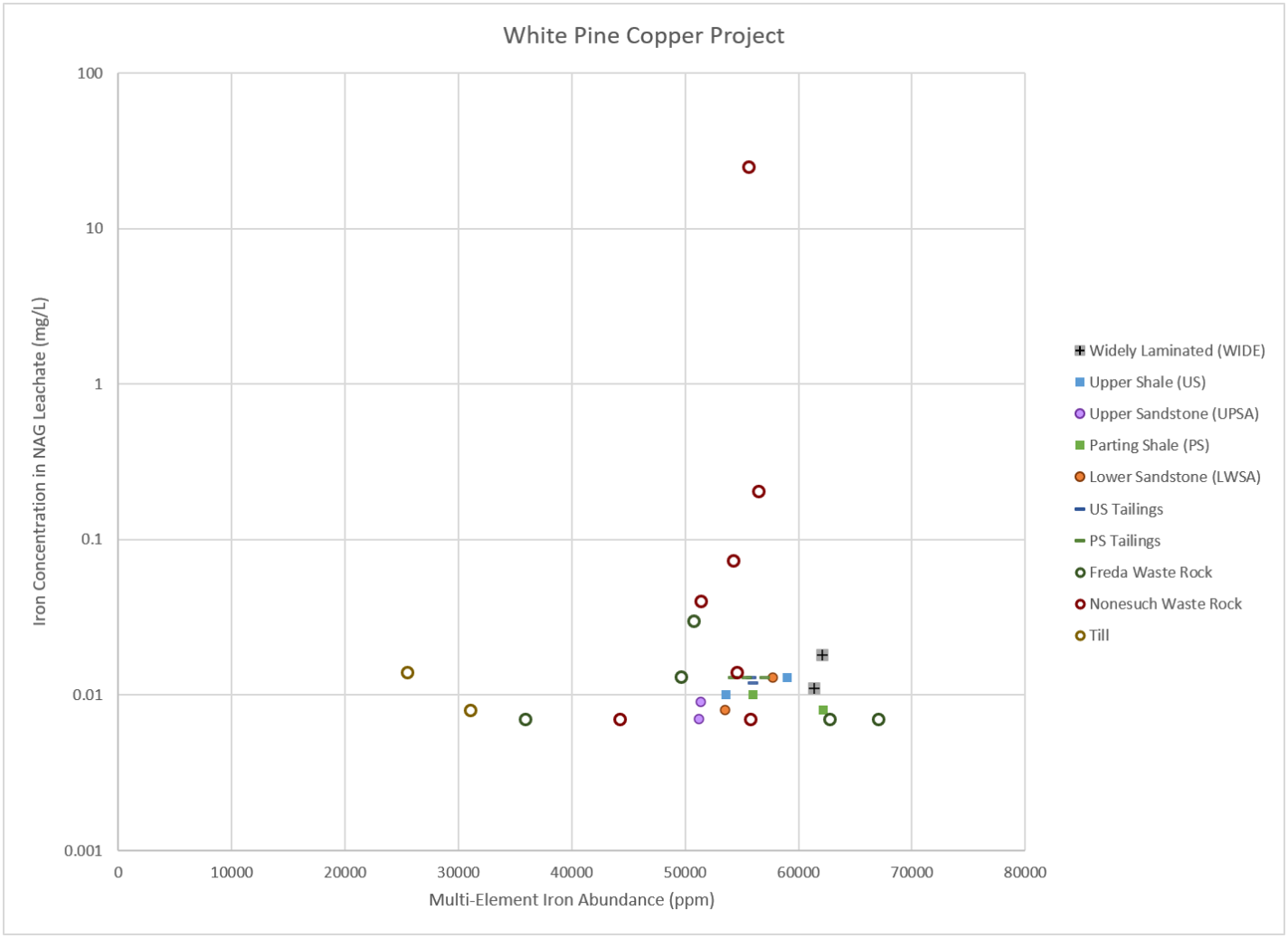


Figure 6-24: Lithium - NAG Leachate Concentration vs. Initial Abundance

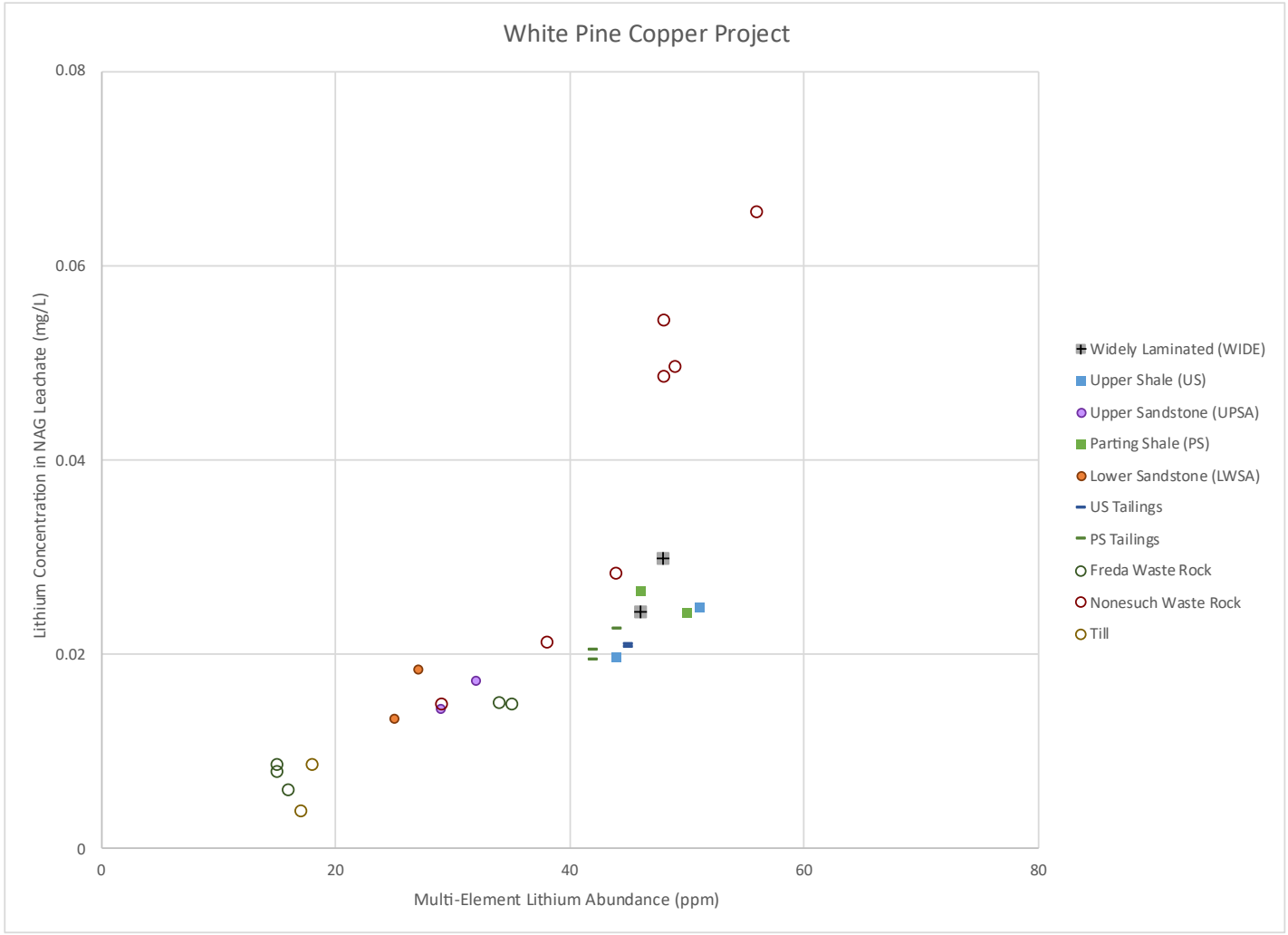
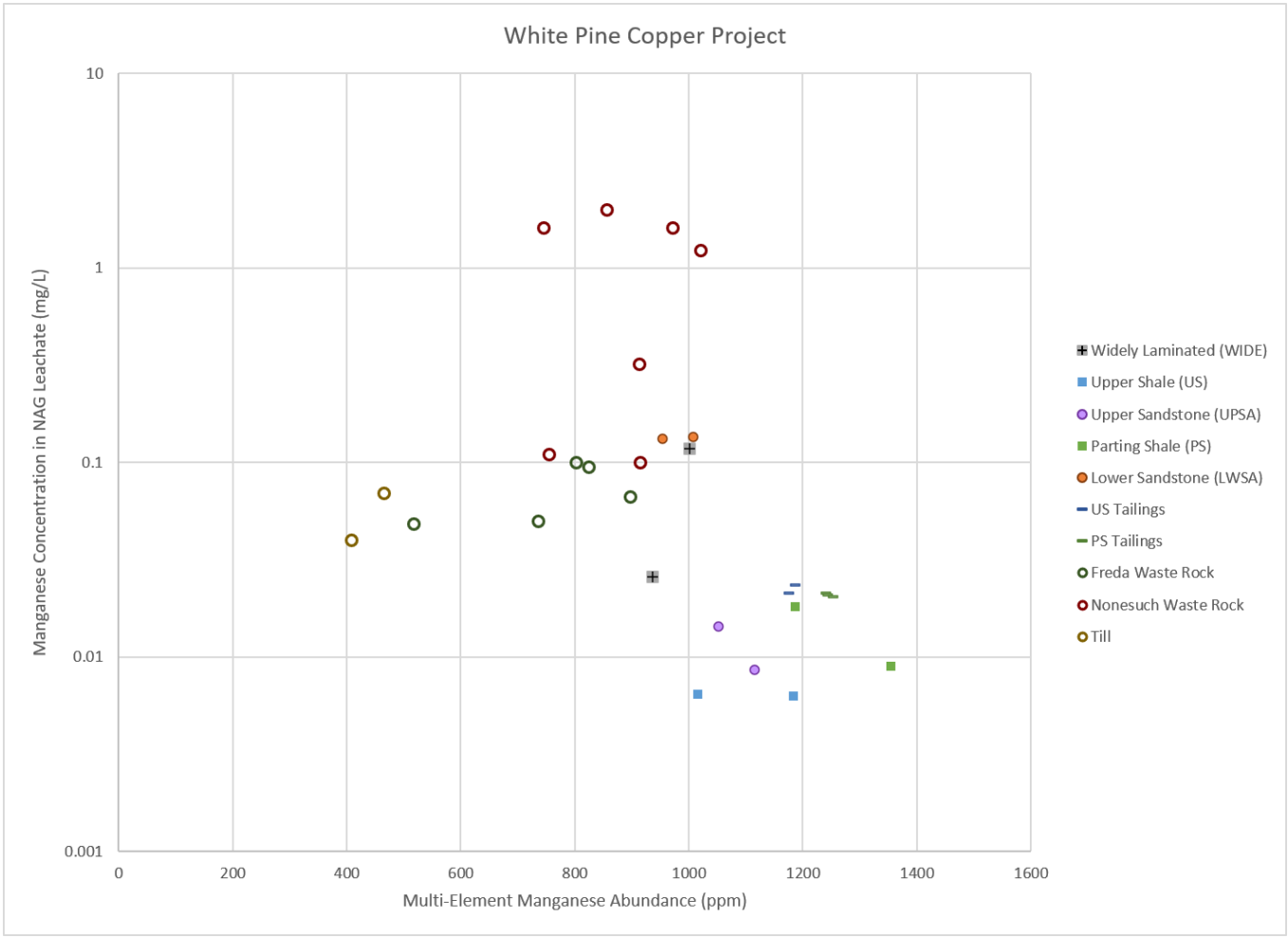


Figure 6-25: Manganese - NAG Leachate Concentration vs. Initial Abundance



6.5 Synthetic Precipitation Leaching Procedure

SPLP tests represent a short-term leach test (~18 hours) using a slightly acidic solution (pH 4.2 s.u.) representative of contact with acid rainwater east of the Mississippi River. The short time period allows readily soluble salts to dissolve into solution but generally does not allow time for longer reactions such as sulfide oxidation. Parameter concentrations are generally more diluted relative to other tests (e.g., HCT) due to the high L:S ratio (20:1). Five samples, each representative of a material type in the mining column, plus fresh tailings comprised of US from metallurgical testing residues, were selected for leach testing. Splits of the same six samples were analyzed using the SPLP, EPA LEAF, and HCT methods to facilitate comparison of results between methods. Laboratory certificates for SPLP results are provided in Appendix A.

Table 6-3 provides SPLP results for the White Pine samples. Relative to the SPLP blank (pH 4.24 s.u.), each material produced a slightly basic pH between 8.57 (LWSA) and 9.24 (US). A final pH of around 9 s.u. was fairly common and likely results from the carbonate system buffering the acid. The pH results were higher than Paste pH results, from reacting 25 g of sample with 25 mL of DI water (1:1) for 10 minutes. Many parameter concentrations were low or below the respective laboratory detection limit. Key results are discussed below.

The ore-bearing US and PS wall rock samples generated the highest pH values, at 9.37 and 9.54 s.u., respectively for the wall rock samples and 9.39 s.u. for the tailings composite sample. The rest of the pH values were between 8.88 and 9.26 s.u., much higher than the reagent pH around 4.2 s.u. These results indicate that carbonate minerals in the US and PS readily react with acidic solution and provide acid neutralization. The PS generated dissolved copper concentration of 0.007 mg/L, but the US wall rock sample had dissolved copper below the method detection limit of 0.001 mg/L and the US tailings composite sample had 0.004 mg/L dissolved copper. These results indicate that copper is mobile from crushed PS and to a lesser degree, finely ground US. The LWSA sample generated the highest TDS, at 563 mg/L. The dissolved components were dominated by chloride and sodium, reflecting the release of ions associated with saline groundwater, and calcium, likely from dissolution of calcium-bearing carbonates. The UPSA sample also had elevated TDS at 360 mg/L, with dissolved calcium, chloride, and sodium components.

Notably, two PCOCs identified by HCT tests, barium and cadmium, were not elevated in SPLP leachates. For barium, a constituent associated with either drilling mud or saline groundwater, this may be due to dilution resulting from the high L:S ratio in the SPLP. For cadmium, this may indicate the parameter is a product of sulfide oxidation (i.e., greenockite) and the SPLP did not allow sufficient time for these reactions to occur.

Table 6-3 SPLP Results

Parameter	Units	Widely Laminated Siltstone (WIDE)	Upper Shale (US)	Upper Sandstone (UPSA)	Parting Shale (PS)	Lower Sandstone (LWSA)	Upper Shale Tailings Residue Composite	SPLP Blank
		WP573 905.775-907.88	WP573 907.88-909.227	WP572 818. 645-820.048	WP573 912.987-914.371	WP572 822.532-824	US Tail Comp 1&2	
Slurry pH	s.u.	9.26	9.37	9.00	9.54	8.88	9.39	4.19
pH after filter	s.u.	8.86	9.24	8.86	9.19	8.57	8.98	4.24
Redox	mV	337	338	352	343.15	399.01	323	
Conductivity	µS/cm	185	165	375	173.7	579.8	86	30
Acidity (to pH 4.5)	mg $CaCO_3$/L	0.0	0.0	0.0	0.0	0.0	0.0	
Total Acidity (to pH 8.3)	mg $CaCO_3$/L	1.06	0.97	1.37	1.00	1.56	0.68	
Alkalinity	mg $CaCO_3$/L	14.7	15.2	11.3	14.05	8.93	25.8	
TDS	mg/L	114	94	360	103	563	54	
Bromide	mg/L	0.4	< 0.3	1.0	< 0.3	1.7	< 0.3	
Chloride	mg/L	40	36	120	40	190	< 1	
Nitrite (as N)	as N mg/L	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Nitrate (as N)	as N mg/L	0.26	0.32	0.39	0.26	0.26	0.40	
Fluoride	mg/L	0.12	0.07	0.34	0.08	0.11	0.12	
Phosphorus (total)	mg/L	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Sulfate	mg/L	4.8	3.6	3.3	3.7	3.7	11.6	
Hardness	mg/L	40.5	35.7	110	32.7	182.0	28.4	
Aluminum	mg/L	0.412	0.248	0.161	0.063	0.064	0.242	
Antimony	mg/L	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	
Arsenic	mg/L	0.0008	0.0007	0.0002	0.0008	< 0.0002	0.003	
Barium	mg/L	0.0132	0.00640	0.0211	0.00634	0.02240	0.0058	
Beryllium	mg/L	0.00001	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000013	
Bismuth	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	
Boron	mg/L	0.048	0.027	0.025	0.030	0.032	0.050	
Cadmium	mg/L	0.000004	0.000022	< 0.000003	< 0.000003	0.000006	0.000008	
Calcium	mg/L	15.4	13.7	42.2	12.4	69.4	10.5	
Chromium	mg/L	0.00031	0.00008	0.00009	0.00013	0.00009	0.00067	
Cobalt	mg/L	0.00004	0.0000	0.00001	0.000006	0.000011	0.00008	
Copper	mg/L	< 0.001	< 0.001	< 0.001	0.0070	0.0010	0.0040	
Iron	mg/L	0.105	< 0.007	< 0.007	0.009	< 0.007	0.174	
Lead	mg/L	0.00019	0.00010	0.00012	0.000140	0.000100	0.00025	
Lithium	mg/L	0.0062	0.0107	0.0057	0.0159	0.0088	0.0083	
Magnesium	mg/L	0.483	0.386	1.180	0.387	2.120	0.517	
Manganese	mg/L	0.00219	0.00032	0.00526	0.00044	0.01270	0.00305	
Mercury (total)	ng/L	0.12*	0.14*	0.09*	0.21	0.12*	0.53	0.11*
Molybdenum	mg/L	0.00090	0.0093	< 0.0004	0.00050	< 0.0004	0.00280	
Nickel	mg/L	0.0002	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0004	
Potassium	mg/L	3.79	2.94	2.16	2.92	2.55	2.92	
Selenium	mg/L	0.00011	0.00009	< 0.00004	< 0.00004	< 0.00004	0.00031	
Silicon	mg/L	2.04	1.34	0.86	1.18	0.90	3.43	
Silver	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	
Sodium	mg/L	17.5	13.8	15.1	15.0	23.6	2.6	
Strontium	mg/L	0.2070	0.1780	0.6480	0.1720	1.1700	0.0839	
Sulfur	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	
Thallium	mg/L	0.000006	0.000007	< 0.000005	0.000007	< 0.000005	0.000010	
Tin	mg/L	0.00009	0.00009	0.00008	0.00008	0.00008	0.00009	
Titanium	mg/L	0.0067	0.00030	< 0.0001	0.00010	0.00020	0.0152	
Uranium	mg/L	0.000008	0.000003	< 0.000002	0.000003	< 0.000002	0.000036	
Vanadium	mg/L	0.00211	0.00098	0.00119	0.00037	0.00092	0.00808	
Zinc	mg/L	0.004	< 0.002	< 0.002	0.003	0.003	0.004	
Zirconium	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	

Notes:* Hg reporting below the minimum level. Minimum level is the amount of Hg that can be reported with almost 100% confidence that the measured concentration exceeds zero.

6.6 LEAF Results

The LEAF tests are a set of non-regulatory tests that provide an evaluation of leaching under a wide range of environmental conditions as a series of short-term static leach tests. LEAF tests were undertaken to provide additional information on the leachability of the waste rock and ore material and provide the most comprehensive characterization of this material as possible. Two main aspects were assessed:

- Leachability as a function of pH (Method 1313) – Method 1313 generates data as a function of pH with a constant L:S mass ratio of 10:1. For many elements, leachability is controlled by the solubility of host mineral phases or the nature of interactions with mineral surfaces (i.e., surface adsorption and/ or desorption). Solubility and sorption are both strongly influenced by solution pH, and collecting data as a function of pH gives valuable insight to the potential mass of leachable constituent, likely concentrations at different solution pH levels, and predicted leaching behavior.
- Leachability as a function of contact ratio (EPA 1316) – EPA 1316 provides insight to leaching as a function of L:S mass ratio. Different constituents behave differently in leaching tests. Highly soluble constituents, such as sodium (Na), tend to partition into the liquid phase, so concentrations at a low L:S ratio are quite high but are lower for L:S ratio of 1. For less-soluble constituents, the majority of constituent mass remains in the solid phase, and concentration is not greatly affected by the L:S ratio.

The parameters analyzed for the EPA LEAF tests are listed in Table 5-5. Results for the EPA 1313 and EPA 1316 tests are provided in Appendix A and tabulated below.

6.6.1 EPA 1313

The EPA 1313 method includes addition of acid or base to deionized water to generate leachates with different pH values. Results for key parameters are presented in Table 6-4 through Table 6-7. Due to the presence of calcite and other minerals with acid neutralization capacity, the post-leach pH did not match the initial pH for some of the acidic extracts. A scatter plot of post-leach versus initial pH is presented in Figure 6-26 and shows the buffering of acid above pH 5 s.u. Below pH 5, the final pH is slightly lower than the initial pH. This may be the result of: (1) stability of dissolved ferric iron (Fe^{3+}) at low pH; (2) oxidation of chalcocite by ferric iron which produces ferrous iron (Fe^{2+}); and (3) oxidation of ferrous iron by oxygen which generates hydrogen. Extracts at higher pH were not affected by this mechanism as ferrous iron is not stable in solution. Nitric acid was used to generate the acidic leachates, and the increased Total Nitrogen concentrations are a result of the reagent, rather than a characteristic of the rock.

As expected, solubility for many parameters varied with leachate pH. Several parameters, including barium, cadmium, copper, manganese, nickel, and TDS had enhanced mobility even at neutral pH for some materials. Due to the small leachate volume from each test, low-level mercury was not included in the Method 1313 analysis program.

Concentration versus pH for aluminum, arsenic, copper, manganese and zinc are discussed below. These constituents had concentration trends as a function of pH.

- Aluminum concentrations (Figure 6-27) for all material types were greatest at acidic and basic pH values and lowest at near-neutral pH. This trend is consistent with aluminum solubility established from literature values of mineral stability and is an example of amphoteric behavior. Amphoteric behavior refers to an ion's or molecule's ability to react with both acids and bases, which for aluminum results in increased solubility at both acidic and alkaline pH and minimal solubility at circum-neutral pH. Aluminum hydroxide begins to precipitate near pH 5 s.u.
- Arsenic (Figure 6-28) also displays amphoteric behavior for most material types; however, the Upper and LWSAs show lower concentrations of dissolved arsenic at alkaline pH compared to the other material types.
- Dissolved copper concentrations (Figure 6-29) are greatest at acidic pH, however, concentrations vary with material type. The PS and the US display the highest concentrations of dissolved copper at acidic pH. These materials were enriched in copper, present as chalcocite, which is only soluble under acidic conditions. The WIDE, the unit with low initial copper abundance, displays the lowest concentrations of dissolved copper at acidic pH.
- Dissolved manganese (Figure 6-30) are greatest at acidic pH; at circum-neutral pH dissolved manganese concentrations decrease to around <0.0.1 mg/L. At alkaline pH, dissolved manganese concentrations vary with material type with the highest concentrations in US and the lowest concentrations in the UPSA. Manganese hydroxide begins to precipitate near pH 9.5 s.u.
- Dissolved zinc concentrations (Figure 6-31) are greatest at acidic pH and decrease as pH increases. Dissolved concentrations over the neutral to alkaline range are low (close to or below analytical detection limits). Zinc strongly adsorbs onto iron hydroxide above circumneutral conditions.

These concentration trends can be readily explained by mineral solubility, which is greatest at acidic pH and enhanced at basic pH for many minerals. As a result of mineral solubility with changing pH, many parameters were mobile at pH less than 3 or greater than 9 s.u. Based on available precipitation chemistry and groundwater quality data, the range of contact water pH values is expected between 4 and 9 s.u. EPA1313 tests indicated that copper and manganese would be mobilized under site pH conditions. Although acidic conditions are not expected to develop from rock exposed during mining, basic pH conditions could develop from water in contact with shotcrete, concrete, or alkaline rock.

Table 6-4: Method 1313 Results Summary for WIDE and US including Cadmium and Copper

Sample ID	Material Type	Target pH (s.u.)	Final pH (s.u.)	TDS (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)
US Tail Comp 1&2	US Tails	13.0	13	5140	< 2	0.18	15.4	0.0553	0.000466	0.368
US Tail Comp 1&2	US Tails	12.0	12.8	3840	0.5	0.41	13	0.0497	0.000294	0.25
US Tail Comp 1&2	US Tails	10.5	12.4	1800	0.3	0.19	9.22	0.0397	0.000312	0.12
US Tail Comp 1&2	US Tails	9.0	11.5	737	0.6	0.2	5.11	0.0263	0.000144	0.065
US Tail Comp 1&2	US Tails	8.0	10.2	1200	0.8	0.16	1.08	0.018	0.000138	0.065
US Tail Comp 1&2	US Tails	7.0	7.48	171	0.7	0.21	0.046	0.0018	0.000093	0.038
US Tail Comp 1&2	US Tails	5.5	8.01	1300	1.5	0.36	0.018	0.0011	0.000402	0.039
US Tail Comp 1&2	US Tails	4.0	4.33	7020	0.4	1.46	10.2	0.0067	0.0499	23.3
US Tail Comp 1&2	US Tails	2.0	1.18	17400	31	< 0.06	390	0.0586	0.119	63.5
WP573 905.775-907.88	WIDE	13.0	13	5470	89	0.39	31.2	0.0909	0.000005	0.036
WP573 905.775-907.88	WIDE	12.0	12.8	3730	90	0.57	33.4	0.105	0.000009	0.025
WP573 905.775-907.88	WIDE	10.5	12.5	1950	94	< 0.06	23.2	0.0744	0.000006	0.015
WP573 905.775-907.88	WIDE	9.0	11.8	763	94	0.5	11.3	0.0466	0.000006	0.013
WP573 905.775-907.88	WIDE	8.0	10.6	3550	87	0.42	2.21	0.0255	0.000012	0.011
WP573 905.775-907.88	WIDE	7.0	7.55	214	85	0.48	0.022	0.0005	0.000018	0.01
WP573 905.775-907.88	WIDE	5.5	6.63	1320	85	0.16	0.012	0.0004	0.0106	0.012
WP573 905.775-907.88	WIDE	4.0	2.88	5710	100	0.13	277	0.0204	0.145	2.32
WP573 905.775-907.88	WIDE	2.0	1.16	11100	140	< 0.06	509	0.0882	0.236	1.15
WP573 907.88-909.227	US	13.0	13	5660	78	0.3	24.6	0.0437	0.000172	0.861
WP573 907.88-909.227	US	12.0	12.8	3840	79	0.45	20.4	0.0424	0.000345	0.728
WP573 907.88-909.227	US	10.5	12.5	1950	89	0.35	13.2	0.0296	0.000135	0.149
WP573 907.88-909.227	US	9.0	11.8	794	89	0.4	7.87	0.0284	0.000151	0.02
WP573 907.88-909.227	US	8.0	9.84	2380	71	0.17	2.14	0.014	0.0036	0.121
WP573 907.88-909.227	US	7.0	7.4	177	71	0.37	0.032	0.0009	0.00856	0.021
WP573 907.88-909.227	US	5.5	7.97	1440	73	0.25	0.01	0.0004	0.84	0.186
WP573 907.88-909.227	US	4.0	3.36	5730	72	0.09	145	0.0162	6.18	235
WP573 907.88-909.227	US	2.0	1.28	11800	72	< 0.06	469	0.135	14.9	427

Table 6-5: Method 1313 Results Summary for Upper and LWSA and PS including Cadmium and Copper

Sample ID	Material Type	Target pH (s.u.)	Final pH (s.u.)	TDS (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)
WP572 818.645-820.048	UPSA	13.0	13	5680	220	0.27	9.1	0.0025	0.000021	1.01
WP572 818.645-820.048	UPSA	12.0	12.9	3910	220	0.3	8.23	0.0012	0.000014	0.465
WP572 818.645-820.048	UPSA	10.5	12.5	2210	250	0.24	7.53	0.0012	0.000006	0.053
WP572 818.645-820.048	UPSA	9.0	11.2	951	220	0.26	4.51	0.0009	0.000007	0.006
WP572 818.645-820.048	UPSA	8.0	9.9	489	210	0.3	1.18	0.0005	0.000003	0.003
WP572 818.645-820.048	UPSA	7.0	7.29	520	220	0.27	0.057	< 0.0002	0.000456	0.004
WP572 818.645-820.048	UPSA	5.5	7.74	1650	210	0.61	0.011	< 0.0002	0.00001	0.002
WP572 818.645-820.048	UPSA	4.0	7.23	7580	210	0.47	0.015	0.0007	0.13	0.575
WP572 818.645-820.048	UPSA	2.0	1.13	14900	220	< 0.06	408	0.0609	0.275	86.7
WP573 912.987-914.371	PS	13.0	12.9	5320	85	0.29	32.5	0.119	0.00179	0.497
WP573 912.987-914.371	PS	12.0	12.7	3680	81	0.33	28.6	0.102	0.00205	0.44
WP573 912.987-914.371	PS	10.5	12.3	1880	80	1.37	17	0.0734	0.00127	0.147
WP573 912.987-914.371	PS	9.0	11.5	791	80	0.64	6.99	0.04	0.00164	0.072
WP573 912.987-914.371	PS	8.0	9.65	617	76	0.36	0.523	0.0147	0.00191	0.082
WP573 912.987-914.371	PS	7.0	7.32	191	76	0.44	0.043	0.0022	0.000877	0.043
WP573 912.987-914.371	PS	5.5	7.77	1440	78	0.32	< 0.001	0.0007	0.00305	0.642
WP573 912.987-914.371	PS	4.0	3.64	5580	80	0.13	139	0.0365	0.0224	454
WP573 912.987-914.371	PS	2.0	1.33	16800	110	< 0.06	771	0.501	0.0302	1040
WP572 822.532-824	LWSA	13.0	13	5850	310	0.29	9.17	0.0008	0.000012	0.712
WP572 822.532-824	LWSA	12.0	12.5	3890	330	0.27	8.32	0.0003	0.000009	0.312
WP572 822.532-824	LWSA	10.5	12.4	2100	340	0.6	7.73	0.0003	0.000007	0.071
WP572 822.532-824	LWSA	9.0	11.4	1140	360	0.31	3.92	0.0004	0.00001	0.009
WP572 822.532-824	LWSA	8.0	9.69	709	350	0.34	0.502	0.0002	0.000014	0.001
WP572 822.532-824	LWSA	7.0	7.22	834	360	0.3	0.037	< 0.0002	0.000026	0.007
WP572 822.532-824	LWSA	5.5	7.9	1970	360	0.26	0.009	< 0.0002	0.000385	0.079
WP572 822.532-824	LWSA	4.0	2.82	6430	370	0.17	137	0.0234	0.010388	68
WP572 822.532-824	LWSA	2.0	1.04	10900	890	< 0.06	520	0.0501	0.01283	138

Table 6-6: Method 1313 Results Summary for WIDE and US including Iron and Manganese

Sample ID	Material Type	Target pH (s.u.)	Final pH (s.u.)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Nickel (mg/L)	Silver (mg/L)	Sulfate (mg/L)	Zinc (mg/L)
US Tail Comp 1&2	US Tails	13.0	13	0.27	0.00562	0.0101	0.0004	< 0.00005	43	0.004
US Tail Comp 1&2	US Tails	12.0	12.8	0.18	0.00283	0.00623	0.0003	0.00047	39	0.002
US Tail Comp 1&2	US Tails	10.5	12.4	0.11	0.001	0.00683	0.0003	0.00011	27	< 0.002
US Tail Comp 1&2	US Tails	9.0	11.5	0.07	0.00018	0.0022	0.0002	< 0.00005	24	< 0.002
US Tail Comp 1&2	US Tails	8.0	10.2	0.58	0.00078	0.0113	0.001	< 0.00005	23	0.003
US Tail Comp 1&2	US Tails	7.0	7.48	0.047	< 0.00009	0.011	0.0001	< 0.00005	22	< 0.002
US Tail Comp 1&2	US Tails	5.5	8.01	0.082	< 0.00009	0.978	0.0012	< 0.00005	20	< 0.002
US Tail Comp 1&2	US Tails	4.0	4.33	21.5	0.0112	24.6	0.137	< 0.00005	2.7	0.249
US Tail Comp 1&2	US Tails	2.0	1.18	800	0.965	36.2	1.02	0.0033	73	1.71
WP573 905.775-907.88	WIDE	13.0	13	0.24	0.00543	0.00584	0.0002	< 0.00005	48	< 0.002
WP573 905.775-907.88	WIDE	12.0	12.8	0.24	0.00414	0.00604	0.0003	< 0.00005	43	< 0.002
WP573 905.775-907.88	WIDE	10.5	12.5	0.07	0.00085	0.00351	0.0002	< 0.00005	39	< 0.002
WP573 905.775-907.88	WIDE	9.0	11.8	0.01	0.00014	0.00289	0.0002	< 0.00005	31	< 0.002
WP573 905.775-907.88	WIDE	8.0	10.6	0.44	0.00065	0.0119	0.0006	< 0.00005	25	0.002
WP573 905.775-907.88	WIDE	7.0	7.55	< 0.007	< 0.00009	0.0109	0.0002	< 0.00005	16	< 0.002
WP573 905.775-907.88	WIDE	5.5	6.63	0.1	0.00009	5.5	0.0307	< 0.00005	6.5	0.01
WP573 905.775-907.88	WIDE	4.0	2.88	534	0.227	17.2	0.438	< 0.00005	18	1.13
WP573 905.775-907.88	WIDE	2.0	1.16	1140	2.18	23.8	0.822	0.00544	270	1.93
WP573 907.88-909.227	US	13.0	13	0.31	0.0346	0.00281	0.0004	0.00014	110	0.004
WP573 907.88-909.227	US	12.0	12.8	0.29	0.0207	0.019	0.0008	< 0.00005	84	0.003
WP573 907.88-909.227	US	10.5	12.5	0.4	0.00551	0.00483	0.0003	0.00007	63	< 0.002
WP573 907.88-909.227	US	9.0	11.8	0.35	0.00059	0.0113	0.0004	0.00014	37	< 0.002
WP573 907.88-909.227	US	8.0	9.84	1.11	0.00187	0.0215	0.0008	0.00109	20	0.003
WP573 907.88-909.227	US	7.0	7.4	< 0.007	0.00025	0.0339	0.0004	< 0.00005	9.7	< 0.002
WP573 907.88-909.227	US	5.5	7.97	< 0.007	0.00057	5.19	0.0016	0.00005	7.5	0.009
WP573 907.88-909.227	US	4.0	3.36	340	0.419	27	0.278	< 0.00005	11	0.919
WP573 907.88-909.227	US	2.0	1.28	1360	4.12	46.9	0.956	0.00622	130	2.81

Table 6-7: Method 1313 Results Summary for Upper and LWSA and PS including Iron and Manganese

Sample ID	Material Type	Target pH (s.u.)	Final pH (s.u.)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Nickel (mg/L)	Silver (mg/L)	Sulfate (mg/L)	Zinc (mg/L)
WP572 818.645-820.048	UPSA	13.0	13	0.049	0.00063	0.0001	0.0002	0.00019	30	< 0.002
WP572 818.645-820.048	UPSA	12.0	12.9	0.013	0.00035	0.00134	0.0002	< 0.00005	25	< 0.002
WP572 818.645-820.048	UPSA	10.5	12.5	0.011	0.00014	0.00018	0.0002	< 0.00005	13	< 0.002
WP572 818.645-820.048	UPSA	9.0	11.2	0.009	< 0.00009	0.00017	0.0001	< 0.00005	7.1	< 0.002
WP572 818.645-820.048	UPSA	8.0	9.9	< 0.007	< 0.00009	0.00007	0.0002	< 0.00005	3.5	< 0.002
WP572 818.645-820.048	UPSA	7.0	7.29	< 0.007	< 0.00009	0.04208	0.0004	< 0.00005	1.9	< 0.002
WP572 818.645-820.048	UPSA	5.5	7.74	< 0.007	< 0.00009	0.66	0.0011	< 0.00005	1.5	< 0.002
WP572 818.645-820.048	UPSA	4.0	7.23	< 0.007	< 0.00009	13.5	0.0248	< 0.00005	2.4	0.023
WP572 818.645-820.048	UPSA	2.0	1.13	755	0.0514	34.1	0.712	0.00018	13	1.32
WP573 912.987-914.371	PS	13.0	12.9	0.86	0.00685	0.00472	0.0002	0.00023	180	0.004
WP573 912.987-914.371	PS	12.0	12.7	0.47	0.00184	0.00503	0.0002	0.00009	140	< 0.002
WP573 912.987-914.371	PS	10.5	12.3	0.3	0.00113	0.00413	0.0007	0.00006	100	< 0.002
WP573 912.987-914.371	PS	9.0	11.5	0.19	0.00085	0.00502	0.0002	0.00017	58	< 0.002
WP573 912.987-914.371	PS	8.0	9.65	0.1	0.00044	0.00501	0.0002	0.00021	23	< 0.002
WP573 912.987-914.371	PS	7.0	7.32	0.1	0.00031	0.00717	0.0001	< 0.00005	16	< 0.002
WP573 912.987-914.371	PS	5.5	7.77	0.02	0.00035	5.18	0.0024	< 0.00005	3.0	0.005
WP573 912.987-914.371	PS	4.0	3.64	360	0.0038	19.7	0.289	< 0.00005	< 20	0.912
WP573 912.987-914.371	PS	2.0	1.33	1300	0.131	45.3	0.965	0.00364	2.7	3.06
WP572 822.532-824	LWSA	13.0	13	0.024	0.00037	0.00087	0.0005	0.00053	54	< 0.002
WP572 822.532-824	LWSA	12.0	12.5	0.022	0.00024	0.00105	0.0004	0.0003	47	0.005
WP572 822.532-824	LWSA	10.5	12.4	0.017	0.00018	0.00101	0.0004	0.00008	30	0.003
WP572 822.532-824	LWSA	9.0	11.4	0.008	< 0.00009	0.00081	0.0002	0.0001	14	< 0.002
WP572 822.532-824	LWSA	8.0	9.69	0.008	< 0.00009	0.00088	0.0003	0.00013	5.6	< 0.002
WP572 822.532-824	LWSA	7.0	7.22	0.008	< 0.00009	0.0519	0.0003	< 0.00005	1.7	< 0.002
WP572 822.532-824	LWSA	5.5	7.9	0.015	< 0.00009	2.2	0.0012	0.00005	1.1	0.004
WP572 822.532-824	LWSA	4.0	2.82	195	0.0005	13.6	0.298	< 0.00005	16	0.532
WP572 822.532-824	LWSA	2.0	1.04	906	0.0282	34	0.991	0.00053	20	2.35

Figure 6-26: 1313 Initial pH vs. Final Leachate pH

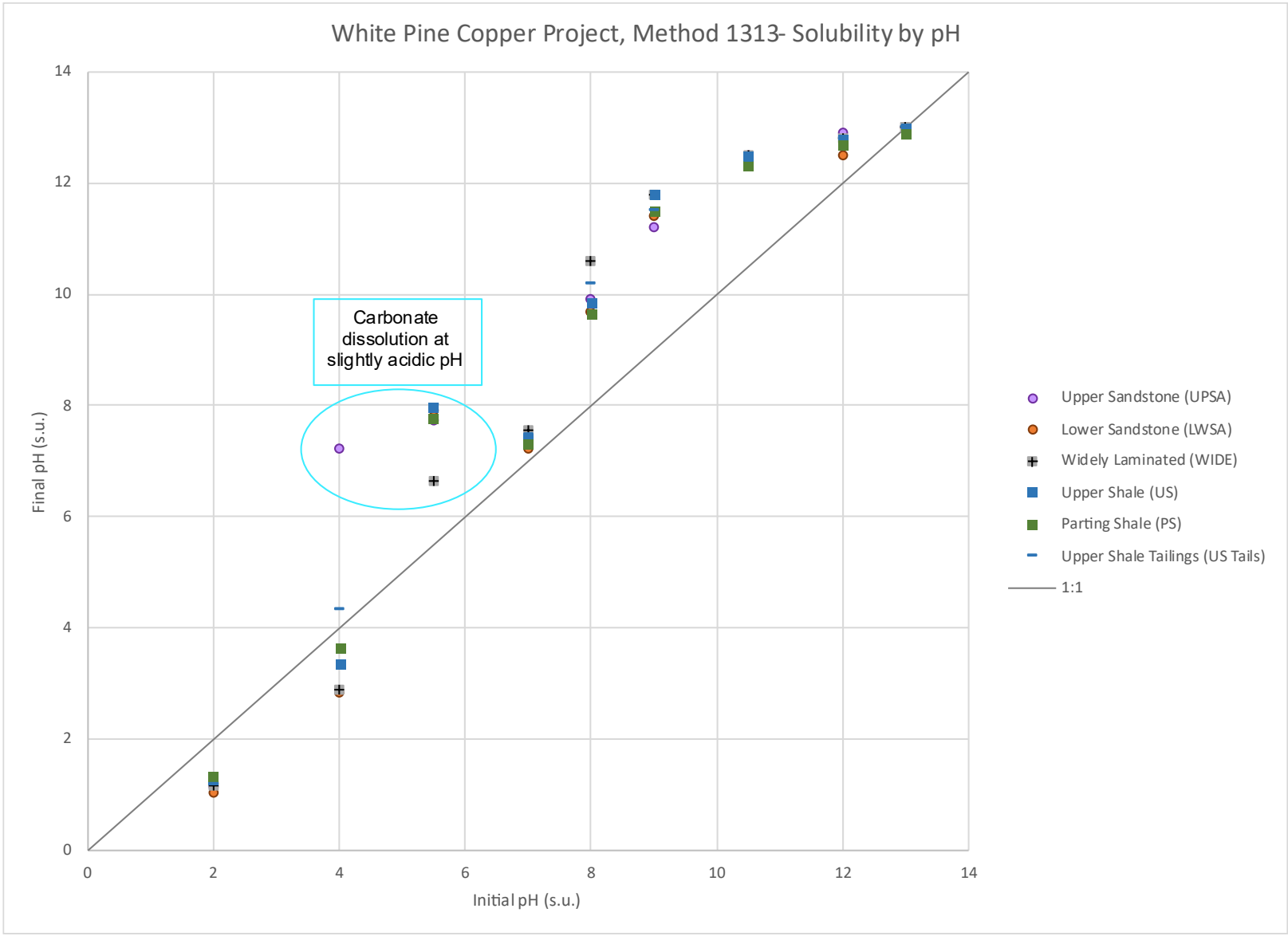


Figure 6-27: 1313 Aluminum vs. pH

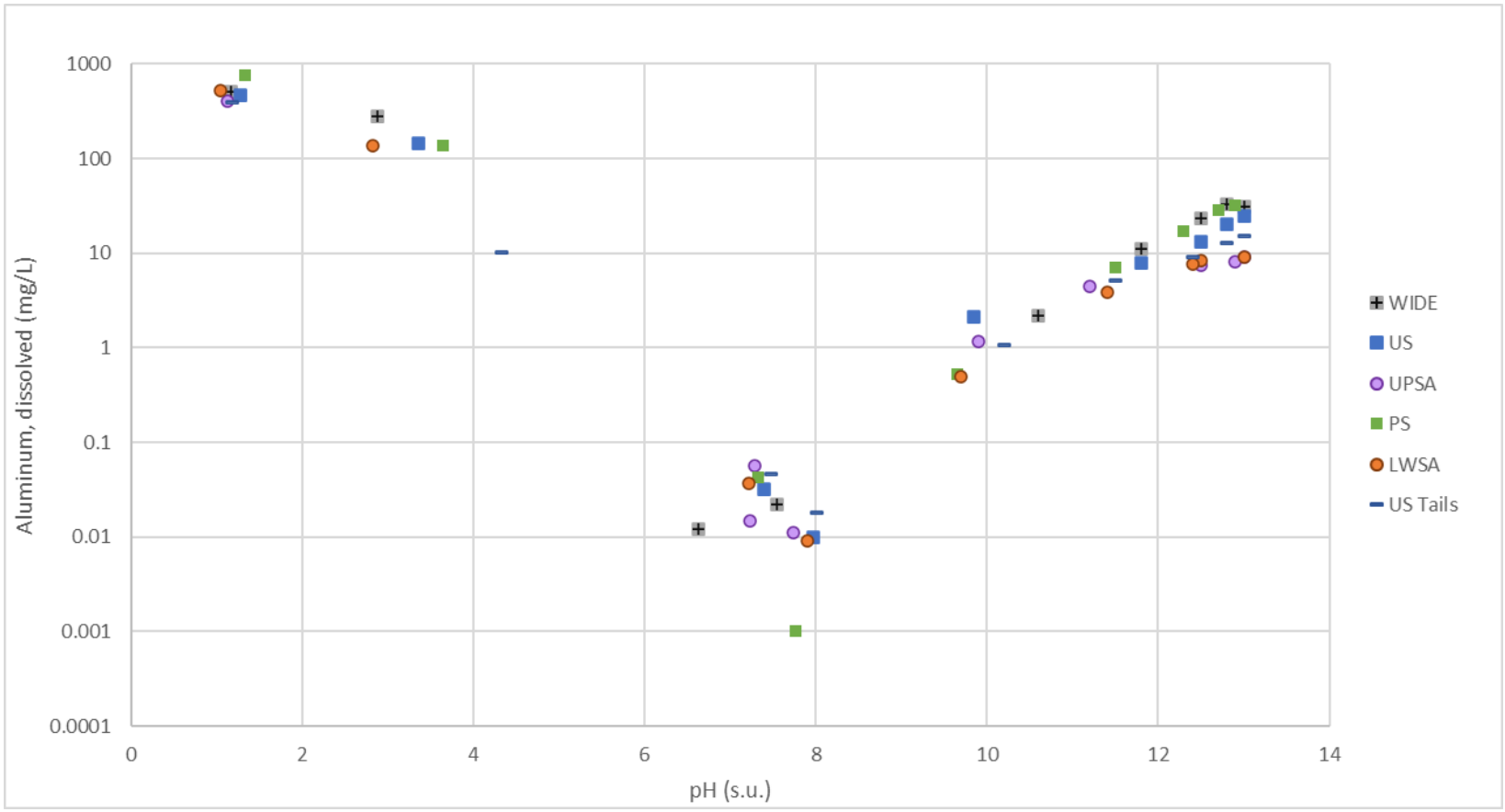


Figure 6-28: 1313 Arsenic vs. pH

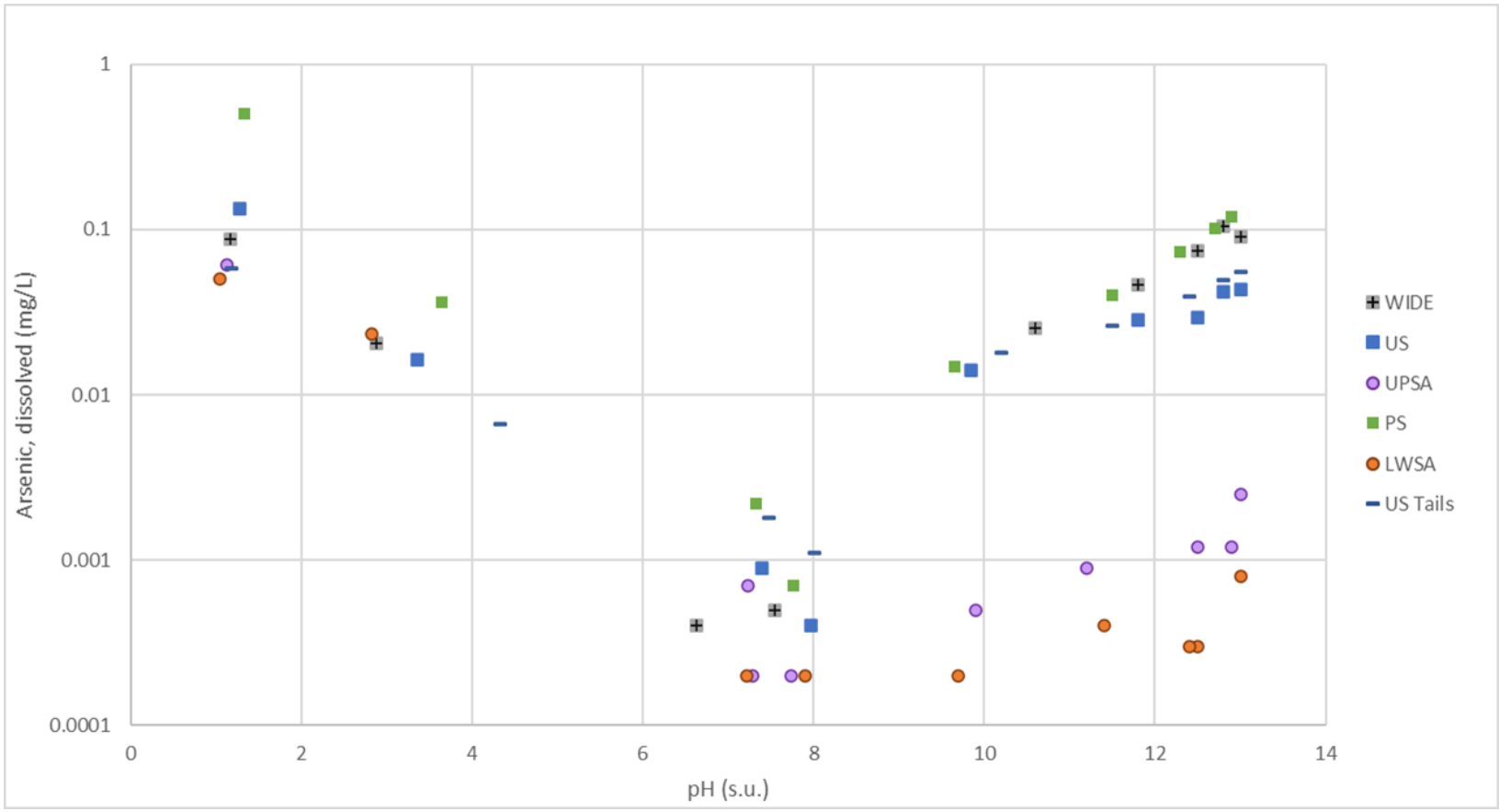


Figure 6-29: 1313 Copper vs. pH

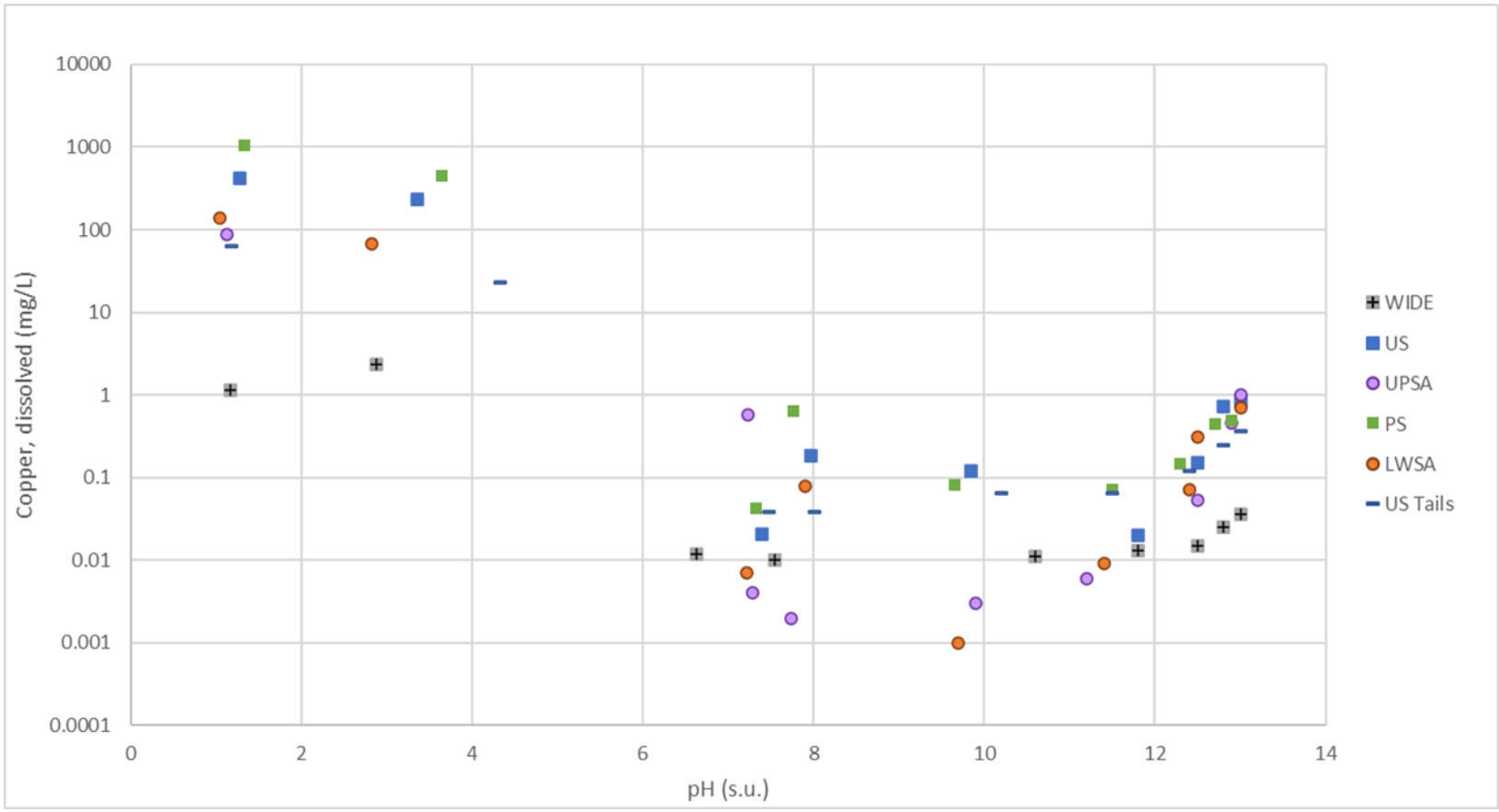


Figure 6-30: 1313 Manganese vs. pH

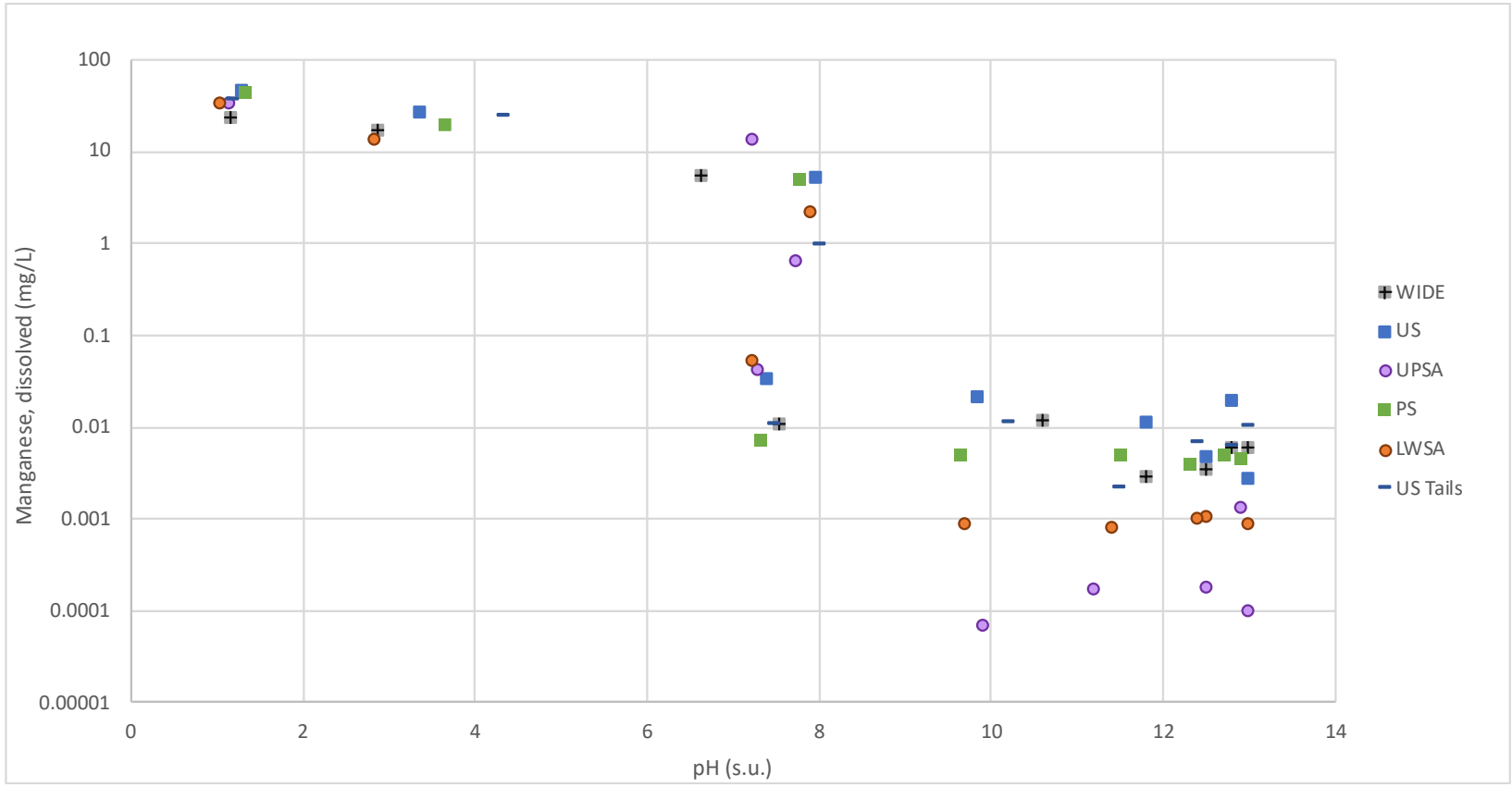
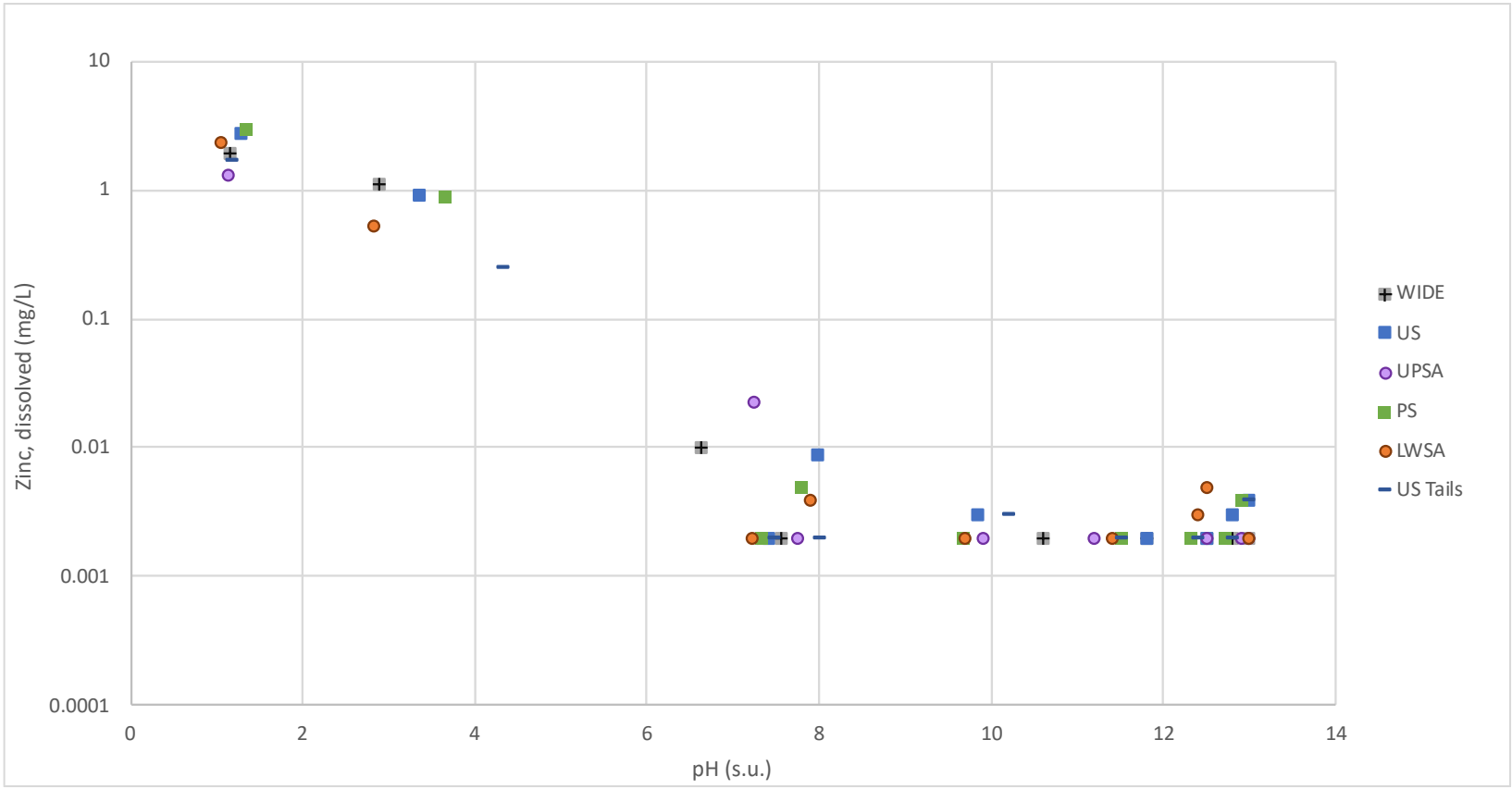


Figure 6-31: 1313 Zinc vs. pH



6.6.2 EPA 1316

The EPA 1316 method determines constituent mobility at five different L:S ratios, using DI water as the leachate with initial pH around 5 s.u. Table 6-8 lists the Method 1316 results for key parameters. Due to the presence of calcium carbonate, the pH increased when in contact with the rock samples. Post-leach pH values were between 6.3 and 7.8 s.u.

Figure 6-32 to Figure 6-35 present results from the EPA 1316 method for aluminum, arsenic, copper, and zinc, respectively. For arsenic, copper and zinc, dissolved concentrations are relatively constant for different L:S ratios, which may suggest evidence of a solubility or sorption control, meaning that dissolved concentrations were constant (and typically low) irrespective of the volume of water added in the test. For all material types, dissolved aluminum concentrations increased with greater L:S ratio but remain low overall due to circum-neutral pH. The exception was for the WIDE, which had dissolved copper concentrations increase as L:S ratio increased.

Table 6-8: Method 1316 Results for Key Parameters

Sample ID	Material Type	L:S Ratio	pH (s.u.)	Aluminum (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nickel (mg/L)	Zinc (mg/L)
US Tail Comp 1&2	US Tails	10	7.24	0.104	0.0019	0.000081	0.007	0.021	0.00595	0.0009	0.004
US Tail Comp 1&2	US Tails	5	7.31	0.045	0.0018	0.000068	0.007	< 0.007	0.00659	0.0008	0.004
US Tail Comp 1&2	US Tails	2	7.37	0.027	0.0016	0.000119	0.010	< 0.007	0.0122	0.0007	< 0.002
US Tail Comp 1&2	US Tails	1	7.51	0.021	0.0018	0.000340	0.023	< 0.007	0.0213	0.0016	0.003
US Tail Comp 1&2	US Tails	0.5	7.79	0.017	0.0011	0.000497	0.012	< 0.007	0.0277	0.0014	< 0.002
WP573 905.775-907.88	WIDE	10	6.94	0.158	0.0008	0.000007	0.012	< 0.007	0.00449	0.0005	0.002
WP573 905.775-907.88	WIDE	5	6.90	0.069	0.0008	0.000028	0.006	< 0.007	0.0143	0.0024	0.028
WP573 905.775-907.88	WIDE	2	7.14	0.046	0.0008	0.000070	0.002	< 0.007	0.03417	0.0008	0.005
WP573 905.775-907.88	WIDE	1	7.09	0.049	0.0008	0.000113	0.002	< 0.007	0.0605	0.0017	0.010
WP573 905.775-907.88	WIDE	0.5	7.05	0.021	0.0010	0.000420	0.003	< 0.007	0.153	0.0019	0.018
WP573 907.88-909.227	US	10	7.00	0.091	0.0005	0.00390	0.006	< 0.007	0.0143	0.0006	0.006
WP573 907.88-909.227	US	5	7.05	0.041	0.0006	0.00859	0.007	< 0.007	0.0356	0.0007	0.005
WP573 907.88-909.227	US	2	7.15	0.029	0.0005	0.0259	0.008	< 0.007	0.0944	0.0007	0.005
WP573 907.88-909.227	US	1	7.25	0.021	0.0007	0.0586	0.007	< 0.007	0.191	0.0008	0.004
WP573 907.88-909.227	US	0.5	7.23	0.024	0.0007	0.0723	0.003	< 0.007	0.206	0.0006	0.003
WP572 818.645-820.048	UPSA	10	6.74	0.030	0.0005	0.000654	0.019	< 0.007	0.0571	0.0439	0.003
WP572 818.645-820.048	UPSA	5	6.34	0.019	0.0003	0.000651	0.004	< 0.007	0.0802	0.0242	0.005
WP572 818.645-820.048	UPSA	2	6.70	0.017	< 0.0002	0.00163	0.005	< 0.007	0.184	0.0069	0.007
WP572 818.645-820.048	UPSA	1	6.44	0.010	0.0003	0.00481	0.008	< 0.007	0.434	0.0069	0.008
WP572 818.645-820.048	UPSA	0.5	6.87	0.016	0.0005	0.00795	0.007	0.030	0.646	0.0048	0.006
WP573 912.987-914.371	PS	10	7.24	0.051	0.0020	0.00165	0.018	< 0.007	0.0112	0.0007	0.003
WP573 912.987-914.371	PS	5	7.35	0.038	0.0020	0.00172	0.015	< 0.007	0.0193	0.0007	0.008
WP573 912.987-914.371	PS	2	7.45	0.032	0.0017	0.00223	0.013	< 0.007	0.041	0.0009	0.007
WP573 912.987-914.371	PS	1	6.88	0.027	0.0018	0.00205	0.010	< 0.007	0.0695	0.0008	0.004
WP573 912.987-914.371	PS	0.5	7.46	0.026	0.0024	0.00130	0.022	< 0.007	0.0683	0.0010	0.011
WP572 822.532-824	LWSA	10	6.95	0.014	0.0003	0.000129	0.010	< 0.007	0.09139	0.0048	0.011
WP572 822.532-824	LWSA	5	6.56	0.016	0.0002	0.000108	0.006	< 0.007	0.172	0.0014	0.003
WP572 822.532-824	LWSA	2	6.93	0.010	0.0002	0.000234	0.006	< 0.007	0.343	0.0019	0.003
WP572 822.532-824	LWSA	1	6.83	0.009	0.0003	0.000404	0.023	< 0.007	0.496	0.0043	0.029
WP572 822.532-824	LWSA	0.5	6.89	0.009	0.0004	0.000503	0.009	< 0.007	0.573	0.0040	0.022

Note: Lead and Silver results were below detection for all but one sample and are not included in the summary table.

Figure 6-32: 1316 Aluminum vs. L:S

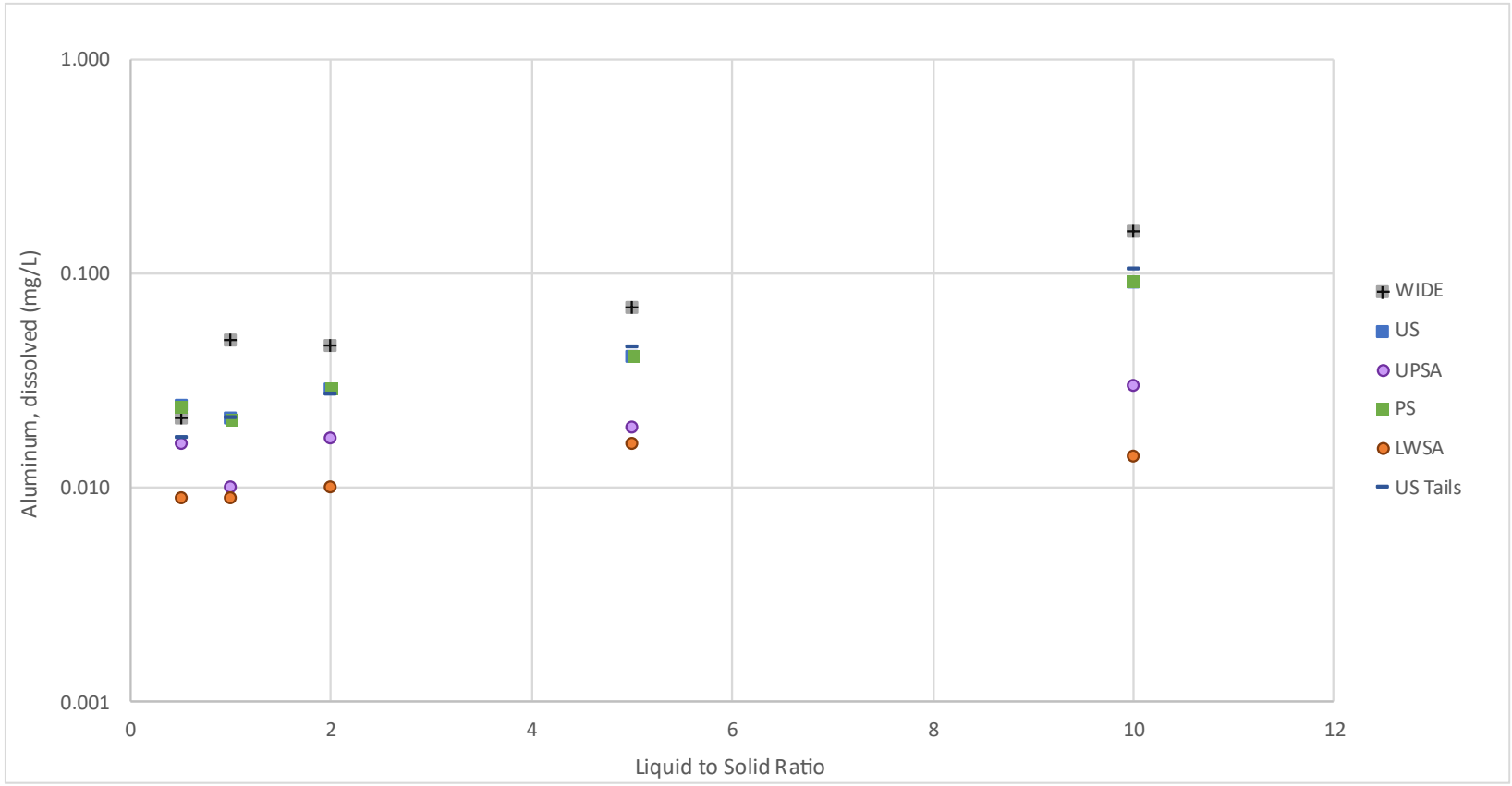


Figure 6-33: 1316 Arsenic vs. L:S

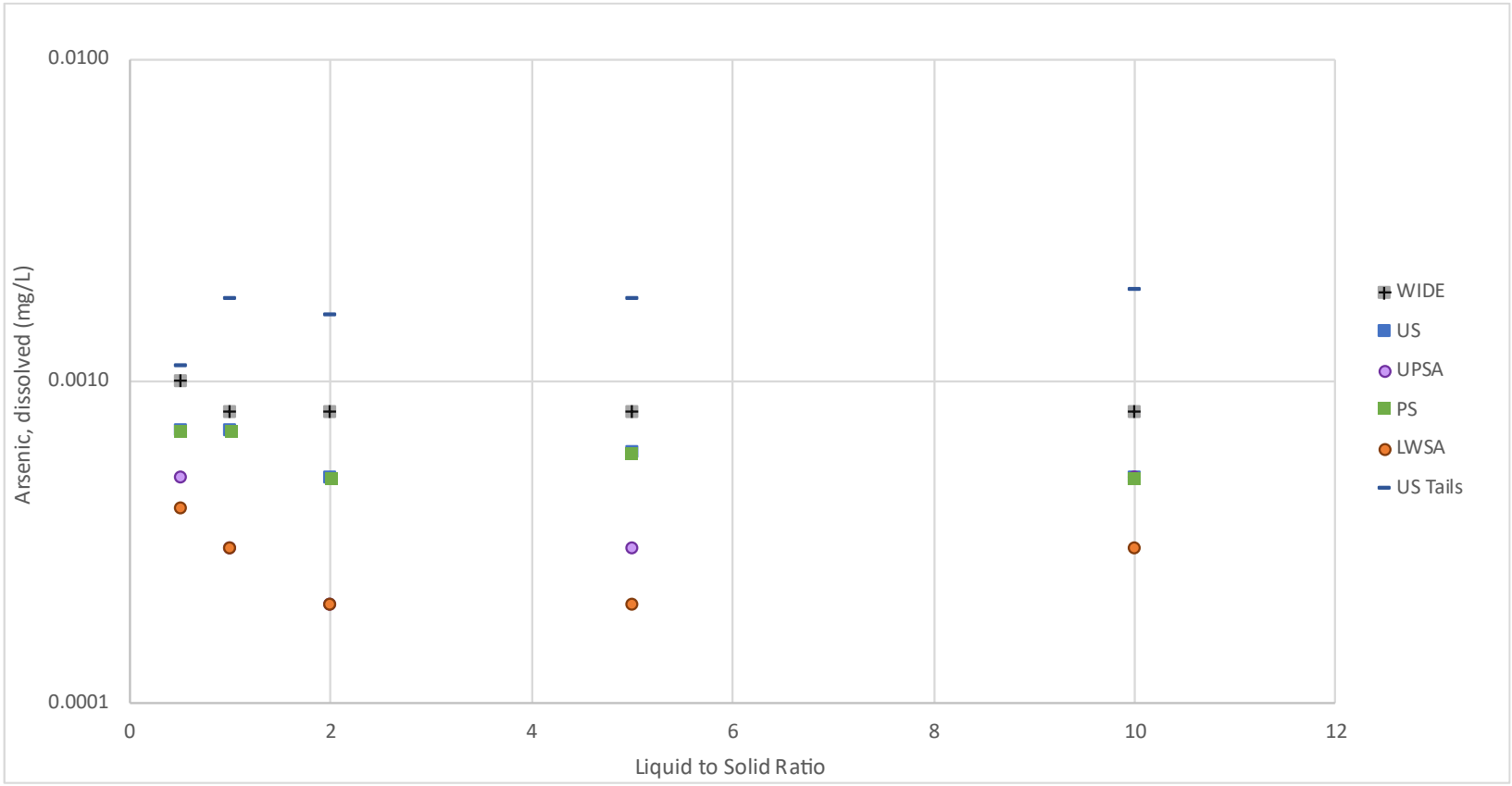


Figure 6-34: 1316 Copper vs. L:S

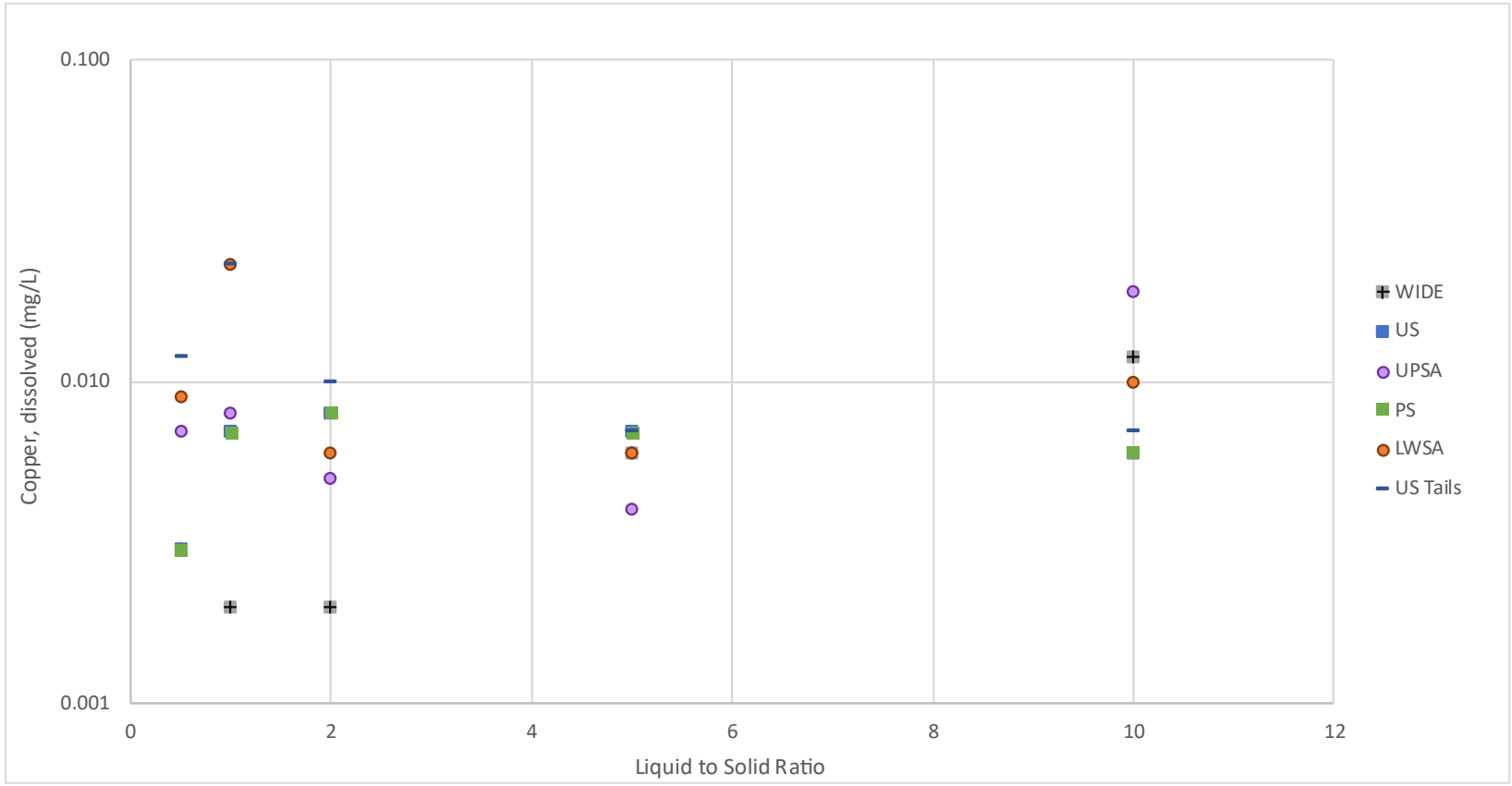
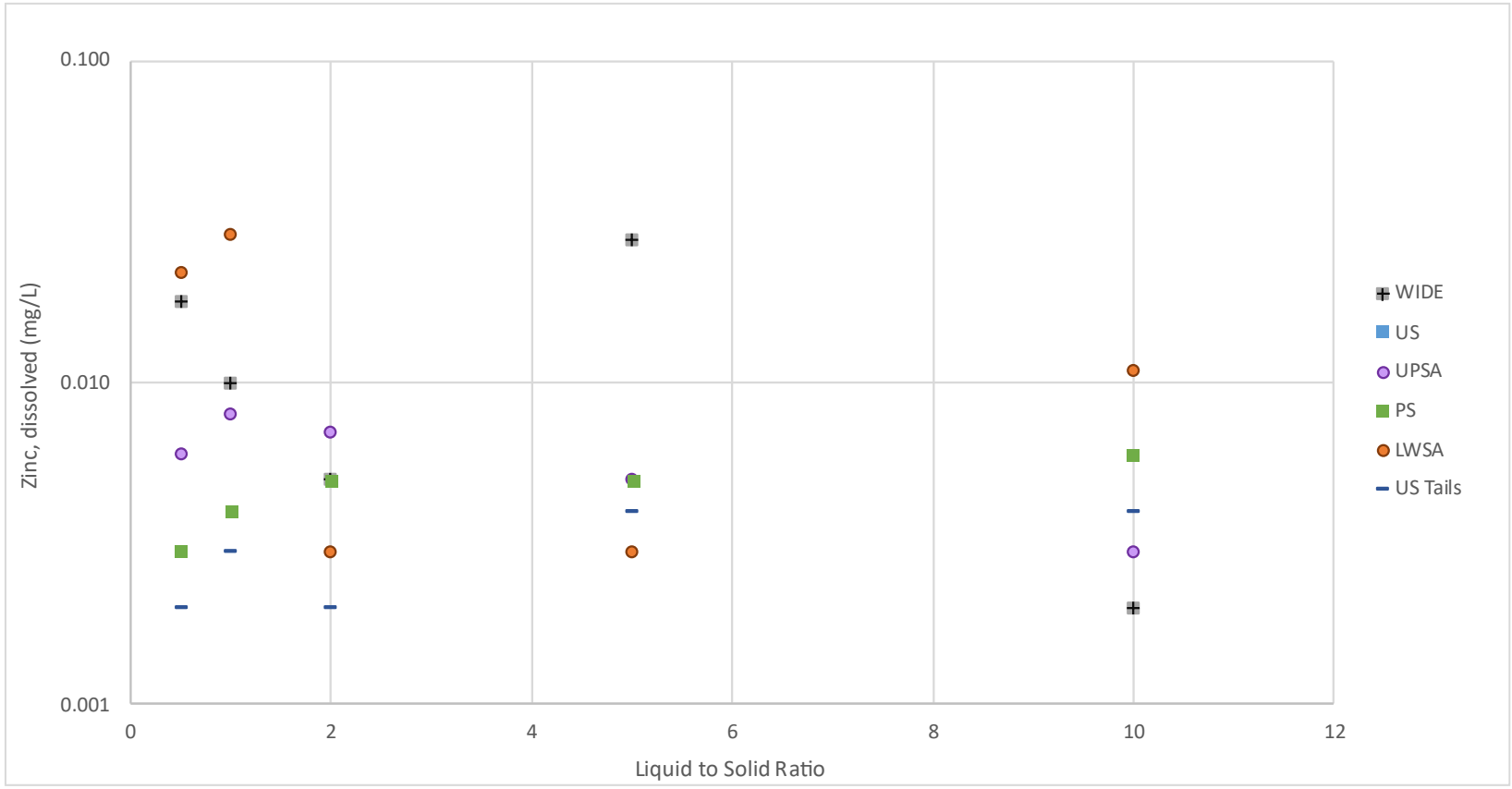


Figure 6-35: 1316 Zinc vs. L:S



6.7 XRD Mineralogy

Table 6-9 provides the wt% of minerals in the Mineralized Column and tailings generated by XRD with Rietveld refinement. This method has an accuracy of 0.5 to 2.0 wt% depending on the crystalline structure of individual minerals. Concentrations below 0.5 wt% should be considered qualitative. The laboratory certificates are included in Appendix A.

The dominant carbonate mineral is calcite [$CaCO_3$], with trace amounts ($\leq$0.5%) of dolomite [$CaMg(CO_3)_2$], and ankerite [$CaFe(CO_3)_2$]. For rock samples, calcite dissolution is primarily responsible for the acid neutralizing potential (ANP) of the samples and the elevated pH shown in Paste pH, SPLP, NAG pH and HCT results. For the tailings sample, lime was added during ore processing and contributed to the ANP of this sample in addition to calcite. Diopside [$CaMgSi_2O_6$] was present in all samples. LWSA, PS, and UPSA had between 1.5 and 2.5 wt% diopside, while US, WIDE, and tailings from the US had between 3.4 and 4.1 wt% diopside. This is notable because diopside contains calcium but does not contribute to ANP. However, the trends in ANP relative to calcium are comparable for the materials from the upper and lower mining column and diopside doesn't appear to influence ANP results.

The main sulfide mineral identified by XRD was troilite/ pyrrhotite [FeS].

No sulfate minerals were identified, such as gypsum [$CaSO_4 \cdot 2H_2O$], barite [$BaSO_4$] or copper sulfate [$CuSO_4$]. No copper oxide minerals were detected.

Table 6-9: Mineralogy Results from XRD Analysis

Mineral	Widely Laminated Siltstone (WIDE) (wt %)	Upper Shale (US) (wt %)	Upper Sandstone (UPSA) (wt %)	Parting Shale (PS) (wt %)	Lower Sandstone (LWSA) (wt %)	Upper Shale Tailings Residue Composite (wt %)
	WP573 905.775-907.88	WP573 907.88-909.227	WP572818.645-820.048	WP573 912.987-914.371	WP572 822.532-824	US Tail Comp 1&2
Quartz	30.5	30.4	34.2	30.5	43.4	33.2
Albite	21.5	24.3	27.4	21.6	18.4	21.2
Microcline	3.1	1.7	1.4	2.6	2.0	2.9
Muscovite	16.6	15.4	6.7	15.8	8.6	15.3
Biotite	1.3	1.1	2.3	1.8	2.8	1.4
Hematite	1.7	1.1	3.7	0.8	3.5	1.7
Calcite	0.2	1.5	6.7	0.3	1.9	3.3
Chlorite	19.9	20.3	14.6	23.3	16.8	16.8
Diopside	4.1	3.5	1.6	2.5	1.8	3.4
Pyrrhotite	-	-	-	-	0.3	-
Troilite (Pyrrhotite)	0.8	0.5	1.1	0.5	0.6	0.7
Dolomite	-	0.1	-	0.3	-	-
Ankerite	0.3	0.1	0.5	-	-	0.1
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**

6.8 Humidity Cell Test

Six samples representative of the Mineralized Column were selected in 2025 for kinetic testing with the HCT method. Selected HCT samples represent the range of composition defined by static test results, and are the same samples that were selected for SPLP and LEAF testing. The objectives of kinetic testing were to confirm long-term geochemical behavior as predicted from static testing, and to provide data to develop source terms for water in contact with underground workings and fresh tailings during operations and after closure. According to ASTM (2018), Standard Guide for Interpretation of Standard HCT Results, "*Interpretation of laboratory kinetic tests by comparison with field tests has shown that more reactive products from mineral dissolution are consistently released per unit weight and unit time in laboratory weathering tests*." In addition, a reagent blank HCT sample was tested to provide quality control and assurance.

Six HCTs were initiated in July 2025 at SGS and were completed in July 2026 after 48 weeks. Complete analytical results through Week 39, available when this document was prepared, are presented in this report.

HCT leachate analysis included six parameters tested weekly, and 43 additional parameters tested weekly for the first three weeks, then every fourth week starting with Week 4. Results through Week 36 of testing for the full parameter list are presented herein. Leachate from the Blank HCT column was tested for 8 parameters. Testing parameters and frequency are presented in Table 6-10. A summary of the static test results and HCT pH results is presented in Table 6-11. The tabulated HCT data and laboratory reports through Week 39, available as of May 2026 are provided in Appendix C. Time-series plots of analyzed parameters are provided in Appendix D.

To identify PCOC's, the enriched elements from GAI analysis were considered, although whole-rock abundance is not an indicator of mobility. The PCOCs identified at site from ongoing water quality monitoring were:

- Chloride
- Copper
- Mercury

Other parameters of interest included:

- Alkalinity
- Arsenic
- Barium
- Cadmium
- Calcium
- Iron
- Magnesium
- Manganese

- Silver
- Sulfate
- TDS

Sulfate and iron concentrations indicate sulfide weathering. The WPN samples were devoid of pyrite, the main acid-generating sulfide mineral. Therefore, concentrations of major elements, like calcium and chloride, and concentrations of metals, like copper and manganese, were evaluated as indicators of mineral dissolution and/ or weathering reactions. The HCT results are applicable to predict metal mobility under neutral pH conditions during long-term weathering. For that reason, concentrations of all parameters were evaluated throughout the tests for data quality assurance and to ensure the HCT results would be suitable for geochemical modeling.

Table 6-10: HCT Leachate Testing

HCT Testing, WPN					
Parameter	**Total**	**Dissolved**	**Weekly (n=39)**	**4 weeks (n=36)**	**Blank**
pH			X		X
Electrical Conductivity				X	X
ORP				X	X
Acidity (pH 8.3)	X		X		X
Hardness (as $CaCO_3$)	X			X	
TDS		X		X	
Calcium		X	X		
Magnesium		X			
Sodium		X		X	
Postassium		X		X	
Chloride	X			X	X
Sulfate	X		X		X
Alkalinity	X		X		X
Nitrate-Nitrogen	X			X	
Nitrite-Nitrogen	X			X	
Aluminum		X		X	
Antimony		X		X	
Arsenic		X		X	
Barium		X		X	
Boron		X		X	
Beryllium		X		X	
Bismuth		X		X	
Bromide	X			X	
Cadmium		X		X	
Chromium		X		X	
Cobalt		X		X	
Copper		X		X	
Fluoride	X			X	
Iron		X	X		
Lithium		X		X	
Lead		X		X	
Manganese		X		X	
Mercury	X			X	X
Molybdenum		X		X	
Nickel		X		X	
Phosphorous	X	X		X	
Selenium		X		X	
Silicon		X		X	
Silver		X		X	
Strontium		X		X	
Sulfur	X			X	
Thallium		X		X	
Tin		X		X	
Titanium		X		X	
Uranium		X		X	

HCT Testing, WPN					
Parameter	**Total**	**Dissolved**	**Weekly (n=39)**	**4 weeks (n=36)**	**Blank**
Vanadium		X		X	
Zinc		X		X	
Zirconium		X		X	

Notes:

Samples were filtered to 0.45 mm and represent the dissolved fraction

The unfiltered fraction was used for analysis of sulfate, however the results represent the dissolved fraction due to a filter built into the analyzer

Analyzed every week for the first 4 weeks, and every 4th week after Week 4

Table 6-11: Static Test Results and HCT pH Summary

Lithology	Humidity Cell ID	Sample ID	Paste pH (s.u.)	SPLP pH (filtered)	ANP[1]	Total Sulfur (wt%)	AGP[1]	NNP[2]	NPR[3]	NAG pH (s.u.)	HCT pH, Week 8 (s.u.)	HCT pH, Week 36 (s.u.)
Widely Laminated (WIDE)	HC-6	WP573 905.775-907.88	7.73	8.86	12.9	**0.116**	3.125	9.8	4.1	6.10	7.94	7.69
Upper Shale (US)	HC-5	WP573 907.88-909.227	7.90	9.24	26.0	**0.217**	3.438	22.5	7.6	7.32	7.73	7.57
Upper Sandstone (UPSA)	HC-4	WP572 818.645-820.048	7.43	8.86	66.6	**0.041**	0.625	66.0	106.5	6.41	7.88	7.95
Parting Shale (PS)	HC-3	WP573 912.987-914.371	8.06	9.19	16.2	**0.393**	4.688	11.5	3.5	7.80	7.39	7.71
Lower Sandstone (LWSA)	HC-2	WP572 822.532-824	7.24	8.57	25.5	**0.060**	0.625	24.9	40.8	6.90	7.51	7.70
Upper Shale Tailings Residues Composite	T(1)	US Tail Comp 1 & Comp 2	8.39	8.98	44.8	**0.052**	0.4688	44.3	95.6	6.98	7.57	8.05

Table 6-11 notes:

ABA Criteria	PAG	NNP<-20 or NPR<1
	Uncertain	NP between -20 and +20 or NPR between 1 and 3
	Non-PAG	NNP>20 or NPR >3
NAG Criteria	PAG	NAG pH < 4.5, NAG >20
	Low-PAG	NAG pH < 4.5, NAG <20
	Non-PAG	NAG pH > 4.5
Paste/ HCT pH Criteria	Acid	pH <5 s.u.
	Non-acid	pH >5 s.u.

Notes:

[1] ANP = Acid Neutralization Potential and AGP = Acid Generation Potential, in kg $CaCO_3$/t calculated from sulfide sulfur

[2] NNP = ANP - AGP (sulfide sulfur)

[3] NPR = ANP/AGP (sulfide sulfur)

6.8.1 HC-6, Widely Laminated Siltstone (WIDE)

Based on paste pH, NPR, NAG pH and HCT pH results, the WIDE is classified as Non-PAG (Table 6-11). NNP results classify the sample as having an “uncertain” AGP, but Non-PAG conditions are supported by NAG pH and HCT pH. SPLP indicated a slightly basic pH of 8.86. Compared to other samples, WIDE had the lowest abundance of calcite (0.2 wt%) and a similar amount of ankerite (0.3 wt%), the lowest ANP (12.9 kg $CaCO_3$/t) and the lowest NAG pH (6.1).

Both HCT pH and alkalinity reflect the dissolution of carbonate minerals. The Week 1 HCT pH was 7.2 s.u. Leachate pH increased to 8.4 s.u. by Week 3 and gradually decreased and stabilized near approximately 7.6 s.u. between Weeks 22 and 39. By contrast, the blank HCT generally maintained a pH between 5.4 and 5.9 for the duration of the test, illustrating the acid neutralization capacity of the WIDE unit. Following a similar trend, alkalinity increased from an initial value of approximately 13 mg/L after Week 1 to 38 mg/L after Week 4, before decreasing and stabilizing near 20 mg/L from Week 23 to 39.

The behavior of sulfate reflects the low total sulfur abundance (0.12 wt%) within WIDE. Sulfate concentrations decreased from about 27 mg/L after Week 1 to 4 mg/L by Week 9 and remained relatively constant (and equivalent to the blank sample concentration) through Week 39.

The behavior of several major ions indicates the presence of saline pore water likely associated with saline groundwater or formation water. Concentrations of calcium and magnesium decreased by one to two orders of magnitude during the first two weeks before stabilizing, whereas concentrations of sodium decreased asymptotically by two orders of magnitude over 36 Weeks. Over the first 8 weeks, chloride concentrations decreased from 660 mg/L to below detection (1 mg/L).

Except for TDS and barium, concentrations of all dissolved parameters were low or below the respective detection limit. TDS concentration was initially 1,810 mg/L but decreased to 54 mg/L by Week 4. This likely reflects the removal of saline pore water and/ or salts from the sample during the initial leach cycles.

Barium concentration was 0.16 mg/L in Week 1 and decreased to 0.0029 mg/L by Week 4. Barium was not identified as an enriched element in GAI analysis and barium minerals were not identified in mineralogy. As such, the likely source of barium is either saline groundwater or the drilling mud used to collect core samples.

6.8.2 HC-5, Upper Shale (US)

The US ore unit is classified as Non-PAG with a paste pH, NAG pH and HCT pH > 7.3, and NNP and NPR values indicative of non-acid generating material (Table 6-11). SPLP produced a basic pH of 9.24. Mineralogical analysis by XRD shows the presence of calcite (1.5 wt%) with possible trace amounts of dolomite and ankerite (0.1 wt% each).

This unit generated the lowest pH of all six rock types (pH 5.8 s.u.) during Week 1, which was similar to the blank sample pH of 5.7 s.u. The Week 1 leachate also had the highest acidity concentration (12.6 mg $CaCO_3$/L), the highest dissolved iron concentration (1.8 mg/L) and the lowest alkalinity concentration (2.2 mg $CaCO_3$/L) of the study.

Most likely, some Fe^{2+} was released from FeS (a variety of pyrrhotite) which increased acidity and lowered pH. After Week 1, pH rose to 7.9 s.u. by Week 4, peaked at 8.0 s.u. in Week 7, and decreased to a stable value near 7.5 s.u. between Weeks 21 and 39. In parallel, alkalinity increased to 24.2 mg $CaCO_3$/L by Week 4, and stabilized near 13 mg $CaCO_3$/L between Week 29 to 39.

The concentration of sulfate steadily rose from 14 mg/L in Week 1 to 47 mg/L in Week 8, before decreasing and stabilizing near 20 mg/L after Week 14. However, dissolved iron and copper concentrations did not follow this trend, suggesting the initial sulfate load may be related to the presence of saline groundwater and not sulfide oxidation.

Similar to the WIDE unit, the TDS concentration was 1,590 mg/L in Week 1, decreased to 137 mg/L by Week 4, and stabilized below 57 mg/L by Week 36. Elevated initial TDS is attributed to the presence of saline formation water occupying pores.

Barium, beryllium, cadmium, and copper concentrations were elevated in Week 1, and are classified as short term PCOCs. The initial low pH in Week 1 was associated with several peak parameter concentrations, including: aluminum (0.30 mg/L), barium (0.19 mg/L), beryllium (0.00036 mg/L), boron (0.16 mg/L), cadmium (0.084 mg/L), cobalt (0.0043 mg/L), copper (3.2 mg/L), iron (1.8 mg/L), lead (0.0037 mg/L), manganese (0.6 mg/L), mercury (1.1 ng/L), nickel (0.0037 mg/L), nitrate-nitrogen (21 mg/L), thallium (0.069 mg/L), uranium (0.073 mg/L) and zinc (0.023 mg/L). Barium and beryllium concentrations decreased starting with Week 2 leachate.

Cadmium and copper appear to be long term PCOCs released through sulfide oxidation. Cadmium concentrations were elevated for all 36 weeks, dropped to a low after Week 4, and rose again between Weeks 6 to 36. Cadmium is likely generated by the oxidation of greenockite [CdS] (see Section 2.2.3). Similarly, in Week 4, copper concentration decreased, but increased in Weeks 12 to 28, and decreased again in weeks 32 and 36. Copper is likely generated by the oxidation of chalcocite [Cu_2S] and/or secondary copper sulfide minerals.

6.8.3 HC-4, Upper Sandstone (UPSA)

The UPSA is classified as Non-PAG with a paste pH, NAG pH and HCT pH > 6.4 s.u. and the highest NNP and NPR values reported, indicative of non-acid generating material (Table 6-11). SPLP produced a slightly basic pH of 8.86 s.u. The unit had the highest ANP which is consistent with mineralogical analysis showing the highest calcite (6.7 wt%) and highest ankerite (0.5 wt%) concentrations. The unit also had the lowest total sulfur concentration (0.04 wt%) and lowest AGP (0.625 kg $Ca(CO_3)_2$). These values are inconsistent with mineralogy data which show the highest concentration of FeS (1.1 wt%) plus a lower NAG pH (6.4 s.u.) than expected for a sample with the highest NNP and NPR values. This may suggest more acid generating potential may exist than indicated total sulfur and AGP, but not enough to change in interpretation of ABA results. The UPSA will form the back (ceiling) of most of the mine workings at closure.

Leachate pH rose from 7.3 s.u. after Week 1 to 8.4 s.u. after Week 7, before stabilizing between pH 7.8 and 8.1 s.u. between Weeks 8 and 39. Alkalinity followed the same trend, rising from 10.9 mg $CaCO_3$/L after Week 1 to 29.1 mg $CaCO_3$/L after Week 8, and stabilizing from Weeks 23 and 39 between 22 and 25 mg $CaCO_3$/L. These changes are the result of the dissolution of calcite and ankerite.

Sulfate concentrations rose from the initial Week 1 concentration of 4 mg/L to 10 mg/L after Week 13, and stabilized after Week 22 between 5 and 6 mg/L. These low concentrations are similar to the HCT Blank concentration of 3 mg/L and reflect the low total sulfur in the sample.

The behavior of several major ions indicates the initial presence of saline pore water likely associated with saline groundwater or connate water. Concentrations of calcium concentrations dropped from 571 mg/L in Week 1 to 12.8 mg/L in Week 6. Magnesium dropped from 17 mg/L in Week 1 to 0.42 mg/L in Week 9. Sodium decreased asymptotically from 197 mg/L in Week 1 to 0.4 mg/L by Week 24. Over the first 12 weeks, chloride concentrations dropped from 1,500 mg/L to below detection (1 mg/L).

Except for TDS, barium, and copper, concentrations of all dissolved parameters were low. The TDS concentration was 3,180 mg/L in Week 1, decreased to 43 mg/L by Week 8, and remained below 90 mg/L through 36 Week. This likely reflects the initial flushing of saline formation water from the sample.

Barium concentration was 0.4 mg/L in Week 1, then decreased and stabilized near 0.007 mg/L after Week 8. The likely source of barium is either saline pore water or drilling mud used to collect core samples.

Copper concentrations began at 0.007 mg/L in Week 1 and rose to 0.065 mg/L in Week 2 before decreasing. Copper concentrations gradually rose to a second peak at 0.036 mg/L in Weeks 20, before decreasing.

6.8.4 HC-3, Parting Shale (PS)

The PS ore unit is classified as Non-PAG with a paste pH, NAG pH and HCT pH $\geq$ 7.4 s.u. The unit has low amounts of calcite and dolomite (0.3 wt%, each) and the lowest ANP of all the samples (16.2 kg $Ca(CO_3)_2$). SPLP produced a basic pH of 9.19 s.u. The unit has the highest total sulfur (0.39 wt%) and the highest AGP. These values result in the lowest NPR value of the study (3.5) which is above the Uncertain-Non-PAG cutoff of 3.0. NNP results classify the sample as having “uncertain acid generating potential” but NAG pH and HCT pH confirm the sample as Non-PAG. The main sulfide mineral reported by XRD is pyrrhotite/troilite (0.5 wt%). Dissolved iron concentrations remained below detection for most of the dataset, and dissolved copper concentrations are elevated (see below). The PS is the target ore unit that will be sent to the mill. After operations, the unit will be exposed in the pillars and ribs (outer walls) of the mine workings.

Both pH and alkalinity slightly decrease over time. The pH was 7.6 s.u. after Week 1, increased to 8.0 after Week 3, and stabilized near to pH 7.4 s.u. from Week 28 to 39. Alkalinity initially increased from 16.7 mg $CaCO_3$/L after Week 1 to 30.1 mg $CaCO_3$/L after Week 4, before steadily decreasing to 10.3 by Week 39. Alkalinity had not stabilized by Week 39, suggesting that the HCT should continue.

Sulfate concentrations increase from 10 mg/L in Week 1 to 51 mg/L by Week 4 and stabilize between 34 mg/L and 41 mg/L between Week 16 and 39. A similar trend is observed in total sulfur concentrations. The primary mechanism for sulfate production is likely to be the oxidation of chalcocite [Cu_2S] to Cu^{2+} and SO_4^{2-}, followed by the oxidation of secondary copper sulfides (e.g., covellite). As such, the stable concentrations between Week 16 and 39 may represent a constant rate of sulfide oxidation.

The behavior of several major ions indicates the initial presence of saline pore water likely associated with saline groundwater or formation water. Calcium concentrations dropped from 120 mg/L in Week 1 to 15 mg/L in Week 3. Magnesium concentrations dropped from 2.6 mg/L in Week 1 to 0.38 mg/L in Week 3. Sodium concentrations decreased asymptotically from 184 mg/L in Week 1 to 0.5 mg/L by Week 36. Over the first 12 weeks, chloride concentrations dropped from 510 mg/L to below detection (1 mg/L).

Except for TDS and copper, concentrations of all dissolved parameters were low. The TDS concentration was 1,330 mg/L in Week 1 and dropped to 83 mg/L by Week 8. This likely reflects the removal of initial saline pore water and/ or salts from the sample.

Copper is a PCOC with elevated concentrations in leachate throughout the 36 week dataset. Copper concentrations increased from 0.019 mg/L in Week 1 to 0.051 mg/L in Week 4 and peaked at 0.088 mg/L in Week 16, then decreased to 0.054 mg/L by Week 36.

6.8.5 HC-2, Lower Sandstone (LWSA)

The LWSA is classified as Non-PAG with a paste pH, NAG pH and HCT pH $\geq$ 6.9 s.u. and NNP and NPR values indicative of non-acid generating material (Table 6-11). The SPLP produced a slightly basic pH of 8.57. The sample had a calcite concentration of 1.9 wt% (Table 6-9) which produced an elevated ANP. Although XRD identified pyrrhotite (0.3 wt%) and FeS (0.6 wt%), the total sulfur concentration of the ABA sample was very low (0.06 wt%) which produced a low AGP. At the conclusion of mining, the LWSA will make up most of the sill (floor) of the mine workings.

Owing to the dissolution of calcite, HCT leachate pH increased from 7.2 s.u. in Week 1 to 8.2 s.u. in Week 7 and stabilized between 7.8 s.u. and 7.5 s.u. from Week 10 to Week 39. Total alkalinity gradually increased from 9.9 mg $CaCO_3$/L after Week 1 to 23.4 mg $CaCO_3$/L after Week 7 and remained between 17.1 and 24.9 for the remainder of the 39 week dataset.

As a function of the low total sulfur abundance from LECO testing, sulfate concentrations began low, at 4 mg/L after Week 1, gradually increased to a maximum value of 11 mg/L after Week 11, and stabilized between 6 and 9 mg/L from Week 23 to 39. This trend is similar to the behavior of the UPSA.

Concentration trends for several major ions indicate the initial flushing of saline pore water. Calcium concentrations decreased from 712 mg/L in Week 1 to 12 mg/L in Week 9. Magnesium concentrations decreased from 21.8 mg/L in Week 1 to 0.52 mg/L in Week 9. Sodium concentrations decreased asymptotically from 224 mg/L in Week 1 to 0.29 mg/L by Week 36. The LWSA sample produced the highest chloride concentrations observed in the HCTs; over the first 20 weeks, chloride concentrations started at 1,800 mg/L then decreased to below detection (1 mg/L).

Except for TDS, barium, copper, manganese and strontium, concentrations of all dissolved parameters were low or below detection. Copper concentrations were between 0.008 and 0.015 mg/L during the test. The maximum copper concentration was measured in the leachate from Week 16 of the test.

TDS had an initial concentration of 7,540 mg/L, and decreased through Week 8, after which, it was between <30 and 97 mg/L. Barium had an initial concentration of 0.92, then decreased through Week 8, to remain steady between 0.003 and 0.005 mg/L through Week 36. Manganese had an initial concentration of 0.89 mg/L. Strontium had a concentration of 32 mg/L.

For each parameter, concentrations significantly decreased through the first eight weeks of leaching, then remained consistently low. The LWSA is the deepest unit in the Mineralized Column, at the top of the CHC Formation. This material may have a different composition of formation water than the Nonesuch Formation or the salinity of the pore water may increase with depth independent of the host rock.

6.8.6 T-1, Upper Shale Tailings Composite (US Tail Comp 1 and Comp 2)

The composite tailings samples tested in the HCT program were metallurgical test residues comprised of the US unit. Lime (CaO) was added during flotation tests to raise the pH to approximately 8.5 to 9.0 s.u., for rougher and cleaner flotation. This addition increased the pH, alkalinity and calcium concentrations in leachate relative to the other HCT samples, including the US HCT comprised of drill core. The tailings samples also had a finer grain size, around 50 microns, compared to rock samples crushed to 6.35 mm or 6,350 µm (<0.25 inch) used in the other HCTs.

The tailings were classified as Non-PAG with a paste pH, NAG pH and HCT pH $\geq$ 6.98 s.u., and NNP and NPR values indicative of non-acid generating material (Table 6-11). The sample had a calcite concentration of 3.3 wt% (a residual from the US concentration of 6.7 wt%) which, along with the addition of lime, generated an elevated ANP. The sample had a low concentration of FeS (0.7 wt%) which produced a low concentration of total sulfur (0.052 wt%) and a low ANP.

The Tailings leachate had a consistently high pH and alkalinity over the duration of the 39 week dataset. The pH was generally consistent at 8.0 s.u. with a maximum of 8.4 s.u. in Week 7 and a minimum of 7.6 s.u. at Week 8. Alkalinity was stable between 37.7 and 30.4 mg $CaCO_3$/L for the first 20 weeks before beginning to slightly increase with time to a final value of 42.1 mg $CaCO_3$/L at Week 39. These values reflect the dissolution of calcite from fine-grained material and residual lime from metallurgical testing reagents, although equilibrium with lime would result in a higher pH.

Calcium, magnesium, sulfate and TDS concentrations oscillated over the 39 week dataset. Calcium ranged between 25.3 mg/L and 13 mg/L, with maximum values at Week 1, 10, 19, and 31, and minima at weeks 6, 14, 23, and 36. Sulfate ranged between 43 mg/L and 15 mg/L, with maxima occurring at Weeks 2, 10, 19, and 30, and minima occurring at Weeks 6, 13, 23, and 35. TDS concentrations oscillated between 60 and 163 mg/L. To a lesser magnitude, magnesium concentrations showed similar oscillations. This variability was not observed in other HCT parameters nor the Blank. Concentrations were well below the limit for gypsum saturation.

The only PCOC identified in tailings leachate was copper. The highest copper concentration was in the leachate from Week 1 (0.011 mg/L). For the duration of the test, copper concentrations were between 0.003 and 0.011 mg/L and had not stabilized by Week 36. This behavior classified tailings as a long-term source for copper.

Tailings produced significantly lower concentrations of calcium ($\leq$25.3 mg/L), chloride ($\leq$3.0 mg/L) sodium ($\leq$9.5 mg/L), barium ($\leq$0.0065 mg/L) and TDS ($\leq$163 mg/L) relative to other materials. This indicated that salts are likely to be flushed during ore handling and processing in the mill. Most likely, these salts would be released to process water prior to the tailings being deposited in ND1 or ND2.

Metalloid concentrations did not increase under elevated pH conditions in tailings. Arsenic concentrations were relatively constant with time, ranging from 0.0014 mg/L to 0.0021 mg/L. Selenium

had an initial concentration of 0.0008 mg/L in Week 1 and steadily decreased to 0.0001 mg/L by Week 36.

6.8.7 HC-1, Reagent Blank Sample (Blank)

For QA/QC purposes, an empty HCT column was set up to run in parallel to the six material HCT's. The Blank HCT had D.I. water cycled through the apparatus with the same method as the material HCTs to provide a quality control sample. The following parameters were measured on a weekly basis: acidity, electrical conductivity, oxidation-reduction potential (ORP), sulfate, total alkalinity, and pH. These parameters exhibited relatively consistent values over time, and are representative of de-ionized water:

- pH ranged from 5.4 to 5.9 s.u.
- Total alkalinity ranged from 0.95 mg to 1.83 $CaCO_3$/L
- Acidity ranged from 0.94 to 2.0 $CaCO_3$/L
- Sulfate concentrations ranged from 2.0 to 3.3 mg/L
- Electrical conductivity ranged from 0.8 to 2.4 µmhos/cm
- ORP ranged from 394 to 485 mV

Every four weeks, on the same schedule as the rest of the HCTs, Blank HCT leachate was also analyzed for chloride and low level mercury. Chloride concentrations were consistently below detection (<1 mg/L).

However, mercury concentrations varied between below detection (0.04 ng/L) and 0.29 ng/L. Elevated mercury concentrations between Week 24 and 28 were due to a change in the laboratory water supply with trace amounts of mercury. This was a temporary upset and results for Week 32 were comparable to earlier results. This observation demonstrated the value of running the Blank HCT sample and allowed SRK to document that observed changes in HCT mercury concentrations with time were the result of the laboratory water, and not the mine materials.

6.8.8 HCT Results Summary

Overall, the HCT tests confirm the geochemical behavior expected from static ABA tests. All Mineralized Column materials and tailings produced neutral to slightly basic pH over a 39 week leach period with no evidence of acid generation.

HCTs also confirmed that most of the Mineralized Column will produce elevated TDS and barium concentrations during the first flush of water, such as contact with utility water used during mining. The TDS comes from high concentrations of calcium and chloride, plus lesser amounts of sodium, magnesium, barium and other ions. These ions are attributed to fossil pore water (formation water) associated with the brine responsible for the formation of the mineral deposit, possibly, a calcium-chloride Canadian Shield Brine. Constituent concentrations showed initial flushing, then decreasing concentrations that remained steady to Week 36. Elevated barium may either be related to the same connate water or drilling mud. Concentrations of barium show the same flushing trend as TDS concentrations.

Although mine drainage will not be acidic, NMD is expected. HCT data also identify both the US and PS as long term sources of mobilized copper, and the US, a source of cadmium. These elements are most likely the product of the oxidation of the copper sulfide mineral chalcocite from both layers, and the cadmium sulfide greenockite from the US; however, these minerals were not identified by XRD.

7 Interpretations and Conclusions

Static testing was completed on 170 samples of rock and tailings material from the Project. Methods included whole-rock analysis, ABA, and NAG for all samples. Results from the ABA and NAG methods indicated that all samples from the mining column met the criteria for classification as Non-PAG and a low potential for ARD from the tailings that will be generated during mining and processing. Several waste rock samples from the Nonesuch Formation contain pyrite and results from both ABA and NAG testing indicate that the AGP exceeds the ANP. Although there is a small proportion of material that is Potentially Acid Generating (PAG) in the characterization program, the amount of PAG material that will be encountered during mining cannot be quantified from the currently available geological dataset, and this should be considered for placement of waste rock during operations.

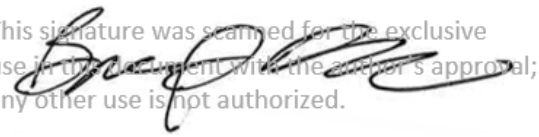
Historically, acid generation has not been an issue at the Project, and the results of static testing of the mining column materials are consistent with the expectation that the Project has a low potential for ARD/ML.

ML potential was also considered in the static testing program. Although the water quality standards for the Project were under development when this report was completed, they are expected to be stringent to minimize the potential impact to water resources in the Lake Superior watershed. Concentrations of metals and other parameters in the leachates generated in the LEAF and HCT tests were generally low. PCOCs include copper and cadmium. The leach test results may be used as a guide, coupled with ongoing water quality monitoring results from the Project, for the design of the water management and treatment systems for the proposed WPN mine. Testing also indicated negligible concentrations of mercury in samples from the Mineralized Column. However, local rainwater may have elevated mercury, greater than 10 ng/L.

Geochemical characterization results presented in this report were applied to geochemical modeling of water treatment plant influent during operations. The water quality predictions will be detailed in a separate geochemical modeling report. Results of geochemical modeling will support permit applications and will be applied to the water treatment plant design.

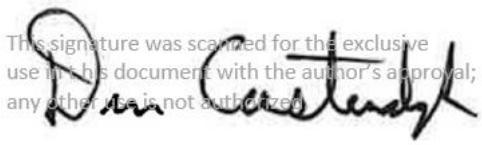
Closing

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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Appendix A Static Test Results

SGS proposal: 20741-PR1
SGS project #: 2458

Work order date: 19-Dec-24
Report date: 14-Feb-25
Sample receipt date: 06-Dec-24
Version: Final

Customer details

Name:	Chad Wolahan
Address:	

Project reference: White Pine Copper LLC.

P.O. number:

COC:

ANALYSIS REPORT

SGS WO: 1

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ANALYSIS REPORT

Method Summaries *Test method information available upon request.*

S(T) and C(T): Total sulfur and total carbon by LECO, Method CSA06V
S(SO4): Sulfate by HCl digestion with ICP finish, Method CSA07V
S(S2-): Sulfide by calculation of S(T) - S(SO4) or by nitric acid digestion with ICP finish (Method CSA08C1)

TIC: Total inorganic carbon by coulometry, Method CSB02V
AP: Acid generating potential based on sulfide sulfur
NP: Modified neutralisation potential by excess acid addition and back titration to pH 8.3
Net NP: Net neutralisation potential = NP - AP

Metals by aqua regia digest with ICP-OES/MS finish, Method ICP21B20/ICM21B20
Metals by multi-acid digest with ICP-OES/MS finish, Method ICP40Q12/IMS40Q12

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Preliminary Data

Anahita Etemadifar - Laboratory Supervisor

Final Data Approval

Noelene Ahern - Manager: ARD

SGS proposal: 20741-PR1
SGS project #: 2458

Work order date: 19-Dec-24
Report date: 14-Feb-25

Version: Final

ABA Report

Test	S(T)	S(SO4)	S(S-2)	Insoluble S	AP
Units	%	%	%	%	kg CaCO3/t
Method Code	CSA06V	CSA07C1	CSA08C1	Calc.	Calc.
LOD	0.005	0.01	0.01	#N/A	#N/A
Sample ID					
PS Tail Comp 1	0.048	0.01	<0.01	0.038	<0.3
PS Tail Comp 2	0.053	0.02	<0.01	0.033	<0.3
PS Tail Comp 3	0.044	<0.01	<0.01	0.044	<0.3
US Tail Comp 1	0.057	<0.01	0.02	0.037	0.6
US Tail Comp 2	0.047	<0.01	0.01	0.037	0.3
WP576 534.4-537.82	0.154	<0.01	0.03	0.124	0.9
WP580 562.15-566.16	0.145	<0.01	0.06	0.085	1.9
WP582 818.44-822.04	0.157	<0.01	0.02	0.137	0.6
WP585 687.23-690.55	0.179	<0.01	0.04	0.139	1.3
WP585 691.72-694.43 MET-5	0.118	<0.01	<0.01	0.118	<0.3
WP575 552.09-555.30 MET-10	0.204	<0.01	0.04	0.164	1.3
WP577 537.80-540.27 MET-12	0.264	<0.01	0.05	0.214	1.6
Duplicates					
*Rep WP575 552.09-555.30 MET-10			0.04		

QA/QC					
Blank	0.007		<0.01		
Certified standards					
OREAS 278			0.66		
GS-314-2	2.561				

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ABA Report

Test Units	C(T) %	TIC %	CaCO3 NP kg CaCO3/t	Modified Sobek terminal pH	Modified NP kg CaCO3/t	Net Modified NP kg CaCO3/t	Fizz Test	Paste pH
Method Code	CSA06V	CSB02V	Calc.		Modified	Calc.	Sobek	Sobek
LOD	0.005	0.01			0.5			0.2
Sample ID								
PS Tail Comp 1	0.389	0.34	28.3	1.88	35.7	35.7	Slight	8.37
PS Tail Comp 2	0.378	0.33	27.5	1.91	34.0	34.0	Slight	8.35
PS Tail Comp 3	0.393	0.35	29.2	1.93	35.6	35.6	Slight	8.41
US Tail Comp 1	0.548	0.46	38.3	1.87	45.5	44.9	Slight	8.35
US Tail Comp 2	0.52	0.45	37.5	1.86	44.1	43.8	Slight	8.43
WP576 534.4-537.82	0.375	0.28	23.3	1.96	32.4	31.5	Slight	8.42
WP580 562.15-566.16	0.4	0.28	23.3	1.75	31.6	29.7	Slight	8.21
WP582 818.44-822.04	0.342	0.23	19.2	1.68	28.8	28.2	Slight	8.16
WP585 687.23-690.55	0.249	0.14	11.7	1.70	22.0	20.8	Slight	8.23
WP585 691.72-694.43 MET-5	0.336	0.29	24.2	1.98	34.3	34.3	Slight	8.11
WP575 552.09-555.30 MET-10	0.605	0.48	40.0	1.91	49.1	47.8	Slight	8.66
WP577 537.80-540.27 MET-12	0.452	0.30	25.0	1.99	33.1	31.5	Slight	8.29
Duplicates								
PS Tail Comp 1		0.34		1.89	34.7		Slight	8.34
QA/QC								
Blank	0.007	<0.01						
Certified standards								
NBM-1					43.2		Slight	
GS-314-2	5.246							
TIC-L1		0.13						
SX35-13		11.57						

3260 Production Way
Burnaby - British Columbia - V5A 4W4
Phone: 604-638-2349 FAX: 604-444-5486

SGS proposal: 20741-PR1
SGS project #: 2458

Work order date: 19-Dec-24
Report date: 14-Feb-25

Version: Final

Metals - Multi-Acid Digestion with ICP-OES/MS Finish

Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V
Units	%	mg/kg	%	mg/kg	mg/kg	%	%	mg/kg	%	mg/kg	%	mg/kg	%	%	mg/kg	%	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
Lower detection	0.01	1	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	2
Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000
Sample ID																	
PS Tail Comp 1	6.940	448	1.89	264	1292.0	5.54	1.88	42	2.01	1241	1.55	177.0	0.09	0.05	131	0.69	127
PS Tail Comp 2	7.060	452	1.83	281	1212.0	5.7	1.95	42	2.05	1244	1.52	177.0	0.09	0.05	124	0.67	124
PS Tail Comp 3	6.830	430	1.93	268	1435.0	5.42	1.8	44	2.00	1253	1.58	175.0	0.09	0.04	135	0.71	128
US Tail Comp 1	7.400	357	2.25	275	1390.0	5.58	2.25	45	1.87	1176	1.51	154.0	0.09	0.06	121	0.64	119
US Tail Comp 2	7.460	359	2.2	233	1203.0	5.6	2.25	45	1.89	1186	1.52	147.0	0.09	0.05	123	0.64	119
WP576 534.4-537.82	7.570	371	1.62	64	6429.0	5.61	2.31	40	1.88	1103	1.59	45.0	0.09	0.18	113	0.64	122
WP580 562.15-566.16	7.680	399	1.68	69	3748.0	5.83	2.3	46	1.93	1127	1.58	47.0	0.09	0.16	124	0.65	123
WP582 818.44-822.04	7.610	374	1.53	66	5989.0	5.66	2.3	46	1.91	1105	1.59	47.0	0.09	0.18	122	0.64	126
WP585 687.23-690.55	7.720	363	1.2	70	6658.0	5.73	2.34	46	1.93	981	1.55	48.0	0.09	0.21	121	0.64	130
WP585 691.72-694.43 MET-5	7.380	391	1.71	60	5146.0	5.9	2.18	43	2.08	1212	1.58	48.0	0.09	0.13	133	0.68	128
WP575 552.09-555.30 MET-10	7.250	346	2.22	64	7530.0	5.32	2.3	39	1.77	1114	1.51	45.0	0.09	0.23	116	0.62	120
WP577 537.80-540.27 MET-12	7.440	348	1.66	66	>10000	5.57	2.22	48	1.91	1145	1.53	46.0	0.09	0.30	124	0.64	124
Duplicates																	
WP585 687.23-690.55	7.710	370	1.21	63	6467.0	5.77	2.34	47	1.96	990	1.49	46.0	0.09	0.20	122	0.63	125
WP582 818.44-822.04																	
QA/QC																	
Blank	<0.01	<1	<0.01	<1	0.5	<0.01	<0.01	<1	<0.01	<2	<0.01	<1	<0.01	<0.01	<0.5	<0.01	<2
Certified standards																	
OREAS 681	7.900	417	5.86	1704	271.0	7.2	1.41	14	5.16	1291	1.61	477.0	0.14	0.11	469	0.60	256
OREAS 609b	6.530	844	0.91	20	4889.0	2.76	2.62	32	0.14	222	1.81	7.0	0.03	2.25	217	0.12	14
CZN-4																	

Test	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu	Mo	Nb
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
Lower detection	1	0.5	0.02	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.02	0.1	0.01	0.05	0.1
Upper detection	10000	10000	100	10000	2500	10000	10000	1000	10000	1000	1000	500	500	10000	1000	10000	1000
Sample ID																	
PS Tail Comp 1	127	222	0.44	2	2.3	0.27	0.06	71.42	28.2	7	20.7	5.82	0.08	34.3	0.58	6.960	16.1
PS Tail Comp 2	128	218	0.28	3	2.2	0.18	0.07	71.76	28.3	7	20.9	6.12	0.08	34.6	0.6	7.260	16.1
PS Tail Comp 3	125	219	0.72	2	2.2	0.17	0.07	70.67	26.8	7	20.2	5.84	0.07	33.9	0.58	7.540	16.3
US Tail Comp 1	115	220	0.39	2	2.4	0.19	1.34	75.8	28	9	21.5	5.95	0.08	36.6	0.65	6.740	16.1
US Tail Comp 2	113	212	0.31	2	2.5	0.17	1.26	78.32	27.6	9	21.2	5.89	0.08	37.2	0.63	6.230	15.2
WP576 534.4-537.82	109	201	3.10	<1	2.4	0.20	14	76.54	24.9	7	21.3	5.65	0.08	35.6	0.65	0.600	15.3
WP580 562.15-566.16	115	203	2.82	2	2.5	0.20	22.67	78.66	27.2	9	21.7	5.67	0.09	37.4	0.66	0.870	15.8
WP582 818.44-822.04	115	206	2.62	2	2.5	0.24	31.72	77.96	26.4	9	21.5	5.58	0.08	36.8	0.66	0.540	15.2
WP585 687.23-690.55	114	208	3.15	1	2.6	0.21	13.07	79.4	26.4	10	22.2	5.79	0.08	37.3	0.67	0.780	15.2
WP585 691.72-694.43 MET-5	127	208	11.90	1	2.4	0.16	0.11	75.8	26.5	10	21.2	5.48	0.08	36.1	0.63	0.480	16.4
WP575 552.09-555.30 MET-10	103	193	3.30	1	2.6	0.21	17.75	76.94	24.5	8	21.2	5.22	0.08	36.2	0.63	1.300	15.2
WP577 537.80-540.27 MET-12	109	201	4.20	2	2.5	0.19	29.92	78.78	26.5	9	21.7	5.46	0.08	36.9	0.68	1.260	15.4
Duplicates																	
WP585 687.23-690.55	108	204	3.62	1	2.7	0.20	13.63	83.45	25.3	10	21.5	5.75	0.09	39.5	0.68	0.880	15.7
WP582 818.44-822.04																	
QA/QC																	
Blank	<1	<0.5	<0.02	<1	<0.1	<0.04	<0.02	<0.05	<0.1	<1	<0.1	<0.02	<0.02	<0.1	<0.01	<0.05	<0.1
Certified standards																	
OREAS 681	88	56	0.13	<1	1.4	0.09	0.07	39.53	50.1	4	17.5	1.67	0.04	18.8	0.29	1.340	6.4
OREAS 609b	1291	175	24.00	1255	2.4	112.00	7.82	70.24	5.4	5	23.2	4.86	2.03	37	0.08	5.160	14.2
CZN-4																	

Test	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb	Hg
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ppm	ppm	ppm
Method Code	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	CVA37A25
Lower detection	0.5	0.2	0.05	0.5	2	0.3	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1	0.005
Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	1000	100
Sample ID																
PS Tail Comp 1	16.5	81	0.7	15.8	<2	2.8	1.03	1.2	<0.05	7.50	0.5	2.6	2.1	35.30	3.80	<0.005
PS Tail Comp 2	18.2	83.3	0.7	16.7	<2	2.8	1.07	1.2	<0.05	8.00	0.5	2.8	3.6	34.30	3.90	<0.005
PS Tail Comp 3	15.3	75.5	0.6	14.8	<2	2.7	1.05	1.2	<0.05	7.30	0.4	2.7	2.1	33.40	3.80	0.005
US Tail Comp 1	22.8	94.2	0.8	16.6	<2	3	1.11	1.2	<0.05	8.00	0.5	2.9	2.1	35.70	4.20	0.006
US Tail Comp 2	16.2	95.4	0.7	16.3	<2	2.9	1.01	1.2	<0.05	7.90	0.5	2.9	2.2	35.90	4.20	0.111
WP576 534.4-537.82	13.8	94.3	0.6	16.5	<2	2.8	1.05	1.2	<0.05	9.50	0.5	3.2	1.3	37.00	4.30	<0.005
WP580 562.15-566.16	19.2	97.1	0.7	17.8	<2	2.8	1.10	1.3	<0.05	9.40	0.6	3.1	1.2	37.30	4.40	<0.005
WP582 818.44-822.04	12.1	95.6	0.6	17.1	<2	2.9	1.02	1.3	<0.05	9.40	0.6	3.1	1.2	36.80	4.20	<0.005
WP585 687.23-690.55	13.9	99.6	0.6	18	<2	2.9	1.05	1.3	<0.05	9.90	0.6	3.4	1.3	37.10	4.40	<0.005
WP585 691.72-694.43 MET-5	14	92.2	0.6	16.8	<2	2.7	1.06	1.3	<0.05	8.60	0.5	2.9	1.3	35.80	4.10	0.03
WP575 552.09-555.30 MET-10	33.1	95.4	0.7	16	<2	2.7	0.99	1.2	<0.05	8.80	0.6	3.0	1.3	36.10	4.10	<0.005
WP577 537.80-540.27 MET-12	21.7	95.2	0.6	17.2	<2	2.9	1.00	1.3	<0.05	9.30	0.6	3.2	1.2	36.40	4.30	0.008
Duplicates																
WP585 687.23-690.55	11.9	96.9	0.6	19.7	<2	3	1.02	1.3	<0.05	9.40	0.6	3.2	1.3	39.50	4.50	
WP582 818.44-822.04																<0.005
QA/QC																
Blank	<0.5	<0.2	<0.05	<0.5	<2	<0.3	<0.05	<0.05	<0.05	<0.2	<0.02	<0.05	<0.1	<0.1	<0.1	<0.005
Certified standards																
OREAS 681	10.3	78.9	0.2	25	<2	1.7	0.50	0.6	0.14	6.00	0.2	1.3	1	16.10	1.90	
OREAS 609b	443	108	158.0	3.5	13	11.5	1.08	0.6	21.78	12.90	1.5	4.3	4.3	10.70	0.60	0.519
CZN-4																4.431

Net Acid Generation

Sample weight 2.5 g general, 5g for NAG with leachate samples
H2O2 addition 17.5 %

Sample ID	NAG pH after reaction	Vol. of 0.1 N NaOH		NAG (kg H2SO4/tonne)	
		to pH 4.5	to pH 7.0	to pH 4.5	to pH 7.0
PS Tail Comp 1	7.00			0.0	0.0
PS Tail Comp 2	7.02			0.0	0.0
PS Tail Comp 3	7.04			0.0	0.0
US Tail Comp 1	6.94		0.9	0.0	0.9
US Tail Comp 2	7.02			0.0	0.0
WP576 534.4-537.82	7.40			0.0	0.0
WP580 562.15-566.16	7.11			0.0	0.0
WP582 818.44-822.04	7.38			0.0	0.0
WP585 687.23-690.55	7.42			0.0	0.0
WP585 691.72-694.43 MET-5	7.51			0.0	0.0
WP575 552.09-555.30 MET-10	7.47			0.0	0.0
WP577 537.80-540.27 MET-12	7.65			0.0	0.0
DUPLICATES					
WP576 534.4-537.82	7.49				
Blank	4.65				

SGS proposal: 20741-PR1 Work order date: 19-Dec-24
SGS project #: 2458 Report date: 11-Feb-25

Version: Final

NAG Leachate

Leachate Analysis

Sample ID			PS Tail Comp 1	PS Tail Comp 2	PS Tail Comp 3	US Tail Comp 1	US Tail Comp 2	Blank
Parameter	**Method**	**Units**						
pH	meter		7.36	7.35	7.38	7.38	7.35	4.65
Redox	meter	mV	275	265	257	258	256	-
Conductivity	meter	uS/cm	332	350	316	372	355	
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.0	0.0	0.0	0.0	0.0	-
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	28.2	30.3	23.8	32.0	30.3	-
Alkalinity	titration	mg CaCO3/L	60.6	68.2	60.8	70.5	68.3	-
Total dissolved solids		mg/L	174.0	189.0	186.0	197.0	214.0	
Chloride		mg/L	5.2	5.3	5	5.4	5.3	
Fluoride		mg/L	< 0.06	< 0.06	< 0.06	0.06	0.07	-
Sulphate	Turbidity	mg/L	11	14	9.0	16	14	-
Dissolved Metals								-
Hardness CaCO3		mg/L	46.9	52.1	41.2	53.1	48.5	-
Aluminum Al	ICP-MS	mg/L	0.019	0.018	0.021	0.023	0.019	-
Antimony Sb	ICP-MS	mg/L	0.0017	0.0023	0.0015	0.0021	0.0018	-
Arsenic As	ICP-MS	mg/L	0.0107	0.0142	0.0092	0.0084	0.0091	-
Barium Ba	ICP-MS	mg/L	0.00219	0.0023	0.00190	0.00075	0.00073	-
Beryllium Be	ICP-MS	mg/L	< 0.000007	< 0.000007	0.000007	< 0.000007	< 0.000007	-
Bismuth Bi	ICP-MS	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron B	ICP-MS	mg/L	0.034	0.034	0.038	0.038	0.036	-
Cadmium Cd	ICP-MS	mg/L	0.000019	0.000004	0.000012	0.000049	0.000043	-
Calcium Ca	ICP-MS	mg/L	13.8	15.5	11.9	16	14.3	-
Chromium Cr	ICP-MS	mg/L	0.0963	0.105	0.0938	0.101	0.0935	-
Cobalt Co	ICP-MS	mg/L	0.000078	0.000098	0.000078	0.000107	0.000133	-
Copper Cu	ICP-MS	mg/L	0.015	0.018	0.0180	0.021	0.0210	-
Iron Fe	ICP-MS	mg/L	0.013	0.013	0.013	0.013	0.012	-
Lead Pb	ICP-MS	mg/L	0.00013	0.00009	< 0.00009	0.00169	< 0.00009	-
Lithium Li	ICP-MS	mg/L	0.0204	0.0195	0.0226	0.0207	0.0210	-
Magnesium Mg	ICP-MS	mg/L	3.04	3.27	2.81	3.18	3.09	-
Manganese Mn	ICP-MS	mg/L	0.0212	0.0208	0.02040	0.0213	0.02330	-
Mercury Hg	CVAAS	ug/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-
Molybdenum Mo	ICP-MS	mg/L	0.0089	0.0089	0.00840	0.0136	0.01340	-
Nickel Ni	ICP-MS	mg/L	0.0008	0.0007	0.0006	0.0007	0.0007	-
Phosphorus P	ICP-MS	mg/L	20.9	20.5	20.5	21.9	23.7	-
Potassium K	ICP-MS	mg/L	3.53	3.68	3.290	4.44	4.520	-
Selenium Se	ICP-MS	mg/L	0.0003	0.00047	0.00023	0.00078	0.00048	-
Silicon Si	ICP-MS	mg/L	8.72	8.98	8.60	9.97	9.62	-
Silver Ag	ICP-MS	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Sodium Na	ICP-MS	mg/L	39.1	40.5	39.40	42.2	41.00	-
Strontium Sr	ICP-MS	mg/L	0.0333	0.0312	0.0332	0.038	0.0374	-
Sulphur (S)	ICP-MS	mg/L	< 5	< 5	< 5	< 5	< 5	-
Thallium Tl	ICP-MS	mg/L	0.000007	0.000007	0.000006	0.00001	0.000007	-
Tin Sn	ICP-MS	mg/L	0.00225	0.00209	0.00253	0.00255	0.0021	-
Titanium Ti	ICP-MS	mg/L	0.0038	0.0038	0.0041	0.004	0.0042	-
Uranium U	ICP-MS	mg/L	0.00002	0.000031	0.000027	0.000042	0.000075	-
Vanadium V	ICP-MS	mg/L	0.0351	0.0358	0.03500	0.034	0.03360	-
Zinc Zn	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-
Zirconium Zr	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-

SGS

ANALYSIS REPORT

ABA Report - CRM Expected Values and Tolerances

CRM	Test	S(T)	S(SO4)	S(SO4)	S(S-2)	C(T)	TIC	CO2	Modified NP	Modified with Siderite Correction NP
	Units	%	%	%	%	%	%	%	kg CaCO3/t	kg CaCO3/t
	Method Code	CSA06V	CSA07V	CSA07D	Calc.	CSA06V	CSB02V	CSB02V	Modified	
	LOD	0.005	0.01	1.01	0.01	0.005	0.01	0.005	0.5	
GGC-07	Expected value	0.51				0.56				
	Tolerance (+/-)	0.09				0.09				
HCC-1	Expected value	33.92								
	Tolerance (+/-)	5.04								
RTS-3a	Expected value		0.98	1.34						
	Tolerance (+/-)		0.12	0.35						
OREAS 278	Expected value				0.699					
	Tolerance (+/-)				0.06					
NBM-1	Expected value								42.44	50.27
	Tolerance (+/-)								3.04	2.31
TIC-L1	Expected value						0.13	0.477		
	Tolerance (+/-)						0.02	0.78		
GS314-2	Expected value	2.56				5.15				
	Tolerance (+/-)	0.14				0.27				
GS915-8	Expected value	0.13				0.07				
	Tolerance (+/-)	0.02				0.02				
OREAS 550	Expected value	0.220				4.110				
	Tolerance (+/-)	0.004				0.22				
SX35-13	Expected value						11.954			
	Tolerance (+/-)						0.626			
SY4	Expected value						0.95			
	Tolerance (+/-)						0.06			

3260 Production Way
Burnaby - British Columbia - V5A 4W4
Phone: 604-638-2349 FAX: 604-444-5486

Sobek With Siderite NP kg CaCO3/t	Fizz Test	Paste pH
	Sobek	Sobek 0.2
57.6	Slight	
1.3		

3260 Production Way
Burnaby - British Columbia - V5A 4W4
Phone: 604-638-2349 FAX: 604-444-5486

Metals - Aqua Regia Digestion with ICP-OES/MS Finish - CRM Expected Values and Tolerance

CRM	Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V	Zn	Zr	Ag	As	Be	Bi
	Units	%	ppm	%	ppm	ppm	%	%	ppm	%	ppm	%	ppm	%	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Method Code	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20
	Lower detection	0.01	5	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	1	1	0.5	0.01	1	0.1	0.02
	Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000	10000	10000	100	10000	100	10000
OREAS 502C	Expected value	2.07	383	1.09	66	7990	4.45	1.07	30.9	1.21	380	0.19	36.4	0.10	0.82	66	0.34	110	102	9.53	0.80	59	0.53	0.68
	Tolerance (%)	15.6	18	18.4	18.7	6.6	11.4	15.2	14.1	10.2	7.2	32.2	18.8	12.5	14.5	25.5	10.8	11.3	15.0	15.7	20.1	17.7	38.5	16.5
OREAS 503D	Expected value	2.08	361	1.19	66	5220	4.58	1.06	27.9	1.21	410	0.21	31.2	0.11	0.80	88	0.32	104	67	12.2	1.32	87	0.6	1.4
	Tolerance (%)	16.8	20	20.0	17.1	6.6	11.5	10.8	33.0	12.7	106.3	38.3	13.0	14.9	13.9	36.5	18.1	14.7	21.4	22.0	25.1	15.8	38.6	11.1
OREAS 260	Expected value	1.33	151	0.885	49.2	46.5	3.73	0.285	21.5	0.59	450	0.08	75.0	0.04	0.08	14.8	BDL	22	125	BDL	0.15	12.5	1.24	0.54
	Tolerance (%)	31.2	24	15.9	29.9	14.8	12.9	57.9	18.0	12.1	20	22.0	10.8	15.0	15.6	24.7		32.7	14.4		26.7	36.0	24.0	16.7
OREAS 920	Expected value	2.43	80	0.32	42.5	110	3.63	0.45	21.2	1.10	526	< 0.04	38.4	0.07	0.03	16.9	0.12	26.3	106.4	21.3	0.10	4.4	0.73	0.68
	Tolerance (%)	18.6	13	19.8	12.7	12.8	12.7	44.5	21.7	18.9	10.3		14.8	20.4	40.5	14.1	60.5	25.8	14.5	23.5	59.2	29.8	41.5	41.8
OREAS 209	Expected value	1.23	73	1.49	39.1	75.6	6.04	0.06	5.38	2.35	1360	0.19	112.8	0.16	0.89	63.5	0.12	39.7	74.3	27.4	0.26	1047	< 0.5	0.06
	Tolerance (%)	13.3	26	13.9	19.9	14.6	18.0	35.1	22.3	16.9	15.3	34.3	16.6	19.2	22.0	31.4	47.5	28.1	15.5	13.5	41.4	13.5		20.3
OREAS 905	Expected value	0.82	249	0.34	17.6	1562	3.50	0.32	4.87	0.16	350	0.09	8.9	0.023	0.07	12.3	0.02	6.1	67.0	47.5	0.52	32	0.93	5.7
	Tolerance (%)	18.0	18	16.0	30.7	9.0	12.8	21.4	41.3	22.8	8.6	29.3	21.5	26.1	32.3	28.5	47.4	42.1	22.4	31.6	28.5	17.2	25.5	18.4
OREAS 261	Expected value	1.33	171	1.15	48.5	64.0	3.74	0.281	21.1	0.66	460	0.08	74.0	0.04	0.11	17.5		22.6	128		0.20	17.8	1.23	0.59
	Tolerance (%)	11.9	17	12.2	15.2	12.0	10.7	18.9	21.9	13.8	11	40.5	13.4	40.5	32.7	17.1		21.1	12.0		22.3	24.0	30.3	18.5
OREAS 263	Expected value	1.29	175	1.03	48	87.0	3.68	0.288	20.1	0.59	490	0.08	72.0	0.04	0.13	16.9		22.8	127		0.29	30.8	1.22	0.57
	Tolerance (%)	11.9	17	12.4	15.2	11.4	10.7	18.7	22.4	14.2	11	41.7	13.5	40.5	29.8	17.4		21.0	12.0		18.8	18.1	30.5	18.8
OREAS 235	Expected value	2.5	104	0.2	100.0	24.0	3.4	1.0	33.4	1.3	210	0.1	57.0	0.1	0.1	16.7	0.1	67.0	75.0	27.3	0.135	331	1.22	0.33
	Tolerance (%)	10.5%	14.8%	12.5%	12.5%	15.2%	10.7%	11.3%	17.5%	10.2%	12.4%	26.9%	14.4%	25.0%	42.1%	17.5%	11.8%	13.7%	13	15	29	11	20	18
OREAS 151b	Expected value	2.43	71	1.37	26.3	1800.0	3.28	0.404	6.07	1.42	280	0.18	14.2	0.05	0.72	38.5		140	238	3.170	0.52	30.8	0.22	0.40
	Tolerance (%)	11.0	28	11.8	19.5	10.1	10.8	16.2	51.2	11.8	12	24.2	27.6	34.0	13.5	13.3		11.8	11.1	49.4	14.8	18.1	66.8	16
OREAS 609b	Expected value	0.684		0.764	17.4	4970	2.32	0.279	7.32	0.067	210	0.06	7.05	0.021	1.76	36.2	0.009	5.69	1259	34.6	24.4	1460	0.59	109
	Tolerance (%)	11.83		10.65	24.37	10.03	11.08	14.48	44.15	13.73	12.38	30.83	45.56	45.71	11.42	13.45	37.78	53.94	10.20	13.61	10.10	10.17	31.19	10.02
OREAS 607b	Expected value	0.627	412	0.87	14.8	554	1.59	0.261	8.34	0.084	240	0.06	4.98	0.026	0.491	34.6	0.011	3.49	641	35.3	6.1	170	0.66	13.4
	Tolerance (%)	11.99	11.21	10.57	26.89	10.23	11.57	14.79	39.98	12.98	12.08	30.83	60.20	38.85	15.09	13.61	32.73	81.63	10.39	13.54	10.41	11.47	28.94	10.19
OREAS 610	Expected value	0.85		0.12	33.1	9720.0	2.27	0.213	8.46	0.11	66	0.05	24.3	0.02	2.65	38.6		11.6	1764.00	11	48.4	2807	0.3	220
	Tolerance (%)	11.48		14.17	17.55	10.01	11.10	15.87	39.55	12.36	17.58	35.51	20.29	40.12	10.94	13.24		31.55	10.14	21.26	10.05	10.09	53.10	10.01
OREAS 501c	Expected value	2.17	428	1.02	68	2750	4.1	1.17	33	1.22	390	0.202	58	0.096	0.343	65	0.363	110	74	9.34	0.444	24.3	0.59	0.7
	Tolerance (%)	11.15	12.92	12.45	13.68	10.05	10.61	12.10	17.58	12.05	11.28	22.38	14.31	23.02	17.29	11.92	16.89	12.27	13.38	23.38	15.63	20.29	31.19	13.57
OREAS 601c	Expected value	0.663		0.779	14.7	1160	1.84	0.254	7.56	0.084	210	0.053	6	0.024	0.909	36.3	0.01	4.75	381	33.5	50.4		0.59	21.3
	Tolerance (%)	11.89		10.64	27.01	10.11	11.36	14.92	43.07	12.98	12.38	33.58	51.67	41.25	12.75	13.44	35.00	62.63	10.66	13.73	10.05		31.19	10.12
OREAS 624	Expected value	2.06		1.31	19.8				7.65	1.19	620	0.076	17.5	0.052	10.8	11.2		17.8	24,000	45.1	45	108		20.5
	Tolerance (%)	11.21		11.91	22.63				42.68	12.10	10.81	42.89	24.29	34.04	10.23	21.16		24.04	10.10	12.77	10.06	12.31		10.24
OREAS 601b	Expected value	0.63		0.578	24.6	1010	1.94	0.246	7.78	0.0411	192	0.067	6.39	0.0178	0.807	33.2	0.022	3.83	267	38.3	50	276	0.47	18
	Tolerance (%)	13.97		14.33	20.16	10.12	11.29	20.16	42.13	70.83	12.60	47.31	49.12	80.22	13.10	13.77	123.64	75.27	10.94	13.26	12.50	12.72	63.19	10.28
OREAS 623	Expected value	1.80		1.09	19.4	17200.0	13.01	0.175	10	1.11	570	0.07	15.6	0.04	8.75	14.2		15.8	10100.00	50	20.4	76		16.9
	Tolerance (%)	11.39		12.29	22.89	10.01	10.19	24.29	35.00	12.25	10.88	46.76	26.03	41.25	10.29	18.80		25.82	10.02	12.50	16.13	26.84		10.30
OREAS 603c	Expected value	0.72		0.795	16.6	12000.0	3.64	0.254	8.17	0.08	600	0.05	25.8	0.024	3.38	37.3	0.01	6.27	7860.00	43	296	1530	0.6	90
	Tolerance (%)	11.73		10.63	25.06	10.01	10.69	14.92	40.60	12.98	10.83	33.58	19.69	41.25	10.74	13.35	32.73	14.65	10.03	12.93	10.42	10.16	30.49	10.03
OREAS 523	Expected value	1.15		3.2	24.9	16800.0	28.05	0.615	16.2	0.992	4370		62.0	0.090	3.84	62	0.158	110	38.10	49	2.36	665	0.34	13.5
	Tolerance (%)	12.17		10.78	20.04	10.01	10.09	14.07	25.43	12.52	10.11		14.03	23.89	10.65	12.02	25.82	12.27	16.56	12.55	62.97	11.13	377.65	102.59

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Metals - Aqu

CRM	Test	Cd	Ce	Co	Cs	Ga	Ge	Hf	Hg	In	La	Lu	Mo	Nb	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Method Code	ICP21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20
	Lower detection	0.01	0.05	0.1	0.05	0.1	0.1	0.05	0.01	0.02	0.1	0.01	0.05	0.05	0.2	0.2	0.05	0.1	1	0.3	0.05	0.02	0.05	0.1	0.02
	Upper detection	10000	1000	10000	1000	10000	10000	500	100	500	10000	1000	10000	1000	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000
OREAS 502C	Expected value	BDL	59	13.5	9.02	8.7	BDL	0.4	BDL	0.06	29.4	0.22	223	BDL	11.1	124	4.8	7.28	BDL	2.71	0.01	0.6	0.47	17.6	0.67
	Tolerance (%)		16.3	10.6	14.5	19.6		16.2		26.2	24.3	15.4	15.8		24.4	11.8	56.9	21.9		24.4	56.5	15.4	30.7	15.6	24.0
OREAS 503D	Expected value	BDL	62	15.9	9.28	8.7	0.15	0.5	BDL	0.07	30.5	0.21	342	1.21	8.39	120	2.4	7.18	3.04	2.51	BDL	0.6	0.30	17.4	0.66
	Tolerance (%)		21.0	11.1	16.7	18.7	56.7	18.3		21.9	16.0	10.6	12.9	59.2	21.5	12.1	36.1	21.9	45.5	16.2		18.7	32.1	9.6	30.1
OREAS 260	Expected value	0.21	BDL	32.1	BDL	5.1	BDL	BDL	BDL	0.03	BDL	0.14	0.43	BDL	30.7	BDL	1.3	3.39	BDL	BDL	BDL	0.52	0.08	11.3	0.2
	Tolerance (%)	24.3		12.9		42.2				55.6		12.9	20.2		19.2		38.6	46.9				40.4	59.3	31.9	54.5
OREAS 920	Expected value	0.06	71.5	15.0	2.10	6.9	< 0.1	0.6	< 0.01	0.03	37.2		0.41		21.5	24.8	0.6	2.91	0.87	1.21	< 0.05	0.73	< 0.05	15.3	0.15
	Tolerance (%)	39.3	14.3	13.8	56.9	28.7		41.8		17.2	27.3		50.7		20.0	34.1	45.1	47.1	59.5	55.1		59.7		24.0	43.7
OREAS 209	Expected value	< 0.2	27.7	29.0	0.92	4.0		0.7	< 1	0.02	12.8	0.13	2.0		3.3	4.0	< 2	3.33	0.99	0.94	< 0.05	0.49		1.8	0.04
	Tolerance (%)		18.2	11.6	21.5	21.6		17.9		53.7	49.3	27.7	15.7		42.4	25.1		41.1	36.6	35.5		26.8		17.7	59.4
OREAS 905	Expected value	0.34	80.0	13.9	1.32	6.4		1.2	<0.05	0.58	39.8	0.03	3.0		17.1	19.3	1.1	1.89	2.32	1.27		0.44	0.07	8.9	0.11
	Tolerance (%)	25.59	19.88	23.72	36.36	30.79		54.10		21.72	18.54	44.12	17.2		29.3	21.9	42.9	30.2	56.9	33.1		34.1	50.8	23.8	27.3
OREAS 261	Expected value	0.27		31.5		5.0			0.1	0.03		0.14	0.5		34.2		2.4	3.42				0.51	0.11	10.9	0.28
	Tolerance (%)	19.3		10.8		15.0			45.2	188.6		27.9	36.0		11.5		15.1	17.3				19.8	123.6	12.3	27.9
OREAS 263	Expected value	0.27		31		4.9			0.2	0.03			0.6		34.0		7.4	3.52				0.50	0.21	10.6	0.53
	Tolerance (%)	19.3		10.8		15.1			24.7	182.4			31.9		11.5		11.7	17.1				20.0	69.5	12.4	19.4
OREAS 235	Expected value	0.033	57	12.3	7.47	7.84	0.096	0.76		0.023	29.1	0.12	0.57	0.3	8.57	95	235	5.79		1.32		0.44		13	0.6
	Tolerance (%)	86	10	12	12	13	270	26		64	11	31	32	52	16	10	10	14		48		21		11	18
OREAS 151b	Expected value	0.58	16.2	10.9	1.22	8.1		0.1		0.07	7.34	0.12	54.0		41.4	20.4	0.7	8.84	3.06	1.25		0.36	0.09	2.4	0.12
	Tolerance (%)	14	10.3	12.3	20.3	13.1		135.0		27.9	13.4	30.8	10.2		11.2	10.6	23.4	12.8	91.7	50.0		23.9	157	15.1	51.7
OREAS 609b	Expected value	7.93	34	4.75	1.4	4.89	0.13	1.03	0.52	1.98	16.8	0.03	5.1	0.42	384	13.9	134	1.02	15	9.13		0.29	21.8	6.17	0.009
	Tolerance (%)	10.32	10.15	15.26	18.93	15.11	202.31	22.14	14.81	10.60	11.49	93.30	12.45	39.76	10.13	10.90	10.09	34.51	26.67	15.48		27.24	10.57	12.03	287.78
OREAS 607b	Expected value	3.16	41.6	2.17	1.52	3.46	0.076	1.01	0.098	0.36	20.6	0.029	3.06		1681	13.9	9.79	1.09	3.03	1.19		0.34	2.35	6.94	0.41
	Tolerance (%)	10.79	10.12	21.52	18.22	17.23	338.95	22.38	35.51	13.47	11.21	96.21	14.08		10.03	10.90	11.28	32.94	92.51	52.02		24.71	15.32	11.80	22.20
OREAS 610	Expected value	12.3	13.7	7.73	0.74	6.36		0.38	0.80	3.76	6.68		4.47	0	512	7.63	265.0	0.84	27.7	24.8	38.60		41.70	3.08	1.49
	Tolerance (%)	10.20	10.36	13.23	26.89	13.93		42.89	13.12	10.33	13.74		12.80	88.12	10.10	11.64	10.05	39.76	19.03	12.02	13.24		10.30	14.06	13.36
OREAS 501c	Expected value		64	14.2	9.88	8.56	0.4		0.047	31.9			95		8.43	134	1.59	7.36		2.7				19.3	
	Tolerance (%)		10.08	11.76	11.27	12.92	41.25		36.60	10.78			10.13		15.93	10.09	17.86	13.40		28.52				10.65	
OREAS 601c	Expected value	2.7	34.7	4.27	1.32	3.86	0.084	0.97	0.22	0.5	17.3	0.028	3.35		248	12.4	29.7	1.03	8.02	1.59		0.3	7.22	6.13	1.20
	Tolerance (%)	10.93	10.14	15.85	19.47	16.48	307.62	22.89	21.36	12.50	11.45	99.29	13.75		10.20	11.01	10.42	34.27	41.17	41.45		26.67	11.73	12.04	14.17
OREAS 624	Expected value	125	24	265	0.43	14		1.14	1.89	3.62	11.2	0.13	14.2	0.43	6,290	5.4		4.83	29.7	6.04		0.29	0.76	2.9	
	Tolerance (%)	10.02	10.52	10.09	39.07	11.79		20.96	11.32	11.38	12.23	29.23	10.88	39.07	10.01	19.26		15.18	18.42	22.42		27.24	26.45	18.62	
OREAS 601b	Expected value	2.04	38.5	2.55	1	3.77	0.1	1.11	0.2		19.9		4.83		234	11.9	18	1	10	1.19		0.28	13.00	6.96	1.08
	Tolerance (%)	11.23	10.32	19.80	20.87	16.63	307.62	21.26	1260.00		16.28		61.76		12.14	14.20	10.69	35.00	35.00	73.03		27.86	10.96	13.59	14.63
OREAS 623	Expected value	52	36.4	216.00		11.90					17.90		8.38		2520		20.2	4.63	18.6	4.07		0.34	0.57	4.7	0.26
	Tolerance (%)	10.05	10.34	14.86		12.10					11.40		11.49		10.02		10.62	15.40	23.44	28.43		24.71	31.93	15.30	29.23
OREAS 603c	Expected value	30.4	30.7	14.10	1	5.40	0.2	1.16	1.35	3.72	14.60	0.03	56.00	0.51	10228	13.8	339.0	1.18	28.8	9.3		0.3	23.20	5.44	3.68
	Tolerance (%)	10.08	10.16	11.77	19.69	14.63	135.00	20.78	11.85	10.34	11.71	93.33	10.22	34.51	10.05	10.91	10.04	31.19	18.68	15.38		26.67	10.54	12.30	11.36
OREAS 523	Expected value			698.000							233		293		27.4			6.41		9.88					
	Tolerance (%)			10.36							10.54		10.85		28.25			29.50		263.04					

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SGS

Metals - Aqu

CRM	Test	U	W	Y	Yb
	Units	ppm	ppm	ppm	ppm
Method Code	ICP21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20
	Lower detection	0.05	0.1	0.05	0.1
	Upper detection	10000	10000	10000	100
OREAS 502C	Expected value	4.53	2.98	16.1	1.51
	Tolerance (%)	21.7	49.2	17.5	10.6
OREAS 503D	Expected value	4.35	1.91	16.9	1.47
	Tolerance (%)	21.7	49.2	17.7	13.4
OREAS 260	Expected value	1.29	0.063	11.70	0.99
	Tolerance (%)	39.5	33.3	30.8	29.4
OREAS 920	Expected value	2.15	< 0.6	18.80	< 1.5
	Tolerance (%)	38.5		46.9	
OREAS 209	Expected value	0.43	0.36	12.98	0.93
	Tolerance (%)	29.9	51.4	15.2	17.3
OREAS 905	Expected value	2.37	<1	7.08	0.27
	Tolerance (%)	24.6		20.8	44.4
OREAS 261	Expected value	1.29	0.09	11.70	0.98
	Tolerance (%)	19.7	281.7	11.1	35.5
OREAS 263	Expected value	1.28		12.00	0.99
	Tolerance (%)	19.8		11.0	35.3
OREAS 235	Expected value	1.55	0.45	9.47	0.85
	Tolerance (%)	18	38	11	39
OREAS 151b	Expected value	0.60		10.40	0.93
	Tolerance (%)	30.8		11.2	36.9
OREAS 609b	Expected value	2.04	1.81	5.22	0.21
	Tolerance (%)	16.13	16.91	12.39	129.05
OREAS 607b	Expected value	2.23	0.58	5.77	0.21
	Tolerance (%)	15.61	31.55	12.17	129.05
OREAS 610	Expected value	1.12	3.58	3.09	
	Tolerance (%)	21.16	13.49	14.05	
OREAS 501c	Expected value	4.87	2.96		
	Tolerance (%)	12.57	14.22		
OREAS 601c	Expected value	2.04	1.16	5.1	0.23
	Tolerance (%)	16.13	20.78	12.45	118.70
OREAS 624	Expected value	0.74	2.73	6.59	0.84
	Tolerance (%)	26.89	19.16	11.90	39.76
OREAS 601b	Expected value	2.22	1.86	5.34	0.2
	Tolerance (%)	15.63	23.44	33.41	135.00
OREAS 623	Expected value	1.43	2.62	7.43	
	Tolerance (%)	18.74	19.54	11.68	
OREAS 603c	Expected value	2.19	2.99	5.55	0.22
	Tolerance (%)	15.71	14.18	12.25	123.64
OREAS 523	Expected value		160	14.8	
	Tolerance (%)		25.62	18.45	

SGS proposal: 20741-PR1-R1
SGS project #: 2458

Work order date: 8-Jan-25
Report date: 11-Mar-25
Sample receipt date: 06-Dec-24
Version: Final

Customer details

Name:	Chad Wolahan
Address:	White Pine Copper LLC

Project reference: White Pine

P.O. number:

COC:

ANALYSIS REPORT

SGS WO: 2

Report Distribution

Name	Email
Chad Wolahan	CWolahan@whitepinecu.com
Brook Clarkson	bclarkson@srk.com

Special notes:

WP544 621.066-624.527 NAG value revised

3260 Production Way
Burnaby - British Columbia - V5A 4W4
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ANALYSIS REPORT

Method Summaries *Test method information available upon request.*

S(T) and C(T): Total sulfur and total carbon by LECO, Method CSA06V
S(SO4): Sulfate by HCl digestion with ICP finish, Method CSA07V
S(S2-): Sulfide by calculation of S(T) - S(SO4) or by nitric acid digestion with ICP finish (Method CSA08C1)

TIC: Total inorganic carbon by coulometry, Method CSB02V
AP: Acid generating potential based on sulfide sulfur
NP: Modified neutralisation potential by excess acid addition and back titration to pH 8.3
Net NP: Net neutralisation potential = NP - AP

Metals by aqua regia digest with ICP-OES/MS finish, Method ICP21B20/ICM21B20
Metals by multi-acid digest with ICP-OES/MS finish, Method ICP40Q12/IMS40Q12

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Preliminary Data

Anahita Etemadifar - Laboratory Supervisor

Final Data Approval

Noelene Ahern - Manager: ARD

ABA Report

Test	S(T)	S(SO4)	S(S-2)	Insoluble S	AP
Units	%	%	%	%	kg CaCO3/t
Method Code	CSA06V	CSA07C1	CSA08C1	Calc.	Calc.
LOD	0.005	0.01	0.01	#N/A	#N/A
Sample ID					
WP530 829.308-830.74	0.044	<0.01	0.03	0.014	0.9
WP530 830.74-832.762	0.225	0.01	0.04	0.175	1.3
WP530 832.762-834.756	0.037	<0.01	<0.01	0.037	<0.3
WP530 834.756-837.308	0.224	0.01	0.01	0.204	0.3
WP530 837.308-838.8	0.015	0.02	<0.01	-0.005	<0.3
WP544 615.458-617.025	0.039	<0.01	0.03	0.009	0.9
WP544 617.025-619.49	0.203	<0.01	0.1	0.103	3.1
WP544 619.49-621.066	0.021	<0.01	<0.01	0.021	<0.3
WP544 621.066-624.527	0.145	<0.01	0.05	0.095	1.6
WP544 624.527-626.5	0.029	0.03	<0.01	-0.001	<0.3
WP546 715.46-716.825	0.052	<0.01	0.04	0.012	1.3
WP546 716.825-718.777	0.242	0.02	0.02	0.202	0.6
WP546 721.163-723.8	0.119	<0.01	<0.01	0.119	<0.3
WP546 723.8-725.3	0.014	<0.01	<0.01	0.014	<0.3
WP547 712.081-712.634	0.067	<0.01	0.05	0.017	1.6
WP547 712.634-714.491	0.192	<0.01	0.04	0.152	1.3
WP547 715.033-716.231	0.068	<0.01	0.01	0.058	0.3
WP547 716.231-719.302	0.204	0.01	0.04	0.154	1.3
WP547 719.302-723.78	0.01	<0.01	<0.01	0.01	<0.3
WP553 627.642-628.664	0.042	<0.01	0.03	0.012	0.9
WP553 628.664-631.59	0.164	<0.01	0.08	0.084	2.5
WP553 631.59-632.821	0.021	<0.01	<0.01	0.021	<0.3
WP553 632.821-636.45	0.256	0.02	0.01	0.226	0.3
WP553 636.45-638.24	0.012	<0.01	<0.01	0.012	<0.3
WP557 818.32-819.66	0.045	<0.01	0.04	0.005	1.3
WP557 819.66-822.536	0.19	0.01	0.04	0.14	1.3
WP557 822.536-824.913	0.027	<0.01	0.01	0.017	0.3
WP557 824.913-828.01	0.2	0.02	0.07	0.11	2.2
WP557 828.01-829.51	0.012	<0.01	<0.01	0.012	<0.3
WP558 684.701-685.677	0.064	<0.01	0.05	0.014	1.6
WP558 685.677-687.646	0.232	0.02	0.07	0.142	2.2
WP558 687.646-689.124	0.083	0.02	<0.01	0.063	<0.3
WP558 689.124-692.49	0.158	0.02	0.01	0.128	0.3
WP558 691.49-692.99	0.025	<0.01	<0.01	0.025	<0.3
WP559 560.296-561.855	0.042	<0.01	0.03	0.012	0.9
WP559 561.855-564.039	0.262	0.01	0.08	0.172	2.5
WP559 564.039-566.081	0.086	0.03	<0.01	0.056	<0.3
WP559 566.081-568.659	0.194	0.01	0.01	0.174	0.3
WP559 568.659-570.159	0.006	<0.01	<0.01	0.006	<0.3
WP560 739.941-742.107	0.056	<0.01	0.03	0.026	0.9
WP560 742.107-745.107	0.163	<0.01	0.03	0.133	0.9
WP560 745.107-746.748	0.061	<0.01	0.01	0.051	0.3
WP560 746.748-749.82	0.18	0.01	0.03	0.14	0.9
WP560 749.82-751.232	0.021	<0.01	<0.01	0.021	<0.3
WP561 718.63-720.597	0.053	<0.01	0.05	0.003	1.6
WP561 720.597-722.340	0.147	0.01	0.04	0.097	1.3
WP561 722.725-724.445	0.062	<0.01	0.02	0.042	0.6
WP561 724.445-726.911	0.358	0.02	0.09	0.248	2.8
WP561 727.091-728.315	0.018	<0.01	<0.01	0.018	<0.3
WP562 574.047-575.744	0.042	<0.01	0.03	0.012	0.9
WP562 575.744-578.532	0.208	0.01	0.03	0.168	0.9
WP562 578.532-579.222	0.044	0.01	<0.01	0.034	<0.3
WP562 582.785-584.285	0.02	0.01	<0.01	0.01	<0.3
WP562579.222-582.785	0.186	0.02	<0.01	0.166	<0.3
WP565 526.933-528.566	0.045	<0.01	0.03	0.015	0.9

SGS proposal: 20741-PR1-R1
SGS project #: 2458

Work order date: 8-Jan-25
Report date: 7-Mar-25

Version: Final

ABA Report

Test	C(T)	TIC	CaCO3 NP	Modified Sobek terminal pH	Modified NP	Net Modified NP	Fizz Test	Paste pH
Units	%	%	kg CaCO3/t		kg CaCO3/t	kg CaCO3/t		
Method Code	CSA06V	CSB02V	Calc.		Modified	Calc.	Sobek	Sobek
LOD	0.005	0.01			0.5			0.2
Sample ID								
WP530 829.308-830.74	0.083	0.02	1.7	1.88	9.3	8.3	None	7.80
WP530 830.74-832.762	0.333	0.16	13.3	1.78	23.4	22.2	None	8.47
WP530 832.762-834.756	0.849	0.84	70.0	1.74	74.5	74.5	Slight	8.06
WP530 834.756-837.308	0.136	0.02	1.7	1.74	14.3	14.0	None	8.21
WP530 837.308-838.8	0.276	0.29	24.2	1.70	30.3	30.3	Slight	7.48
WP544 615.458-617.025	0.097	0.03	2.5	1.97	9.4	8.5	None	8.06
WP544 617.025-619.49	0.327	0.19	15.8	1.85	25.6	22.5	None	8.30
WP544 619.49-621.066	1.027	1.01	84.2	1.85	90.4	90.4	Slight	8.17
WP544 621.066-624.527	0.203	0.15	12.5	1.89	20.9	19.3	None	8.32
WP544 624.527-626.5	0.502	0.52	43.3	1.82	48.9	48.9	Slight	7.22
WP546 715.46-716.825	0.098	0.01	0.8	1.89	8.2	6.9	None	8.01
WP546 716.825-718.777	0.313	0.19	15.8	1.66	22.0	21.3	None	8.28
WP546 721.163-723.8	0.243	0.21	17.5	1.72	25.1	25.1	Slight	8.10
WP546 723.8-725.3	0.162	0.18	15.0	1.82	19.1	19.1	None	7.11
WP547 712.081-712.634	0.115	0.04	3.3	1.92	10.0	8.5	None	8.03
WP547 712.634-714.491	0.326	0.20	16.7	1.76	25.1	23.8	None	8.30
WP547 715.033-716.231	0.866	0.85	70.8	1.72	77.2	76.9	Slight	8.41
WP547 716.231-719.302	0.18	0.09	7.5	1.76	20.2	19.0	None	8.31
WP547 719.302-723.78	0.377	0.38	31.7	1.64	36.8	36.8	Slight	7.29
WP553 627.642-628.664	0.127	0.05	4.2	1.96	10.3	9.3	None	8.05
WP553 628.664-631.59	0.422	0.32	26.7	1.79	33.9	31.4	Slight	8.11
WP553 631.59-632.821	0.821	0.83	69.2	1.77	71.9	71.9	Moderate	8.11
WP553 632.821-636.45	0.194	0.09	7.5	1.75	18.3	18.0	None	8.22
WP553 636.45-638.24	0.516	0.52	43.3	1.73	46.5	46.5	Slight	7.38
WP557 818.32-819.66	0.098	0.01	0.8	1.92	8.0	6.7	None	7.98
WP557 819.66-822.536	0.635	0.52	43.3	1.79	50.7	49.4	Slight	8.47
WP557 822.536-824.913	0.789	0.79	65.8	1.72	69.2	68.9	Slight	8.16
WP557 824.913-828.01	0.24	0.18	15.0	1.90	26.2	24.0	None	8.42
WP557 828.01-829.51	0.238	0.26	21.7	1.68	27.7	27.7	Slight	7.45
WP558 684.701-685.677	0.203	0.13	10.8	1.81	18.6	17.1	None	8.05
WP558 685.677-687.646	0.445	0.32	26.7	1.90	34.7	32.5	Slight	8.30
WP558 687.646-689.124	0.977	0.96	80.0	1.84	87.0	87.0	Slight	8.32
WP558 689.124-692.49	0.147	0.07	5.8	1.72	17.2	16.9	None	8.27
WP558 691.49-692.99	0.171	0.17	14.2	1.73	20.5	20.5	None	7.61
WP559 560.296-561.855	0.172	0.11	9.2	1.86	14.1	13.2	None	8.09
WP559 561.855-564.039	0.409	0.25	20.8	1.98	27.9	25.4	Slight	8.51
WP559 564.039-566.081	0.767	0.77	64.2	1.80	68.5	68.5	Slight	7.88
WP559 566.081-568.659	0.267	0.21	17.5	1.89	26.1	25.8	Slight	8.04
WP559 568.659-570.159	0.373	0.39	32.5	1.72	37.8	37.8	Slight	7.52
WP560 739.941-742.107	0.106	0.02	1.7	1.89	7.5	6.6	None	8.14
WP560 742.107-745.107	0.5	0.42	35.0	1.88	41.6	40.6	Slight	8.21
WP560 745.107-746.748	0.659	0.67	55.8	1.84	59.4	59.1	Slight	7.41
WP560 746.748-749.82	0.298	0.25	20.8	1.75	29.7	28.7	Slight	8.04
WP560 749.82-751.232	0.202	0.21	17.5	1.88	22.8	22.8	Slight	7.25
WP561 718.63-720.597	0.098	0.03	2.5	1.96	9.5	8.0	None	8.04
WP561 720.597-722.340	0.713	0.56	46.7	1.80	52.6	51.3	Slight	8.40
WP561 722.725-724.445	1.092	1.08	90.0	1.87	92.2	91.6	Moderate	8.23
WP561 724.445-726.911	0.227	0.08	6.7	1.88	18.8	16.0	None	8.39
WP561 727.091-728.315	0.274	0.29	24.2	1.71	28.4	28.4	Slight	7.40
WP562 574.047-575.744	0.18	0.10	8.3	1.98	14.8	13.9	None	7.94
WP562 575.744-578.532	0.616	0.49	40.8	1.73	48.1	47.1	Slight	8.27
WP562 578.532-579.222	1.087	1.04	86.7	1.68	90.4	90.4	Moderate	8.48
WP562 582.785-584.285	0.226	0.22	18.3	1.77	22.8	22.8	None	8.18
WP562579.222-582.785	0.255	0.18	15.0	1.65	25.0	25.0	Slight	7.34
WP565 526.933-528.566	0.101	0.03	2.5	2.00	7.8	6.9	None	8.20

ABA Report

Test	S(T)	S(SO4)	S(S-2)	Insoluble S	AP
Units	%	%	%	%	kg CaCO3/t
Method Code	CSA06V	CSA07C1	CSA08C1	Calc.	Calc.
LOD	0.005	0.01	0.01	#N/A	#N/A
WP565 528.566-530.611	0.264	0.02	0.02	0.224	0.6
WP565 530.611-534.442	0.175	0.02	<0.01	0.155	<0.3
WP565 534.442-535.942	0.025	<0.01	<0.01	0.025	<0.3
WP566 586.69-587.669	0.086	<0.01	0.08	0.006	2.5
WP566 587.669-590.572	0.398	0.02	0.1	0.278	3.1
WP566 590.572-591.889	0.083	0.02	0.03	0.033	0.9
WP566 592.081-593.710	0.248	0.02	0.07	0.158	2.2
WP566 593.748-595.248	0.032	<0.01	<0.01	0.032	<0.3
WP569 532.487-533.905	0.03	<0.01	0.02	0.01	0.6
WP569 533.905-536.364	0.173	0.01	0.02	0.143	0.6
WP569 536.364-541.334	0.074	<0.01	<0.01	0.074	<0.3
WP569 541.334-545.83	0.006	<0.01	<0.01	0.006	<0.3
WP572 814.149-815.994	0.037	<0.01	0.03	0.007	0.9
WP572 815.994-818.645	0.2	<0.01	0.16	0.04	5.0
WP572 818.645-820.048	0.041	<0.01	0.02	0.021	0.6
WP572 820.048-822.532	0.203	<0.01	0.07	0.133	2.2
WP572 822.532-824	0.06	<0.01	0.02	0.04	0.6
WP573 905.775-907.88	0.116	<0.01	0.1	0.016	3.1
WP573 907.88-909.227	0.217	<0.01	0.11	0.107	3.4
WP573 909.227-912.987	0.044	<0.01	<0.01	0.044	<0.3
WP573 912.987-914.371	0.393	<0.01	0.15	0.243	4.7
WP573 914.371-915.871	0.024	<0.01	0.01	0.014	0.3
WP587 849.77-851.01	0.062	<0.01	0.05	0.012	1.6
WP587 851.01-853.04	0.187	<0.01	0.15	0.037	4.7
WP587 853.04-854.33	0.067	0.02	<0.01	0.047	<0.3
WP587 854.33-856.91	0.196	<0.01	0.02	0.176	0.6
WP587 856.91-857.92	0.077	0.01	0.01	0.057	0.3
WP588 989.73-990.75	0.054	<0.01	0.04	0.014	1.3
WP588 990.75-992.71	0.231	<0.01	0.22	0.011	6.9
WP588 992.71-994.30	0.073	0.02	<0.01	0.053	<0.3
WP588 994.30-997.32	0.197	<0.01	0.04	0.157	1.3
WP588 997.32-998.82	0.075	<0.01	<0.01	0.075	<0.3
WP590 867.02-868.13	0.059	<0.01	0.04	0.019	1.3
WP590 868.13-870.62	0.300	<0.01	0.04	0.26	1.3
WP590 870.62-872.32	0.053	<0.01	<0.01	0.053	<0.3
WP590 872.32-873.76	0.208	<0.01	0.02	0.188	0.6
WP590 873.76-875.31	0.095	<0.01	<0.01	0.095	<0.3
WP591 926.89-927.87	0.045	<0.01	0.03	0.015	0.9
WP591 927.87-930.36	0.266	<0.01	0.05	0.216	1.6
WP591 930.36-931.89	0.038	<0.01	<0.01	0.038	<0.3
WP591 931.89-934.18	0.315	<0.01	0.02	0.295	0.6
WP591 934.18-935.68	0.068	<0.01	<0.01	0.068	<0.3
WP592 963.33-964.45	0.059	<0.01	0.04	0.019	1.3
WP592 964.45-966.19	0.220	<0.01	0.21	0.01	6.6
WP592 966.40-967.96	0.057	0.01	0.01	0.037	0.3
WP592 967.96-971.89	0.175	<0.01	0.01	0.165	0.3
WP592 971.89-973.41	0.075	0.01	<0.01	0.065	<0.3
WP593 938.18-939.62	0.048	<0.01	0.03	0.018	0.9
WP593 939.62-941.98	0.267	<0.01	0.08	0.187	2.5
WP593 941.98-943.92	0.039	<0.01	<0.01	0.039	<0.3
WP593 943.92-946.77	0.213	<0.01	0.01	0.203	0.3
WP593 946.77-947.74	0.025	0.02	<0.01	0.005	<0.3
WP594 895.92-898.02	0.098	<0.01	0.07	0.028	2.2
WP594 898.02-899.67	0.210	<0.01	0.05	0.16	1.6
WP594 899.67-900.79	0.029	<0.01	<0.01	0.029	<0.3
WP594 900.79-903.13	0.162	<0.01	0.01	0.152	0.3

ABA Report

Test	C(T)	TIC	CaCO3 NP	Modified Sobek terminal pH	Modified NP	Net Modified NP	Fizz Test	Paste pH
Units	%	%	kg CaCO3/t		kg CaCO3/t	kg CaCO3/t		
Method Code	CSA06V	CSB02V	Calc.		Modified	Calc.	Sobek	Sobek
LOD	0.005	0.01			0.5			0.2
WP565 528.566-530.611	0.371	0.24	20.0	1.79	28.0	27.3	Slight	8.08
WP565 530.611-534.442	0.416	0.34	28.3	1.68	36.6	36.6	Slight	8.31
WP565 534.442-535.942	0.224	0.23	19.2	1.69	26.1	26.1	Slight	7.76
WP566 586.69-587.669	0.171	0.05	4.2	1.92	10.8	8.3	None	7.96
WP566 587.669-590.572	0.319	0.14	11.7	1.87	21.6	18.4	None	8.46
WP566 590.572-591.889	0.707	0.71	59.2	1.80	62.6	61.7	Moderate	7.50
WP566 592.081-593.710	0.287	0.18	15.0	1.81	21.8	19.6	Slight	8.29
WP566 593.748-595.248	0.138	0.13	10.8	1.86	16.5	16.5	Slight	7.43
WP569 532.487-533.905	0.098	0.03	2.5	2.00	8.2	7.5	None	8.09
WP569 533.905-536.364	0.384	0.25	20.8	1.91	29.1	28.5	Slight	8.36
WP569 536.364-541.334	0.452	0.43	35.8	1.99	41.7	41.7	Slight	7.95
WP569 541.334-545.83	0.501	0.51	42.5	1.74	45.6	45.6	Slight	7.73
WP572 814.149-815.994	0.157	0.11	9.2	1.79	18.4	17.4	None	7.90
WP572 815.994-818.645	0.271	0.15	12.5	1.86	21.4	16.4	None	7.91
WP572 818.645-820.048	0.725	0.74	61.7	1.99	66.6	66.0	Slight	7.43
WP572 820.048-822.532	0.33	0.28	23.3	1.89	33.2	31.0	None	8.05
WP572 822.532-824	0.232	0.23	19.2	1.73	25.5	24.9	Slight	7.24
WP573 905.775-907.88	0.15	0.05	4.2	1.70	12.9	9.8	None	7.73
WP573 907.88-909.227	0.314	0.20	16.7	1.78	26.0	22.5	None	7.90
WP573 909.227-912.987	0.378	0.38	31.7	1.71	38.1	38.1	Slight	7.39
WP573 912.987-914.371	0.177	0.06	5.0	1.75	16.2	11.5	None	8.06
WP573 914.371-915.871	0.339	0.35	29.2	1.63	34.8	34.5	Slight	7.25
WP587 849.77-851.01	0.110	0.03	2.5	1.61	11.7	10.2	None	7.98
WP587 851.01-853.04	0.294	0.17	14.2	1.62	21.5	16.8	None	7.97
WP587 853.04-854.33	0.650	0.62	51.7	1.78	58.7	58.7	Moderate	7.77
WP587 854.33-856.91	0.357	0.27	22.5	1.90	30.8	30.1	Slight	8.10
WP587 856.91-857.92	0.331	0.34	28.3	1.75	34.7	34.3	Slight	7.53
WP588 989.73-990.75	0.090	0.02	1.7	1.64	10.3	9.0	None	7.89
WP588 990.75-992.71	0.326	0.18	15.0	1.60	21.5	14.7	None	7.84
WP588 992.71-994.30	0.785	0.74	61.7	1.73	70.0	70.0	Moderate	7.80
WP588 994.30-997.32	0.172	0.08	6.7	1.61	16.6	15.3	None	8.18
WP588 997.32-998.82	0.254	0.26	21.7	1.64	29.7	29.7	Slight	7.36
WP590 867.02-868.13	0.094	0.01	0.8	1.61	10.1	8.8	None	8.22
WP590 868.13-870.62	0.364	0.21	17.5	1.58	24.4	23.1	None	8.46
WP590 870.62-872.32	0.794	0.78	65.0	1.74	72.2	72.2	Moderate	8.04
WP590 872.32-873.76	0.294	0.25	20.8	1.84	29.8	29.2	Slight	8.23
WP590 873.76-875.31	0.196	0.19	15.8	1.62	22.3	22.3	None	7.81
WP591 926.89-927.87	0.095	0.02	1.7	1.64	10.9	10.0	None	8.03
WP591 927.87-930.36	0.284	0.14	11.7	1.64	19.0	17.4	None	8.29
WP591 930.36-931.89	0.749	0.73	60.8	1.73	67.9	67.9	Slight	7.95
WP591 931.89-934.18	0.216	0.09	7.5	1.65	18.1	17.5	None	8.12
WP591 934.18-935.68	0.207	0.21	17.5	1.68	23.9	23.9	Slight	7.45
WP592 963.33-964.45	0.091	0.01	0.8	1.60	8.9	7.7	None	7.85
WP592 964.45-966.19	0.275	0.12	10.0	1.61	16.5	9.9	None	7.81
WP592 966.40-967.96	0.791	0.77	64.2	1.74	71.0	70.7	Slight	7.73
WP592 967.96-971.89	0.240	0.17	14.2	1.60	21.0	20.7	None	7.79
WP592 971.89-973.41	0.403	0.39	32.5	1.69	38.9	38.9	Slight	7.35
WP593 938.18-939.62	0.083	<0.01	<0.8	1.94	7.9	6.9	None	7.73
WP593 939.62-941.98	0.262	0.11	9.2	1.62	15.5	13.0	None	7.89
WP593 941.98-943.92	0.807	0.71	59.2	1.72	72.0	72.0	Slight	7.91
WP593 943.92-946.77	0.182	0.10	8.3	1.68	16.8	16.5	None	7.99
WP593 946.77-947.74	0.450	0.43	35.8	1.71	41.8	41.8	Slight	7.19
WP594 895.92-898.02	0.102	0.02	1.7	1.65	9.4	7.2	None	7.91
WP594 898.02-899.67	0.255	0.13	10.8	1.66	19.4	17.8	None	7.98
WP594 899.67-900.79	0.848	0.82	68.3	1.75	75.7	75.7	Slight	7.73
WP594 900.79-903.13	0.193	0.09	7.5	1.66	17.8	17.4	None	7.99

ABA Report

Test	S(T)	S(SO4)	S(S-2)	Insoluble S	AP
Units	%	%	%	%	kg CaCO3/t
Method Code	CSA06V	CSA07C1	CSA08C1	Calc.	Calc.
LOD	0.005	0.01	0.01	#N/A	#N/A
WP594 9003.19-904.13	0.384	<0.01	0.01	0.374	0.3
WPTO1L	0.017	<0.01	<0.01	0.017	<0.3
WPTO1S	0.021	0.01	<0.01	0.011	<0.3
WPTO2L	0.01	<0.01	<0.01	0.01	<0.3
WPTO2S	0.024	0.02	<0.01	0.004	<0.3
WPTO3L	0.019	<0.01	<0.01	0.019	<0.3
WPTO3S	0.036	<0.01	0.02	0.016	0.6
Duplicates					
WP588 989.73-990.75			0.04		
WP594 898.02-899.67			0.04		
WP591 927.87-930.36	0.274				
WP594 9003.19-904.13			0.02		
WP592 967.96-971.89		<0.01			
WP594 9003.19-904.13		<0.01			
WP530 829.308-830.74			0.03		
WP546 721.163-723.8			<0.01		
WP565 528.566-530.611		0.02			
WP573 905.775-907.88		<0.01			
WP561 724.445-726.911			0.1		
WP544 624.527-626.5			<0.01		
WP569 541.334-545.83			<0.01		
WP547 715.033-716.231		<0.01			
WP562579.222-582.785	0.19				
WP557 828.01-829.51	0.014				
WP559 564.039-566.081	0.084				

QA/QC					
Blank	<0.005	<0.01	<0.01		
Certified standards					
OREAS 278			0.69		
GS-314-2	2.577				
GS915-8	0.136				
RTS-3a		0.92			

SGS proposal: 20741-PR1-R1
SGS project #: 2458

Work order date: 8-Jan-25
Report date: 7-Mar-25

Version: Final

ABA Report

Test	C(T)	TIC	CaCO3 NP	Modified Sobek terminal pH	Modified NP	Net Modified NP	Fizz Test	Paste pH
Units	%	%	kg CaCO3/t		kg CaCO3/t	kg CaCO3/t		
Method Code	CSA06V	CSB02V	Calc.		Modified	Calc.	Sobek	Sobek
LOD	0.005	0.01			0.5			0.2
WP594 9003.19-904.13	0.287	0.21	17.5	1.62	24.3	23.9	None	7.92
WPTO1L	0.548	0.41	34.2	1.79	41.5	41.5	Slight	8.68
WPTO1S	0.714	0.44	36.7	1.71	55.5	55.5	Slight	8.51
WPTO2L	0.56	0.46	38.3	1.85	42.4	42.4	Slight	7.88
WPTO2S	0.635	0.45	37.5	1.74	61.9	61.9	Moderate	8.40
WPTO3L	0.229	0.21	17.5	1.73	45.4	45.4	Slight	8.72
WPTO3S	1.757	0.19	15.8	1.87	37.8	37.2	Slight	8.14
Duplicates								
WP590 873.76-875.31		0.19						
WP591 927.87-930.36	0.284							
WP530 830.74-832.762		0.16						
WP573 905.775-907.88		0.05						
WP561 718.63-720.597		0.03						
WP562579.222-582.785	0.253							
WP557 828.01-829.51	0.241							
WP559 564.039-566.081	0.760							
WP560 739.941-742.107				1.9	8.2		None	8.18
WP573 912.987-914.371				1.79	17.7		None	8.08
WP573 914.371-915.871				1.67	34.1		Slight	7.15
WP530 834.756-837.308				1.75	14.6		None	8.2
WP530 830.74-832.762				1.8	21.0		None	8.44
WP565 530.611-534.442				1.69	35.3		Slight	8.24
WP565 528.566-530.611				1.81	27.4		Slight	8.02
WP546 715.46-716.825				1.9	8.3		None	7.98
WP546 716.825-718.777				1.64	21.4		None	8.52
WP591 927.87-930.36				1.69	17.8		None	8.28
WP591 930.36-931.89				1.73	67.1		Slight	7.95
QA/QC								
Blank	0.006	<0.01						
Certified standards								
TIC-L1		0.12					Slight	
SX35-13		11.87						
GS-314-2	5.245							
GS915-8	0.068							
NBM-1					39.5		Slight	
NBM-1					39.5		Slight	
NBM-1					39.5		Slight	
NBM-1					39.9		Slight	
NBM-1					43.4		Slight	

SGS proposal: 20741-PR1-R1
SGS project #: 2458

Work order date: 8-Jan-25
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Version: Final

Metals - Multi-Acid Digestion with ICP-OES/MS Finish

Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V
Units	%	mg/kg	%	mg/kg	mg/kg	%	%	mg/kg	%	mg/kg	%	mg/kg	%	%	mg/kg	%	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
Lower detection	0.01	1	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	2
Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000
Sample ID																	
WP587 849.77-851.01	7.890	391	0.94	70	110.0	6.32	2.43	43	2.09	976	1.54	51.0	0.09	0.06	107	0.64	122
WP587 851.01-853.04	7.610	380	1.33	64	981.0	5.79	2.29	46	2.03	1055	1.61	43.0	0.09	0.18	108	0.62	121
WP587 853.04-854.33	6.070	995	3.23	51	1712.0	4.48	1.38	22	1.05	837	2.34	31.0	0.10	0.07	193	0.92	134
WP587 854.33-856.91	7.470	370	1.72	66	7999.0	6.06	2.21	43	2.21	1312	1.56	45.0	0.09	0.21	111	0.69	124
WP587 856.91-857.92	4.960	578	2.24	82	2301.0	5.97	0.87	30	1.51	1198	1.67	37.0	0.09	0.07	147	1.25	209
WP588 989.73-990.75	7.850	403	0.87	63	126.0	6.3	2.41	43	2.09	988	1.57	52.0	0.09	0.05	111	0.64	127
WP588 990.75-992.71	7.560	489	1.36	62	144.0	5.51	2.21	48	1.98	1007	1.70	43.0	0.09	0.24	119	0.64	125
WP588 992.71-994.30	6.100	1147	3.56	63	1111.0	5.23	1.32	25	1.27	967	2.25	37.0	0.12	0.07	194	1.05	160
WP588 994.30-997.32	7.660	371	1.06	63	8030.0	6.27	2.16	47	2.37	1243	1.54	51.0	0.09	0.20	112	0.68	132
WP588 997.32-998.82	4.350	228	2.3	96	2516.0	6.42	0.58	28	1.49	1102	1.55	40.0	0.08	0.07	130	1.62	286
WP590 867.02-868.13	7.850	408	0.84	68	114.0	6.21	2.46	47	2.02	984	1.53	52.0	0.09	0.05	123	0.63	130
WP590 868.13-870.62	7.390	377	1.43	63	>10000	5.61	2.13	51	1.98	1142	1.55	44.0	0.09	0.31	121	0.62	117
WP590 870.62-872.32	6.000	593	3.49	48	1621.0	4.65	1.37	28	1.26	1060	2.14	33.0	0.10	0.05	201	0.78	121
WP590 872.32-873.76	7.240	373	1.65	69	8052.0	5.8	1.94	47	2.13	1331	1.73	49.0	0.10	0.22	140	0.71	134
WP590 873.76-875.31	5.890	335	1.78	87	3674.0	5.91	1.11	38	1.76	1294	2.00	47.0	0.11	0.10	175	1.25	203
WP591 926.89-927.87	8.150	413	0.9	66	122.0	6.25	2.58	48	2.09	1014	1.54	54.0	0.09	0.04	120	0.64	133
WP591 927.87-930.36	7.480	376	1.22	62	9937.0	5.5	2.17	50	1.94	1053	1.64	44.0	0.09	0.29	119	0.62	122
WP591 930.36-931.89	6.630	358	3.28	50	1188.0	4.94	1.71	29	1.35	1048	2.19	38.0	0.10	0.03	178	0.71	115
WP591 931.89-934.18	7.420	357	1.11	68	>10000	5.86	2.08	49	2.21	1230	1.56	48.0	0.09	0.33	118	0.66	129
WP591 934.18-935.68	5.020	279	1.95	86	2502.0	5.58	1.2	26	1.25	961	1.64	37.0	0.10	0.06	157	1.20	192
WP592 963.33-964.45	7.920	398	0.84	68	110.0	6.12	2.52	43	2.06	952	1.52	52.0	0.09	0.05	110	0.63	126
WP592 964.45-966.19	7.580	399	1.21	64	86.6	5.69	2.25	48	2.00	1018	1.65	44.0	0.09	0.23	115	0.62	125
WP592 966.40-967.96	6.310	740	3.57	59	1577.0	4.44	1.52	23	1.17	897	2.32	34.0	0.11	0.05	196	0.83	128
WP592 967.96-971.89	7.110	430	1.48	68	7237.0	5.8	1.87	40	2.02	1161	1.76	46.0	0.10	0.19	134	0.73	130
WP592 971.89-973.41	4.970	567	2.44	84	2574.0	5.61	1.06	24	1.22	1011	1.77	34.0	0.08	0.07	154	1.25	225
WP593 938.18-939.62	7.980	407	0.85	69	106.0	6.04	2.5	43	2.04	963	1.55	53.0	0.09	0.04	115	0.64	132
WP593 939.62-941.98	7.540	387	1.17	62	7943.0	5.51	2.18	46	1.97	1032	1.67	43.0	0.09	0.29	118	0.62	123
WP593 941.98-943.92	6.650	615	3.57	53	933.0	4.7	1.72	25	1.31	989	2.33	38.0	0.10	0.03	188	0.69	109
WP593 943.92-946.77	7.480	359	1.23	68	9291.0	5.75	2.02	45	2.23	1276	1.71	49.0	0.10	0.23	126	0.69	131
WP593 946.77-947.74	4.600	837	2.37	52	265.0	4.55	1.22	20	1.03	846	1.60	28.0	0.07	0.02	168	0.63	118
WP594 895.92-898.02	7.900	405	0.77	68	1196.0	6.1	2.5	46	2.17	972	1.52	52.0	0.09	0.11	101	0.63	128
WP594 898.02-899.67	7.580	389	1.18	66	7171.0	5.6	2.16	48	2.11	1068	1.75	44.0	0.09	0.22	112	0.66	126
WP594 899.67-900.79	6.240	320	3.67	81	827.0	4.91	1.37	25	1.30	1020	2.40	35.0	0.13	0.02	184	1.09	159
WP594 900.79-903.13	7.530	378	1.14	72	7425.0	6.35	2.34	42	2.21	1137	1.54	51.0	0.10	0.17	109	0.70	129
WP594 9003.19-904.13	6.330	319	1.51	79	>10000	5.35	1.43	40	2.02	1293	1.76	44.0	0.10	0.40	120	0.83	148
WP560 739.941-742.107	7.930	369	0.85	75	857.0	6.14	2.57	46	1.99	936	1.54	54.0	0.09	0.06	124	0.64	131
WP560 745.107-746.748	5.980	502	3.12	73	2118.0	5.14	1.51	32	1.47	1116	1.84	41.0	0.10	0.06	192	0.85	140
WP560 746.748-749.82	7.010	305	1.66	77	7636.0	5.6	1.85	46	2.18	1354	1.74	48.0	0.10	0.19	142	0.78	138
WP560 742.107-745.107	7.350	340	2.12	67	6597.0	5.9	2.28	44	1.93	1183	1.58	45.0	0.09	0.17	128	0.64	121
WP560 749.82-751.232	5.710	350	1.93	84	115.0	5.77	1.43	27	1.39	1007	2.05	42.0	0.12	<0.01	213	1.11	181
WP561 727.091-728.315	5.440	323	2.19	74	42.2	5.83	1.28	26	1.37	1021	1.98	42.0	0.12	<0.01	217	1.14	185
WP561 720.597-722.340	7.220	332	2.48	62	5393.0	5.41	2.15	47	1.84	1349	1.61	41.0	0.08	0.15	123	0.60	116
WP561 722.725-724.445	6.240	462	4.12	60	2164.0	4.72	1.78	31	1.41	1176	1.79	39.0	0.09	0.06	164	0.60	101
WP561 718.63-720.597	7.770	371	0.86	67	113.0	6.04	2.51	46	1.96	936	1.53	52.0	0.09	0.05	122	0.61	127
WP561 724.445-726.911	7.160	311	1.06	70	>10000	5.54	1.96	50	2.20	1154	1.60	48.0	0.09	0.37	129	0.69	125
WP566 586.69-587.669	7.450	343	0.88	71	158.0	5.85	2.28	50	1.95	972	1.53	48.0	0.09	0.09	118	0.60	119
WP566 593.748-595.248	5.620	294	1.6	68	1092.0	4.96	1.28	29	1.43	1026	2.04	40.0	0.10	0.03	196	0.95	156
WP566 592.081-593.710	7.430	322	1.33	70	>10000	5.81	2.11	50	2.32	1271	1.56	50.0	0.10	0.26	126	0.67	128
WP566 590.572-591.889	4.860	750	3.13	59	3083.0	4.35	1.01	30	1.15	973	1.77	30.0	0.08	0.09	183	0.71	117
WP566 587.669-590.572	7.310	326	1.23	71	>10000	5.63	2.1	50	1.95	1030	1.58	49.0	0.09	0.41	129	0.65	127
WP557 819.66-822.536	7.110	375	2.35	61	7467.0	5.24	2.08	45	1.80	1251	1.65	41.0	0.09	0.20	124	0.62	115
WP557 818.32-819.66	7.950	377	0.84	75	105.0	6.03	2.56	46	2.00	947	1.55	52.0	0.09	0.04	117	0.64	133
WP557 822.536-824.913	7.130	480	3.26	58	948.0	5.59	2.45	33	1.67	1159	1.65	47.0	0.09	0.03	144	0.62	114
WP557 828.01-829.51	5.610	397	1.98	84	224.0	5.93	1.28	27	1.40	1011	2.08	41.0	0.11	<0.01	199	1.21	193
WP573 912.987-914.371	7.680	359	1.07	71	>10000	5.4	2.12	59	2.59	1322	1.66	48.0	0.09	0.41	120	0.71	142
WP573 914.371-915.871	4.660	255	2.36	67	828.0	5.4	0.99	26	1.28	978	1.67	34.0	0.08	0.02	159	1.01	201
WP573 907.88-909.227	7.500	377	1.43	64	6223.0	5.5	2.22	50	2.08	1188	1.70	44.0	0.09	0.23	119	0.64	124
WP557 824.913-828.01	7.080	330	1.39	70	>10000	5.41	1.94	44	2.15	1261	1.72	48.0	0.10	0.21	131	0.69	127
WP572 814.149-815.994	7.670	376	1.07	72	121.0	6.17	2.48	44	2.04	993	1.54	55.0	0.09	0.04	101	0.63	126
WP572 818.645-820.048	5.600	271	3.32	61	1609.0	4.77	1.11	27	1.26	951	2.24	33.0	0.10	0.04	161	0.90	139
WP572 822.532-824	4.940	200	1.88	87	2510.0	5.83	0.97	32	1.71	1164	1.60	43.0	0.09	0.07	121	1.20	213
WP572 815.994-818.645	7.610	381	1.17	71	2374.0	5.79	2.38	50	2.09	1074	1.58	50.0	0.09	0.22	103	0.63	129
WP572 820.048-822.532	7.500	368	1.52	67	8139.0	6	2.29	48	2.36	1287	1.53	50.0	0.09	0.21	101	0.68	130

3260 Production Way
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Test	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu	Mo	Nb
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
Lower detection	1	0.5	0.02	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.02	0.1	0.01	0.05	0.1
Upper detection	10000	10000	100	10000	2500	10000	10000	1000	10000	1000	1000	500	500	10000	1000	10000	1000
Sample ID																	
WP587 849.77-851.01	115	207	0.12	3	2.8	0.18	1.53	87.66	30.6	8	22.9	6.22	0.09	40.9	0.68	0.420	18.0
WP587 851.01-853.04	107	196	2.23	5	2.6	0.18	46.37	86.46	28.1	7	22.5	5.83	0.08	39.8	0.67	2.050	16.2
WP587 853.04-854.33	61	222	0.40	1	1.1	0.05	0.17	66.32	16.9	2	15.3	6.13	0.05	32.8	0.49	0.680	20.7
WP587 854.33-856.91	114	199	6.10	7	2.6	0.14	0.12	86.44	28.2	7	22.0	5.87	0.09	38.8	0.67	0.560	17.1
WP587 856.91-857.92	116	245	0.16	2	1.2	0.05	0.08	67.59	21.4	1	15.6	6.90	0.06	32.7	0.52	0.880	22.8
WP588 989.73-990.75	117	209	0.11	2	2.8	0.20	0.53	87.85	30.7	7	23.1	6.19	0.09	41.7	0.7	0.340	17.2
WP588 990.75-992.71	108	208	1.12	9	2.5	0.18	37.06	74.94	26.9	5	21.3	5.93	0.08	34.8	0.68	2.750	16.2
WP588 992.71-994.30	70	243	0.67	2	1.2	0.08	0.17	74.47	20.1	2	16.4	6.72	0.06	36.1	0.56	0.640	21.9
WP588 994.30-997.32	119	208	6.24	12	2.7	0.15	0.28	86.56	30.4	8	22.5	6.04	0.09	39.7	0.66	0.460	17.4
WP588 997.32-998.82	107	220	0.18	2	1	0.05	0.03	60.49	23	<1	14.3	6.10	0.06	29.3	0.48	0.970	24.5
WP590 867.02-868.13	112	206	0.11	3	2.8	0.19	2.72	89.02	29.6	10	23.1	5.97	0.09	41.9	0.69	0.560	17.4
WP590 868.13-870.62	104	196	6.42	6	2.5	0.19	31.96	82.49	26.8	8	21.3	5.81	0.09	39	0.66	0.760	16.4
WP590 870.62-872.32	73	229	0.70	2	1.3	0.09	0.15	70.24	18.2	3	15.6	6.44	0.05	35.1	0.52	0.720	19.6
WP590 872.32-873.76	127	210	5.12	1	2.5	0.11	0.07	79.16	27.3	8	21.8	5.95	0.08	37	0.63	0.830	17.5
WP590 873.76-875.31	138	234	1.10	1	1.5	0.05	0.04	68.14	24.8	2	17.7	6.46	0.06	33.2	0.54	1.290	21.7
WP591 926.89-927.87	113	210	0.12	3	2.9	0.19	8.73	89.94	31	9	23.8	6.05	0.10	41.7	0.71	0.410	17.6
WP591 927.87-930.36	102	202	6.17	2	2.6	0.16	7.74	83.39	27.1	6	21.6	5.81	0.08	38.2	0.67	1.650	15.9
WP591 930.36-931.89	76	228	0.42	1	1.7	0.10	0.07	75.93	21	4	17.8	6.45	0.06	36.5	0.56	0.770	19.8
WP591 931.89-934.18	123	202	27.48	28	2.6	0.14	0.1	84.91	30.1	8	22.4	5.94	0.09	38	0.67	0.560	17.2
WP591 934.18-935.68	101	223	0.47	2	1.4	0.07	0.04	66.38	21.1	2	15.6	6.27	0.06	34	0.51	1.460	20.8
WP592 963.33-964.45	111	202	0.10	3	2.8	0.19	3.47	87.69	29.3	8	22.6	5.82	0.09	41.1	0.69	0.470	16.8
WP592 964.45-966.19	108	200	0.48	7	2.6	0.18	46.99	84.91	27.4	6	21.8	5.82	0.08	38	0.69	3.060	15.8
WP592 966.40-967.96	65	222	0.36	1	1.3	0.05	0.26	74.17	18.6	3	16.6	6.37	0.06	36.2	0.54	0.970	20.0
WP592 967.96-971.89	108	211	13.57	5	2.2	0.10	0.08	81.68	27.2	6	20.9	6.02	0.07	37.8	0.62	0.770	18.2
WP592 971.89-973.41	103	251	0.69	2	1.2	0.05	0.06	63.41	22.1	1	15.4	6.93	0.06	30.8	0.54	1.470	20.5
WP593 938.18-939.62	113	209	0.13	2	2.9	0.18	3.22	89.69	31	9	24.1	6.21	0.10	41.8	0.72	0.540	18.4
WP593 939.62-941.98	105	201	4.56	2	2.5	0.21	59.77	86.32	26.9	6	21.5	5.92	0.08	39.2	0.68	2.670	16.4
WP593 941.98-943.92	72	225	0.26	2	1.6	0.09	0.17	76.21	20.7	4	18.0	6.54	0.06	36.2	0.57	0.900	24.4
WP593 943.92-946.77	135	209	12.92	7	2.5	0.10	0.05	84.01	30.2	7	22.4	6.08	0.08	39.1	0.65	0.760	17.7
WP593 946.77-947.74	89	206	0.34	2	1.1	0.06	0.06	56.03	18.6	2	13.6	5.58	0.05	28.6	0.48	2.040	17.0
WP594 895.92-898.02	111	207	1.18	3	2.8	0.20	0.59	86.38	31.1	8	24.4	6.21	0.10	40	0.71	1.280	18.2
WP594 898.02-899.67	103	204	4.24	3	2.5	0.16	3.13	82.49	27.6	6	23.0	5.98	0.09	38.4	0.68	2.350	17.5
WP594 899.67-900.79	70	257	0.31	2	1.2	0.08	0.04	83.17	19.6	2	16.6	7.31	0.06	40	0.59	1.440	23.5
WP594 900.79-903.13	110	213	9.40	12	2.7	0.13	0.06	84.43	29.6	8	22.6	6.19	0.09	39.5	0.67	0.850	17.7
WP594 9003.19-904.13	127	241	4.70	3	2	0.06	0.05	76.32	27.1	4	20.1	7.01	0.08	36.1	0.63	1.450	20.9
WP560 739.941-742.107	111	212	1.39	3	2.6	0.20	29.75	81.01	26.9	11	21.6	5.70	0.09	39.3	0.61	0.480	17.5
WP560 745.107-746.748	83	226	1.19	1	1.3	0.10	0.15	68.33	19.4	4	15.3	5.67	0.05	33.1	0.48	0.680	19.2
WP560 746.748-749.82	131	218	2.64	2	2	0.09	0.07	72.07	23.3	7	18.9	5.63	0.07	33.8	0.56	0.690	16.3
WP560 742.107-745.107	105	198	3.96	2	2.1	0.15	0.36	77.4	23.6	10	19.5	5.17	0.08	36.5	0.58	0.460	15.4
WP560 749.82-751.232	117	251	0.13	2	1.3	0.07	0.02	66.92	18.6	2	15.5	6.19	0.05	33.8	0.49	1.010	18.8
WP561 727.091-728.315	110	232	0.08	2	1.2	0.07	0.02	67.59	18.5	2	15.2	6.29	0.05	34.2	0.48	0.710	17.2
WP561 720.597-722.340	104	187	3.69	1	2	0.13	42.57	77.38	22.2	9	19.0	5.21	0.07	36.1	0.61	0.930	14.7
WP561 722.725-724.445	77	202	0.92	1	1.5	0.10	0.17	69.77	19.2	7	16.3	5.31	0.06	33.7	0.52	0.400	16.3
WP561 718.63-720.597	118	202	0.03	2	2.4	0.18	0.1	83.4	26.1	11	21.5	5.60	0.09	39.3	0.63	0.280	16.4
WP561 724.445-726.911	126	203	16.19	16	2.3	0.11	0.15	77	25.7	9	20.2	5.44	0.08	35.6	0.6	0.520	15.9
WP566 586.69-587.669	112	207	0.09	3	2.2	0.18	40.17	82.06	25.8	9	20.6	5.65	0.09	38.1	0.64	0.360	15.6
WP566 593.748-595.248	118	221	0.39	1	1.2	0.05	0.16	60.51	18.2	2	14.9	5.42	0.05	30.7	0.48	0.690	16.5
WP566 592.081-593.710	130	203	9.58	5	2.4	0.12	0.1	78.72	25.1	10	21.0	5.27	0.08	35.6	0.62	0.480	15.7
WP566 590.572-591.889	69	187	1.12	1	0.8	0.07	0.05	53.91	14.8	1	12.0	4.64	0.05	27.1	0.41	1.070	16.4
WP566 587.669-590.572	107	207	18.76	1	2.2	0.16	22.12	79.2	25.2	9	20.1	5.71	0.08	37	0.63	0.990	16.8
WP557 819.66-822.536	102	193	4.62	1	1.9	0.16	21.84	78.22	22.3	8	18.4	5.19	0.08	36.3	0.6	0.450	14.3
WP557 818.32-819.66	113	209	0.05	2	2.6	0.19	34.03	87.07	27.1	12	22.4	5.76	0.09	40.8	0.68	0.500	16.7
WP557 822.536-824.913	94	210	0.74	2	2	0.15	0.13	75.54	22.9	13	19.1	5.76	0.07	36.3	0.57	0.420	17.0
WP557 828.01-829.51	121	238	0.30	2	1.3	0.08	0.05	64.54	17.9	2	15.4	6.14	0.05	32.8	0.5	0.960	19.8
WP573 912.987-914.371	129	208	4.93	7	2.7	0.09	0.4	81.08	25.8	7	22.6	5.67	0.08	36.3	0.65	0.500	16.3
WP573 914.371-915.871	98	251	<0.02	2	1.1	0.06	0.15	61.21	17.3	1	14.2	6.23	0.06	30.2	0.5	0.680	21.2
WP573 907.88-909.227	113	192	5.13	4	2.4	0.18	224	81.21	23.8	6	20.6	5.35	0.08	37.9	0.64	5.030	14.6
WP557 824.913-828.01	129	205	9.51	8	2.1	0.11	0.55	74.99	24.7	9	19.7	5.58	0.08	35.2	0.59	0.510	15.6
WP572 814.149-815.994	116	203	<0.02	2	2.3	0.17	0.09	86.3	27.3	8	21.1	5.35	0.09	39.9	0.65	0.260	16.0
WP572 818.645-820.048	71	229	0.49	<1	0.8	0.05	0.36	64.79	15.4	1	13.6	5.84	0.05	32.1	0.46	0.420	19.2
WP572 822.532-824	111	218	0.17	1	1.1	0.05	0.18	58.05	20.2	2	15.0	5.72	0.06	28.4	0.47	0.580	20.2
WP572 815.994-818.645	110	201	1.36	6	2.5	0.19	6.03	78.61	25.8	7	21.6	5.39	0.09	36.5	0.65	2.110	16.1
WP572 820.048-822.532	138	203	6.14	4	2.5	0.12	0.23	86.07	25.5	7	21.6	5.45	0.08	40.6	0.63	0.380	15.6

Test	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb	Hg
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ppm	ppm	ppm
Method Code	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	CVA37A25
Lower detection	0.5	0.2	0.05	0.5	2	0.3	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1	0.005
Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	1000	100
Sample ID																
WP587 849.77-851.01	18.8	110	0.5	21.5	<2	3.1	1.11	1.3	<0.05	9.70	0.6	3.0	1.4	43.10	4.60	0.01
WP587 851.01-853.04	40.8	95.6	1.0	19.4	<2	3	1.00	1.3	<0.05	9.60	0.5	3.3	1.4	41.70	4.50	0.01
WP587 853.04-854.33	4.3	53.7	0.3	10.6	<2	2.1	1.26	1.1	<0.05	5.50	0.3	1.8	0.8	34.30	3.30	<0.005
WP587 854.33-856.91	7.4	94.9	0.5	20	<2	2.9	1.05	1.3	<0.05	9.50	0.5	3.2	1.2	40.20	4.50	0.02
WP587 856.91-857.92	6	34.6	0.4	11	<2	2.4	1.34	1.1	<0.05	6.80	0.2	1.9	0.6	33.30	3.50	<0.005
WP588 989.73-990.75	9.8	108	0.5	21.8	<2	3.1	1.08	1.4	<0.05	9.40	0.6	3.1	1.3	43.00	4.90	<0.005
WP588 990.75-992.71	58.2	88	1.2	18.4	<2	2.9	1.02	1.3	<0.05	9.70	0.5	3.4	1.2	40.80	4.50	0.01
WP588 992.71-994.30	4.6	51.4	0.4	12.9	<2	2.3	1.30	1.2	<0.05	6.40	0.3	1.9	0.8	37.80	3.70	<0.005
WP588 994.30-997.32	5.9	91.9	0.5	20.6	<2	2.9	1.06	1.4	<0.05	9.10	0.5	3.2	1.1	41.50	4.60	0.03
WP588 997.32-998.82	6	21.8	0.5	12.4	<2	2.6	1.42	1.0	<0.05	5.10	0.1	1.8	0.7	32.00	3.30	0.01
WP590 867.02-868.13	13.4	109	0.6	21.2	<2	3.1	1.05	1.3	<0.05	9.80	0.6	3.1	1.3	41.70	4.60	<0.005
WP590 868.13-870.62	8.6	92.5	0.5	19.1	<2	2.9	1.01	1.3	<0.05	9.30	0.6	3.2	1.2	41.10	4.40	0.03
WP590 870.62-872.32	6.1	53.9	0.4	11.1	<2	2	1.21	1.2	<0.05	6.40	0.3	1.9	0.8	36.10	3.60	<0.005
WP590 872.32-873.76	8.2	82.2	0.5	18.5	<2	2.7	1.07	1.3	<0.05	8.40	0.5	2.9	1	39.40	4.30	0.03
WP590 873.76-875.31	8.2	43.2	0.5	13.4	<2	2.4	1.25	1.2	<0.05	7.60	0.2	2.1	0.7	35.60	3.70	0.01
WP591 926.89-927.87	8.4	112	0.5	22.4	<2	3.2	1.09	1.3	<0.05	9.70	0.6	3.1	1.2	41.70	4.80	<0.005
WP591 927.87-930.36	7.7	91	0.5	19	<2	2.9	0.98	1.3	<0.05	9.30	0.6	3.3	1.1	40.30	4.60	<0.005
WP591 930.36-931.89	5.3	70.9	0.5	12.9	<2	2.3	1.20	1.2	<0.05	7.50	0.4	2.2	0.9	38.00	3.80	<0.005
WP591 931.89-934.18	6.4	90.5	0.5	20.4	<2	2.9	1.03	1.3	<0.05	8.80	0.5	3.1	1.1	40.20	4.50	0.11
WP591 934.18-935.68	7.2	47.9	0.6	11.6	<2	2.4	1.19	1.1	<0.05	5.80	0.3	1.9	0.6	34.30	3.50	0.01
WP592 963.33-964.45	26.4	113	0.5	21	<2	3.1	1.05	1.3	<0.05	9.60	0.6	3.1	1.3	42.10	4.60	<0.005
WP592 964.45-966.19	51.9	93.4	1.2	18.9	<2	3	0.98	1.3	<0.05	9.90	0.5	3.4	1.2	41.80	4.60	<0.005
WP592 966.40-967.96	4.6	60.8	0.4	11.9	<2	2.2	1.22	1.2	<0.05	6.70	0.3	2.1	0.8	37.40	3.70	<0.005
WP592 967.96-971.89	5.5	79	0.5	18.4	<2	2.7	1.09	1.3	<0.05	8.70	0.4	2.8	1	40.00	4.10	0.03
WP592 971.89-973.41	6.3	40.4	0.4	10.5	<2	2.4	1.13	1.1	<0.05	6.20	0.2	2.0	0.5	35.20	3.70	<0.005
WP593 938.18-939.62	20.5	113	0.6	22.2	<2	3.2	1.11	1.4	<0.05	9.90	0.6	3.2	1.3	43.40	4.80	<0.005
WP593 939.62-941.98	38.4	90.9	0.7	18.9	<2	3	0.99	1.3	<0.05	9.90	0.6	3.4	1.3	41.30	4.60	0.01
WP593 941.98-943.92	5.4	73.1	0.5	13	<2	2.6	1.49	1.3	<0.05	7.90	0.4	2.2	0.8	40.50	4.00	<0.005
WP593 943.92-946.77	6.5	88	0.5	19.9	<2	2.8	1.08	1.3	<0.05	9.10	0.5	3.0	1.1	41.50	4.40	0.21
WP593 946.77-947.74	5.9	47.9	0.5	8.5	<2	1.9	1.03	1.0	<0.05	5.50	0.3	1.8	0.5	30.20	3.20	<0.005
WP594 895.92-898.02	8.3	114	0.7	21.8	<2	3.2	1.10	1.3	<0.05	10.00	0.6	3.3	1.2	43.50	4.80	0.01
WP594 898.02-899.67	10.1	94.1	0.6	19.7	<2	3	1.08	1.3	<0.05	9.70	0.5	3.2	1.2	40.60	4.50	0.01
WP594 899.67-900.79	4.8	53.9	0.4	12.5	<2	2.3	1.40	1.4	<0.05	6.90	0.3	2.2	0.9	40.00	4.00	<0.005
WP594 900.79-903.13	6.7	104	0.6	20.7	<2	2.9	1.06	1.3	<0.05	9.00	0.6	2.9	1.1	41.40	4.60	0.04
WP594 9003.19-904.13	5.9	59	0.5	15.7	<2	2.8	1.25	1.3	<0.05	8.10	0.3	2.5	0.7	39.90	4.30	0.01
WP560 739.941-742.107	12.1	106	0.6	19.9	<2	3	1.18	1.2	<0.05	9.30	0.6	2.9	1.3	39.40	4.10	<0.005
WP560 745.107-746.748	9.5	55.6	0.4	12.1	<2	2.2	1.23	1.1	<0.05	6.60	0.3	1.8	0.9	33.70	3.30	<0.005
WP560 746.748-749.82	11.5	71.7	0.5	16	<2	2.5	1.03	1.1	<0.05	7.70	0.4	2.7	0.9	35.50	3.70	0.01
WP560 742.107-745.107	10	90.9	0.6	16.4	<2	2.6	1.02	1.1	<0.05	8.50	0.5	2.8	1.2	36.10	3.90	<0.005
WP560 749.82-751.232	16.3	50.2	0.5	10.6	<2	2.1	1.19	1.1	<0.05	5.90	0.3	1.8	0.6	33.00	3.20	<0.005
WP561 727.091-728.315	14.6	45.8	0.5	10.9	<2	2	1.15	1.1	<0.05	5.30	0.3	1.8	0.6	32.20	3.20	<0.005
WP561 720.597-722.340	12.1	84.5	0.6	16.1	<2	2.6	0.96	1.2	<0.05	8.90	0.5	3.0	1.2	37.20	3.90	<0.005
WP561 722.725-724.445	7.6	71.3	0.5	12.2	<2	2.2	1.01	1.1	<0.05	7.00	0.4	1.9	0.8	34.70	3.40	<0.005
WP561 718.63-720.597	9.7	107	0.6	19.6	<2	3	1.11	1.3	<0.05	9.40	0.6	3.0	1.2	39.40	4.20	<0.005
WP561 724.445-726.911	11	81.7	0.5	18.5	<2	2.7	1.07	1.2	<0.05	8.10	0.5	2.9	1	37.80	4.00	0.20
WP566 586.69-587.669	16.7	94.1	0.6	18.3	<2	2.9	1.10	1.2	<0.05	9.40	0.5	3.0	1.2	38.70	4.30	<0.005
WP566 593.748-595.248	12.2	44.6	0.4	10.3	<2	2	1.06	1.0	<0.05	5.10	0.2	1.7	0.5	31.40	3.20	<0.005
WP566 592.081-593.710	10.6	84.7	0.5	18	<2	2.8	1.03	1.2	<0.05	8.20	0.4	2.8	1	36.40	4.00	0.02
WP566 590.572-591.889	6.6	36.3	0.4	8.6	<2	1.8	1.01	0.9	<0.05	4.90	0.2	1.4	0.6	28.20	2.70	<0.005
WP566 587.669-590.572	13.7	86.2	0.5	18.1	<2	2.8	1.06	1.2	<0.05	8.80	0.6	3.1	1.2	39.00	4.10	0.01
WP557 819.66-822.536	9.1	79.7	0.5	16	<2	2.6	0.97	1.2	<0.05	8.80	0.5	3.0	1.2	37.60	4.00	<0.005
WP557 818.32-819.66	10	111	0.6	20.4	<2	3.1	1.11	1.3	<0.05	9.40	0.6	3.1	1.3	41.40	4.40	<0.005
WP557 822.536-824.913	11.7	99.7	0.6	15.8	<2	2.5	1.15	1.2	<0.05	8.20	0.5	2.4	1.1	36.90	4.00	<0.005
WP557 828.01-829.51	15.5	44.6	0.5	10.8	<2	2.2	1.28	1.1	<0.05	5.80	0.2	1.8	0.6	32.60	3.30	<0.005
WP573 912.987-914.371	8.5	85.4	0.5	18.1	<2	3	1.03	1.3	<0.05	9.80	0.5	3.5	1	39.60	4.40	0.09
WP573 914.371-915.871	6.8	36	0.4	9.9	<2	2.3	1.29	1.1	<0.05	5.80	0.2	1.9	0.6	32.30	3.40	<0.005
WP573 907.88-909.227	57.4	87.8	0.7	17.2	<2	2.9	0.94	1.2	<0.05	9.20	0.5	3.2	1.1	39.20	4.20	<0.005
WP557 824.913-828.01	11.7	79.2	0.5	16.7	<2	2.6	1.00	1.2	<0.05	8.10	0.4	2.8	0.9	37.00	4.00	0.04
WP572 814.149-815.994	6	101	0.5	19.3	<2	3	0.98	1.3	<0.05	8.70	0.5	2.7	1.1	40.10	4.40	<0.005
WP572 818.645-820.048	4.8	37.4	0.3	9.7	<2	1.9	1.19	1.1	<0.05	5.40	0.2	1.6	0.7	33.20	3.10	<0.005
WP572 822.532-824	6.5	34.9	0.4	11.9	<2	2.2	1.24	1.0	<0.05	5.00	0.2	1.6	0.6	30.10	3.10	<0.005
WP572 815.994-818.645	26.3	95.2	0.7	18.4	<2	2.9	1.02	1.3	<0.05	9.10	0.5	3.0	1	39.40	4.30	<0.005
WP572 820.048-822.532	9.3	92.1	0.5	18.6	<2	2.9	1.01	1.2	<0.05	8.50	0.5	2.8	0.9	38.00	4.20	0.16

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SGS proposal: 20741-PR1-R1
SGS project #: 2458

Work order date: 8-Jan-25
Report date: 18-Feb-25

Version: Final

Metals - Multi-Acid Digestion with ICP-OES/MS Finish

Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V
Units	%	mg/kg	%	mg/kg	mg/kg	%	%	mg/kg	%	mg/kg	%	mg/kg	%	%	mg/kg	%	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
Lower detection	0.01	1	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	2
Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000
WP544 617.025-619.49	7.250	349	1.33	65	5675.0	5.37	2.16	46	1.84	992	1.62	44.0	0.08	0.21	116	0.60	118
WP544 621.066-624.527	7.000	333	1.27	72	6381.0	5.65	1.96	42	2.04	1194	1.68	48.0	0.10	0.15	126	0.68	126
WP544 624.527-626.5	4.660	1126	2.69	78	190.0	5.78	1.11	22	1.12	950	1.69	37.0	0.08	0.03	195	1.24	223
WP544 615.458-617.025	7.660	365	0.87	74	91.9	6.02	2.45	44	1.95	921	1.51	53.0	0.09	0.04	115	0.62	131
WP544 619.49-621.066	6.690	393	3.77	59	655.0	5.17	2.37	32	1.58	1191	1.44	45.0	0.09	0.02	130	0.57	110
WP547 716.231-719.302	7.330	322	1.19	76	>10000	5.86	1.92	45	2.21	1241	1.80	51.0	0.10	0.22	137	0.72	134
WP547 715.033-716.231	6.480	488	3.39	50	2529.0	4.41	2.12	28	1.35	992	1.74	40.0	0.08	0.07	153	0.56	94
WP547 712.634-714.491	7.130	333	1.33	57	6782.0	5.26	2.14	44	1.81	983	1.58	42.0	0.08	0.20	111	0.59	114
WP547 712.081-712.634	7.870	373	0.91	71	141.0	6.15	2.42	49	2.04	1009	1.59	51.0	0.09	0.07	118	0.63	126
WP547 719.302-723.78	3.900	441	2.23	80	72.7	5.29	1.23	17	0.84	715	1.24	28.0	0.08	<0.01	146	1.09	184
WP530 829.308-830.74	8.080	399	0.84	76	124.0	6.21	2.32	48	2.02	1002	1.46	53.0	0.10	0.05	118	0.62	132
WP530 834.756-837.308	7.840	357	0.88	78	>10000	6.22	2.08	50	2.32	1186	1.45	53.0	0.10	0.24	123	0.70	143
WP530 830.74-832.762	7.500	366	1.24	66	8169.0	5.36	1.99	51	1.90	1015	1.54	43.0	0.09	0.24	119	0.60	120
WP530 832.762-834.756	6.270	488	3.54	58	1338.0	5.12	1.7	29	1.38	1052	1.64	39.0	0.09	0.04	169	0.74	125
WP530 837.308-838.8	5.020	783	2.04	73	49.3	5.35	1.07	25	1.18	954	1.71	35.0	0.09	0.01	205	1.02	178
WP558 689.124-692.49	7.860	364	1.01	73	8041.0	6.31	2.21	49	2.26	1198	1.48	52.0	0.10	0.17	136	0.67	133
WP558 687.646-689.124	6.890	712	4.06	75	3277.0	4.96	1.8	34	1.49	1200	1.85	41.0	0.10	0.09	196	0.70	122
WP558 685.677-687.646	7.730	359	1.79	67	7888.0	5.66	2.09	50	1.94	1196	1.56	44.0	0.09	0.26	132	0.61	126
WP558 684.701-685.677	8.520	405	1.24	77	132.0	6.35	2.45	52	2.10	1182	1.57	52.0	0.09	0.07	137	0.64	136
WP558 691.49-692.99	5.930	430	1.74	71	904.0	5.24	1.26	31	1.53	1122	2.01	39.0	0.10	0.03	215	0.91	160
WP559 561.855-564.039	7.750	362	1.6	69	>10000	5.66	2.09	51	1.98	1170	1.57	46.0	0.09	0.30	133	0.64	125
WP559 560.296-561.855	8.330	387	1.14	78	123.0	6.34	2.42	49	2.06	1139	1.53	53.0	0.10	0.04	131	0.64	136
WP559 568.659-570.159	5.420	370	2.46	79	184.0	6.01	1.3	26	1.27	1023	1.67	39.0	0.10	<0.01	211	1.24	223
WP559 566.081-568.659	7.260	333	1.58	78	9188.0	5.96	1.71	47	2.18	1378	1.73	46.0	0.10	0.22	153	0.78	150
WP559 564.039-566.081	5.840	1110	3.23	50	2869.0	4.75	1.5	32	1.36	1077	1.51	34.0	0.09	0.09	187	0.60	104
WP569 541.334-545.83	3.420	415	2.52	54	103.0	4.59	1.16	15	0.66	636	0.84	22.0	0.07	<0.01	137	0.87	154
WP569 536.364-541.190	6.900	402	2.32	67	3174.0	5.83	1.75	39	1.88	1282	1.67	45.0	0.10	0.08	159	0.83	146
WP569 532.487-533.905	8.290	393	0.88	74	117.0	6.24	2.47	46	2.02	966	1.46	54.0	0.10	0.03	127	0.63	137
WP569 533.905-536.364	7.560	363	1.57	66	6641.0	5.57	2.08	46	1.90	1132	1.55	44.0	0.09	0.18	125	0.60	121
WP565 526.933-528.566	8.240	395	0.88	75	113.0	6.19	2.41	47	2.03	976	1.48	53.0	0.10	0.05	124	0.63	135
WP565 534.442-535.942	5.890	318	1.92	68	920.0	4.92	1.28	28	1.44	1062	1.94	38.0	0.12	0.02	193	0.93	152
WP565 530.611-534.442	7.630	375	1.9	73	>10000	6.16	2.09	45	2.08	1261	1.48	49.0	0.09	0.19	133	0.65	131
WP565 528.566-530.611	7.650	360	1.57	69	>10000	5.51	2.02	47	1.87	1030	1.62	44.0	0.09	0.29	130	0.63	126
WP562 574.047-575.744	8.230	406	1.13	74	121.0	6.24	2.37	48	2.03	1018	1.48	51.0	0.10	0.05	126	0.62	134
WP562 575.744-578.532	7.780	381	2.39	74	7945.0	5.91	2.2	45	1.91	1246	1.52	48.0	0.09	0.23	132	0.64	130
WP573 909.227-912.987	6.340	309	2.77	82	1531.0	6.47	1.1	34	1.69	1154	2.12	47.0	0.13	0.04	200	1.31	218
WP562579.222-582.785	7.410	339	1.43	76	9492.0	5.97	1.81	46	2.17	1339	1.64	48.0	0.10	0.21	139	0.73	140
WP562 582.785-584.285	5.210	657	1.92	77	332.0	6.1	1.03	25	1.31	1063	1.86	36.0	0.10	0.02	218	1.19	214
WP562 578.532-579.222	6.830	655	4.31	59	1574.0	4.16	1.97	32	1.39	1166	1.76	39.0	0.09	0.05	180	0.63	105
WP553 628.664-631.59	7.860	423	1.88	70	3461.0	5.83	2.2	45	1.94	1116	1.62	45.0	0.09	0.19	128	0.64	127
WP553 632.821-636.45	7.640	430	1.13	73	>10000	5.89	1.83	45	2.20	1264	1.71	51.0	0.10	0.28	132	0.69	134
WP553 627.642-628.664	8.340	429	0.98	77	118.0	6.32	2.41	46	2.10	1031	1.50	54.0	0.10	0.04	122	0.65	138
WP553 631.59-632.821	7.050	543	3.43	54	565.0	4.82	2.12	29	1.51	1091	1.65	43.0	0.09	0.02	151	0.62	106
WP553 636.45-638.24	4.410	632	2.6	68	137.0	5.47	1.37	18	0.89	814	1.21	28.0	0.08	0.01	148	1.02	171
WPTO1L	6.450	446	2.34	94	1653.0	5.41	1.62	44	1.78	1173	1.46	42.0	0.10	0.02	134	0.80	136
WPTO2L	7.650	447	2.33	143	1573.0	6.66	1.97	56	2.36	1497	1.29	54.0	0.10	<0.01	122	0.76	161
WPTO3L	5.120	418	3.22	144	2895.0	6	1.35	34	2.13	872	1.12	32.0	0.09	0.02	121	0.77	113
WP573 905.775-907.88	8.140	425	1.03	76	131.0	6.37	2.27	50	2.18	1114	1.50	55.0	0.10	0.12	121	0.63	134
WPTO1S	6.720	457	3.28	198	2475.0	6.57	1.83	48	2.42	1232	1.37	49.0	0.10	0.02	152	0.79	134
WPTO2S	6.310	441	3.74	195	2249.0	6.55	1.74	44	2.48	1102	1.45	44.0	0.10	0.03	179	0.83	130
WPTO3S	5.470	429	2.95	152	2455.0	5.81	1.49	33	1.85	919	1.31	35.0	0.11	0.04	130	0.82	121
WP546 715.46-716.825	8.300	412	0.88	75	115.0	6.3	2.61	46	2.13	1003	1.51	53.0	0.10	0.06	125	0.65	136
WP546 716.825-718.777	7.520	365	1.38	67	10000.0	5.58	2.19	44	1.92	1032	1.58	44.0	0.09	0.27	126	0.63	122
WP546 721.163-723.8	7.160	331	1.59	74	4955.0	5.52	1.79	39	2.12	1327	1.85	48.0	0.11	0.13	156	0.77	133
WP546 723.8-725.3	5.270	539	1.87	101	203.0	6.87	1.09	26	1.47	1102	1.75	43.0	0.11	0.01	206	1.46	241
Duplicates																	
WP590 867.02-868.13	7.850	406	0.85	68	110.0	6.22	2.45	48	2.01	985	1.52	53.0	0.09	0.05	123	0.63	130
WP553 628.664-631.59	7.870	407	1.86	70	3498.0	5.82	2.17	45	1.93	1104	1.59	45.0	0.09	0.19	127	0.63	126
WP546 715.46-716.825	8.120	402	0.87	71	109.0	6.18	2.57	46	2.08	985	1.48	53.0	0.10	0.06	124	0.63	134
WP560 745.107-746.748	6.040	496	3.14	76	2209.0	5.18	1.52	32	1.48	1120	1.85	41.0	0.10	0.06	193	0.88	142
QA/QC																	
BLANK	<0.01	<1	<0.01	<1	0.9	<0.01	<0.01	<1	<0.01	<2	<0.01	<1	<0.01	<0.01	<0.5	<0.01	<2

Test	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu	Mo	Nb
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
Lower detection	1	0.5	0.02	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.02	0.1	0.01	0.05	0.1
Upper detection	10000	10000	100	10000	2500	10000	10000	1000	10000	1000	1000	500	500	10000	1000	10000	1000
WP544 617.025-619.49	106	195	3.88	2	2.1	0.18	32.2	80.13	23.6	9	20.3	5.27	0.08	37.6	0.64	1.170	14.9
WP544 621.066-624.527	120	202	2.59	3	2	0.12	0.14	78.22	24.5	9	19.7	5.31	0.08	36.9	0.6	0.600	15.8
WP544 624.527-626.5	106	231	0.27	2	1.1	0.07	0.08	64.11	19	2	14.4	6.17	0.06	32.8	0.5	1.320	21.1
WP544 615.458-617.025	115	203	<0.02	2	2.4	0.18	0.05	85.83	27.1	12	21.4	5.88	0.09	40.2	0.65	0.310	16.7
WP544 619.49-621.066	88	201	0.34	2	2.2	0.14	0.07	76.73	23.1	14	18.9	5.60	0.07	36.3	0.6	0.430	17.6
WP547 716.231-719.302	139	213	12.82	9	2.1	0.11	0.08	76.95	25.6	8	19.9	5.47	0.08	35.8	0.57	0.440	16.8
WP547 715.033-716.231	79	224	0.71	1	1.8	0.10	0.06	71.57	19.1	8	17.7	6.38	0.06	33.8	0.58	0.460	24.7
WP547 712.634-714.491	102	187	5.57	2	2.2	0.17	52.52	79.9	23.4	8	20.0	5.41	0.08	38	0.64	1.400	14.5
WP547 712.081-712.634	115	210	0.02	3	2.2	0.19	1.4	83.82	24.7	9	21.1	5.49	0.08	39.3	0.66	0.300	15.6
WP547 719.302-723.78	84	246	0.27	2	1.1	0.07	0.09	63.29	13.7	2	12.1	6.42	0.05	32.4	0.5	0.940	21.2
WP530 829.308-830.74	120	208	<0.02	2	2.6	0.18	0.37	85.13	29.4	10	24.0	5.64	0.08	36.8	0.6	0.280	16.1
WP530 834.756-837.308	139	219	5.48	7	2.7	0.11	0.03	81.29	30.6	10	24.5	5.80	0.08	35	0.61	0.580	16.2
WP530 830.74-832.762	108	199	6.52	2	2.4	0.17	66.43	79.36	25.6	8	22.1	5.33	0.07	34.1	0.6	2.160	16.0
WP530 832.762-834.756	81	222	0.84	1	1.7	0.10	0.3	68.51	20.6	6	17.6	5.52	0.05	30.5	0.48	0.470	15.4
WP530 837.308-838.8	109	219	0.08	1	1.2	0.06	0.08	60.1	19.2	2	15.1	5.42	0.04	28.6	0.41	0.710	16.6
WP558 689.124-692.49	136	209	9.36	4	2.8	0.19	0.07	81.78	29.1	11	24.3	5.58	0.08	35.3	0.58	0.420	16.1
WP558 687.646-689.124	89	219	1.14	1	1.7	0.11	0.11	71.59	20.8	7	18.2	5.42	0.06	31.8	0.48	0.430	15.8
WP558 685.677-687.646	110	195	5.35	2	2.4	0.19	48.94	78.03	25.7	8	22.0	5.29	0.07	33.9	0.58	1.970	14.2
WP558 684.701-685.677	122	219	0.04	2	2.5	0.17	0.38	82.65	27.2	10	23.1	5.46	0.08	36.6	0.59	0.280	14.7
WP558 691.49-692.99	121	231	0.58	2	1.3	0.07	0.07	59.4	19	2	16.9	5.46	0.05	27.3	0.43	0.630	15.3
WP559 561.855-564.039	113	203	4.13	1	2.3	0.14	29.23	80.35	26	9	21.8	5.11	0.07	34.5	0.56	0.740	14.6
WP559 560.296-561.855	118	213	0.04	2	2.6	0.18	12.43	80.7	28	10	23.2	5.12	0.08	34.6	0.57	0.410	14.8
WP559 568.659-570.159	114	259	0.05	1	1.4	0.08	0.11	68.75	20.1	2	16.3	6.48	0.05	33.4	0.45	0.810	18.5
WP559 566.081-568.659	140	220	22.14	2	2.3	0.09	0.07	70.4	25.1	7	21.2	5.25	0.07	32	0.51	0.530	15.0
WP559 564.039-566.081	79	197	0.84	1	1.6	0.10	0.08	66.25	18.8	6	16.3	5.00	0.05	30.2	0.45	0.510	14.6
WP569 541.334-545.83	63	209	0.19	1	1.1	0.06	0.06	51.02	11.3	2	10.3	4.99	0.04	24.7	0.39	0.850	15.4
WP569 536.364-541.190	121	219	0.71	2	1.8	0.12	0.06	71.94	23.6	7	18.8	5.39	0.06	31.7	0.5	0.450	15.8
WP569 532.487-533.905	131	208	0.02	2	2.8	0.18	0.16	82.85	29.2	12	23.6	5.52	0.08	36.3	0.58	0.300	16.2
WP569 533.905-536.364	111	194	4.09	1	2.4	0.15	15.92	77.92	25.4	9	21.2	4.93	0.08	33.8	0.56	0.590	13.8
WP565 526.933-528.566	119	213	0.03	2	2.7	0.17	0.81	82.77	29	11	23.8	5.49	0.08	36.5	0.6	0.280	14.9
WP565 534.442-535.942	120	228	0.32	1	1.4	0.06	0.07	64.57	18.4	2	16.7	5.73	0.04	29.8	0.45	0.570	15.9
WP565 530.611-534.442	122	205	3.89	7	2.5	0.13	0.08	79.59	28.4	11	22.2	5.20	0.07	34.9	0.55	0.430	14.8
WP565 528.566-530.611	104	200	8.76	1	2.3	0.17	29.92	77.53	25.3	8	21.3	5.24	0.07	33.3	0.56	0.840	14.5
WP562 574.047-575.744	117	205	0.02	2	2.8	0.18	0.24	83.84	28.3	11	23.5	5.39	0.08	36.2	0.62	0.290	15.1
WP562 575.744-578.532	106	205	3.69	2	2.6	0.17	31.64	79.54	26.6	11	22.2	5.24	0.07	34.6	0.59	1.320	13.8
WP573 909.227-912.987	95	267	0.11	2	1.5	0.08	0.13	73.68	24.1	2	18.5	6.49	0.06	33	0.51	0.620	21.1
WP562579.222-582.785	130	217	3.30	4	2.3	0.12	0.1	77.45	27.3	9	22.0	5.41	0.07	33.7	0.55	0.480	15.4
WP562 582.785-584.285	121	262	0.84	2	1.3	0.07	0.06	65.44	20.1	1	15.9	6.38	0.05	30.5	0.46	0.880	19.2
WP562 578.532-579.222	80	222	0.55	<1	1.8	0.08	0.08	69.49	20.5	9	17.5	6.24	0.05	30.9	0.5	0.390	18.1
WP553 628.664-631.59	108	206	1.62	2	2.6	0.18	22.68	84.08	26.4	8	22.6	5.47	0.08	36.8	0.61	1.230	15.1
WP553 632.821-636.45	132	213	4.70	6	2.3	0.10	0.19	77.96	27.3	7	21.8	6.19	0.07	33.9	0.55	0.640	15.1
WP553 627.642-628.664	122	213	<0.02	2	2.9	0.19	0.24	85.18	29.1	10	23.9	5.57	0.08	37.2	0.61	0.350	16.4
WP553 631.59-632.821	85	223	0.33	1	2.2	0.11	0.06	71.38	22.2	8	18.9	5.96	0.06	31.4	0.54	0.420	19.6
WP553 636.45-638.24	89	267	0.08	1	1.4	0.10	0.06	71.73	14.9	2	14.5	6.75	0.05	34.8	0.52	1.480	21.8
WPTO1L	113	221	0.30	3	2.2	0.11	0.35	70.66	22.6	5	18.7	5.65	0.07	32.2	0.52	9.930	16.7
WPTO2L	141	206	0.24	3	2.6	0.12	0.43	78.74	29.6	7	22.7	5.36	0.08	35.1	0.54	3.750	17.0
WPTO3L	200	232	0.87	11	2	0.47	1.11	63.29	25.9	3	14.3	5.83	0.22	28.5	0.49	178.000	15.5
WP573 905.775-907.88	118	208	0.16	3	2.8	0.17	2.26	86.43	29.9	8	24.2	5.34	0.09	37.2	0.63	0.870	15.8
WPTO1S	220	228	0.46	8	2.6	0.22	1.47	71.29	29.5	6	19.5	6.18	0.16	34.3	0.61	49.790	18.3
WPTO2S	334	239	0.52	12	2.5	0.39	1.69	70.2	30.5	5	18.0	6.42	0.26	33.6	0.61	109.000	19.2
WPTO3S	211	232	0.95	10	2	0.30	1.14	65.46	24.5	4	14.9	6.05	0.17	30.8	0.55	80.420	19.0
WP546 715.46-716.825	121	222	0.16	2	3	0.19	1.3	85.27	29	12	23.9	6.27	0.10	39.6	0.7	0.530	17.3
WP546 716.825-718.777	110	201	5.18	1	2.7	0.17	171	77.25	24.9	9	21.7	5.82	0.08	36.4	0.65	0.830	15.5
WP546 721.163-723.8	136	216	12.23	<1	2.4	0.10	0.49	74.81	24.9	7	21.6	5.90	0.07	35.3	0.58	0.720	17.6
WP546 723.8-725.3	134	249	0.39	1	1.5	0.08	0.11	66.33	22.6	2	17.2	6.71	0.06	33.8	0.53	1.480	21.9
Duplicates																	
WP590 867.02-868.13	113	208	0.11	4	2.7	0.18	3.44	89.48	29.9	10	23.2	5.92	0.09	41.5	0.68	0.530	17.0
WP553 628.664-631.59	108	205	1.48	2	2.5	0.17	17.06	79.96	25.9	8	21.7	5.14	0.07	35.1	0.58	1.080	13.8
WP546 715.46-716.825	119	218	0.16	2	3	0.19	1.07	85.11	29.9	12	24.7	6.20	0.10	40.5	0.7	0.390	17.6
WP560 745.107-746.748	83	228	1.09	1	1.2	0.09	0.14	66.14	19	4	15.2	5.59	0.06	32	0.47	0.630	18.8
QA/QC																	
BLANK	<1	<0.5	<0.02	<1	<0.1	<0.04	<0.02	<0.05	<0.1	<1	<0.1	<0.02	<0.02	<0.1	<0.01	0.050	<0.1

Test	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb	Hg
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ppm	ppm	ppm
Method Code	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	CVA37A25
Lower detection	0.5	0.2	0.05	0.5	2	0.3	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1	0.005
Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	1000	100
WP544 617.025-619.49	19.5	86.6	0.7	17.1	<2	2.7	0.99	1.2	<0.05	8.90	0.5	3.1	1.2	37.90	4.30	<0.005
WP544 621.066-624.527	11	82.1	0.5	17	<2	2.6	0.98	1.2	<0.05	7.90	0.4	2.6	1	36.90	4.10	0.01
WP544 624.527-626.5	14.6	40.4	0.5	10.7	<2	2.3	1.36	1.1	<0.05	5.70	0.2	1.7	0.7	32.80	3.30	<0.005
WP544 615.458-617.025	8.5	106	0.6	19.6	<2	3	1.14	1.3	<0.05	9.50	0.6	3.0	1.2	40.50	4.30	<0.005
WP544 619.49-621.066	9.1	105	0.6	15.9	<2	2.7	1.14	1.2	<0.05	8.20	0.5	2.4	1.1	38.30	4.00	<0.005
WP547 716.231-719.302	12.6	77.3	0.5	17.1	<2	2.6	1.06	1.2	<0.05	8.20	0.4	2.9	1	36.20	3.80	0.04
WP547 715.033-716.231	8.8	86.9	0.5	12.5	<2	2.8	1.56	1.2	<0.05	8.70	0.4	2.1	0.9	38.00	3.90	<0.005
WP547 712.634-714.491	17.3	87.1	0.6	16.7	<2	2.8	0.94	1.2	<0.05	9.20	0.5	3.1	1.2	37.90	4.20	<0.005
WP547 712.081-712.634	13.5	96.2	0.6	18.5	<2	2.9	1.00	1.3	<0.05	9.10	0.5	3.0	1.2	39.80	4.50	<0.005
WP547 719.302-723.78	16.3	43.3	0.6	8.8	<2	2.4	1.28	1.1	<0.05	6.00	0.2	1.9	0.7	32.90	3.40	<0.005
WP530 829.308-830.74	10.8	111	0.5	21.3	<2	2.8	1.09	1.2	<0.05	9.40	0.6	3.1	1.3	42.10	4.00	<0.005
WP530 834.756-837.308	10.5	97.4	0.5	21.8	<2	2.8	1.03	1.2	<0.05	9.00	0.5	3.1	1.1	40.50	4.00	0.06
WP530 830.74-832.762	11.1	91	0.5	19.1	<2	2.7	1.32	1.2	<0.05	9.60	0.5	3.3	1.2	41.10	4.00	<0.005
WP530 832.762-834.756	7.9	73.2	0.5	13.6	<2	2.1	1.07	1.0	<0.05	6.90	0.4	2.1	0.9	35.20	3.20	0.01
WP530 837.308-838.8	10.5	43.1	0.4	10.1	<2	1.9	1.07	0.9	<0.05	5.30	0.2	1.7	0.6	30.80	2.80	0.01
WP558 689.124-692.49	10.3	102	0.6	20.9	<2	2.7	1.02	1.2	<0.05	8.70	0.5	2.9	1.1	39.00	3.90	0.05
WP558 687.646-689.124	6.8	76.8	0.5	13.6	<2	2.1	1.06	1.1	<0.05	6.80	0.4	2.0	1.8	36.30	3.30	0.01
WP558 685.677-687.646	25.6	92.5	0.6	18.5	<2	2.6	0.89	1.1	<0.05	9.00	0.5	3.1	1.1	38.70	3.80	0.01
WP558 684.701-685.677	11.1	108	0.5	20.8	<2	2.8	0.95	1.2	<0.05	9.40	0.5	3.1	1.2	40.70	3.90	0.01
WP558 691.49-692.99	8.4	49	0.4	10.7	<2	1.9	0.99	0.9	<0.05	5.40	0.3	1.8	0.4	31.60	2.90	0.01
WP559 561.855-564.039	11.1	93.4	0.5	18.6	<2	2.6	0.91	1.1	<0.05	8.80	0.5	3.1	1.1	39.00	3.80	0.01
WP559 560.296-561.855	10.4	110	0.5	20.5	<2	2.7	0.96	1.2	<0.05	8.70	0.5	2.8	1.1	39.80	3.80	0.01
WP559 568.659-570.159	16.6	50	0.5	12	<2	2.2	1.20	1.0	<0.05	6.60	0.3	2.0	0.7	34.40	3.10	<0.005
WP559 566.081-568.659	10.9	72.8	0.5	16.5	<2	2.4	0.92	1.1	<0.05	7.30	0.4	2.6	0.8	35.60	3.40	0.05
WP559 564.039-566.081	7.6	65.8	0.4	12.2	<2	2	0.99	1.0	<0.05	6.60	0.3	1.9	0.8	32.80	3.00	0.01
WP569 541.334-545.83	13.4	43.4	0.5	7.3	<2	1.9	0.93	0.8	<0.05	4.90	0.2	1.7	0.5	28.60	2.60	<0.005
WP569 536.364-541.190	10.5	75.4	0.5	15.3	<2	2.3	0.98	1.1	<0.05	7.00	0.4	2.3	0.8	35.90	3.40	0.01
WP569 532.487-533.905	9.4	116	0.5	21.7	<2	2.9	1.02	1.2	<0.05	9.00	0.6	3.0	1.2	39.50	4.00	<0.005
WP569 533.905-536.364	9.8	92.8	0.5	17.9	<2	2.6	0.91	1.1	<0.05	8.60	0.5	3.0	1.1	37.50	3.70	<0.005
WP565 526.933-528.566	12.7	111	0.5	21	<2	2.8	1.00	1.2	<0.05	8.90	0.6	3.1	1.2	39.50	4.20	<0.005
WP565 534.442-535.942	10.7	50.9	0.4	10.5	<2	1.8	1.01	1.0	<0.05	5.50	0.3	1.9	0.6	34.00	3.00	<0.005
WP565 530.611-534.442	11.1	95.7	0.5	19.5	<2	2.5	0.91	1.1	<0.05	8.60	0.5	2.8	1	39.20	3.80	0.02
WP565 528.566-530.611	9.6	88.9	0.5	17.7	<2	2.6	0.93	1.1	<0.05	9.00	0.5	3.2	1.1	38.90	3.80	<0.005
WP562 574.047-575.744	9	109	0.5	21	<2	2.8	1.00	1.2	<0.05	9.40	0.5	3.1	1.2	41.30	4.10	<0.005
WP562 575.744-578.532	16.6	97	0.6	18.6	<2	2.5	0.88	1.1	<0.05	8.70	0.6	3.1	1.2	38.80	3.90	<0.005
WP573 909.227-912.987	6.7	44.7	0.4	14.9	<2	2.3	1.34	1.1	<0.05	6.20	0.2	2.0	0.7	36.90	3.40	<0.005
WP562579.222-582.785	12.5	80	0.6	18.1	<2	2.4	0.90	1.2	<0.05	7.80	0.4	2.8	0.9	37.80	3.70	0.05
WP562 582.785-584.285	14.2	39	0.5	10.8	<2	2.1	1.18	1.0	<0.05	5.80	0.2	1.9	0.7	33.60	3.10	<0.005
WP562 578.532-579.222	7.7	83.1	0.4	13.4	<2	2.2	1.11	1.1	<0.05	7.40	0.4	2.1	0.8	37.40	3.30	<0.005
WP553 628.664-631.59	30.3	98.2	0.7	18.9	<2	2.7	0.94	1.2	<0.05	9.00	0.5	3.2	1.2	41.00	4.10	0.01
WP553 632.821-636.45	9.5	81.2	0.5	19.2	<2	2.4	0.89	1.2	<0.05	7.80	0.4	2.7	1	38.40	3.60	0.05
WP553 627.642-628.664	10.5	110	0.5	21.5	<2	2.8	1.08	1.2	<0.05	9.10	0.6	3.1	1.2	41.40	4.00	<0.005
WP553 631.59-632.821	7.4	91.2	0.5	14.9	<2	2.5	1.30	1.1	<0.05	8.70	0.5	2.3	0.9	38.50	3.70	<0.005
WP553 636.45-638.24	13.8	53.4	0.6	10	<2	2.5	1.32	1.1	<0.05	6.80	0.3	2.2	0.6	36.20	3.50	<0.005
WPTO1L	8.7	69.6	0.6	14.6	<2	2.4	0.98	1.1	<0.05	6.70	0.4	2.4	0.9	35.60	3.50	<0.005
WPTO2L	10.4	88.5	0.5	19	<2	3	1.06	1.1	<0.05	7.90	0.4	2.6	1.1	37.80	3.60	0.01
WPTO3L	24.4	53.9	1.8	12.1	<2	3.6	1.00	1.0	<0.05	9.10	0.3	2.8	1.5	33.50	3.50	0.01
WP573 905.775-907.88	34	105	0.6	21.4	<2	2.9	0.96	1.2	<0.05	8.80	0.5	2.9	1.1	41.20	4.10	0.01
WPTO1S	16.8	73.1	1.4	16.4	<2	4	1.14	1.2	<0.05	8.90	0.4	2.8	1.4	38.40	4.10	0.01
WPTO2S	26.7	68.3	2.2	15.2	<2	4.5	1.18	1.2	<0.05	9.50	0.4	3.2	1.8	38.20	4.10	<0.005
WPTO3S	17.5	57.7	1.5	13.1	2	3.6	1.13	1.2	<0.05	8.60	0.3	2.7	1.3	36.90	3.80	0.04
WP546 715.46-716.825	11	115	0.6	22.5	<2	3.2	1.14	1.4	<0.05	9.90	0.6	3.3	1.3	42.60	4.70	<0.005
WP546 716.825-718.777	11.3	92.6	0.6	19	<2	2.9	0.99	1.3	<0.05	9.60	0.5	3.3	1.2	39.80	4.40	<0.005
WP546 721.163-723.8	11.6	75.4	0.5	17.4	<2	2.6	1.11	1.2	<0.05	8.20	0.4	2.7	0.8	38.30	4.00	0.02
WP546 723.8-725.3	17.5	41.6	0.5	13.4	<2	2.5	1.27	1.2	<0.05	5.90	0.2	1.9	0.4	35.90	3.70	<0.005
Duplicates																
WP590 867.02-868.13	13.9	111	0.6	21.7	<2	3.2	1.04	1.3	<0.05	9.30	0.6	3.1	1.3	41.90	4.70	
WP553 628.664-631.59	28.9	95.1	0.7	18.1	<2	2.5	0.88	1.1	<0.05	8.60	0.5	3.2	1.2	39.30	3.90	
WP546 715.46-716.825	10.9	115	0.6	22.7	<2	3.2	1.13	1.4	<0.05	10.50	0.6	3.4	1.3	43.30	4.70	
WP560 745.107-746.748	9.1	53.6	0.4	11.8	<2	2.1	1.15	1.1	<0.05	6.50	0.3	1.8	0.8	32.60	3.30	
QA/QC																
BLANK	<0.5	<0.2	<0.05	<0.5	<2	<0.3	<0.05	<0.05	<0.05	<0.2	<0.02	<0.05	<0.1	<0.1	<0.1	

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SGS proposal: 20741-PR1-R1
SGS project #: 2458

Work order date: 8-Jan-25
Report date: 18-Feb-25

Version: Final

Metals - Multi-Acid Digestion with ICP-OES/MS Finish

Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V
Units	%	mg/kg	%	mg/kg	mg/kg	%	%	mg/kg	%	mg/kg	%	mg/kg	%	%	mg/kg	%	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
Lower detection	0.01	1	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	2
Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000
BLANK	<0.01	<1	<0.01	<1	0.6	<0.01	<0.01	<1	<0.01	<2	<0.01	<1	<0.01	<0.01	<0.5	<0.01	<2
Certified standards																	
OREAS 609b	6.380	696	0.88	20	4661.0	2.72	2.54	31	0.14	221	1.84	7.0	0.03	2.19	214	0.12	13
OREAS 681	7.800	420	5.8	1504	262.0	7.1	1.39	14	5.11	1302	1.65	451.0	0.14	0.11	466	0.59	247
OREAS 609b	6.860	352	0.93	20	4910.0	2.85	2.53	33	0.15	235	1.84	8.0	0.03	2.25	226	0.12	14
OREAS 681	8.190	435	5.99	1336	276.0	7.32	1.35	14	5.33	1352	1.62	480.0	0.15	0.11	485	0.60	261
OREAS 609b	6.700	305	0.93	18	4948.0	2.87	2.7	31	0.15	234	1.79	7.0	0.03	2.30	224	0.12	14
OREAS 681	7.800	409	5.87	1421	262.0	7.17	1.42	14	5.20	1297	1.64	480.0	0.14	0.11	464	0.59	245

Test	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu	Mo	Nb
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
Lower detection	1	0.5	0.02	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.02	0.1	0.01	0.05	0.1
Upper detection	10000	10000	100	10000	2500	10000	10000	1000	10000	1000	1000	500	500	10000	1000	10000	1000
BLANK	<1	<0.5	<0.02	<1	<0.1	<0.04	<0.02	<0.05	<0.1	<1	<0.1	<0.02	<0.02	<0.1	<0.01	<0.05	<0.1
Certified standards																	
OREAS 609b	1209	169	23.87	1508	2.4	107.00	8.35	73.81	5.2	5	22.1	5.00	2.04	37.4	0.08	5.510	15.0
OREAS 681	81	55	0.14	2	1.4	0.09	0.07	42.54	53.5	4	17.4	1.70	0.04	20.1	0.29	1.730	6.6
OREAS 609b	1281	176	24.76	1141	2.3	103.00	7.43	70.56	5.2	5	23.2	4.35	1.92	33.2	0.07	5.530	13.5
OREAS 681	84	59	0.12	2	1.5	0.10	0.08	40.03	50.9	4	17.5	1.69	0.04	17.4	0.26	1.310	6.0
OREAS 609b	1324	178	24.75	1490	2.6	112.00	8.47	72.79	5.5	6	23.8	5.08	2.21	36.8	0.08	5.500	15.4
OREAS 681	82	55	0.11	1	1.3	0.08	0.05	39.95	46	4	15.8	1.61	0.04	18.9	0.28	1.220	6.6

Test	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb	Hg
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ppm	ppm	ppm
Method Code	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	CVA37A25
Lower detection	0.5	0.2	0.05	0.5	2	0.3	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1	0.005
Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	1000	100
BLANK	<0.5	<0.2	<0.05	<0.5	<2	<0.3	<0.05	<0.05	<0.05	<0.2	<0.02	<0.05	<0.1	<0.1	<0.1	
Certified standards																
OREAS 609b	440	107	163.0	3.6	13	12	1.06	0.6	22.24	12.70	1.5	4.4	4.5	11.90	0.60	
OREAS 681	9.3	80	0.2	27.7	<2	1.8	0.47	0.6	0.14	6.90	0.2	1.5	1.1	18.10	1.90	
OREAS 609b	449	109	151.0	3.6	12	10.6	0.95	0.5	19.93	11.80	1.4	4.1	3.9	11.20	0.50	
OREAS 681	9.9	79.1	0.2	27.7	<2	1.6	0.42	0.5	0.14	6.60	0.2	1.4	1	17.20	1.70	
OREAS 609b	450	113	164.0	4	14	12.1	1.26	0.7	22.25	12.80	1.5	4.5	4.4	12.20	0.60	
OREAS 681	10.4	77	0.2	25.2	<2	1.8	0.70	0.6	0.11	6.90	0.2	1.4	1	16.40	1.80	

Net Acid Generation

Sample weight 2.5 g general 3.5 g for those with leachate anlaysis

H2O2 addition 17.5 %

Sample ID	NAG pH after reaction	Vol. of 0.1 N NaOH		NAG (kg H2SO4/tonne)	
		to pH 4.5	to pH 7.0	to pH 4.5	to pH 7.0
WP561 727.091-728.315	6.12		5.5	0.0	10.8
WP561 720.597-722.340	7.59			0.0	0.0
WP561 722.725-724.445	7.41			0.0	0.0
WP561 718.63-720.597	6.08		1.7	0.0	3.3
WP561 724.445-726.911	7.66			0.0	0.0
WP566 586.69-587.669	6.03		1.6	0.0	3.2
WP566 593.748-595.248	7.29			0.0	0.0
WP566 592.081-593.710	8.32			0.0	0.0
WP566 590.572-591.889	7.44			0.0	0.0
WP566 587.669-590.572	7.80			0.0	0.0
WP557 819.66-822.536	8.00			0.0	0.0
WP557 818.32-819.66	6.23		1.3	0.0	2.5
WP557 822.536-824.913	7.35			0.0	0.0
WP557 828.01-829.51	6.11		2.2	0.0	4.4
WP573 912.987-914.371	7.80			0.0	0.0
WP573 914.371-915.871	6.71		0.5	0.0	1.0
WP573 907.88-909.227	7.32			0.0	0.0
WP557 824.913-828.01	7.72			0.0	0.0
WP572 814.149-815.994	6.34		1.3	0.0	2.5
WP572 818.645-820.048	6.41		1.4	0.0	2.8
WP572 822.532-824	6.90		0.3	0.0	0.5
WP572 815.994-818.645	6.90		0.4	0.0	0.7
WP572 820.048-822.532	7.52			0.0	0.0
WP544 617.025-619.49	7.42			0.0	0.0
WP544 621.066-624.527	7.62			0.0	0.0
WP544 624.527-626.5	6.27		1.8	0.0	3.5
WP544 615.458-617.025	6.06		1.7	0.0	3.4
WP544 619.49-621.066	7.21			0.0	0.0
WP547 716.231-719.302	7.61			0.0	0.0
WP547 715.033-716.231	7.55			0.0	0.0
WP547 712.634-714.491	7.69			0.0	0.0
WP547 712.081-712.634	6.36		1.1	0.0	2.1
WP547 719.302-723.78	6.18		2.8	0.0	5.5
WP558 689.124-692.49	7.61			0.0	0.0
WP558 687.646-689.124	7.72			0.0	0.0
WP558 685.677-687.646	7.42			0.0	0.0
WP558 684.701-685.677	6.64		0.6	0.0	1.1
WP558 691.49-692.99	7.09			0.0	0.0
WP559 561.855-564.039	7.59			0.0	0.0
WP559 560.296-561.855	6.60		0.7	0.0	1.4
WP559 568.659-570.159	6.26		2.1	0.0	4.1
WP559 566.081-568.659	7.83			0.0	0.0
WP559 564.039-566.081	7.29			0.0	0.0
WP569 541.334-545.83	6.32		2.3	0.0	4.5
WP569 536.364-541.334	7.93			0.0	0.0
WP569 532.487-533.905	6.43		1.0	0.0	2.0
WP569 533.905-536.364	7.83			0.0	0.0

WP565 526.933-528.566	6.50		1.1	0.0	2.1
WP565 534.442-535.942	7.23			0.0	0.0
WP565 530.611-534.442	7.99			0.0	0.0
WP565 528.566-530.611	7.90			0.0	0.0
WP562 574.047-575.744	6.68		0.7	0.0	1.3
WP562 575.744-578.532	7.89			0.0	0.0
WP573 909.227-912.987	7.04			0.0	0.0
WP562579.222-582.785	7.88			0.0	0.0
WP562 582.785-584.285	6.21		1.7	0.0	3.3
WP562 578.532-579.222	7.69			0.0	0.0
WP553 628.664-631.59	7.31			0.0	0.0
WP553 632.821-636.45	7.95			0.0	0.0
WP553 627.642-628.664	6.30		1.1	0.0	2.2
WP553 631.59-632.821	6.74		0.8	0.0	1.5
WP553 636.45-638.24	6.19		2.3	0.0	4.5
WPTO1L	7.85			0.0	0.0
WPTO2L	7.85			0.0	0.0
WPTO3L	7.87			0.0	0.0
WP573 905.775-907.88	6.10		1.5	0.0	2.8
WPTO1S	7.75			0.0	0.0
WPTO2S	7.95			0.0	0.0
WPTO3S	7.89			0.0	0.0
WP546 715.46-716.825	5.39		3.4	0.0	6.6
WP546 716.825-718.777	7.71			0.0	0.0
WP546 721.163-723.8	7.72			0.0	0.0
WP546 723.8-725.3	5.95		2.8	0.0	5.4
WP587 849.77-851.01	6.60		0.7	0.0	1.3
WP587 851.01-853.04	6.84		0.8	0.0	1.5
WP587 853.04-854.33	6.60		0.9	0.0	1.8
WP587 854.33-856.91	7.85			0.0	0.0
WP587 856.91-857.92	6.95		0.1	0.0	0.3
WP588 989.73-990.75	6.36		1.2	0.0	2.3
WP588 990.75-992.71	6.26		1.0	0.0	2.0
WP588 992.71-994.30	6.62		1.1	0.0	2.2
WP588 994.30-997.32	7.53			0.0	0.0
WP588 997.32-998.82	7.10			0.0	0.0
WP590 867.02-868.13	6.43		0.9	0.0	1.8
WP590 868.13-870.62	7.63			0.0	0.0
WP590 870.62-872.32	6.78		0.6	0.0	1.2
WP590 872.32-873.76	7.46			0.0	0.0
WP590 873.76-875.31	7.38			0.0	0.0
WP591 926.89-927.87	6.55		0.7	0.0	1.4
WP591 927.87-930.36	7.48			0.0	0.0
WP591 930.36-931.89	7.09			0.0	0.0
WP591 931.89-934.18	7.50			0.0	0.0
WP591 934.18-935.68	7.17			0.0	0.0
WP592 963.33-964.45	6.61		0.7	0.0	1.3
WP592 964.45-966.19	6.45		0.7	0.0	1.4
WP592 966.40-967.96	7.21			0.0	0.0
WP592 967.96-971.89	7.45			0.0	0.0
WP592 971.89-973.41	7.21			0.0	0.0
WP593 938.18-939.62	6.32		1.1	0.0	2.2
WP593 939.62-941.98	7.39			0.0	0.0
WP593 941.98-943.92	6.28		2.2	0.0	4.4
WP593 943.92-946.77	7.53			0.0	0.0
WP593 946.77-947.74	6.01		3.3	0.0	6.5
WP594 895.92-898.02	6.87		0.2	0.0	0.5
WP594 898.02-899.67	7.64			0.0	0.0

WP594 899.67-900.79	6.84		0.4	0.0	0.7
WP594 900.79-903.13	7.67			0.0	0.0
WP594 9003.19-904.13	7.85			0.0	0.0
WP530 829.308-830.74	6.13		2.0	0.0	2.8
WP530 834.756-837.308	7.11			0.0	0.0
WP530 830.74-832.762	7.59			0.0	0.0
WP530 832.762-834.756	7.26			0.0	0.0
WP530 837.308-838.8	6.15		5.5	0.0	7.7
WP560 739.941-742.107	7.01			0.0	0.0
WP560 745.107-746.748	7.37			0.0	0.0
WP560 746.748-749.82	7.45			0.0	0.0
WP560 742.107-745.107	7.67			0.0	0.0
WP560 749.82-751.232	6.15		4.1	0.0	5.8
DUPLICATES					
WP561 727.091-728.315	6.09		5.15	0.0	10.1
WP572 818.645-820.048	6.36		1.50	0.0	2.9
WP572 822.532-824	6.83		0.28	0.0	0.5
WP559 560.296-561.855	6.62		0.80	0.0	1.6
WP559 568.659-570.159	6.27		1.98	0.0	3.9
WP553 627.642-628.664	6.43		1.01	0.0	2.0
WP553 631.59-632.821	6.72		0.81	0.0	1.6
WP588 990.75-992.71	6.20		1.09	0.0	2.1
WP588 992.71-994.30	6.67		0.89	0.0	1.7
WP588 992.71-994.49	7.41			0.0	0.0
WP593 941.98-943.92	6.35		2.10	0.0	4.1
Blank	4.84				
	4.90				
	4.75				

SGS proposal: 20741-PR1-R1
SGS project #: 2458

Work order date: 8-Jan-25
Report date: 19-Feb-25

Version: Final

NAG Leachate

Leachate Analysis

Sample ID			WP530 829.308-830.74	WP530 834.756-837.308	WP530 830.74-832.762	WP530 832.762-834.756	WP530 837.308-838.8	WP560 739.941-742.107	WP560 745.107-746.748
Parameter	**Method**	**Units**							
pH	meter		6.39	7.14	7.55	7.43	6.31	7.06	7.37
Redox	meter	mV	291	237	208	231	298	265	244
Conductivity	meter	uS/cm	326	275	274	335	448	304	293
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	114.3	16.8	7.3	25.1	523.3	26.9	11.1
Alkalinity	titration	mg CaCO3/L	37.2	29.6	34.8	56.2	57.8	36.2	34.3
Total Dissolved Solids		mg/L	203.0	149.0	166.0	211.0	254.0	197.0	194.0
Chloride		mg/L	12	9.4	9	13	45	11	21
Fluoride		mg/L	0.11	0.06	0	0.07	< 0.06	0.13	0.1
Sulphate	Turbidity	mg/L	14	21	27.0	11	3	16	16
Dissolved Metals									
Hardness (dissolved)	Calc	mg/L	37.1	14.3	17.2	42.2	109	23.2	23.9
Aluminum (dissolved)	Calc	mg/L	0.037	0.02	0.032	0.01	0.011	0.024	0.016
Antimony (dissolved)	ICP-MS	mg/L	0.0013	0.001	0.0013	0.001	0.0011	0.0013	0.001
Arsenic (dissolved)	ICP-MS	mg/L	0.0022	0.0101	0.0019	0.0008	0.001	0.0027	0.0012
Barium (dissolved)	ICP-MS	mg/L	0.00328	0.00151	0.00051	0.00134	0.00805	0.00183	0.0008
Beryllium (dissolved)	ICP-MS	mg/L	0.000016	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
Bismuth (dissolved)	ICP-MS	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron (dissolved)	ICP-MS	mg/L	0.044	0.04	0.039	0.035	0.027	0.063	0.048
Cadmium (dissolved)	ICP-MS	mg/L	0.000055	< 0.000003	0.000421	0.000008	0.000017	0.00102	0.000006
Calcium (dissolved)	ICP-MS	mg/L	8.05	2.61	3.81	12.8	36.8	4.93	6.5
Chromium (dissolved)	ICP-MS	mg/L	0.0448	0.0557	0.0548	0.0585	0.0653	0.061	0.0613
Cobalt (dissolved)	ICP-MS	mg/L	0.000332	0.000071	0.000036	0.000023	0.000127	0.000119	0.000021
Copper (dissolved)	ICP-MS	mg/L	0.004	0.064	0.014	0.01	0.002	0.008	0.019
Iron (dissolved)	ICP-MS	mg/L	0.018	0.008	0.01	< 0.007	0.008	0.011	0.009
Lead (dissolved)	ICP-MS	mg/L	0.00054	0.00035	< 0.00009	0.00026	0.00121	0.00103	< 0.00009
Lithium (dissolved)	ICP-MS	mg/L	0.0298	0.0243	0.0249	0.0143	0.0133	0.0243	0.0172
Magnesium (dissolved)	ICP-MS	mg/L	4.13	1.89	1.86	2.47	4.15	2.64	1.86
Manganese (dissolved)	ICP-MS	mg/L	0.117	0.0181	0.00641	0.0143	0.132	0.0257	0.00861
Mercury (dissolved)	ICP-MS	ug/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum (dissolved)	ICP-MS	mg/L	0.011	0.0069	0.02	0.0088	0.0131	0.0081	0.0074
Nickel (dissolved)	ICP-MS	mg/L	0.0017	0.0001	< 0.0001	0.0002	0.0025	0.0002	< 0.0001
Phosphorus (dissolved)	ICP-MS	mg/L	24.2	20.4	14	20.8	25.6	21.7	14.8
Potassium (dissolved)	ICP-MS	mg/L	6.69	4.22	5.24	5.12	3.24	6.25	3.72
Selenium (dissolved)	ICP-MS	mg/L	0.00131	0.00061	0.00132	0.00017	0.00033	0.0014	0.00018
Silicon (dissolved)	ICP-MS	mg/L	8.23	6.32	7.4	7.15	5.87	9.13	7.46
Silver (dissolved)	ICP-MS	mg/L	0.00026	0.00023	0.0003	0.00009	0.00007	0.00006	0.00011
Sodium (dissolved)	ICP-MS	mg/L	39.1	36	34.6	37.1	44.4	36.6	38.7
Strontium (dissolved)	ICP-MS	mg/L	0.0603	0.0158	0.0127	0.0379	0.282	0.0331	0.0281
Sulfur (dissolved)	ICP-MS	mg/L	5	6	8	< 5	< 5	< 5	< 5
Thallium (dissolved)	ICP-MS	mg/L	0.000027	0.000021	0.000011	0.000009	0.000035	0.000007	< 0.000005
Tin (dissolved)	ICP-MS	mg/L	0.0051	0.0021	0.00181	0.00073	0.00118	0.00249	0.00109
Titanium (dissolved)	ICP-MS	mg/L	0.0369	0.0016	0.0014	0.0027	0.0246	0.0148	0.0018
Uranium (dissolved)	ICP-MS	mg/L	0.000793	0.000011	0.000015	0.000031	0.000245	0.000653	0.000039
Vanadium (dissolved)	ICP-MS	mg/L	0.0449	0.0313	0.0309	0.0243	0.0319	0.0421	0.0321
Zinc (dissolved)	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Zirconium (dissolved)	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

SGS proposal:
SGS project #:

NAG Leachate

Leachate Analysis

Sample ID			WP560 746.748-749.82	WP560 742.107-745.107	WP560 749.82-751.232
Parameter	**Method**	**Units**			
pH	meter		7.50	7.70	6.30
Redox	meter	mV	231	227	310
Conductivity	meter	uS/cm	281	289	452
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.0	0.0	0.0
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	8.6	7.5	347.7
Alkalinity	titration	mg CaCO3/L	31.9	44.4	54.4
Total Dissolved Solids		mg/L	146.0	171.0	220.0
Chloride		mg/L	12	9.5	46
Fluoride		mg/L	0.11	0.12	< 0.06
Sulphate	Turbidity	mg/L	27	17	3
Dissolved Metals					
Hardness (dissolved)	Calc	mg/L	18.8	19	100.0
Aluminum (dissolved)	Calc	mg/L	0.028	0	0.0
Antimony (dissolved)	ICP-MS	mg/L	0.001	0.0	0.00
Arsenic (dissolved)	ICP-MS	mg/L	0.0029	0.00	0.00
Barium (dissolved)	ICP-MS	mg/L	0.00051	0.001	0.00322
Beryllium (dissolved)	ICP-MS	mg/L	< 0.000007	< 0.000007	0.000007
Bismuth (dissolved)	ICP-MS	mg/L	< 0.00001	< 0.00001	< 0.00001
Boron (dissolved)	ICP-MS	mg/L	0.059	0.060	0.041
Cadmium (dissolved)	ICP-MS	mg/L	< 0.000003	0.000	0.000
Calcium (dissolved)	ICP-MS	mg/L	4.44	4.7100	32.900
Chromium (dissolved)	ICP-MS	mg/L	0.0586	0.06060	0.06280
Cobalt (dissolved)	ICP-MS	mg/L	0.00005	0.00001	0.00018
Copper (dissolved)	ICP-MS	mg/L	0.016	0.0090	0.016
Iron (dissolved)	ICP-MS	mg/L	0.01	0.013	0.013
Lead (dissolved)	ICP-MS	mg/L	0.0001	0.00	0.00
Lithium (dissolved)	ICP-MS	mg/L	0.0266	0.02	0.02
Magnesium (dissolved)	ICP-MS	mg/L	1.87	1.710	4.35000
Manganese (dissolved)	ICP-MS	mg/L	0.00899	0.006	0.13500
Mercury (dissolved)	ICP-MS	ug/L	< 0.01	< 0.01	< 0.01
Molybdenum (dissolved)	ICP-MS	mg/L	0.0109	0.0	0.0
Nickel (dissolved)	ICP-MS	mg/L	< 0.0001	< 0.0001	0.0021
Phosphorus (dissolved)	ICP-MS	mg/L	13.3	16.0000	25.4000
Potassium (dissolved)	ICP-MS	mg/L	4.01	5.3200	3.69000
Selenium (dissolved)	ICP-MS	mg/L	0.00053	0.0006	0.00052
Silicon (dissolved)	ICP-MS	mg/L	7.51	7.630	6.84
Silver (dissolved)	ICP-MS	mg/L	0.00034	0.000	0.0006
Sodium (dissolved)	ICP-MS	mg/L	37	37.8	44.10
Strontium (dissolved)	ICP-MS	mg/L	0.0202	0.02	0.327
Sulfur (dissolved)	ICP-MS	mg/L	7	< 5	< 5
Thallium (dissolved)	ICP-MS	mg/L	< 0.000005	0.000	0.000028
Tin (dissolved)	ICP-MS	mg/L	0.00217	0.003	0.002
Titanium (dissolved)	ICP-MS	mg/L	0.0013	0.002	0.034
Uranium (dissolved)	ICP-MS	mg/L	0.00001	0.00	0.00
Vanadium (dissolved)	ICP-MS	mg/L	0.0424	0.03	0.04
Zinc (dissolved)	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002
Zirconium (dissolved)	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002

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SGS

ANALYSIS REPORT
ABA Report - CRM Expected Values and Tolerances

CRM	Test	S(T)	S(SO4)	S(SO4)	S(S-2)	C(T)	TIC	CO2	Modified NP	Modified with Siderite Correction NP	Sobek With Siderite NP	Fizz Test	Paste pH
	Units	%	%	%	%	%	%	%	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t		
	Method Code	CSA06V	CSA07V	CSA07D	Calc.	CSA06V	CSB02V	CSB02V	Modified			Sobek	Sobek
	LOD	0.005	0.01	1.01	0.01	0.005	0.01	0.005	0.5				0.2
GGC-07	Expected value	0.51				0.56							
	Tolerance (+/-)	0.09				0.09							
HCC-1	Expected value	33.92											
	Tolerance (+/-)	5.04											
RTS-3a	Expected value		0.98	1.34									
	Tolerance (+/-)		0.12	0.35									
OREAS 278	Expected value				0.699								
	Tolerance (+/-)				0.06								
NBM-1	Expected value								42.44	50.27	57.6	Slight	
	Tolerance (+/-)								3.04	2.31	1.3		
TIC-L1	Expected value						0.13	0.477					
	Tolerance (+/-)						0.02	0.78					
GS314-2	Expected value	2.56				5.15							
	Tolerance (+/-)	0.14				0.27							
GS915-8	Expected value	0.13				0.07							
	Tolerance (+/-)	0.02				0.02							
OREAS 550	Expected value	0.220				4.110							
	Tolerance (+/-)	0.004				0.22							
SX35-13	Expected value						11.954						
	Tolerance (+/-)						0.626						
SY4	Expected value						0.95						
	Tolerance (+/-)						0.06						

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Metals - Multi Acid Digestion with ICP-OES/MS Finish - CRM Expected Values and Tolerance

CRM	Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V
	Units	%	ppm	%	ppm	ppm	%	%	ppm	%	ppm	%	ppm	%	%	ppm	%	ppm
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
	Lower detection	0.01	1	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	2
	Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000
OREAS 905	Expected value	7.42	2699.0	0.59	19.2	1533	4.08	2.88	20	0.28	380	2.40	9.5	0.028	0.07	157	0.12	10.1
	Tolerance (%)	10.7	14.0	14.2	49.1	11.9	11.5	12.1	23.9	17.2	13.0	14.1	26.5	24.6	29.4	12.5	15.4	28.6
OREAS 601B	Expected value	6.63	BDL	0.887	23.7	1010	2.29	2.41	22.6	0.10	222	1.90	6.5	0.029	1.50	241	0.14	12.1
	Tolerance (%)	10.1		14.9	37.6	6.8	10.7	9.4	26.3	20.0	11.1	14.3	30.9	15.1	7.2	14.7	11.8	21.7
OREAS 609B	Expected value	6.71		0.939	19.9	4980	2.89	2.53	30.9	0.147	230	1.91	7.35	0.033	2.27	219	0.122	14.4
	Tolerance (%)	10.37		11.33	<=28	10.03	10.87	10.99	18.09	13.40	12.17	10.65	44.01	17.58	10.55	10.57	12.05	44.72
OREAS 681	Expected value	7.91	442	5.98	1642	264	7.47	1.35	13	5.19	1310	1.61	503	0.141	0.109	478	0.588	253
	Tolerance (%)	10.32	10.57	10.21	15.15	10.47	10.33	11.85	29.23	10.10	10.38	10.78	10.50	11.77	21.47	10.26	10.43	11.98

CRM	Test	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu	Mo	Nb
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Method Code	ICP40Q12	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
	Lower detection	1	0.5	0.02	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.02	0.1	0.01	0.05	0.1
	Upper detection	10000	10000	100	10000	2500	10000	10000	1000	10000	1000	1000	500	500	10000	1000	10000	1000
OREAS 905	Expected value	138	252.000	0.52	34.7	3.04	5.7	0.36	92	14.8	6.78	25.1	6.8	0.64	46	0.1	3.27	18.1
	Tolerance (%)	14.5	13.7	55.1	15.0	31.2	17.7	37.7	14.0	16.3	18.0	12.2	16.5	22.3	19.4	43.4	24.0	18.1
OREAS 601B	Expected value	318	186.000	50.10	284	2.24	18.0	2.05	70	2.97	4.88	23.4	5.1	0.47	33.5	0.0731	5.22	14.4
	Tolerance (%)	5.6	17.0	10.4	19.2	44.2	19.0	16.3	35.5	18.6	11.4	22.9	17.4	17.0	22.6	54.6	27.1	21.7
OREAS 609B	Expected value	1,308	181	24.6	1,500	2.43	110	8.16	71	5.43	5.28	23	5	2.05	35.3	0.083	5.54	14.6
	Tolerance (%)	10.19	10.69	10.20	10.17	15.14	10.02	10.61	10.18	14.60	12.37	10.54	11.00	10.61	10.35	40.12	12.26	11.71
OREAS 681	Expected value	88	58	0.118		1.41	0.098		40.6	51	4.02	17.6	1.7	0.042	18.8	0.27	1.38	6.17
	Tolerance (%)	12.84	12.16	52.37		18.87	35.51		10.31	10.49	13.11	10.71	12.94	39.76	10.66	19.26	19.06	14.05

CRM	Test	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Method Code	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	
	Lower detection	0.5	0.2	0.05	0.5	2	0.3	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1
	Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	1000
OREAS 905	Expected value	30.40	138	1.95	4.9	2.84	3.96	1.34	0.77	0.1	14.60	0.7	5.0	2.78	15.7	0.68
	Tolerance (%)	20.7	13.8	19.7	28.2	34.0	20.5	18.5	27.1	58.3	15.6	22.9	18.4	18.8	15.4	21.2
OREAS 601B	Expected value	318.0	98	22.9	3.8	10.6	3.36	1.11	0.52	12.6	11.90	1.4	4.6	6.13	11.1	0.54
	Tolerance (%)	14.7	10.9	27.4	19.0	31.2	15.8	20.6	40.4	22.8	20.7	19.2	14.0	16.6	13.7	30.4
OREAS 609B	Expected value	448	109	158	3.73	15.5	11.6	1.07	0.57	21.5	12.2		4.26	4.42	11.4	0.56
	Tolerance (%)	10.28	10.23	10.08	16.70	26.13	14.31	26.68	31.93	10.58	10.20		12.93	20.66	12.19	54.64
OREAS 681	Expected value	10.2	80	0.24	27.7		1.89	0.42	0.58		6.55		1.44	1.09	17.5	1.77
	Tolerance (%)	22.25	10.31	62.08	10.90		36.46	44.76	31.55		10.38		18.68	37.94	11.43	24.12

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SGS proposal: 20741-PR1
SGS project #: 2458

Work order date: 8-Jan-26
Report date: 2-Feb-26
Sample receipt date: 3-Dec-25
Version: Final

Customer details

Name:	Chad Wolahan
Address:	

Project reference: White Pine Copper

P.O. number:

COC:

ANALYSIS REPORT

SGS WO: 4

Report Distribution

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Special notes:

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ANALYSIS REPORT

Method Summaries *Test method information available upon request.*

S(T) and C(T): Total sulfur and total carbon by LECO, Method CSA06V
S(SO4): Sulfate by HCl digestion with ICP finish, Method CSA07C1
S(S2-): Sulfide by calculation of S(T) - S(SO4) or by nitric acid digestion with ICP finish (Method CSA08C1)

TIC: Total inorganic carbon by coulometry, Method CSB02V
AP: Acid generating potential based on sulfide sulfur
NP: Modified neutralisation potential by excess acid addition and back titration to pH 8.3
Net NP: Net neutralisation potential = NP - AP

Metals by aqua regia digest with ICP-OES/MS finish, Method ICP21B20/ICM21B20
Metals by multi-acid digest with ICP-OES/MS finish, Method ICP40Q12/IMS40Q12

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Preliminary Data Approval

Anahita Etemadifar - Laboratory Supervisor

Final Data Approval

Noelene Ahern - Manager: ARD

ABA Report

Test	S(T)	S(SO4)	S(S-2)	Insoluble S	AP
Units	%	%	%	%	kg CaCO3/t
Method Code	CSA06V	CSA07C1	CSA08C1	Calc.	Calc.
LOD	0.005	0.01	0.01	#N/A	#N/A
Sample ID					
WP002761	0.011	<0.01	<0.01	0.011	<0.3
WP002762	0.012	<0.01	<0.01	0.012	<0.3
WP002763	0.009	<0.01	<0.01	0.009	<0.3
WP002764	0.012	<0.01	<0.01	0.012	<0.3
WP002765	0.473	<0.01	0.46	0.013	14.4
WP002766	0.021	0.01	<0.01	0.011	<0.3
WP002767	0.695	<0.01	0.68	0.015	21.3
WP002768	0.012	<0.01	<0.01	0.012	<0.3
WP002769	0.346	<0.01	0.34	0.006	10.6
WP002770	0.014	<0.01	<0.01	0.014	<0.3
WP002771	1.108	<0.01	1.1	0.008	34.4
WP002772	0.009	<0.01	<0.01	0.009	<0.3
WP002773	0.019	0.01	<0.01	0.009	<0.3
WP002774	1.883	0.01	1.79	0.083	55.9
243001	0.012	<0.01	<0.01	0.012	<0.3
243002	0.020	<0.01	0.01	0.01	0.3
243003	0.034	<0.01	0.02	0.014	0.6
243004	0.019	<0.01	<0.01	0.019	<0.3
243005	0.017	<0.01	<0.01	0.017	<0.3
243006	0.012	<0.01	<0.01	0.012	<0.3
243007	0.008	<0.01	<0.01	0.008	<0.3
243008	0.010	<0.01	<0.01	0.01	<0.3
243009	0.011	<0.01	<0.01	0.011	<0.3
243010	0.015	<0.01	<0.01	0.015	<0.3
243011	0.009	<0.01	<0.01	0.009	<0.3
243012	0.006	<0.01	<0.01	0.006	<0.3
243013	0.009	<0.01	<0.01	0.009	<0.3
243014	0.007	<0.01	<0.01	0.007	<0.3
243015	0.010	<0.01	<0.01	0.01	<0.3
243016	0.008	<0.01	<0.01	0.008	<0.3
243017	0.010	<0.01	<0.01	0.01	<0.3
243018	0.012	<0.01	<0.01	0.012	<0.3
243019	0.009	<0.01	<0.01	0.009	<0.3
243020	0.008	<0.01	<0.01	0.008	<0.3
243021	0.010	<0.01	<0.01	0.01	<0.3
243022	0.009	<0.01	<0.01	0.009	<0.3
243023	0.020	0.01	<0.01	0.01	<0.3
243024	0.016	<0.01	<0.01	0.016	<0.3
243025	1.975	0.01	1.86	0.105	58.1
243026	0.032	<0.01	0.02	0.012	0.6
Duplicates					
WP002772	0.009				
243013			<0.01		
243026		<0.01	0.01		
WP002765		<0.01			
243006		<0.01			
WP002763			<0.01		

QA/QC					
Blank	0.007	<0.01	<0.01		
Certified standards					
GS-314-2	2.645				
GS915-8	0.138				

SGS proposal: 20741-PR1 Work order date: 8-Jan-26
SGS project #: 2458 Report date: 27-Jan-26

Version: Final

ABA Report

Test	C(T)	TIC	CaCO3 NP	Modified NP	Net Modified NP	Fizz Test	Paste pH
Units	%	%	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t		
Method Code	CSA06V	CSB02V	Calc.	Modified	Calc.	Sobek	Sobek
LOD	0.005	0.01					0.2
Sample ID							
WP002761	0.382	0.39	32.5	37.2	37.2	Slight	7.86
WP002762	0.122	0.12	10.0	13.4	13.4	None	7.96
WP002763	0.248	0.26	21.7	24.9	24.9	None	8.13
WP002764	0.082	0.06	5.0	10.1	10.1	None	7.95
WP002765	0.194	<0.01	<0.8	4.6	-9.7	None	8.33
WP002766	0.052	0.04	3.3	4.7	4.7	None	7.94
WP002767	0.371	0.05	4.2	7.7	-13.6	None	8.31
WP002768	0.072	0.04	3.3	6.1	6.1	None	8.22
WP002769	0.204	0.12	10.0	12.9	2.3	None	8.16
WP002770	0.049	0.01	0.8	5.0	5.0	None	8.31
WP002771	0.631	0.26	21.7	24.6	-9.8	Slight	8.18
WP002772	0.074	0.06	5.0	7.4	7.4	None	7.93
WP002773	0.147	0.10	8.3	11.5	11.5	None	7.82
WP002774	1.021	0.10	8.3	11.5	-44.4	None	8.27
243001	0.764	0.63	52.5	54.3	54.3	Slight	8.26
243002	1.330	1.25	104.2	106.9	106.5	Slight	8.58
243003	0.175	0.16	13.3	15.2	14.6	None	8.89
243004	0.094	0.09	7.5	9.8	9.8	None	8.87
243005	0.050	0.02	1.7	5.6	5.6	None	9.09
243006	0.078	0.06	5.0	8.4	8.4	None	9.18
243007	0.113	0.09	7.5	14.3	14.3	None	9.23
243008	0.077	0.05	4.2	11.2	11.2	None	9.24
243009	0.436	0.44	36.7	41.9	41.9	Slight	9.14
243010	0.049	0.03	2.5	9.5	9.5	None	9.07
243011	0.299	0.28	23.3	26.8	26.8	Slight	8.20
243012	0.058	0.05	4.2	9.4	9.4	None	9.24
243013	0.063	0.05	4.2	13.8	13.8	None	8.58
243014	0.116	0.11	9.2	20.5	20.5	None	8.03
243015	0.090	0.09	7.5	12.6	12.6	None	8.19
243016	0.102	0.10	8.3	13.0	13.0	None	8.16
243017	0.284	0.29	24.2	30.2	30.2	Slight	7.99
243018	0.124	0.13	10.8	15.0	15.0	Slight	7.88
243019	0.151	0.16	13.3	18.2	18.2	Slight	8.13
243020	0.022	0.01	0.8	5.1	5.1	None	8.03
243021	0.102	0.10	8.3	12.8	12.8	None	8.01
243022	0.106	0.10	8.3	12.6	12.6	None	8.11
243023	0.109	0.10	8.3	14.7	14.7	Slight	8.23
243024	0.076	0.05	4.2	11.0	11.0	None	8.17
243025	1.238	0.24	20.0	23.9	-34.3	Slight	8.16
243026	0.294	0.26	21.7	29.8	29.2	Slight	8.17
Duplicates							
WP002761				36.8		Slight	7.95
243006				8.2		None	9.16
243007				14.8		None	9.23
243026				29.9		Slight	8.26
WP002772	0.076						
243025		0.23					
WP002767		0.05					

QA/QC							
Blank	0.009	<0.01					
Certified standards							
NBM-1				42.1		Slight	
NBM-1				41.5		Slight	

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ABA Report

Test	S(T)	S(SO4)	S(S-2)	Insoluble S	AP
Units	%	%	%	%	kg CaCO3/t
Method Code	CSA06V	CSA07C1	CSA08C1	Calc.	Calc.
LOD	0.005	0.01	0.01	#N/A	#N/A
OREAS 278			0.66		
RTS-3a		0.96			

SGS proposal: 20741-PR1
SGS project #: 2458

Work order date: 8-Jan-26
Report date: 27-Jan-26

Version: Final

ABA Report

Test Units	C(T) %	TIC %	CaCO3 NP kg CaCO3/t	Modified NP kg CaCO3/t	Net Modified NP kg CaCO3/t	Fizz Test	Paste pH
Method Code	CSA06V	CSB02V	Calc.	Modified	Calc.	Sobek	Sobek
LOD	0.005	0.01					0.2
GS-314-2	5.187						
GS915-8	0.076						
TIC-L1		0.13					
SX35-13		11.65					

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Version: Final

Metals - Multi-Acid Digestion with ICP-OES/MS Finish

Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V
Units	%	mg/kg	%	mg/kg	mg/kg	%	%	mg/kg	%	mg/kg	%	mg/kg	%	%	mg/kg	%	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12	ICP40Q12
Lower detection	0.01	1	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	2
Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000
Sample ID																	
WP002761	5.000	410	3.55	74	45.2	6.28	1.41	15	0.91	737	0.79	38.0	0.09	<0.01	237	1.20	235
WP002762	4.770	440	2.37	54	53.0	6.71	1.37	15	0.92	825	0.73	32.0	0.08	<0.01	207	0.92	197
WP002763	5.930	379	2.04	43	34.0	3.59	2.04	16	0.82	518	1.37	26.0	0.09	<0.01	144	0.70	113
WP002764	6.710	284	1.3	43	22.2	4.43	1.95	29	1.19	915	1.74	27.0	0.10	<0.01	133	0.65	99
WP002765	7.870	353	0.68	64	51.3	5.43	2.57	48	1.57	1022	1.37	41.0	0.08	0.52	104	0.50	113
WP002766	5.280	662	1.13	44	10.5	4.25	1.64	18	0.66	425	1.59	26.0	0.07	0.02	130	0.68	110
WP002767	7.960	348	0.85	68	58.0	5.65	2.53	56	1.74	972	1.44	44.0	0.07	0.74	113	0.56	133
WP002768	8.370	360	0.76	55	43.2	5.6	2.99	38	1.72	856	1.40	42.0	0.08	<0.01	110	0.53	117
WP002769	8.230	419	1.02	60	48.1	5.58	2.73	44	1.72	913	1.37	41.0	0.07	0.39	113	0.52	124
WP002770	8.280	382	0.69	56	47.5	5.46	2.91	38	1.64	755	1.47	41.0	0.08	<0.01	111	0.52	113
WP002771	7.350	320	1.57	59	45.1	5.14	2.29	49	1.43	856	1.56	37.0	0.08	1.18	120	0.57	145
WP002772	5.950	246	1.13	42	9.2	3.94	1.9	20	0.92	529	1.69	28.0	0.08	<0.01	125	0.60	93
WP002773	6.100	651	1.29	44	17.4	4.06	1.74	24	1.04	691	1.78	26.0	0.08	0.01	146	0.57	88
WP002774	7.380	358	1.05	61	54.2	5.56	2.39	48	1.44	746	1.64	42.0	0.08	1.91	123	0.59	189
243001	5.020	494	2.36	41	57.7	2.55	2.33	17	1.07	408	1.10	22.0	0.04	<0.01	139	0.35	60
243002	4.680	437	3.83	29	26.6	2.34	2.15	17	1.23	381	1.12	18.0	0.04	0.02	147	0.35	55
243003	5.000	334	1.27	31	42.2	3.11	1.75	18	0.76	466	1.44	20.0	0.05	0.03	107	0.54	82
243004	5.940	285	0.81	36	47.5	4.15	1.99	27	1.02	583	1.54	29.0	0.07	0.01	78.2	0.47	89
243005	7.450	348	0.67	51	68.4	4.97	2.57	34	1.61	897	1.43	36.0	0.08	0.01	80.4	0.56	108
243006	6.490	290	0.82	40	33.2	4.1	2.04	30	1.26	767	1.71	29.0	0.07	<0.01	81.6	0.49	87
243007	7.530	361	0.88	48	38.3	4.97	2.67	34	1.57	856	1.50	37.0	0.08	<0.01	84.4	0.50	102
243008	7.940	377	0.77	59	38.1	5.08	2.88	35	1.60	803	1.47	38.0	0.08	<0.01	85.9	0.54	111
243009	5.940	255	2.01	36	38.8	4.29	1.79	29	1.19	937	1.49	28.0	0.08	<0.01	81.7	0.52	87
243010	5.760	234	0.83	39	25.6	4.3	1.59	29	1.17	693	1.56	26.0	0.09	0.01	78.6	0.69	99
243011	5.970	435	1.61	48	41.8	3.52	2.13	24	1.03	565	1.13	31.0	0.04	<0.01	107	0.50	86
243012	6.340	396	1.25	48	46.2	4.19	2.25	19	0.92	646	1.19	32.0	0.05	<0.01	126	0.66	92
243013	6.540	418	1.46	51	48.0	4.46	2.1	22	1.05	620	1.25	38.0	0.06	<0.01	136	0.59	97
243014	5.860	246	2.78	59	40.5	4.87	1.08	15	0.84	602	1.27	38.0	0.06	<0.01	207	0.89	170
243015	7.060	527	1.35	46	55.6	4.88	2.21	25	1.18	681	1.32	37.0	0.08	<0.01	131	0.64	114
243016	6.220	428	1.53	41	50.5	4.07	2	20	1.01	523	1.34	32.0	0.07	<0.01	126	0.65	106
243017	5.640	420	2.67	61	44.0	5.62	1.71	17	1.00	722	1.03	35.0	0.08	<0.01	186	1.01	171
243018	4.380	514	2.19	63	42.0	6.5	1.34	15	0.88	715	0.59	30.0	0.09	<0.01	191	1.06	196
243019	6.290	461	1.58	41	38.2	4.14	2.16	22	1.01	556	1.33	34.0	0.06	<0.01	129	0.58	87
243020	5.230	246	1.14	48	26.1	4.37	1.65	17	0.69	435	1.47	23.0	0.08	<0.01	109	0.76	121
243021	5.400	302	1.39	55	21.8	4.41	1.85	18	0.70	447	1.34	25.0	0.08	<0.01	105	0.77	119
243022	6.780	291	1.08	39	27.2	4.22	2.14	28	1.21	742	1.74	29.0	0.08	<0.01	104	0.53	90
243023	7.720	860	0.98	55	41.8	5.13	2.71	31	1.58	812	1.52	41.0	0.08	0.02	119	0.54	108
243024	8.320	434	0.77	55	40.1	5.81	3.08	33	1.68	705	1.40	41.0	0.08	0.01	93.6	0.52	117
243025	7.440	375	1.54	63	67.3	5.62	2.61	45	1.55	823	1.66	46.0	0.08	1.95	114	0.58	238
243026	7.160	524	1.9	65	84.7	5.75	1.92	39	1.72	937	1.97	50.0	0.10	0.03	128	0.69	117
Duplicates																	
*Rep 243026	7.090	513	1.88	64	83.0	5.68	1.9	38	1.70	923	1.95	49.0	0.10	0.03	127	0.68	116
*Rep 243023	7.690	863	0.97	54	42.9	5.1	2.69	30	1.57	805	1.52	40.0	0.08	0.02	118	0.54	107
*Rep 243026																	
QA/QC																	
*Blk BLANK	<0.01	<1	<0.01	<1	1.1	<0.01	<0.01	<1	<0.01	<2	<0.01	<1	<0.01	<0.01	<0.5	<0.01	<2
*Blk BLANK	<0.01	<1	<0.01	<1	<0.5	<0.01	<0.01	<1	<0.01	<2	<0.01	<1	<0.01	<0.01	<0.5	<0.01	<2
Certified standards																	
*Std OREAS 609b	6.070	1163	0.94	16	4876.0	2.89	2.64	31	0.14	219	1.87	7.0	0.03	2.17	211	0.12	13
*Std OREAS 681	7.570	395	5.91	1661	269.0	7.38	1.4	13	5.24	1247	1.63	475.0	0.14	0.11	450	0.57	241
*Std OREAS 609b	6.500	885	0.9	19	4685.0	2.77	2.66	31	0.14	223	1.80	7.0	0.03	2.27	217	0.12	14
*Std OREAS 681	7.710	404	5.64	1732	259.0	7.07	1.42	14	5.16	1278	1.57	478.0	0.14	0.11	459	0.57	250
*Std CZN-4																	
*Std OREAS 609b																	

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Test	Zn	Zr	Ag	As	Be	Bi	Cd	Ce	Co	Cs	Ga	Hf	In	La	Lu	Mo	Nb
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Code	ICP40Q12	ICP40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12
Lower detection	1	0.5	0.02	1	0.1	0.04	0.02	0.05	0.1	1	0.1	0.02	0.02	0.1	0.01	0.05	0.1
Upper detection	10000	10000	100	10000	2500	10000	10000	1000	10000	1000	1000	500	500	10000	1000	10000	1000
Sample ID																	
WP002761	69	230	0.03	4	1.6	0.10	0.19	67.16	17.7	1	15.2	6.21	0.06	31.2	0.53	0.980	22.0
WP002762	79	245	0.05	2	1.6	0.09	0.12	73.5	18.9	1	15.5	6.56	0.07	35.1	0.56	0.730	14.6
WP002763	55	242	0.09	4	1.8	0.15	0.07	76.23	12.3	3	15.4	6.99	0.05	34.4	0.63	0.470	14.2
WP002764	84	272	0.04	2	2.1	0.22	0.02	90.23	16.8	3	17.5	7.92	0.07	39.3	0.82	0.330	14.2
WP002765	114	174	0.18	22	2.5	0.26	0.65	76.03	23.2	5	21.9	5.27	0.09	33	0.66	1.160	12.5
WP002766	56	263	0.10	4	1.6	0.21	<0.02	75.27	14.1	2	13.5	7.60	0.06	32.4	0.67	0.360	13.3
WP002767	115	190	0.16	36	2.4	0.27	0.58	75.54	24.5	6	22.3	5.95	0.09	33.9	0.69	7.800	13.4
WP002768	119	183	0.08	4	2.8	0.28	<0.02	77.93	26.3	9	23.5	5.61	0.10	35.1	0.7	0.340	12.9
WP002769	118	190	0.09	8	2.7	0.30	0.13	78.69	24.6	7	23.0	5.66	0.09	35.9	0.71	0.480	12.6
WP002770	116	184	0.09	3	2.7	0.28	<0.02	78.73	24.8	9	23.5	5.39	0.09	35.7	0.73	0.330	12.9
WP002771	106	211	0.23	42	2.2	0.24	1.38	78.43	21.5	5	20.1	6.11	0.08	34.2	0.71	15.060	13.4
WP002772	69	249	0.04	3	1.8	0.17	<0.02	76.24	15.7	3	15.4	7.23	0.06	33.5	0.72	0.360	13.0
WP002773	76	224	0.06	2	1.7	0.15	<0.02	73.62	15.7	3	15.5	6.81	0.06	31.8	0.68	0.300	12.6
WP002774	137	198	0.21	37	2.5	0.21	1.84	79.06	22.4	7	20.4	5.80	0.08	35.8	0.7	25.310	14.0
243001	40	159	0.08	3	1.2	0.13	0.09	55.85	10	2	12.0	4.72	0.03	24.1	0.36	0.450	8.6
243002	37	156	0.06	3	1.3	0.09	0.09	52.33	8.5	2	11.5	4.59	0.04	24.1	0.39	0.430	8.8
243003	50	220	0.09	5	1.5	0.14	0.1	60.49	11	3	12.3	6.54	0.05	26.5	0.57	0.620	12.6
243004	76	187	0.06	4	1.8	0.14	<0.02	28.41	17.4	4	15.6	5.46	0.06	11.2	0.59	0.340	10.8
243005	112	225	0.05	4	2.8	0.26	<0.02	38.96	22.8	7	21.1	6.72	0.08	15.9	0.74	0.360	13.4
243006	82	185	0.04	3	1.8	0.22	<0.02	41.29	17.7	4	17.0	5.48	0.07	17.9	0.62	0.290	11.5
243007	105	184	0.05	4	2.4	0.26	<0.02	122	22.3	7	20.4	5.55	0.08	55.7	0.67	0.390	12.2
243008	107	199	0.07	4	2.6	0.25	<0.02	66.79	22.7	8	22.1	5.91	0.09	28.1	0.74	0.370	13.1
243009	79	218	0.05	3	1.7	0.17	<0.02	53.14	17.6	4	15.5	6.36	0.06	22.6	0.65	0.340	11.6
243010	76	304	0.05	3	1.6	0.30	<0.02	43.24	16.1	3	15.3	8.98	0.06	17.7	0.77	0.300	13.8
243011	63	211	0.07	4	1.7	0.13	0.11	69.92	15.2	4	15.4	6.22	0.05	31.4	0.56	0.470	12.0
243012	75	272	0.07	5	2.1	0.14	0.07	82.13	16.3	5	17.6	7.92	0.07	36.2	0.69	0.560	15.2
243013	77	202	0.08	5	2.1	0.14	0.12	70.52	18.5	5	17.7	5.86	0.06	32.1	0.59	0.550	13.8
243014	64	204	0.04	3	1.5	0.10	0.21	66.4	19.2	2	15.2	5.79	0.06	31.3	0.5	0.570	16.4
243015	85	236	0.11	5	2.2	0.18	0.11	80.48	19.7	6	19.5	7.01	0.07	36	0.69	0.450	14.1
243016	68	240	0.05	5	1.8	0.12	0.08	71.84	16	4	16.9	6.89	0.06	32.4	0.65	0.500	15.0
243017	72	246	0.03	2	1.7	0.11	0.14	69.83	17.7	2	16.1	6.71	0.06	33	0.56	0.810	20.7
243018	72	245	0.04	2	1.4	0.08	0.09	73.29	17.2	1	14.5	6.69	0.06	35.1	0.57	1.020	23.6
243019	68	197	0.09	9	2	0.13	0.05	62.24	16.5	5	16.5	5.58	0.06	28.8	0.54	0.480	13.2
243020	59	287	0.04	6	1.7	0.22	0.02	88.47	14.5	2	14.2	8.44	0.06	38.2	0.8	0.460	14.0
243021	60	293	0.04	4	1.7	0.22	<0.02	87.78	14.3	3	14.5	8.69	0.06	37.9	0.78	0.400	14.0
243022	84	196	0.04	3	2	0.18	<0.02	67.66	17.1	4	17.7	5.84	0.07	30.3	0.67	0.280	12.4
243023	107	193	0.06	3	2.4	0.22	<0.02	78.98	22.8	8	20.8	5.98	0.08	34.7	0.71	0.310	13.0
243024	116	182	0.03	3	3.2	0.27	0.02	78.63	24.2	11	23.5	5.45	0.10	36.6	0.7	0.270	13.0
243025	118	187	0.23	44	2.8	0.20	0.76	81.45	24.4	8	20.6	5.49	0.08	38.2	0.67	29.490	14.7
243026	100	218	0.04	2	2.4	0.12	0.12	83.6	24.8	4	20.0	6.16	0.08	37.8	0.68	0.290	17.5
Duplicates																	
*Rep 243026	98	214	0.03	2	2.4	0.13	0.12	84.05	24.7	4	19.7	6.20	0.07	38.7	0.67	0.300	17.4
*Rep 243023	105	191	0.07	2	2.4	0.23	<0.02	79.4	22.5	8	20.8	5.85	0.08	36.2	0.71	0.340	12.6
*Rep 243026																	
QA/QC																	
*Blk BLANK	<1	<0.5	<0.02	<1	<0.1	<0.04	<0.02	<0.05	<0.1	<1	<0.1	<0.02	<0.02	<0.1	<0.01	<0.05	<0.1
*Blk BLANK	<1	<0.5	<0.02	<1	<0.1	<0.04	<0.02	<0.05	<0.1	<1	<0.1	<0.02	<0.02	<0.1	<0.01	<0.05	<0.1
Certified standards																	
*Std OREAS 609b	1324	169	24.00	1505	2.6	107.00	8.31	70.98	5.4	5	22.1	5.08	2.08	35.9	0.08	5.370	14.6
*Std OREAS 681	86	59	0.12	<1	1.5	0.09	0.07	42.02	51.7	4	17.0	1.71	0.04	19.1	0.3	1.420	6.2
*Std OREAS 609b	1311	176	24.39	1306	2.3	113.00	8.39	72.73	5.5	6	22.4	5.54	2.14	35.9	0.09	5.560	15.0
*Std OREAS 681	86	59	0.14	<1	1.4	0.10	0.06	41.2	51.1	4	17.1	1.88	0.04	18.5	0.3	1.390	6.4
*Std CZN-4																	
*Std OREAS 609b																	

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Test	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl	U	W	Y	Yb	Hg
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ppm	ppm	ppm
Method Code	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	ICM40Q12	CVA37A25
Lower detection	0.5	0.2	0.05	0.5	2	0.3	0.05	0.05	0.05	0.2	0.02	0.05	0.1	0.1	0.1	0.005
Upper detection	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000	10000	10000	10000	1000	100
Sample ID																
WP002761	13	50.3	0.4	10.9	<2	2.4	1.43	1.1	<0.05	9.20	0.3	2.5	0.7	31.90	3.50	<0.005
WP002762	11.6	48.9	0.2	10.6	<2	2.2	0.81	1.2	<0.05	7.30	0.3	2.1	0.4	34.50	3.70	<0.005
WP002763	12.1	76	0.7	9.8	<2	2.3	0.96	1.3	<0.05	8.80	0.4	3.1	1	37.00	4.10	<0.005
WP002764	7.8	81.7	0.8	13.5	<2	3.1	0.99	1.5	<0.05	12.30	0.4	4.2	1.3	45.20	5.30	<0.005
WP002765	33.8	107	1.2	17.6	<2	3.1	0.84	1.2	<0.05	10.00	0.7	3.2	1.5	37.00	4.20	0.006
WP002766	9.2	72.5	1.1	10.3	<2	2.7	0.95	1.3	<0.05	11.80	0.4	3.7	1.3	37.70	4.40	<0.005
WP002767	21.9	107	2.5	18.7	<2	3.2	0.92	1.2	<0.05	10.10	0.7	3.7	1.4	37.60	4.30	0.01
WP002768	17.2	141	1.1	19.3	<2	3.4	0.89	1.3	<0.05	10.40	0.8	3.5	1.5	38.50	4.50	<0.005
WP002769	47.7	122	1.1	19.6	<2	3.3	0.86	1.3	<0.05	11.10	0.7	3.6	1.4	38.00	4.40	0.007
WP002770	22.6	134	1.0	18.7	<2	3.3	0.89	1.3	<0.05	10.50	0.7	3.4	1.5	38.90	4.50	<0.005
WP002771	25.2	94.9	3.3	16.5	<2	3.2	0.91	1.3	<0.05	10.60	0.7	4.6	1.4	39.30	4.40	0.014
WP002772	9.2	84.9	1.0	11.6	<2	2.7	0.93	1.3	<0.05	10.70	0.4	3.5	1.1	41.30	4.50	<0.005
WP002773	6	71.8	0.8	11.6	<2	2.7	0.89	1.3	<0.05	9.70	0.4	3.3	1.1	40.40	4.40	<0.005
WP002774	26.5	92.2	3.5	16.3	<2	3.1	0.97	1.3	<0.05	10.10	0.8	6.0	1.6	37.50	4.40	0.03
243001	11.8	74.7	0.4	7.6	<2	1.6	0.62	0.6	<0.05	7.50	0.4	1.6	0.6	19.40	2.20	0.008
243002	10.8	70.1	0.5	7.1	<2	1.5	0.62	0.7	<0.05	6.60	0.4	2.1	0.7	20.70	2.50	<0.005
243003	13.1	67.4	0.7	9.3	<2	2.1	0.88	1.0	<0.05	7.80	0.4	2.8	1.1	31.10	3.60	<0.005
243004	7.2	85.3	0.9	10.6	<2	2.7	0.76	1.0	<0.05	8.60	0.5	2.7	0.9	32.40	3.70	<0.005
243005	7.7	115	1.0	16.4	<2	3.2	0.93	1.3	<0.05	11.00	0.6	3.6	1.2	40.20	4.80	<0.005
243006	6.2	86.2	0.8	12.3	<2	2.8	0.83	1.0	<0.05	8.50	0.4	2.9	0.9	34.50	4.00	<0.005
243007	8.6	117	1.0	16.3	<2	3.2	0.84	1.4	<0.05	9.90	0.6	3.2	1.2	40.40	4.30	<0.005
243008	8.3	130	1.1	17.9	<2	3.4	0.90	1.3	<0.05	10.80	0.7	3.5	1.4	39.50	4.60	<0.005
243009	6.3	75.4	0.9	11.4	<2	2.5	0.79	1.2	<0.05	9.70	0.4	3.0	1	38.20	4.20	<0.005
243010	6.2	64.7	0.9	11.5	<2	2.8	0.97	1.2	<0.05	11.70	0.3	3.8	1.1	39.40	4.80	<0.005
243011	13	86.3	0.6	11.4	<2	2.3	0.83	1.0	<0.05	9.10	0.5	2.4	1	31.10	3.50	<0.005
243012	15.1	97.6	0.8	13.1	<2	2.9	1.04	1.2	<0.05	10.90	0.5	3.8	1	36.00	4.30	<0.005
243013	13.7	93.2	0.7	13.3	<2	2.8	0.92	1.1	<0.05	8.90	0.5	2.9	1	32.20	3.70	<0.005
243014	11.7	46.6	0.4	12.1	<2	2.1	1.09	1.0	<0.05	8.50	0.2	2.8	0.6	30.10	3.30	<0.005
243015	15.1	99	0.8	15.2	<2	2.9	1.00	1.3	<0.05	10.10	0.5	3.4	1.4	39.20	4.40	<0.005
243016	12	84.6	0.7	12	<2	2.8	0.99	1.3	<0.05	9.50	0.4	3.0	1.1	37.40	4.20	<0.005
243017	11.9	64.5	0.5	10.9	<2	2.5	1.34	1.2	<0.05	7.30	0.3	2.4	0.7	33.40	3.70	<0.005
243018	11.2	49.5	0.4	9.8	<2	2.5	1.47	1.2	<0.05	7.30	0.3	2.1	0.8	33.90	3.60	<0.005
243019	13.7	86.3	0.9	11.7	<2	2.5	0.86	1.1	<0.05	7.30	0.5	2.5	0.9	32.60	3.50	<0.005
243020	9.4	69.7	1.0	9.8	<2	2.8	1.01	1.4	<0.05	11.50	0.4	4.2	1.2	42.40	4.90	<0.005
243021	9.3	78.8	1.2	11	<2	2.9	1.00	1.5	<0.05	12.20	0.4	4.0	1.1	43.30	5.00	<0.005
243022	7	91.1	0.8	12.8	<2	2.8	0.87	1.2	<0.05	9.80	0.5	3.2	1.1	36.40	4.30	<0.005
243023	7.1	126	1.0	16.9	<2	3.3	0.88	1.3	<0.05	10.20	0.7	3.4	1.4	41.20	4.70	<0.005
243024	6.2	149	1.1	20.1	<2	3.3	0.89	1.3	<0.05	10.30	0.8	3.4	1.5	39.10	4.70	<0.005
243025	18.7	111	3.1	17.7	<2	3.1	0.98	1.3	0.05	9.80	0.9	8.3	1.7	39.20	4.40	0.038
243026	6.7	75.8	0.5	16.9	<2	3	1.15	1.4	<0.05	8.80	0.4	2.7	1.1	40.10	4.40	<0.005
Duplicates																
*Rep 243026	7.5	74.7	0.5	17	<2	2.9	1.13	1.3	<0.05	8.90	0.4	2.7	1.1	39.00	4.50	
*Rep 243023	7.1	121	1.0	16.7	<2	3.2	0.89	1.3	<0.05	10.30	0.7	3.3	1.4	39.60	4.60	
*Rep 243026																<0.005
QA/QC																
*Blk BLANK	<0.5	<0.2	<0.05	<0.5	<2	<0.3	<0.05	<0.05	<0.05	<0.2	<0.02	<0.05	<0.1	<0.1	<0.1	<0.005
*Blk BLANK	<0.5	<0.2	<0.05	<0.5	<2	<0.3	<0.05	<0.05	<0.05	<0.2	<0.02	<0.05	<0.1	<0.1	<0.1	
Certified standards																
*Std OREAS 609b	458	108	165.0	3.4	14	12	1.12	0.6	20.33	12.00	1.5	4.4	4.5	10.90	0.60	
*Std OREAS 681	9.9	77.5	0.3	27.7	<2	1.8	0.43	0.6	0.13	6.30	0.2	1.4	1	17.00	1.90	
*Std OREAS 609b	440	104	165.0	3.6	14	12.4	1.12	0.6	20.26	13.20	1.6	4.5	4.4	11.50	0.60	
*Std OREAS 681	9.7	77.5	0.4	27.2	<2	2	0.45	0.6	0.15	6.30	0.2	1.6	1.1	17.40	1.90	
*Std CZN-4																4.249
*Std OREAS 609b																0.504

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ANALYSIS REPORT

ABA Report - CRM Expected Values and Tolerances

CRM	Test	S(T)	S(SO4)	S(SO4)	S(S-2)	C(T)	TIC	CO2	Modified NP Method 1996	Modified NP	Modified with Siderite Correction NP
	Units	%	%	%	%	%	%	%	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t
	Method Code	CSA06V	CSA07C1	CSA07D	Calc.	CSA06V	CSB02V	CSB02V		Modified	
	LOD	0.005	0.01	1.01	0.01	0.005	0.01	0.005		0.5	
GGC-07	Expected value	0.51				0.56					
	Tolerance (+/-)	0.09				0.09					
HCC-1	Expected value	33.92									
	Tolerance (+/-)	5.04									
RTS-3a	Expected value		0.98	1.34							
	Tolerance (+/-)		0.12	0.35							
OREAS 278	Expected value				0.699						
	Tolerance (+/-)				0.06						
NBM-1	Expected value								37.61	42.19	50.00
	Tolerance (+/-)								4.68	3.81	2.73
TIC-L1	Expected value						0.13	0.477			
	Tolerance (+/-)						0.02	0.78			
GS314-2	Expected value	2.56				5.15					
	Tolerance (+/-)	0.14				0.27					
GS915-8	Expected value	0.13				0.07					
	Tolerance (+/-)	0.02				0.02					
OREAS 550	Expected value	0.220				4.110					
	Tolerance (+/-)	0.004				0.22					
SX35-13	Expected value						11.954				
	Tolerance (+/-)						0.626				
SY4	Expected value						0.95				
	Tolerance (+/-)						0.06				

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Sobek ABA kg CaCO3/t	Sobek With Siderite NP kg CaCO3/t	Fizz Test	Paste pH
		Sobek	Sobek 0.2
51.71	57.6	Slight	
2.43	1.3		

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SGS

Metals - Aqua Regia Digestion with ICP-OES/MS Finish - CRM Expected Values and Tolerance

CRM	Test	Al	Ba	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	S	Sr	Ti	V	Zn	Zr	Ag	As	Be	Bi
	Units	%	ppm	%	ppm	ppm	%	%	ppm	%	ppm	%	ppm	%	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Method Code	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICP21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20
	Lower detection	0.01	5	0.01	1	0.5	0.01	0.01	1	0.01	2	0.01	1	0.01	0.01	0.5	0.01	1	1	0.5	0.01	1	0.1	0.02
	Upper detection	15	10000	15	10000	10000	15	15	10000	15	10000	15	10000	15	5	10000	15	10000	10000	10000	100	10000	100	10000
OREAS 501b	Expected value	1.99	369	0.966	85	2580	4.08	1.08	31.7	1.21	393	0.167	37.5	0.1	0.364	60	0.338	110	80	10.9	0.721	18.6	0.49	1.6
	Tolerance (%)	11.26%	13.39%	12.59	12.94%	10.05%	10.61%	12.31%	17.89%	12.07%	11.27%	24.97%	16.67%	22.5%	16.87%	12.08%	17.4%	12.27%	13.12%	21.47%	13.47%	23.44%	61.02%	13.12%
OREAS 502C	Expected value	2.07	383	1.09	66	7990	4.45	1.07	30.9	1.21	380	0.19	36.4	0.10	0.82	66	0.34	110	102	9.53	0.80	59	0.53	0.68
	Tolerance (%)	15.6	18	18.4	18.7	6.6	11.4	15.2	14.1	10.2	7.2	32.2	18.8	12.5	14.5	25.5	10.8	11.3	15.0	15.7	20.1	17.7	38.5	16.5
OREAS 503D	Expected value	2.08	361	1.19	66	5220	4.58	1.06	27.9	1.21	410	0.21	31.2	0.11	0.80	88	0.32	104	67	12.2	1.32	87	0.6	1.4
	Tolerance (%)	16.8	20	20.0	17.1	6.6	11.5	10.8	33.0	12.7	106.3	38.3	13.0	14.9	13.9	36.5	18.1	14.7	21.4	22.0	25.1	15.8	38.6	11.1
OREAS 260	Expected value	1.33	151	0.885	49.2	46.5	3.73	0.285	21.5	0.59	450	0.08	75.0	0.04	0.08	14.8	BDL	22	125	BDL	0.15	12.5	1.24	0.54
	Tolerance (%)	31.2	24	15.9	29.9	14.8	12.9	57.9	18.0	12.1	20	22.0	10.8	15.0	15.6	24.7		32.7	14.4		26.7	36.0	24.0	16.7
OREAS 920	Expected value	2.43	80	0.32	42.5	110	3.63	0.45	21.2	1.10	526	< 0.04	38.4	0.07	0.03	16.9	0.12	26.3	106.4	21.3	0.10	4.4	0.73	0.68
	Tolerance (%)	18.6	13	19.8	12.7	12.8	12.7	44.5	21.7	18.9	10.3		14.8	20.4	40.5	14.1	60.5	25.8	14.5	23.5	59.2	29.8	41.5	41.8
OREAS 209	Expected value	1.23	73	1.49	39.1	75.6	6.04	0.06	5.38	2.35	1360	0.19	112.8	0.16	0.89	63.5	0.12	39.7	74.3	27.4	0.26	1047	< 0.5	0.06
	Tolerance (%)	13.3	26	13.9	19.9	14.6	18.0	35.1	22.3	16.9	15.3	34.3	16.6	19.2	22.0	31.4	47.5	28.1	15.5	13.5	41.4	13.5		20.3
OREAS 905	Expected value	0.82	249	0.34	17.6	1562	3.50	0.32	4.87	0.16	350	0.09	8.9	0.023	0.07	12.3	0.02	6.1	67.0	47.5	0.52	32	0.93	5.7
	Tolerance (%)	18.0	18	16.0	30.7	9.0	12.8	21.4	41.3	22.8	8.6	29.3	21.5	26.1	32.3	28.5	47.4	42.1	22.4	31.6	28.5	17.2	25.5	18.4
OREAS 261	Expected value	1.33	171	1.15	48.5	64.0	3.74	0.281	21.1	0.66	460	0.08	74.0	0.04	0.11	17.5		22.6	128		0.20	17.8	1.23	0.59
	Tolerance (%)	11.9	17	12.2	15.2	12.0	10.7	18.9	21.9	13.8	11	40.5	13.4	40.5	32.7	17.1		21.1	12.0		22.3	24.0	30.3	18.5
OREAS 263	Expected value	1.29	175	1.03	48	87.0	3.68	0.288	20.1	0.59	490	0.08	72.0	0.04	0.13	16.9		22.8	127		0.29	30.8	1.22	0.57
	Tolerance (%)	11.9	17	12.4	15.2	11.4	10.7	18.7	22.4	14.2	11	41.7	13.5	40.5	29.8	17.4		21.0	12.0		18.8	18.1	30.5	18.8
OREAS 235	Expected value	2.5	104	0.2	100.0	24.0	3.4	1.0	33.4	1.3	210	0.1	57.0	0.1	0.1	16.7	0.1	67.0	75.0	27.3	0.135	331	1.22	0.33
	Tolerance (%)	10.5%	14.8%	12.5%	12.5%	15.2%	10.7%	11.3%	17.5%	10.2%	12.4%	26.9%	14.4%	25.0%	42.1%	17.5%	11.8%	13.7%	13	15	29	11	20	18
OREAS 151b	Expected value	2.43	71	1.37	26.3	1800.0	3.28	0.404	6.07	1.42	280	0.18	14.2	0.05	0.72	38.5		140	238	3.170	0.52	30.8	0.22	0.40
	Tolerance (%)	11.0	28	11.8	19.5	10.1	10.8	16.2	51.2	11.8	12	24.2	27.6	34.0	13.5	13.3		11.8	11.1	49.4	14.8	18.1	66.8	16
OREAS 609b	Expected value	0.684		0.764	17.4	4970	2.32	0.279	7.32	0.067	210	0.06	7.05	0.021	1.76	36.2	0.009	5.69	1259	34.6	24.4	1460	0.59	109
	Tolerance (%)	11.83		10.65	24.37	10.03	11.08	14.48	44.15	13.73	12.38	30.83	45.56	45.71	11.42	13.45	37.78	53.94	10.20	13.61	10.10	10.17	31.19	10.02
OREAS 607b	Expected value	0.627	412	0.87	14.8	554	1.59	0.261	8.34	0.084	240	0.06	4.98	0.026	0.491	34.6	0.011	3.49	641	35.3	6.1	170	0.66	13.4
	Tolerance (%)	11.99	11.21	10.57	26.89	10.23	11.57	14.79	39.98	12.98	12.08	30.83	60.20	38.85	15.09	13.61	32.73	81.63	10.39	13.54	10.41	11.47	28.94	10.19
OREAS 610	Expected value	0.85		0.12	33.1	9720.0	2.27	0.213	8.46	0.11	66	0.05	24.3	0.02	2.65	38.6		11.6	1764.00	11	48.4	2807	0.3	220
	Tolerance (%)	11.48		14.17	17.55	10.01	11.10	15.87	39.55	12.36	17.58	35.51	20.29	40.12	10.94	13.24		31.55	10.14	21.26	10.05	10.09	53.10	10.01
OREAS 501c	Expected value	2.17	428	1.02	68	2750	4.1	1.17	33	1.22	390	0.202	58	0.096	0.343	65	0.363	110	74	9.34	0.444	24.3	0.59	0.7
	Tolerance (%)	11.15	12.92	12.45	13.68	10.05	10.61	12.10	17.58	12.05	11.28	22.38	14.31	23.02	17.29	11.92	16.89	12.27	13.38	23.38	15.63	20.29	31.19	13.57
OREAS 601c	Expected value	0.663		0.779	14.7	1160	1.84	0.254	7.56	0.084	210	0.053	6	0.024	0.909	36.3	0.01	4.75	381	33.5	50.4		0.59	21.3
	Tolerance (%)	11.89		10.64	27.01	10.11	11.36	14.92	43.07	12.98	12.38	33.58	51.67	41.25	12.75	13.44	35.00	62.63	10.66	13.73	10.05		31.19	10.12
OREAS 624	Expected value	2.06		1.31	19.8				7.65	1.19	620	0.076	17.5	0.052	10.8	11.2		17.8	24,000	45.1	45	108		20.5
	Tolerance (%)	11.21		11.91	22.63				42.68	12.10	10.81	42.89	24.29	34.04	10.23	21.16		24.04	10.10	12.77	10.06	12.31		10.24
OREAS 601b	Expected value	0.63		0.578	24.6	1010	1.94	0.246	7.78	0.0411	192	0.067	6.39	0.0178	0.807	33.2	0.022	3.83	267	38.3	50	276	0.47	18
	Tolerance (%)	13.97		14.33	20.16	10.12	11.29	20.16	42.13	70.83	12.60	47.31	49.12	80.22	13.10	13.77	123.64	75.27	10.94	13.26	12.50	12.72	63.19	10.28
OREAS 623	Expected value	1.80		1.09	19.4	17200.0	13.01	0.175	10	1.11	570	0.07	15.6	0.04	8.75	14.2		15.8	10100.00	50	20.4	76		16.9
	Tolerance (%)	11.39		12.29	22.89	10.01	10.19	24.29	35.00	12.25	10.88	46.76	26.03	41.25	10.29	18.80		25.82	10.02	12.50	16.13	26.84		10.30
OREAS 603c	Expected value	0.72		0.795	16.6	12000.0	3.64	0.254	8.17	0.08	600	0.05	25.8	0.024	3.38	37.3	0.01	6.27	7860.00	43	296	1530	0.6	90
	Tolerance (%)	11.73		10.63	25.06	10.01	10.69	14.92	40.60	12.98	10.83	33.58	19.69	41.25	10.74	13.35	32.73	14.65	10.03	12.93	10.42	10.16	30.49	10.03
OREAS 523	Expected value	1.15		3.2	24.9	16800.0	28.05	0.615	16.2	0.992	4370		62.0	0.090	3.84	62	0.158	110	38.10	49	2.36	665	0.34	13.5
	Tolerance (%)	12.17		10.78	20.04	10.01	10.09	14.07	25.43	12.52	10.11		14.03	23.89	10.65	12.02	25.82	12.27	16.56	12.55	62.97	11.13	377.65	102.59
OREAS 151c	Expected value	1.94	424	0.427	49.2	2390.0	2.94	0.894	37.8	0.68	280	0.15	17.2	0.06	0.68	34.9		61	91	6.300	1.01	21.5	1.46	6.56
	Tolerance (%)	10.6	11	11.2	15.1	10.1	10.9	11.4	16.6	10.4	12	18.1	24.5	22.5	13.7	13.6		14.1	12.8	29.8	12.5	21.6	18.6	10

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SGS

Metals - Aqu

CRM	Test	Cd	Ce	Co	Cs	Ga	Ge	Hf	Hg	In	La	Lu	Mo	Nb	Pb	Rb	Sb	Sc	Se	Sn	Ta	Tb	Te	Th	Tl
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Method Code	ICP21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20
	Lower detection	0.01	0.05	0.1	0.05	0.1	0.1	0.05	0.01	0.02	0.1	0.01	0.05	0.05	0.2	0.2	0.05	0.1	1	0.3	0.05	0.02	0.05	0.1	0.02
	Upper detection	10000	1000	10000	1000	10000	10000	500	100	500	10000	1000	10000	1000	10000	10000	10000	10000	1000	1000	10000	10000	1000	10000	10000
OREAS 501b	Expected value		61	14.9	9.93	8.7	0.2	0.43		0.19	29.3	0.21	97		9.42	126	0.49	7.08	2.78	4.65			0.078	17.9	
	Tolerance (%)		10.2%	11.68%	11.26%	12.87%	135%	39.07%		36.32%	10.85%	21.9%	10.13%		15.31%	10.4%	35.51%	13.53%	99.93%	26.13%			170.26%	11.4%	
OREAS 502C	Expected value	BDL	59	13.5	9.02	8.7	BDL	0.4	BDL	0.06	29.4	0.22	223	BDL	11.1	124	4.8	7.28	BDL	2.71	0.01	0.6	0.47	17.6	0.67
	Tolerance (%)		16.3	10.6	14.5	19.6		16.2		26.2	24.3	15.4	15.8		24.4	11.8	56.9	21.9		24.4	56.5	15.4	30.7	15.6	24.0
OREAS 503D	Expected value	BDL	62	15.9	9.28	8.7	0.15	0.5	BDL	0.07	30.5	0.21	342	1.21	8.39	120	2.4	7.18	3.04	2.51	BDL	0.6	0.30	17.4	0.66
	Tolerance (%)		21.0	11.1	16.7	18.7	56.7	18.3		21.9	16.0	10.6	12.9	59.2	21.5	12.1	36.1	21.9	45.5	16.2		18.7	32.1	9.6	30.1
OREAS 260	Expected value	0.21	BDL	32.1	BDL	5.1	BDL	BDL	BDL	0.03	BDL	0.14	0.43	BDL	30.7	BDL	1.3	3.39	BDL	BDL	BDL	0.52	0.08	11.3	0.2
	Tolerance (%)	24.3		12.9		42.2				55.6		12.9	20.2		19.2		38.6	46.9				40.4	59.3	31.9	54.5
OREAS 920	Expected value	0.06	71.5	15.0	2.10	6.9	< 0.1	0.6	< 0.01	0.03	37.2		0.41		21.5	24.8	0.6	2.91	0.87	1.21	< 0.05	0.73	< 0.05	15.3	0.15
	Tolerance (%)	39.3	14.3	13.8	56.9	28.7		41.8		17.2	27.3		50.7		20.0	34.1	45.1	47.1	59.5	55.1		59.7		24.0	43.7
OREAS 209	Expected value	< 0.2	27.7	29.0	0.92	4.0		0.7	< 1	0.02	12.8	0.13	2.0		3.3	4.0	< 2	3.33	0.99	0.94	< 0.05	0.49		1.8	0.04
	Tolerance (%)		18.2	11.6	21.5	21.6		17.9		53.7	49.3	27.7	15.7		42.4	25.1		41.1	36.6	35.5		26.8		17.7	59.4
OREAS 905	Expected value	0.34	80.0	13.9	1.32	6.4		1.2	<0.05	0.58	39.8	0.03	3.0		17.1	19.3	1.1	1.89	2.32	1.27		0.44	0.07	8.9	0.11
	Tolerance (%)	25.59	19.88	23.72	36.36	30.79		54.10		21.72	18.54	44.12	17.2		29.3	21.9	42.9	30.2	56.9	33.1		34.1	50.8	23.8	27.3
OREAS 261	Expected value	0.27		31.5		5.0			0.1	0.03		0.14	0.5		34.2		2.4	3.42				0.51	0.11	10.9	0.28
	Tolerance (%)	19.3		10.8		15.0			45.2	188.6		27.9	36.0		11.5		15.1	17.3				19.8	123.6	12.3	27.9
OREAS 263	Expected value	0.27		31		4.9			0.2	0.03			0.6		34.0		7.4	3.52				0.50	0.21	10.6	0.53
	Tolerance (%)	19.3		10.8		15.1			24.7	182.4			31.9		11.5		11.7	17.1				20.0	69.5	12.4	19.4
OREAS 235	Expected value	0.033	57	12.3	7.47	7.84	0.096	0.76		0.023	29.1	0.12	0.57	0.3	8.57	95	235	5.79		1.32		0.44		13	0.6
	Tolerance (%)	86	10	12	12	13	270	26		64	11	31	32	52	16	10	10	14		48		21		11	18
OREAS 151b	Expected value	0.58	16.2	10.9	1.22	8.1		0.1		0.07	7.34	0.12	54.0		41.4	20.4	0.7	8.84	3.06	1.25		0.36	0.09	2.4	0.12
	Tolerance (%)	14	10.3	12.3	20.3	13.1		135.0		27.9	13.4	30.8	10.2		11.2	10.6	23.4	12.8	91.7	50.0		23.9	157	15.1	51.7
OREAS 609b	Expected value	7.93	34	4.75	1.4	4.89	0.13	1.03	0.52	1.98	16.8	0.03	5.1	0.42	384	13.9	134	1.02	15	9.13		0.29	21.8	6.17	0.009
	Tolerance (%)	10.32	10.15	15.26	18.93	15.11	202.31	22.14	14.81	10.60	11.49	93.30	12.45	39.76	10.13	10.90	10.09	34.51	26.67	15.48		27.24	10.57	12.03	287.78
OREAS 607b	Expected value	3.16	41.6	2.17	1.52	3.46	0.076	1.01	0.098	0.36	20.6	0.029	3.06		1681	13.9	9.79	1.09	3.03	1.19		0.34	2.35	6.94	0.41
	Tolerance (%)	10.79	10.12	21.52	18.22	17.23	338.95	22.38	35.51	13.47	11.21	96.21	14.08		10.03	10.90	11.28	32.94	92.51	52.02		24.71	15.32	11.80	22.20
OREAS 610	Expected value	12.3	13.7	7.73	0.74	6.36		0.38	0.80	3.76	6.68		4.47	0	512	7.63	265.0	0.84	27.7	24.8	38.60		41.70	3.08	1.49
	Tolerance (%)	10.20	10.36	13.23	26.89	13.93		42.89	13.12	10.33	13.74		12.80	88.12	10.10	11.64	10.05	39.76	19.03	12.02	13.24		10.30	14.06	13.36
OREAS 501c	Expected value		64	14.2	9.88	8.56	0.4		0.047	31.9			95		8.43	134	1.59	7.36		2.7				19.3	
	Tolerance (%)		10.08	11.76	11.27	12.92	41.25		36.60	10.78			10.13		15.93	10.09	17.86	13.40		28.52				10.65	
OREAS 601c	Expected value	2.7	34.7	4.27	1.32	3.86	0.084	0.97	0.22	0.5	17.3	0.028	3.35		248	12.4	25.7	1.03	8.02	1.59		0.3	7.22	6.13	1.20
	Tolerance (%)	10.93	10.14	15.85	19.47	16.48	307.62	22.89	21.36	12.50	11.45	99.29	13.75		10.20	11.01	10.49	34.27	41.17	41.45		26.67	11.73	12.04	14.17
OREAS 624	Expected value	125	24	265	0.43	14		1.14	1.89	3.62	11.2	0.13	14.2	0.43	6,290	5.4		4.83	29.7	6.04		0.29	0.76	2.9	
	Tolerance (%)	10.02	10.52	10.09	39.07	11.79		20.96	11.32	11.38	12.23	29.23	10.88	39.07	10.01	19.26		15.18	18.42	22.42		27.24	26.45	18.62	
OREAS 601b	Expected value	2.04	38.5	2.55	1	3.77	0.1	1.11	0.2		19.9		4.83		234	11.9	18	1	10	1.19		0.28	13.00	6.96	1.08
	Tolerance (%)	11.23	10.32	19.80	20.87	16.63	307.62	21.26	1260.00		16.28		61.76		12.14	14.20	10.69	35.00	35.00	73.03		27.86	10.96	13.59	14.63
OREAS 623	Expected value	52	36.4	216.00		11.90					17.90		8.38		2520		20.2	4.63	18.6	4.07		0.34	0.57	4.7	0.26
	Tolerance (%)	10.05	10.34	14.86		12.10					11.40		11.49		10.02		10.62	15.40	23.44	28.43		24.71	31.93	15.30	29.23
OREAS 603c	Expected value	30.4	30.7	14.10	1	5.40	0.2	1.16	1.35	3.72	14.60	0.03	56.00	0.51	10228	13.8	339.0	1.18	28.8	9.3		0.3	23.20	5.44	3.68
	Tolerance (%)	10.08	10.16	11.77	19.69	14.63	135.00	20.78	11.85	10.34	11.71	93.33	10.22	34.51	10.05	10.91	10.04	31.19	18.68	15.38		26.67	10.54	12.30	11.36
OREAS 523	Expected value			698.000							233		293		27.4			6.41		9.88					
	Tolerance (%)			10.36							10.54		10.85		28.25			29.50		263.04					
OREAS 151c	Expected value	0.22	31	7.47	8.13	9.0	0.13	0.3	0.1	0.10	14.5	0.09	55.0		20.8	89.0	1.5	7.18	4.48	3.57		0.48	1.27	6.0	0.23
	Tolerance (%)	21	10.2	13.4	11.5	12.8	202.3	60.0	60.0	22.5	11.7	37.8	10.2		12.4	10.1	18.6	13.5	65.8	24.0		20.4	20	12.1	20.7

Metals - Aqu

CRM	Test	U	W	Y	Yb
	Units	ppm	ppm	ppm	ppm
Method Code	ICP21B20	ICM21B20	ICM21B20	ICM21B20	ICM21B20
	Lower detection	0.05	0.1	0.05	0.1
	Upper detection	10000	10000	10000	100
OREAS 501b	Expected value	4.56	2.34	16.6	1.5
	Tolerance (%)	12.74%	20.68%	10.75%	0.3
OREAS 502C	Expected value	4.53	2.98	16.1	1.51
	Tolerance (%)	21.7	49.2	17.5	10.6
OREAS 503D	Expected value	4.35	1.91	16.9	1.47
	Tolerance (%)	21.7	49.2	17.7	13.4
OREAS 260	Expected value	1.29	0.063	11.70	0.99
	Tolerance (%)	39.5	33.3	30.8	29.4
OREAS 920	Expected value	2.15	< 0.6	18.80	< 1.5
	Tolerance (%)	38.5		46.9	
OREAS 209	Expected value	0.43	0.36	12.98	0.93
	Tolerance (%)	29.9	51.4	15.2	17.3
OREAS 905	Expected value	2.37	<1	7.08	0.27
	Tolerance (%)	24.6		20.8	44.4
OREAS 261	Expected value	1.29	0.09	11.70	0.98
	Tolerance (%)	19.7	281.7	11.1	35.5
OREAS 263	Expected value	1.28		12.00	0.99
	Tolerance (%)	19.8		11.0	35.3
OREAS 235	Expected value	1.55	0.45	9.47	0.85
	Tolerance (%)	18	38	11	39
OREAS 151b	Expected value	0.60		10.40	0.93
	Tolerance (%)	30.8		11.2	36.9
OREAS 609b	Expected value	2.04	1.81	5.22	0.21
	Tolerance (%)	16.13	16.91	12.39	129.05
OREAS 607b	Expected value	2.23	0.58	5.77	0.21
	Tolerance (%)	15.61	31.55	12.17	129.05
OREAS 610	Expected value	1.12	3.58	3.09	
	Tolerance (%)	21.16	13.49	14.05	
OREAS 501c	Expected value	4.87	2.96		
	Tolerance (%)	12.57	14.22		
OREAS 601c	Expected value	2.04	1.16	5.1	0.23
	Tolerance (%)	16.13	20.78	12.45	118.70
OREAS 624	Expected value	0.74	2.73	6.59	0.84
	Tolerance (%)	26.89	19.16	11.90	39.76
OREAS 601b	Expected value	2.22	1.86	5.34	0.2
	Tolerance (%)	15.63	23.44	33.41	135.00
OREAS 623	Expected value	1.43	2.62	7.43	
	Tolerance (%)	18.74	19.54	11.68	
OREAS 603c	Expected value	2.19	2.99	5.55	0.22
	Tolerance (%)	15.71	14.18	12.25	123.64
OREAS 523	Expected value		160	14.8	
	Tolerance (%)		25.62	18.45	
OREAS 151c	Expected value	3.06	5.56	10.30	0.69
	Tolerance (%)	14.1	12.2	11.2	46.2

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SGS proposal: 20741-PR2-R1 COS#2
SGS project #: 2458

Work order date: 17-Mar-26
Report date: 23-Apr-26
Sample receipt date: 17-Mar-26
Version: Final

Customer details

Company	White Pine
Primary client contact:	Brooke Clarkson

Project reference: White Pine

P.O. number:

COC:

ANALYSIS REPORT

SGS WO: 5

Report Distribution

Name	Email
Brooke Clarkson	bclarkson@srk.com
Chad Wolahan	CWolahan@whitepinecu.com

Special notes:

ANALYSIS REPORT

Common Method Summaries

Test method information available upon request.

S(T) and C(T): Total sulfur and total carbon by LECO, Method CSA06V
$S(SO_4^{2-})$: Sulfate by HCl digestion with ICP finish, Method CSA07C1
$S(S^{2-})$: Sulfide by calculation of S(T) - $S(SO_4^{2-})$ or by nitric acid digestion with ICP finish (Method CSA08C1)
TIC: Total inorganic carbon by coulometry, Method CSB02V
AP: Acid generating potential based on sulfide sulfur
NP: Modified neutralisation potential by excess acid addition and back titration to pH 8.3
Net NP: Net neutralisation potential = NP - AP
Metals by aqua regia digest with ICP-OES/MS finish, Method ICP21B20/ICM21B20
Metals by multi-acid digest with ICP-OES/MS finish, Method ICP40Q12/IMS40Q12

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Preliminary Data Approval

Anahita Etemadifar - Laboratory Supervisor

Final Data Approval

Noelene Ahern - Manager: ARD

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Net Acid Generation

Sample weight 2.5 g
H_2O_2 addition 17.5 %

Sample ID	NAG pH after reaction	Vol. of 0.1 N NaOH		NAG (kg H2SO4/tonne)	
		to pH 4.5	to pH 7.0	to pH 4.5	to pH 7.0
WP002766	4.91		8.4	0.0	16.5
WP002768	6.28		1.5	0.0	2.8
WP002772	5.14		6.4	0.0	12.6
WP002773	5.56		4.4	0.0	8.7
243002	6.35		3.0	0.0	5.8
243004	5.92		3.3	0.0	6.4
243006	5.80		3.3	0.0	6.5
243007	5.79		3.4	0.0	6.7
243009	6.00		3.5	0.0	6.9
243010	4.90		7.0	0.0	13.6
243011	5.71		5.7	0.0	11.1
243012	5.46		10.6	0.0	20.7
243013	5.17		9.0	0.0	17.6
243014	5.55		9.0	0.0	17.6
243015	5.43		7.4	0.0	14.4
243016	5.81		6.4	0.0	12.5
243017	6.13		5.2	0.0	10.2
243018	5.92		4.5	0.0	8.7
243019	5.97		6.0	0.0	11.7
243020	4.52		8.6	0.0	16.8
243021	5.38		7.2	0.0	14.2
243022	5.69		4.2	0.0	8.1
243023	5.88		2.9	0.0	5.7
243024	5.97		5.2	0.0	10.3
243025	2.75	9.3	15.0	18.3	29.4
243026	6.59		0.7	0.0	1.4
DUPLICATES	4.81		8.24	0.0	16.2
WP002766(Dup)	4.44	0.15	8.85	0.3	17.3
243020(Dup)	5.42		6.60		12.94
Blank	4.58				

Net Acid Generation

Sample weight 5 g
H_2O_2 addition 17.5 %

Sample ID	NAG pH after reaction	Vol. of 0.1 N NaOH		NAG (kg H2SO4/tonne)	
		to pH 4.5	to pH 7.0	to pH 4.5	to pH 7.0
243001	6.01		8.0	0.0	7.8
243003	5.61		9.7	0.0	9.5
243005	5.90		5.0	0.0	4.9
243008	5.87		5.2	0.0	5.0
WP002761	5.88		10.0	0.0	9.8
WP002762	5.69		9.7	0.0	9.5
WP002763	5.86		10.9	0.0	10.6
WP002764	5.55		8.0	0.0	7.8
WP002765	3.87	2.3	7.3	2.3	7.1
WP002767	3.66	2.9	6.3	2.8	6.2
WP002769	5.97		2.3	0.0	2.3
WP002770	5.69		5.3	0.0	5.2
WP002771	4.09	1.4	4.7	1.3	4.6
WP002774	2.56	26.9	38.3	26.3	37.5
Blank	4.48				

SGS proposal: 20741-PR2-R1 COS#2 Work order date: 17-Mar-26
SGS project #: 2458 Report date: 23-Apr-26

Version: Final

NAG Leachate

Leachate Analysis

Sample ID			243001	243003	243005	243008	WP002761	WP002762	WP002763	WP002764	WP002765	WP002767	WP002769
Parameter	**Method**	**Units**											
pH	meter		6.18	5.76	6.00	5.98	6.03	5.85	5.97	5.79	3.87	3.72	5.72
Redox	meter	mV	345	347	311	304	303	326	321	323	396	393	301
Conductivity	meter	uS/cm	388	370	329	338	429	409	408	391	565	672	518
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	21.2	0.0
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	501.3	538.2	236.6	268.6	629.1	582.2	712.6	455.5	149.9	96.5	53.5
Alkalinity	titration	mg CaCO3/L	57.5	46.5	45.8	47.2	55.1	46.3	63.2	47.9	0.0	0.0	25.0
Total dissolved solids		mg/L	280.0	268.0	206.0	249.0	240.0	232.0	276.0	248.0	240.0	311.0	294.0
Chloride		mg/L	12	12	7	< 5	23	24	17	15	3	1	2
Fluoride		mg/L	< 0.06	< 0.06	< 0.06	0.1	0.06	< 0.06	< 0.06	< 0.06	0.2	0.29	0.23
Sulphate	Turbidity	mg/L	4	8	4.0	3	3	3	3	3	154	219	110
Dissolved Metals													
Hardness (dissolved)	Calc	mg/L as CaCO3	74.1	60.7	26	38.2	78.3	67.1	74.4	56.1	62	101.0	90.4
Aluminum (dissolved)	ICP-MS	mg/L	0.018	0.021	0.025	0.044	0.008	0.013	0.013	0.028	0.82	1.68	0.01
Antimony (dissolved)	ICP-MS	mg/L	0.0013	0.0016	0.0017	0.0016	0.0014	0.0012	0.0013	0.0014	0.0016	0.0029	0.0025
Arsenic (dissolved)	ICP-MS	mg/L	0.0042	0.0063	0.0036	0.0022	0.0037	0.0027	0.002	0.0013	0.028	0.034	0.012
Barium (dissolved)	ICP-MS	mg/L	0.00933	0.00558	0.00687	0.0077	0.00834	0.00826	0.0076	0.00308	0.0464	0.059	0.004
Beryllium (dissolved)	ICP-MS	mg/L	0.000008	0.000019	0.000025	0.00002	0.000011	0.000007	0.000009	0.000015	0.00048	0.00070	< 0.000007
Bismuth (dissolved)	ICP-MS	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron (dissolved)	ICP-MS	mg/L	0.028	0.046	0.104	0.144	0.031	0.029	0.027	0.03	0.05	0.05	0.044
Cadmium (dissolved)	ICP-MS	mg/L	0.000018	0.000075	0.000156	0.000156	0.000077	0.000093	0.00001	0.000015	0.004	0.00376	0.00003
Calcium (dissolved)	ICP-MS	mg/L	24.1	20.1	5.78	10.6	28	23.3	27.4	18.1	13.4	25.5	29.6
Chromium (dissolved)	ICP-MS	mg/L	0.0653	0.0574	0.0448	0.0519	0.0623	0.062	0.0548	0.0554	0.0285	0.0356	0.0413
Cobalt (dissolved)	ICP-MS	mg/L	0.000876	0.000309	0.000287	0.000223	0.000129	0.000239	0.000079	0.000259	0.0483	0.07470	0.00109
Copper (dissolved)	ICP-MS	mg/L	0.003	0.003	0.004	0.002	0.002	0.002	0.002	0.003	0.053	0.09	0.001
Iron (dissolved)	ICP-MS	mg/L	0.014	0.008	0.013	0.03	< 0.007	< 0.007	< 0.007	0.007	0.07	0.204	< 0.007
Lead (dissolved)	ICP-MS	mg/L	0.00231	0.00018	0.00086	0.00023	0.00011	0.00286	< 0.00009	0.00123	0.013	0.0245	0.0012
Lithium (dissolved)	ICP-MS	mg/L	0.0038	0.0087	0.015	0.0149	0.0079	0.0087	0.0061	0.0149	0.054	0.066	0.028
Magnesium (dissolved)	ICP-MS	mg/L	3.37	2.54	2.81	2.87	2.05	2.17	1.45	2.66	7.01	9.04	4.01
Manganese (dissolved)	ICP-MS	mg/L	0.0399	0.0692	0.0662	0.1	0.0499	0.0944	0.0483	0.1	1.23	1.6100	0.321
Mercury (dissolved)	ICP-MS	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum (dissolved)	ICP-MS	mg/L	0.0081	0.0088	0.0095	0.0083	0.0088	0.0082	0.0077	0.008	0.016	0.0817	0.0097
Nickel (dissolved)	ICP-MS	mg/L	0.0027	0.0039	0.0018	0.0033	0.002	0.0026	0.0016	0.0032	0.063	0.102	0.003
Phosphorus (dissolved)	ICP-MS	mg/L	31.5	36.4	33.8	31.5	34.5	35.6	36.2	34.7	8.9	3.4	21.4
Potassium (dissolved)	ICP-MS	mg/L	2.8	4.18	6.41	7	3.73	4.01	4.46	4.69	7.21	7.25	7.31
Selenium (dissolved)	ICP-MS	mg/L	0.00057	0.0003	0.00046	0.00027	0.00037	0.00028	0.00012	0.00021	0.0015	0.0027	0.0013
Silicon (dissolved)	ICP-MS	mg/L	11	7.14	7.75	8.15	9.47	9.35	8.48	7.61	12.7	13.2	10.8
Silver (dissolved)	ICP-MS	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.0007	0.0006	< 0.00005
Sodium (dissolved)	ICP-MS	mg/L	41.2	42.7	42.5	41.2	46.9	47.4	45.2	45.7	47.5	46.1	46.4
Strontium (dissolved)	ICP-MS	mg/L	0.0188	0.0344	0.0348	0.0405	0.145	0.146	0.138	0.115	0.245	0.2820	0.127
Sulfur (dissolved)	ICP-MS	mg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	54	72	38
Thallium (dissolved)	ICP-MS	mg/L	0.00003	0.000066	0.000049	0.000052	0.000045	0.000034	0.000048	0.00005	0.00040	0.00047	0.00006
Tin (dissolved)	ICP-MS	mg/L	0.00224	0.00225	0.00319	0.0051	0.00095	0.00101	0.00136	0.00143	0.0001	0.0001	0.0006
Titanium (dissolved)	ICP-MS	mg/L	0.0371	0.0491	0.0594	0.0302	0.0438	0.0653	0.0345	0.0442	0.0371	0.0348	0.0051
Uranium (dissolved)	ICP-MS	mg/L	0.000342	0.00132	0.00225	0.00179	0.000319	0.000324	0.000573	0.000716	0.00125	0.00148	0.00046
Vanadium (dissolved)	ICP-MS	mg/L	0.052	0.0208	0.0335	0.0279	0.0323	0.0291	0.0177	0.0218	0.0437	0.0646	0.0401
Zinc (dissolved)	ICP-MS	mg/L	0.005	0.008	0.011	0.011	0.006	0.007	0.004	0.006	0.1	0.076	0.005
Zirconium (dissolved)	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

SGS proposal:
SGS project #:

NAG Leachate

Leachate Analysis

Sample ID			WP002770	WP002771	WP002774	Blank
Parameter	**Method**	**Units**				
pH	meter		5.84	4.20	2.51	4.48
Redox	meter	mV	308	372	478	-
Conductivity	meter	uS/cm	326	895	2312	
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.0	10.1	277.1	-
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	209.2	65.6	383.9	-
Alkalinity	titration	mg CaCO3/L	34.8	0.0	0.0	-
Total dissolved solids		mg/L	180.0	506.0	694.0	
Chloride		mg/L	< 1	3	5	
Fluoride		mg/L	0.15	0.09	0.28	
Sulphate	Turbidity	mg/L	3	330	529	-
Dissolved Metals						
Hardness (dissolved)	Calc	mg/L as CaCO3	26.7	248.0	132.0	-
Aluminum (dissolved)	ICP-MS	mg/L	0.04	0.56	10.40	-
Antimony (dissolved)	ICP-MS	mg/L	0.0015	0.0061	0.0012	-
Arsenic (dissolved)	ICP-MS	mg/L	0.002	0.051	0.006	-
Barium (dissolved)	ICP-MS	mg/L	0.004	0.029	0.140	-
Beryllium (dissolved)	ICP-MS	mg/L	0.00002	0.00022	0.00375	-
Bismuth (dissolved)	ICP-MS	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Boron (dissolved)	ICP-MS	mg/L	0.041	0.055	0.07	-
Cadmium (dissolved)	ICP-MS	mg/L	0.00002	0.00801	0.01770	-
Calcium (dissolved)	ICP-MS	mg/L	6.6	87.9	40.0	-
Chromium (dissolved)	ICP-MS	mg/L	0.0410	0.0231	0.0380	-
Cobalt (dissolved)	ICP-MS	mg/L	0.00035	0.07500	0.12300	-
Copper (dissolved)	ICP-MS	mg/L	0.001	0.053	0.449	-
Iron (dissolved)	ICP-MS	mg/L	0.014	0.04	25.00	-
Lead (dissolved)	ICP-MS	mg/L	0.00021	0.0008	0.0541	-
Lithium (dissolved)	ICP-MS	mg/L	0.021	0.050	0.049	-
Magnesium (dissolved)	ICP-MS	mg/L	2.50	7.01	7.84	-
Manganese (dissolved)	ICP-MS	mg/L	0.110	1.980	1.600	-
Mercury (dissolved)	ICP-MS	mg/L	< 0.01	< 0.01	< 0.01	-
Molybdenum (dissolved)	ICP-MS	mg/L	0.0076	0.1720	0.0282	-
Nickel (dissolved)	ICP-MS	mg/L	0.003	0.116	0.174	-
Phosphorus (dissolved)	ICP-MS	mg/L	29.8	6.5	0.5	-
Potassium (dissolved)	ICP-MS	mg/L	7.28	6.43	6.70	-
Selenium (dissolved)	ICP-MS	mg/L	0.0003	0.0054	0.0100	-
Silicon (dissolved)	ICP-MS	mg/L	9.3	10.5	12.7	-
Silver (dissolved)	ICP-MS	mg/L	< 0.00005	0.00054	0.00132	-
Sodium (dissolved)	ICP-MS	mg/L	45.3	45.5	43.5	-
Strontium (dissolved)	ICP-MS	mg/L	0.073	0.2620	0.280	-
Sulfur (dissolved)	ICP-MS	mg/L	< 5	119	171	-
Thallium (dissolved)	ICP-MS	mg/L	0.00004	0.00035	0.00197	-
Tin (dissolved)	ICP-MS	mg/L	0.0041	0.0001	0.0075	-
Titanium (dissolved)	ICP-MS	mg/L	0.0352	0.0208	0.0032	-
Uranium (dissolved)	ICP-MS	mg/L	0.00124	0.00103	0.01040	-
Vanadium (dissolved)	ICP-MS	mg/L	0.0283	0.0638	0.0057	-
Zinc (dissolved)	ICP-MS	mg/L	0.01	0.07	0.856	-
Zirconium (dissolved)	ICP-MS	mg/L	< 0.002	< 0.002	< 0.002	-

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SGS proposal: 20741-PR1
SGS project #: 2458

Work order date: 7-Jul-25
Report date: 4-Sep-25
Sample receipt date: Old Samples
Version: Final

Customer details

Name:	Chad Wolahan
Address:	

Project reference: White Pine Copper

P.O. number:

COC:

ANALYSIS REPORT

SGS WO: 3

Report Distribution

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Special notes:

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ANALYSIS REPORT

Method Summaries *Test method information available upon request.*

S(T) and C(T): Total sulfur and total carbon by LECO, Method CSA06V
S(SO4): Sulfate by HCl digestion with ICP finish, Method CSA07V
S(S2-): Sulfide by calculation of S(T) - S(SO4) or by nitric acid digestion with ICP finish (Method CSA08C1)

TIC: Total inorganic carbon by coulometry, Method CSB02V
AP: Acid generating potential based on sulfide sulfur
NP: Modified neutralisation potential by excess acid addition and back titration to pH 8.3
Net NP: Net neutralisation potential = NP - AP

Metals by aqua regia digest with ICP-OES/MS finish, Method ICP21B20/ICM21B20
Metals by multi-acid digest with ICP-OES/MS finish, Method ICP40Q12/IMS40Q12

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Preliminary Data

Anahita Etemadifar - Laboratory Supervisor

Final Data Approval

Noelene Ahern - Manager: ARD

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SPLP Leachate Analysis

Extraction Fluid : pH 4.2
Crush size: 3/8" (as received)
Metals analysis Total

Sample ID				WP572 822.532-824	WP573 912.987-914.371	WP572818.645-820.048	WP573 907.88-909.227	WP573 905.775-907.88	US Tail Comp 1&2	Blank
Parameter	**Method**	**Units**	**RDL**							
Volume Extractant		mL	1	2000	2000	2000	2000	2000	2000	1000
Sample Weight		g	1	100	100	100	100	100	100	-
Slurry pH (18 hrs)				8.88	9.54	9.00	9.37	9.26	9.39	4.19
pH after filter				8.57	9.19	8.86	9.24	8.86	8.98	4.24
Redox	meter	mV	1	399.01	343.15	352	338	337	323	
Conductivity	meter	uS/cm	1	579.8	173.7	375	165	185	86	30
Acidity (to pH 4.5)	titration	mg CaCO3/L	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	0.1	1.56	1.00	1.37	0.97	1.06	0.68	
Alkalinity	titration	mg CaCO3/L	<1.0	8.93	14.05	11.3	15.2	14.7	25.8	
Total Dissolved Solids		mg/L	30	563	103	360	94	114	54	
Bromide		mg/L	0.3	1.7	< 0.3	1.0	< 0.3	0.4	< 0.3	
Chloride		mg/L	1	190	40	120	36	40	< 1	
Nitrite (as N)		as N mg/L	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Nitrate (as N)		as N mg/L	0.06	0.26	0.26	0.39	0.32	0.26	0.40	
Fluoride		mg/L	0.06	0.11	0.08	0.34	0.07	0.12	0.12	
Phosphorus (total)		mg/L	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	
Sulphate	IC	mg/L	<0.1	3.7	3.7	3.3	3.6	4.8	11.6	
Ion Balance										
Major Anions	Calc	meq/L	-	5.65	1.51	3.73	1.42	1.55	0.79	
Major Cations	Calc	meq/L	-	4.77	1.40	2.96	1.43	1.74	0.80	
Difference	Calc	meq/L	-	0.88	0.11	0.78	-0.01	-0.18	-0.01	
Balance (%)	Calc	%	-	8.4%	3.8%	11.6%	-0.4%	-5.6%	-0.8%	
Total Metals										
Hardness		mg/L	0.05	182.0	32.7	110	35.7	40.5	28.4	
Aluminum	ICP-MS	mg/L	0.001	0.064	0.063	0.161	0.248	0.412	0.242	
Antimony	ICP-MS	mg/L	0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	
Arsenic	ICP-MS	mg/L	0.0002	< 0.0002	0.0008	0.0002	0.0007	0.0008	0.003	
Barium	ICP-MS	mg/L	0.00002	0.02240	0.00634	0.0211	0.00640	0.0132	0.0058	
Beryllium	ICP-MS	mg/L	0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.00001	0.000013	
Bismuth	ICP-MS	mg/L	0.000010	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	
Boron	ICP-MS	mg/L	0.002	0.032	0.030	0.025	0.027	0.048	0.050	
Cadmium	ICP-MS	mg/L	0.000003	0.000006	< 0.000003	< 0.000003	0.000022	0.000004	0.000008	
Calcium	ICP-MS	mg/L	0.01	69.4	12.4	42.2	13.7	15.4	10.5	
Chromium	ICP-MS	mg/L	0.00008	0.00009	0.00013	0.00009	0.00008	0.00031	0.00067	
Cobalt	ICP-MS	mg/L	0.000004	0.000011	0.000006	0.00001	0.0000	0.00004	0.00008	
Copper	ICP-MS	mg/L	0.0002	0.0010	0.0070	< 0.001	< 0.001	< 0.001	0.0040	
Iron	ICP-MS	mg/L	0.007	< 0.007	0.009	< 0.007	< 0.007	0.105	0.174	
Lead	ICP-MS	mg/L	0.000090	0.000100	0.000140	0.00012	0.00010	0.00019	0.00025	
Lithium	ICP-MS	mg/L	0.0001	0.0088	0.0159	0.0057	0.0107	0.0062	0.0083	
Magnesium	ICP-MS	mg/L	0.001	2.120	0.387	1.180	0.386	0.483	0.517	
Manganese	ICP-MS	mg/L	0.00001	0.01270	0.00044	0.01	0.00	0.00	0.00	
Mercury (total)	T00120 Flett	ng/L	0.00001	0.12*	0.21	0.09*	0.14*	0.12*	0.53	0.11*
Molybdenum	ICP-MS	mg/L	0.00004	< 0.0004	0.00050	< 0.0004	0.0093	0.00090	0.00280	
Nickel	ICP-MS	mg/L	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0002	0.0004	
Potassium	ICP-MS	mg/L	0.009	2.55	2.92	2.16	2.94	3.79	2.92	
Selenium	ICP-MS	mg/L	0.00004	< 0.00004	< 0.00004	< 0.00004	0.00009	0.00011	0.00031	
Silicon	ICP-MS	mg/L	0.02	0.90	1.18	0.86	1.34	2.04	3.43	
Silver	ICP-MS	mg/L	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	
Sodium	ICP-MS	mg/L	0.01	23.6	15.0	15.1	13.8	17.5	2.6	
Strontium	ICP-MS	mg/L	0.00002	1.1700	0.1720	0.6480	0.1780	0.2070	0.0839	
Sulfur	ICP-MS	mg/L	1	< 5	< 5	< 5	< 5	< 5	< 5	
Thallium	ICP-MS	mg/L	0.000005	< 0.000005	0.000007	< 0.000005	0.000007	0.000006	0.000010	
Tin	ICP-MS	mg/L	0.00006	0.00008	0.00008	0.00008	0.00009	0.00009	0.00009	
Titanium	ICP-MS	mg/L	0.00005	0.00020	0.00010	< 0.0001	0.00030	0.0067	0.0152	
Uranium	ICP-MS	mg/L	0.000002	< 0.000002	0.000003	< 0.000002	0.000003	0.000008	0.000036	
Vanadium	ICP-MS	mg/L	0.00001	0.00092	0.00037	0.00119	0.00098	0.00211	0.00808	
Zinc	ICP-MS	mg/L	0.002	0.003	0.003	< 0.002	< 0.002	0.004	0.004	
Zirconium	ICP-MS	mg/L	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	

*Hg reporting below the minimum level. Minimum level is the amount of Hg that can be reported with almost 100% confidence that the measured concentration exceeds zero.

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SGS Lakefield Environmental Met
Attn : Barb Bowman

Project : CA20M-00000-110-11718-02

05-November-2025

Date Rec. : 17 October 2025
LR Report: **CA13840-OCT25**
Reference: 11718-02-01

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Temp Upon Receipt °C	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	Redox Potential mV	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L	NO2 as N mg/L	NO3 as N mg/L
1: Analysis Start Date			21-Oct-25	21-Oct-25	21-Oct-25	21-Oct-25	20-Oct-25	21-Oct-25	18-Oct-25	21-Oct-25	21-Oct-25	18-Oct-25	18-Oct-25
2: Analysis Start Time			13:22	13:22	13:22	13:22	16:46	16:11	11:35	01:40	01:40	11:35	11:35
3: Analysis Completed Date			23-Oct-25	23-Oct-25	30-Oct-25	31-Oct-25	23-Oct-25	24-Oct-25	29-Oct-25	03-Nov-25	05-Nov-25	27-Oct-25	27-Oct-25
4: Analysis Completed Time			17:25	17:25	10:49	15:12	08:31	13:55	14:07	11:35	16:21	14:29	14:29
5: QC - Blank			NA	< 2	< 2	< 2	NA	< 0.06	< 0.3	< 0.2	< 0.2	< 0.03	< 0.06
6: QC - STD % Recovery			101%	99%	100%	106%	108%	101%	99%	102%	100%	101%	100%
7: QC - DUP % RPD			0%	1%	ND	ND	0%	ND	ND	1%	0%	ND	2%
8: QC - Spike Rep			NA	NA	NA	NA	NA	110%	106%	107%	100%	91%	NV
9: Sample #1 - 1313-T01	N/A	20.0	13.0	16300	3930	< 2	35	0.27	2.2	220	30	< 0.03	< 0.06
10: Sample #1 - 1313-T02	N/A	20.0	12.9	11000	2600	< 2	32	0.30	2.2	220	25	< 0.03	< 0.06
11: Sample #1 - 1313-T03	N/A	20.0	12.5	5320	1140	< 2	35	0.24	2.0	250	13	< 0.03	< 0.06
12: Sample #1 - 1313-T04	N/A	20.0	11.2	1740	334	< 2	57	0.26	2.2	220	7.1	< 0.03	< 0.06
13: Sample #1 - 1313-T05	N/A	20.0	9.90	798	54	< 2	81	0.30	2.1	210	3.5	< 0.03	< 0.06
14: Sample #1 - 1313-T06	N/A	20.0	7.29	678	41	< 2	154	0.27	2.2	220	1.9	< 0.03	< 0.06
15: Sample #1 - 1313-T07	N/A	20.0	7.74	1960	113	< 2	189	0.61	1.1	210	1.5	< 0.03	162
16: Sample #1 - 1313-T08	N/A	20.0	7.23	8410	123	< 2	229	0.47	< 7.5	210	2.4	< 0.75	1240
17: Sample #1 - 1313-T09	N/A	20.0	1.13	43300	< 2	198	701	< 0.06	< 7.5	220	13	< 0.75	4210
18: Sample #1 - 1313-B01	N/A	20.0	6.30	4	< 2	< 2	466	0.13	< 0.3	0.3	< 0.2	< 0.03	0.22
19: Sample #1 - 1313-B02	N/A	20.0	0.66	105000	< 2	17600	589	< 0.06	< 7.5	< 20	< 5	< 0.75	4260
20: Sample #1 - 1313-B03	N/A	20.0	13.1	6490	4120	< 2	61	< 0.06	< 0.3	< 2	< 0.2	0.16	0.13
21: Sample #2 - 1313-T01	N/A	20.0	13.0	16400	3800	< 2	38	0.29	3.1	310	54	< 0.03	0.09
22: Sample #2 - 1313-T02	N/A	20.0	12.5	11300	2380	< 2	45	0.27	3.3	330	47	< 0.03	< 0.06

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Project : CA20M-00000-110-11718-02
LR Report : **CA13840-OCT25**

Sample ID	Sample Date & Time	Temp Upon Receipt °C	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	Redox Potential mV	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L	NO2 as N mg/L	NO3 as N mg/L
23: Sample #2 - 1313-T03	N/A	20.0	12.4	5170	967	< 2	43	0.60	3.4	340	30	< 0.03	< 0.06
24: Sample #2 - 1313-T04	N/A	20.0	11.4	2010	237	< 2	55	0.31	3.4	360	14	< 0.03	< 0.06
25: Sample #2 - 1313-T05	N/A	20.0	9.69	1140	31	< 2	88	0.34	3.4	350	5.6	< 0.03	< 0.06
26: Sample #2 - 1313-T06	N/A	20.0	7.22	1110	15	< 2	95	0.30	3.7	360	1.7	< 0.03	< 0.06
27: Sample #2 - 1313-T07	N/A	20.0	7.90	2480	101	< 2	199	0.26	< 3	360	1.1	< 0.03	157
28: Sample #2 - 1313-T08	N/A	20.0	2.82	2140	< 2	1460	208	0.17	< 3	370	16	< 0.3	1200
29: Sample #2 - 1313-T09	N/A	20.0	1.04	59800	< 2	10600	718	< 0.06	< 7.5	890	20	< 0.75	4180
30: Sample #3 - 1313-T01	N/A	20.0	13.0	18300	3810	< 2	51	0.39	0.4	89	48	< 0.03	18.7
31: Sample #3 - 1313-T02	N/A	20.0	12.8	11900	2480	< 2	37	0.57	0.7	90	43	< 0.03	0.08
32: Sample #3 - 1313-T03	N/A	20.0	12.5	5600	1080	< 2	60	< 0.06	0.7	94	39	< 0.03	< 0.06
33: Sample #3 - 1313-T04	N/A	20.0	11.8	1600	340	< 2	87	0.50	0.6	94	31	< 0.03	0.07
34: Sample #3 - 1313-T05	N/A	20.0	10.6	595	120	< 2	113	0.42	0.7	87	25	< 0.03	< 0.06
35: Sample #3 - 1313-T06	N/A	20.0	7.55	362	27	8	133	0.48	0.6	85	16	< 0.03	0.40
36: Sample #3 - 1313-T07	N/A	20.0	6.63	1700	6	5	227	0.16	< 0.3	85	6.5	< 0.03	177
37: Sample #3 - 1313-T08	N/A	20.0	2.88	9040	< 2	2850	353	0.13	< 3	100	18	< 0.3	1290
38: Sample #3 - 1313-T09	N/A	20.0	1.16	24600	< 2	11700	709	< 0.06	< 7.5	140	270	< 0.75	4230
39: Sample #4 - 1313-T01	N/A	20.0	13.0	17400	3730	< 2	63	0.30	0.5	78	110	< 0.03	1.98
40: Sample #4 - 1313-T02	N/A	20.0	12.8	12900	2500	< 2	56	0.45	0.5	79	84	< 0.03	0.09
41: Sample #4 - 1313-T03	N/A	20.0	12.5	5880	1130	< 2	87	0.35	0.6	89	63	< 0.03	< 0.06
42: Sample #4 - 1313-T04	N/A	20.0	11.8	888	335	< 2	103	0.40	0.6	89	37	< 0.03	< 0.06
43: Sample #4 - 1313-T05	N/A	20.0	9.84	473	121	< 2	135	0.17	0.8	71	20	< 0.03	< 0.06
44: Sample #4 - 1313-T06	N/A	20.0	7.40	302	32	< 2	190	0.37	0.8	71	9.7	< 0.03	< 0.06
45: Sample #4 - 1313-T07	N/A	20.0	7.97	1560	85	< 2	234	0.25	< 3	73	7.5	< 0.03	177
46: Sample #4 - 1313-T08	N/A	20.0	3.36	7380	< 2	1920	355	0.09	< 3	72	11	< 0.3	1290
47: Sample #4 - 1313-T09	N/A	20.0	1.28	36600	< 2	10700	694	< 0.06	< 30	72	130	3.98	5350
48: Sample #5 - 1313-T01	N/A	20.0	12.9	15100	3520	< 2	54	0.29	0.6	85	180	0.03	0.62
49: Sample #5 - 1313-T02	N/A	20.0	12.7	9840	2440	< 2	57	0.33	0.7	81	140	< 0.03	0.11
50: Sample #5 - 1313-T03	N/A	20.0	12.3	4850	1050	< 2	71	1.37	< 0.3	80	100	< 0.03	< 0.06
51: Sample #5 - 1313-T04	N/A	20.0	11.5	1570	329	< 2	97	0.64	0.7	80	58	< 0.03	< 0.06
52: Sample #5 - 1313-T05	N/A	20.0	9.65	520	70	< 2	118	0.36	0.7	76	23	< 0.03	< 0.06
53: Sample #5 - 1313-T06	N/A	20.0	7.32	301	32	< 2	210	0.44	0.8	76	16	< 0.03	< 0.06
54: Sample #5 - 1313-T07	N/A	20.0	7.77	994	78	< 2	236	0.32	< 0.3	78	3.0	< 0.03	185
55: Sample #5 - 1313-T08	N/A	20.0	3.64	7810	< 2	2340	346	0.13	< 3	80	< 20	< 0.3	1250
56: Sample #5 - 1313-T09	N/A	20.0	1.33	34000	< 2	13400	700	< 0.06	< 7.5	110	2.7	3.72	4140
57: Sample #6 - 1313-T01	N/A	20.0	13.0	9300	3940	< 2	67	0.18	< 0.3	< 2	43	0.35	0.33
58: Sample #6 - 1313-T02	N/A	20.0	12.8	11400	2600	< 2	63	0.41	< 0.3	0.5	39	< 0.03	0.13
59: Sample #6 - 1313-T03	N/A	20.0	12.4	4000	1180	< 2	61	0.19	< 0.3	0.3	27	< 0.03	0.07
60: Sample #6 - 1313-T04	N/A	20.0	11.5	1410	421	< 2	81	0.20	0.5	0.6	24	< 0.03	< 0.06
61: Sample #6 - 1313-T05	N/A	20.0	10.2	236	140	< 2	107	0.16	0.5	0.8	23	< 0.03	< 0.06

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Project : CA20M-00000-110-11718-02
LR Report : **CA13840-OCT25**

Sample ID	Sample Date & Time	Temp Upon Receipt °C	pH No unit	Conductivity uS/cm	Alkalinity mg/L as CaCO3	Acidity mg/L as CaCO3	Redox Potential mV	F mg/L	Br mg/L	Cl mg/L	SO4 mg/L	NO2 as N mg/L	NO3 as N mg/L
62: Sample #6 - 1313-T06	N/A	20.0	7.48	117	53	< 2	227	0.21	< 0.3	0.7	22	< 0.03	< 0.06
63: Sample #6 - 1313-T07	N/A	20.0	8.01	1400	133	< 2	210	0.36	< 0.3	1.5	20	< 0.03	166
64: Sample #6 - 1313-T08	N/A	20.0	4.33	7210	< 2	158	310	1.46	< 0.3	0.4	2.7	< 0.3	1230
65: Sample #6 - 1313-T09	N/A	20.0	1.18	37700	< 2	9130	712	< 0.06	< 0.3	31	73	< 0.75	4180

Sample ID	NO2+NO3 as N mg/L	Total P mg/L	TDS mg/L	Ag (diss) mg/L	Al (diss) mg/L	As (diss) mg/L	B (diss) mg/L	Ba (diss) mg/L	Be (diss) mg/L	Bi (diss) mg/L	Ca (diss) mg/L	Cd (diss) mg/L	Co (diss) mg/L	Cr (diss) mg/L
1: Analysis Start Date	18-Oct-25	28-Oct-25	21-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25
2: Analysis Start Time	11:35	15:47	13:30	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25
3: Analysis Completed Date	27-Oct-25	29-Oct-25	27-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25
4: Analysis Completed Time	14:29	14:25	12:25	15:25	15:25	15:25	15:25	15:25	15:25	15:25	16:47	15:25	15:25	15:26
5: QC - Blank	< 0.06	< 0.03	< 30	< 0.00005	< 0.001	< 0.0002	< 0.002	< 0.00008	< 0.000007	< 0.00001	< 0.01	3e-06	< 0.000004	< 0.00008
6: QC - STD % Recovery	NA	100%	102%	94%	95%	98%	96%	97%	103%	99%	98%	98%	94%	105%
7: QC - DUP % RPD	NA	ND	0%	ND	1%	1%	1%	1%	ND	ND	1%	8%	6%	ND
8: QC - Spike Rep	NA	NV	NA	NV	113%	101%	100%	99%	96%	93%	104%	110%	92%	114%
9: Sample #1 - 1313-T01	< 0.06	< 0.3	5680	0.00019	9.10	0.0025	0.066	0.103	< 0.000007	< 0.00001	14.4	0.000021	0.000035	0.00774
10: Sample #1 - 1313-T02	< 0.06	< 0.3	3910	< 0.00005	8.23	0.0012	0.070	0.103	0.000007	< 0.00001	19.8	0.000014	< 0.000004	0.00611
11: Sample #1 - 1313-T03	< 0.06	< 0.3	2210	< 0.00005	7.53	0.0012	0.100	0.0643	0.000007	< 0.00001	16.0	0.000006	0.000004	0.00554
12: Sample #1 - 1313-T04	< 0.06	0.64	951	< 0.00005	4.51	0.0009	0.106	0.0522	< 0.000007	< 0.00001	21.3	0.000007	< 0.000004	0.00369
13: Sample #1 - 1313-T05	< 0.06	< 0.3	489	< 0.00005	1.18	0.0005	0.095	0.0455	< 0.000007	< 0.00001	27.2	0.000003	< 0.000004	0.00229
14: Sample #1 - 1313-T06	< 0.06	< 0.3	520	< 0.00005	0.057	< 0.0002	0.089	0.0818	< 0.000007	< 0.00001	73.0	0.000456	0.000234	0.00058
15: Sample #1 - 1313-T07	162	< 0.3	1650	< 0.00005	0.011	< 0.0002	0.107	0.323	0.000007	< 0.00001	293	0.000010	0.000451	< 0.00008
16: Sample #1 - 1313-T08	1240	< 0.3	7580	< 0.00005	0.015	0.0007	0.088	0.977	0.000039	< 0.00001	1640	0.130	0.00786	< 0.00008
17: Sample #1 - 1313-T09	4210	62.2	14900	0.00018	408	0.0609	0.239	1.78	0.0211	< 0.00001	2670	0.275	0.292	3.52
18: Sample #1 - 1313-B01	0.22	< 0.3	60	< 0.00005	0.045	< 0.0002	0.006	0.00061	0.000008	< 0.00001	0.59	0.000054	0.000076	0.00038
19: Sample #1 - 1313-B02	4260	2.05	37	< 0.00005	0.064	0.0007	0.006	0.00451	0.000018	< 0.00001	0.41	0.000047	0.000213	0.00061
20: Sample #1 - 1313-B03	0.29	1.48	5510	< 0.00005	0.034	0.0023	0.005	0.00075	0.000007	0.00003	0.08	0.000011	0.000072	0.00052
21: Sample #2 - 1313-T01	0.09	0.83	5850	0.00053	9.17	0.0008	0.087	0.0570	0.000029	< 0.00001	28.6	0.000012	0.000111	0.0104
22: Sample #2 - 1313-T02	< 0.06	0.80	3890	0.00030	8.32	0.0003	0.093	0.0638	0.000016	< 0.00001	42.0	0.000009	0.000165	0.00950
23: Sample #2 - 1313-T03	< 0.06	1.21	2100	0.00008	7.73	0.0003	0.128	0.0519	0.000020	< 0.00001	64.9	0.000007	0.000134	0.0105
24: Sample #2 - 1313-T04	< 0.06	0.85	1140	0.00010	3.92	0.0004	0.132	0.0412	0.000016	< 0.00001	67.4	0.000010	0.000071	0.00811
25: Sample #2 - 1313-T05	< 0.06	< 0.3	709	0.00013	0.502	0.0002	0.114	0.0406	0.000008	< 0.00001	88.8	0.000014	0.000084	0.00427
26: Sample #2 - 1313-T06	< 0.06	< 0.3	834	< 0.00005	0.037	< 0.0002	0.111	0.0504	0.000018	< 0.00001	154	0.000026	0.000096	0.00062
27: Sample #2 - 1313-T07	157	< 0.3	1970	0.00005	0.009	< 0.0002	0.128	0.155	0.000009	< 0.00001	423	0.000385	0.000548	0.00017
28: Sample #2 - 1313-T08	1200	6.81	6430	< 0.00005	137	0.0234	0.166	0.817	0.0171	< 0.00001	986	0.010388	0.102	1.03
29: Sample #2 - 1313-T09	4180	75.3	10900	0.00053	520	0.0501	0.277	0.980	0.0339	0.00001	1250	0.012830	0.405	5.41
30: Sample #3 - 1313-T01	18.7	9.93	5470	< 0.00005	31.2	0.0909	0.152	0.00533	0.000028	< 0.00001	2.02	0.000005	0.000034	0.0121

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Project : CA20M-00000-110-11718-02

LR Report : **CA13840-OCT25**

Sample ID	NO2+NO3 as N mg/L	Total P mg/L	TDS mg/L	Ag (diss) mg/L	Al (diss) mg/L	As (diss) mg/L	B (diss) mg/L	Ba (diss) mg/L	Be (diss) mg/L	Bi (diss) mg/L	Ca (diss) mg/L	Cd (diss) mg/L	Co (diss) mg/L	Cr (diss) mg/L
31: Sample #3 - 1313-T02	0.08	2.21	3730	< 0.00005	33.4	0.105	0.237	0.00671	0.000020	< 0.00001	2.51	0.000009	0.000068	0.0155
32: Sample #3 - 1313-T03	< 0.06	0.83	1950	< 0.00005	23.2	0.0744	0.220	0.00596	0.000018	< 0.00001	3.40	0.000006	0.000046	0.0119
33: Sample #3 - 1313-T04	0.07	0.42	763	< 0.00005	11.3	0.0466	0.210	0.00505	0.000011	< 0.00001	4.30	0.000006	0.000045	0.00943
34: Sample #3 - 1313-T05	< 0.06	2.27	3550	< 0.00005	2.21	0.0255	0.180	0.00588	0.000043	< 0.00001	6.59	0.000012	0.000236	0.00422
35: Sample #3 - 1313-T06	0.40	< 0.3	214	< 0.00005	0.022	0.0005	0.143	0.0178	0.000007	< 0.00001	24.9	0.000018	0.000044	0.00036
36: Sample #3 - 1313-T07	177	< 0.3	1320	< 0.00005	0.012	0.0004	0.244	0.435	0.000254	< 0.00001	232	0.0106	0.0238	0.00060
37: Sample #3 - 1313-T08	1290	4.32	5710	< 0.00005	277	0.0204	0.256	1.81	0.0418	< 0.00001	417	0.145	0.291	0.489
38: Sample #3 - 1313-T09	4230	58.2	11100	0.00544	509	0.0882	0.206	2.31	0.0353	0.00020	277	0.236	0.491	1.17
39: Sample #4 - 1313-T01	1.98	6.20	5660	0.00014	24.6	0.0437	0.106	0.0150	0.000063	< 0.00001	2.02	0.000172	0.000155	0.0117
40: Sample #4 - 1313-T02	0.09	0.58	3840	< 0.00005	20.4	0.0424	0.161	0.0151	0.000042	< 0.00001	3.30	0.000345	0.000306	0.0137
41: Sample #4 - 1313-T03	< 0.06	1.14	1950	0.00007	13.2	0.0296	0.171	0.0115	0.000025	< 0.00001	3.36	0.000135	0.000085	0.0124
42: Sample #4 - 1313-T04	< 0.06	0.32	794	0.00014	7.87	0.0284	0.176	0.00656	0.000013	< 0.00001	3.09	0.000151	0.000186	0.0136
43: Sample #4 - 1313-T05	< 0.06	1.20	2380	0.00109	2.14	0.0140	0.154	0.0109	0.000047	< 0.00001	5.73	0.00360	0.000378	0.00723
44: Sample #4 - 1313-T06	< 0.06	< 0.3	177	< 0.00005	0.032	0.0009	0.110	0.0211	0.000016	< 0.00001	25.4	0.00856	0.000171	0.00075
45: Sample #4 - 1313-T07	177	< 0.3	1440	0.00005	0.010	0.0004	0.154	0.268	0.000027	< 0.00001	308	0.840	0.00665	0.00033
46: Sample #4 - 1313-T08	1290	0.39	5730	< 0.00005	145	0.0162	0.262	1.88	0.0363	< 0.00001	882	6.18	0.230	0.181
47: Sample #4 - 1313-T09	5350	55.2	11800	0.00622	469	0.135	0.305	2.13	0.0550	0.00013	930	14.9	0.711	1.60
48: Sample #5 - 1313-T01	0.65	3.16	5320	0.00023	32.5	0.119	0.128	0.0111	0.000053	< 0.00001	1.95	0.00179	0.000070	0.0221
49: Sample #5 - 1313-T02	0.11	0.57	3680	0.00009	28.6	0.102	0.142	0.0108	0.000020	< 0.00001	1.74	0.00205	0.000086	0.0211
50: Sample #5 - 1313-T03	< 0.06	< 0.3	1880	0.00006	17.0	0.0734	0.183	0.00920	0.000021	< 0.00001	2.74	0.00127	0.000062	0.0226
51: Sample #5 - 1313-T04	< 0.06	< 0.3	791	0.00017	6.99	0.0400	0.177	0.00721	0.000011	< 0.00001	3.73	0.00164	0.000094	0.0180
52: Sample #5 - 1313-T05	< 0.06	< 0.3	617	0.00021	0.523	0.0147	0.129	0.00965	< 0.000007	< 0.00001	5.05	0.00191	0.000088	0.00925
53: Sample #5 - 1313-T06	< 0.06	< 0.3	191	< 0.00005	0.043	0.0022	0.091	0.0169	< 0.000007	< 0.00001	20.2	0.000877	0.000049	0.00044
54: Sample #5 - 1313-T07	185	< 0.3	1440	< 0.00005	< 0.001	0.0007	0.175	0.329	0.000019	< 0.00001	248	0.00305	0.00319	0.00018
55: Sample #5 - 1313-T08	1250	0.49	5580	< 0.00005	139	0.0365	0.267	1.75	0.0376	< 0.00001	549	0.0224	0.153	0.0956
56: Sample #5 - 1313-T09	4140	52.6	16800	0.00364	771	0.501	0.363	2.45	0.0803	< 0.00001	620	0.0302	0.554	2.40
57: Sample #6 - 1313-T01	0.68	0.55	5140	< 0.00005	15.4	0.0553	0.062	0.0178	0.000026	< 0.00001	4.21	0.000466	0.000129	0.0278
58: Sample #6 - 1313-T02	0.13	1.03	3840	0.00047	13.0	0.0497	0.064	0.0147	0.000014	< 0.00001	4.44	0.000294	0.000096	0.0238
59: Sample #6 - 1313-T03	0.07	< 0.3	1800	0.00011	9.22	0.0397	0.064	0.0107	0.000038	< 0.00001	4.52	0.000312	0.000087	0.0176
60: Sample #6 - 1313-T04	< 0.06	< 0.3	737	< 0.00005	5.11	0.0263	0.066	0.00556	0.000008	< 0.00001	4.54	0.000144	0.000044	0.00965
61: Sample #6 - 1313-T05	< 0.06	0.75	1200	< 0.00005	1.08	0.0180	0.066	0.00334	0.000020	< 0.00001	2.10	0.000138	0.000212	0.00615
62: Sample #6 - 1313-T06	< 0.06	< 0.3	171	< 0.00005	0.046	0.0018	0.051	0.00543	< 0.000007	< 0.00001	19.0	0.000093	0.000033	0.00048
63: Sample #6 - 1313-T07	166	< 0.3	1300	< 0.00005	0.018	0.0011	0.063	0.0714	< 0.000007	< 0.00001	273	0.000402	0.000279	0.00015
64: Sample #6 - 1313-T08	1230	< 0.3	7020	< 0.00005	10.2	0.0067	0.096	0.764	0.00558	< 0.00001	1470	0.0499	0.0324	0.00229
65: Sample #6 - 1313-T09	4180	45.6	17400	0.00330	390	0.0586	0.170	1.88	0.0307	0.00009	1090	0.119	0.394	1.24

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Project : CA20M-00000-110-11718-02
LR Report : **CA13840-OCT25**

Sample ID	Cu (diss) mg/L	Fe (diss) mg/L	K (diss) mg/L	Li (diss) mg/L	Mg (diss) mg/L	Mn (diss) mg/L	Mo (diss) mg/L	Na (diss) mg/L	Ni (diss) mg/L	Pb (diss) mg/L	Sb (diss) mg/L	Se (diss) mg/L	Si (diss) mg/L	Sn (diss) mg/L
1: Analysis Start Date	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25
2: Analysis Start Time	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25
3: Analysis Completed Date	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25
4: Analysis Completed Time	16:47	15:26	15:26	15:26	15:26	15:26	15:26	15:27	15:27	15:27	15:28	15:28	15:28	15:28
5: QC - Blank	< 0.001	< 0.007	< 0.009	< 0.0001	< 0.001	< 0.00001	< 0.0004	< 0.01	< 0.0001	< 0.00009	< 0.0005	< 0.00004	< 0.02	< 0.00006
6: QC - STD % Recovery	98%	98%	101%	101%	101%	98%	96%	93%	100%	97%	94%	96%	92%	100%
7: QC - DUP % RPD	ND	ND	1%	3%	0%	1%	3%	0%	ND	ND	0%	3%	2%	2%
8: QC - Spike Rep	99%	100%	82%	85%	91%	106%	92%	88%	98%	92%	93%	108%	NV	NV
9: Sample #1 - 1313-T01	1.01	0.049	3130	0.0003	0.004	0.00010	0.0168	43.9	0.0002	0.00063	0.0040	0.00152	7.25	0.00444
10: Sample #1 - 1313-T02	0.465	0.013	1680	0.0003	0.004	0.00134	0.0152	41.5	0.0002	0.00035	0.0029	0.00137	5.92	0.00034
11: Sample #1 - 1313-T03	0.053	0.011	1090	0.0004	0.005	0.00018	0.0144	35.7	0.0002	0.00014	0.0034	0.00112	12.9	0.00019
12: Sample #1 - 1313-T04	0.006	0.009	432	0.0003	0.004	0.00017	0.0133	33.6	0.0001	< 0.00009	0.0026	0.00069	14.2	0.00008
13: Sample #1 - 1313-T05	0.003	< 0.007	150	0.0004	0.014	0.00007	0.0123	32.6	0.0002	< 0.00009	0.0031	0.00024	10.2	< 0.00006
14: Sample #1 - 1313-T06	0.004	< 0.007	11.1	0.0143	5.62	0.04208	0.0133	30.1	0.0004	< 0.00009	0.0016	< 0.00004	2.29	< 0.00006
15: Sample #1 - 1313-T07	0.002	< 0.007	12.6	0.0311	12.0	0.660	0.0084	31.5	0.0011	< 0.00009	0.0014	< 0.00004	5.19	0.00020
16: Sample #1 - 1313-T08	0.575	< 0.007	15.6	0.0347	15.4	13.5	0.0061	31.4	0.0248	< 0.00009	0.0009	< 0.00004	12.0	0.00011
17: Sample #1 - 1313-T09	86.7	755	33.3	0.557	293	34.1	0.0039	43.1	0.712	0.0514	0.0012	0.00537	274	0.00446
18: Sample #1 - 1313-B01	0.023	0.093	0.381	0.0002	0.044	0.00540	< 0.0004	0.02	0.0005	0.00071	< 0.0009	< 0.00004	0.12	< 0.00006
19: Sample #1 - 1313-B02	0.069	0.155	0.216	0.0003	0.044	0.00491	< 0.0004	0.02	0.0012	0.00483	< 0.0009	< 0.00004	0.14	0.00051
20: Sample #1 - 1313-B03	0.015	0.046	3310	0.0007	0.005	0.00057	< 0.0004	17.2	0.0002	0.00120	0.0034	0.00038	0.10	0.00065
21: Sample #2 - 1313-T01	0.712	0.024	3370	0.0007	0.003	0.00087	0.0281	58.2	0.0005	0.00037	0.0038	0.00165	4.42	0.00249
22: Sample #2 - 1313-T02	0.312	0.022	2290	0.0006	0.005	0.00105	0.0272	58.0	0.0004	0.00024	0.0029	0.00122	3.06	0.00018
23: Sample #2 - 1313-T03	0.071	0.017	1040	0.0010	0.009	0.00101	0.0233	65.5	0.0004	0.00018	0.0015	0.00104	3.71	0.00013
24: Sample #2 - 1313-T04	0.009	0.008	440	0.0007	0.007	0.00081	0.0237	63.2	0.0002	< 0.00009	0.0009	0.00062	8.46	0.00009
25: Sample #2 - 1313-T05	0.001	0.008	186	0.0013	0.041	0.00088	0.0231	57.6	0.0003	< 0.00009	< 0.0009	0.00011	6.99	< 0.00006
26: Sample #2 - 1313-T06	0.007	0.008	17.3	0.0283	11.6	0.0519	0.0181	57.1	0.0003	< 0.00009	< 0.0009	< 0.00004	2.76	< 0.00006
27: Sample #2 - 1313-T07	0.079	0.015	17.7	0.0562	20.4	2.20	0.0105	57.0	0.0012	< 0.00009	< 0.0009	< 0.00004	5.67	0.00048
28: Sample #2 - 1313-T08	68.0	195	23.4	0.180	112	13.6	0.0015	47.2	0.298	0.00050	< 0.0009	0.00226	113	0.00010
29: Sample #2 - 1313-T09	138	906	32.0	0.750	433	34.0	0.0056	56.1	0.991	0.0282	< 0.0009	0.00412	321	0.00433
30: Sample #3 - 1313-T01	0.036	0.240	3250	0.0009	0.042	0.00584	0.0166	47.7	0.0002	0.00543	0.0048	0.00922	34.4	0.00097
31: Sample #3 - 1313-T02	0.025	0.240	2050	0.0005	0.068	0.00604	0.0156	55.2	0.0003	0.00414	0.0043	0.0119	40.9	0.00060
32: Sample #3 - 1313-T03	0.015	0.070	951	0.0003	0.045	0.00351	0.0139	47.6	0.0002	0.00085	0.0035	0.0101	28.0	0.00023
33: Sample #3 - 1313-T04	0.013	0.010	333	0.0003	0.038	0.00289	0.0130	40.7	0.0002	0.00014	0.0032	0.00854	16.7	0.00011
34: Sample #3 - 1313-T05	0.011	0.440	130	0.0017	0.255	0.0119	0.0103	35.1	0.0006	0.00065	0.0030	0.00569	3.97	0.00067
35: Sample #3 - 1313-T06	0.010	< 0.007	21.7	0.0067	2.39	0.0109	0.0053	35.0	0.0002	< 0.00009	0.0016	0.00055	2.42	< 0.00006
36: Sample #3 - 1313-T07	0.012	0.100	41.4	0.0640	27.2	5.50	0.0005	40.4	0.0307	0.00009	< 0.0009	0.00062	19.8	0.00008
37: Sample #3 - 1313-T08	2.32	534	56.0	0.535	168	17.2	< 0.0004	40.0	0.438	0.227	0.0009	0.00143	179	0.00007
38: Sample #3 - 1313-T09	1.15	1140	52.7	0.752	275	23.8	0.0019	25.0	0.822	2.18	0.0022	0.00193	221	0.00097
39: Sample #4 - 1313-T01	0.861	0.310	2900	0.0023	0.119	0.00281	0.391	43.1	0.0004	0.0346	0.0046	0.00756	20.3	0.00105

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Project : CA20M-00000-110-11718-02

LR Report : **CA13840-OCT25**

Sample ID	Cu (diss) mg/L	Fe (diss) mg/L	K (diss) mg/L	Li (diss) mg/L	Mg (diss) mg/L	Mn (diss) mg/L	Mo (diss) mg/L	Na (diss) mg/L	Ni (diss) mg/L	Pb (diss) mg/L	Sb (diss) mg/L	Se (diss) mg/L	Si (diss) mg/L	Sn (diss) mg/L
40: Sample #4 - 1313-T02	0.728	0.290	2080	0.0014	0.224	0.0190	0.378	48.3	0.0008	0.0207	0.0044	0.00875	21.1	0.00049
41: Sample #4 - 1313-T03	0.149	0.400	952	0.0012	0.057	0.00483	0.347	40.7	0.0003	0.00551	0.0038	0.00823	15.0	0.00024
42: Sample #4 - 1313-T04	0.020	0.350	343	0.0012	0.127	0.0113	0.300	35.0	0.0004	0.00059	0.0043	0.00618	11.8	0.00036
43: Sample #4 - 1313-T05	0.121	1.11	123	0.0063	0.419	0.0215	0.223	32.9	0.0008	0.00187	0.0036	0.00230	2.86	0.00047
44: Sample #4 - 1313-T06	0.021	< 0.007	21.7	0.0373	3.00	0.0339	0.109	31.4	0.0004	0.00025	0.0017	0.00032	2.56	0.00008
45: Sample #4 - 1313-T07	0.186	< 0.007	32.6	0.105	15.8	5.19	0.0572	34.0	0.0016	0.00057	< 0.0009	0.00020	7.62	0.00007
46: Sample #4 - 1313-T08	235	340	53.5	0.414	124	27.0	0.0015	35.8	0.278	0.419	0.0011	0.00242	140	0.00008
47: Sample #4 - 1313-T09	427	1360	74.1	1.18	427	46.9	0.0146	35.9	0.956	4.12	0.0022	0.00378	353	0.00063
48: Sample #5 - 1313-T01	0.497	0.860	2850	0.0022	0.052	0.00472	0.0092	45.5	0.0002	0.00685	0.0024	0.00309	21.9	0.00101
49: Sample #5 - 1313-T02	0.440	0.470	2040	0.0009	0.059	0.00503	0.0088	42.2	0.0002	0.00184	0.0014	0.00289	18.1	0.00056
50: Sample #5 - 1313-T03	0.147	0.300	948	0.0011	0.047	0.00413	0.0075	42.9	0.0007	0.00113	0.0010	0.00251	13.5	0.00023
51: Sample #5 - 1313-T04	0.072	0.190	350	0.0016	0.056	0.00502	0.0083	35.5	0.0002	0.00085	< 0.0009	0.00127	5.56	0.00017
52: Sample #5 - 1313-T05	0.082	0.100	113	0.0065	0.138	0.00501	0.0051	30.3	0.0002	0.00044	< 0.0009	0.00019	1.55	0.00009
53: Sample #5 - 1313-T06	0.043	0.100	22.2	0.0407	2.09	0.00717	0.0038	29.3	0.0001	0.00031	< 0.0009	0.00006	1.82	0.00038
54: Sample #5 - 1313-T07	0.642	0.020	34.9	0.167	20.7	5.18	0.0011	31.5	0.0024	0.00035	< 0.0009	< 0.00004	10.9	0.00007
55: Sample #5 - 1313-T08	454	360	60.4	0.480	159	19.7	< 0.0004	36.0	0.289	0.00380	< 0.0009	0.00217	135	0.00008
56: Sample #5 - 1313-T09	1040	1300	85.2	1.57	534	45.3	0.0005	39.5	0.965	0.131	< 0.0009	0.00365	422	0.00061
57: Sample #6 - 1313-T01	0.368	0.270	3050	0.0023	0.136	0.0101	0.106	23.4	0.0004	0.00562	0.0049	0.00301	35.9	0.00057
58: Sample #6 - 1313-T02	0.250	0.180	2020	0.0019	0.083	0.00623	0.0477	17.9	0.0003	0.00283	0.0052	0.00275	33.9	0.00038
59: Sample #6 - 1313-T03	0.120	0.110	926	0.0011	0.102	0.00683	0.0290	11.4	0.0003	0.00100	0.0033	0.00236	30.9	0.00020
60: Sample #6 - 1313-T04	0.065	0.070	330	0.0005	0.041	0.00220	0.0180	7.77	0.0002	0.00018	0.0030	0.00222	23.4	0.00016
61: Sample #6 - 1313-T05	0.065	0.580	76.1	0.0016	0.193	0.0113	0.0119	5.35	0.0010	0.00078	0.0025	0.00153	9.27	0.00071
62: Sample #6 - 1313-T06	0.038	0.047	4.40	0.0138	0.925	0.0110	0.0076	4.22	0.0001	< 0.00009	0.0019	0.00037	3.21	< 0.00006
63: Sample #6 - 1313-T07	0.039	0.082	8.46	0.0390	7.22	0.978	0.0071	5.24	0.0012	< 0.00009	0.0016	0.00044	5.66	< 0.00006
64: Sample #6 - 1313-T08	23.3	21.5	16.2	0.0895	27.4	24.6	< 0.0004	6.94	0.137	0.0112	< 0.0009	0.00101	33.1	< 0.00006
65: Sample #6 - 1313-T09	63.5	800	29.2	0.583	216	36.2	0.0020	8.15	1.02	0.965	0.0016	0.00169	195	0.00088

Sample ID	Sr (diss) mg/L	Th (diss) mg/L	Ti (diss) mg/L	Tl (diss) mg/L	U (diss) mg/L	V (diss) mg/L	W (diss) mg/L	Y (diss) mg/L	Zn (diss) mg/L
1: Analysis Start Date	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25	28-Oct-25
2: Analysis Start Time	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25	02:25
3: Analysis Completed Date	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25	31-Oct-25
4: Analysis Completed Time	15:28	15:29	15:29	15:29	15:29	15:29	15:29	15:29	15:29
5: QC - Blank	< 0.00008	< 0.0001	< 0.0001	< 0.000005	< 0.000002	1e-05	< 0.0002	< 0.00002	< 0.002
6: QC - STD % Recovery	101%	103%	104%	97%	98%	100%	99%	93%	98%
7: QC - DUP % RPD	1%	ND	5%	8%	0%	0%	ND	ND	ND
8: QC - Spike Rep	100%	NV	NV	84%	89%	91%	NV	NV	103%

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CA20M-00000-110-11718-02
LR Report : **CA13840-OCT25**

Sample ID	Sr (diss) mg/L	Th (diss) mg/L	Ti (diss) mg/L	Tl (diss) mg/L	U (diss) mg/L	V (diss) mg/L	W (diss) mg/L	Y (diss) mg/L	Zn (diss) mg/L
9: Sample #1 - 1313-T01	0.687	< 0.0001	< 0.0001	0.000164	0.000056	0.0553	0.0005	< 0.00002	< 0.002
10: Sample #1 - 1313-T02	0.749	< 0.0001	< 0.0001	0.000019	0.000024	0.0448	0.0005	< 0.00002	< 0.002
11: Sample #1 - 1313-T03	0.555	< 0.0001	< 0.0001	0.000015	0.000010	0.0683	0.0005	< 0.00002	< 0.002
12: Sample #1 - 1313-T04	0.537	< 0.0001	< 0.0001	0.000006	0.000008	0.0770	0.0005	< 0.00002	< 0.002
13: Sample #1 - 1313-T05	0.560	< 0.0001	< 0.0001	0.000010	< 0.000002	0.0663	0.0005	< 0.00002	< 0.002
14: Sample #1 - 1313-T06	1.07	< 0.0001	< 0.0001	0.000015	0.000005	0.00152	0.0004	0.00003	< 0.002
15: Sample #1 - 1313-T07	1.73	< 0.0001	< 0.0001	0.000023	0.000011	0.00071	< 0.0002	< 0.00002	< 0.002
16: Sample #1 - 1313-T08	3.05	< 0.0001	< 0.0001	0.000040	0.000078	0.00235	< 0.0002	0.00368	0.023
17: Sample #1 - 1313-T09	4.08	0.0827	1.55	0.000240	0.0105	1.20	0.0005	1.18	1.32
18: Sample #1 - 1313-B01	0.00113	< 0.0001	0.0002	< 0.000005	0.000003	0.00018	< 0.0002	0.00013	0.008
19: Sample #1 - 1313-B02	0.00097	0.0001	0.0009	< 0.000005	0.000035	0.00026	< 0.0002	0.00022	0.027
20: Sample #1 - 1313-B03	0.0110	< 0.0001	0.0002	0.000033	0.000014	0.00008	0.0002	< 0.00002	0.007
21: Sample #2 - 1313-T01	1.14	< 0.0001	< 0.0001	0.000044	0.000018	0.0270	0.0008	< 0.00002	< 0.002
22: Sample #2 - 1313-T02	1.39	< 0.0001	< 0.0001	0.000045	0.000009	0.0173	0.0009	< 0.00002	0.005
23: Sample #2 - 1313-T03	1.67	< 0.0001	< 0.0001	0.000039	0.000003	0.0228	0.0010	< 0.00002	0.003
24: Sample #2 - 1313-T04	1.60	< 0.0001	< 0.0001	0.000021	< 0.000002	0.0604	0.0011	< 0.00002	< 0.002
25: Sample #2 - 1313-T05	1.66	< 0.0001	< 0.0001	0.000026	< 0.000002	0.0503	0.0009	< 0.00002	< 0.002
26: Sample #2 - 1313-T06	2.27	< 0.0001	< 0.0001	0.000025	< 0.000002	0.00114	0.0003	< 0.00002	< 0.002
27: Sample #2 - 1313-T07	3.08	< 0.0001	< 0.0001	0.000041	0.000002	0.00061	< 0.0002	0.00004	0.004
28: Sample #2 - 1313-T08	3.18	< 0.0001	0.0014	0.000119	0.00162	0.659	0.0004	0.559	0.532
29: Sample #2 - 1313-T09	4.13	0.0943	2.69	0.000310	0.0131	2.00	0.0004	0.976	2.35
30: Sample #3 - 1313-T01	0.0328	< 0.0001	0.0005	< 0.000005	0.000040	0.177	0.0006	0.00009	< 0.002
31: Sample #3 - 1313-T02	0.0565	< 0.0001	0.0008	< 0.000005	0.000024	0.236	0.0006	0.00015	< 0.002
32: Sample #3 - 1313-T03	0.0677	< 0.0001	0.0005	< 0.000005	0.000017	0.210	0.0005	0.00009	< 0.002
33: Sample #3 - 1313-T04	0.0604	< 0.0001	0.0003	< 0.000005	0.000019	0.184	0.0013	0.00008	< 0.002
34: Sample #3 - 1313-T05	0.246	< 0.0001	0.0085	0.000012	0.000083	0.0990	0.0007	0.00018	0.002
35: Sample #3 - 1313-T06	0.315	< 0.0001	0.0001	0.000007	0.000029	0.00075	0.0003	0.00007	< 0.002
36: Sample #3 - 1313-T07	1.77	< 0.0001	0.0003	0.000083	0.000039	0.00034	< 0.0002	0.00279	0.010
37: Sample #3 - 1313-T08	2.50	< 0.0001	0.0012	0.000460	0.00724	0.503	0.0003	0.741	1.13
38: Sample #3 - 1313-T09	1.92	0.226	0.342	0.00183	0.0323	0.552	0.0007	0.677	1.93
39: Sample #4 - 1313-T01	0.0654	0.0001	0.0005	0.000033	0.000160	0.09102	0.0004	0.00026	0.004
40: Sample #4 - 1313-T02	0.0986	< 0.0001	0.0007	0.000021	0.000089	0.104	0.0006	0.00053	0.003
41: Sample #4 - 1313-T03	0.0889	< 0.0001	0.0003	0.000012	0.000033	0.109	0.0004	0.00013	< 0.002
42: Sample #4 - 1313-T04	0.0583	< 0.0001	0.0005	0.000020	0.000015	0.118	0.0004	0.00031	< 0.002
43: Sample #4 - 1313-T05	0.0938	< 0.0001	0.0148	0.000046	0.000062	0.0395	0.0007	0.00031	0.003
44: Sample #4 - 1313-T06	0.323	< 0.0001	0.0004	0.000045	0.000007	0.00162	0.0007	0.00025	< 0.002
45: Sample #4 - 1313-T07	1.48	< 0.0001	0.0003	0.000114	0.000011	0.00072	< 0.0002	0.00025	0.009
46: Sample #4 - 1313-T08	2.55	0.0003	0.0009	0.000490	0.00430	0.186	0.0007	0.597	0.919
47: Sample #4 - 1313-T09	2.70	0.192	0.442	0.00255	0.0292	0.785	0.0004	0.974	2.81

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CA20M-00000-110-11718-02
LR Report : **CA13840-OCT25**

Sample ID	Sr (diss) mg/L	Th (diss) mg/L	Ti (diss) mg/L	Tl (diss) mg/L	U (diss) mg/L	V (diss) mg/L	W (diss) mg/L	Y (diss) mg/L	Zn (diss) mg/L
48: Sample #5 - 1313-T01	0.0457	0.0001	0.0002	0.000024	0.000112	0.0906	0.0005	0.00009	0.004
49: Sample #5 - 1313-T02	0.0496	< 0.0001	0.0002	0.000015	0.000049	0.0767	0.0006	0.00012	< 0.002
50: Sample #5 - 1313-T03	0.0750	< 0.0001	0.0001	0.000012	0.000019	0.0613	0.0004	0.00010	< 0.002
51: Sample #5 - 1313-T04	0.0704	< 0.0001	< 0.0001	0.000017	0.000005	0.0527	0.0005	0.00014	< 0.002
52: Sample #5 - 1313-T05	0.0758	< 0.0001	0.0002	0.000039	0.000007	0.0124	0.0006	0.00013	< 0.002
53: Sample #5 - 1313-T06	0.296	< 0.0001	< 0.0001	0.000035	0.000003	0.00090	0.0003	0.00007	< 0.002
54: Sample #5 - 1313-T07	1.54	< 0.0001	0.0001	0.000113	0.000003	0.00042	< 0.0002	0.00019	0.005
55: Sample #5 - 1313-T08	2.40	0.0001	0.0010	0.000340	0.00317	0.209	0.0003	0.624	0.912
56: Sample #5 - 1313-T09	2.81	0.154	0.276	0.00185	0.0333	0.577	0.0004	0.994	3.06
57: Sample #6 - 1313-T01	0.126	< 0.0001	0.0003	0.000015	0.000230	0.109	0.0140	0.00025	0.004
58: Sample #6 - 1313-T02	0.121	< 0.0001	0.0002	0.000009	0.000131	0.105	0.0137	0.00017	0.002
59: Sample #6 - 1313-T03	0.101	< 0.0001	0.0002	< 0.000005	0.000066	0.101	0.0126	0.00019	< 0.002
60: Sample #6 - 1313-T04	0.0726	< 0.0001	< 0.0001	< 0.000005	0.000027	0.0946	0.0125	0.00008	< 0.002
61: Sample #6 - 1313-T05	0.0240	< 0.0001	0.0043	0.000008	0.000151	0.0780	0.0137	0.00018	0.003
62: Sample #6 - 1313-T06	0.178	< 0.0001	< 0.0001	0.000010	0.000307	0.00688	0.0060	0.00005	< 0.002
63: Sample #6 - 1313-T07	1.26	< 0.0001	< 0.0001	0.000033	0.00170	0.00254	0.0025	0.00010	< 0.002
64: Sample #6 - 1313-T08	2.30	< 0.0001	0.0002	0.000142	0.00115	0.00012	< 0.0002	0.238	0.249
65: Sample #6 - 1313-T09	2.42	0.167	0.312	0.00165	0.0325	0.426	0.0006	0.814	1.71

Sample #6 - 1313-T0: was not received

Alisha Kelly, B.Sc.,
Project Specialist,
Environment, Health & Safety

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REP No.	CA12584-NOV25
Customer	SGS Lakefield Environmental Met
Attention	Barb Bowman
Reference	11718-02-03
Project	CA20M-00000-110-11718-02
Title	Final Report
Date	17-Nov-25 03:00

Sample ID	Temp Upon Receipt °C	pH No unit	Conductivity µS/cm	Alkalinity mg/L as $CaCO_3$	Acidity mg/L as $CaCO_3$	Tot.Reactive P mg/L	Hg (Low level) mg/L	Ag (diss) mg/L	Al (diss) mg/L	As (diss) mg/L	Ba (diss) mg/L	Be (diss) mg/L	B (diss) mg/L
Sample #1- 1316-T01	20.0	6.74	533	36	< 2	0.04	0.00178	< 0.00005	0.030	0.0005	0.0866	< 0.000007	0.125
Sample #1- 1316-T02	20.0	6.34	1240	15	< 2	< 0.03	0.00217	< 0.00005	0.019	0.0003	0.229	< 0.000007	0.122
Sample #1- 1316-T03	20.0	6.70	2720	26	28	< 0.03	0.00339	< 0.00005	0.017	< 0.0002	0.547	< 0.000007	0.208
Sample #1- 1316-T04	20.0	6.44	5800	25	22	< 0.03	0.00499	< 0.00005	0.010	0.0003	1.36	< 0.000007	0.317
Sample #1- 1316-T05	20.0	6.87	9690	28	24	< 0.03	0.00604	< 0.00005	0.016	0.0005	2.17	< 0.000007	0.432
Sample #1- 1316-B03	20.0	6.37	< 2	< 2	2	< 0.03	---	< 0.00005	< 0.001	< 0.0002	0.00285	< 0.000007	0.004
Sample #2- 1316-T01	20.0	6.95	971	34	30	< 0.03	0.00148	< 0.00005	0.014	0.0003	0.0946	< 0.000007	0.077
Sample #2- 1316-T02	20.0	6.56	1820	22	< 2	< 0.03	0.00148	< 0.00005	0.016	0.0002	0.120	< 0.000007	0.124
Sample #2- 1316-T03	20.0	6.93	4330	24	25	< 0.03	0.00161	< 0.00005	0.010	0.0002	0.283	0.000009	0.216
Sample #2- 1316-T04	20.0	6.83	7380	25	35	< 0.03	0.00149	< 0.00005	0.009	0.0003	0.574	< 0.000007	0.254
Sample #2- 1316-T05	20.0	6.89	8630	13	< 2	< 0.03	0.00668	0.00005	0.009	0.0004	0.656	< 0.000007	0.220
Sample #2- 1316-B03	20.0	6.31	< 2	< 2	3	< 0.03	---	< 0.00005	< 0.001	< 0.0002	0.00117	< 0.000007	0.003
Sample #3- 1316-T01	20.0	6.94	185	29	< 2	< 0.03	0.00040	< 0.00005	0.158	0.0008	0.0119	< 0.000007	0.050
Sample #3- 1316-T02	20.0	6.90	667	39	< 2	< 0.03	0.00063	< 0.00005	0.069	0.0008	0.0363	< 0.000007	0.167
Sample #3- 1316-T03	20.0	7.14	1480	49	12	< 0.03	0.00044	< 0.00005	0.046	0.0008	0.0801	< 0.000007	0.266
Sample #3- 1316-T04	20.0	7.09	2100	41	15	< 0.03	0.00051	< 0.00005	0.049	0.0008	0.125	0.000010	0.262
Sample #3- 1316-T05	20.0	7.05	4560	33	82	< 0.03	0.00319	< 0.00005	0.021	0.0010	0.254	< 0.000007	0.412
Sample #3- 1316-B03	20.0	6.08	< 2	< 2	4	< 0.03	---	< 0.00005	< 0.001	< 0.0002	0.00068	< 0.000007	< 0.002
Sample #4- 1316-T01	20.0	7.00	213	51	2	< 0.03	0.00069	< 0.00005	0.091	0.0005	0.0148	< 0.000007	0.050
Sample #4- 1316-T02	20.0	7.05	566	45	15	< 0.03	0.00067	< 0.00005	0.041	0.0006	0.0334	< 0.000007	0.131
Sample #4- 1316-T03	20.0	7.15	1270	46	7	< 0.03	0.00071	< 0.00005	0.029	0.0005	0.0842	< 0.000007	0.223
Sample #4- 1316-T04	20.0	7.25	2290	50	19	< 0.03	0.00081	< 0.00005	0.021	0.0007	0.167	0.000007	0.306
Sample #4- 1316-T05	20.0	7.23	2790	29	< 2	< 0.03	0.00479	< 0.00005	0.024	0.0007	0.180	< 0.000007	0.339
Sample #4- 1316-B03	20.0	6.16	< 2	< 2	3	< 0.03	---	< 0.00005	< 0.001	< 0.0002	0.00101	< 0.000007	0.004
Sample #5- 1316-T01	20.0	7.24	267	52	12	< 0.03	0.00171	< 0.00005	0.051	0.0020	0.0152	< 0.000007	0.065
Sample #5- 1316-T02	20.0	7.35	601	62	< 2	< 0.03	0.00126	< 0.00005	0.038	0.0020	0.0299	< 0.000007	0.126
Sample #5- 1316-T03	20.0	7.45	1190	70	< 2	< 0.03	0.00135	< 0.00005	0.032	0.0017	0.0582	0.000008	0.190
Sample #5- 1316-T04	20.0	6.88	2040	67	< 2	< 0.03	0.00177	< 0.00005	0.027	0.0018	0.0949	< 0.000007	0.240
Sample #5- 1316-T05	20.0	7.46	2570	42	< 2	< 0.03	0.00426	< 0.00005	0.026	0.0024	0.116	< 0.000007	0.253
Sample #5- 1316-B03	20.0	6.16	< 2	< 2	3	< 0.03	---	< 0.00005	< 0.001	< 0.0002	0.00063	< 0.000007	0.004
Sample #6- 1316-T01	20.0	7.24	116	62	< 2	< 0.03	0.00069	< 0.00005	0.104	0.0019	0.00814	< 0.000007	0.038
Sample #6- 1316-T02	20.0	7.31	189	65	< 2	< 0.03	0.00036	< 0.00005	0.045	0.0018	0.0105	< 0.000007	0.091
Sample #6- 1316-T03	20.0	7.37	317	68	< 2	< 0.03	0.00048	< 0.00005	0.027	0.0016	0.0154	0.000010	0.163
Sample #6- 1316-T04	20.0	7.51	509	74	< 2	< 0.03	0.00052	< 0.00005	0.021	0.0018	0.0231	< 0.000007	0.239
Sample #6- 1316-T05	20.0	7.79	584	62	< 2	< 0.03	0.00322	< 0.00005	0.017	0.0011	0.0278	< 0.000007	0.269
Sample #6- 1316-B03	20.0	6.26	< 2	< 2	3	< 0.03	---	< 0.00005	< 0.001	< 0.0002	0.00060	< 0.000007	0.004

REP No.	CA12584-N
Customer	SGS Lakefi
Attention	Barb Bowm
Reference	11718-02-0
Project	CA20M-00(
Title	Final Repor
Date	17-Nov-25

Sample ID	Temp Upon Receipt °C	Bi (diss) mg/L	Ca (diss) mg/L	Cd (diss) mg/L	Co (diss) mg/L	Cr (diss) mg/L	Cu (diss) mg/L	Fe (diss) mg/L	K (diss) mg/L	Li (diss) mg/L	Mg (diss) mg/L	Mn (diss) mg/L	Mo (diss) mg/L	Na (diss) mg/L	Ni (diss) mg/L
Sample #1- 1316-T01	20.0	< 0.00001	51.3	0.000654	0.000580	0.00082	0.019	< 0.007	7.18	0.0145	4.80	0.0571	0.0170	23.8	0.0439
Sample #1- 1316-T02	20.0	< 0.00001	122	0.000651	0.000357	0.00151	0.004	< 0.007	15.5	0.0285	11.6	0.0802	0.0211	59.5	0.0242
Sample #1- 1316-T03	20.0	< 0.00001	273	0.00163	0.000176	0.00114	0.005	< 0.007	31.9	0.0516	26.2	0.184	0.0254	137	0.0069
Sample #1- 1316-T04	20.0	< 0.00001	632	0.00481	0.000279	0.00185	0.008	< 0.007	64.3	0.0846	61.2	0.434	0.0310	303	0.0069
Sample #1- 1316-T05	20.0	< 0.00001	1130	0.00795	0.000344	0.00138	0.007	0.030	102	0.111	102	0.646	0.0410	540	0.0048
Sample #1- 1316-B03	20.0	< 0.00001	0.21	0.000004	< 0.000004	< 0.00008	0.001	< 0.007	0.071	0.0001	0.007	0.00008	< 0.0004	0.21	< 0.0001
Sample #2- 1316-T01	20.0	< 0.00001	99.2	0.000129	0.000138	0.00062	0.010	< 0.007	10.2	0.0272	8.66	0.09139	0.0145	42.2	0.0048
Sample #2- 1316-T02	20.0	< 0.00001	189	0.000108	0.000073	0.00079	0.006	< 0.007	18.4	0.0428	17.3	0.172	0.0288	82.1	0.0014
Sample #2- 1316-T03	20.0	< 0.00001	472	0.000234	0.000126	0.00066	0.006	< 0.007	44.3	0.0753	45.1	0.343	0.0252	204	0.0019
Sample #2- 1316-T04	20.0	< 0.00001	845	0.000404	0.000250	0.00100	0.023	< 0.007	66.2	0.0848	77.2	0.496	0.0342	362	0.0043
Sample #2- 1316-T05	20.0	< 0.00001	999	0.000503	0.000271	0.00090	0.009	< 0.007	87.3	0.0737	108	0.573	0.0361	430	0.0040
Sample #2- 1316-B03	20.0	< 0.00001	0.04	< 0.000003	< 0.000004	< 0.00008	0.002	< 0.007	0.069	< 0.0001	0.004	0.00006	< 0.0004	0.26	0.0002
Sample #3- 1316-T01	20.0	< 0.00001	10.1	0.000007	0.000028	0.00020	0.012	< 0.007	11.0	0.0040	1.25	0.00449	0.0025	14.8	0.0005
Sample #3- 1316-T02	20.0	< 0.00001	34.0	0.000028	0.000104	0.00027	0.006	< 0.007	29.4	0.0095	4.05	0.0143	0.0102	58.7	0.0024
Sample #3- 1316-T03	20.0	< 0.00001	72.5	0.000070	0.000062	0.00020	0.002	< 0.007	55.8	0.0144	9.52	0.03417	0.0214	134	0.0008
Sample #3- 1316-T04	20.0	< 0.00001	110	0.000113	0.000083	0.00025	0.002	< 0.007	69.2	0.0170	15.4	0.06050	0.0265	190	0.0017
Sample #3- 1316-T05	20.0	< 0.00001	272	0.000420	0.000147	0.00031	0.003	< 0.007	132	0.0294	36.1	0.153	0.0505	435	0.0019
Sample #3- 1316-B03	20.0	< 0.00001	0.02	< 0.000003	< 0.000004	< 0.00008	0.002	< 0.007	0.026	< 0.0001	0.001	0.00002	< 0.0004	0.08	0.0002
Sample #4- 1316-T01	20.0	< 0.00001	11.7	0.00390	0.000041	0.00019	0.006	< 0.007	11.1	0.0244	1.75	0.0143	0.0647	15.0	0.0006
Sample #4- 1316-T02	20.0	< 0.00001	26.6	0.00859	0.000062	0.00022	0.007	< 0.007	25.7	0.0525	4.31	0.0356	0.192	47.6	0.0007
Sample #4- 1316-T03	20.0	< 0.00001	59.3	0.0259	0.000097	0.00023	0.008	< 0.007	46.9	0.0941	9.66	0.0944	0.348	116	0.0007
Sample #4- 1316-T04	20.0	< 0.00001	113	0.0586	0.000156	0.00024	0.007	< 0.007	78.7	0.132	20.2	0.191	0.472	227	0.0008
Sample #4- 1316-T05	20.0	< 0.00001	125	0.0723	0.000165	0.00026	0.003	< 0.007	96.6	0.125	25.7	0.206	0.585	293	0.0006
Sample #4- 1316-B03	20.0	< 0.00001	0.04	< 0.000003	0.000005	< 0.00008	0.002	< 0.007	0.065	0.0001	0.004	0.00010	0.0014	0.20	0.0001
Sample #5- 1316-T01	20.0	< 0.00001	12.9	0.00165	0.000035	0.00039	0.018	< 0.007	14.5	0.0437	2.34	0.0112	0.0031	18.7	0.0007
Sample #5- 1316-T02	20.0	< 0.00001	23.5	0.00172	0.000042	0.00050	0.015	< 0.007	31.3	0.0828	4.72	0.0193	0.0049	52.7	0.0007
Sample #5- 1316-T03	20.0	< 0.00001	41.1	0.00223	0.000052	0.00080	0.013	< 0.007	54.9	0.127	9.07	0.0410	0.0085	125	0.0009
Sample #5- 1316-T04	20.0	< 0.00001	62.5	0.00205	0.000040	0.00030	0.010	< 0.007	80.3	0.168	14.8	0.0695	0.0097	231	0.0008
Sample #5- 1316-T05	20.0	< 0.00001	72.4	0.00130	0.000064	0.00028	0.022	< 0.007	96.3	0.173	17.1	0.0683	0.0109	328	0.0010
Sample #5- 1316-B03	20.0	< 0.00001	0.02	< 0.000003	< 0.000004	< 0.00008	< 0.001	< 0.007	0.069	0.0001	0.001	0.00003	< 0.0004	0.25	< 0.0001
Sample #6- 1316-T01	20.0	< 0.00001	13.4	0.000081	0.000051	0.00053	0.007	0.021	3.35	0.0123	1.08	0.00595	0.0044	3.64	0.0009
Sample #6- 1316-T02	20.0	< 0.00001	21.2	0.000068	0.000029	0.00049	0.007	< 0.007	5.37	0.0231	1.56	0.00659	0.0138	8.00	0.0008
Sample #6- 1316-T03	20.0	< 0.00001	32.9	0.000119	0.000030	0.00080	0.010	< 0.007	8.37	0.0386	2.60	0.0122	0.0333	16.7	0.0007
Sample #6- 1316-T04	20.0	< 0.00001	52.2	0.000340	0.000053	0.00040	0.023	< 0.007	12.0	0.0544	4.23	0.0213	0.0660	30.3	0.0016
Sample #6- 1316-T05	20.0	< 0.00001	61.8	0.000497	0.000046	0.00029	0.012	< 0.007	13.3	0.0655	5.35	0.0277	0.0796	39.1	0.0014
Sample #6- 1316-B03	20.0	< 0.00001	0.02	< 0.000003	< 0.000004	< 0.00008	0.001	< 0.007	0.039	< 0.0001	0.001	0.00005	< 0.0004	0.12	0.0001

REP No.	CA12584-N
Customer	SGS Lakefi
Attention	Barb Bowm
Reference	11718-02-0
Project	CA20M-00(
Title	Final Repor
Date	17-Nov-25

Sample ID	Temp Upon Receipt °C	Pb (diss) mg/L	Sb (diss) mg/L	Se (diss) mg/L	Si (diss) mg/L	Sn (diss) mg/L	Sr (diss) mg/L	Th (diss) mg/L	Ti (diss) mg/L	Tl (diss) mg/L	U (diss) mg/L	V (diss) mg/L	W (diss) mg/L	Y (diss) mg/L	Zn (diss) mg/L
Sample #1- 1316-T01	20.0	< 0.00009	0.0019	0.00024	1.69	0.00008	0.813	< 0.0001	< 0.0001	0.000034	0.000020	0.00069	0.0005	0.00003	0.003
Sample #1- 1316-T02	20.0	< 0.00009	0.0020	0.00010	2.01	< 0.00006	2.12	< 0.0001	< 0.0001	0.000029	0.000006	0.00042	0.0003	< 0.00002	0.005
Sample #1- 1316-T03	20.0	< 0.00009	0.0020	0.00006	2.19	0.00006	5.01	< 0.0001	< 0.0001	0.000048	0.000005	0.00049	< 0.0002	< 0.00002	0.007
Sample #1- 1316-T04	20.0	< 0.00009	0.0020	0.00012	2.26	0.00010	11.8	< 0.0001	< 0.0001	0.000090	0.000006	0.00043	< 0.0002	0.00006	0.008
Sample #1- 1316-T05	20.0	0.00017	0.0021	0.00015	2.45	0.00013	20.4	< 0.0001	< 0.0001	0.000124	0.000019	0.00054	< 0.0002	0.00007	0.006
Sample #1- 1316-B03	20.0	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	0.00072	< 0.0001	< 0.0001	< 0.000005	< 0.000002	< 0.00001	< 0.0002	< 0.00002	< 0.002
Sample #2- 1316-T01	20.0	< 0.00009	0.0015	0.00008	2.15	< 0.00006	1.78	< 0.0001	< 0.0001	0.000022	0.000008	0.00046	0.0002	< 0.00002	0.011
Sample #2- 1316-T02	20.0	< 0.00009	0.0010	0.00006	2.43	< 0.00006	3.51	< 0.0001	< 0.0001	0.000030	0.000004	0.00063	0.0003	< 0.00002	0.003
Sample #2- 1316-T03	20.0	< 0.00009	0.0011	< 0.00004	2.51	0.00006	8.90	< 0.0001	< 0.0001	0.000067	0.000002	0.00048	< 0.0002	0.00003	0.003
Sample #2- 1316-T04	20.0	< 0.00009	0.0015	0.00006	2.14	0.00011	16.1	< 0.0001	< 0.0001	0.000104	0.000005	0.00048	< 0.0002	0.00006	0.029
Sample #2- 1316-T05	20.0	< 0.00009	< 0.0009	0.00006	2.02	0.00011	18.8	< 0.0001	0.0001	0.000124	0.000009	0.00051	< 0.0002	0.00006	0.022
Sample #2- 1316-B03	20.0	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	0.00056	< 0.0001	< 0.0001	< 0.000005	< 0.000002	< 0.00001	< 0.0002	< 0.00002	< 0.002
Sample #3- 1316-T01	20.0	< 0.00009	0.0013	0.00032	1.66	0.00047	0.125	< 0.0001	< 0.0001	0.000012	0.000016	0.00293	< 0.0002	< 0.00002	0.002
Sample #3- 1316-T02	20.0	< 0.00009	0.0021	0.00065	2.28	< 0.00006	0.480	< 0.0001	< 0.0001	0.000035	0.000060	0.00160	0.0003	< 0.00002	0.028
Sample #3- 1316-T03	20.0	< 0.00009	0.0021	0.00124	2.40	0.00007	1.12	< 0.0001	< 0.0001	0.000062	0.000152	0.00116	0.0005	< 0.00002	0.005
Sample #3- 1316-T04	20.0	< 0.00009	0.0017	0.00166	2.04	< 0.00006	1.77	< 0.0001	< 0.0001	0.000086	0.000232	0.00090	< 0.0002	< 0.00002	0.010
Sample #3- 1316-T05	20.0	< 0.00009	0.0020	0.00312	2.60	< 0.00006	4.50	< 0.0001	< 0.0001	0.000157	0.000535	0.00078	< 0.0002	< 0.00002	0.018
Sample #3- 1316-B03	20.0	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	0.00017	0.0003	< 0.0001	< 0.000005	< 0.000002	< 0.00001	< 0.0002	< 0.00002	< 0.002
Sample #4- 1316-T01	20.0	< 0.00009	0.0016	0.00010	1.78	< 0.00006	0.152	0.0001	0.0004	0.000027	0.000007	0.00110	< 0.0002	< 0.00002	0.006
Sample #4- 1316-T02	20.0	< 0.00009	0.0021	0.00019	2.46	< 0.00006	0.414	< 0.0001	< 0.0001	0.000069	0.000010	0.00079	0.0002	< 0.00002	0.005
Sample #4- 1316-T03	20.0	< 0.00009	0.0020	0.00039	2.72	< 0.00006	1.03	< 0.0001	0.0001	0.000119	0.000013	0.00065	< 0.0002	< 0.00002	0.005
Sample #4- 1316-T04	20.0	< 0.00009	0.0017	0.00062	2.86	< 0.00006	2.07	< 0.0001	0.0001	0.000181	0.000021	0.00064	< 0.0002	< 0.00002	0.004
Sample #4- 1316-T05	20.0	< 0.00009	0.0018	0.00076	2.85	< 0.00006	2.25	< 0.0001	0.0002	0.000206	0.000025	0.00068	< 0.0002	< 0.00002	0.003
Sample #4- 1316-B03	20.0	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	0.00047	< 0.0001	< 0.0001	< 0.000005	< 0.000002	0.00001	< 0.0002	< 0.00002	< 0.002
Sample #5- 1316-T01	20.0	< 0.00009	0.0015	< 0.00004	1.91	< 0.00006	0.176	< 0.0001	0.0005	0.000031	0.000005	0.00055	< 0.0002	< 0.00002	0.003
Sample #5- 1316-T02	20.0	< 0.00009	0.0013	< 0.00004	2.30	< 0.00006	0.382	< 0.0001	0.0002	0.000053	0.000003	0.00058	0.0003	< 0.00002	0.008
Sample #5- 1316-T03	20.0	< 0.00009	0.0012	< 0.00004	2.53	< 0.00006	0.738	< 0.0001	0.0001	0.000086	0.000004	0.00060	0.0003	< 0.00002	0.007
Sample #5- 1316-T04	20.0	< 0.00009	0.0013	< 0.00004	2.73	< 0.00006	1.18	< 0.0001	< 0.0001	0.000119	0.000006	0.00059	0.0003	< 0.00002	0.004
Sample #5- 1316-T05	20.0	< 0.00009	0.0012	0.00007	2.73	< 0.00006	1.40	< 0.0001	0.0001	0.000127	0.000007	0.00065	0.0003	< 0.00002	0.011
Sample #5- 1316-B03	20.0	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	0.00016	< 0.0001	< 0.0001	< 0.000005	< 0.000002	0.00001	< 0.0002	< 0.00002	< 0.002
Sample #6- 1316-T01	20.0	< 0.00009	0.0021	0.00017	2.58	0.00010	0.116	< 0.0001	0.0010	0.000010	0.000185	0.00625	0.0033	< 0.00002	0.004
Sample #6- 1316-T02	20.0	< 0.00009	0.0022	0.00051	3.57	< 0.00006	0.205	< 0.0001	0.0001	0.000014	0.000420	0.00590	0.0096	< 0.00002	0.004
Sample #6- 1316-T03	20.0	< 0.00009	0.0028	0.00129	4.17	< 0.00006	0.366	< 0.0001	< 0.0001	0.000025	0.000792	0.00502	0.0168	< 0.00002	< 0.002
Sample #6- 1316-T04	20.0	< 0.00009	0.0032	0.00259	4.70	0.00009	0.608	< 0.0001	< 0.0001	0.000031	0.00144	0.00419	0.0194	< 0.00002	0.003
Sample #6- 1316-T05	20.0	< 0.00009	0.0029	0.00329	4.81	0.00009	0.742	< 0.0001	0.0001	0.000034	0.00147	0.00396	0.0143	< 0.00002	< 0.002
Sample #6- 1316-B03	20.0	< 0.00009	< 0.0009	< 0.00004	< 0.02	< 0.00006	0.00014	< 0.0001	< 0.0001	< 0.000005	< 0.000002	< 0.00001	< 0.0002	< 0.00002	< 0.002

Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for:	*ARD-XRD* *3260 Production Way, Burnaby, Canada*
Project Number/ LIMS No.	*Custom XRD/MI7024-JUL25*
Reference No.	*2458 White Pine WO#3*
Sample Receipt:	*July 22, 2025*
Sample Analysis:	*July 30, 2025*
Reporting Date:	*August 25, 2025*

Instrument:	Panalytical X'pert Pro Diffractometer
Test Conditions:	Co radiation, 40 kV, 45 mA; Detector: X'Celerator Regular Scanning: Step: 0.033°, Step time:0.15s, 2θ range: 5-80°
Interpretations :	PDF2/PDF5+ powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva and Topas software.
Detection Limit :	0.5-2%. Strongly dependent on crystallinity.

Contents:

1) Method Summary
2) Quantitative XRD Results
3) XRD Pattern(s)

Zhihai (Adrian) Zhang, Ph.D
Mineralogist

Kim Gibbs, H.B.Sc., P.Geo.
Senior Mineralogist

Method Summary

Mineral Identification and Interpretation:

Mineral identification and interpretation involves matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds, except when internal standards have been added by request. Mineral proportions may be strongly influenced by crystallinity, crystal structure and preferred orientations. Mineral or compound identification and quantitative analysis results should be accompanied by supporting chemical assay data or other additional tests.

Quantitative Rietveld Analysis:

Quantitative Rietveld Analysis is performed by using Diffrac Topas 7 (Bruker), a graphics based profile analysis program built around a non-linear least squares fitting system, to determine the amount of different phases present in a multicomponent sample. Whole pattern analyses are predicated by the fact that the X-ray diffraction pattern is a total sum of both instrumental and specimen factors. Unlike other peak intensity-based methods, the Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the obtained experimental patterns.

Rietveld refinement is completed with a set of minerals specifically identified for the sample. Zero values indicate that the mineral was included in the refinement calculations, but the calculated concentration was less than 0.05wt%. Minerals not identified by the analyst are not included in refinement calculations for specific samples and are indicated with a dash.

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WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

Mineral/Compound	WP572 822.532-824 JUL7024-01 (wt %)	WP573 912.987- JUL7024-02 (wt %)	WP572818.645-820.048 JUL7024-03 (wt %)	WP573 907.88-909.227 JUL7024-04 (wt %)	WP573 905.775-907.88 JUL7024-05 (wt %)	US Tail Comp 1&2 JUL7024-06 (wt %)
Quartz	43.4	30.5	34.2	30.4	30.5	33.2
Albite	18.4	21.6	27.4	24.3	21.5	21.2
Microcline	2.0	2.6	1.4	1.7	3.1	2.9
Muscovite	8.6	15.8	6.7	15.4	16.6	15.3
Biotite	2.8	1.8	2.3	1.1	1.3	1.4
Hematite	3.5	0.8	3.7	1.1	1.7	1.7
Calcite	1.9	0.3	6.7	1.5	0.2	3.3
Chlorite	16.8	23.3	14.6	20.3	19.9	16.8
Diopside	1.8	2.5	1.6	3.5	4.1	3.4
Pyrrhotite	0.3	-	-	-	-	-
Troilite	0.6	0.5	1.1	0.5	0.8	0.7
Dolomite	-	0.3	-	0.1	-	-
Ankerite	-	-	0.5	0.1	0.3	0.1
TOTAL	100	100	100	100	100	100

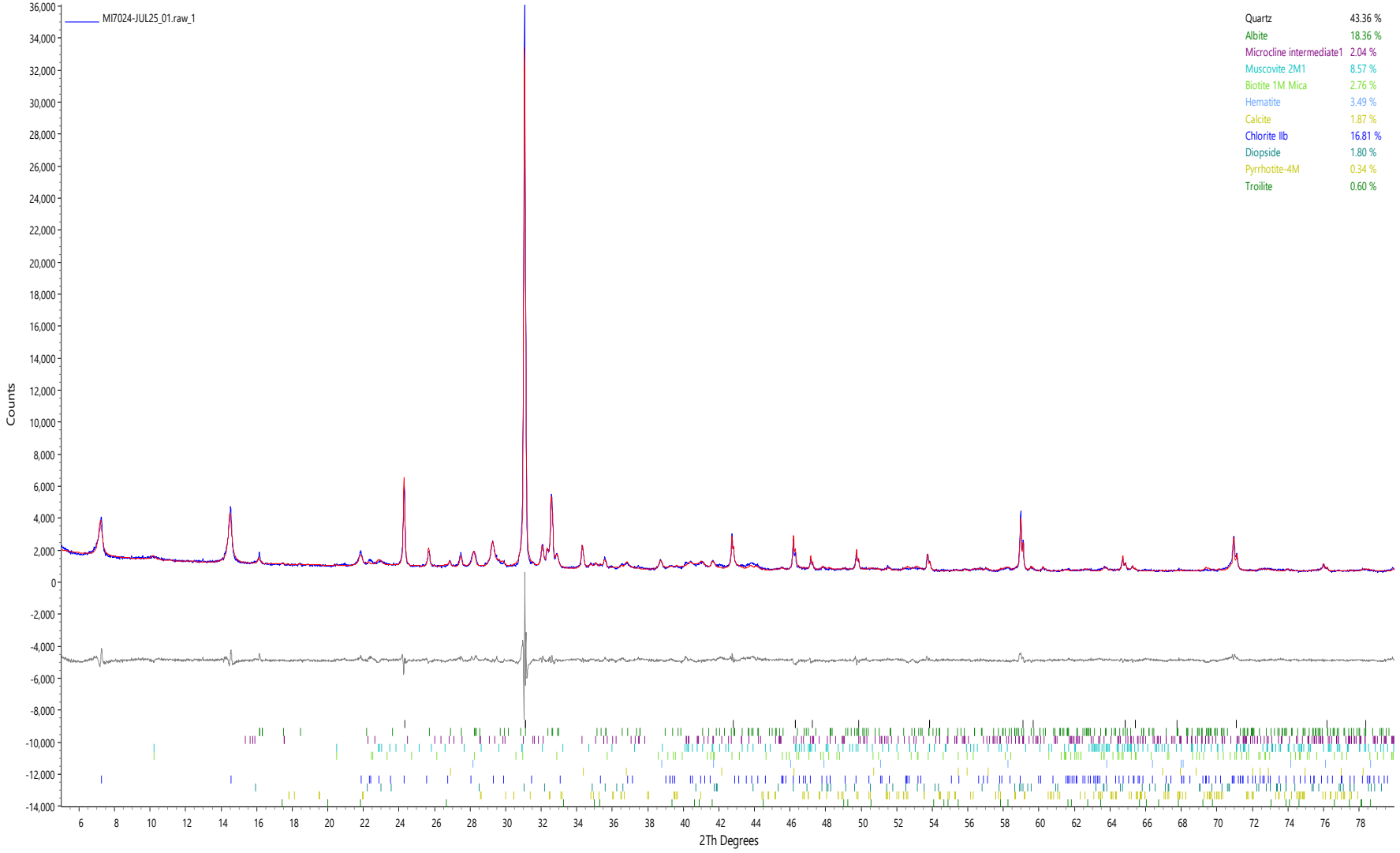
Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

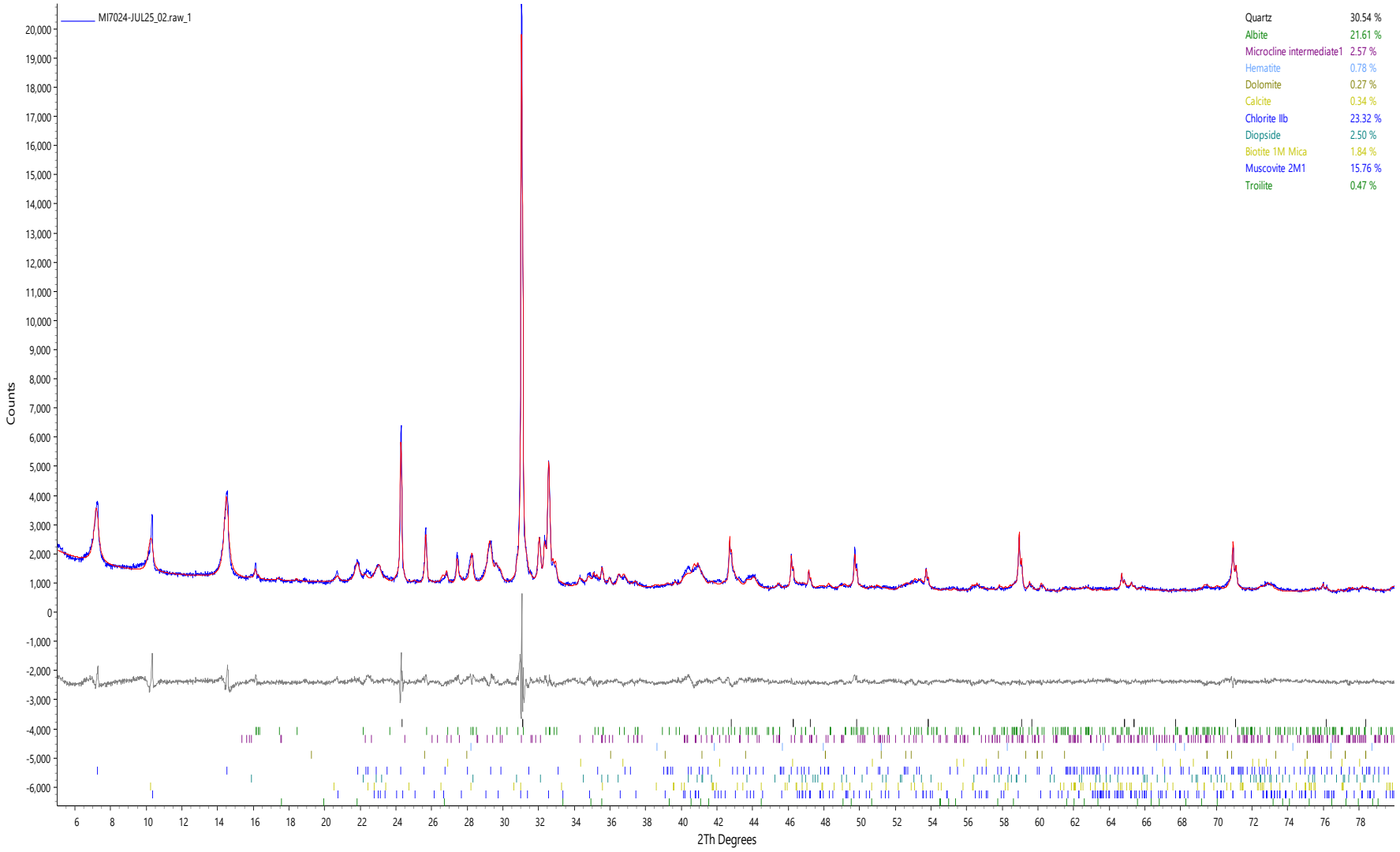
The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

Mineral/Compound	Formula
Quartz	SiO_2
Albite	$NaAlSi_3O_8$
Microcline	$KAlSi_3O_8$
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$
Biotite	$K(Mg,Fe)_3(AlSi_3O_{10})(OH)_2$
Hematite	Fe_2O_3
Calcite	$CaCO_3$
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$
Diopside	$CaMgSi_2O_6$
Pyrrhotite	Fe_8S_9
Troilite	FeS
Dolomite	$CaMg(CO_3)_2$
Ankerite	$CaFe(CO_3)_2$

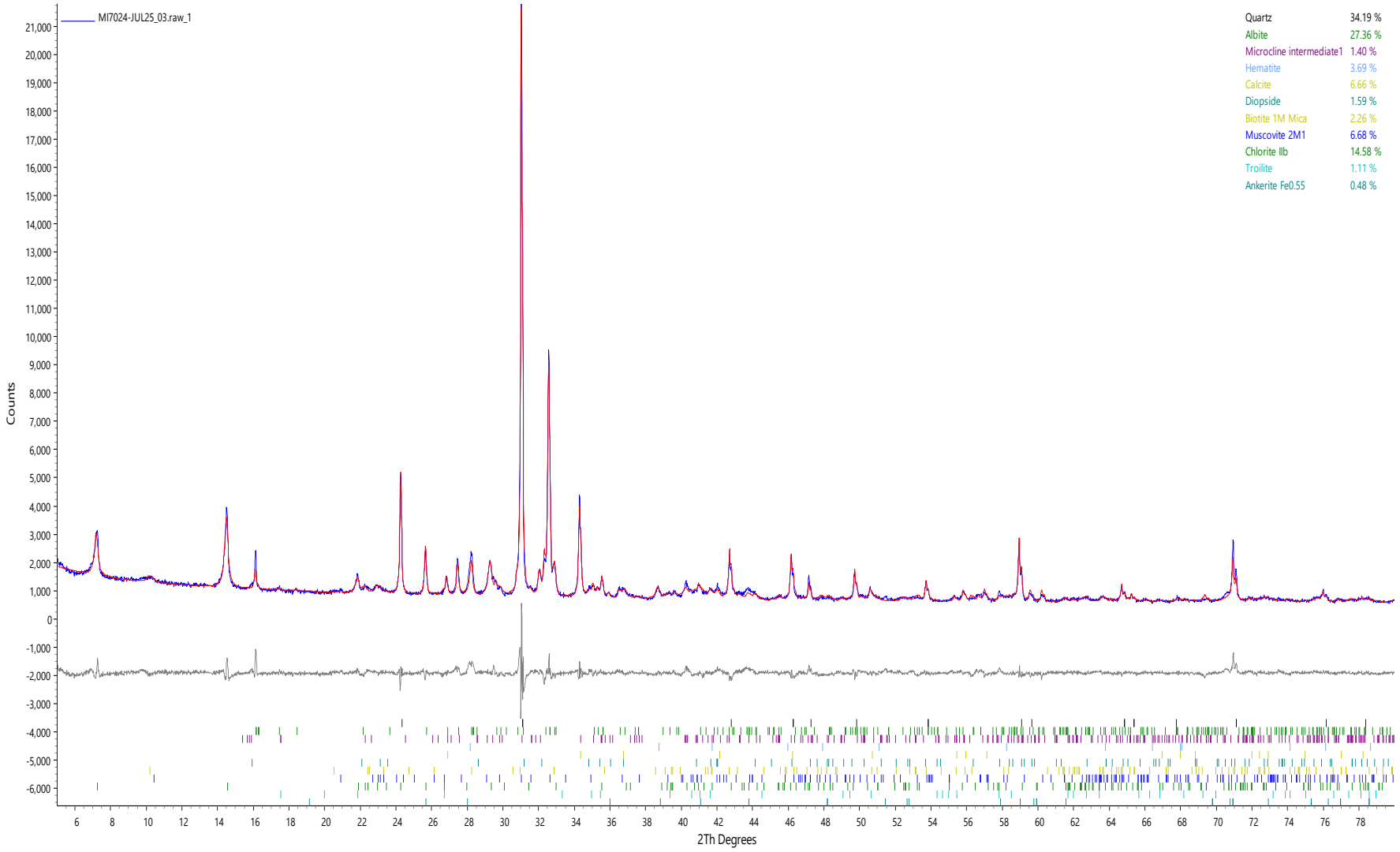
WP572 822.532-824



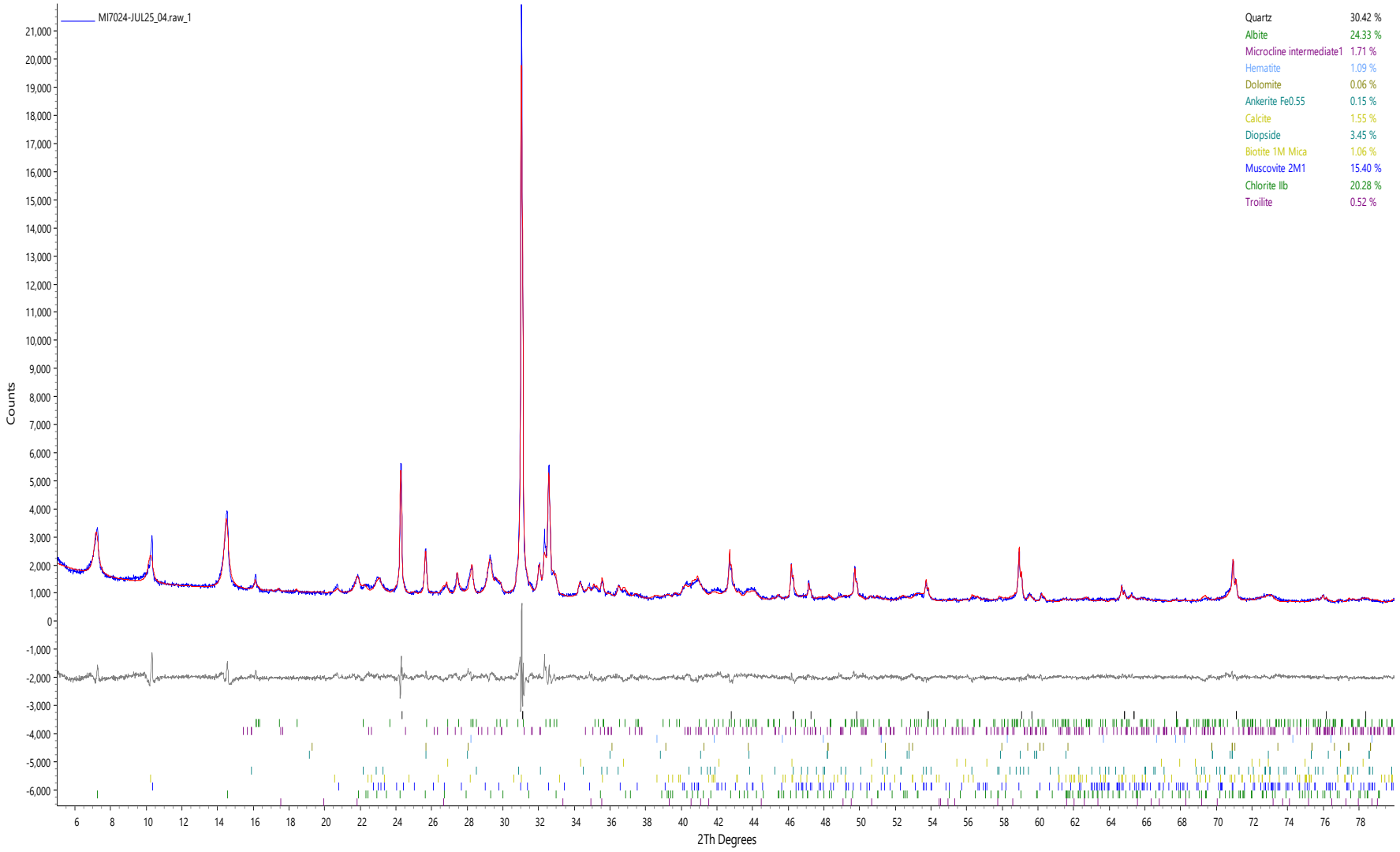
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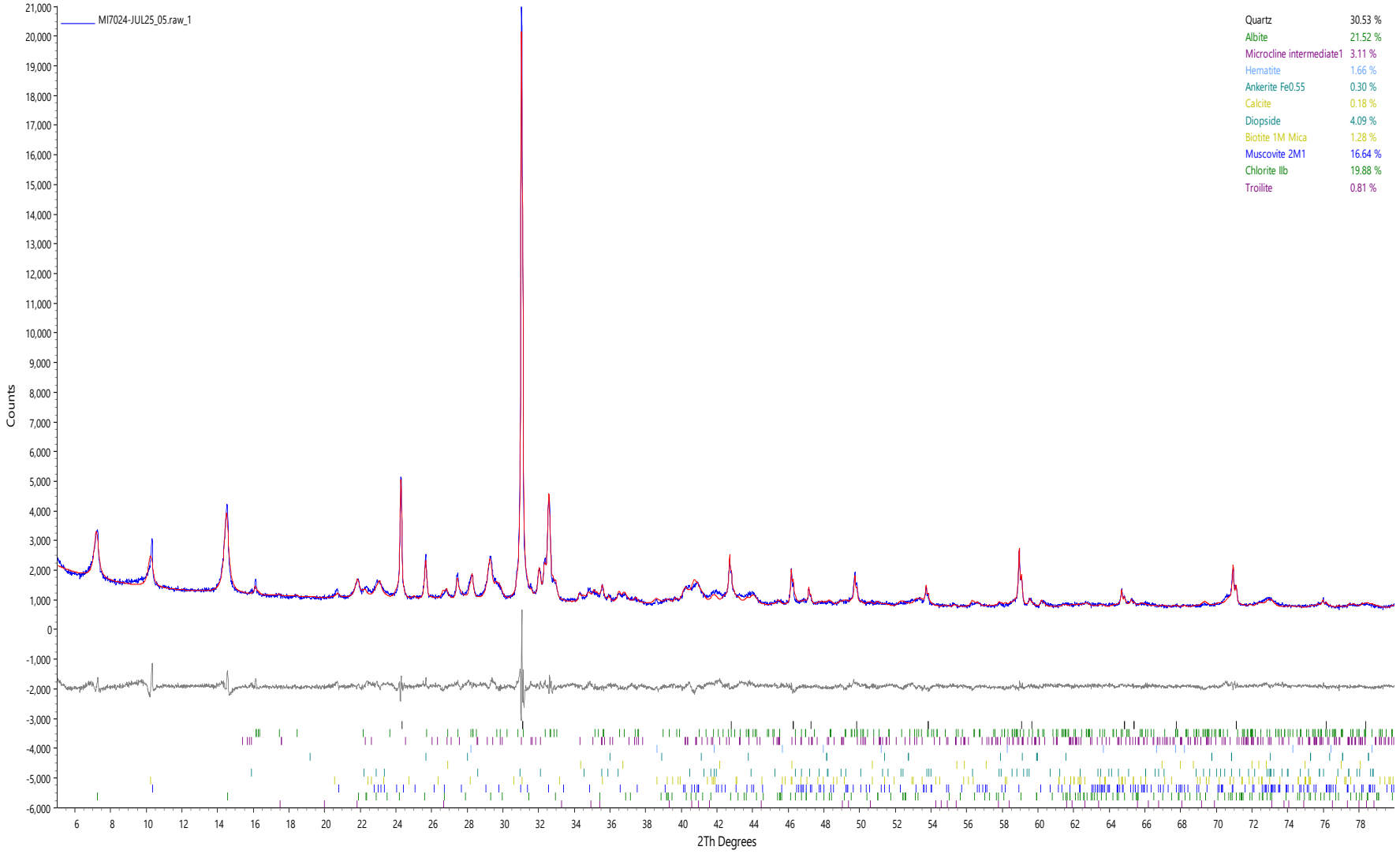
WP572818.645-820.048



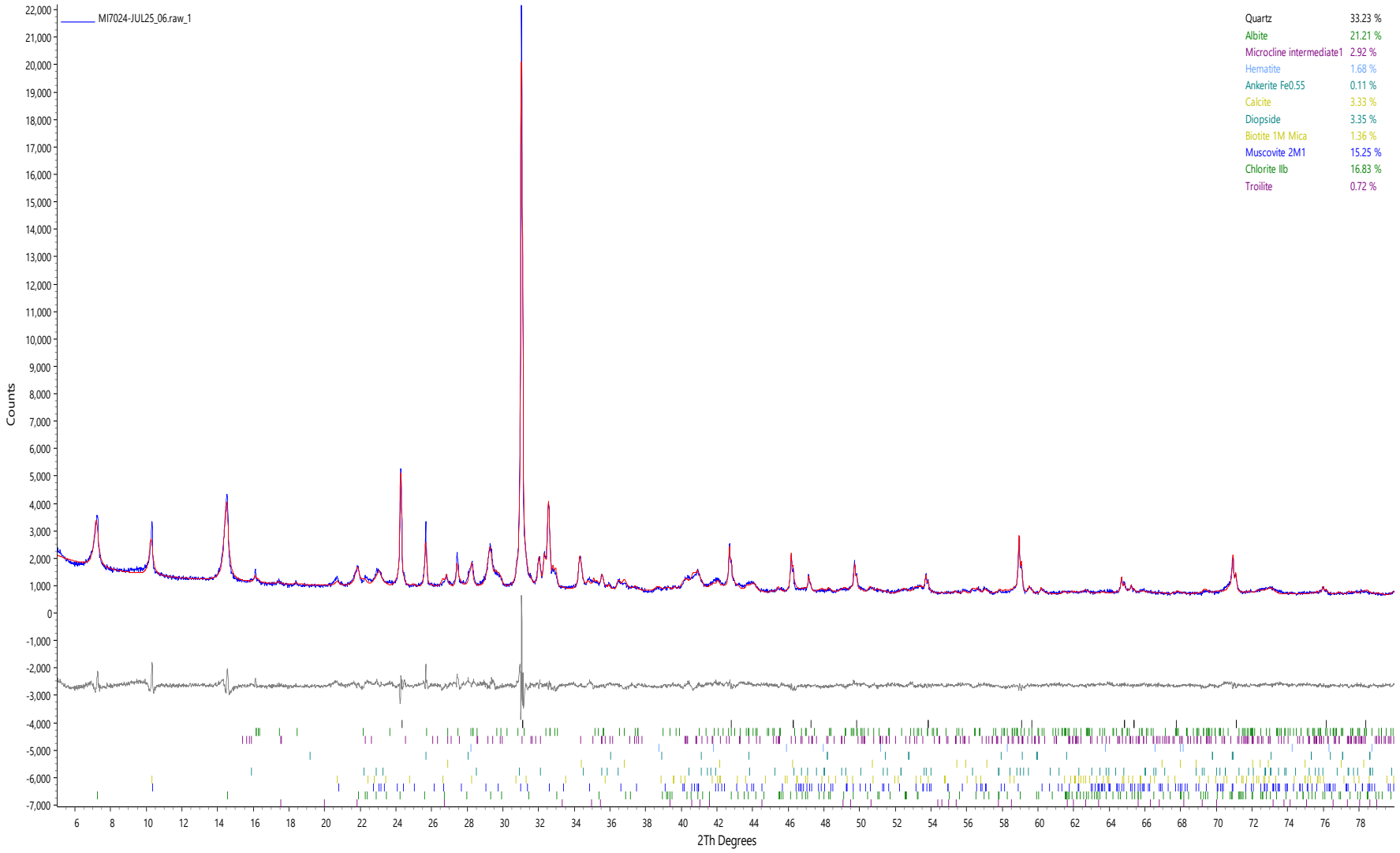
WP573 907.88-909.227



WP573 905.775-907.88



US Tail Comp 1&2



Appendix B NAG Leachate Results

White Pine Copper Project
NAG Leachate Analysis Results
mg/L unless otherwise noted

Sample ID	Material Type	Leachate pH (s.u.)	Conductivity (uS/cm)	Alkalinity (mg $CaCO_3$/L)	Total Dissolved Solids	Chloride	Fluoride	Sulfate	Hardness as CaCO3	Calcium	Magnesium
WP530 837.308-838.8	LWSA	6.31	448.3	57.8	254	45	< 0.06	3	109	36.8	4.15
WP560 749.82-751.232	LWSA	6.30	451.8	54.43	220	46	< 0.06	3	100	32.9	4.35
WP530 834.756-837.308	PS	7.14	274.8	29.63	149	9.4	0.06	21	14.3	2.61	1.89
WP560 746.748-749.82	PS	7.50	280.5	31.93	146	12	0.11	27	18.8	4.44	1.87
WP530 832.762-834.756	UPSA	7.43	335	56.23	211	13	0.07	11	42.2	12.8	2.47
WP560 745.107-746.748	UPSA	7.37	292.6	34.33	194	21	0.1	16	23.9	6.5	1.86
WP530 830.74-832.762	US	7.55	273.9	34.8	166	9.2	0.13	27	17.2	3.81	1.86
WP560 742.107-745.107	US	7.70	288.5	44.37	171	9.5	0.12	17	18.8	4.71	1.71
WP530 829.308-830.74	WIDE	6.39	325.6	37.17	203	12	0.11	14	37.1	8.05	4.13
WP560 739.941-742.107	WIDE	7.06	303.6	36.23	197	11	0.13	16	23.2	4.93	2.64
PS Tail Comp 1	PS	7.36	331.6	60.58	174	5.2	< 0.06	11	46.9	13.8	3.04
PS Tail Comp 2	PS	7.35	350.1	68.2	189	5.3	< 0.06	14	52.1	15.5	3.27
PS Tail Comp 3	PS	7.38	315.8	60.8	186	4.8	< 0.06	9	41.2	11.9	2.81
US Tail Comp 1	US	7.38	371.6	70.5	197	5.4	0.06	16	53.1	16	3.18
US Tail Comp 2	US	7.35	354.9	68.3	214	5.3	0.07	14	48.5	14.3	3.09
WP002761	Freda	6.03	429.3	55.1	240	23	0.06	3	78.3	28	2.05
WP002762	Freda	5.85	409.4	46.3	232	24	< 0.06	3	67.1	23.3	2.17
WP002763	Freda	5.97	407.8	63.23	276	17	< 0.06	3	74.4	27.4	1.45
243005	Freda	6.00	329.2	45.77	206	6.5	< 0.06	4	26	5.78	2.81
243008	Freda	5.98	338.1	47.17	249	< 5	0.1	3	38.2	10.6	2.87
WP002764	Nonesuch	5.79	390.6	47.87	248	15	< 0.06	3	56.1	18.1	2.66
WP002765	Nonesuch	3.87	564.5	0	240	3	0.2	154	62.2	13.4	7.01
WP002767	Nonesuch	3.72	672.2	0	311	1	0.29	219	101	25.5	9.04
WP002769	Nonesuch	5.72	517.5	24.95	294	2	0.23	110	90.4	29.6	4.01
WP002770	Nonesuch	5.84	325.6	34.78	180	< 1	0.15	3	26.7	6.55	2.5
WP002771	Nonesuch	4.20	895.4	0	506	3	0.09	330	248	87.9	7.01
WP002774	Nonesuch	2.51	2311.7	0	694	5	0.28	529	132	40	7.84
243001	Till	6.18	388.2	57.5	280	12	< 0.06	4	74.1	24.1	3.37
243003	Till	5.76	370.1	46.5	268	12	< 0.06	8	60.7	20.1	2.54

White Pine Copper Project
NAG Leachate Analysis Results
mg/L unless otherwise noted

Sample ID	Material Type	Phosphorus	Potassium	Silicon	Sodium	Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron
WP530 837.308-838.8	LWSA	25.6	3.24	5.87	44.4	0.011	0.0011	0.001	0.0081	< 0.000007	< 0.00001	0.027
WP560 749.82-751.232	LWSA	25.4	3.69	6.84	44.1	0.02	0.0011	0.0013	0.0032	0.000007	< 0.00001	0.041
WP530 834.756-837.308	PS	20.4	4.22	6.32	36	0.02	0.001	0.0101	0.0015	< 0.000007	< 0.00001	0.04
WP560 746.748-749.82	PS	13.3	4.01	7.51	37	0.028	0.001	0.0029	0.0005	< 0.000007	< 0.00001	0.059
WP530 832.762-834.756	UPSA	20.8	5.12	7.15	37.1	0.01	0.001	0.0008	0.0013	< 0.000007	< 0.00001	0.035
WP560 745.107-746.748	UPSA	14.8	3.72	7.46	38.7	0.016	0.001	0.0012	0.0008	< 0.000007	< 0.00001	0.048
WP530 830.74-832.762	US	14	5.24	7.4	34.6	0.032	0.0013	0.0019	0.0005	< 0.000007	< 0.00001	0.039
WP560 742.107-745.107	US	16	5.32	7.63	37.8	0.042	0.0011	0.0015	0.0008	< 0.000007	< 0.00001	0.06
WP530 829.308-830.74	WIDE	24.2	6.69	8.23	39.1	0.037	0.0013	0.0022	0.0033	0.000016	< 0.00001	0.044
WP560 739.941-742.107	WIDE	21.7	6.25	9.13	36.6	0.024	0.0013	0.0027	0.0018	< 0.000007	< 0.00001	0.063
PS Tail Comp 1	PS	20.9	3.53	8.72	39.1	0.019	0.0017	0.0107	0.0022	< 0.000007	< 0.00001	0.034
PS Tail Comp 2	PS	20.5	3.68	8.98	40.5	0.018	0.0023	0.0142	0.0023	< 0.000007	< 0.00001	0.034
PS Tail Comp 3	PS	20.5	3.29	8.6	39.4	0.021	0.0015	0.0092	0.0019	0.000007	< 0.00001	0.038
US Tail Comp 1	US	21.9	4.44	9.97	42.2	0.023	0.0021	0.0084	0.0008	< 0.000007	< 0.00001	0.038
US Tail Comp 2	US	23.7	4.52	9.62	41	0.019	0.0018	0.0091	0.0007	< 0.000007	< 0.00001	0.036
WP002761	Freda	34.5	3.73	9.47	46.9	0.008	0.0014	0.0037	0.0083	0.000011	< 0.00001	0.031
WP002762	Freda	35.6	4.01	9.35	47.4	0.013	0.0012	0.0027	0.0083	0.000007	< 0.00001	0.029
WP002763	Freda	36.2	4.46	8.48	45.2	0.013	0.0013	0.002	0.0076	0.000009	< 0.00001	0.027
243005	Freda	33.8	6.41	7.75	42.5	0.025	0.0017	0.0036	0.0069	0.000025	< 0.00001	0.104
243008	Freda	31.5	7	8.15	41.2	0.044	0.0016	0.0022	0.0077	0.00002	< 0.00001	0.144
WP002764	Nonesuch	34.7	4.69	7.61	45.7	0.028	0.0014	0.0013	0.0031	0.000015	< 0.00001	0.03
WP002765	Nonesuch	8.94	7.21	12.7	47.5	0.815	0.0016	0.0277	0.0464	0.000479	< 0.00001	0.046
WP002767	Nonesuch	3.37	7.25	13.2	46.1	1.68	0.0029	0.034	0.0592	0.000697	< 0.00001	0.046
WP002769	Nonesuch	21.4	7.31	10.8	46.4	0.013	0.0025	0.0115	0.004	< 0.000007	< 0.00001	0.044
WP002770	Nonesuch	29.8	7.28	9.26	45.3	0.044	0.0015	0.0017	0.004	0.000019	< 0.00001	0.041
WP002771	Nonesuch	6.46	6.43	10.5	45.5	0.558	0.0061	0.0506	0.0292	0.000217	< 0.00001	0.055
WP002774	Nonesuch	0.467	6.7	12.7	43.5	10.4	0.0012	0.0055	0.14	0.00375	< 0.00001	0.069
243001	Till	31.5	2.8	11	41.2	0.018	0.0013	0.0042	0.0093	0.000008	< 0.00001	0.028
243003	Till	36.4	4.18	7.14	42.7	0.021	0.0016	0.0063	0.0056	0.000019	< 0.00001	0.046

White Pine Copper Project
NAG Leachate Analysis Results
mg/L unless otherwise noted

Sample ID	Material Type	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Manganese	Mercury	Molybdenum	Nickel	Selenium
WP530 837.308-838.8	LWSA	0.000017	0.0653	0.00013	0.002	0.008	0.00121	0.0133	0.132	< 0.01	0.0131	0.0025	0.00033
WP560 749.82-751.232	LWSA	0.000016	0.0628	0.00018	0.016	0.013	0.00015	0.0184	0.135	< 0.01	0.0084	0.0021	0.00052
WP530 834.756-837.308	PS	< 0.000003	0.0557	7.1E-05	0.064	0.008	0.00035	0.0243	0.0181	< 0.01	0.0069	0.0001	0.00061
WP560 746.748-749.82	PS	< 0.000003	0.0586	0.00005	0.016	0.01	0.0001	0.0266	0.00899	< 0.01	0.0109	< 0.0001	0.00053
WP530 832.762-834.756	UPSA	0.000008	0.0585	2.3E-05	0.01	< 0.007	0.00026	0.0143	0.0143	< 0.01	0.0088	0.0002	0.00017
WP560 745.107-746.748	UPSA	0.000006	0.0613	2.1E-05	0.019	0.009	< 0.00009	0.0172	0.00861	< 0.01	0.0074	< 0.0001	0.00018
WP530 830.74-832.762	US	0.000421	0.0548	3.6E-05	0.014	0.01	< 0.00009	0.0249	0.00641	< 0.01	0.02	< 0.0001	0.00132
WP560 742.107-745.107	US	0.000026	0.0606	9E-06	0.009	0.013	0.00009	0.0198	0.00629	< 0.01	0.0086	< 0.0001	0.00059
WP530 829.308-830.74	WIDE	0.000055	0.0448	0.00033	0.004	0.018	0.00054	0.0298	0.117	< 0.01	0.011	0.0017	0.00131
WP560 739.941-742.107	WIDE	0.00102	0.061	0.00012	0.008	0.011	0.00103	0.0243	0.0257	< 0.01	0.0081	0.0002	0.0014
PS Tail Comp 1	PS	0.000019	0.0963	7.8E-05	0.015	0.013	0.00013	0.0204	0.0212	< 0.01	0.0089	0.0008	0.0003
PS Tail Comp 2	PS	0.000004	0.105	9.8E-05	0.018	0.013	0.00009	0.0195	0.0208	< 0.01	0.0089	0.0007	0.00047
PS Tail Comp 3	PS	0.000012	0.0938	7.8E-05	0.018	0.013	< 0.00009	0.0226	0.0204	< 0.01	0.0084	0.0006	0.00023
US Tail Comp 1	US	0.000049	0.101	0.00011	0.021	0.013	0.00169	0.0207	0.0213	< 0.01	0.0136	0.0007	0.00078
US Tail Comp 2	US	0.000043	0.0935	0.00013	0.021	0.012	< 0.00009	0.021	0.0233	< 0.01	0.0134	0.0007	0.00048
WP002761	Freda	0.000077	0.0623	0.00013	0.002	< 0.007	0.00011	0.0079	0.0499	< 0.01	0.0088	0.002	0.00037
WP002762	Freda	0.000093	0.062	0.00024	0.002	< 0.007	0.00286	0.0087	0.0944	< 0.01	0.0082	0.0026	0.00028
WP002763	Freda	0.00001	0.0548	7.9E-05	0.002	< 0.007	< 0.00009	0.0061	0.0483	< 0.01	0.0077	0.0016	0.00012
243005	Freda	0.000156	0.0448	0.00029	0.004	0.013	0.00086	0.015	0.0662	< 0.01	0.0095	0.0018	0.00046
243008	Freda	0.000156	0.0519	0.00022	0.002	0.03	0.00023	0.0149	0.1	< 0.01	0.0083	0.0033	0.00027
WP002764	Nonesuch	0.000015	0.0554	0.00026	0.003	0.007	0.00123	0.0149	0.1	< 0.01	0.008	0.0032	0.00021
WP002765	Nonesuch	0.00403	0.0285	0.0483	0.053	0.073	0.0129	0.0544	1.23	< 0.01	0.0158	0.0625	0.00153
WP002767	Nonesuch	0.00376	0.0356	0.0747	0.09	0.204	0.0245	0.0656	1.61	< 0.01	0.0817	0.102	0.00273
WP002769	Nonesuch	0.000033	0.0413	0.00109	0.001	< 0.007	0.0012	0.0284	0.321	< 0.01	0.0097	0.003	0.0013
WP002770	Nonesuch	0.000015	0.041	0.00035	0.001	0.014	0.00021	0.0212	0.11	< 0.01	0.0076	0.0031	0.00033
WP002771	Nonesuch	0.00801	0.0231	0.075	0.053	0.04	0.0008	0.0496	1.98	< 0.01	0.172	0.116	0.00536
WP002774	Nonesuch	0.0177	0.038	0.123	0.449	25	0.0541	0.0486	1.6	< 0.01	0.0282	0.174	0.01
243001	Till	0.000018	0.0653	0.00088	0.003	0.014	0.00231	0.0038	0.0399	< 0.01	0.0081	0.0027	0.00057
243003	Till	0.000075	0.0574	0.00031	0.003	0.008	0.00018	0.0087	0.0692	< 0.01	0.0088	0.0039	0.0003

White Pine Copper Project
NAG Leachate Analysis Results
mg/L unless otherwise noted

Sample ID	Material Type	Silver	Strontium	Thallium	Tin	Titanium	Uranium	Vanadium	Zinc	Zirconium
WP530 837.308-838.8	LWSA	0.00007	0.282	0.000035	0.0012	0.0246	0.00025	0.0319	< 0.002	< 0.002
WP560 749.82-751.232	LWSA	0.0006	0.327	0.000028	0.0015	0.0337	0.00029	0.042	< 0.002	< 0.002
WP530 834.756-837.308	PS	0.00023	0.0158	0.000021	0.0021	0.0016	1.1E-05	0.0313	< 0.002	< 0.002
WP560 746.748-749.82	PS	0.00034	0.0202	< 0.000005	0.0022	0.0013	0.00001	0.0424	< 0.002	< 0.002
WP530 832.762-834.756	UPSA	0.00009	0.0379	0.000009	0.0007	0.0027	3.1E-05	0.0243	< 0.002	< 0.002
WP560 745.107-746.748	UPSA	0.00011	0.0281	< 0.000005	0.0011	0.0018	3.9E-05	0.0321	< 0.002	< 0.002
WP530 830.74-832.762	US	0.0003	0.0127	0.000011	0.0018	0.0014	1.5E-05	0.0309	< 0.002	< 0.002
WP560 742.107-745.107	US	0.00007	0.0177	0.000007	0.0026	0.0022	2.3E-05	0.0326	< 0.002	< 0.002
WP530 829.308-830.74	WIDE	0.00026	0.0603	0.000027	0.0051	0.0369	0.00079	0.0449	< 0.002	< 0.002
WP560 739.941-742.107	WIDE	0.00006	0.0331	0.000007	0.0025	0.0148	0.00065	0.0421	< 0.002	< 0.002
PS Tail Comp 1	PS	< 0.00005	0.0333	0.000007	0.0023	0.0038	0.00002	0.0351	< 0.002	< 0.002
PS Tail Comp 2	PS	< 0.00005	0.0312	0.000007	0.0021	0.0038	3.1E-05	0.0358	< 0.002	< 0.002
PS Tail Comp 3	PS	< 0.00005	0.0332	0.000006	0.0025	0.0041	2.7E-05	0.035	< 0.002	< 0.002
US Tail Comp 1	US	< 0.00005	0.038	0.00001	0.0026	0.004	4.2E-05	0.034	< 0.002	< 0.002
US Tail Comp 2	US	< 0.00005	0.0374	0.000007	0.0021	0.0042	7.5E-05	0.0336	< 0.002	< 0.002
WP002761	Freda	< 0.00005	0.145	0.000045	0.001	0.0438	0.00032	0.0323	0.006	< 0.002
WP002762	Freda	< 0.00005	0.146	0.000034	0.001	0.0653	0.00032	0.0291	0.007	< 0.002
WP002763	Freda	< 0.00005	0.138	0.000048	0.0014	0.0345	0.00057	0.0177	0.004	< 0.002
243005	Freda	< 0.00005	0.0348	0.000049	0.0032	0.0594	0.00225	0.0335	0.011	< 0.002
243008	Freda	< 0.00005	0.0405	0.000052	0.0051	0.0302	0.00179	0.0279	0.011	< 0.002
WP002764	Nonesuch	< 0.00005	0.115	0.00005	0.0014	0.0442	0.00072	0.0218	0.006	< 0.002
WP002765	Nonesuch	0.00071	0.245	0.000398	8E-05	0.0371	0.00125	0.0437	0.051	< 0.002
WP002767	Nonesuch	0.00058	0.282	0.000472	8E-05	0.0348	0.00148	0.0646	0.076	< 0.002
WP002769	Nonesuch	< 0.00005	0.127	0.000064	0.0006	0.0051	0.00046	0.0401	0.005	< 0.002
WP002770	Nonesuch	< 0.00005	0.0733	0.000035	0.0041	0.0352	0.00124	0.0283	0.01	< 0.002
WP002771	Nonesuch	0.00054	0.262	0.000352	0.0001	0.0208	0.00103	0.0638	0.07	< 0.002
WP002774	Nonesuch	0.00132	0.28	0.00197	0.0075	0.0032	0.0104	0.00567	0.856	< 0.002
243001	Till	< 0.00005	0.0188	0.00003	0.0022	0.0371	0.00034	0.052	0.005	< 0.002
243003	Till	< 0.00005	0.0344	0.000066	0.0023	0.0491	0.00132	0.0208	0.008	< 0.002

Appendix C HCT Results

SGS proposal:
SGS project #: 2458

Sample receipt date: 6-Dec-24
Report date:

Version: Draft

Customer details

Name:	Brooke Clarkson
	Chad Wolahan

Project reference: **White Pine**

P.O. number:

COC:

ANALYSIS REPORT

SGS WO: 3

Report Distribution

Name	Email
Brooke Clarkson	bclarkson@srk.com>
Chad Wolahan	CWolahan@whitepinecu.com>

Method Summary *Test method information available upon request.*

MEND Humidity Cell ASTM D5744 – 13e1 test method

Special notes:

Humidity Cell testing on waste rock and tailings material
from :

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Preliminary Data

Sakina Masani - Senior Technologist

Final Data Approval

SGS project #: 2458

Version:

Humidity Cell Test Report

Cell Description

Column Number	Sample ID	Sample Type	Method Reference	Column Dimensions/Description				
				Inner Diameter (cm)	Length (cm)	Dry Wt. of Sample (kg)	Other Materials Used	Column Material
HC 1	Blank	#N/A	MEND	10.00	20.00	#N/A	Plexiglas perforated disk & nylon mesh	Plexiglas
HC 2	WP572 822.532-824	Wasterock	MEND	10.00	20.00	1.00	Plexiglas perforated disk & nylon mesh	Plexiglas
HC 3	WP573 912.987-914.371	Wasterock	MEND	10.00	20.00	1.00	Plexiglas perforated disk & nylon mesh	Plexiglas
HC 4	WP572 818.645-820.048	Wasterock	MEND	10.00	20.00	1.00	Plexiglas perforated disk & nylon mesh	Plexiglas
HC 5	WP573 907.88-909.227	Wasterock	MEND	10.00	20.00	1.00	Plexiglas perforated disk & nylon mesh	Plexiglas
HC 6	WP573 905.775-907.88	Wasterock	MEND	10.00	20.00	1.00	Plexiglas perforated disk & nylon mesh	Plexiglas
T 1	US Tail Comp 1& Comp 2	Tailing	MEND	20.00	10.00	1.00	Plexiglas perforated disk & nylon mesh	Plexiglas

SGS

Humidity Cell Test Report

Cell Description

Column Number	Sample ID	Total Volume of Initial Flushings	Flushing Rate/Weekly Input*	Temp	Sampling Frequency	Start-up Date	Sampling Day	Operation Procedure	Sample Prep for Flushings
		{ml}	{ml}	(°C)		2025			
HC 1	Blank	500	500	20-22 °C	Weekly	31-Jul-25	Thursday	Flood Leach	None
HC 2	WP572 822.532-824	550	500	20-22 °C	Weekly	31-Jul-25	Thursday	Flood Leach	None
HC 3	WP573 912.987-914.371	550	500	20-22 °C	Weekly	31-Jul-25	Thursday	Flood Leach	None
HC 4	WP572 818.645-820.048	575	500	20-22 °C	Weekly	31-Jul-25	Thursday	Flood Leach	None
HC 5	WP573 907.88-909.227	550	500	20-22 °C	Weekly	31-Jul-25	Thursday	Flood Leach	None
HC 6	WP573 905.775-907.88	500	500	20-22 °C	Weekly	31-Jul-25	Thursday	Flood Leach	None
T 1	US Tail Comp 1& Comp 2	850	500	20-22 °C	Weekly	31-Jul-25	Thursday	Flood Leach	None

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
31-Jul-25	0	**500**	**515**	5.79	470	1	#N/A	3.0	1.2	2	---
07-Aug-25	1	**500**	**480**	5.66	403	1	#N/A	1.0	<1.0	2	---
14-Aug-25	2	**500**	**500**	5.64	449	1	#N/A	1.1	<1.0	2	---
21-Aug-25	3	**500**	**515**	5.74	429	1	#N/A	1.0	<1.0	2	
28-Aug-25	4	**500**	**510**	5.87	427	2	#N/A	1.1	<1.0	2	---
04-Sep-25	5	**500**	**485**	5.73	439	2	#N/A	1.2	<1.0	2	
11-Sep-25	6	**500**	**510**	5.74	420	1	#N/A	1.0	<1.0	3	
18-Sep-25	7	**500**	485	5.64	438	1	#N/A	1.2	<1.0	3	
25-Sep-25	8	**500**	490	5.72	446	1	#N/A	1.7	1.1	3	---
02-Oct-25	9	**500**	490	5.68	440	1	#N/A	1.4	<1.0	3	
09-Oct-25	10	**500**	505	5.67	471	1	#N/A	1.2	<1.0	3	
16-Oct-25	11	**500**	495	5.72	424	1	#N/A	1.2	<1.0	3	
23-Oct-25	12	**500**	500	5.78	453	1	#N/A	1.0	<1.0	3	---
30-Oct-25	13	**500**	485	5.63	470	1	#N/A	1.3	<1.0	3	
06-Nov-25	14	**500**	490	5.72	423	1	#N/A	1.2	<1.0	3	
13-Nov-25	15	**500**	470	5.75	394	2	#N/A	2.0	1.8	3	
20-Nov-25	16	**500**	500	5.65	460	1	#N/A	1.4	1.0	3	---
27-Nov-25	17	**500**	485	5.40	471	2	#N/A	1.5	<1.0	3	
04-Dec-25	18	**500**	485	5.80	453	1	#N/A	1.2	1.2	3	
11-Dec-25	19	**500**	490	5.79	442	1	#N/A	1.1	<1.0	3	
18-Dec-25	20	**500**	**485**	5.68	446	1	#N/A	1.4	<1.0	3	---
25-Dec-25	21	**500**	495	5.63	448	1	#N/A	1.4	<1.0	3	
01-Jan-26	22	**500**	485	5.67	467	1	#N/A	1.3	1.5	3	
08-Jan-26	23	**500**	475	5.70	485	1	#N/A	1.2	1.0	3	
15-Jan-26	24	**500**	490	5.82	483	1	#N/A	0.9	<1.0	3	---

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
31-Jul-25	0	---	---	---	< 1	---	---	---	---	---	---
07-Aug-25	1	---	---	---	< 1	---	---	---	---	---	---
14-Aug-25	2	---	---	---	< 1	---	---	---	---	---	---
21-Aug-25	3										
28-Aug-25	4	---	---	---	< 1	---	---	---	---	---	---
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	---	---	---	< 1	---	---	---	---	---	---
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	---	---	---	< 1	---	---	---	---	---	---
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	---	---	---	< 1	---	---	---	---	---	---
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	---	---	---	< 1	---	---	---	---	---	---
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	---	---	---	< 1	---	---	---	---	---	---

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	---	---	---	---	---	---	---	---	---	---	---
07-Aug-25	1	---	---	---	---	---	---	---	---	---	---	---
14-Aug-25	2	---	---	---	---	---	---	---	---	---	---	---
21-Aug-25	3											
28-Aug-25	4	---	---	---	---	---	---	---	---	---	---	---
04-Sep-25	5											
11-Sep-25	6											
18-Sep-25	7											
25-Sep-25	8	---	---	---	---	---	---	---	---	---	---	---
02-Oct-25	9											
09-Oct-25	10											
16-Oct-25	11											
23-Oct-25	12	---	---	---	---	---	---	---	---	---	---	---
30-Oct-25	13											
06-Nov-25	14											
13-Nov-25	15											
20-Nov-25	16	---	---	---	---	---	---	---	---	---	---	---
27-Nov-25	17											
04-Dec-25	18											
11-Dec-25	19											
18-Dec-25	20	---	---	---	---	---	---	---	---	---	---	---
25-Dec-25	21											
01-Jan-26	22											
08-Jan-26	23											
15-Jan-26	24	---	---	---	---	---	---	---	---	---	---	---

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	---	---	---	---	---	---	---	---	---	---	---
07-Aug-25	1	---	---	---	---	---	---	---	---	---	---	---
14-Aug-25	2	---	---	---	---	---	---	---	---	---	---	---
21-Aug-25	3											
28-Aug-25	4	---	---	---	---	---	---	---	---	---	---	---
04-Sep-25	5											
11-Sep-25	6											
18-Sep-25	7											
25-Sep-25	8	---	---	---	---	---	---	---	---	---	---	---
02-Oct-25	9											
09-Oct-25	10											
16-Oct-25	11											
23-Oct-25	12	---	---	---	---	---	---	---	---	---	---	---
30-Oct-25	13											
06-Nov-25	14											
13-Nov-25	15											
20-Nov-25	16	---	---	---	---	---	---	---	---	---	---	---
27-Nov-25	17											
04-Dec-25	18											
11-Dec-25	19											
18-Dec-25	20	---	---	---	---	---	---	---	---	---	---	---
25-Dec-25	21											
01-Jan-26	22											
08-Jan-26	23											
15-Jan-26	24	---	---	---	---	---	---	---	---	---	---	---

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	SGS File #
31-Jul-25	0	---	---	---	---	---	---	---	---	---	CA15523-AUG25
07-Aug-25	1	---	---	---	---	---	---	---	---	---	CA15551-AUG25
14-Aug-25	2	---	---	---	---	---	---	---	---		CA14141-AUG25
21-Aug-25	3										
28-Aug-25	4	---	---	---	---	---	---	---	---	---	CA15960-AUG25
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	---	---	---	---	---	---	---	---	---	CA14367-SEP25
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	---	---	---	---	---	---	---	---	---	CA15251-OCT25
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	---	---	---	---	---	---	---	---	---	CA15245-NOV25
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	---	---	---	---	---	---	---	---	---	CA15536-DEC25
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	---	---	---	---	---	---	---	---	---	CA15112-JAN26

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
31-Jul-25	0	~0.06	TMWATR081525JS1				
07-Aug-25	1	~0.09	TMWATR081525JS2				
14-Aug-25	2	~0.06	TMWATR082725JS2				
21-Aug-25	3						
28-Aug-25	4	~0.07	TMWATR091025JS2.				
04-Sep-25	5						
11-Sep-25	6						
18-Sep-25	7						
25-Sep-25	8	~0.08	TMWATR100225JS4				
02-Oct-25	9						
09-Oct-25	10						
16-Oct-25	11						
23-Oct-25	12	~0.06	TMWATR110425JS3				
30-Oct-25	13						
06-Nov-25	14						
13-Nov-25	15						
20-Nov-25	16	<0.04	TMWATR121025CH3				
27-Nov-25	17						
04-Dec-25	18						
11-Dec-25	19						
18-Dec-25	20	<0.04	TMWATR011326CH2				
25-Dec-25	21						
01-Jan-26	22						
08-Jan-26	23						
15-Jan-26	24	0.29	TMWATR022026CH3				

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
22-Jan-26	25	**500**	485	5.65	472	1	#N/A	1.4	<1.0	3	
29-Jan-26	26	**500**	485	5.68	460	1	#N/A	1.4	<1.0	3	
05-Feb-26	27	**500**	485	5.70	474	1	#N/A	1.5	<1.0	3	
12-Feb-26	28	**500**	485	5.73	465	1	#N/A	1.4	<1.0	3	---
19-Feb-26	29	**500**	490	5.75	481	1	#N/A	1.3	<1.0	3	
26-Feb-26	30	**500**	485	5.74	479	1	#N/A	1.3	<1.0	3	
05-Mar-26	31	**500**	475	5.72	480	1	#N/A	1.5	<1.0	3	
12-Mar-26	32	**500**	485	5.70	455	1	#N/A	1.5	1.1	3	---
19-Mar-26	33	**500**	485	5.38	479	1	#N/A	1.5	<1.0	3	
26-Mar-26	34	**500**	475	5.70	402	1	#N/A	1.2	<1.0	3	
02-Apr-26	35	**500**	495	5.81	482	2	#N/A	1.4	<1.0	3	
09-Apr-26	36	**500**	475	5.72	484	1	#N/A	1.1	<1.0	3	---
16-Apr-26	37	**500**	485	5.79	471	1	#N/A	1.2	<1.0	3	
23-Apr-26	38	**500**	485	5.69	424	1	#N/A	1.5	1.0	3	
30-Apr-26	39	**500**	500	5.64	452	1	#N/A	1.3	1.0		

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	---	---	---	< 1	---	---	---	---	---	---
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	---	---	---	< 1	---	---	---	---	---	---
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	---	---	---	< 1	---	---	---	---	---	---
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L
22-Jan-26	25											
29-Jan-26	26											
05-Feb-26	27											
12-Feb-26	28	---	---	---	---	---	---	---	---	---	---	---
19-Feb-26	29											
26-Feb-26	30											
05-Mar-26	31											
12-Mar-26	32	---	---	---	---	---	---	---	---	---	---	---
19-Mar-26	33											
26-Mar-26	34											
02-Apr-26	35											
09-Apr-26	36	---	---	---	---	---	---	---	---	---	---	---
16-Apr-26	37											
23-Apr-26	38											
30-Apr-26	39											

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L
22-Jan-26	25											
29-Jan-26	26											
05-Feb-26	27											
12-Feb-26	28	---	---	---	---	---	---	---	---	---	---	---
19-Feb-26	29											
26-Feb-26	30											
05-Mar-26	31											
12-Mar-26	32	---	---	---	---	---	---	---	---	---	---	---
19-Mar-26	33											
26-Mar-26	34											
02-Apr-26	35											
09-Apr-26	36	---	---	---	---	---	---	---	---	---	---	---
16-Apr-26	37											
23-Apr-26	38											
30-Apr-26	39											

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	SGS File #
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	---	---	---	---	---	---	---	---	---	CA15115-FEB26
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	---	---	---	---	---	---	---	---	---	CA15530-MAR26
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	---	---	---	---	---	---	---	---	---	CA15148-APR26
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

HC 1

Sample ID: Blank

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
22-Jan-26	25						
29-Jan-26	26						
05-Feb-26	27						
12-Feb-26	28	~0.19	TMWATR031026CH3-001				
19-Feb-26	29						
26-Feb-26	30						
05-Mar-26	31						
12-Mar-26	32	<0.04	TMWATR040126CH8-001				
19-Mar-26	33						
26-Mar-26	34						
02-Apr-26	35						
09-Apr-26	36	~0.06	TMWATR042026CH2-001				
16-Apr-26	37						
23-Apr-26	38						
30-Apr-26	39						

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 2

Sample ID: WP572 822.532-824

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
31-Jul-25	0	**550**	**420**	6.82	431	11873	#N/A	8.7	11.0	5	7540
07-Aug-25	1	**500**	**500**	7.22	342	5393	#N/A	2.5	9.9	4	3690
14-Aug-25	2	**500**	**490**	7.52	353	2324	#N/A	1.9	13.4	4	2000
21-Aug-25	3	**500**	**490**	7.64	347	997	#N/A	1.5	15.0	4	
28-Aug-25	4	**500**	**495**	7.70	345	478	#N/A	1.1	16.9	5	366
04-Sep-25	5	**500**	**505**	7.80	349	267	#N/A	1.2	21.0	6	
11-Sep-25	6	**500**	**495**	7.83	338	170	#N/A	1.0	22.1	6	
18-Sep-25	7	**500**	500	8.19	332	131	#N/A	0.8	23.4	7	
25-Sep-25	8	**500**	495	7.51	385	104	#N/A	2.9	21.7	7	49
02-Oct-25	9	**500**	495	7.64	378	93	#N/A	1.5	20.5	8	
09-Oct-25	10	**500**	490	7.82	375	94	#N/A	0.9	20.7	10	
16-Oct-25	11	**500**	485	7.68	382	93	#N/A	1.1	20.1	11	
23-Oct-25	12	**500**	505	7.69	387	85	#N/A	0.9	17.4	11	43
30-Oct-25	13	**500**	500	7.67	413	81	#N/A	1.2	17.1	10	
06-Nov-25	14	**500**	500	7.66	404	81	#N/A	1.3	20.3	8	
13-Nov-25	15	**500**	500	7.50	348	89	#N/A	2.8	24.9	9	
20-Nov-25	16	**500**	500	7.70	391	86	#N/A	1.6	24.2	9	54
27-Nov-25	17	**500**	495	7.70	377	78	#N/A	1.3	23.0	8	
04-Dec-25	18	**500**	495	7.73	383	72	#N/A	1.2	22.5	7	
11-Dec-25	19	**500**	495	7.72	394	73	#N/A	1.4	22.7	6	
18-Dec-25	20	**500**	**505**	7.76	375	69	#N/A	1.1	21.9	7	97
25-Dec-25	21	**500**	495	7.78	410	69	#N/A	1.5	22.2	6	
01-Jan-26	22	**500**	465	7.62	387	67	#N/A	1.3	23.6	5	
08-Jan-26	23	**500**	460	7.73	424	71	#N/A	1.2	22.3	7	
15-Jan-26	24	**500**	460	7.81	419	60	#N/A	0.8	20.3	7	31

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
31-Jul-25	0	< 0.03	< 0.06	< 0.3	3800	0.25	46.1	4320	0.019	< 0.0009	0.0003
07-Aug-25	1	< 0.03	< 0.06	< 0.3	1800	0.25	19.6	1870	0.020	< 0.0009	0.0003
14-Aug-25	2	< 0.03	< 0.06	< 0.3	650	0.23	8.2	780	0.025	< 0.0009	< 0.0002
21-Aug-25	3										
28-Aug-25	4	< 0.03	< 0.06	< 0.03	140	0.23	1.4	160	0.023	< 0.0009	0.0005
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	< 0.03	< 0.06	< 0.03	13	0.24	< 0.3	35.9	0.015	< 0.0009	< 0.0002
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	< 0.03	< 0.06	< 0.03	3	0.16	< 0.3	34.6	0.009	< 0.0009	< 0.0002
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	< 0.03	< 0.06	< 0.03	2	0.13	< 0.3	35.2	0.011	< 0.0009	< 0.0002
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	29.6	0.009	< 0.0009	< 0.0002
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	26.6	0.011	< 0.0009	< 0.0002

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.926	0.000011	< 0.00001	0.233	0.00607	1660	0.00036	0.000330	0.014	0.010	0.00009
07-Aug-25	1	0.414	< 0.000007	< 0.00001	0.214	0.000892	712	0.00039	0.000220	0.009	< 0.007	< 0.00009
14-Aug-25	2	0.154	< 0.000007	< 0.00001	0.182	0.000283	296	0.00012	0.000080	0.008	< 0.007	< 0.00009
21-Aug-25	3						115				< 0.007	
28-Aug-25	4	0.0251	< 0.000007	< 0.00001	0.152	0.000098	60.1	< 0.00008	0.000153	0.012	< 0.007	< 0.00009
04-Sep-25	5						31.1				< 0.007	
11-Sep-25	6						20.8				< 0.007	
18-Sep-25	7						16.9				< 0.007	
25-Sep-25	8	0.00473	< 0.000007	< 0.00001	0.078	0.000029	13.4	< 0.00008	0.000007	0.009	< 0.007	< 0.00009
02-Oct-25	9						12.0				< 0.007	
09-Oct-25	10						13.3				< 0.007	
16-Oct-25	11						13.6				< 0.007	
23-Oct-25	12	0.00448	< 0.000007	< 0.00001	0.046	0.000054	12.9	< 0.00008	0.000016	0.012	< 0.007	< 0.00009
30-Oct-25	13						12.4				< 0.007	
06-Nov-25	14						10.1				< 0.007	
13-Nov-25	15						14.3				< 0.007	
20-Nov-25	16	0.00420	< 0.000007	< 0.00001	0.038	0.000045	13.1	0.00013	0.000006	0.015	< 0.007	0.00045
27-Nov-25	17						12.0				< 0.007	
04-Dec-25	18						11.4				< 0.007	
11-Dec-25	19						9.31				0.082	
18-Dec-25	20	0.00370	< 0.000007	< 0.00001	0.025	0.000038	11.0	< 0.00008	0.000015	0.014	< 0.007	0.00021
25-Dec-25	21						11.3				< 0.007	
01-Jan-26	22						11.9				< 0.007	
08-Jan-26	23						11.0				< 0.007	
15-Jan-26	24	0.00281	< 0.000007	< 0.00001	0.016	0.000065	9.98	< 0.00008	0.000120	0.010	0.044	< 0.00009

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.111	43.3	0.887	0.0011	0.0024	0.160	34.5	0.00011	0.65	0.00006	597
07-Aug-25	1	0.0735	21.8	0.438	< 0.01	0.0008	0.0017	18.8	< 0.00004	0.88	< 0.00005	224
14-Aug-25	2	0.0471	9.77	0.204	0.0006	0.0002	< 0.003	9.36	< 0.00004	0.97	< 0.00005	92.1
21-Aug-25	3		4.63									
28-Aug-25	4	0.0278	2.51	0.0665	0.0009	0.0002	0.004	4.30	< 0.00004	1.09	< 0.00005	21.4
04-Sep-25	5		1.32									
11-Sep-25	6		0.891									
18-Sep-25	7		0.778									
25-Sep-25	8	0.0108	0.590	0.0263	0.0004	< 0.0001	< 0.003	1.68	< 0.00004	0.87	< 0.00005	3.18
02-Oct-25	9		0.518									
09-Oct-25	10		0.610									
16-Oct-25	11		0.630									
23-Oct-25	12	0.0086	0.597	0.0281	0.0005	< 0.0001	< 0.003	1.25	0.00005	0.74	< 0.00005	1.32
30-Oct-25	13		0.573									
06-Nov-25	14		0.478									
13-Nov-25	15		0.646									
20-Nov-25	16	0.0071	0.626	0.0291	< 0.0004	< 0.0001	< 0.003	1.24	< 0.00004	0.77	< 0.00005	0.81
27-Nov-25	17		0.556									
04-Dec-25	18		0.514									
11-Dec-25	19		0.423									
18-Dec-25	20	0.0056	0.491	0.0238	< 0.0004	< 0.0001	< 0.003	0.960	< 0.00004	0.67	< 0.00005	0.48
25-Dec-25	21		0.496									
01-Jan-26	22		0.505									
08-Jan-26	23		0.493									
15-Jan-26	24	0.0041	0.399	0.0181	< 0.0004	< 0.0001	< 0.003	0.721	0.00008	0.51	< 0.00005	0.32

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
31-Jul-25	0	32.0	10	0.000060	< 0.00006	< 0.0001	< 0.000002	0.00076	0.005	< 0.002	CA15523-AUG25
07-Aug-25	1	13.8	< 5	0.000021	< 0.00006	< 0.0001	0.000004	0.00098	< 0.002	< 0.002	CA15551-AUG25
14-Aug-25	2	5.39	< 5	0.000010	< 0.00006	< 0.0001	0.000004	0.00139	< 0.002	< 0.002	CA14141-AUG25
21-Aug-25	3										CA15309-AUG25
28-Aug-25	4	0.960	< 5	< 0.000005	< 0.00006	< 0.0001	< 0.000002	0.00188	< 0.002	< 0.002	CA15960-AUG25
04-Sep-25	5										CA15402-SEP25
11-Sep-25	6										CA14396-SEP25
18-Sep-25	7										CA14331-SEP25
25-Sep-25	8	0.212	< 5	< 0.000005	< 0.00006	< 0.0001	0.000002	0.00195	< 0.002	< 0.002	CA14367-SEP25
02-Oct-25	9										CA15039-OCT25
09-Oct-25	10										CA15130-OCT25
16-Oct-25	11										CA15596-OCT25
23-Oct-25	12	0.179	< 5	< 0.000005	< 0.00006	< 0.0001	< 0.000002	0.00135	< 0.002	< 0.002	CA15251-OCT25
30-Oct-25	13										CA85197-OCT25
06-Nov-25	14										CA15091-NOV25
13-Nov-25	15										CA15453-NOV25
20-Nov-25	16	0.177	< 5	0.000005	< 0.00006	< 0.0001	< 0.000002	0.00137	< 0.002	< 0.002	CA15245-NOV25
27-Nov-25	17										CA15520-NOV25
04-Dec-25	18										CA15467-DEC25
11-Dec-25	19										CA15107-DEC25
18-Dec-25	20	0.147	< 5	< 0.000005	< 0.00006	< 0.0001	0.000005	0.00128	< 0.002	< 0.002	CA15536-DEC25
25-Dec-25	21										CA15336-DEC25
01-Jan-26	22										CA15025-JAN26
08-Jan-26	23										CA15469-JAN26
15-Jan-26	24	0.116	< 5	0.000007	< 0.00006	< 0.0001	0.000020	0.00109	0.015	< 0.002	CA15112-JAN26

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
31-Jul-25	0	0.68	TMWATR081525JS1	107.97	114.10	6.13	2.8%
07-Aug-25	1	0.23	TMWATR081525JS2	51.24	47.96	-3.29	-3.3%
14-Aug-25	2	~0.08	TMWATR082725JS2	18.77	20.01	1.24	3.2%
21-Aug-25	3						
28-Aug-25	4	~0.09	TMWATR091025JS2.	4.42	4.32	-0.09	-1.1%
04-Sep-25	5						
11-Sep-25	6						
18-Sep-25	7						
25-Sep-25	8	0.31	TMWATR100225JS4	0.96	0.93	-0.03	-1.5%
02-Oct-25	9						
09-Oct-25	10						
16-Oct-25	11						
23-Oct-25	12	~0.08	TMWATR110425JS3	0.67	0.80	0.13	9.1%
30-Oct-25	13						
06-Nov-25	14						
13-Nov-25	15						
20-Nov-25	16	~0.08	TMWATR121025CH3	0.73	0.79	0.06	3.8%
27-Nov-25	17						
04-Dec-25	18						
11-Dec-25	19						
18-Dec-25	20	~0.07	TMWATR011326CH2	0.58	0.65	0.07	5.7%
25-Dec-25	21						
01-Jan-26	22						
08-Jan-26	23						
15-Jan-26	24	0.25	TMWATR022026CH3	0.55	0.58	0.03	2.3%

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 2

Sample ID: WP572 822.532-824

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
22-Jan-26	25	**500**	455	7.64	390	61	#N/A	1.3	20.7	6	
29-Jan-26	26	**500**	455	7.63	385	54	#N/A	1.3	16.1	6	
05-Feb-26	27	**500**	490	7.59	396	60	#N/A	1.4	17.0	7	
12-Feb-26	28	**500**	455	7.59	391	60	#N/A	1.6	17.6	7	37
19-Feb-26	29	**500**	415	7.62	401	57	#N/A	1.2	16.0	7	
26-Feb-26	30	**500**	460	7.68	399	60	#N/A	1.3	17.3	7	
05-Mar-26	31	**500**	450	7.70	396	72	#N/A	1.4	23.1	9	
12-Mar-26	32	**500**	485	7.64	380	57	#N/A	1.5	17.7	7	< 30
19-Mar-26	33	**500**	460	7.60	381	57	#N/A	1.4	17.2	7	
26-Mar-26	34	**500**	460	7.82	346	64	#N/A	0.9	21.4	9	
02-Apr-26	35	**500**	460	7.62	414	65	#N/A	1.5	21.7	7	
09-Apr-26	36	**500**	445	7.70	411	57	#N/A	1.1	17.7	7	66
16-Apr-26	37	**500**	450	7.70	391	57	#N/A	1.1	17.4	6	
23-Apr-26	38	**500**	455	7.67	348	52	#N/A	1.4	15.9	6	
30-Apr-26	39	**500**	455	7.73	367	59	#N/A	1.3	18.1		

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	< 0.03	< 0.03	< 0.06	< 1	0.08	< 0.3	28.0	0.012	< 0.0009	< 0.0002
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	23.8	0.011	< 0.0005	< 0.0002
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	26.8	0.010	< 0.0005	< 0.0002
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25						10.5				< 0.007	
29-Jan-26	26						9.13				< 0.007	
05-Feb-26	27						9.60				< 0.007	
12-Feb-26	28	0.00293	< 0.000007	< 0.00001	0.016	0.000031	10.6	< 0.00008	< 0.000004	0.011	< 0.007	< 0.00009
19-Feb-26	29						9.49				0.007	
26-Feb-26	30						9.54				< 0.007	
05-Mar-26	31						12.3				< 0.007	
12-Mar-26	32	0.00276	< 0.000007	< 0.00001	0.010	0.000027	8.93	< 0.00008	0.000008	0.010	< 0.007	< 0.00009
19-Mar-26	33						9.61				< 0.007	
26-Mar-26	34						10.8				< 0.007	
02-Apr-26	35						10.9				< 0.007	
09-Apr-26	36	0.00251	< 0.000007	< 0.00001	0.012	0.000022	10.1	< 0.00008	0.000014	0.011	< 0.007	< 0.00009
16-Apr-26	37						9.45				0.007	
23-Apr-26	38						9.18				< 0.007	
30-Apr-26	39											

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25		0.386									
29-Jan-26	26		0.385									
05-Feb-26	27		0.435									
12-Feb-26	28	0.0044	0.399	0.0208	0.0012	0.0001	< 0.003	0.695	< 0.00004	0.55	< 0.00005	0.30
19-Feb-26	29		0.384									
26-Feb-26	30		0.414									
05-Mar-26	31		0.521									
12-Mar-26	32	0.0037	0.366	0.0181	< 0.0004	0.0002	< 0.003	0.569	< 0.00004	0.51	< 0.00005	0.23
19-Mar-26	33		0.410									
26-Mar-26	34		0.447									
02-Apr-26	35		0.450									
09-Apr-26	36	0.0038	0.413	0.0152	< 0.0004	0.0003	< 0.003	0.545	< 0.00004	0.53	< 0.00005	0.29
16-Apr-26	37		0.380									
23-Apr-26	38		0.384									
30-Apr-26	39											

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
22-Jan-26	25										CA15594-JAN26
29-Jan-26	26										CA15656-JAN26
05-Feb-26	27										CA15022-FEB26
12-Feb-26	28	0.119	< 5	< 0.000005	< 0.00006	< 0.0001	0.000016	0.00106	< 0.002	< 0.002	CA15115-FEB26
19-Feb-26	29										CA15195-FEB26
26-Feb-26	30										CA15299-FEB26
05-Mar-26	31										CA15421-MAR26
12-Mar-26	32	0.108	< 5	< 0.000005	< 0.00006	< 0.0001	0.000011	0.00095	< 0.002	< 0.002	CA15530-MAR26
19-Mar-26	33										CA15602-MAR26
26-Mar-26	34										CA15086-MAR26
02-Apr-26	35										CA15089-APR26
09-Apr-26	36	0.111	< 5	< 0.000005	< 0.00006	< 0.0001	0.000004	0.00104	0.004	< 0.002	CA15148-APR26
16-Apr-26	37										CA15269-APR26
23-Apr-26	38										CA15847-APR26
30-Apr-26	39										

SGS

Humidity Cell Test Report

HC 2

Sample ID: WP572 822

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
22-Jan-26	25						
29-Jan-26	26						
05-Feb-26	27						
12-Feb-26	28	0.24	TMWATR031026CH3-002	0.50	0.60	0.10	9.2%
19-Feb-26	29						
26-Feb-26	30						
05-Mar-26	31						
12-Mar-26	32	~0.08	TMWATR040126CH8-002	0.50	0.51	0.01	1.0%
19-Mar-26	33						
26-Mar-26	34						
02-Apr-26	35						
09-Apr-26	36	~0.06	TMWATR042026CH2-002	0.50	0.57	0.07	6.8%
16-Apr-26	37						
23-Apr-26	38						
30-Apr-26	39						

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 3

Sample ID: WP573 912.987-914.371

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
31-Jul-25	0	**550**	**380**	7.77	336	3252	#N/A	6.5	18.5	9	2380
07-Aug-25	1	**500**	**470**	7.60	371	1790	#N/A	1.5	16.7	10	1330
14-Aug-25	2	**500**	**490**	7.90	323	584	#N/A	0.9	26.9	23	314
21-Aug-25	3	**500**	**470**	7.97	330	316	#N/A	0.9	29.6	38	
28-Aug-25	4	**500**	**495**	7.93	339	243	#N/A	1.0	30.9	51	137
04-Sep-25	5	**500**	**495**	7.86	354	217	#N/A	1.1	28.8	52	
11-Sep-25	6	**500**	**475**	7.83	349	195	#N/A	1.1	24.7	48	
18-Sep-25	7	**500**	510	7.88	355	198	#N/A	1.2	24.1	48	
25-Sep-25	8	**500**	470	7.71	379	174	#N/A	3.0	24.3	40	83
02-Oct-25	9	**500**	470	7.67	373	170	#N/A	1.7	20.9	43	
09-Oct-25	10	**500**	470	7.77	395	164	#N/A	1.1	21.0	42	
16-Oct-25	11	**500**	470	7.64	369	158	#N/A	1.4	20.7	38	
23-Oct-25	12	**500**	460	7.67	381	148	#N/A	1.1	16.4	41	71
30-Oct-25	13	**500**	505	7.64	398	146	#N/A	1.3	20.1	40	
06-Nov-25	14	**500**	500	7.64	376	138	#N/A	1.6	17.8	38	
13-Nov-25	15	**500**	500	7.68	324	139	#N/A	3.0	21.9	37	
20-Nov-25	16	**500**	500	7.61	385	136	#N/A	1.8	20.8	34	69
27-Nov-25	17	**500**	495	7.59	377	136	#N/A	1.4	20.5	35	
04-Dec-25	18	**500**	495	7.61	385	131	#N/A	1.4	20.3	33	
11-Dec-25	19	**500**	470	7.61	384	127	#N/A	1.4	17.0	33	
18-Dec-25	20	**500**	**455**	7.57	379	127	#N/A	1.4	15.5	37	111
25-Dec-25	21	**500**	460	7.48	375	130	#N/A	1.6	16.5	35	
01-Jan-26	22	**500**	450	7.52	392	128	#N/A	1.4	17.5	32	
08-Jan-26	23	**500**	455	7.51	414	121	#N/A	1.4	13.5	30	
15-Jan-26	24	**500**	465	7.53	411	115	#N/A	1.1	13.6	32	66

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
31-Jul-25	0	< 0.03	0.11	< 0.3	1100	0.29	10.9	690	0.027	< 0.0009	0.0020
07-Aug-25	1	< 0.03	< 0.06	< 0.03	510	0.31	6.3	312	0.020	< 0.0009	0.0025
14-Aug-25	2	< 0.03	< 0.06	< 0.03	160	0.34	1.9	79.0	0.016	< 0.0009	0.0022
21-Aug-25	3										
28-Aug-25	4	< 0.03	< 0.06	< 0.03	20	0.36	< 0.3	41.7	0.006	< 0.0009	0.0015
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	< 0.03	< 0.06	< 0.03	4	0.19	< 0.3	51.9	0.002	< 0.0009	0.0005
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	< 0.03	< 0.06	< 0.03	1	0.17	< 0.3	54.8	< 0.001	< 0.0009	0.0003
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	< 0.03	< 0.06	< 0.03	1	0.11	< 0.3	52.2	0.001	< 0.0009	0.0002
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	51.0	0.002	< 0.0009	0.0002
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	< 0.03	< 0.06	< 0.03	1	< 0.06	< 0.3	44.5	0.001	< 0.0009	0.0003

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.263	< 0.000007	< 0.00001	0.161	0.000158	268	< 0.00008	0.000024	0.018	< 0.007	< 0.00009
07-Aug-25	1	0.128	< 0.000007	< 0.00001	0.170	0.000121	120	0.00031	0.000059	0.019	< 0.007	< 0.00009
14-Aug-25	2	0.0275	< 0.000007	< 0.00001	0.156	0.000075	30.5	< 0.00008	0.000010	0.022	< 0.007	< 0.00009
21-Aug-25	3						14.6				< 0.007	
28-Aug-25	4	0.0139	< 0.000007	< 0.00001	0.142	0.000075	16.0	< 0.00008	0.000106	0.051	< 0.007	< 0.00009
04-Sep-25	5						16.6				< 0.007	
11-Sep-25	6						17.7				< 0.007	
18-Sep-25	7						21.8				< 0.007	
25-Sep-25	8	0.0144	< 0.000007	< 0.00001	0.079	0.000102	19.9	< 0.00008	0.000008	0.056	< 0.007	< 0.00009
02-Oct-25	9						19.6				< 0.007	
09-Oct-25	10						21.5				0.007	
16-Oct-25	11						21.5				< 0.007	
23-Oct-25	12	0.0137	< 0.000007	< 0.00001	0.056	0.000133	20.9	0.00008	0.000012	0.064	< 0.007	< 0.00009
30-Oct-25	13						21.6				< 0.007	
06-Nov-25	14						16.5				< 0.007	
13-Nov-25	15						21.2				< 0.007	
20-Nov-25	16	0.0137	< 0.000007	< 0.00001	0.046	0.000220	19.8	0.00050	0.000013	0.088	< 0.007	0.00171
27-Nov-25	17						19.6				< 0.007	
04-Dec-25	18						19.5				< 0.007	
11-Dec-25	19						15.1				0.035	
18-Dec-25	20	0.0124	< 0.000007	< 0.00001	0.034	0.000140	19.4	< 0.00008	0.000039	0.067	< 0.007	< 0.00009
25-Dec-25	21						18.8				< 0.007	
01-Jan-26	22						20.0				< 0.007	
08-Jan-26	23						17.5				< 0.007	
15-Jan-26	24	0.00917	< 0.000007	< 0.00001	0.026	0.000085	16.9	< 0.00008	0.000015	0.057	< 0.007	< 0.00009

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.177	5.28	0.125	0.0020	0.0002	0.010	21.4	0.00008	0.94	< 0.00005	329
07-Aug-25	1	0.131	2.61	0.0829	< 0.01	0.0018	0.0003	11.9	< 0.00004	1.28	< 0.00005	184
14-Aug-25	2	0.0714	0.703	0.0269	0.0023	< 0.0001	< 0.003	5.30	< 0.00004	1.17	< 0.00005	71.0
21-Aug-25	3		0.384									
28-Aug-25	4	0.0626	0.422	0.0216	0.0019	0.0002	< 0.003	4.30	0.00009	1.11	< 0.00005	29.1
04-Sep-25	5		0.435									
11-Sep-25	6		0.473									
18-Sep-25	7		0.628									
25-Sep-25	8	0.0469	0.548	0.0282	0.0010	< 0.0001	< 0.003	3.76	< 0.00004	0.73	< 0.00005	8.80
02-Oct-25	9		0.558									
09-Oct-25	10		0.664									
16-Oct-25	11		0.648									
23-Oct-25	12	0.0383	0.643	0.0308	0.0008	< 0.0001	< 0.003	3.27	0.00006	0.58	< 0.00005	3.42
30-Oct-25	13		0.653									
06-Nov-25	14		0.513									
13-Nov-25	15		0.634									
20-Nov-25	16	0.0283	0.633	0.0371	0.0006	0.0001	< 0.003	2.78	< 0.00004	0.56	< 0.00005	1.64
27-Nov-25	17		0.616									
04-Dec-25	18		0.601									
11-Dec-25	19		0.490									
18-Dec-25	20	0.0268	0.595	0.0307	0.0006	0.0001	< 0.003	2.86	< 0.00004	0.50	< 0.00005	1.07
25-Dec-25	21		0.663									
01-Jan-26	22		0.649									
08-Jan-26	23		0.577									
15-Jan-26	24	0.0209	0.524	0.0259	0.0006	< 0.0001	< 0.003	2.32	0.00006	0.47	< 0.00005	0.70

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	SGS File #
31-Jul-25	0	4.56	< 5	0.000055	< 0.00006	< 0.0001	0.000002	0.00017	< 0.002	< 0.002	CA15523-AUG25
07-Aug-25	1	2.30	6	0.000032	< 0.00006	< 0.0001	< 0.000002	0.00024	< 0.002	< 0.002	CA15551-AUG25
14-Aug-25	2	0.525	8	0.000012	< 0.00006	< 0.0001	< 0.000002	0.00025	< 0.002	< 0.002	CA14141-AUG25
21-Aug-25	3										CA15309-AUG25
28-Aug-25	4	0.259	18	0.000010	< 0.00006	< 0.0001	0.000004	0.00018	< 0.002	< 0.002	CA15960-AUG25
04-Sep-25	5										CA15402-SEP25
11-Sep-25	6										CA14396-SEP25
18-Sep-25	7										CA14331-SEP25
25-Sep-25	8	0.328	17	0.000009	< 0.00006	< 0.0001	< 0.000002	0.00007	< 0.002	< 0.002	CA14367-SEP25
02-Oct-25	9										CA15039-OCT25
09-Oct-25	10										CA15130-OCT25
16-Oct-25	11										CA15596-OCT25
23-Oct-25	12	0.326	15	0.000007	< 0.00006	< 0.0001	< 0.000002	0.00005	< 0.002	< 0.002	CA15251-OCT25
30-Oct-25	13										CA85197-OCT25
06-Nov-25	14										CA15091-NOV25
13-Nov-25	15										CA15453-NOV25
20-Nov-25	16	0.296	14	0.000011	< 0.00006	< 0.0001	0.000007	0.00005	< 0.002	< 0.002	CA15245-NOV25
27-Nov-25	17										CA15520-NOV25
04-Dec-25	18										CA15467-DEC25
11-Dec-25	19										CA15107-DEC25
18-Dec-25	20	0.297	12	0.000013	< 0.00006	< 0.0001	0.000008	0.00005	0.003	< 0.002	CA15536-DEC25
25-Dec-25	21										CA15336-DEC25
01-Jan-26	22										CA15025-JAN26
08-Jan-26	23										CA15469-JAN26
15-Jan-26	24	0.248	11	0.000008	< 0.00006	< 0.0001	0.000010	0.00005	< 0.002	< 0.002	CA15112-JAN26

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
31-Jul-25	0	0.48	TMWATR081525JS1	31.71	28.85	-2.86	-4.7%
07-Aug-25	1	0.30	TMWATR081525JS2	15.00	14.64	-0.37	-1.2%
14-Aug-25	2	~0.08	TMWATR082725JS2	5.57	4.87	-0.69	-6.6%
21-Aug-25	3						
28-Aug-25	4	~0.07	TMWATR091025JS2.	2.26	2.27	0.01	0.1%
04-Sep-25	5						
11-Sep-25	6						
18-Sep-25	7						
25-Sep-25	8	~0.14	TMWATR100225JS4	1.44	1.56	0.12	3.9%
02-Oct-25	9						
09-Oct-25	10						
16-Oct-25	11						
23-Oct-25	12	~0.10	TMWATR110425JS3	1.22	1.36	0.14	5.5%
30-Oct-25	13						
06-Nov-25	14						
13-Nov-25	15						
20-Nov-25	16	~0.10	TMWATR121025CH3	1.16	1.21	0.05	2.3%
27-Nov-25	17						
04-Dec-25	18						
11-Dec-25	19						
18-Dec-25	20	~0.13	TMWATR011326CH2	1.09	1.16	0.07	3.3%
25-Dec-25	21						
01-Jan-26	22						
08-Jan-26	23						
15-Jan-26	24	0.20	TMWATR022026CH3	0.96	1.00	0.03	1.7%

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 3

Sample ID: WP573 912.987-914.371

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
22-Jan-26	25	**500**	455	7.44	396	123	#N/A	1.6	14.6	34	
29-Jan-26	26	**500**	450	7.44	388	116	#N/A	1.5	12.5	31	
05-Feb-26	27	**500**	490	7.42	403	123	#N/A	1.6	13.0	37	
12-Feb-26	28	**500**	450	7.40	392	118	#N/A	1.8	12.9	34	71
19-Feb-26	29	**500**	420	7.37	411	121	#N/A	1.5	11.4	37	
26-Feb-26	30	**500**	455	7.43	401	115	#N/A	1.5	11.8	33	
05-Mar-26	31	**500**	455	7.42	399	118	#N/A	1.6	11.8	33	
12-Mar-26	32	**500**	455	7.38	381	117	#N/A	1.7	11.9	36	34
19-Mar-26	33	**500**	455	7.30	381	121	#N/A	1.7	13.0	36	
26-Mar-26	34	**500**	450	7.48	354	124	#N/A	1.2	10.8	41	
02-Apr-26	35	**500**	445	7.38	399	122	#N/A	1.7	11.1	35	
09-Apr-26	36	**500**	440	7.39	401	122	#N/A	1.4	10.5	36	123
16-Apr-26	37	**500**	455	7.42	391	123	#N/A	1.2	10.4	34	
23-Apr-26	38	**500**	455	7.39	358	117	#N/A	1.7	9.8	34	
30-Apr-26	39	**500**	455	7.41	380	121	#N/A	1.6	10.3		

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	< 0.03	< 0.03	< 0.06	2	< 0.06	< 0.3	47.5	0.001	< 0.0009	0.0005
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	< 0.03	< 0.06	< 0.03	3	< 0.06	< 0.3	42.8	0.002	< 0.0005	0.0003
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	< 0.03	< 0.06	< 0.03	3	< 0.06	< 0.3	52.9	0.001	< 0.0005	0.0004
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25						18.6				< 0.007	
29-Jan-26	26						17.9				< 0.007	
05-Feb-26	27						19.1				< 0.007	
12-Feb-26	28	0.0104	< 0.000007	< 0.00001	0.026	0.000097	18.1	0.00013	0.000022	0.057	< 0.007	< 0.00009
19-Feb-26	29						18.2				< 0.007	
26-Feb-26	30						16.7				< 0.007	
05-Mar-26	31						17.9				< 0.007	
12-Mar-26	32	0.00878	< 0.000007	< 0.00001	0.019	0.000084	16.2	< 0.00008	0.000030	0.048	< 0.007	< 0.00009
19-Mar-26	33						19.1				< 0.007	
26-Mar-26	34						18.8				< 0.007	
02-Apr-26	35						18.7				< 0.007	
09-Apr-26	36	0.00845	< 0.000007	< 0.00001	0.022	0.000110	20.0	< 0.00008	0.000017	0.054	< 0.007	< 0.00009
16-Apr-26	37						18.3				< 0.007	
23-Apr-26	38						17.9				< 0.007	
30-Apr-26	39											

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25		0.528									
29-Jan-26	26		0.583									
05-Feb-26	27		0.639									
12-Feb-26	28	0.0232	0.547	0.0318	0.0007	0.0001	< 0.003	2.26	< 0.00004	0.51	< 0.00005	0.54
19-Feb-26	29		0.567									
26-Feb-26	30		0.565									
05-Mar-26	31		0.577									
12-Mar-26	32	0.0184	0.529	0.0313	0.0007	0.0002	< 0.003	2.04	< 0.00004	0.51	< 0.00005	0.43
19-Mar-26	33		0.641									
26-Mar-26	34		0.6									
02-Apr-26	35		0.613									
09-Apr-26	36	0.0218	0.700	0.0310	0.0005	0.0003	< 0.003	2.06	< 0.00004	0.55	< 0.00005	0.50
16-Apr-26	37		0.599									
23-Apr-26	38		0.591									
30-Apr-26	39											

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
22-Jan-26	25										CA15594-JAN26
29-Jan-26	26										CA15656-JAN26
05-Feb-26	27										CA15022-FEB26
12-Feb-26	28	0.250	13	0.000008	< 0.00006	< 0.0001	0.000004	0.00005	< 0.002	< 0.002	CA15115-FEB26
19-Feb-26	29										CA15195-FEB26
26-Feb-26	30										CA15299-FEB26
05-Mar-26	31										CA15421-MAR26
12-Mar-26	32	0.233	11	0.000007	< 0.00006	< 0.0001	0.000006	0.00004	0.002	< 0.002	CA15530-MAR26
19-Mar-26	33										CA15602-MAR26
26-Mar-26	34										CA15086-MAR26
02-Apr-26	35										CA15089-APR26
09-Apr-26	36	0.242	13	0.000006	< 0.00006	< 0.0001	0.000003	0.00004	0.005	< 0.002	CA15148-APR26
16-Apr-26	37										CA15269-APR26
23-Apr-26	38										CA15847-APR26
30-Apr-26	39										

Humidity Cell Test Report

HC 3

Sample ID: WP573 912

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
22-Jan-26	25						
29-Jan-26	26						
05-Feb-26	27						
12-Feb-26	28	0.27	TMWATR031026CH3-003	1.02	1.05	0.03	1.3%
19-Feb-26	29						
26-Feb-26	30						
05-Mar-26	31						
12-Mar-26	32	~0.13	TMWATR040126CH8-003	1.07	0.94	-0.13	-6.6%
19-Mar-26	33						
26-Mar-26	34						
02-Apr-26	35						
09-Apr-26	36	~0.06	TMWATR042026CH2-003	1.04	1.15	0.10	4.7%
16-Apr-26	37						
23-Apr-26	38						
30-Apr-26	39						

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 4

Sample ID: WP572 818.645-820.048

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
31-Jul-25	0	**575**	**410**	7.49	358	7107	#N/A	7.8	16.0	5	4600
07-Aug-25	1	**500**	**510**	7.31	362	4568	#N/A	2.5	10.9	4	3180
14-Aug-25	2	**500**	**510**	7.63	356	1380	#N/A	1.3	14.8	4	1250
21-Aug-25	3	**500**	**465**	7.78	353	465	#N/A	1.2	17.4	3	
28-Aug-25	4	**500**	**500**	7.91	345	236	#N/A	0.8	24.5	4	146
04-Sep-25	5	**500**	**480**	8.02	353	139	#N/A	0.8	27.2	4	
11-Sep-25	6	**500**	**490**	8.05	339	101	#N/A	0.7	26.9	5	
18-Sep-25	7	**500**	485	8.35	336	90	#N/A	#N/A	28.2	4	
25-Sep-25	8	**500**	465	7.88	374	82	#N/A	2.6	29.1	5	43
02-Oct-25	9	**500**	480	8.04	357	76	#N/A	1.1	26.3	5	
09-Oct-25	10	**500**	450	8.09	353	81	#N/A	0.3	27.0	7	
16-Oct-25	11	**500**	485	7.94	355	87	#N/A	0.8	26.8	9	
23-Oct-25	12	**500**	460	7.99	364	84	#N/A	0.8	25.3	9	54
30-Oct-25	13	**500**	505	8.06	371	85	#N/A	0.8	26.6	10	
06-Nov-25	14	**500**	495	8.13	352	79	#N/A	0.9	26.0	9	
13-Nov-25	15	**500**	495	7.85	325	80	#N/A	2.7	29.1	7	
20-Nov-25	16	**500**	490	7.94	380	79	#N/A	1.3	28.9	7	54
27-Nov-25	17	**500**	490	7.90	368	76	#N/A	1.1	27.7	6	
04-Dec-25	18	**500**	495	7.99	370	75	#N/A	0.8	28.3	6	
11-Dec-25	19	**500**	475	8.06	368	68	#N/A	0.8	26.5	6	
18-Dec-25	20	**500**	**465**	8.03	362	67	#N/A	0.8	25.8	5	83
25-Dec-25	21	**500**	440	7.89	362	68	#N/A	1.1	26.8	4	
01-Jan-26	22	**500**	440	7.87	379	68	#N/A	1.0	28.3	5	
08-Jan-26	23	**500**	460	7.88	401	58	#N/A	1.0	23.0	5	
15-Jan-26	24	**500**	455	8.11	375	58	#N/A	0.6	22.9	5	< 30

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
31-Jul-25	0	< 0.03	< 0.06	< 0.3	2300	0.24	26.2	2510	0.023	< 0.0009	< 0.0002
07-Aug-25	1	< 0.03	< 0.06	< 0.3	1500	0.29	16.3	1500	0.027	< 0.0009	0.0003
14-Aug-25	2	< 0.03	< 0.06	< 0.03	400	0.28	4.6	446	0.594	< 0.0009	< 0.0002
21-Aug-25	3										
28-Aug-25	4	< 0.03	< 0.06	< 0.03	48	0.34	0.6	74.9	0.062	< 0.0009	0.0005
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	< 0.03	< 0.06	< 0.03	4	0.26	< 0.3	30.8	0.043	< 0.0009	< 0.0002
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	< 0.03	< 0.06	< 0.03	1	0.20	< 0.3	34.8	0.030	< 0.0009	< 0.0002
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	< 0.03	< 0.06	< 0.03	< 1	0.11	< 0.3	34.4	0.025	< 0.0009	< 0.0002
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	30.3	0.065	< 0.0009	< 0.0002
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	25.2	0.024	< 0.0009	< 0.0002

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.600	< 0.000007	< 0.00001	0.221	0.00325	960	0.00013	0.000093	0.009	< 0.007	< 0.00009
07-Aug-25	1	0.412	< 0.000007	< 0.00001	0.243	0.00100	571	0.00065	0.000172	0.007	< 0.007	< 0.00009
14-Aug-25	2	0.131	0.000028	< 0.00001	0.183	0.000258	169	0.00170	0.000449	0.065	0.986	0.00014
21-Aug-25	3						50.7				0.016	
28-Aug-25	4	0.0195	< 0.000007	< 0.00001	0.146	0.000032	28.0	< 0.00008	0.000074	0.008	< 0.007	< 0.00009
04-Sep-25	5						16.2				< 0.007	
11-Sep-25	6						12.8				< 0.007	
18-Sep-25	7						12.4				< 0.007	
25-Sep-25	8	0.00724	< 0.000007	< 0.00001	0.064	0.000033	11.6	< 0.00008	0.000014	0.006	< 0.007	< 0.00009
02-Oct-25	9						10.2				< 0.007	
09-Oct-25	10						12.0				< 0.007	
16-Oct-25	11						13.1				< 0.007	
23-Oct-25	12	0.00816	< 0.000007	< 0.00001	0.037	0.000045	13.0	< 0.00008	0.000020	0.007	< 0.007	< 0.00009
30-Oct-25	13						13.6				< 0.007	
06-Nov-25	14						10.3				< 0.007	
13-Nov-25	15						13.3				< 0.007	
20-Nov-25	16	0.00747	< 0.000007	< 0.00001	0.027	0.000045	12.9	0.00010	0.000005	0.010	< 0.007	0.00030
27-Nov-25	17						12.0				< 0.007	
04-Dec-25	18						12.2				< 0.007	
11-Dec-25	19						9.00				0.029	
18-Dec-25	20	0.00628	< 0.000007	< 0.00001	0.019	0.000152	11.3	0.00055	0.00158	0.036	0.194	< 0.00009
25-Dec-25	21						11.5				< 0.007	
01-Jan-26	22						11.8				< 0.007	
08-Jan-26	23						9.50				< 0.007	
15-Jan-26	24	0.00493	< 0.000007	< 0.00001	0.013	0.000101	9.50	< 0.00008	0.000130	0.006	0.041	< 0.00009

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.0865	26.8	0.513	0.0017	0.0005	0.005	28.2	0.00006	0.81	0.00011	372
07-Aug-25	1	0.0673	17.4	0.353	< 0.01	0.0017	0.0006	20.0	< 0.00004	1.16	< 0.00005	197
14-Aug-25	2	0.0358	6.05	0.152	0.0009	0.0009	0.068	7.54	< 0.00004	1.78	< 0.00005	59.5
21-Aug-25	3		2.18									
28-Aug-25	4	0.0168	1.18	0.0205	0.0013	0.0001	< 0.003	3.33	< 0.00004	1.54	< 0.00005	12.4
04-Sep-25	5		0.658									
11-Sep-25	6		0.503									
18-Sep-25	7		0.523									
25-Sep-25	8	0.0078	0.466	0.0145	0.0006	< 0.0001	< 0.003	1.62	< 0.00004	1.21	< 0.00005	2.34
02-Oct-25	9		0.419									
09-Oct-25	10		0.520									
16-Oct-25	11		0.574									
23-Oct-25	12	0.0066	0.567	0.0158	0.0005	0.0001	< 0.003	1.34	0.00007	1.13	< 0.00005	1.25
30-Oct-25	13		0.583									
06-Nov-25	14		0.441									
13-Nov-25	15		0.533									
20-Nov-25	16	0.0049	0.536	0.0173	< 0.0004	< 0.0001	< 0.003	1.11	< 0.00004	1.09	< 0.00005	0.76
27-Nov-25	17		0.482									
04-Dec-25	18		0.470									
11-Dec-25	19		0.354									
18-Dec-25	20	0.0043	0.486	0.0175	0.0006	0.0028	0.168	0.981	< 0.00004	0.89	< 0.00005	1.12
25-Dec-25	21		0.436									
01-Jan-26	22		0.475									
08-Jan-26	23		0.466									
15-Jan-26	24	0.0032	0.348	0.0137	< 0.0004	< 0.0001	< 0.003	0.660	< 0.00004	0.68	< 0.00005	0.41

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
31-Jul-25	0	16.2	< 5	0.000025	< 0.00006	< 0.0001	0.000006	0.00038	< 0.002	< 0.002	CA15523-AUG25
07-Aug-25	1	11.0	< 5	0.000013	< 0.00006	< 0.0001	0.000006	0.00086	< 0.002	< 0.002	CA15551-AUG25
14-Aug-25	2	3.01	< 5	< 0.000005	< 0.00006	0.0299	0.000019	0.00427	0.002	< 0.002	CA14141-AUG25
21-Aug-25	3										CA15309-AUG25
28-Aug-25	4	0.431	< 5	< 0.000005	< 0.00006	< 0.0001	0.000003	0.00346	< 0.002	< 0.002	CA15960-AUG25
04-Sep-25	5										CA15402-SEP25
11-Sep-25	6										CA14396-SEP25
18-Sep-25	7										CA14331-SEP25
25-Sep-25	8	0.165	< 5	< 0.000005	< 0.00006	0.0001	0.000006	0.00341	< 0.002	< 0.002	CA14367-SEP25
02-Oct-25	9										CA15039-OCT25
09-Oct-25	10										CA15130-OCT25
16-Oct-25	11										CA15596-OCT25
23-Oct-25	12	0.171	< 5	< 0.000005	< 0.00006	< 0.0001	0.000008	0.00254	< 0.002	< 0.002	CA15251-OCT25
30-Oct-25	13										CA85197-OCT25
06-Nov-25	14										CA15091-NOV25
13-Nov-25	15										CA15453-NOV25
20-Nov-25	16	0.153	< 5	< 0.000005	< 0.00006	< 0.0001	0.000018	0.00222	< 0.002	< 0.002	CA15245-NOV25
27-Nov-25	17										CA15520-NOV25
04-Dec-25	18										CA15467-DEC25
11-Dec-25	19										CA15107-DEC25
18-Dec-25	20	0.129	< 5	< 0.000005	< 0.00006	0.00048	< 0.000002	0.00241	0.005	< 0.002	CA15536-DEC25
25-Dec-25	21										CA15336-DEC25
01-Jan-26	22										CA15025-JAN26
08-Jan-26	23										CA15469-JAN26
15-Jan-26	24	0.101	< 5	< 0.000005	< 0.00006	< 0.0001	0.000007	0.00168	0.017	< 0.002	CA15112-JAN26

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
31-Jul-25	0	0.57	TMWATR081525JS1	65.56	67.48	1.93	1.4%
07-Aug-25	1	~0.15	TMWATR081525JS2	42.77	39.36	-3.42	-4.2%
14-Aug-25	2	~0.07	TMWATR082725JS2	11.73	11.95	0.22	0.9%
21-Aug-25	3						
28-Aug-25	4	~0.05	TMWATR091025JS2.	1.95	2.18	0.23	5.6%
04-Sep-25	5						
11-Sep-25	6						
18-Sep-25	7						
25-Sep-25	8	~0.11	TMWATR100225JS4	0.81	0.79	-0.02	-1.4%
02-Oct-25	9						
09-Oct-25	10						
16-Oct-25	11						
23-Oct-25	12	~0.05	TMWATR110425JS3	0.73	0.80	0.07	4.6%
30-Oct-25	13						
06-Nov-25	14						
13-Nov-25	15						
20-Nov-25	16	<0.04	TMWATR121025CH3	0.73	0.77	0.04	2.4%
27-Nov-25	17						
04-Dec-25	18						
11-Dec-25	19						
18-Dec-25	20	<0.04	TMWATR011326CH2	0.65	0.70	0.06	4.2%
25-Dec-25	21						
01-Jan-26	22						
08-Jan-26	23						
15-Jan-26	24	~0.08	TMWATR022026CH3	0.56	0.55	-0.01	-0.6%

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 4

Sample ID: WP572 818.645-820.048

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
22-Jan-26	25	**500**	465	7.88	378	61	#N/A	1.0	24.6	5	
29-Jan-26	26	**500**	425	7.91	370	55	#N/A	0.9	21.5	5	
05-Feb-26	27	**500**	490	7.83	387	60	#N/A	1.1	23.8	5	
12-Feb-26	28	**500**	440	7.86	376	59	#N/A	1.1	23.5	5	< 30
19-Feb-26	29	**500**	400	7.88	390	57	#N/A	1.0	21.9	6	
26-Feb-26	30	**500**	460	7.89	386	56	#N/A	0.9	22.1	5	
05-Mar-26	31	**500**	445	7.83	387	56	#N/A	1.2	22.2	6	
12-Mar-26	32	**500**	465	7.90	367	54	#N/A	1.0	21.6	5	< 30
19-Mar-26	33	**500**	450	7.78	359	58	#N/A	1.2	22.5	5	
26-Mar-26	34	**500**	450	8.13	321	55	#N/A	0.5	21.5	6	
02-Apr-26	35	**500**	440	7.81	381	63	#N/A	1.4	24.1	5	
09-Apr-26	36	**500**	505	7.95	370	62	#N/A	0.9	25.0	5	49
16-Apr-26	37	**500**	440	7.88	364	54	#N/A	0.8	21.4	5	
23-Apr-26	38	**500**	430	7.98	342	56	#N/A	1.1	22.1	5	
30-Apr-26	39	**500**	470	7.92	366	55	#N/A	1.0	21.8		

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	< 0.03	< 0.03	< 0.06	< 1	0.11	< 0.3	25.9	0.026	< 0.0009	< 0.0002
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	22.8	0.024	< 0.0005	< 0.0002
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	28.8	0.019	< 0.0005	< 0.0002
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25						10.7				< 0.007	
29-Jan-26	26						9.11				< 0.007	
05-Feb-26	27						9.74				< 0.007	
12-Feb-26	28	0.00566	< 0.000007	< 0.00001	0.013	0.000051	9.80	0.00009	0.000005	0.006	< 0.007	< 0.00009
19-Feb-26	29						9.62				< 0.007	
26-Feb-26	30						9.23				< 0.007	
05-Mar-26	31						9.75				< 0.007	
12-Mar-26	32	0.00461	< 0.000007	< 0.00001	0.008	0.000059	8.60	< 0.00008	0.000031	0.005	< 0.007	< 0.00009
19-Mar-26	33						10.1				< 0.007	
26-Mar-26	34						9.44				< 0.007	
02-Apr-26	35						11.1				< 0.007	
09-Apr-26	36	0.00572	< 0.000007	< 0.00001	0.011	0.000060	10.8	< 0.00008	0.000010	0.008	< 0.007	0.00018
16-Apr-26	37						9.19				< 0.007	
23-Apr-26	38						10.0				0.009	
30-Apr-26	39											

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25		0.371									
29-Jan-26	26		0.363									
05-Feb-26	27		0.402									
12-Feb-26	28	0.0037	0.336	0.0151	< 0.0004	< 0.0001	< 0.003	0.640	< 0.00004	0.70	< 0.00005	0.36
19-Feb-26	29		0.353									
26-Feb-26	30		0.366									
05-Mar-26	31		0.367									
12-Mar-26	32	0.0028	0.321	0.0123	< 0.0004	0.0001	< 0.003	0.542	< 0.00004	0.62	< 0.00005	0.30
19-Mar-26	33		0.391									
26-Mar-26	34		0.348									
02-Apr-26	35		0.426									
09-Apr-26	36	0.0033	0.407	0.0141	< 0.0004	0.0003	< 0.003	0.523	< 0.00004	0.71	< 0.00005	0.38
16-Apr-26	37		0.324									
23-Apr-26	38		0.362									
30-Apr-26	39											

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
22-Jan-26	25										CA15594-JAN26
29-Jan-26	26										CA15656-JAN26
05-Feb-26	27										CA15022-FEB26
12-Feb-26	28	0.100	< 5	< 0.000005	< 0.00006	< 0.0001	0.000002	0.00152	< 0.002	< 0.002	CA15115-FEB26
19-Feb-26	29										CA15195-FEB26
26-Feb-26	30										CA15299-FEB26
05-Mar-26	31										CA15421-MAR26
12-Mar-26	32	0.0940	< 5	< 0.000005	< 0.00006	< 0.0001	0.000007	0.00150	< 0.002	< 0.002	CA15530-MAR26
19-Mar-26	33										CA15602-MAR26
26-Mar-26	34										CA15086-MAR26
02-Apr-26	35										CA15089-APR26
09-Apr-26	36	0.111	< 5	< 0.000005	< 0.00006	< 0.0001	0.000011	0.00150	0.003	< 0.002	CA15148-APR26
16-Apr-26	37										CA15269-APR26
23-Apr-26	38										CA15847-APR26
30-Apr-26	39										

Humidity Cell Test Report

HC 4

Sample ID: WP572 818

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
22-Jan-26	25						
29-Jan-26	26						
05-Feb-26	27						
12-Feb-26	28	0.21	TMWATR031026CH3-004	0.58	0.56	-0.02	-1.9%
19-Feb-26	29						
26-Feb-26	30						
05-Mar-26	31						
12-Mar-26	32	~0.07	TMWATR040126CH8-004	0.54	0.49	-0.04	-4.3%
19-Mar-26	33						
26-Mar-26	34						
02-Apr-26	35						
09-Apr-26	36	<0.04	TMWATR042026CH2-004	0.60	0.61	0.01	0.6%
16-Apr-26	37						
23-Apr-26	38						
30-Apr-26	39						

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 5

Sample ID: WP573 907.88-909.227

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
31-Jul-25	0	**575**	**410**	6.90	346	2585	#N/A	8.8	8.0	12	1930
07-Aug-25	1	**500**	**495**	5.78	231	2070	#N/A	12.6	2.2	14	1590
14-Aug-25	2	**500**	**495**	7.22	410	729	#N/A	1.9	12.2	17	486
21-Aug-25	3	**500**	**450**	7.80	350	352	#N/A	1.1	22.3	22	
28-Aug-25	4	**500**	**500**	7.92	346	204	#N/A	0.8	24.2	25	137
04-Sep-25	5	**500**	**500**	7.87	358	157	#N/A	1.1	24.2	25	
11-Sep-25	6	**500**	**480**	7.88	347	164	#N/A	1.0	23.4	34	
18-Sep-25	7	**500**	500	7.99	365	168	#N/A	0.9	21.2	44	
25-Sep-25	8	**500**	475	7.73	380	165	#N/A	2.9	23.2	47	83
02-Oct-25	9	**500**	465	7.70	378	145	#N/A	1.6	16.8	39	
09-Oct-25	10	**500**	475	7.83	380	135	#N/A	1.1	17.6	35	
16-Oct-25	11	**500**	475	7.64	372	123	#N/A	1.2	17.1	31	
23-Oct-25	12	**500**	470	7.69	380	116	#N/A	1.2	16.9	26	117
30-Oct-25	13	**500**	505	7.72	385	106	#N/A	1.3	17.3	22	
06-Nov-25	14	**500**	500	7.73	368	94	#N/A	1.4	15.8	19	
13-Nov-25	15	**500**	500	7.70	332	99	#N/A	2.9	17.7	20	
20-Nov-25	16	**500**	500	7.63	392	97	#N/A	1.7	17.2	18	66
27-Nov-25	17	**500**	495	7.58	384	91	#N/A	1.3	16.2	19	
04-Dec-25	18	**500**	500	7.53	404	91	#N/A	1.5	14.6	17	
11-Dec-25	19	**500**	470	7.62	394	86	#N/A	1.3	15.5	19	
18-Dec-25	20	**500**	**470**	7.63	372	85	#N/A	1.4	14.5	20	103
25-Dec-25	21	**500**	470	7.51	376	84	#N/A	1.5	15.3	17	
01-Jan-26	22	**500**	455	7.60	391	89	#N/A	1.4	18.2	15	
08-Jan-26	23	**500**	460	7.59	412	76	#N/A	1.2	14.2	15	
15-Jan-26	24	**500**	450	7.63	400	77	#N/A	1.0	14.3	15	37

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
31-Jul-25	0	< 0.03	17.1	< 0.3	690	0.21	7.3	631	0.076	< 0.0009	0.0004
07-Aug-25	1	< 0.03	21.1	< 0.3	550	0.26	5.9	429	0.299	< 0.0009	0.0002
14-Aug-25	2	< 0.03	6.04	< 0.03	200	0.25	2.1	133	0.009	< 0.0009	< 0.0002
21-Aug-25	3										
28-Aug-25	4	< 0.03	1.56	< 0.03	26	0.28	< 0.3	32.5	0.051	0.0010	0.0005
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	< 0.03	0.19	< 0.03	3	0.22	< 0.3	41.2	0.016	< 0.0009	< 0.0002
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	< 0.03	0.34	< 0.03	1	0.15	< 0.3	37.0	0.014	< 0.0009	< 0.0002
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	< 0.03	0.06	< 0.03	< 1	0.11	< 0.3	34.2	0.005	< 0.0009	< 0.0002
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	31.4	0.007	< 0.0009	< 0.0002
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	28.5	0.006	< 0.0009	< 0.0002

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.304	0.000184	< 0.00001	0.135	0.0911	243	< 0.00008	0.00241	1.21	0.557	0.00240
07-Aug-25	1	0.185	0.000355	< 0.00001	0.158	0.0841	163	0.00018	0.00426	3.20	1.79	0.00365
14-Aug-25	2	0.0514	0.000057	< 0.00001	0.134	0.0407	50.5	0.00024	0.00168	0.405	< 0.007	0.00010
21-Aug-25	3						19.8				< 0.007	
28-Aug-25	4	0.00799	< 0.000007	< 0.00001	0.120	0.00537	12.4	< 0.00008	0.000109	0.014	< 0.007	< 0.00009
04-Sep-25	5						10.3				< 0.007	
11-Sep-25	6						11.9				< 0.007	
18-Sep-25	7						15.8				< 0.007	
25-Sep-25	8	0.00914	< 0.000007	< 0.00001	0.079	0.00876	15.7	< 0.00008	0.000042	0.017	< 0.007	0.00012
02-Oct-25	9						14.3				< 0.007	
09-Oct-25	10						14.8				< 0.007	
16-Oct-25	11						14.1				< 0.007	
23-Oct-25	12	0.00756	< 0.000007	< 0.00001	0.054	0.00939	14.0	0.00029	0.000113	0.021	< 0.007	< 0.00009
30-Oct-25	13						13.6				< 0.007	
06-Nov-25	14						9.92				< 0.007	
13-Nov-25	15						14.0				< 0.007	
20-Nov-25	16	0.00688	< 0.000007	< 0.00001	0.041	0.0135	13.0	< 0.00008	0.000063	0.026	< 0.007	0.00016
27-Nov-25	17						11.8				< 0.007	
04-Dec-25	18						12.5				< 0.007	
11-Dec-25	19						9.50				0.024	
18-Dec-25	20	0.00648	< 0.000007	< 0.00001	0.031	0.0135	11.9	< 0.00008	0.000070	0.020	< 0.007	< 0.00009
25-Dec-25	21						11.7				< 0.007	
01-Jan-26	22						13.4				< 0.007	
08-Jan-26	23						10.3				< 0.007	
15-Jan-26	24	0.00538	< 0.000007	< 0.00001	0.025	0.0105	10.8	< 0.00008	0.000035	0.019	< 0.007	< 0.00009

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.105	5.93	0.619	0.0309	0.0028	< 0.003	18.3	0.00026	1.48	< 0.00005	223
07-Aug-25	1	0.0993	5.41	0.600	< 0.01	0.0037	0.0049	13.9	0.00029	3.20	< 0.00005	179
14-Aug-25	2	0.0509	1.69	0.191	0.0589	0.0014	< 0.003	5.92	0.00028	1.91	< 0.00005	71.8
21-Aug-25	3		0.651									
28-Aug-25	4	0.0272	0.381	0.0280	0.0838	0.0001	0.005	3.26	0.00031	1.45	< 0.00005	24.3
04-Sep-25	5		0.298									
11-Sep-25	6		0.357									
18-Sep-25	7		0.514									
25-Sep-25	8	0.0315	0.497	0.0425	0.0528	< 0.0001	< 0.003	3.39	0.00016	1.12	< 0.00005	11.1
02-Oct-25	9		0.451									
09-Oct-25	10		0.501									
16-Oct-25	11		0.473									
23-Oct-25	12	0.0237	0.468	0.0318	0.0405	0.0004	< 0.003	2.86	0.00019	0.85	< 0.00005	4.70
30-Oct-25	13		0.454									
06-Nov-25	14		0.339									
13-Nov-25	15		0.459									
20-Nov-25	16	0.0192	0.460	0.0387	0.0330	< 0.0001	< 0.003	2.36	0.00012	0.80	< 0.00005	2.28
27-Nov-25	17		0.406									
04-Dec-25	18		0.420									
11-Dec-25	19		0.329									
18-Dec-25	20	0.0168	0.408	0.0314	0.0309	< 0.0001	< 0.003	2.28	0.00013	0.61	< 0.00005	1.41
25-Dec-25	21		0.419									
01-Jan-26	22		0.465									
08-Jan-26	23		0.378									
15-Jan-26	24	0.0140	0.359	0.0244	0.0273	< 0.0001	< 0.003	2.03	0.00013	0.54	< 0.00005	0.92

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
31-Jul-25	0	3.86	5	0.000063	< 0.00006	< 0.0001	0.000039	0.00005	0.021	< 0.002	CA15523-AUG25
07-Aug-25	1	2.80	7	0.000069	< 0.00006	< 0.0001	0.000073	0.00004	0.023	< 0.002	CA15551-AUG25
14-Aug-25	2	0.800	6	0.000021	< 0.00006	0.0001	0.000030	0.00005	0.008	< 0.002	CA14141-AUG25
21-Aug-25	3										CA15309-AUG25
28-Aug-25	4	0.162	9	0.000007	< 0.00006	0.0001	0.000002	0.00072	< 0.002	< 0.002	CA15960-AUG25
04-Sep-25	5										CA15402-SEP25
11-Sep-25	6										CA14396-SEP25
18-Sep-25	7										CA14331-SEP25
25-Sep-25	8	0.239	16	0.000017	< 0.00006	0.0001	0.000005	0.00031	0.005	< 0.002	CA14367-SEP25
02-Oct-25	9										CA15039-OCT25
09-Oct-25	10										CA15130-OCT25
16-Oct-25	11										CA15596-OCT25
23-Oct-25	12	0.190	10	0.000007	< 0.00006	< 0.0001	0.000024	0.00016	< 0.002	< 0.002	CA15251-OCT25
30-Oct-25	13										CA85197-OCT25
06-Nov-25	14										CA15091-NOV25
13-Nov-25	15										CA15453-NOV25
20-Nov-25	16	0.168	9	0.000011	< 0.00006	< 0.0001	0.000003	0.00013	< 0.002	< 0.002	CA15245-NOV25
27-Nov-25	17										CA15520-NOV25
04-Dec-25	18										CA15467-DEC25
11-Dec-25	19										CA15107-DEC25
18-Dec-25	20	0.156	7	0.000012	0.00008	< 0.0001	0.000004	0.00013	< 0.002	< 0.002	CA15536-DEC25
25-Dec-25	21										CA15336-DEC25
01-Jan-26	22										CA15025-JAN26
08-Jan-26	23										CA15469-JAN26
15-Jan-26	24	0.139	6	0.000009	< 0.00006	< 0.0001	0.000007	0.00009	< 0.002	< 0.002	CA15112-JAN26

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
31-Jul-25	0	0.85	TMWATR081525JS1	21.16	23.02	1.86	4.2%
07-Aug-25	1	1.07	TMWATR081525JS2	17.42	17.07	-0.35	-1.0%
14-Aug-25	2	~0.09	TMWATR082725JS2	6.70	6.02	-0.68	-5.4%
21-Aug-25	3						
28-Aug-25	4	~0.05	TMWATR091025JS2.	1.86	1.84	-0.02	-0.6%
04-Sep-25	5						
11-Sep-25	6						
18-Sep-25	7						
25-Sep-25	8	~0.10	TMWATR100225JS4	1.55	1.43	-0.12	-4.0%
02-Oct-25	9						
09-Oct-25	10						
16-Oct-25	11						
23-Oct-25	12	<0.04	TMWATR110425JS3	0.94	1.04	0.10	5.2%
30-Oct-25	13						
06-Nov-25	14						
13-Nov-25	15						
20-Nov-25	16	<0.04	TMWATR121025CH3	0.73	0.87	0.14	8.8%
27-Nov-25	17						
04-Dec-25	18						
11-Dec-25	19						
18-Dec-25	20	<0.04	TMWATR011326CH2	0.71	0.77	0.06	3.7%
25-Dec-25	21						
01-Jan-26	22						
08-Jan-26	23						
15-Jan-26	24	~0.12	TMWATR022026CH3	0.60	0.68	0.07	5.7%

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 5

Sample ID: WP573 907.88-909.227

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
22-Jan-26	25	**500**	470	7.54	394	78	#N/A	1.4	15.6	17	
29-Jan-26	26	**500**	430	7.58	386	76	#N/A	1.3	14.1	16	
05-Feb-26	27	**500**	490	7.52	400	74	#N/A	1.5	14.6	16	
12-Feb-26	28	**500**	460	7.53	391	79	#N/A	1.6	14.7	17	51
19-Feb-26	29	**500**	430	7.53	404	77	#N/A	1.4	13.0	17	
26-Feb-26	30	**500**	455	7.56	401	70	#N/A	1.3	12.9	14	
05-Mar-26	31	**500**	450	7.50	400	64	#N/A	1.5	12.7	13	
12-Mar-26	32	**500**	490	7.53	383	70	#N/A	1.5	13.3	18	< 30
19-Mar-26	33	**500**	450	7.38	361	78	#N/A	1.7	15.0	17	
26-Mar-26	34	**500**	455	7.60	355	76	#N/A	1.1	12.4	20	
02-Apr-26	35	**500**	455	7.56	390	76	#N/A	1.5	14.5	15	
09-Apr-26	36	**500**	440	7.57	390	72	#N/A	1.2	13.1	16	57
16-Apr-26	37	**500**	450	7.56	384	71	#N/A	1.1	13.1	14	
23-Apr-26	38	**500**	450	7.56	355	67	#N/A	1.5	11.9	15	
30-Apr-26	39	**500**	450	7.56	379	77	#N/A	1.4	13.0		

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	< 0.03	< 0.03	< 0.06	< 1	0.08	< 0.3	30.4	0.005	< 0.0009	< 0.0002
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	< 0.03	< 0.06	< 0.03	< 1	0.11	< 0.3	25.7	0.005	< 0.0005	< 0.0002
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	28.1	0.007	< 0.0005	< 0.0002
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25						11.5				< 0.007	
29-Jan-26	26						11.1				< 0.007	
05-Feb-26	27						10.5				< 0.007	
12-Feb-26	28	0.00601	< 0.000007	< 0.00001	0.024	0.0113	11.5	< 0.00008	0.000064	0.020	< 0.007	< 0.00009
19-Feb-26	29						11.5				< 0.007	
26-Feb-26	30						9.46				< 0.007	
05-Mar-26	31						9.63				< 0.007	
12-Mar-26	32	0.00463	0.000010	< 0.00001	0.016	0.009310	9.71	< 0.00008	0.000069	0.016	< 0.007	< 0.00009
19-Mar-26	33						12.1				< 0.007	
26-Mar-26	34						11.2				< 0.007	
02-Apr-26	35						11.6				< 0.007	
09-Apr-26	36	0.00476	< 0.000007	< 0.00001	0.018	0.00944	10.6	< 0.00008	0.000037	0.016	< 0.007	0.00013
16-Apr-26	37						10.6				< 0.007	
23-Apr-26	38						10.1				0.008	
30-Apr-26	39											

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25		0.358									
29-Jan-26	26		0.384									
05-Feb-26	27		0.396									
12-Feb-26	28	0.0163	0.376	0.0288	0.0264	< 0.0001	< 0.003	1.96	0.00014	0.66	< 0.00005	0.72
19-Feb-26	29		0.387									
26-Feb-26	30		0.347									
05-Mar-26	31		0.323									
12-Mar-26	32	0.0116	0.342	0.0251	0.0214	0.0003	< 0.003	1.58	0.00012	0.51	< 0.00005	0.52
19-Mar-26	33		0.425									
26-Mar-26	34		0.39									
02-Apr-26	35		0.406									
09-Apr-26	36	0.0135	0.383	0.0208	0.0240	0.0002	< 0.003	1.72	0.00013	0.54	< 0.00005	0.57
16-Apr-26	37		0.372									
23-Apr-26	38		0.356									
30-Apr-26	39											

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
22-Jan-26	25										CA15594-JAN26
29-Jan-26	26										CA15656-JAN26
05-Feb-26	27										CA15022-FEB26
12-Feb-26	28	0.151	7	0.000010	< 0.00006	< 0.0001	0.000003	0.00011	< 0.002	< 0.002	CA15115-FEB26
19-Feb-26	29										CA15195-FEB26
26-Feb-26	30										CA15299-FEB26
05-Mar-26	31										CA15421-MAR26
12-Mar-26	32	0.127	< 5	0.000014	< 0.00006	< 0.0001	0.000036	0.00009	< 0.002	< 0.002	CA15530-MAR26
19-Mar-26	33										CA15602-MAR26
26-Mar-26	34										CA15086-MAR26
02-Apr-26	35										CA15089-APR26
09-Apr-26	36	0.126	7	0.000010	< 0.00006	< 0.0001	0.000005	0.00009	0.005	< 0.002	CA15148-APR26
16-Apr-26	37										CA15269-APR26
23-Apr-26	38										CA15847-APR26
30-Apr-26	39										

Humidity Cell Test Report

HC 5

Sample ID: WP573 907

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
22-Jan-26	25						
29-Jan-26	26						
05-Feb-26	27						
12-Feb-26	28	0.42	TMWATR031026CH3-005	0.65	0.70	0.05	3.7%
19-Feb-26	29						
26-Feb-26	30						
05-Mar-26	31						
12-Mar-26	32	~0.05	TMWATR040126CH8-005	0.65	0.59	-0.06	-4.7%
19-Mar-26	33						
26-Mar-26	34						
02-Apr-26	35						
09-Apr-26	36	<0.04	TMWATR042026CH2-005	0.59	0.64	0.05	3.9%
16-Apr-26	37						
23-Apr-26	38						
30-Apr-26	39						

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 6

Sample ID: WP573 905.775-907.88

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
31-Jul-25	0	**575**	**410**	7.57	348	3089	#N/A	6.9	16.8	47	2290
07-Aug-25	1	**500**	**495**	7.19	179	2370	#N/A	1.9	13.1	27	1810
14-Aug-25	2	**500**	**495**	8.05	323	556	#N/A	0.6	27.8	15	334
21-Aug-25	3	**500**	**475**	8.43	311	187	#N/A	#N/A	36.2	9	
28-Aug-25	4	**500**	**490**	8.29	326	113	#N/A	0.2	37.8	8	54
04-Sep-25	5	**500**	**500**	8.19	342	90	#N/A	0.7	36.4	6	
11-Sep-25	6	**500**	**475**	8.12	335	74	#N/A	0.6	31.8	6	
18-Sep-25	7	**500**	500	8.22	348	74	#N/A	0.6	30.8	6	
25-Sep-25	8	**500**	485	7.94	368	65	#N/A	2.5	30.0	5	31
02-Oct-25	9	**500**	475	7.96	362	57	#N/A	1.1	25.6	4	
09-Oct-25	10	**500**	475	8.18	363	56	#N/A	0.6	26.0	4	
16-Oct-25	11	**500**	485	7.89	357	55	#N/A	1.0	25.6	4	
23-Oct-25	12	**500**	480	7.90	364	52	#N/A	0.9	23.9	4	40
30-Oct-25	13	**500**	490	7.88	376	52	#N/A	0.9	24.2	4	
06-Nov-25	14	**500**	500	7.88	361	47	#N/A	1.2	22.1	4	
13-Nov-25	15	**500**	500	7.84	332	48	#N/A	2.5	23.5	4	
20-Nov-25	16	**500**	495	7.77	385	47	#N/A	1.5	22.3	3	< 30
27-Nov-25	17	**500**	490	7.74	381	48	#N/A	1.2	22.3	4	
04-Dec-25	18	**500**	495	7.73	396	47	#N/A	1.1	20.8	3	
11-Dec-25	19	**500**	485	7.76	389	45	#N/A	1.0	21.5	4	
18-Dec-25	20	**500**	**475**	7.78	369	42	#N/A	1.2	17.9	4	43
25-Dec-25	21	**500**	475	7.61	364	40	#N/A	1.3	17.4	3	
01-Jan-26	22	**500**	495	7.71	386	46	#N/A	1.1	22.6	3	
08-Jan-26	23	**500**	460	7.73	408	35	#N/A	1.1	15.1	3	
15-Jan-26	24	**500**	470	7.75	396	36	#N/A	0.8	15.5	4	< 30

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
31-Jul-25	0	< 0.03	0.09	< 0.3	890	0.27	9.8	750	0.044	< 0.0009	0.0004
07-Aug-25	1	< 0.03	< 0.06	< 0.3	660	0.33	7.3	508	0.061	0.0011	0.0007
14-Aug-25	2	< 0.03	< 0.06	< 0.03	150	0.41	1.5	80.0	0.163	0.0013	0.0011
21-Aug-25	3										
28-Aug-25	4	< 0.03	< 0.06	< 0.03	7	0.45	< 0.3	11.7	0.213	0.0020	0.0020
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	< 0.03	< 0.06	< 0.03	< 1	0.33	< 0.3	9.8	0.156	0.0013	0.0018
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	< 0.03	< 0.06	< 0.03	< 1	0.19	< 0.3	11.2	0.112	0.0010	0.0012
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	< 0.03	< 0.06	< 0.03	< 1	0.14	< 0.3	13.2	0.070	< 0.0009	0.0006
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	< 0.03	< 0.06	< 0.03	< 1	0.11	< 0.3	12.6	0.078	< 0.0009	0.0006
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	< 0.03	< 0.06	< 0.03	< 1	0.14	< 0.3	11.0	0.066	< 0.0009	0.0005

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.321	< 0.000007	< 0.00001	0.143	0.000180	292	< 0.00008	0.000080	0.001	< 0.007	0.00029
07-Aug-25	1	0.156	< 0.000007	< 0.00001	0.175	0.000176	197	0.00015	0.000125	0.001	< 0.007	0.00009
14-Aug-25	2	0.0245	< 0.000007	< 0.00001	0.156	0.000025	30.8	< 0.00008	0.000015	< 0.001	< 0.007	< 0.00009
21-Aug-25	3						6.11				0.011	
28-Aug-25	4	0.00293	< 0.000007	< 0.00001	0.145	0.000007	4.48	< 0.00008	0.000047	0.003	< 0.007	< 0.00009
04-Sep-25	5						4.16				0.008	
11-Sep-25	6						3.51				0.029	
18-Sep-25	7						4.32				0.012	
25-Sep-25	8	0.00281	< 0.000007	< 0.00001	0.081	0.000079	3.71	0.00012	0.000023	0.001	0.035	0.00013
02-Oct-25	9						3.41				0.018	
09-Oct-25	10						3.99				0.026	
16-Oct-25	11						4.19				0.011	
23-Oct-25	12	0.00256	< 0.000007	< 0.00001	0.059	0.000014	4.26	< 0.00008	0.000014	< 0.001	0.019	< 0.00009
30-Oct-25	13						4.91				0.008	
06-Nov-25	14						3.78				< 0.007	
13-Nov-25	15						4.99				0.007	
20-Nov-25	16	0.00344	< 0.000007	< 0.00001	0.048	0.000033	4.99	0.00017	0.000012	< 0.001	0.008	0.00031
27-Nov-25	17						5.0				0.007	
04-Dec-25	18						5.10				< 0.007	
11-Dec-25	19						4.17				0.033	
18-Dec-25	20	0.00292	< 0.000007	< 0.00001	0.037	0.000011	4.79	0.00008	0.000020	< 0.001	0.011	< 0.00009
25-Dec-25	21						4.73				0.017	
01-Jan-26	22						5.75				< 0.007	
08-Jan-26	23						3.93				0.018	
15-Jan-26	24	0.00214	< 0.000007	< 0.00001	0.029	0.000009	4.19	< 0.00008	0.000012	< 0.001	0.009	< 0.00009

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.0620	5.12	0.135	0.0072	0.0002	0.012	22.6	0.00058	0.89	< 0.00005	269
07-Aug-25	1	0.0488	3.80	0.120	< 0.01	0.0114	0.0004	16.0	0.00083	1.14	< 0.00005	209
14-Aug-25	2	0.0210	0.726	0.0160	0.0099	< 0.0001	0.003	5.65	0.00077	1.16	< 0.00005	65.0
21-Aug-25	3		0.167									
28-Aug-25	4	0.0092	0.128	0.00235	0.0066	< 0.0001	0.003	2.28	0.00094	1.28	< 0.00005	18.8
04-Sep-25	5		0.141									
11-Sep-25	6		0.113									
18-Sep-25	7		0.147									
25-Sep-25	8	0.0065	0.133	0.00307	0.0022	0.0001	< 0.003	1.75	0.00042	1.05	< 0.00005	8.90
02-Oct-25	9		0.117									
09-Oct-25	10		0.147									
16-Oct-25	11		0.148									
23-Oct-25	12	0.0062	0.148	0.00297	0.0025	< 0.0001	< 0.003	1.65	0.00049	0.92	< 0.00005	5.94
30-Oct-25	13		0.165									
06-Nov-25	14		0.130									
13-Nov-25	15		0.169									
20-Nov-25	16	0.0057	0.175	0.00383	0.0022	0.0001	< 0.003	1.56	0.00041	0.77	< 0.00005	3.87
27-Nov-25	17		0.167									
04-Dec-25	18		0.166									
11-Dec-25	19		0.143									
18-Dec-25	20	0.0056	0.159	0.00367	0.0019	< 0.0001	< 0.003	1.47	0.00038	0.78	< 0.00005	2.81
25-Dec-25	21		0.167									
01-Jan-26	22		0.189									
08-Jan-26	23		0.148									
15-Jan-26	24	0.0047	0.133	0.00293	0.0016	< 0.0001	< 0.003	1.28	0.00037	0.64	< 0.00005	2.09

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
31-Jul-25	0	4.73	16	0.000032	< 0.00006	< 0.0001	0.000069	0.00024	< 0.002	< 0.002	CA15523-AUG25
07-Aug-25	1	3.49	12	0.000022	< 0.00006	< 0.0001	0.000221	0.00060	< 0.002	< 0.002	CA15551-AUG25
14-Aug-25	2	0.513	6	0.000006	< 0.00006	< 0.0001	0.000121	0.00255	< 0.002	< 0.002	CA14141-AUG25
21-Aug-25	3										CA15309-AUG25
28-Aug-25	4	0.0579	< 5	< 0.000005	< 0.00006	0.0002	0.000081	0.00382	< 0.002	< 0.002	CA15960-AUG25
04-Sep-25	5										CA15402-SEP25
11-Sep-25	6										CA14396-SEP25
18-Sep-25	7										CA14331-SEP25
25-Sep-25	8	0.0510	< 5	< 0.000005	< 0.00006	0.0010	0.000110	0.00254	< 0.002	< 0.002	CA14367-SEP25
02-Oct-25	9										CA15039-OCT25
09-Oct-25	10										CA15130-OCT25
16-Oct-25	11										CA15596-OCT25
23-Oct-25	12	0.0545	< 5	< 0.000005	< 0.00006	0.0006	0.000145	0.00202	< 0.002	< 0.002	CA15251-OCT25
30-Oct-25	13										CA85197-OCT25
06-Nov-25	14										CA15091-NOV25
13-Nov-25	15										CA15453-NOV25
20-Nov-25	16	0.0611	< 5	< 0.000005	< 0.00006	0.0004	0.000149	0.00156	0.002	< 0.002	CA15245-NOV25
27-Nov-25	17										CA15520-NOV25
04-Dec-25	18										CA15467-DEC25
11-Dec-25	19										CA15107-DEC25
18-Dec-25	20	0.0612	< 5	< 0.000005	< 0.00006	0.00039	0.000133	0.00158	< 0.002	< 0.002	CA15536-DEC25
25-Dec-25	21										CA15336-DEC25
01-Jan-26	22										CA15025-JAN26
08-Jan-26	23										CA15469-JAN26
15-Jan-26	24	0.0494	< 5	< 0.000005	< 0.00006	0.0003	0.000120	0.00136	< 0.002	< 0.002	CA15112-JAN26

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
31-Jul-25	0	~0.17	TMWATR081525JS1	26.52	27.44	0.92	1.7%
07-Aug-25	1	~0.15	TMWATR081525JS2	19.52	19.79	0.27	0.7%
14-Aug-25	2	~0.15	TMWATR082725JS2	5.13	4.65	-0.49	-5.0%
21-Aug-25	3						
28-Aug-25	4	0.53	TMWATR091025JS2.	1.14	1.18	0.04	1.5%
04-Sep-25	5						
11-Sep-25	6						
18-Sep-25	7						
25-Sep-25	8	0.44	TMWATR100225JS4	0.72	0.67	-0.05	-3.5%
02-Oct-25	9						
09-Oct-25	10						
16-Oct-25	11						
23-Oct-25	12	~0.12	TMWATR110425JS3	0.57	0.56	-0.01	-1.1%
30-Oct-25	13						
06-Nov-25	14						
13-Nov-25	15						
20-Nov-25	16	~0.08	TMWATR121025CH3	0.52	0.50	-0.02	-1.9%
27-Nov-25	17						
04-Dec-25	18						
11-Dec-25	19						
18-Dec-25	20	~0.08	TMWATR011326CH2	0.44	0.43	0.00	-0.5%
25-Dec-25	21						
01-Jan-26	22						
08-Jan-26	23						
15-Jan-26	24	~0.11	TMWATR022026CH3	0.39	0.36	-0.03	-3.9%

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

HC 6

Sample ID: WP573 905.775-907.88

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
22-Jan-26	25	**500**	470	7.63	391	39	#N/A	1.3	17.0	4	
29-Jan-26	26	**500**	430	7.71	381	35	#N/A	1.0	15.3	3	
05-Feb-26	27	**500**	485	7.63	398	39	#N/A	1.4	16.5	3	
12-Feb-26	28	**500**	455	7.66	387	36	#N/A	1.4	15.3	3	34
19-Feb-26	29	**500**	420	7.63	402	33	#N/A	1.2	13.7	4	
26-Feb-26	30	**500**	450	7.67	398	34	#N/A	1.3	14.6	3	
05-Mar-26	31	**500**	450	7.63	399	36	#N/A	1.4	15.2	4	
12-Mar-26	32	**500**	485	7.66	383	35	#N/A	1.2	14.9	4	< 30
19-Mar-26	33	**500**	495	7.60	338	41	#N/A	1.4	16.7	3	
26-Mar-26	34	**500**	450	7.75	347	34	#N/A	0.8	14.3	4	
02-Apr-26	35	**500**	460	7.65	384	38	#N/A	1.4	15.6	3	
09-Apr-26	36	**500**	425	7.69	382	33	#N/A	1.0	14.2	4	37
16-Apr-26	37	**500**	450	7.66	375	35	#N/A	1.0	14.7	4	
23-Apr-26	38	**500**	450	7.71	353	31	#N/A	1.2	13.2	3	
30-Apr-26	39	**500**	450	7.71	377	34	#N/A	1.2	14.5		

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	< 0.03	< 0.03	< 0.06	< 1	0.38	< 0.3	11.3	0.076	< 0.0009	0.0005
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	< 0.03	< 0.06	< 0.03	< 1	0.06	< 0.3	11.5	0.066	< 0.0005	0.0004
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	11.8	0.070	< 0.0005	0.0005
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25						4.83				0.018	
29-Jan-26	26						4.22				0.018	
05-Feb-26	27						4.83				0.012	
12-Feb-26	28	0.00257	< 0.000007	< 0.00001	0.028	0.000010	4.30	< 0.00008	0.000011	< 0.001	0.017	< 0.00009
19-Feb-26	29						3.96				0.019	
26-Feb-26	30						4.11				0.015	
05-Mar-26	31						4.77				0.025	
12-Mar-26	32	0.00234	< 0.000007	< 0.00001	0.022	0.000098	4.37	< 0.00008	0.000015	< 0.001	0.019	< 0.00009
19-Mar-26	33						5.77				0.012	
26-Mar-26	34						4.5				0.019	
02-Apr-26	35						5.05				0.017	
09-Apr-26	36	0.00223	< 0.000007	< 0.00001	0.023	0.000012	4.47	0.00012	0.000014	< 0.001	0.015	0.00044
16-Apr-26	37						4.88				0.039	
23-Apr-26	38						4.37				0.022	
30-Apr-26	39											

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25		0.155									
29-Jan-26	26		0.149									
05-Feb-26	27		0.172									
12-Feb-26	28	0.0056	0.140	0.00321	0.0021	< 0.0001	< 0.003	1.29	0.00029	0.74	< 0.00005	1.62
19-Feb-26	29		0.137									
26-Feb-26	30		0.148									
05-Mar-26	31		0.166									
12-Mar-26	32	0.0050	0.149	0.00343	0.0013	0.0001	< 0.003	1.33	0.00026	0.63	< 0.00005	1.47
19-Mar-26	33		0.187									
26-Mar-26	34		0.155									
02-Apr-26	35		0.174									
09-Apr-26	36	0.0052	0.157	0.00281	0.0011	0.0003	< 0.003	1.32	0.00030	0.68	< 0.00005	1.32
16-Apr-26	37		0.181									
23-Apr-26	38		0.156									
30-Apr-26	39											

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	SGS File #
22-Jan-26	25										CA15594-JAN26
29-Jan-26	26										CA15656-JAN26
05-Feb-26	27										CA15022-FEB26
12-Feb-26	28	0.0517	< 5	< 0.000005	< 0.00006	0.0005	0.000130	0.00128	< 0.002	< 0.002	CA15115-FEB26
19-Feb-26	29										CA15195-FEB26
26-Feb-26	30										CA15299-FEB26
05-Mar-26	31										CA15421-MAR26
12-Mar-26	32	0.0556	< 5	< 0.000005	< 0.00006	0.00037	0.000114	0.00124	< 0.002	< 0.002	CA15530-MAR26
19-Mar-26	33										CA15602-MAR26
26-Mar-26	34										CA15086-MAR26
02-Apr-26	35										CA15089-APR26
09-Apr-26	36	0.0485	< 5	< 0.000005	< 0.00006	0.0003	0.000130	0.00126	0.004	< 0.002	CA15148-APR26
16-Apr-26	37										CA15269-APR26
23-Apr-26	38										CA15847-APR26
30-Apr-26	39										

Humidity Cell Test Report

HC 6

Sample ID: WP573 905

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
22-Jan-26	25						
29-Jan-26	26						
05-Feb-26	27						
12-Feb-26	28	0.20	TMWATR031026CH3-006	0.39	0.35	-0.04	-5.3%
19-Feb-26	29						
26-Feb-26	30						
05-Mar-26	31						
12-Mar-26	32	~0.09	TMWATR040126CH8-006	0.38	0.34	-0.04	-5.3%
19-Mar-26	33						
26-Mar-26	34						
02-Apr-26	35						
09-Apr-26	36	~0.06	TMWATR042026CH2-006	0.37	0.34	-0.02	-3.1%
16-Apr-26	37						
23-Apr-26	38						
30-Apr-26	39						

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

T 1

Sample ID: US Tail Comp 1 & Comp 2

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
31-Jul-25	0	**850**	**525**	7.71	403	155	#N/A	4.3	31.6	31	163
07-Aug-25	1	**500**	**570**	8.02	331	195	#N/A	0.9	37.7	40	131
14-Aug-25	2	**500**	**480**	8.08	339	182	#N/A	0.7	34.8	43	123
21-Aug-25	3	**500**	**525**	8.13	330	155	#N/A	0.7	35.0	31	
28-Aug-25	4	**500**	**480**	8.04	336	134	#N/A	0.7	32.8	26	94
04-Sep-25	5	**500**	**470**	8.06	351	124	#N/A	0.8	32.4	23	
11-Sep-25	6	**500**	**445**	8.02	344	105	#N/A	0.6	30.0	15	
18-Sep-25	7	**500**	435	8.35	323	108	#N/A	#N/A	30.6	16	
25-Sep-25	8	**500**	500	7.57	407	113	#N/A	2.9	32.6	18	60
02-Oct-25	9	**500**	450	7.93	387	108	#N/A	1.3	28.1	**20**	
09-Oct-25	10	**500**	480	8.22	374	146	#N/A	0.5	34.5	28	
16-Oct-25	11	**500**	465	8.04	343	137	#N/A	0.9	34.1	25	
23-Oct-25	12	**500**	450	8.06	350	115	#N/A	0.7	31.1	20	97
30-Oct-25	13	**500**	455	8.00	393	108	#N/A	0.9	27.8	17	
06-Nov-25	14	**500**	445	8.15	371	111	#N/A	0.9	31.0	18	
13-Nov-25	15	**500**	445	7.73	358	116	#N/A	2.8	32.0	21	
20-Nov-25	16	**500**	450	7.97	398	136	#N/A	1.3	33.0	26	120
27-Nov-25	17	**500**	435	7.87	398	126	#N/A	1.2	29.7	26	
04-Dec-25	18	**500**	450	7.97	393	124	#N/A	1.0	29.9	24	
11-Dec-25	19	**500**	495	8.03	391	192	#N/A	0.9	34.0	46	
18-Dec-25	20	**500**	**470**	7.98	398	148	#N/A	1.0	30.4	35	151
25-Dec-25	21	**500**	450	7.87	391	137	#N/A	1.5	33.5	27	
01-Jan-26	22	**500**	425	7.96	389	129	#N/A	1.0	37.5	20	
08-Jan-26	23	**500**	405	7.96	412	110	#N/A	1.1	32.2	16	
15-Jan-26	24	**500**	415	7.97	396	114	#N/A	0.9	32.8	17	60

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
31-Jul-25	0	< 0.03	0.41	< 0.03	3	0.13	< 0.3	51.6	0.085	< 0.0009	0.0011
07-Aug-25	1	< 0.03	0.65	< 0.03	2	0.19	< 0.3	68.8	0.081	0.0013	0.0019
14-Aug-25	2	< 0.03	0.38	< 0.03	2	0.17	< 0.3	61.0	0.105	0.0012	0.0016
21-Aug-25	3										
28-Aug-25	4	< 0.03	0.13	< 0.03	< 1	0.11	< 0.3	50.7	0.135	< 0.0009	0.0021
04-Sep-25	5										
11-Sep-25	6										
18-Sep-25	7										
25-Sep-25	8	< 0.03	0.11	< 0.03	< 1	0.09	< 0.3	41.2	0.104	< 0.0009	0.0015
02-Oct-25	9										
09-Oct-25	10										
16-Oct-25	11										
23-Oct-25	12	< 0.03	< 0.06	< 0.03	< 1	0.07	< 0.3	43.2	0.113	< 0.0009	0.0015
30-Oct-25	13										
06-Nov-25	14										
13-Nov-25	15										
20-Nov-25	16	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	53.5	0.069	< 0.0009	0.0014
27-Nov-25	17										
04-Dec-25	18										
11-Dec-25	19										
18-Dec-25	20	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	61.5	0.056	< 0.0009	0.0016
25-Dec-25	21										
01-Jan-26	22										
08-Jan-26	23										
15-Jan-26	24	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	46.8	0.083	< 0.0009	0.0016

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.00478	< 0.000007	< 0.00001	0.046	0.000050	19.1	0.00021	0.000036	0.010	0.011	0.00011
07-Aug-25	1	0.00648	< 0.000007	< 0.00001	0.065	0.000138	25.3	0.00023	0.000024	0.011	0.015	< 0.00009
14-Aug-25	2	0.00459	< 0.000007	< 0.00001	0.073	0.000015	22.1	0.00018	0.000015	0.005	0.020	< 0.00009
21-Aug-25	3						18.8				0.008	
28-Aug-25	4	0.00350	< 0.000007	< 0.00001	0.060	0.000010	18.4	0.00018	0.000053	0.005	0.030	< 0.00009
04-Sep-25	5						16.4				0.009	
11-Sep-25	6						13.9				0.028	
18-Sep-25	7						14.4				0.016	
25-Sep-25	8	0.00274	< 0.000007	< 0.00001	0.037	0.000015	15.0	0.00013	0.000016	0.003	0.017	< 0.00009
02-Oct-25	9						13.3				0.020	
09-Oct-25	10						19.3				0.022	
16-Oct-25	11						18.6				0.013	
23-Oct-25	12	0.00337	< 0.000007	< 0.00001	0.036	0.000028	15.5	0.00018	0.000036	0.007	0.042	< 0.00009
30-Oct-25	13						15.3				0.03	
06-Nov-25	14						13.1				0.02	
13-Nov-25	15						17.4				0.025	
20-Nov-25	16	0.00354	< 0.000007	< 0.00001	0.032	0.000031	19.2	0.00034	0.000010	0.006	0.016	0.00032
27-Nov-25	17						17.6				0.012	
04-Dec-25	18						18.0				0.010	
11-Dec-25	19						22.6				0.030	
18-Dec-25	20	0.00403	< 0.000007	< 0.00001	0.030	0.000042	22.2	0.00017	0.000017	0.006	0.011	< 0.00009
25-Dec-25	21						20.7				0.022	
01-Jan-26	22						20.4				0.010	
08-Jan-26	23						15.7				0.043	
15-Jan-26	24	0.00301	< 0.000007	< 0.00001	0.017	0.000035	17.00	0.00019	0.000049	0.007	0.033	< 0.00009

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
31-Jul-25	0	0.0166	0.962	0.00657	0.0070	0.0002	0.027	4.87	0.00055	1.15	< 0.00005	7.37
07-Aug-25	1	0.0188	1.36	0.0111	< 0.01	0.0129	0.0002	5.17	0.00079	2.35	< 0.00005	9.56
14-Aug-25	2	0.0204	1.42	0.00671	0.0142	0.0001	< 0.003	4.29	0.00073	2.27	< 0.00005	8.16
21-Aug-25	3		1.17									
28-Aug-25	4	0.0152	1.17	0.00707	0.0100	0.0001	0.003	3.52	0.00048	2.32	< 0.00005	5.00
04-Sep-25	5		1.02									
11-Sep-25	6		0.833									
18-Sep-25	7		0.930									
25-Sep-25	8	0.0108	0.919	0.00920	0.0076	0.0002	< 0.003	2.14	0.00026	1.88	< 0.00005	3.03
02-Oct-25	9		0.816									
09-Oct-25	10		1.37									
16-Oct-25	11		1.26									
23-Oct-25	12	0.0119	1.06	0.0115	0.0093	0.0003	< 0.003	2.16	0.00025	1.79	< 0.00005	3.05
30-Oct-25	13		1.00									
06-Nov-25	14		0.851									
13-Nov-25	15		1.12									
20-Nov-25	16	0.0124	1.36	0.0145	0.0084	0.0002	< 0.003	2.09	0.00015	1.90	< 0.00005	2.52
27-Nov-25	17		1.18									
04-Dec-25	18		1.14									
11-Dec-25	19		1.65									
18-Dec-25	20	0.0137	1.48	0.0160	0.0097	0.0004	< 0.003	2.32	0.00016	1.85	< 0.00005	2.41
25-Dec-25	21		1.44									
01-Jan-26	22		1.42									
08-Jan-26	23		1.08									
15-Jan-26	24	0.0088	1.050	0.01140	0.0052	0.001	< 0.003	1.55	0.00013	1.77	< 0.00005	1.54

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
31-Jul-25	0	0.161	12	0.000007	< 0.00006	0.0002	0.000050	0.00233	< 0.002	< 0.002	CA15523-AUG25
07-Aug-25	1	0.249	16	0.000014	< 0.00006	0.0009	0.000274	0.00305	< 0.002	< 0.002	CA15551-AUG25
14-Aug-25	2	0.203	14	0.000009	< 0.00006	0.0011	0.000278	0.00380	< 0.002	< 0.002	CA14141-AUG25
21-Aug-25	3										CA15309-AUG25
28-Aug-25	4	0.145	9	0.000008	< 0.00006	0.0017	0.000250	0.00418	0.004	< 0.002	CA15960-AUG25
04-Sep-25	5										CA15402-SEP25
11-Sep-25	6										CA14396-SEP25
18-Sep-25	7										CA14331-SEP25
25-Sep-25	8	0.113	6	0.000009	< 0.00006	0.0010	0.000249	0.00357	< 0.002	< 0.002	CA14367-SEP25
02-Oct-25	9										CA15039-OCT25
09-Oct-25	10										CA15130-OCT25
16-Oct-25	11										CA15596-OCT25
23-Oct-25	12	0.119	7	< 0.000005	< 0.00006	0.0022	0.000228	0.00336	< 0.002	< 0.002	CA15251-OCT25
30-Oct-25	13										CA85197-OCT25
06-Nov-25	14										CA15091-NOV25
13-Nov-25	15										CA15453-NOV25
20-Nov-25	16	0.147	11	0.000008	< 0.00006	0.0008	0.000079	0.00242	< 0.002	< 0.002	CA15245-NOV25
27-Nov-25	17										CA15520-NOV25
04-Dec-25	18										CA15467-DEC25
11-Dec-25	19										CA15107-DEC25
18-Dec-25	20	0.175	12	0.000009	< 0.00006	0.00075	0.000102	0.00244	< 0.002	< 0.002	CA15536-DEC25
25-Dec-25	21										CA15336-DEC25
01-Jan-26	22										CA15025-JAN26
08-Jan-26	23										CA15469-JAN26
15-Jan-26	24	0.1250	6	0.000012	< 0.00006	0.0017	0.000168	0.00226	0.002	< 0.002	CA15112-JAN26

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
31-Jul-25	0	0.36	TMWATR081525JS1	1.41	1.51	0.10	3.5%
07-Aug-25	1	~0.18	TMWATR081525JS2	1.70	1.96	0.26	7.1%
14-Aug-25	2	~0.14	TMWATR082725JS2	1.68	1.73	0.04	1.2%
21-Aug-25	3						
28-Aug-25	4	~0.08	TMWATR091025JS2.	1.21	1.36	0.15	5.8%
04-Sep-25	5						
11-Sep-25	6						
18-Sep-25	7						
25-Sep-25	8	~0.15	TMWATR100225JS4	1.04	1.04	0.00	0.0%
02-Oct-25	9						
09-Oct-25	10						
16-Oct-25	11						
23-Oct-25	12	~0.09	TMWATR110425JS3	1.04	1.08	0.04	1.7%
30-Oct-25	13						
06-Nov-25	14						
13-Nov-25	15						
20-Nov-25	16	~0.08	TMWATR121025CH3	1.20	1.26	0.05	2.2%
27-Nov-25	17						
04-Dec-25	18						
11-Dec-25	19						
18-Dec-25	20	~0.09	TMWATR011326CH2	1.34	1.42	0.07	2.7%
25-Dec-25	21						
01-Jan-26	22						
08-Jan-26	23						
15-Jan-26	24	~0.12	TMWATR022026CH3	1.02	1.06	0.05	2.2%

SGS project #: 2458

Humidity Cell Test Report

Version: Draft

T 1

Sample ID: US Tail Comp 1 & Comp 2

Leachate Analysis

Date	Cycle No.	Volume ml		pH	ORP	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Total Alkalinity	Sulphate	TDS
		Input $N.P.H_2O$	Output		mV	µmhos/cm	$mgCaCO_3/L$	$mgCaCO_3/L$	$mgCaCO_3/L$	mg/L	
22-Jan-26	25	**500**	445	7.97	379	155	#N/A	1.2	37.7	35	
29-Jan-26	26	**500**	385	8.02	373	133	#N/A	1.0	34.9	25	
05-Feb-26	27	**500**	460	7.90	391	134	#N/A	1.4	33.8	28	
12-Feb-26	28	**500**	450	7.95	380	139	#N/A	1.4	35.2	28	129
19-Feb-26	29	**500**	375	8.00	389	157	#N/A	1.2	38.1	35	
26-Feb-26	30	**500**	455	8.00	387	160	#N/A	1.3	37.0	38	
05-Mar-26	31	**500**	395	7.98	385	161	#N/A	1.4	39.9	36	
12-Mar-26	32	**500**	480	7.99	377	146	#N/A	1.2	37.1	37	151
19-Mar-26	33	**500**	500	8.00	323	147	#N/A	1.3	40.2	32	
26-Mar-26	34	**500**	450	8.18	341	136	#N/A	0.7	37.2	24	
02-Apr-26	35	**500**	465	7.98	379	131	#N/A	1.4	39.0	22	
09-Apr-26	36	**500**	440	8.05	367	125	#N/A	0.9	37.6	22	114
16-Apr-26	37	**500**	405	8.08	350	142	#N/A	0.9	41.3	25	
23-Apr-26	38	**500**	415	8.04	324	143	#N/A	1.4	39.0	27	
30-Apr-26	39	**500**	415	8.02	347	162	#N/A	1.4	42.1		

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Total Phosphorous mg/L	NO_3 As N mg/L	NO_2 As N mg/L	Chloride mg/L	Fluoride mg/L	Bromide mg/L	Hardness $CaCO_3$ mg/L	Al mg/L	Sb mg/L	As mg/L
22-Jan-26	25										
29-Jan-26	26										
05-Feb-26	27										
12-Feb-26	28	< 0.03	< 0.03	< 0.06	< 1	0.06	< 0.3	57.3	0.079	< 0.0009	0.0014
19-Feb-26	29										
26-Feb-26	30										
05-Mar-26	31										
12-Mar-26	32	< 0.03	< 0.06	< 0.03	< 1	0.08	< 0.3	57.9	0.054	0.0005	0.0014
19-Mar-26	33										
26-Mar-26	34										
02-Apr-26	35										
09-Apr-26	36	< 0.03	< 0.06	< 0.03	< 1	< 0.06	< 0.3	55.5	0.079	0.0005	0.0018
16-Apr-26	37										
23-Apr-26	38										
30-Apr-26	39										

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25						23.5				0.019	
29-Jan-26	26						20.4				0.014	
05-Feb-26	27						20.0				0.007	
12-Feb-26	28	0.00410	< 0.000007	< 0.00001	0.024	0.000039	20.8	0.00026	0.000020	0.008	0.030	0.00013
19-Feb-26	29						23.6				0.015	
26-Feb-26	30						22.7				0.013	
05-Mar-26	31						25.2				0.016	
12-Mar-26	32	0.00460	< 0.000007	< 0.00001	0.022	0.000067	20.9	0.00011	0.000017	0.008	0.018	< 0.00009
19-Mar-26	33						23.1				0.009	
26-Mar-26	34						20.2				0.033	
02-Apr-26	35						20.9				0.024	
09-Apr-26	36	0.00376	< 0.000007	< 0.00001	0.020	0.000056	20.1	0.00016	0.000027	0.009	0.036	0.00043
16-Apr-26	37						22.1				0.034	
23-Apr-26	38						22.9				0.015	
30-Apr-26	39											

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Li	Mg	Mn	Mo	Ni	P	K	Se	Si	Ag	Na
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jan-26	25		1.52									
29-Jan-26	26		1.28									
05-Feb-26	27		1.40									
12-Feb-26	28	0.0131	1.31	0.0164	0.0078	0.0002	< 0.003	1.97	0.00012	1.97	< 0.00005	1.59
19-Feb-26	29		1.48									
26-Feb-26	30		1.75									
05-Mar-26	31		1.71									
12-Mar-26	32	0.0129	1.41	0.0220	0.0088	0.0002	< 0.003	2.07	0.00012	2.04	< 0.00005	1.81
19-Mar-26	33		1.52									
26-Mar-26	34		1.41									
02-Apr-26	35		1.32									
09-Apr-26	36	0.0108	1.29	0.0204	0.0068	0.0004	< 0.003	1.83	0.00010	2.02	< 0.00005	1.64
16-Apr-26	37		1.44									
23-Apr-26	38		1.51									
30-Apr-26	39											

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	SGS File #
22-Jan-26	25										CA15594-JAN26
29-Jan-26	26										CA15656-JAN26
05-Feb-26	27										CA15022-FEB26
12-Feb-26	28	0.162	10	0.000009	< 0.00006	0.0016	0.000119	0.00237	0.006	< 0.002	CA15115-FEB26
19-Feb-26	29										CA15195-FEB26
26-Feb-26	30										CA15299-FEB26
05-Mar-26	31										CA15421-MAR26
12-Mar-26	32	0.172	9	0.000008	< 0.00006	0.00113	0.000135	0.00222	0.003	< 0.002	CA15530-MAR26
19-Mar-26	33										CA15602-MAR26
26-Mar-26	34										CA15086-MAR26
02-Apr-26	35										CA15089-APR26
09-Apr-26	36	0.140	8	0.000006	< 0.00006	0.0018	0.000179	0.00258	0.004	< 0.002	CA15148-APR26
16-Apr-26	37										CA15269-APR26
23-Apr-26	38										CA15847-APR26
30-Apr-26	39										

Humidity Cell Test Report

T 1

Sample ID: US Tail Cor

Leachate Analysis

Date	Cycle No.	Total Hg ng/L	Flett Research File #	Calculated Values: Major Anions	Major Cations	Diff meq/L	Diff (%)
22-Jan-26	25						
29-Jan-26	26						
05-Feb-26	27						
12-Feb-26	28	0.33	TMWATR031026CH3-007	1.29	1.29	0.00	0.0%
19-Feb-26	29						
26-Feb-26	30						
05-Mar-26	31						
12-Mar-26	32	~0.10	TMWATR040126CH8-007	1.52	1.31	-0.21	-7.3%
19-Mar-26	33						
26-Mar-26	34						
02-Apr-26	35						
09-Apr-26	36	~0.08	TMWATR042026CH2-007	1.21	1.25	0.04	1.6%
16-Apr-26	37						
23-Apr-26	38						
30-Apr-26	39						

Total Mercury Results

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 - Cycle 0
3260 Production Way
Burnaby, BC V5A 4W4

Date Received: August 8, 2025
Sampling Date(s): July 31, 2025
Date Issued: August 18, 2025

Matrix: Water
Transaction ID: 1139
PO/Contract No.: 382960
Date Analysed: August 15, 2025
Analyst(s): Jason S

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
	Blanks							
Bubbler Blanks		**Bubbler Blank Mean Peak Area**	778	246	1009	641	685	
		Bubbler Blank (pg)	0.32	0.10	0.41	0.26	0.28	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Bllank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks		WB1 August 11, 2025	MBlk-1	6449	40.72	0.05	**0.01**	
		WB2 August 11, 2025	MBlk-2	5733	42.83	0.05	**0.00**	
		MB3 July 28, 2025	MBlk-3	8261	48.26	0.05	**0.01**	
	Mean Calibration Factor (area units/ng)	**2435861 ± 1.4 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
	QC Samples	OPR (beginning of run)	OPR-1	334450	26.82	0.02	**5.09**	99.5
Ongoing Precision & Recovery (OPR)		OPR (end of run)	OPR-2	317702	25.80	0.02	**5.03**	98.2
		Mean OPR (5.12 ng/L)					**5.06**	**98.8**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	256612	0.10	0.00	**1050**	**105**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]	
123973		HC 1 Blank Cycle 0	July 31, 2025			6938	33.03	0.01	**~0.06**	
123974		HC 2 Cycle 0	July 31, 2025			53446	31.57	0.01	**0.68**	
123975		HC 3 Cycle 0	July 31, 2025			46005	38.21	0.01	**0.48**	
123976		HC 4 Cycle 0	July 31, 2025			49065	34.37	0.01	**0.57**	
123977		HC 5 Cycle 0	July 31, 2025		**DupA1**	71138	33.59	0.01	**0.85**	
123977		HC 5 Cycle 0	July 31, 2025		**DupA2**	83332	39.20	0.01	**0.86**	
123978		HC 6 Cycle 0	July 31, 2025			17023	36.37	0.01	**~0.17**	
123979		T 1 Cycle 0	July 31, 2025			30558	33.13	0.01	**0.36**	

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* : See 'Comments' section above for discussion.

~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

Dup : Duplicate - two subsamples of the same sample carried through the analytical procedure in an identical manner.

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CALA Testing Accreditation No. A3306

Total Mercury Results

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 - Cycle 1
3260 Production Way
Burnaby, BC V5A 4W4
Date Received: August 8, 2025
Sampling Date(s): August 7, 2025
Date Issued: August 18, 2025

Matrix: Water
Transaction ID: 1139
PO/Contract No.: 382960
Date Analysed: August 15, 2025
Analyst(s): Jason S

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
Blanks		**Bubbler Blank Mean Peak Area**	778	246	1009	641	685	
Bubbler Blanks		**Bubbler Blank (pg)**	0.32	0.10	0.41	0.26	0.28	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Bllank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks		WB1 August 11, 2025	MBlk-1	6449	40.72	0.05	**0.01**	
		WB2 August 11, 2025	MBlk-2	5733	42.83	0.05	**0.00**	
		MB3 July 28, 2025	MBlk-3	8261	48.26	0.05	**0.01**	
Mean Calibration Factor (area units/ng)		**2435861 ± 1.4 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
Spike Recovery Matrix Spike (MS) and Matrix Spike Duplicate (MSD)		HC 4 Cycle 1	MS1	86524	33.44	0.01	**1.05**	99.7
		HC 4 Cycle 1	MS1D	86565	30.73	0.01	**1.14**	101
		Mean of Recoveries						**100**
QC Samples		OPR (beginning of run)	OPR-1	334450	26.82	0.02	**5.09**	99.5
Ongoing Precision & Recovery (OPR)		OPR (end of run)	OPR-2	317702	25.80	0.02	**5.03**	98.2
		Mean OPR (5.12 ng/L)					**5.06**	**98.8**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	256612	0.10	0.00	**1050**	**105**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	Net Total Hg in the sample (ng/L) [Bubbler & Reagent Blk Subtracted]	
123980		HC 1 Blank Cycle 1	August 7, 2025			9024	34.32	0.01	**~0.09**	
123981		HC 2 Cycle 1	August 7, 2025			18234	30.27	0.01	**0.23**	
123982		HC 3 Cycle 1	August 7, 2025			31403	40.61	0.01	**0.30**	
123983		HC 4 Cycle 1	August 7, 2025			13308	31.17	0.01	**~0.15**	
123984		HC 5 Cycle 1	August 7, 2025			87060	32.83	0.01	**1.07**	
123985		HC 6 Cycle 1	August 7, 2025			15845	37.64	0.01	**~0.15**	
123986		T 1 Cycle 1	August 7, 2025			16450	32.94	0.01	**~0.18**	

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* : See 'Comments' section above for discussion.
~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

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Total Mercury Results

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440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
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E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 4
3260 Production Way
Burnaby, BC V5A 4W4

Matrix: Water
Transaction ID: 1139
PO/Contract No.: 382960
Date Received: August 29, 2025
Date Analysed: September 10, 2025
Sampling Date(s): August 28, 2025
Analyst(s): Jason S
Date Issued: September 16, 2025

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
Blanks Bubbler Blanks		**Bubbler Blank Mean Peak Area**	873	261	1156	784	679	
		Bubbler Blank (pg)	0.36	0.11	0.48	0.32	0.28	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Bllank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks		WB1 Sept. 3, 2025	MBlk-1	4124	35.77	0.05	**-0.01**	
		WB2 Sept. 3, 2025	MBlk-2	4596	38.15	0.05	**-0.01**	
		MB3 Sept. 5, 2025	MBlk-3	4656	37.16	0.05	**-0.01**	
Mean Calibration Factor (area units/ng)		**2418081 ± 1.6 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
Spike Recovery Matrix Spike (MS) and Matrix Spike Duplicate (MSD)		HC 2 Cycle 4	MS1	79712	30.75	0.01	**1.06**	98.8
		HC 2 Cycle 4	MS1D	80710	33.07	0.01	**0.99**	99.4
		Mean of Recoveries						**99.1**
QC Samples Ongoing Precision & Recovery (OPR)		OPR (beginning of run)	OPR-1	277717	22.39	0.02	**5.10**	99.6
		OPR (end of run)	OPR-2	374557	31.82	0.01	**4.84**	94.6
		Mean OPR (5.12 ng/L)					**4.97**	**97.1**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	250144	0.10	0.00	**1031**	**103**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	Net Total Hg in the sample (ng/L) [Bubbler & Reagent Blk Subtracted]
124688		HC 1 Blank Cycle 4	August 28, 2025			9024	39.75	0.01	**~0.07**
124689		HC 2 Cycle 4	August 28, 2025			8426	30.31	0.01	**~0.09**
124690		HC 3 Cycle 4	August 28, 2025			6845	31.25	0.01	**~0.07**
124691		HC 4 Cycle 4	August 28, 2025			6423	34.63	0.01	**~0.05**
124692		HC 5 Cycle 4	August 28, 2025			5823	35.70	0.01	**~0.05**
124693		HC 6 Cycle 4	August 28, 2025		**DupA1**	46684	34.91	0.01	**0.53**
124693		HC 6 Cycle 4	August 28, 2025		**DupA2**	59235	46.02	0.01	**0.52**
124694		T1 Cycle 4	August 28, 2025			9087	35.81	0.01	**~0.08**

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* : See 'Comments' section above for discussion.
~ : Result below the methods ML.

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Note: Results relate only to the samples tested and as received.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

Dup : Duplicate - two subsamples of the same sample carried through the analytical procedure in an identical manner.

Total Mercury Results

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440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 2
3260 Production Way
Burnaby, BC V5A 4W4

Matrix: Water
Transaction ID: 1139
PO/Contract No.: 382960
Date Received: August 15, 2025
Date Analysed: August 27, 2025
Sampling Date(s): August 14, 2025
Analyst(s): Jason S
Date Issued: August 28, 2025

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
Blanks	**Bubbler Blank Mean Peak Area**		1457	435	1725	1574	1074	
Bubbler Blanks	**Bubbler Blank (pg)**		0.60	0.18	0.71	0.65	0.44	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Bllank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks	WB1 August 25, 2025		MBlk-1	6394	46.77	0.05	**0.00**	
	WB2 August 25, 2025		MBlk-2	5166	39.86	0.05	**-0.01**	
	MB6 August 18, 2025		MBlk-3	5795	39.34	0.05	**0.00**	
Mean Calibration Factor (area units/ng)	**2424413 ± 1.9 %RSD**							
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
Spike Recovery Matrix Spike (MS) and Matrix Spike Duplicate (MSD)	HC 5 Cycle 2		MS1	81409	29.67	0.01	**1.11**	101
	HC 5 Cycle 2		MS1D	83071	31.82	0.01	**1.06**	103
	Mean of Recoveries							**102**
QC Samples	OPR (beginning of run)		OPR-1	359325	28.38	0.01	**5.19**	101
Ongoing Precision & Recovery (OPR)	OPR (end of run)		OPR-2	328267	28.10	0.01	**4.78**	93.5
	Mean OPR (5.12 ng/L)						**4.99**	**97.4**
Alternate Source Standard	QCS (1000 ng/L)		QCS-3	254111	0.10	0.00	**1042**	**104**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	Net Total Hg in the sample (ng/L) [Bubbler & Reagent Blk Subtracted]	
124119		HC 1 Blank Cycle 2	August 14, 2025			6503	31.68	0.01	**~0.06**	
124120		HC 2 Cycle 2	August 14, 2025			8382	31.62	0.01	**~0.08**	
124121		HC 3 Cycle 2	August 14, 2025			9212	33.98	0.01	**~0.08**	
124122		HC 4 Cycle 2	August 14, 2025			7391	32.30	0.01	**~0.07**	
124123		HC 5 Cycle 2	August 14, 2025			8494	30.19	0.01	**~0.09**	
124124		HC 6 Cycle 2	August 14, 2025			15268	35.43	0.01	**~0.15**	
124125		T 1 Cycle 2	August 14, 2025			13367	32.34	0.01	**~0.14**	

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* : See 'Comments' section above for discussion.
~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

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Template Version 052325

Total Mercury Results

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E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 8
3260 Production Way
Burnaby, BC V5A 4W4
Date Received: September 26, 2025
Sampling Date(s): September 25, 2025
Date Issued: October 6, 2025

Matrix: Water
Transaction ID: 1139
PO/Contract No.: 382960
Date Analysed: October 2, 2025
Analyst(s): Jason S

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
	Blanks							
Bubbler Blanks		**Bubbler Blank Mean Peak Area**	849	97	856	878	813	
		Bubbler Blank (pg)	0.35	0.04	0.36	0.37	0.34	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks		MB1 Sept.12, 2025	MBlk-1	6306	44.93	0.04	**0.01**	
		MB2 Sept.12, 2025	MBlk-2	5778	39.62	0.04	**0.01**	
		MB3 Sept.12, 2025	MBlk-3	5839	43.78	0.04	**0.00**	
	Mean Calibration Factor (area units/ng)	**2395770 ± 1.7 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
	QC Samples	OPR (beginning of run)	OPR-1	321719	25.90	0.01	**5.16**	101
Ongoing Precision & Recovery (OPR)		OPR (end of run)	OPR-2	346831	28.48	0.01	**5.06**	98.8
		Mean OPR (5.12 ng/L)					**5.11**	**99.8**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	241214	0.10	0.00	**1003**	**100**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]	
125558		HC 1 Blank Cycle 8	September 25, 2025			9524	44.92	0.00	**~0.08**	
125559		HC 2 Cycle 8	September 25, 2025		**DupA1**	30403	39.32	0.01	**0.31**	
125559		HC 2 Cycle 8	September 25, 2025		**DupA2**	32287	44.66	0.01	**0.29**	
125560		HC 3 Cycle 8	September 25, 2025			13296	37.09	0.01	**~0.14**	
125561		HC 4 Cycle 8	September 25, 2025			14032	47.98	0.00	**~0.11**	
125562		HC 5 Cycle 8	September 25, 2025			11377	40.86	0.01	**~0.10**	
125563		HC 6 Cycle 8	September 25, 2025			47154	44.16	0.01	**0.44**	
125564		T1 Cycle 8	September 25, 2025			16812	43.14	0.01	**~0.15**	

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* : See 'Comments' section above for discussion.

~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

Dup : Duplicate - two subsamples of the same sample carried through the analytical procedure in an identical manner.

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Note: Results relate only to the samples tested and as received.

CALA Testing Accreditation No. A3306

Total Mercury Results

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440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
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E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 12
3260 Production Way
Burnaby, BC V5A 4W4
Date Received: October 24, 2025
Sampling Date(s): October 23, 2025
Date Issued: November 5, 2025

Matrix: Water
Transaction ID: 1139
PO/Contract No.: PO382960
Date Analysed: November 4, 2025
Analyst(s): Jason S

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
Blanks		**Bubbler Blank Mean Peak Area**	651	115	729	571	655	
Bubbler Blanks		**Bubbler Blank (pg)**	0.27	0.05	0.30	0.23	0.27	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks		WB1 Oct.31, 2025	MBlk-1	2754	44.76	0.04	**-0.02**	
		WB2 Oct.31, 2025	MBlk-2	2392	40.79	0.04	**-0.02**	
		MB10 Oct.25, 2025	MBlk-3	3197	46.40	0.04	**-0.01**	
Mean Calibration Factor (area units/ng)		**2434803 ± 2 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
Spike Recovery Matrix Spike (MS) and Matrix Spike Duplicate (MSD)		T1 Cycle 12	MS1	80632	26.24	0.02	**1.24**	101
		T1 Cycle 12	MS1D	83940	30.82	0.02	**1.10**	104
		Mean of Recoveries						**102**
QC Samples		OPR (beginning of run)	OPR-1	271545	21.73	0.01	**5.11**	100
Ongoing Precision & Recovery (OPR)		OPR (end of run)	OPR-2	388192	32.29	0.01	**4.92**	96.2
		Mean OPR (5.12 ng/L)					**5.02**	**98.0**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	247554	0.10	0.00	**1014**	**101**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	Net Total Hg in the sample (ng/L) [Bubbler & Reagent Blk Subtracted]	
127040		HC 1 Blank Cycle 12	October 23, 2025			8568	42.91	0.02	**~0.06**	
127041		HC 2 Cycle 12	October 23, 2025			8224	32.37	0.02	**~0.08**	
127042		HC 3 Cycle 12	October 23, 2025			10470	32.79	0.02	**~0.10**	
127043		HC 4 Cycle 12	October 23, 2025			6519	35.76	0.02	**~0.05**	
127044		HC 5 Cycle 12	October 23, 2025			4821	36.37	0.02	**<0.04**	
127045		HC 6Cycle 12	October 23, 2025			12528	34.92	0.02	**~0.12**	
127046		T1 Cycle 12	October 23, 2025			8744	30.28	0.02	**~0.09**	

Q:\Clients M-Z\SGS Burnaby\2025(1139)\Total Mercury\TMWATR110425JS3.xls

* : See 'Comments' section above for discussion.
~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

This test report shall not be reproduced, except in full, without written approval of the laboratory.
Note: Results relate only to the samples tested and as received.

ilac-MRA CALA Testing Accreditation No. A3306

Total Mercury Results

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 20
3260 Production Way
Burnaby, BC V5A 4W4
Date Received: December 19, 2025
Sampling Date(s): December 18, 2025
Date Issued: January 14, 2026

Matrix: Water
Transaction ID: 1139
PO/Contract No.:
Date Analysed: January 13, 2026
Analyst(s): Chengzhi H

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
Blanks		**Bubbler Blank Mean Peak Area**	1869	355	1890	1806	1912	
Bubbler Blanks		**Bubbler Blank (pg)**	0.76	0.15	0.77	0.74	0.78	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks		MB10	MBlk-1	7118	33.39	0.08	**-0.02**	
		MB11	MBlk-2	6330	25.25	0.08	**-0.01**	
		MB12	MBlk-3	6038	25.94	0.08	**-0.02**	
Mean Calibration Factor (area units/ng)		**2445857 ± 5 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
Spike Recovery Matrix Spike (MS) and Matrix Spike Duplicate (MSD)		HC 3 Cycle 20	MS3	61419	30.14	0.03	**0.78**	98
		HC 3 Cycle 20	MS3D	62102	32.76	0.03	**0.73**	97
		Mean of Recoveries						**98**
QC Samples		OPR (beginning of run)	OPR-1	335083	28.03	0.04	**4.82**	94
Ongoing Precision & Recovery (OPR)		OPR (end of run)	OPR-2	274378	23.95	0.04	**4.61**	90
		Mean OPR (5.12 ng/L)					**4.72**	**92**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	245734	0.10	0.00	**997**	**100**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]
129007		HC 1 Blank Cycle 20	December 18, 2025			3837	29.75	0.03	**<0.04**
129008		HC 2 Cycle 20	December 18, 2025			8976	29.28	0.03	**~0.07**
129009		HC 3 Cycle 20	December 18, 2025			14903	32.82	0.03	**~0.13**
129010		HC 4 Cycle 20	December 18, 2025			5886	25.96	0.04	**<0.04**
129011		HC 5 Cycle 20	December 18, 2025			6357	24.80	0.04	**<0.04**
129012		HC 6 Cycle 20	December 18, 2025			9753	27.70	0.03	**~0.08**
129013		T 1 Cycle 20	December 18, 2025			10935	31.20	0.03	**~0.09**

Q:\Clients M-Z\SGS Burnaby\2025(1139)\Total Mercury\TMWATR011326CH2.xls

* : See 'Comments' section above for discussion.

~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

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Template Version 052325

Total Mercury Results

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 16
3260 Production Way
Burnaby, BC V5A 4W4

Date Received: November 21, 2025
Sampling Date(s): November 20, 2025
Date Issued: December 12, 2025

Matrix: Water
Transaction ID: 1139
PO/Contract No.: PO382960
Date Analysed: December 10, 2025
Analyst(s): Chengzhi H

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
	Blanks							
Bubbler Blanks	**Bubbler Blank Mean Peak Area**		1504	121	1601	1472	1440	
	Bubbler Blank (pg)		0.61	0.05	0.65	0.60	0.59	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks	MB4		MBlk-1	6460	33.75	0.05	**0.01**	
	MB5		MBlk-2	4781	38.80	0.05	**-0.01**	
	MB6		MBlk-3	3844	32.89	0.05	**-0.02**	
	Mean Calibration Factor (area units/ng)	**2456998 ± 2 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
	QC Samples	OPR (beginning of run)	OPR-1	377419	30.24	0.02	**5.04**	98
Ongoing Precision & Recovery (OPR)		OPR (end of run)	OPR-2	379923	30.74	0.02	**4.99**	98
		Mean OPR (5.12 ng/L)					**5.02**	**98**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	248652	0.10	0.00	**1006**	**101**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]	
128356		HC 1 Blank Cycle 16	November 20, 2025		**DupA1**	4167	30.63	0.03	**<0.04**	
128356		HC 1 Blank Cycle 16	November 20, 2025		**DupA2**	3531	29.39	0.03	**<0.04**	
128357		HC 2 Cycle 16	November 20, 2025			9893	28.24	0.04	**~0.08**	
128358		HC 3 Cycle 16	November 20, 2025			10862	28.00	0.03	**~0.10**	
128359		HC 4 Cycle 16	November 20, 2025			5995	31.60	0.03	**<0.04**	
128360		HC 5 Cycle 16	November 20, 2025			5448	30.24	0.04	**<0.04**	
128361		HC 6 Cycle 16	November 20, 2025			10593	31.09	0.04	**~0.08**	
128362		T 1 Cycle 16	November 20, 2025			10248	31.11	0.03	**~0.08**	

Q:\Clients M-Z\SGS Burnaby\2025(1139)\Total Mercury\TMWATR121025CH3.xls

* : See 'Comments' section above for discussion.

~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

This test report shall not be reproduced, except in full, without written approval of the laboratory.
Note: Results relate only to the samples tested and as received.

Dup : Duplicate - two subsamples of the same sample carried through the analytical procedure in an identical manner.

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Total Mercury Results

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
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E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 24
3260 Production Way
Burnaby, BC V5A 4W4

Date Received: January 16, 2026
Sampling Date(s): January 15, 2026
Date Issued: February 23, 2026

Matrix: Water
Transaction ID: 1139
PO/Contract No.:
Date Analysed: February 20, 2026
Analyst(s): Chengzhi H

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Comments: Samples were filtered prior to arrival at Flett.

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3	
	Blanks							
Bubbler Blanks		**Bubbler Blank Mean Peak Area**	1219	392	1579	1118	962	
		Bubbler Blank (pg)	0.53	0.17	0.69	0.49	0.42	
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]	
Method/Bottle Blanks		MB3	MBlk-1	4847	38.22	0.05	**-0.01**	
		MB8	MBlk-2	4615	28.55	0.05	**0.00**	
		MB9	MBlk-3	6106	35.14	0.05	**0.01**	
	Mean Calibration Factor (area units/ng)	**2289308 ± 3 %RSD**						
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
	QC Samples	OPR (beginning of run)	OPR-1	321075	26.85	0.03	**5.17**	101
Ongoing Precision & Recovery (OPR)		OPR (end of run)	OPR-2	475755	38.74	0.03	**5.32**	104
		Mean OPR (5.12 ng/L)					**5.24**	**102**
Alternate Source Standard		QCS (1000 ng/L)	QCS-3	236673	0.10	0.00	**1028**	**103**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]
129218		HC 1 Blank Cycle 24	January 15, 2026			24788	32.67	0.03	**0.29**
129219		HC 2 Cycle 24	January 15, 2026			21642	31.74	0.03	**0.25**
129220		HC 3 Cycle 24	January 15, 2026			16800	29.37	0.03	**0.20**
129221		HC 4 Cycle 24	January 15, 2026			8888	29.60	0.03	**~0.08**
129222		HC 5 Cycle 24	January 15, 2026			10034	25.87	0.03	**~0.12**
129223		HC 6 Cycle 24	January 15, 2026			11101	31.56	0.03	**~0.11**
129224		T 1 Cycle 24	January 15, 2026			13626	35.88	0.03	**~0.12**

Q:\Clients M-Z\SGS Burnaby\2026(1139)\Total Mercury\TMWATR022026CH3.xls

* : See 'Comments' section above for discussion.

~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

This test report shall not be reproduced, except in full, without written approval of the laboratory.
Note: Results relate only to the samples tested and as received.

ilac-MRA CALA Testing Accreditation No. A3306

Total Mercury Results

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 28
3260 Production Way
Burnaby, BC V5A 4W4
Date Received: February 13, 2026
Sampling Date(s): February 12, 2026
Date Issued: March 11, 2026

Matrix: Water
Transaction ID: 1139
PO/Contract No.:
Date Analysed: March 10, 2026
Analyst(s): Chengzhi H

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3
Blanks		**Bubbler Blank Mean Peak Area**	990	400	1065	1101	804
Bubbler Blanks		**Bubbler Blank (pg)**	0.43	0.18	0.47	0.48	0.35
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]
Method/Bottle Blanks		WB1 Feb27	MBlk-1	3935	28.67	0.05	**-0.01**
		WB2 Feb27	MBlk-2	3779	31.28	0.05	**-0.01**
		MB1	MBlk-3	3269	28.35	0.05	**-0.01**
	Mean Calibration Factor (area units/ng)	**2276993 ± 2.4 %RSD**					
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
QC Samples	OPR (beginning of run)		OPR-1	305030	26.74	0.02	**4.97**	97
Ongoing Precision & Recovery (OPR)	OPR (end of run)		OPR-2	237342	21.56	0.02	**4.79**	94
	Mean OPR (5.12 ng/L)						**4.88**	**95**
Alternate Source Standard	QCS (1000 ng/L)		QCS-3	231406	0.10	0.00	**1012**	**101**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]
129649		HC 1 Blank Cycle 28	February 12, 2026			15764	30.84	0.02	**~0.19**
129650		HC 2 Cycle 28	February 12, 2026			17939	29.18	0.02	**0.24**
129651		HC 3 Cycle 28	February 12, 2026			18338	26.06	0.02	**0.27**
129652		HC 4 Cycle 28	February 12, 2026			17821	32.08	0.02	**0.21**
129653		HC 5 Cycle 28	February 12, 2026			33034	32.45	0.02	**0.42**
129654		HC 6 Cycle 28	February 12, 2026			19406	36.56	0.02	**0.20**
129655		T1 Cycle 28	February 12, 2026			26257	32.02	0.02	**0.33**

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* : See 'Comments' section above for discussion.
~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

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Note: Results relate only to the samples tested and as received.

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Template Version 052325

Total Mercury Results

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440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
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CLIENT: SGS Burnaby: White Pine 2458 Cycle 32
3260 Production Way
Burnaby, BC V5A 4W4

Date Received: March 13, 2026
Sampling Date(s): March 12, 2026
Date Issued: April 2, 2026

Matrix: Water
Transaction ID: 1139
PO/Contract No.:
Date Analysed: April 1, 2026
Analyst(s): Chengzhi H

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3
Blanks	**Bubbler Blank Mean Peak Area**		850	393	1135	756	659
Bubbler Blanks	**Bubbler Blank (pg)**		0.39	0.18	0.52	0.34	0.30
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]
Method/Bottle Blanks	WB1 Mar 27		MBlk-1	4055	32.71	0.05	**-0.01**
	WB2 Mar 27		MBlk-2	4189	27.85	0.05	**0.00**
	MB1		MBlk-3	5244	33.52	0.05	**0.01**
Mean Calibration Factor (area units/ng)	**2194305 ± 2.8 %RSD**						

			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
QC Samples	OPR (beginning of run)		OPR-1	322470	28.09	0.02	**5.19**	101
Ongoing Precision & Recovery (OPR)	OPR (end of run)		OPR-2	370537	33.59	0.02	**4.99**	98
	Mean OPR (5.12 ng/L)						**5.09**	**99**
Alternate Source Standard	QCS (1000 ng/L)		QCS-3	226379	0.10	0.00	**1028**	**103**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]
130116		HC 1 Blank Cycle 32	March 12, 2026			3953	35.91	0.02	**<0.04**
130117		HC 2 Cycle 32	March 12, 2026			8510	32.68	0.03	**~0.08**
130118		HC 3 Cycle 32	March 12, 2026			10939	30.44	0.03	**~0.13**
130119		HC 4 Cycle 32	March 12, 2026			8978	41.46	0.02	**~0.07**
130120		HC 5 Cycle 32	March 12, 2026			6739	36.48	0.03	**~0.05**
130121		HC 6 Cycle 32	March 12, 2026			8786	32.03	0.03	**~0.09**
130122		T1 Cycle 32	March 12, 2026			9773	32.84	0.03	**~0.10**

Q:\Clients M-Z\SGS Burnaby\2026(1139)\Total Mercury\TMWATR040126CH8.xls

* : See 'Comments' section above for discussion.
~ : Result below the methods ML.
Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

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Note: Results relate only to the samples tested and as received.

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Total Mercury Results

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440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
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E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

CLIENT: SGS Burnaby: White Pine 2458 Cycle 36
3260 Production Way
Burnaby, BC V5A 4W4

Date Received: April 10, 2026
Sampling Date(s): April 9, 2026
Date Issued: April 22, 2026

Matrix: Water
Transaction ID: 1139
PO/Contract No.:
Date Analysed: April 20, 2026
Analyst(s): Chengzhi H

Analytical Method: Total Mercury in Water by Oxidation, Purge and Trap, and CVAFS (T00120 version 9)

Detection Limit: The method detection limit (MDL) for this method is 0.04 ngL.
The MDL is the minimum concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blanks and is based on the analysis of 30mL of sample.

For reporting purpose samples are flagged when the amount of mercury detected is below the EPA defined minimum level (ML= 0.2 ng/L).
As concentration rises above the MDL confidence that the analyte is present approaches 100% at and above the ML.

Estimated Uncertainty: Overall method uncertainty decreases as analyte concentration increases. When mercury concentrations exceed 1ng/L the estimated uncertainty of the method is ±12%.
At a concentration of 0.2ng/L the estimated uncertainty is ± 30%. When mercury concentrations are at MDL uncertainty can be ± 46% (0.04 ± 0.02ng/L).

All method uncertainties are expressed at a 95% confidence level of (k=2).

Results authorized by Dr. Robert J. Flett, Chief Scientist

QUALITY DATA

			Mean of 3 Bubblers	Standard Deviation	Bubbler 1	Bubbler 2	Bubbler 3
Blanks		**Bubbler Blank Mean Peak Area**	1669	629	1516	2418	1072
Bubbler Blanks		**Bubbler Blank (pg)**	0.76	0.29	0.69	1.10	0.49
			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L) [including ng Hg in DI]	**Net Total Hg in the Method Blank (ng/L)** [Bubbler & Reagent Blk Corrected including ng Hg in DI]
Method/Bottle Blanks		MB1	MBlk-1	5300	37.96	0.06	**-0.01**
		MB2	MBlk-2	7027	32.62	0.06	**0.02**
		MB3	MBlk-3	6599	32.55	0.06	**0.01**
	Mean Calibration Factor (area units/ng)	**2201472 ± 3.6 %RSD**					

			Sample Type	Gross Peak Area	Volume of Sample Analyzed (=volume of bubbled sample) (ml)	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg (ng/L)** [Bubbler & Reagent Blk Corrected]	**Total Hg Recovery (%)**
QC Samples	OPR (beginning of run)		OPR-1	345321	30.84	0.02	**5.04**	98
Ongoing Precision & Recovery (OPR)	OPR (end of run)		OPR-2	301581	27.93	0.02	**4.86**	95
	Mean OPR (5.12 ng/L)						**4.95**	**97**
Alternate Source Standard	QCS (1000 ng/L)		QCS-3	216986	0.10	0.00	**978**	**98**

LAB ID	Sample Details	Sample ID/Bottle Number	Date Sampled	Time Sampled	Sample Type	Gross Peak Area	**Volume of Sample Analyzed** (=volume of bubbled sample) **(ml)**	Total Reagent Hg added to the sample during analysis (ng/L)	**Net Total Hg in the sample (ng/L)** [Bubbler & Reagent Blk Subtracted]
130636		HC 1 Blank Cycle 36	April 9, 2026			9368	34.95	0.04	**~0.06**
130637		HC 2 Cycle 36	April 9, 2026			10541	34.53	0.05	**~0.06**
130638		HC 3 Cycle 36	April 9, 2026			8934	30.55	0.05	**~0.06**
130639		HC 4 Cycle 36	April 9, 2026			7903	34.16	0.05	**<0.04**
130640		HC 5 Cycle 36	April 9, 2026			8474	36.87	0.05	**<0.04**
130641		HC 6 Cycle 36	April 9, 2026			10209	31.29	0.06	**~0.06**
130642		T 1 Cycle 36	April 9, 2026			12764	38.91	0.05	**~0.08**

Q:\Clients M-Z\SGS Burnaby\2026(1139)\Total Mercury\TMWATR042026CH2.xls

* : See 'Comments' section above for discussion.
~ : Result below the methods ML.

Minimum Level (ML): the amount of mercury that can be reported with almost 100% confidence that the measured concentration exceeds zero.

This test report shall not be reproduced, except in full, without written approval of the laboratory.
Note: Results relate only to the samples tested and as received.

ISO/IEC 17025:2017 Accredited with the Canadian Association of Laboratory Accreditation

Template Version 052325

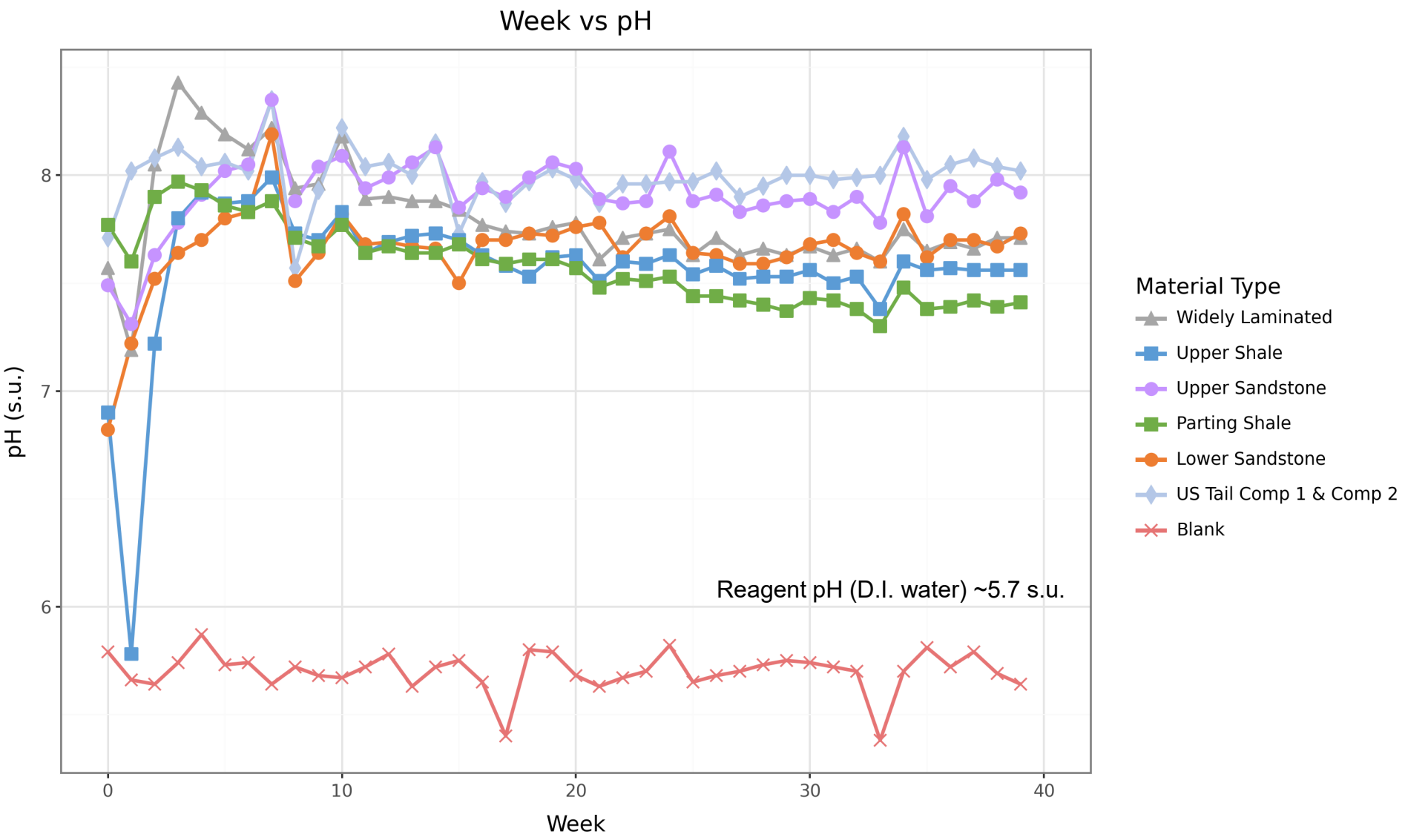
Appendix D HCT Time-Series Charts

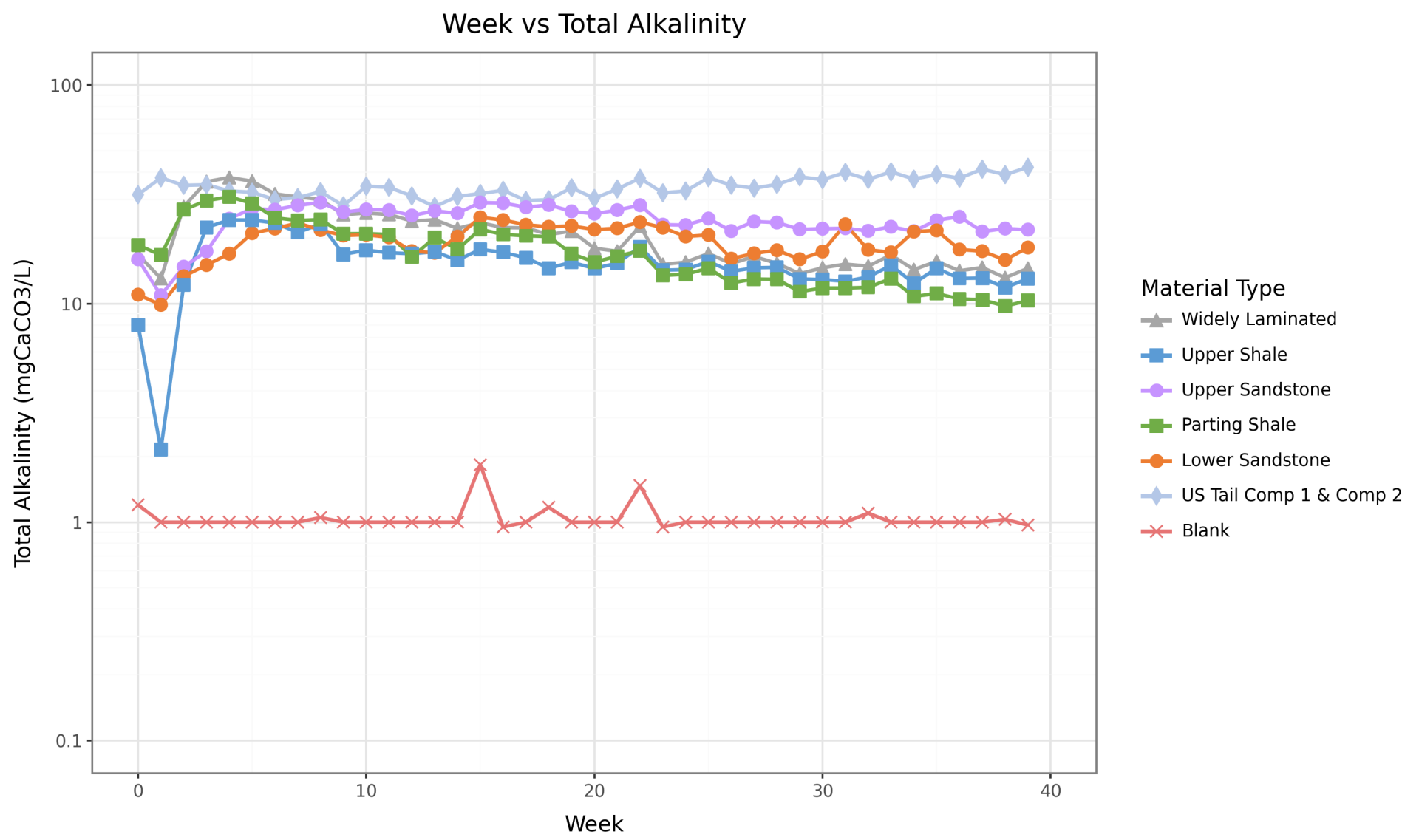
Humidity Cell Test Results

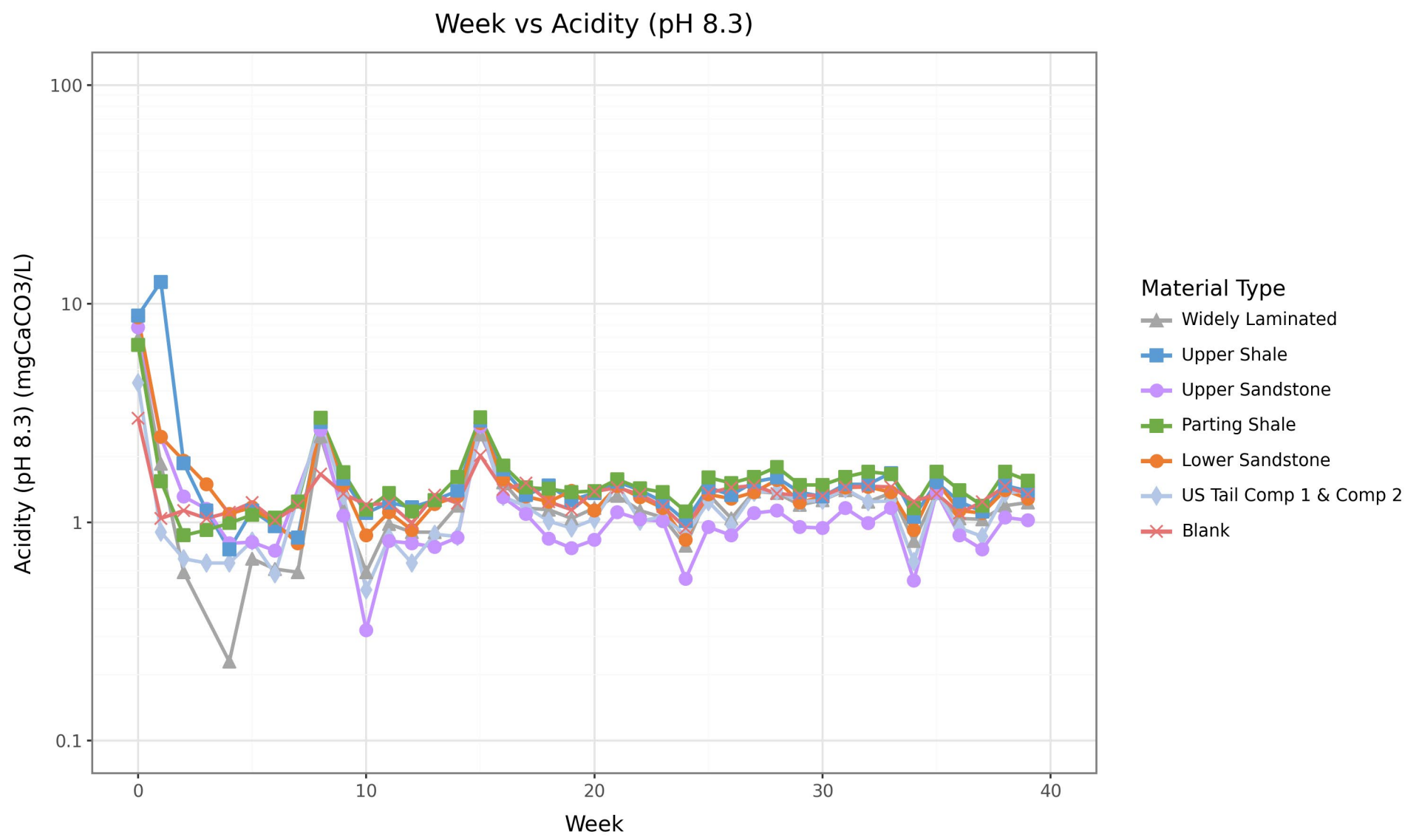
White Pine North Project

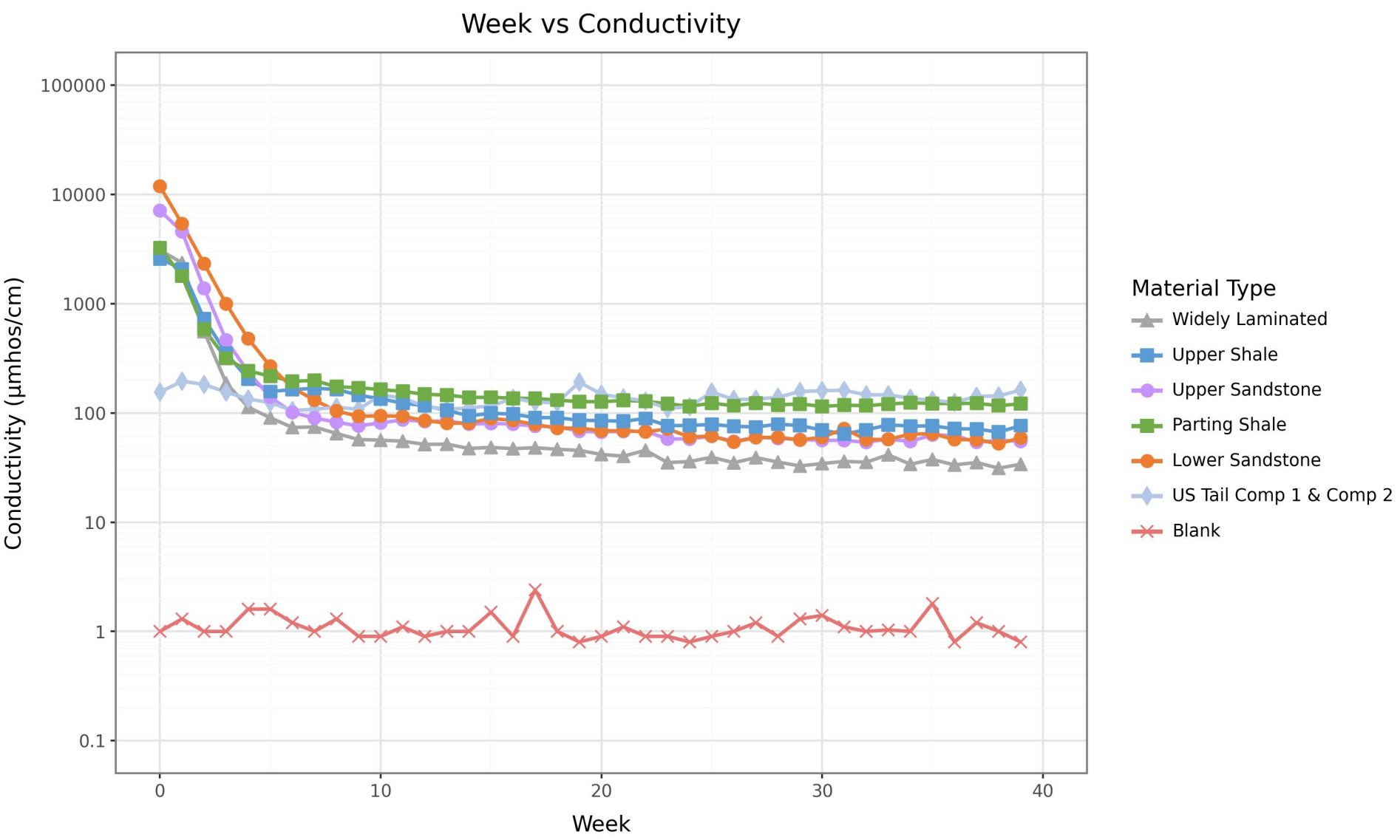
Week 0-39 for all parameters

Week 0-36 for metals


Week vs pH
pH (s.u.)
8
7
6
0
10
20
30
40
Week
Reagent pH (D.I. water) ~5.7 s.u.
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

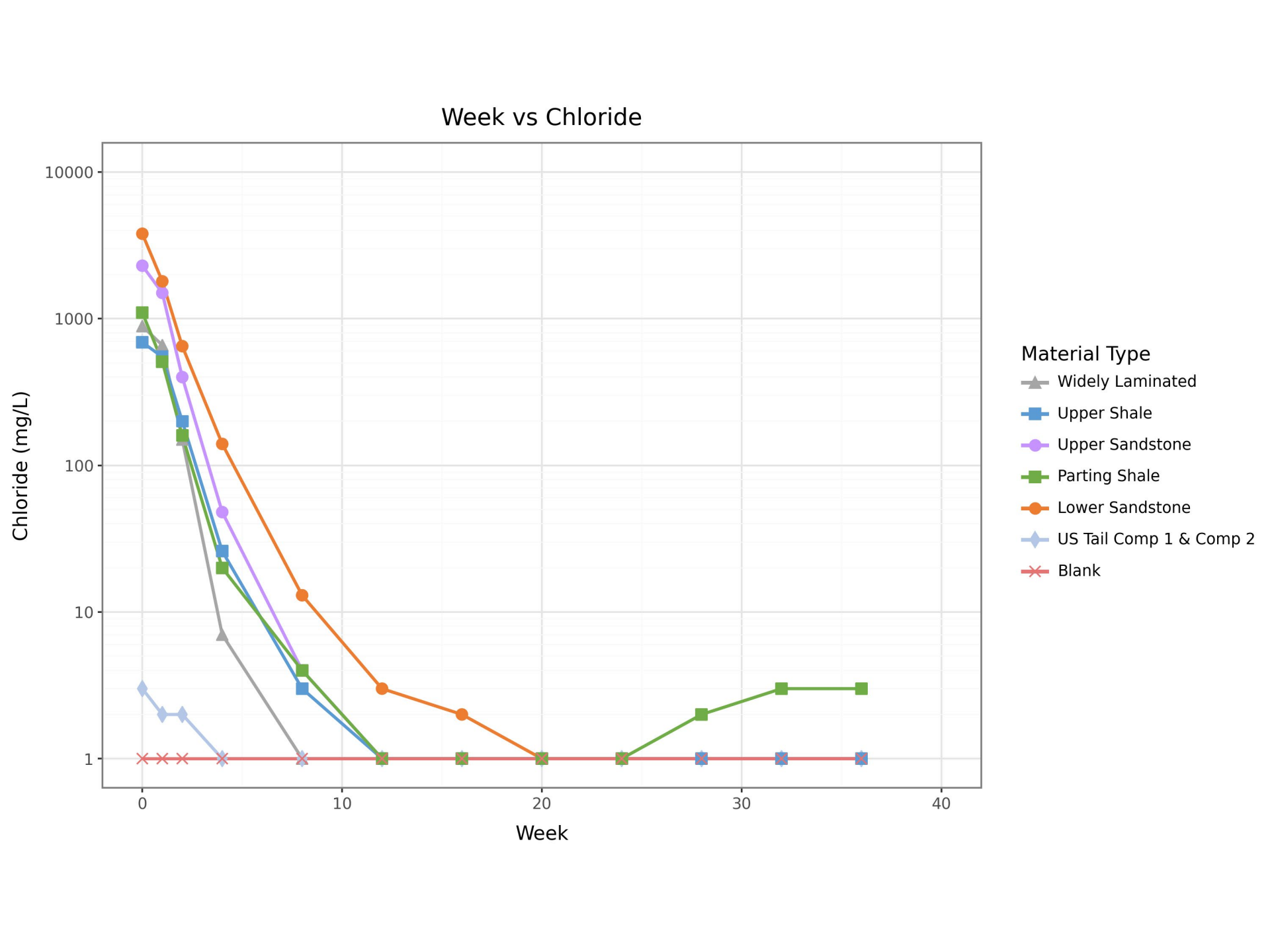

Week vs Total Alkalinity
Total Alkalinity (mgCaCO3/L)
100
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

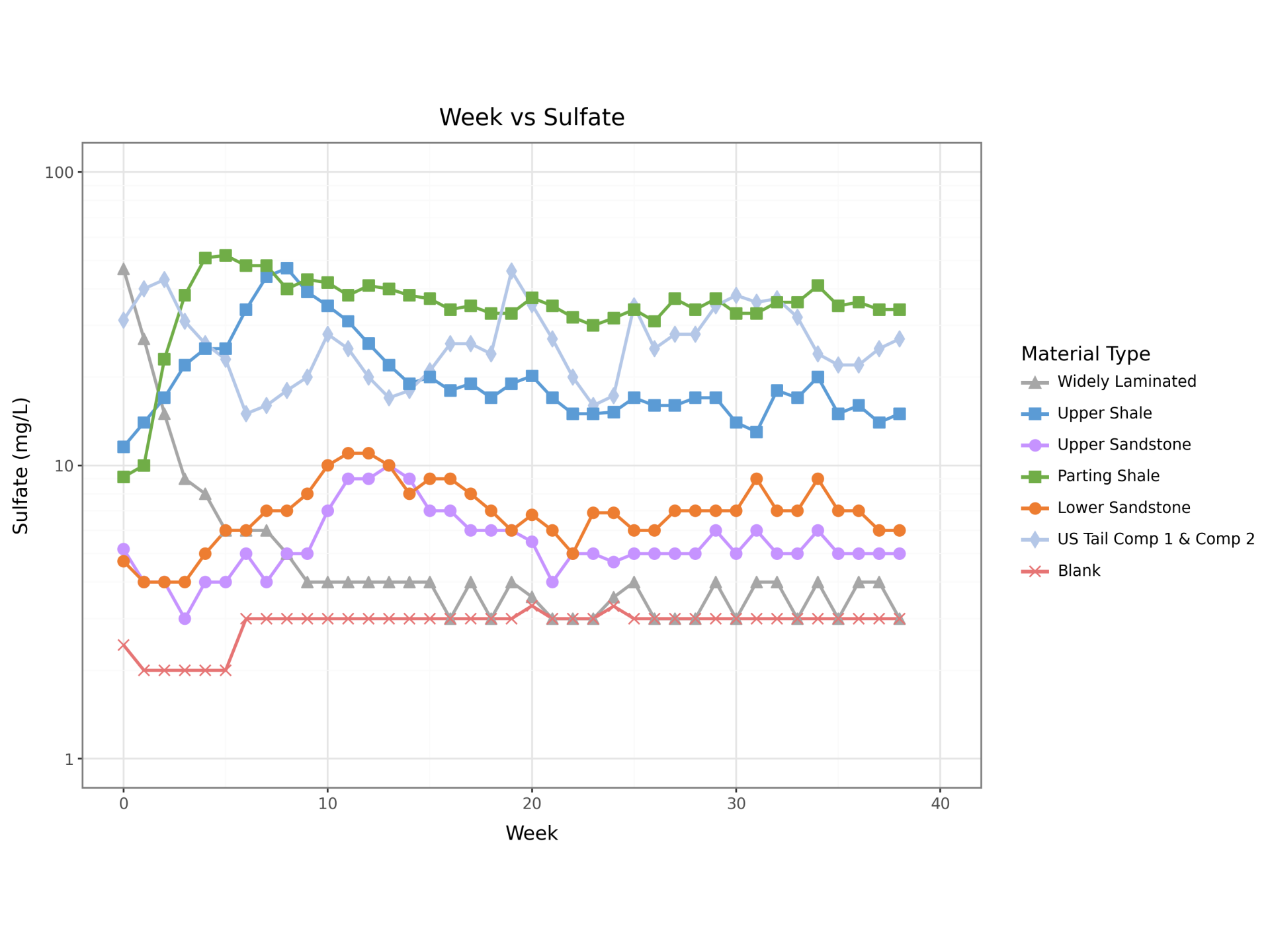

Week vs Acidity (pH 8.3)
Acidity (pH 8.3) (mgCaCO3/L)
100
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

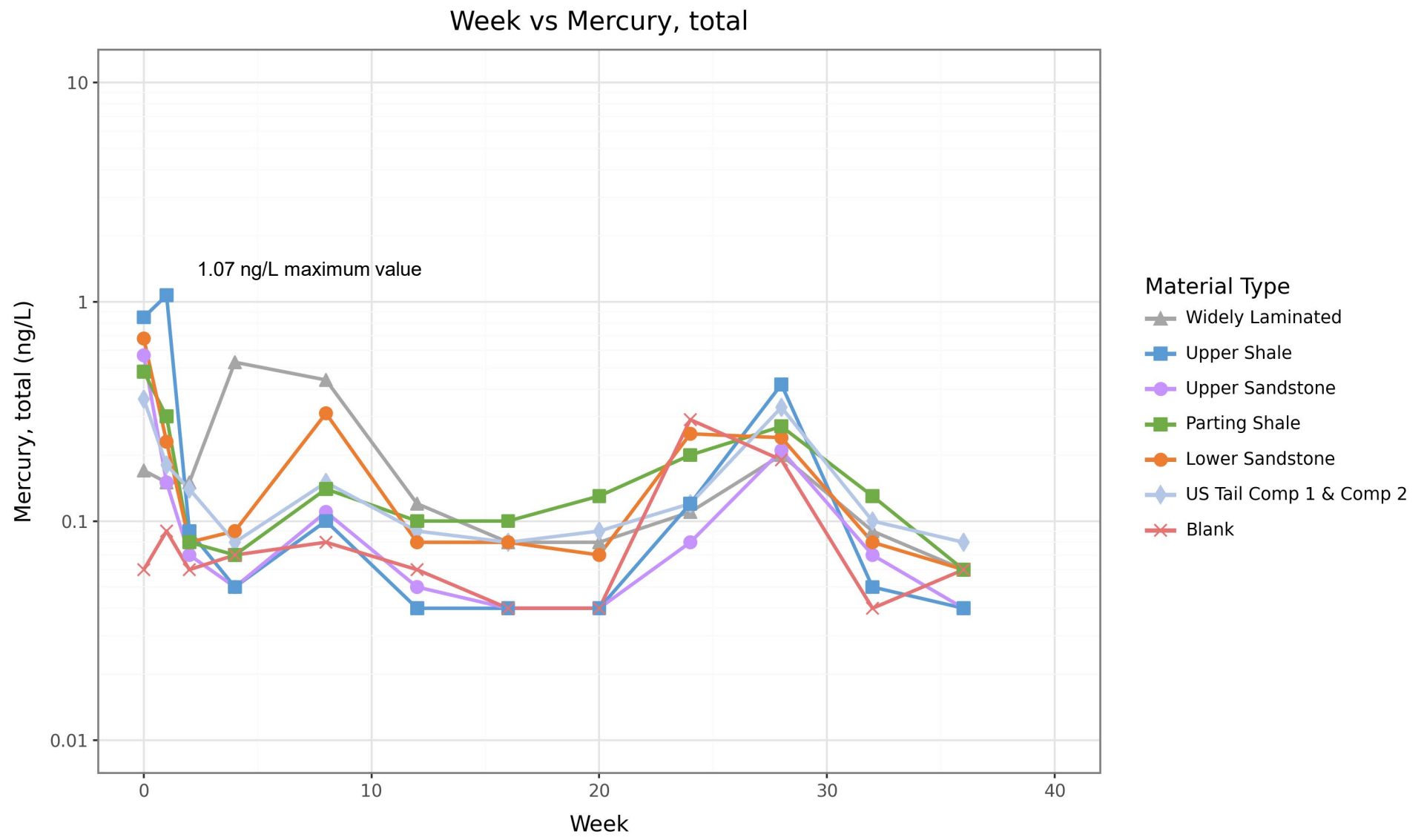

Week vs Conductivity
Conductivity (µmhos/cm)
100000
10000
1000
100
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

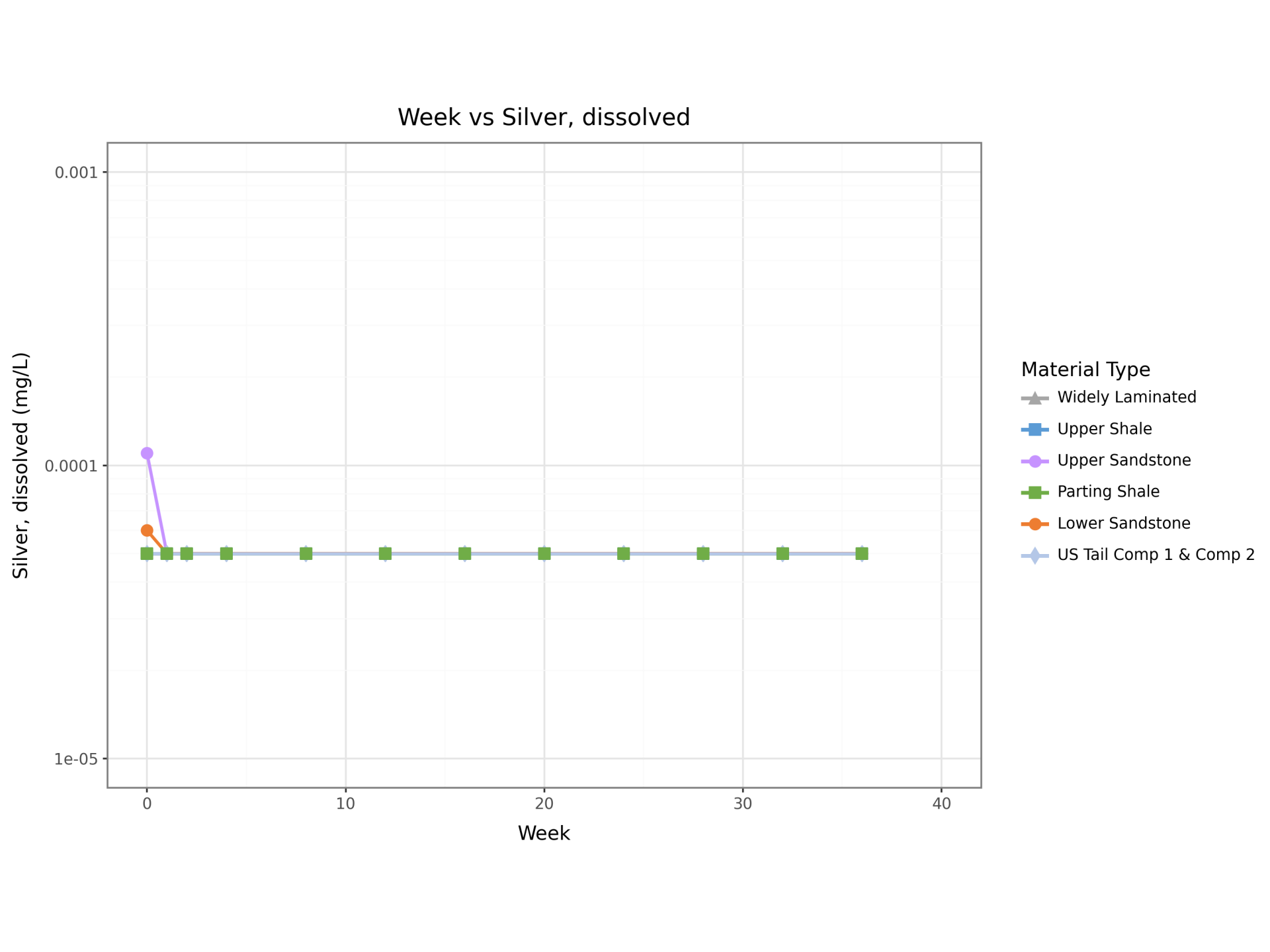

Week vs ORP
ORP (mV)
1000
100
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

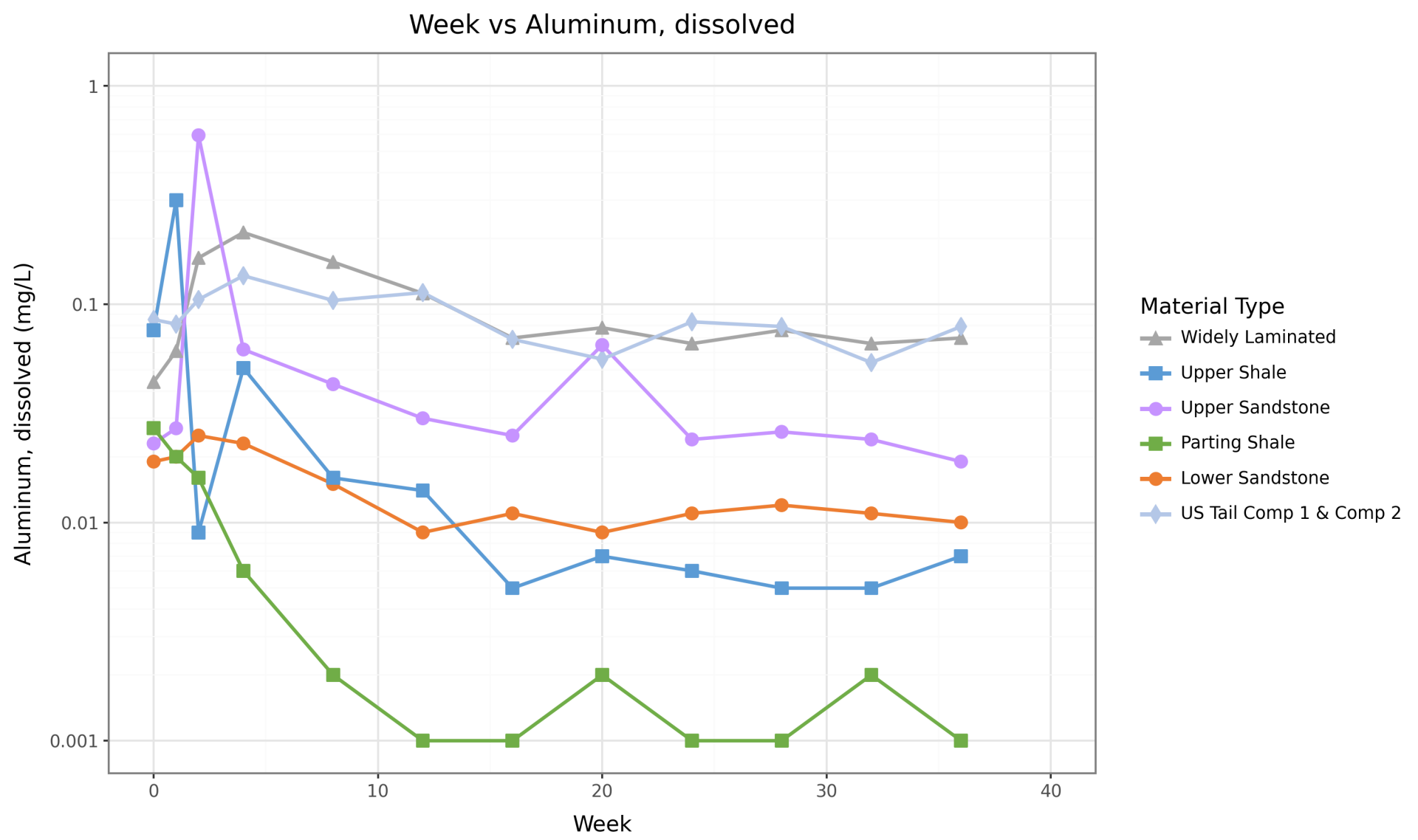

Week vs Volume Output
Volume Output (mL)
1000
100
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

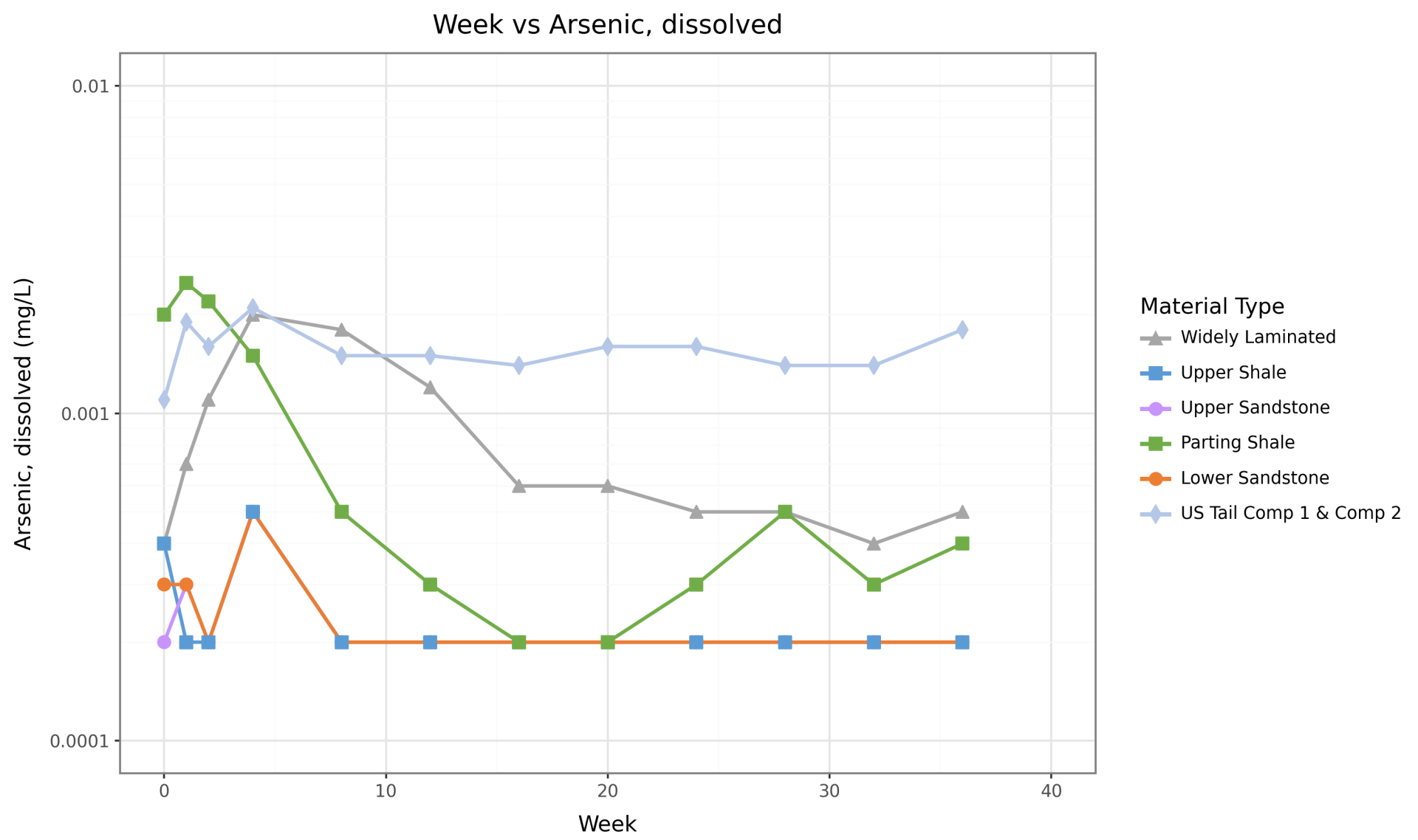

Week vs Chloride
Chloride (mg/L)
10000
1000
100
10
1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

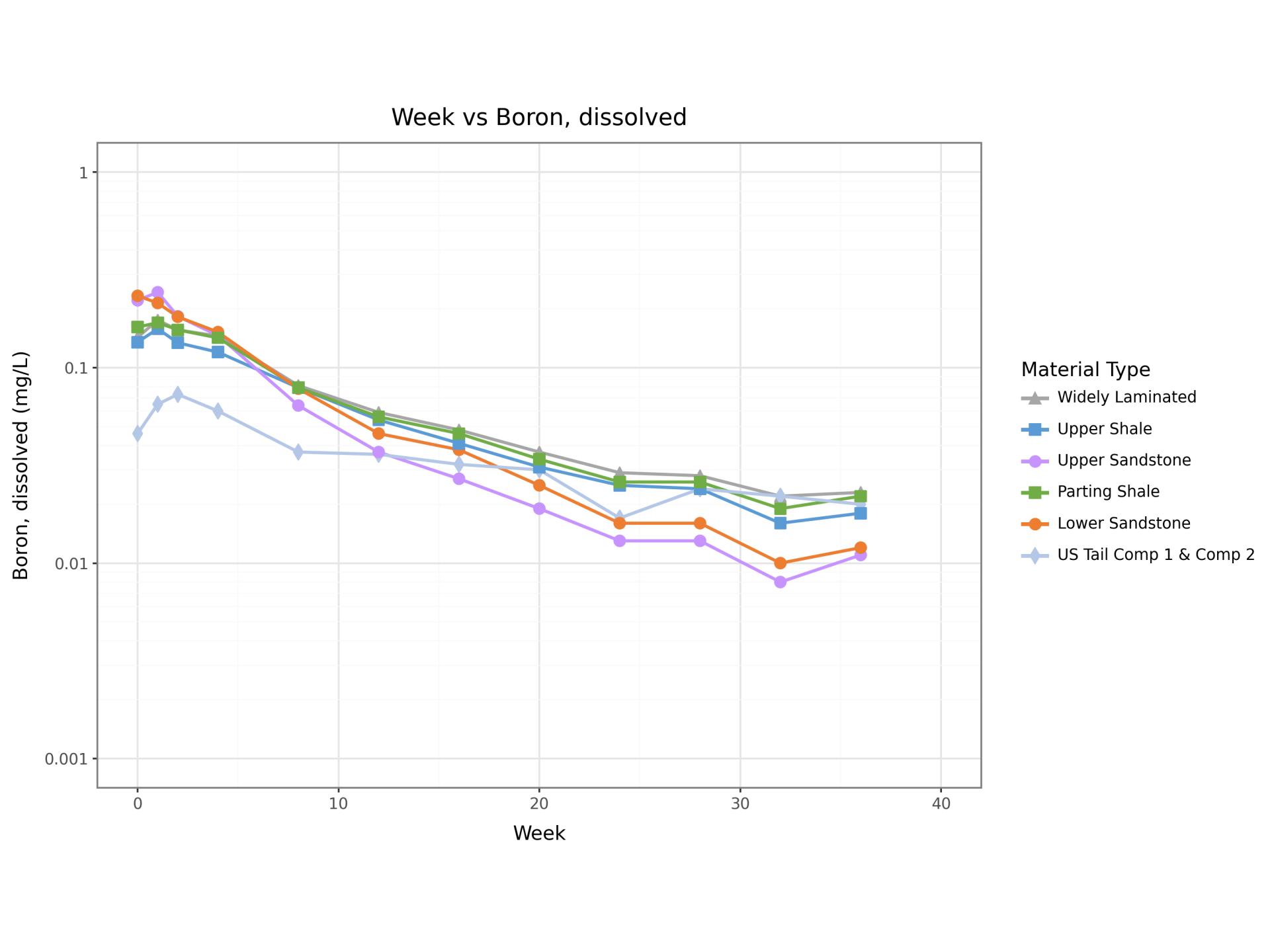

Week vs Sulfate
Sulfate (mg/L)
100
10
1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

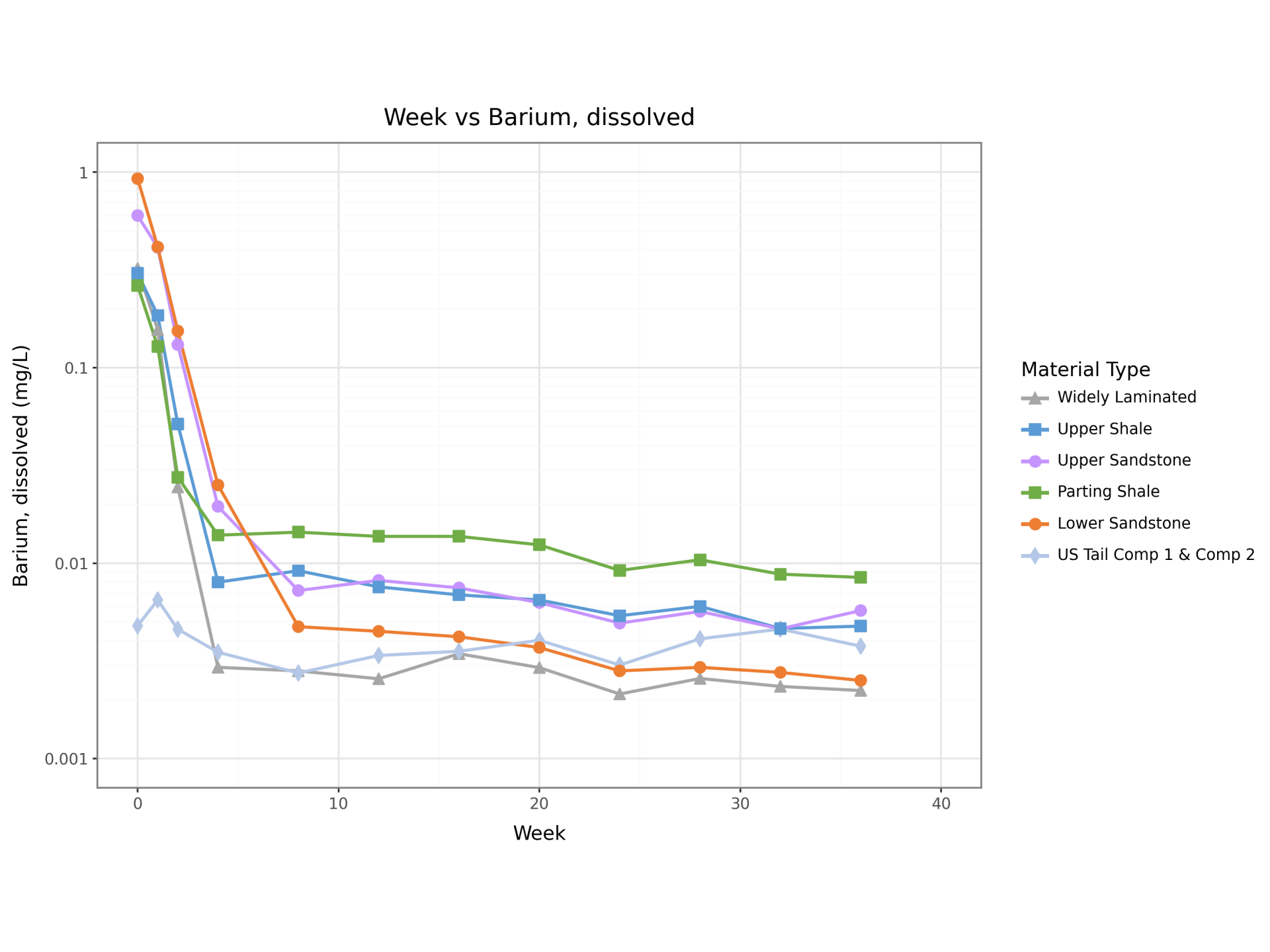

Week vs Mercury, total
1.07 ng/L maximum value
Mercury, total (ng/L)
10
1
0.1
0.01
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2
Blank

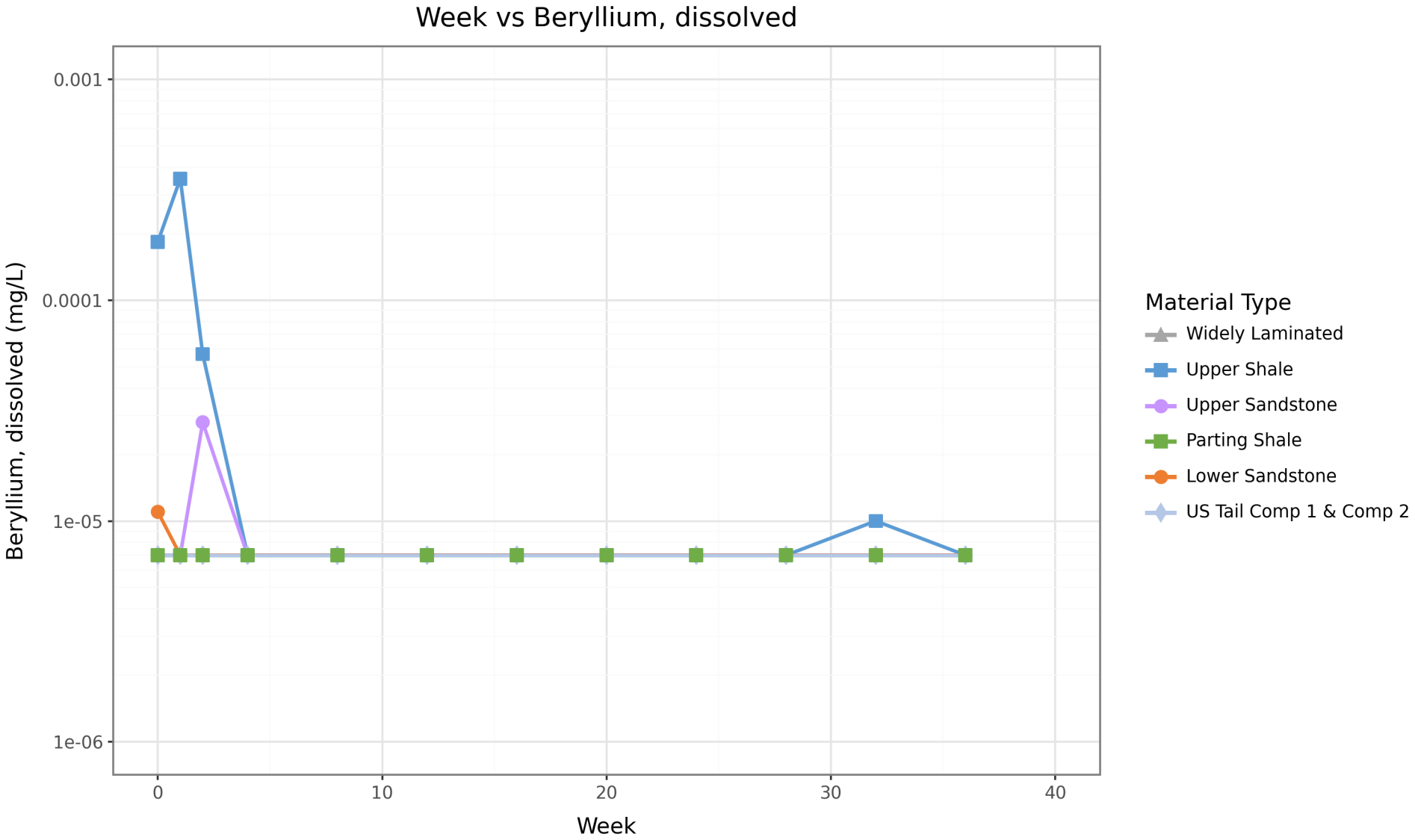

Week vs Silver, dissolved
0.001
0.0001
1e-05
Silver, dissolved (mg/L)
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

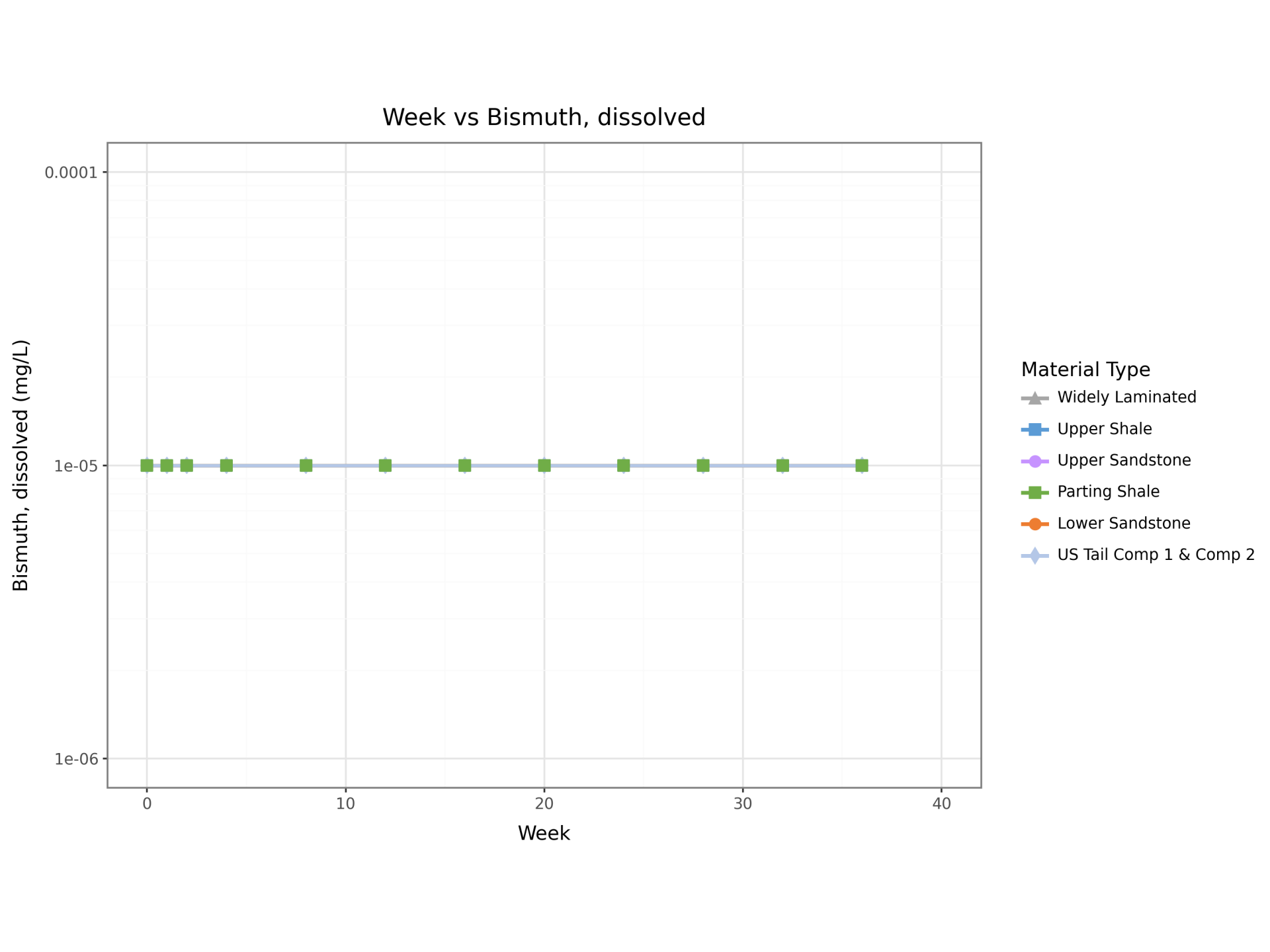

Week vs Aluminum, dissolved
Aluminum, dissolved (mg/L)
1
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

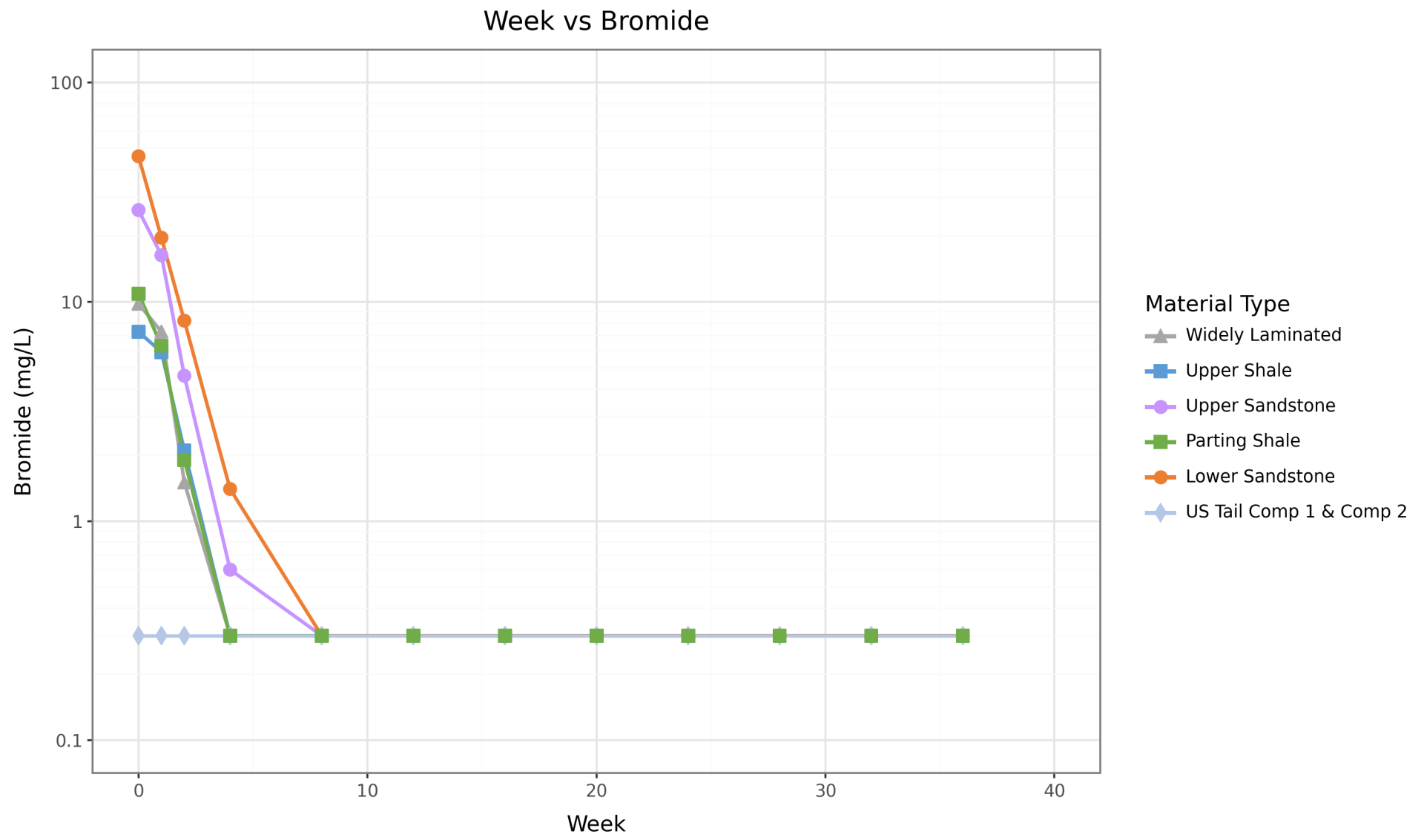

Week vs Arsenic, dissolved
Arsenic, dissolved (mg/L)
0.01
0.001
0.0001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

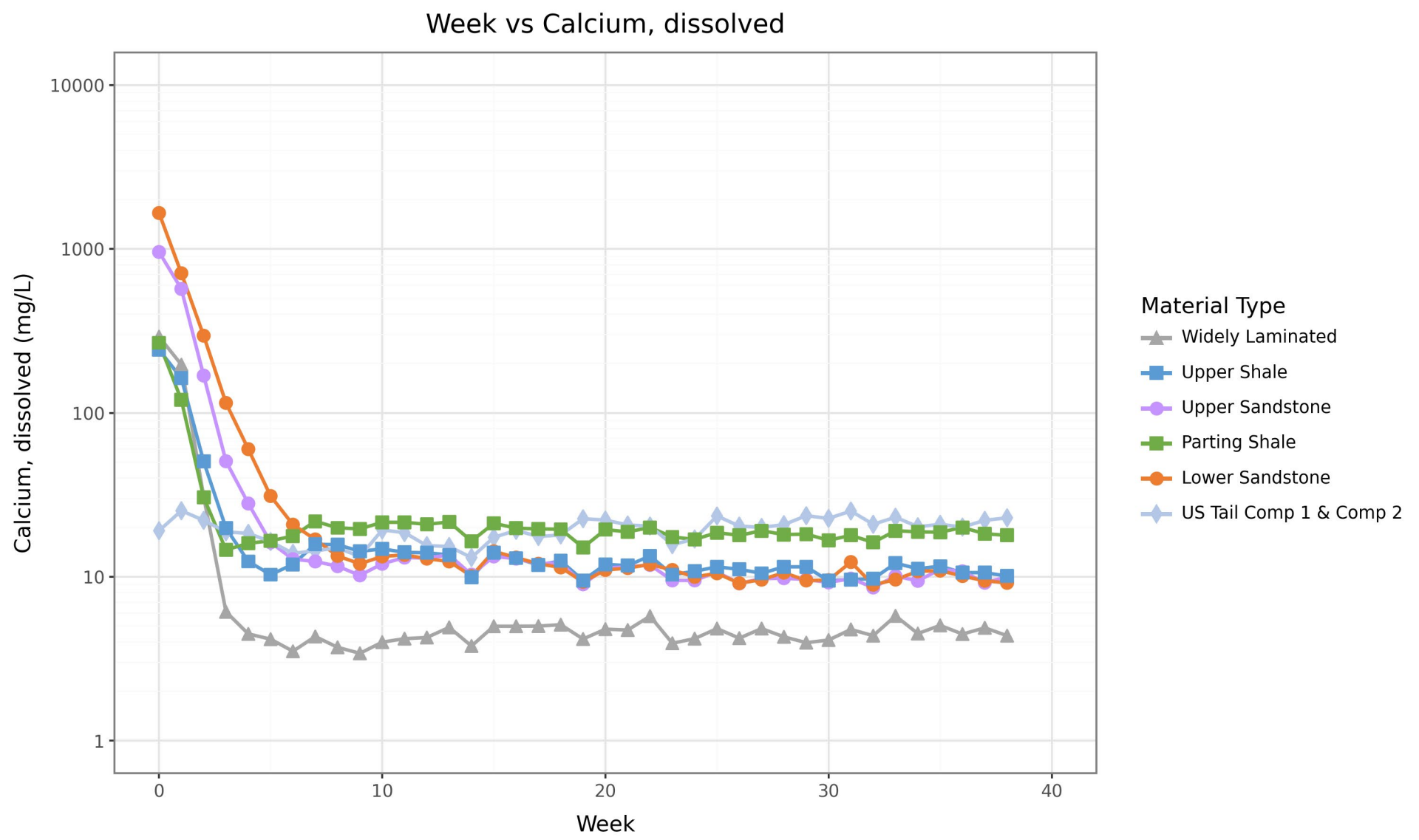

Week vs Boron, dissolved
Boron, dissolved (mg/L)
1
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

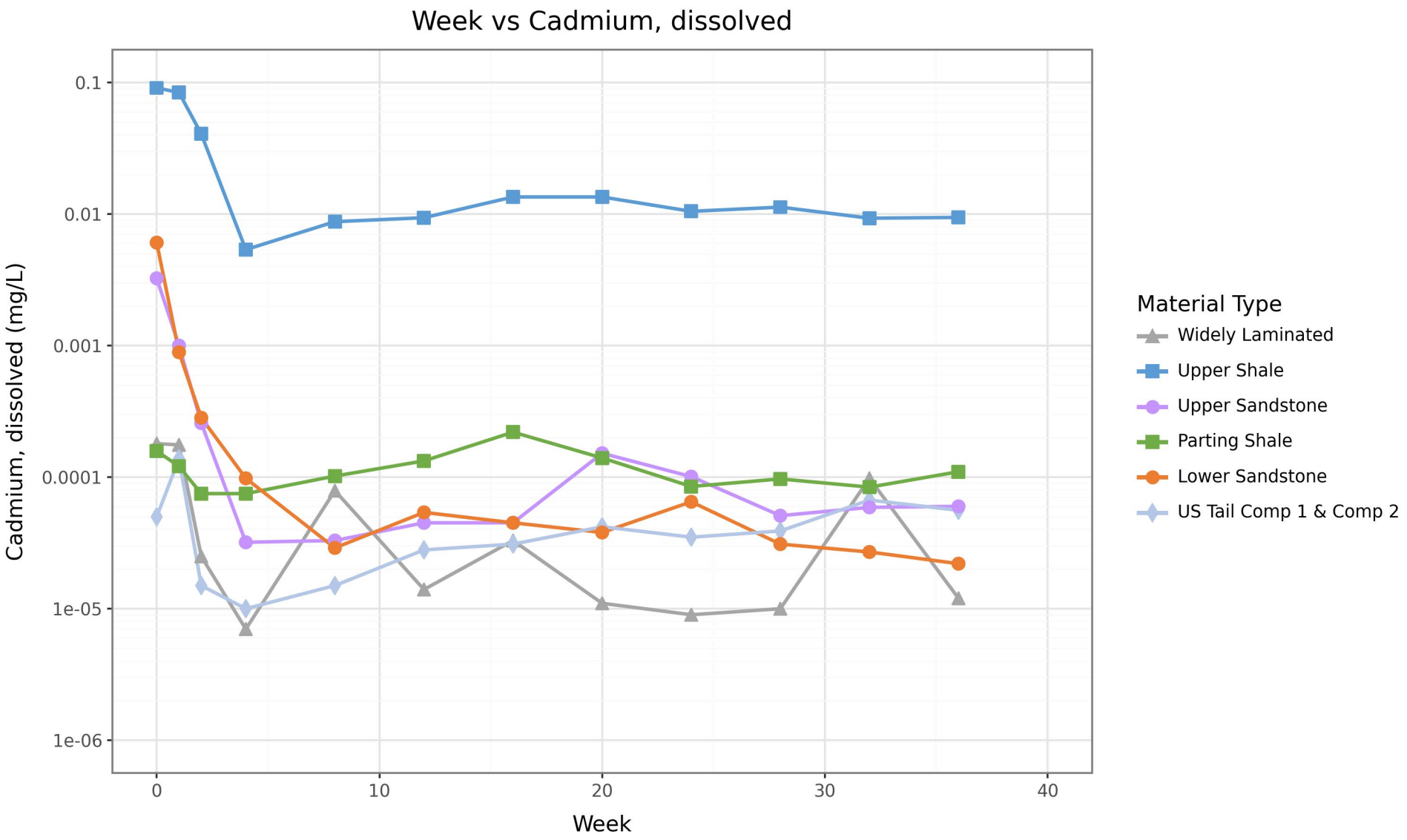

Week vs Barium, dissolved
Barium, dissolved (mg/L)
1
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

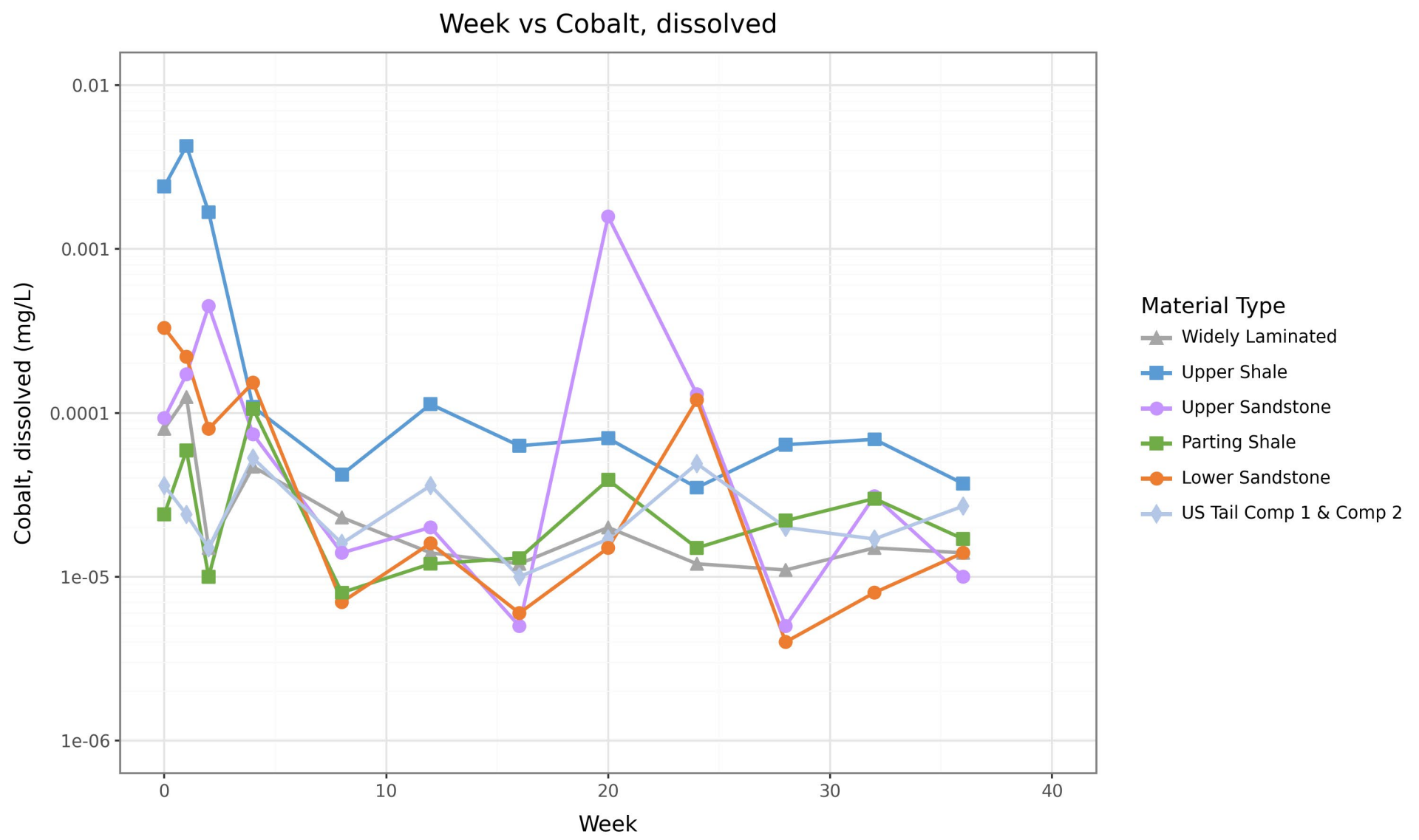

Week vs Beryllium, dissolved
Beryllium, dissolved (mg/L)
0.001
0.0001
1e-05
1e-06
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

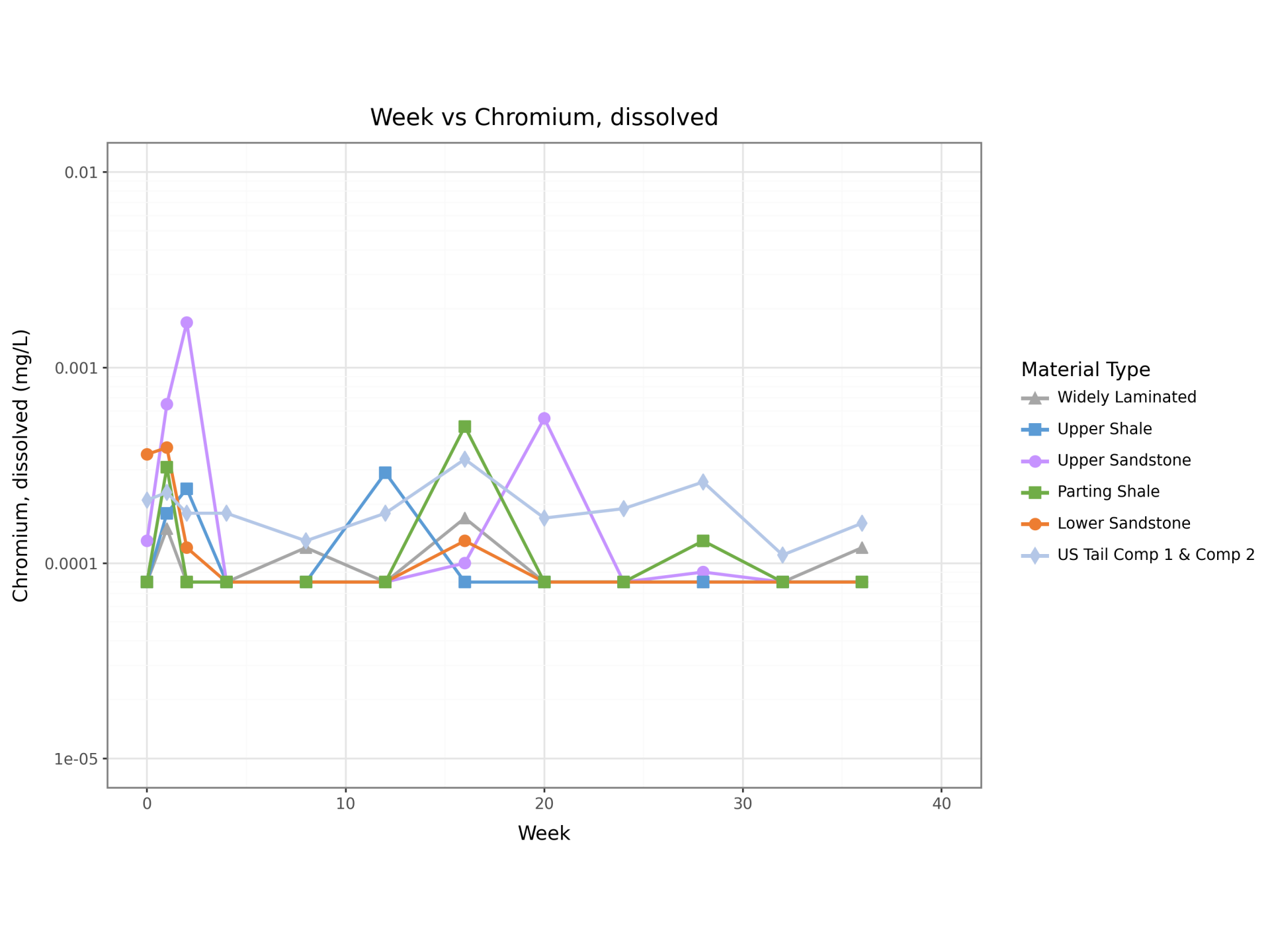

Week vs Bismuth, dissolved
0.0001
1e-05
1e-06
Bismuth, dissolved (mg/L)
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

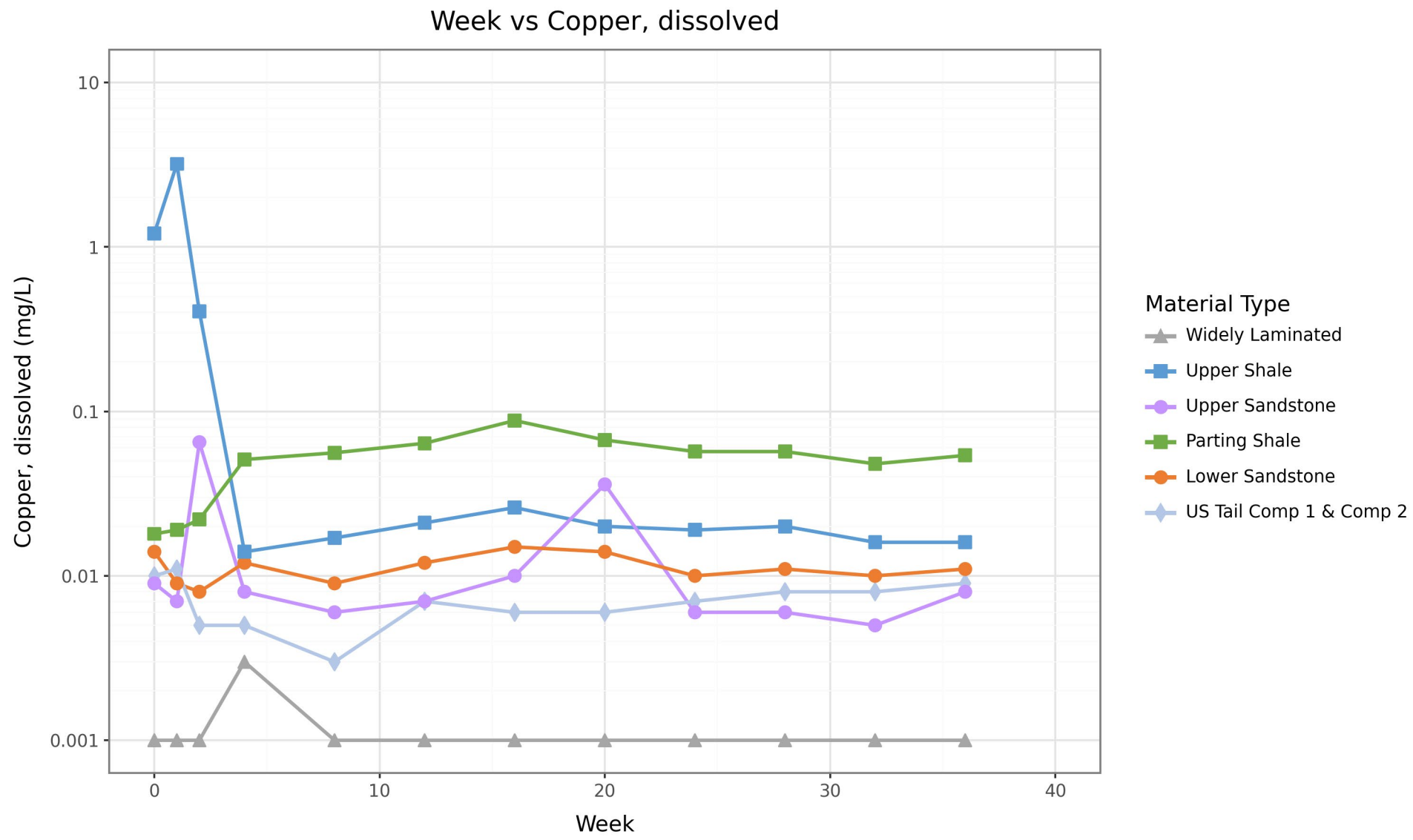

Week vs Bromide
Bromide (mg/L)
100
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

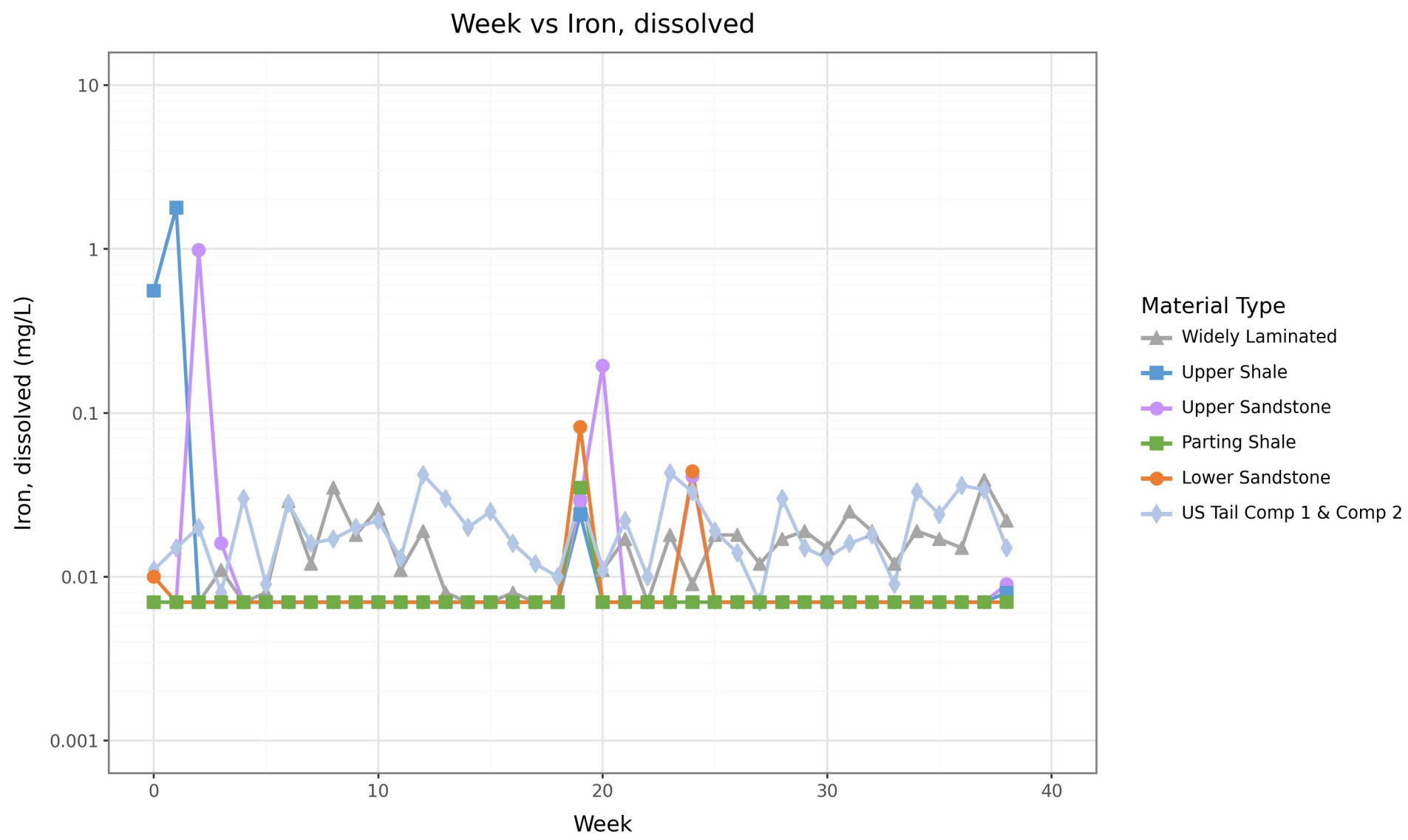

Week vs Calcium, dissolved
Calcium, dissolved (mg/L)
10000
1000
100
10
1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

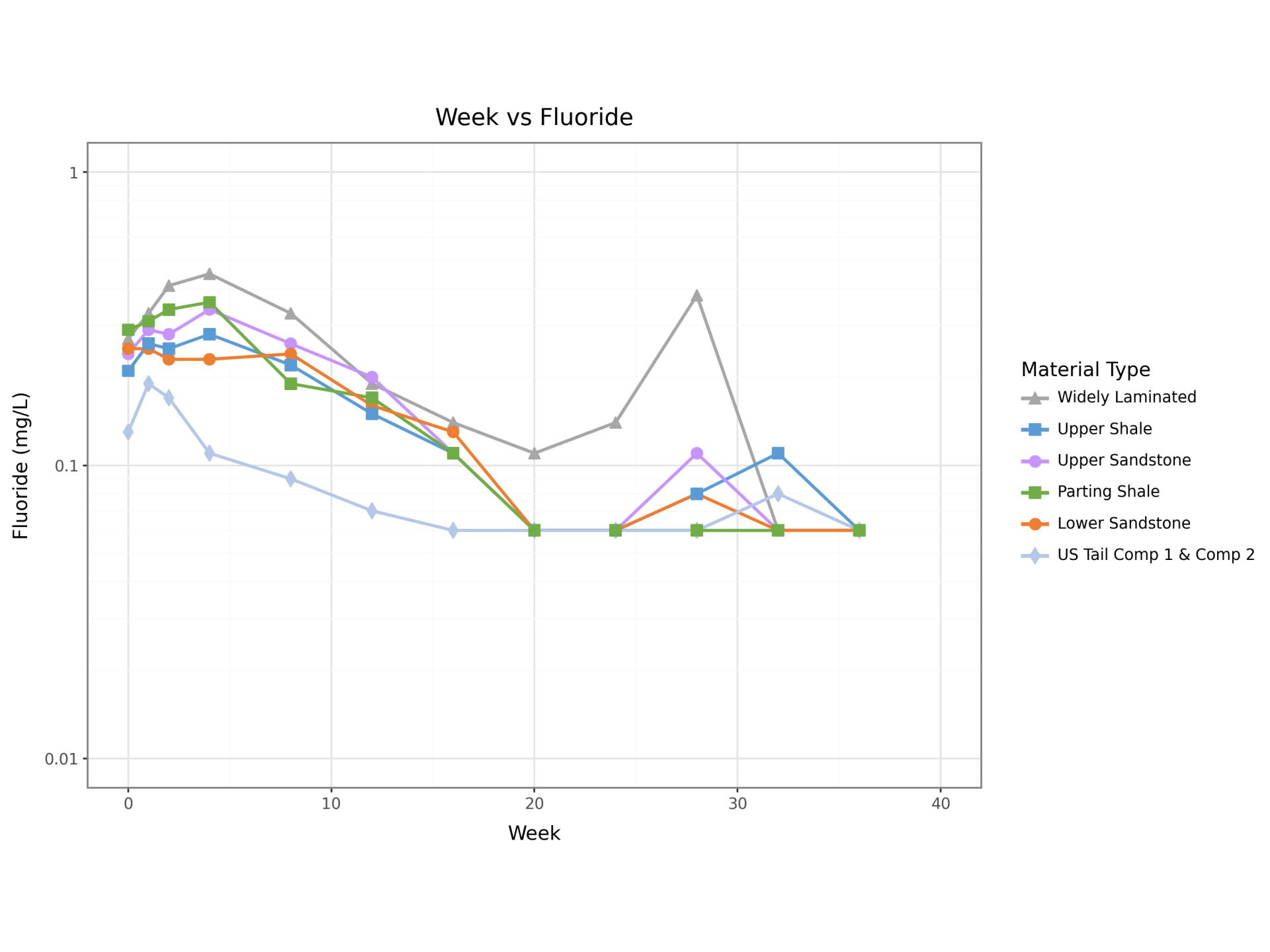

Week vs Cadmium, dissolved
Cadmium, dissolved (mg/L)
0.1
0.01
0.001
0.0001
1e-05
1e-06
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

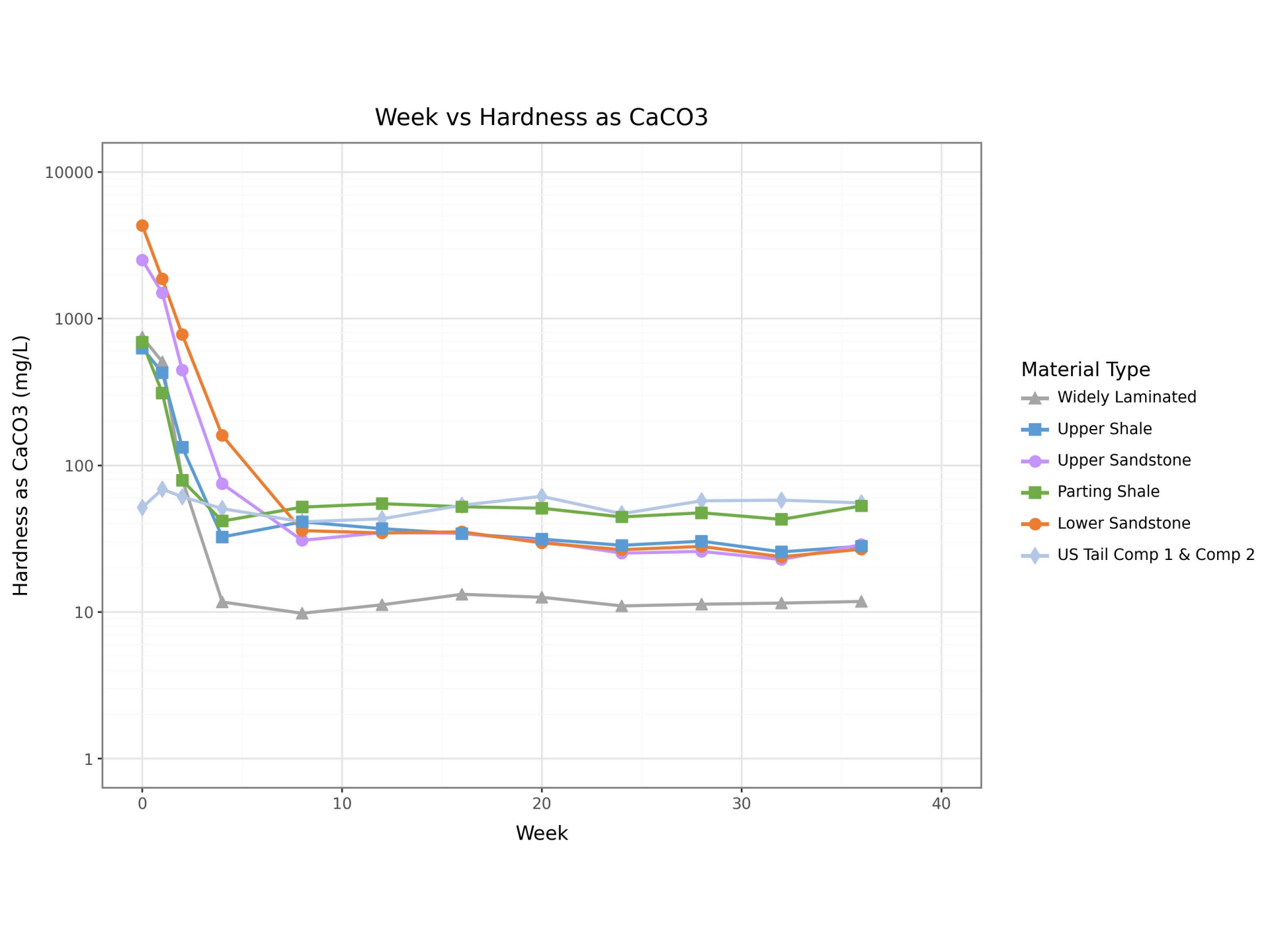

Week vs Cobalt, dissolved
Cobalt, dissolved (mg/L)
0.01
0.001
0.0001
1e-05
1e-06
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

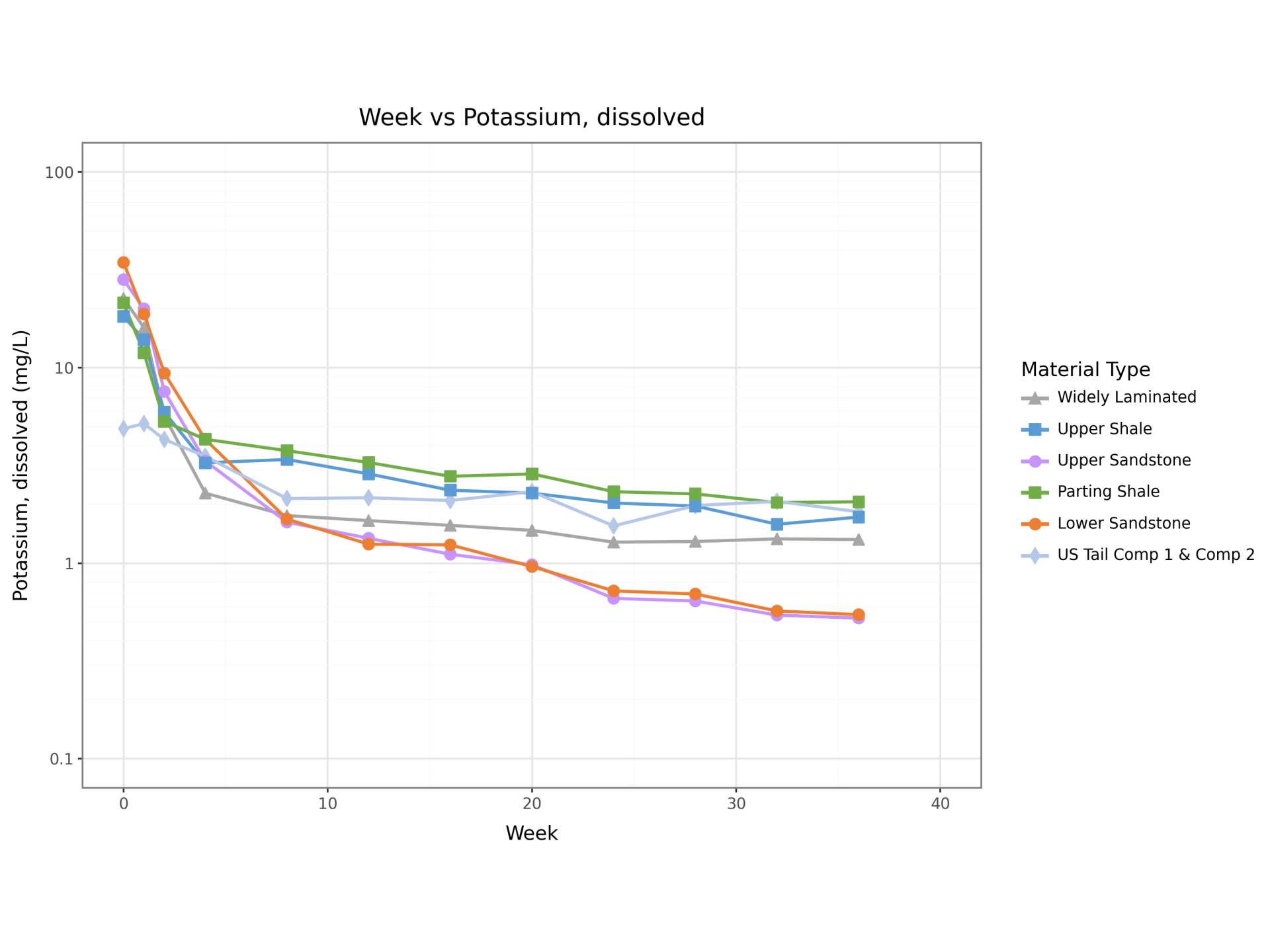

Week vs Chromium, dissolved
Chromium, dissolved (mg/L)
0.01
0.001
0.0001
1e-05
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

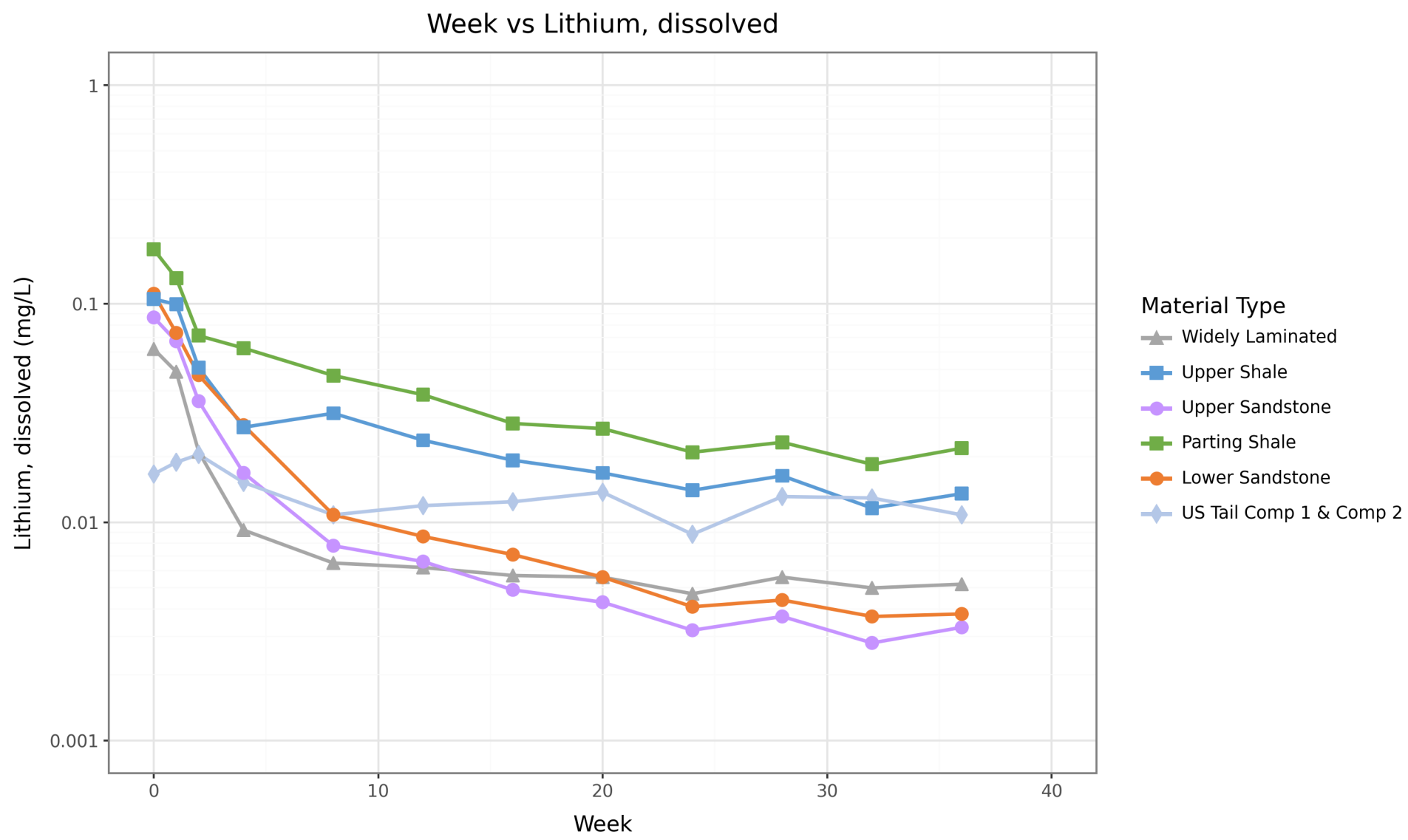

Week vs Copper, dissolved
Copper, dissolved (mg/L)
10
1
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

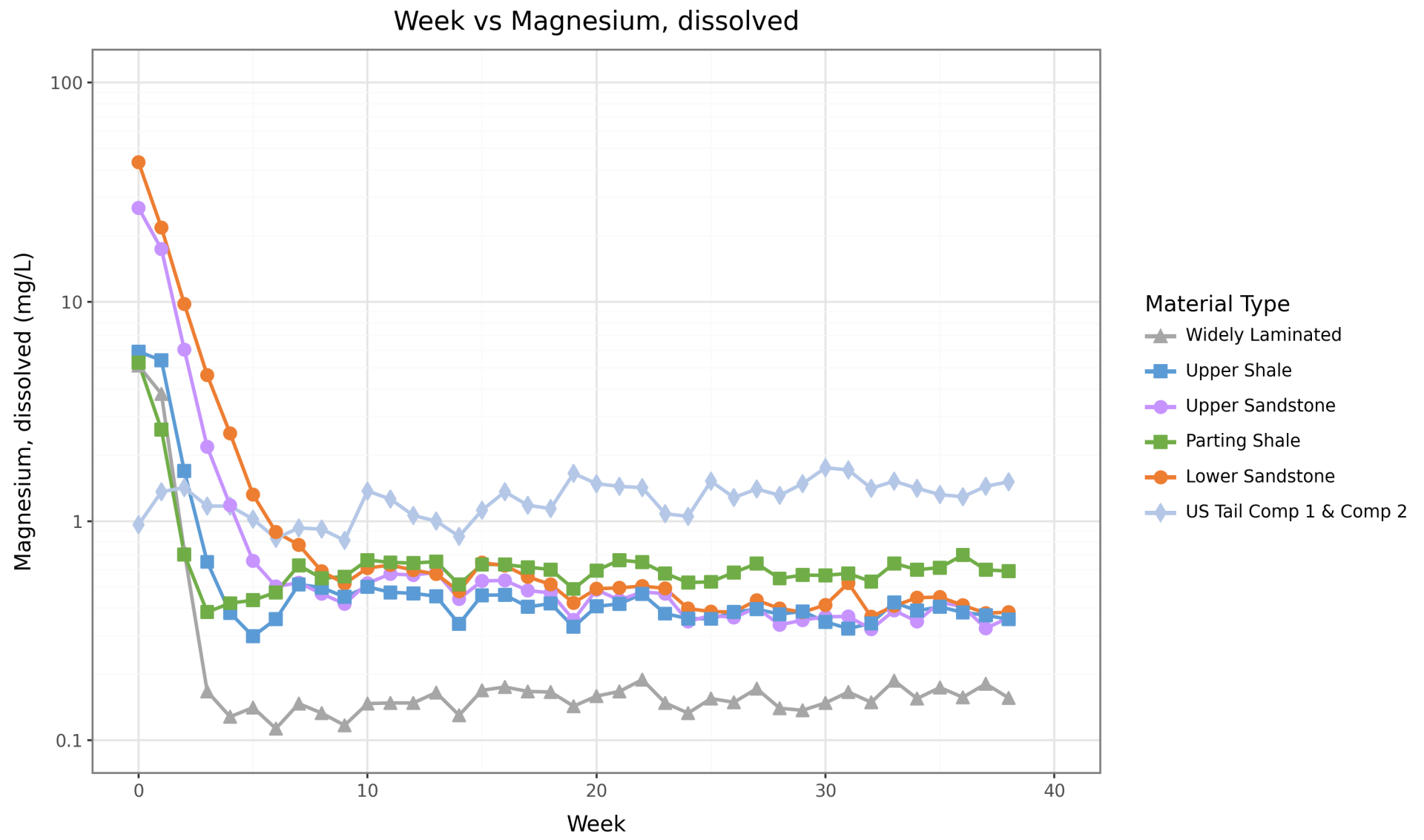

Week vs Iron, dissolved
Iron, dissolved (mg/L)
10
1
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

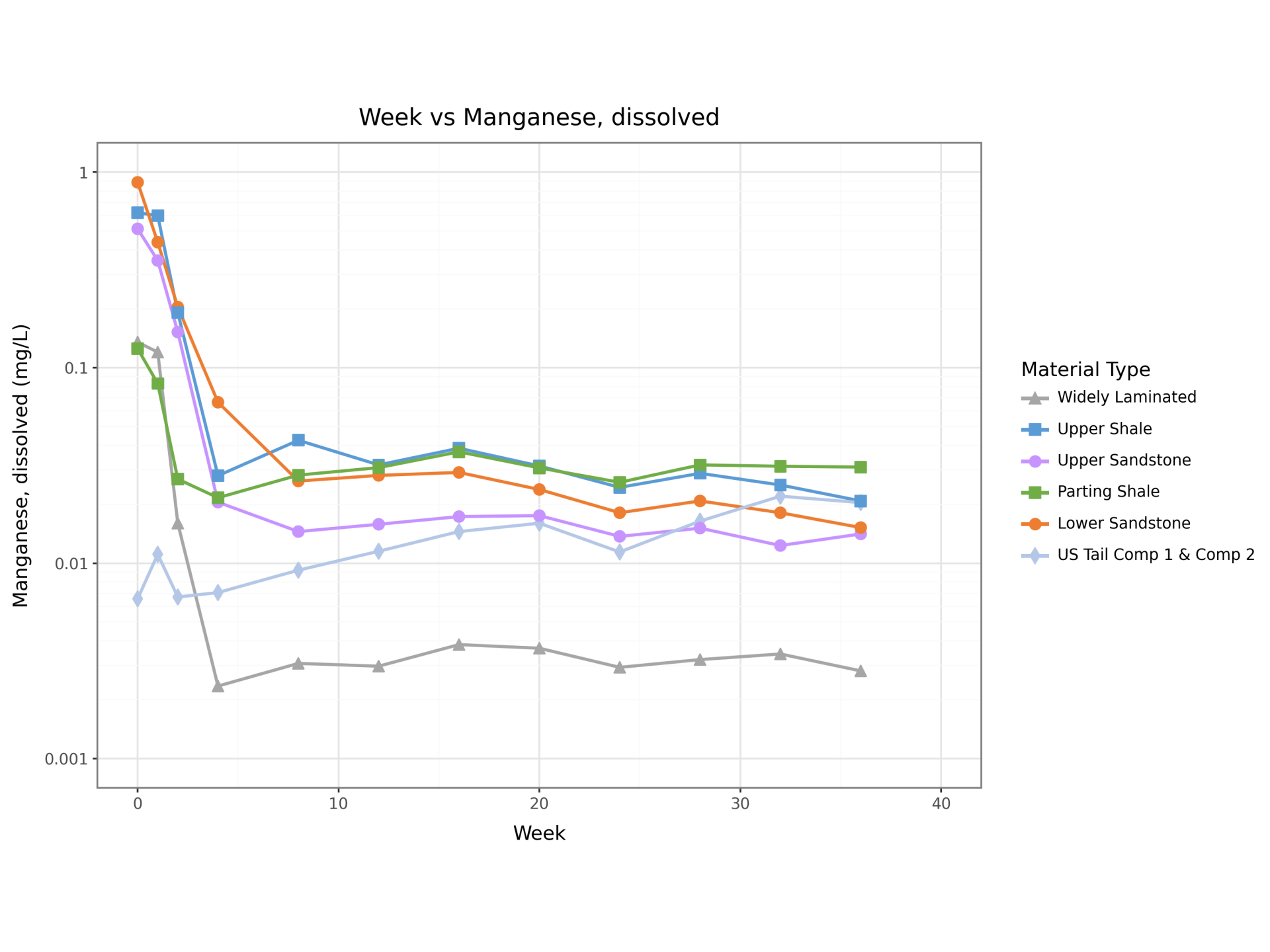

Week vs Fluoride
Fluoride (mg/L)
1
0.1
0.01
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

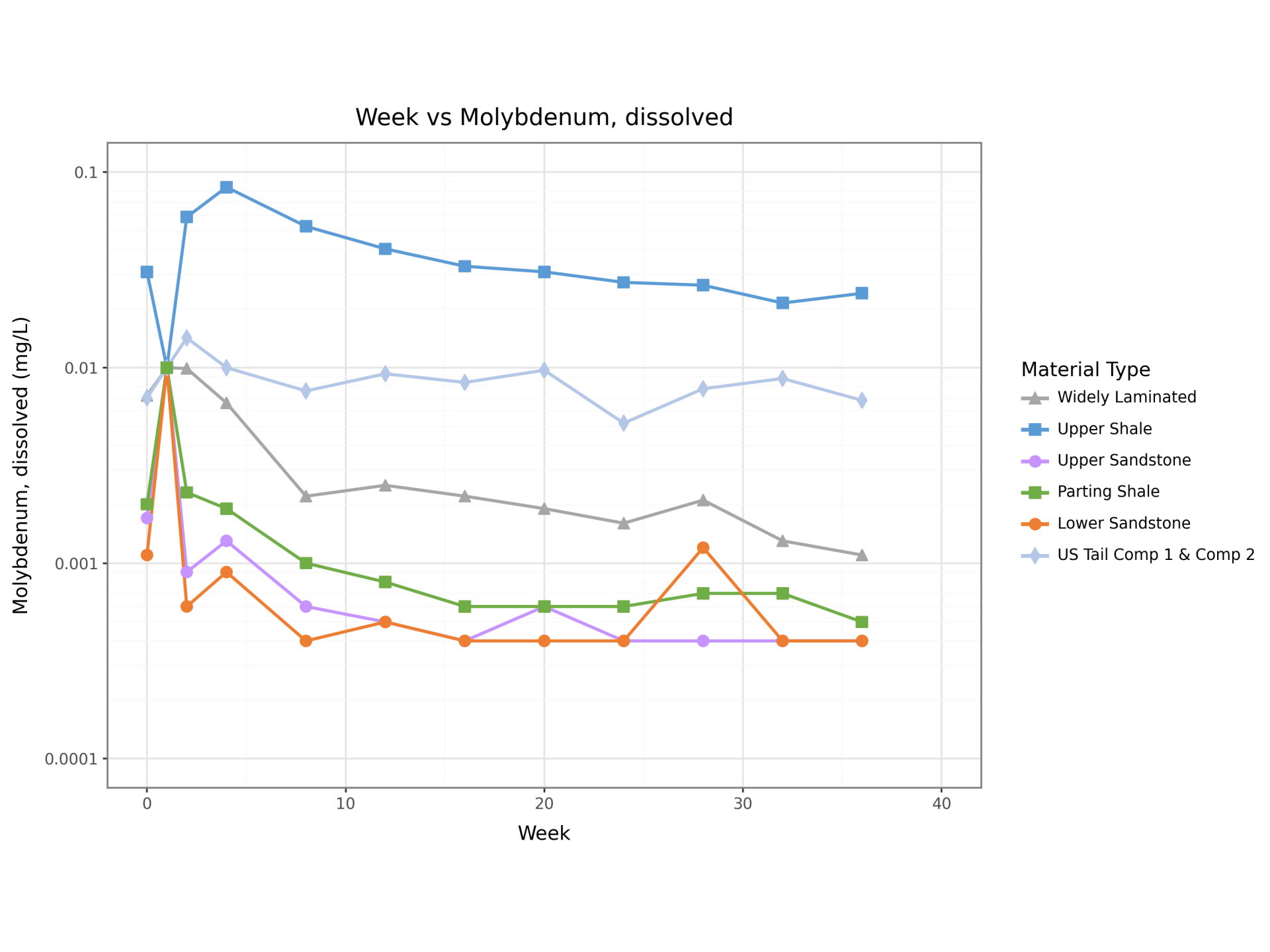

Week vs Hardness as CaCO3
Hardness as CaCO3 (mg/L)
10000
1000
100
10
1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

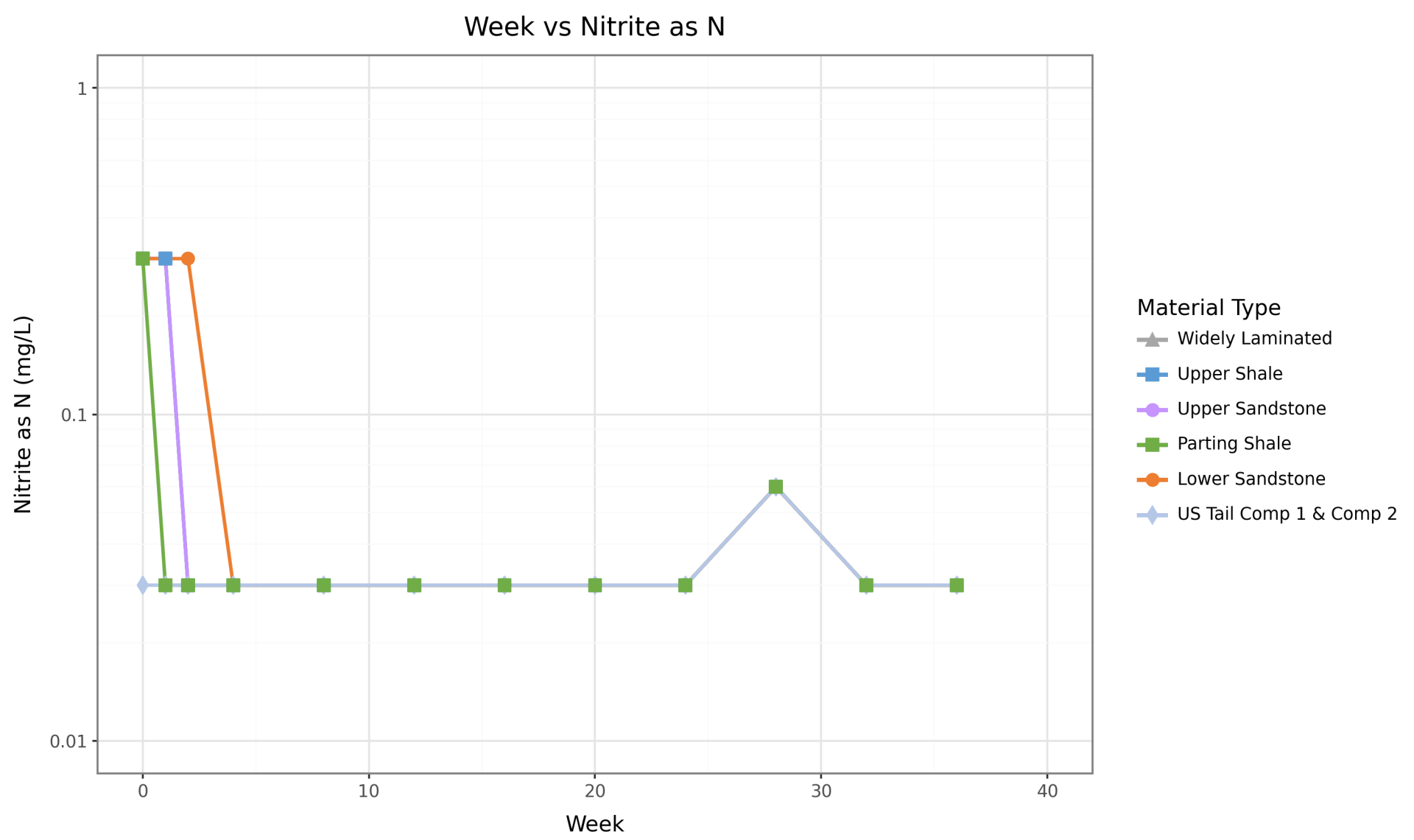

Week vs Potassium, dissolved
Potassium, dissolved (mg/L)
100
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

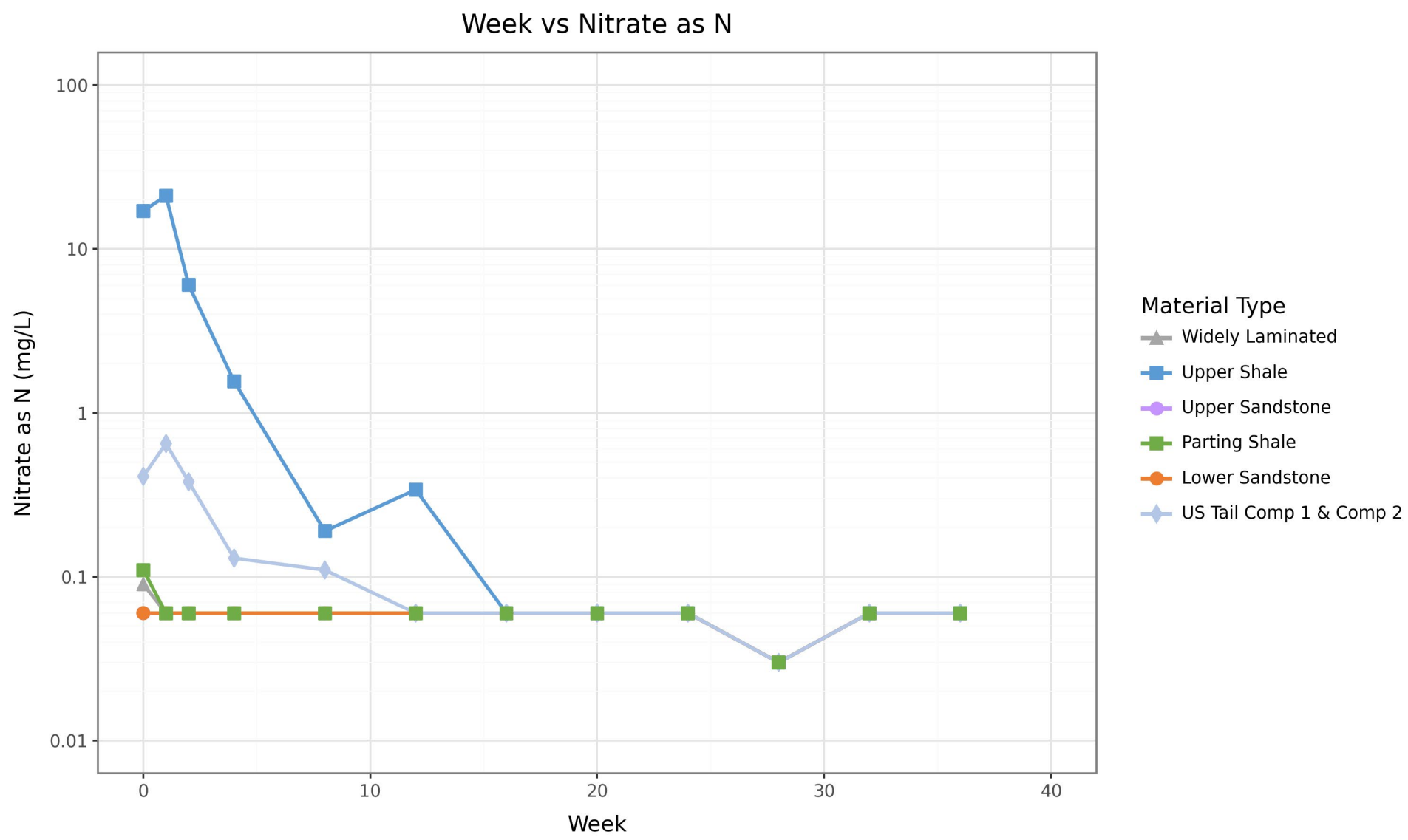

Week vs Lithium, dissolved
Lithium, dissolved (mg/L)
1
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

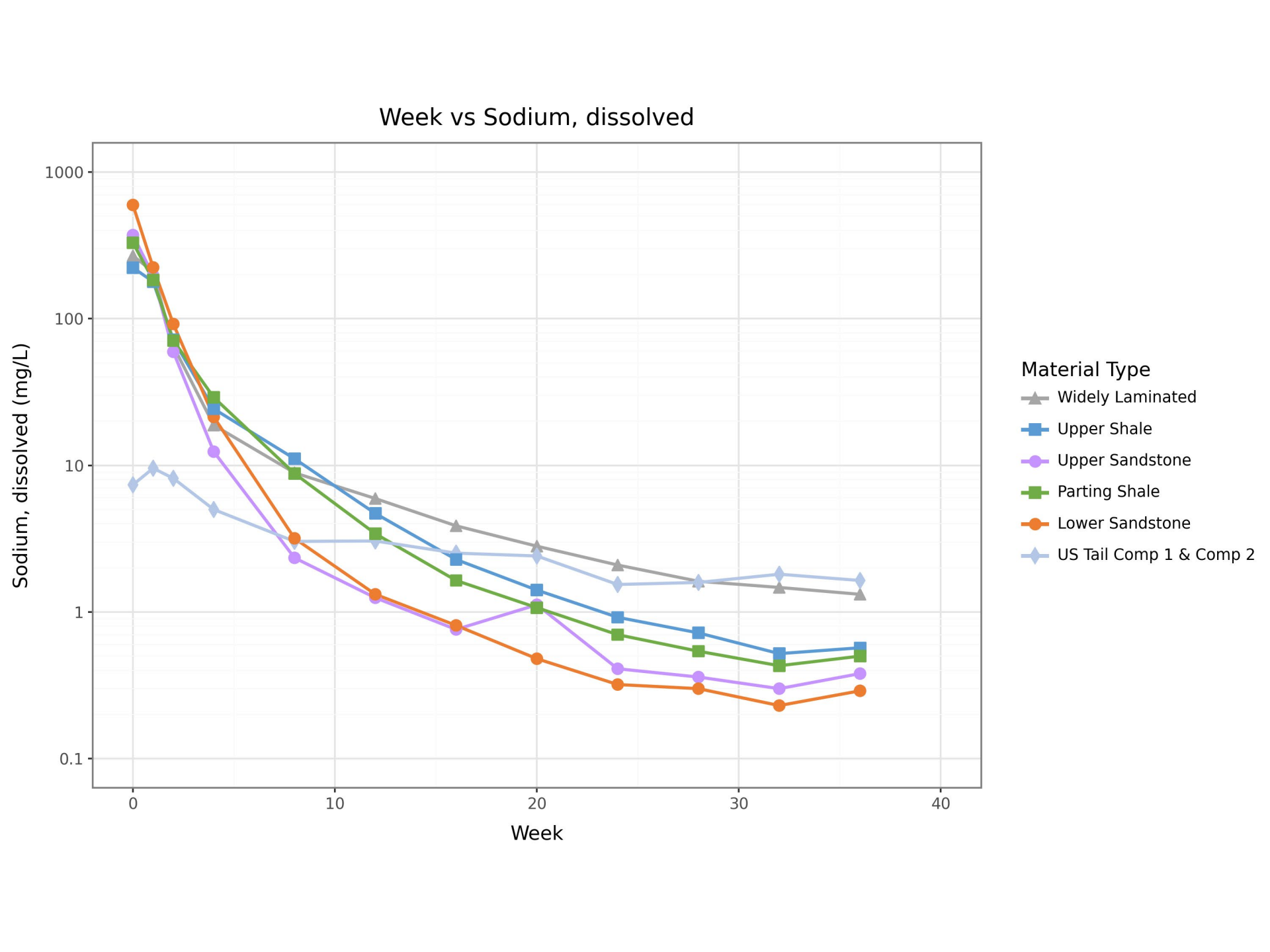

Week vs Magnesium, dissolved
Magnesium, dissolved (mg/L)
100
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

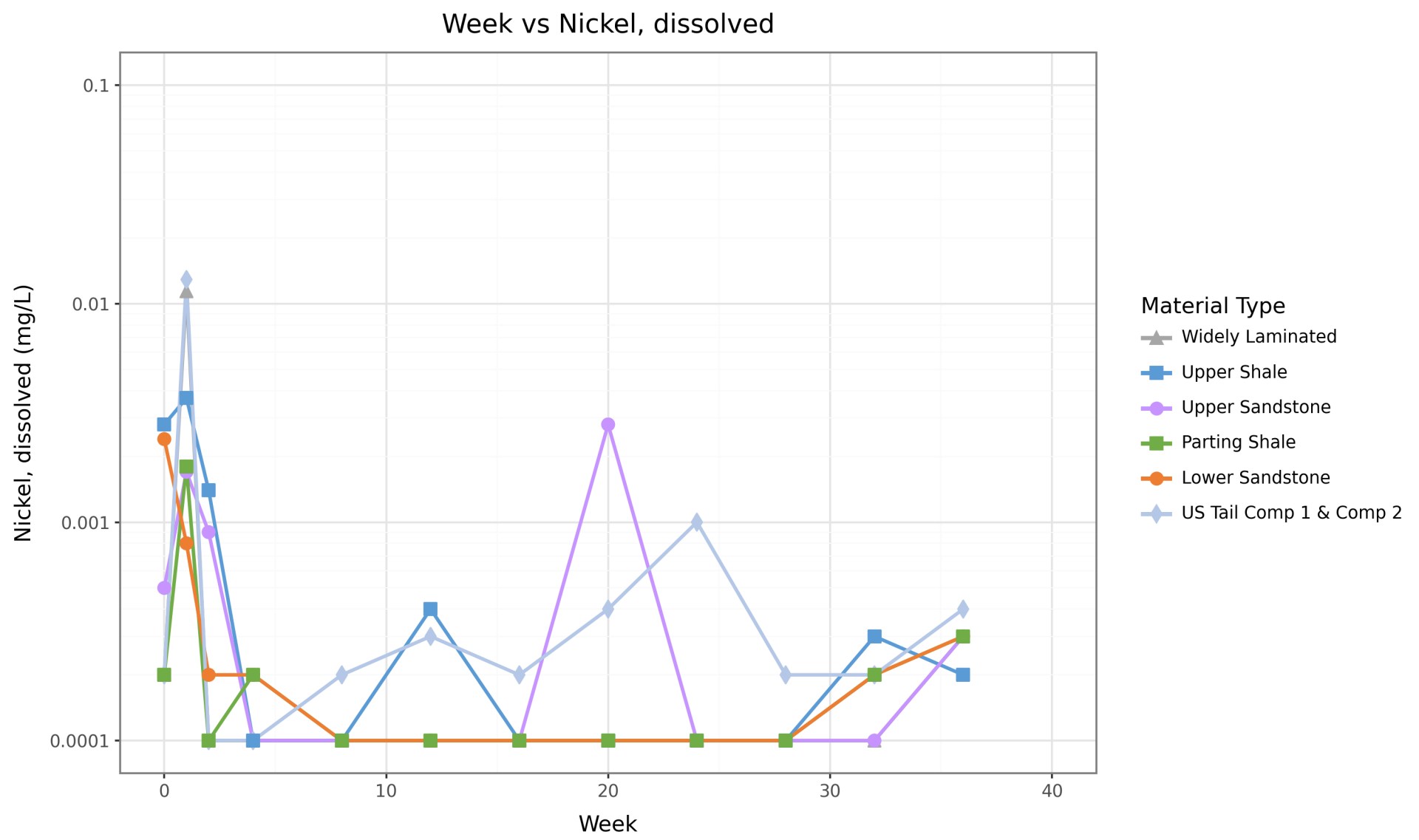

Week vs Manganese, dissolved
Manganese, dissolved (mg/L)
1
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

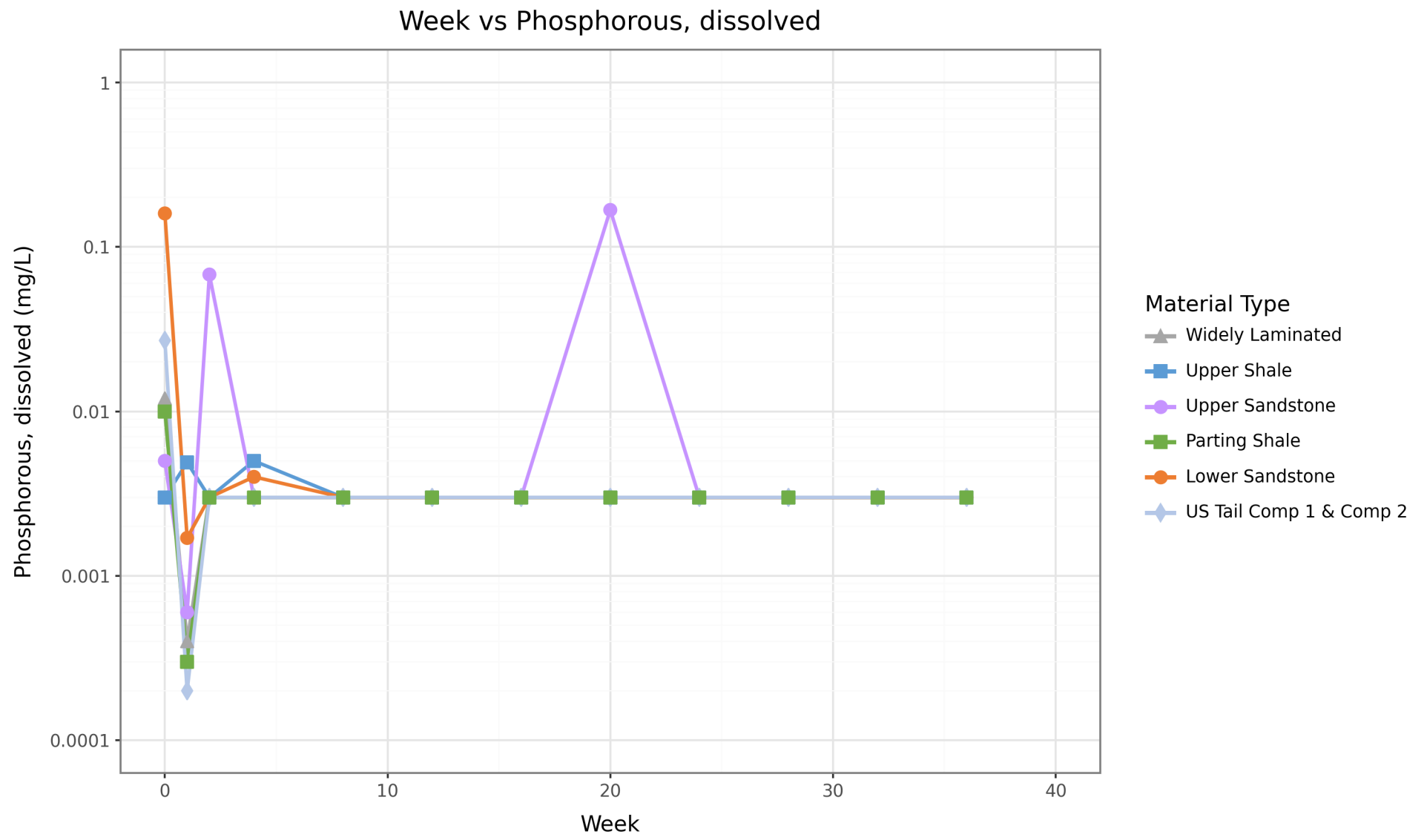

Week vs Molybdenum, dissolved
Molybdenum, dissolved (mg/L)
0.1
0.01
0.001
0.0001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

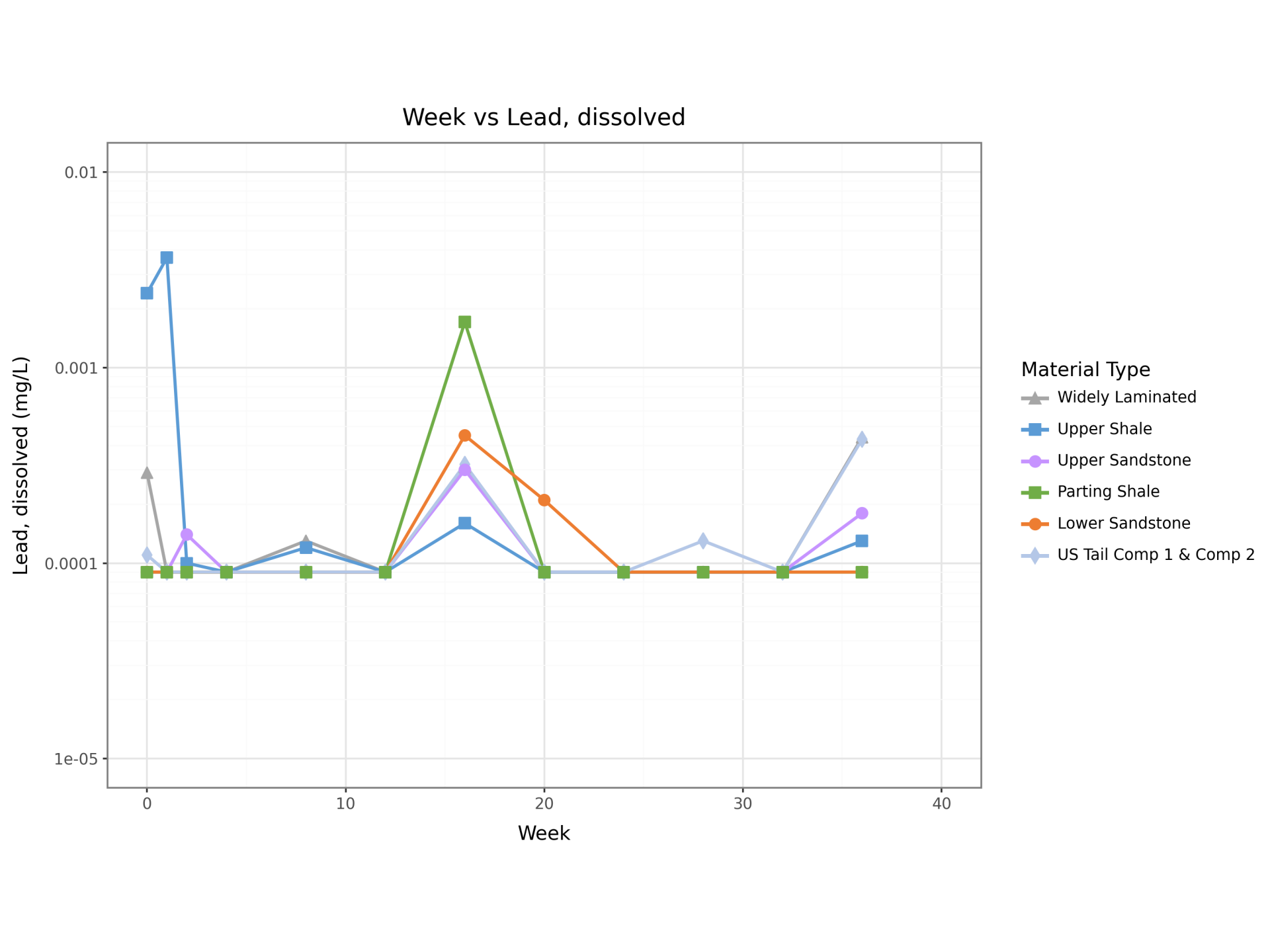

Week vs Nitrite as N
Nitrite as N (mg/L)
1
0.1
0.01
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

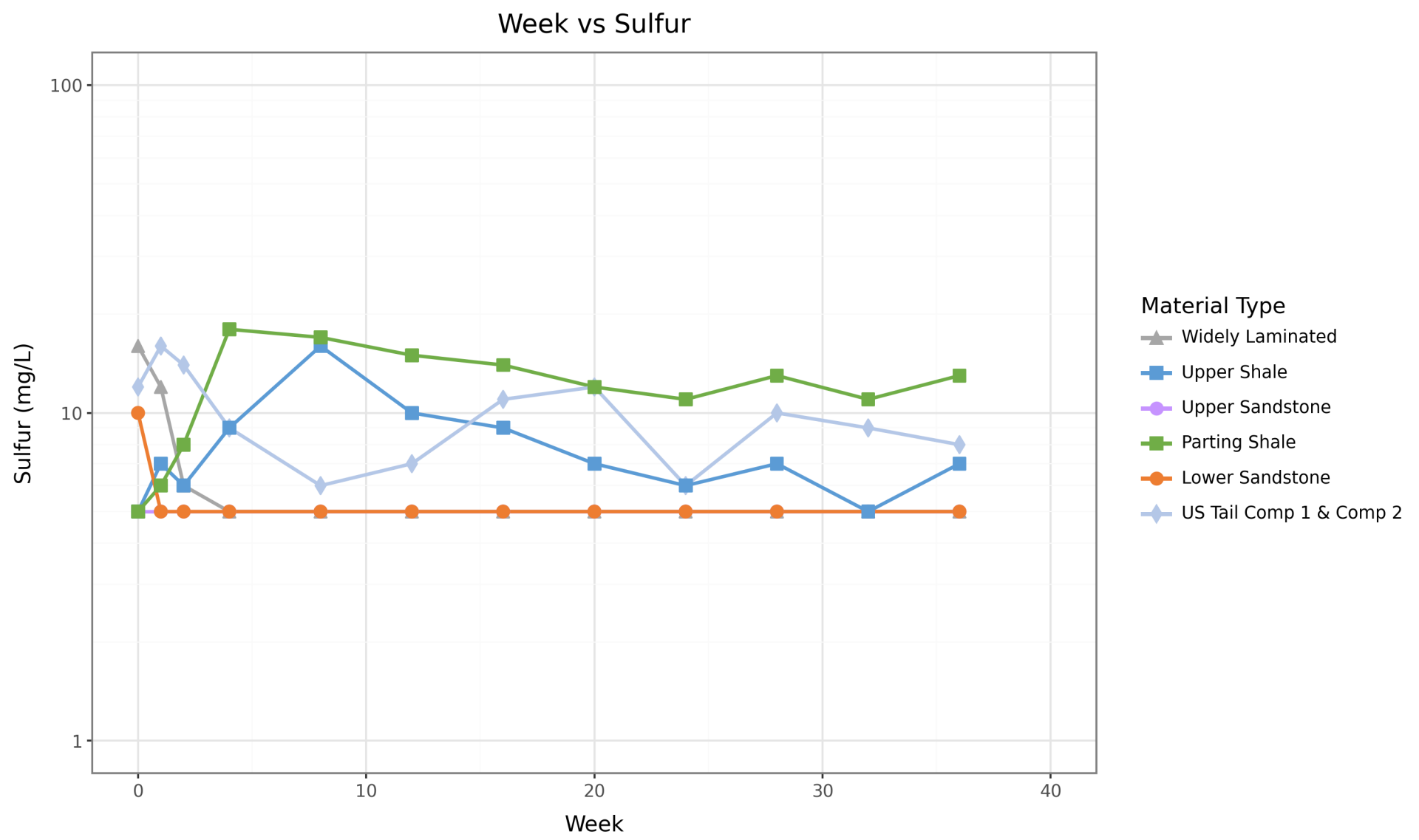

Week vs Nitrate as N
Nitrate as N (mg/L)
100
10
1
0.1
0.01
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

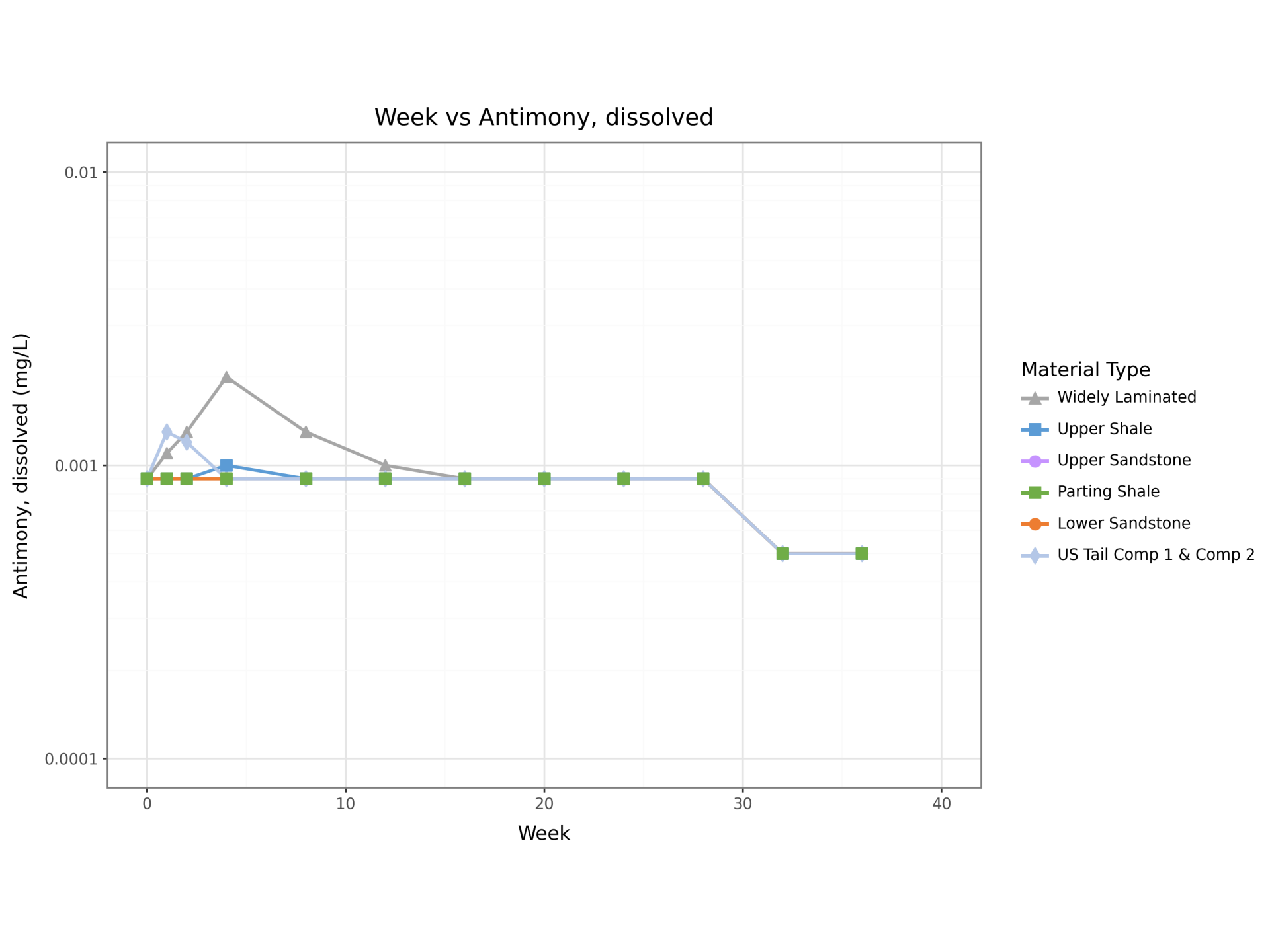

Week vs Sodium, dissolved
Sodium, dissolved (mg/L)
1000
100
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

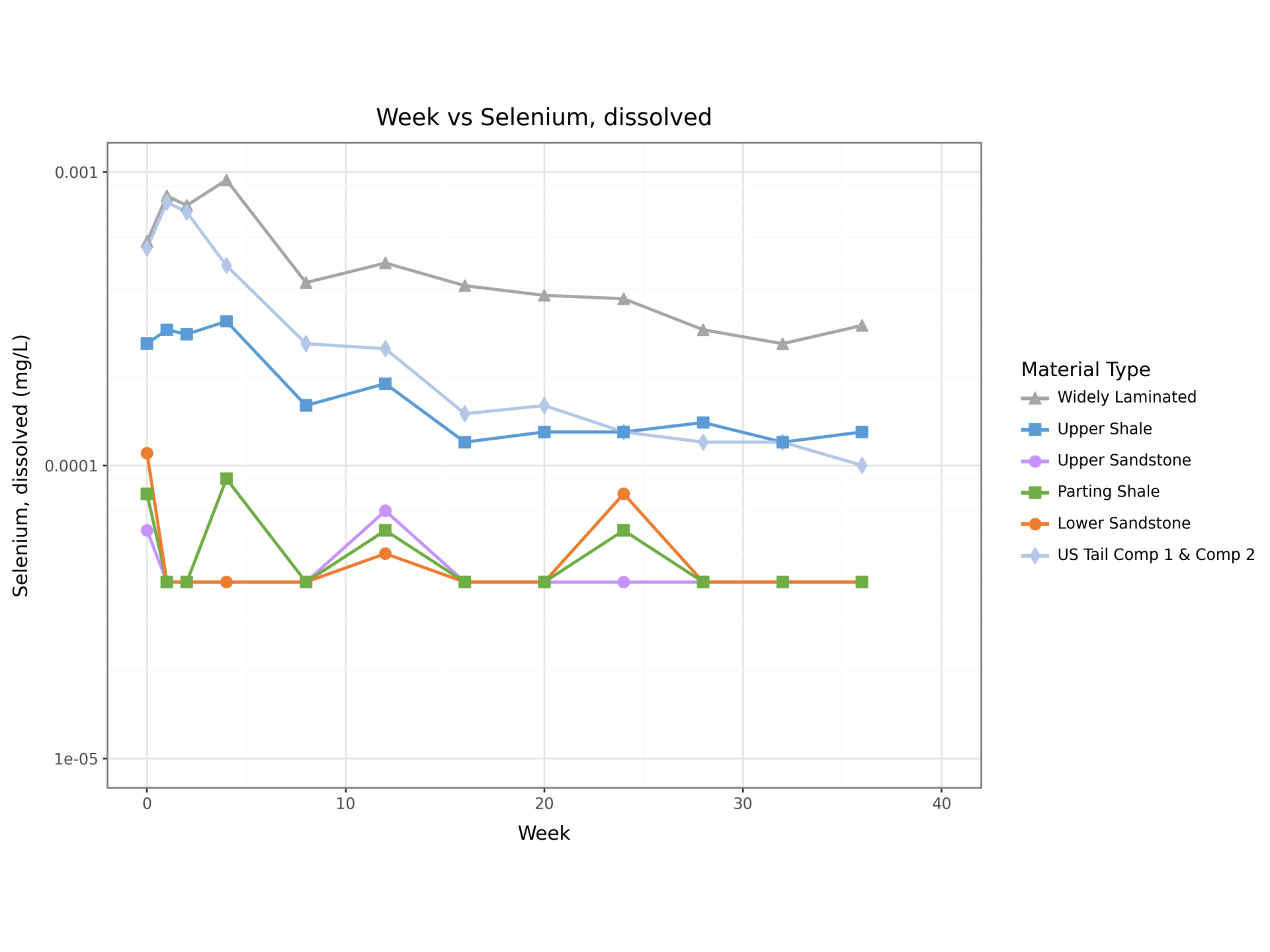

Week vs Nickel, dissolved
Nickel, dissolved (mg/L)
0.1
0.01
0.001
0.0001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

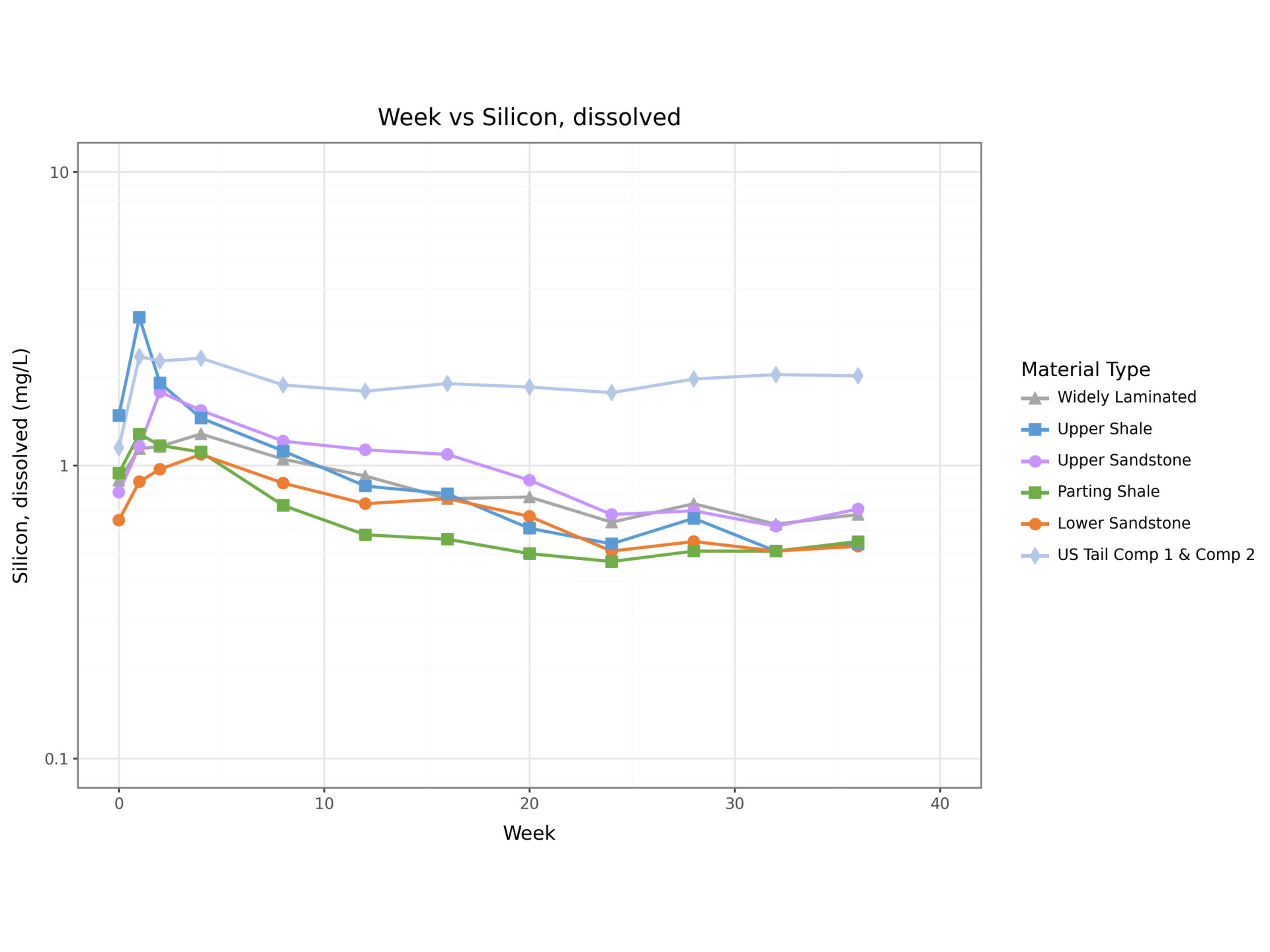

Week vs Phosphorous, dissolved
Phosphorous, dissolved (mg/L)
1
0.1
0.01
0.001
0.0001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

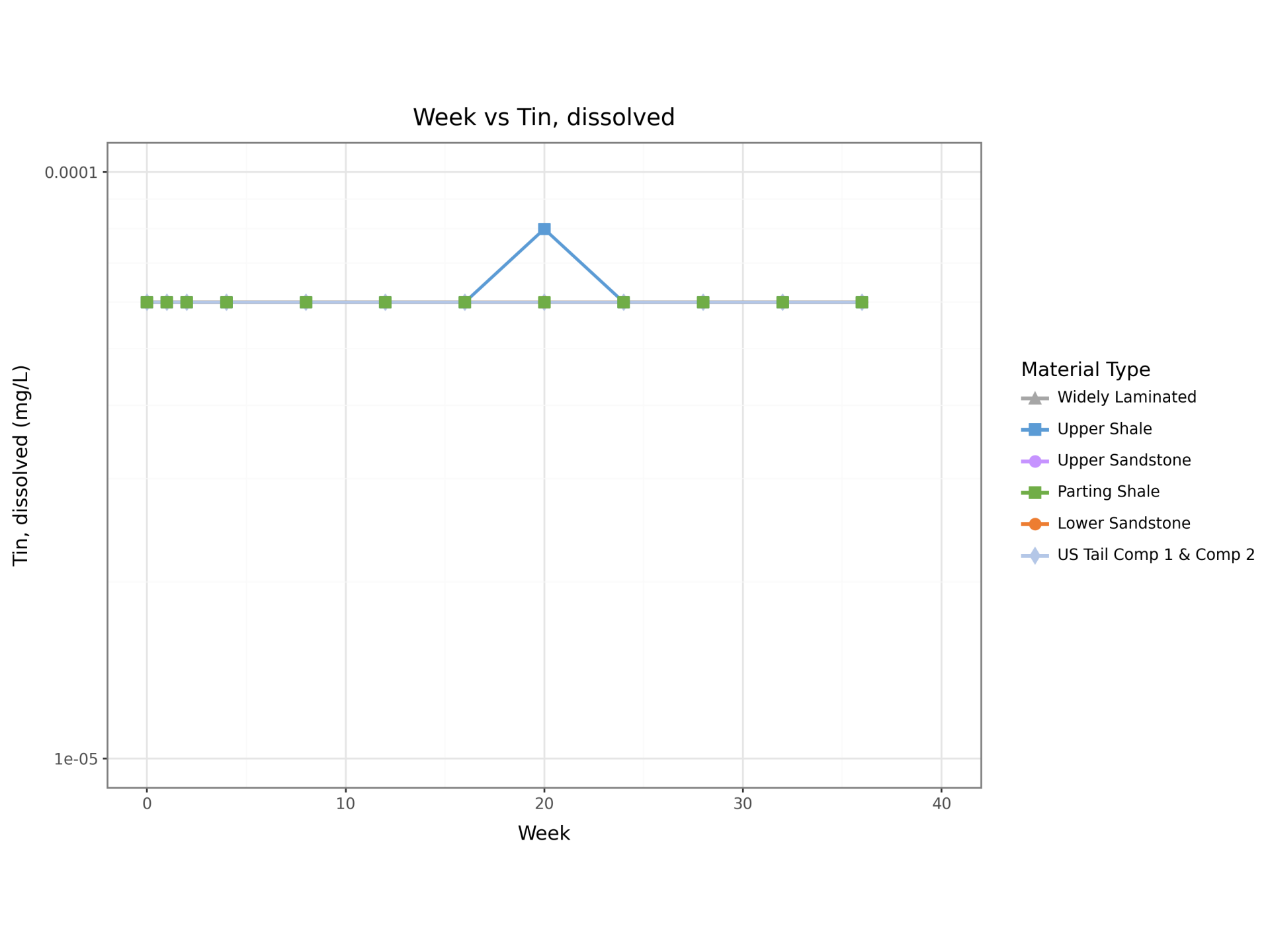

Week vs Lead, dissolved
Lead, dissolved (mg/L)
0.01
0.001
0.0001
1e-05
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

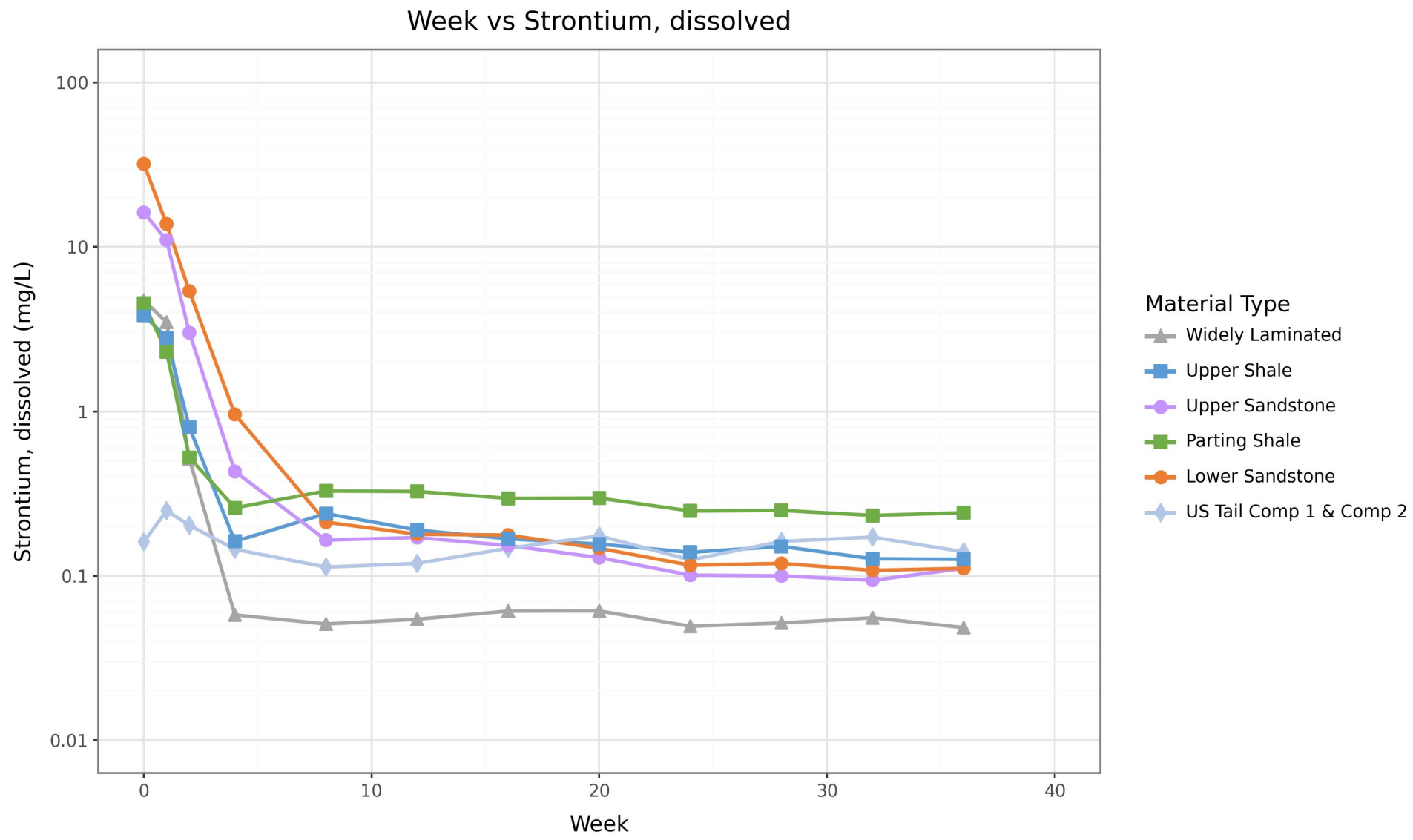

Week vs Sulfur
Sulfur (mg/L)
100
10
1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

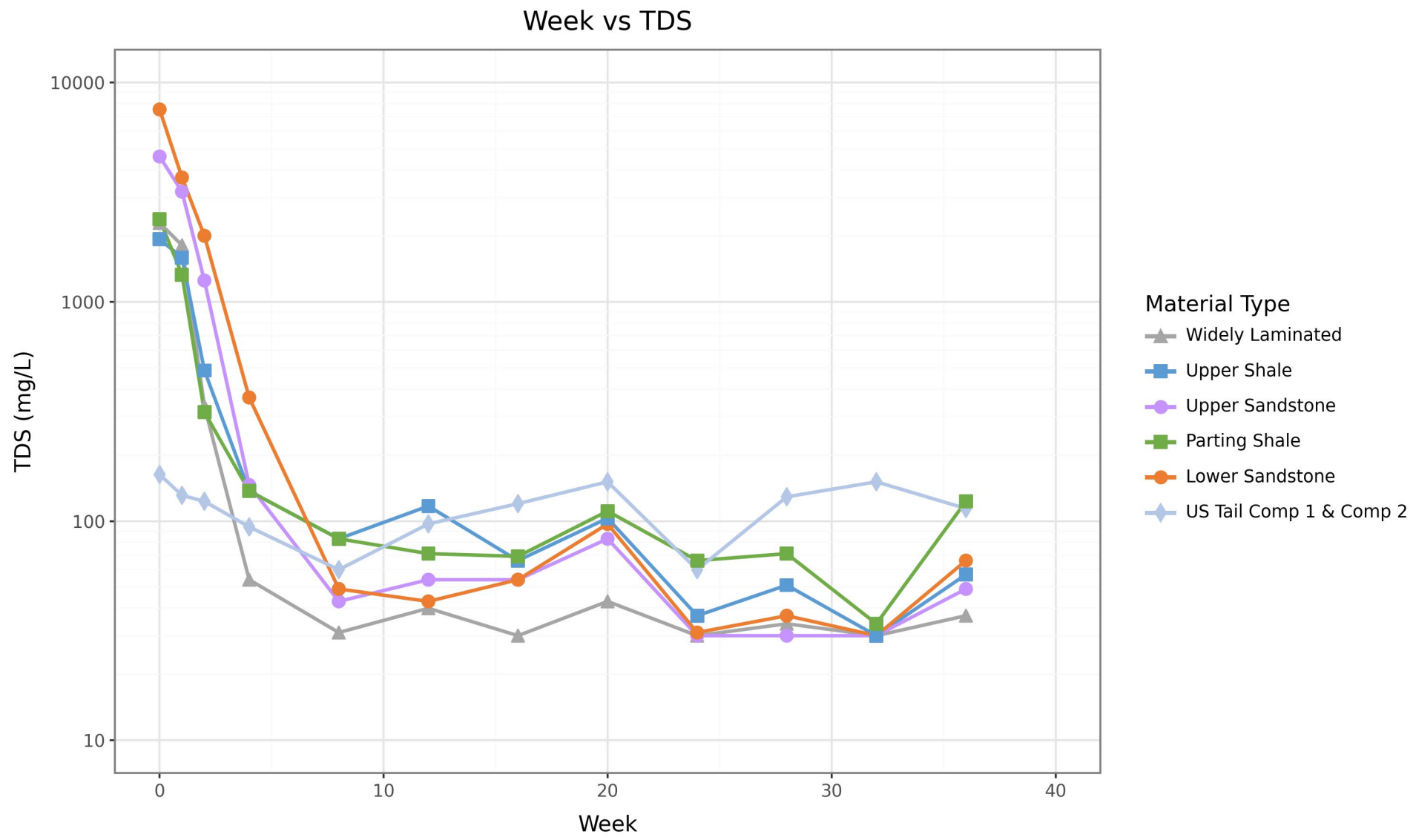

Week vs Antimony, dissolved
Antimony, dissolved (mg/L)
0.01
0.001
0.0001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

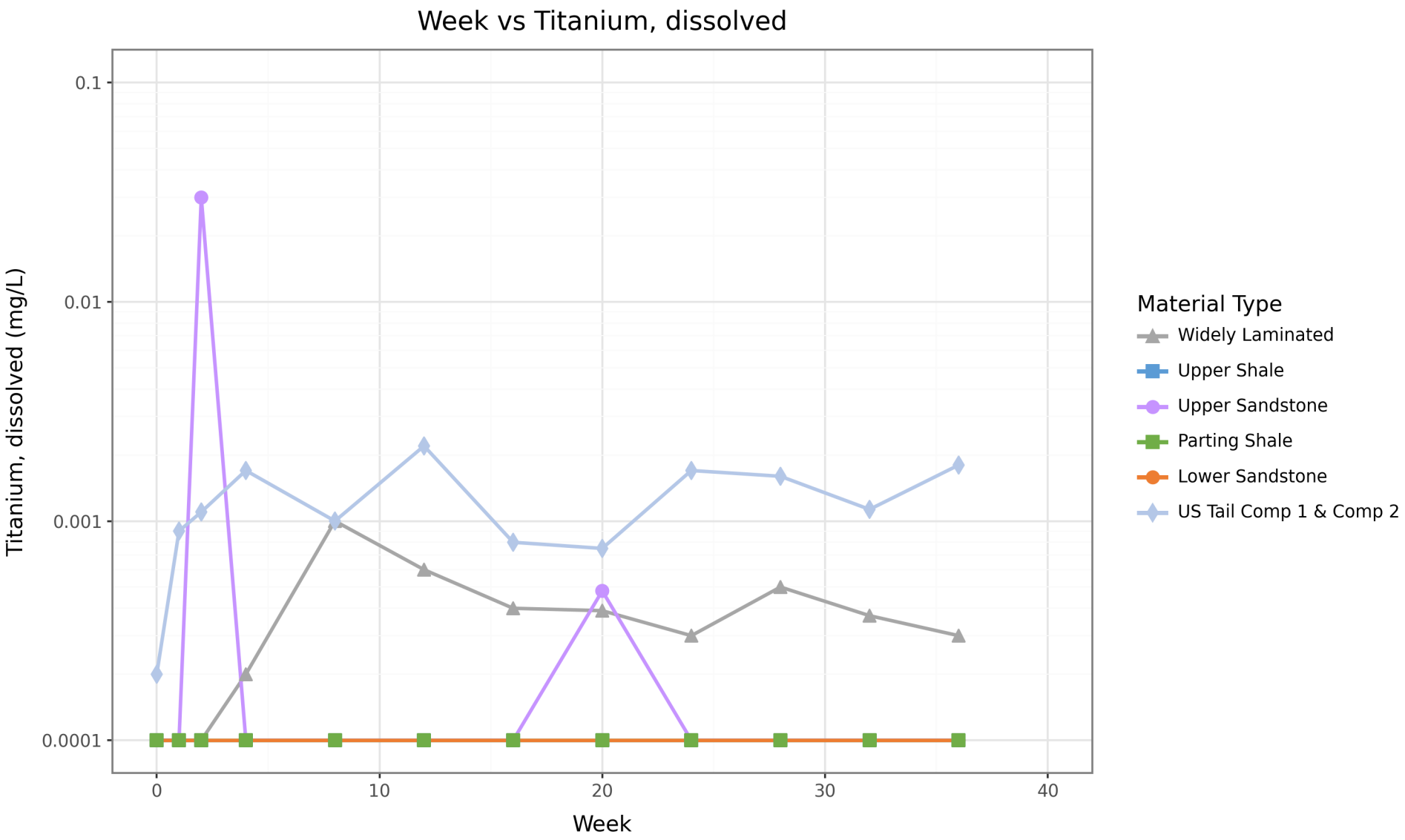

Week vs Selenium, dissolved
Selenium, dissolved (mg/L)
0.001
0.0001
1e-05
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

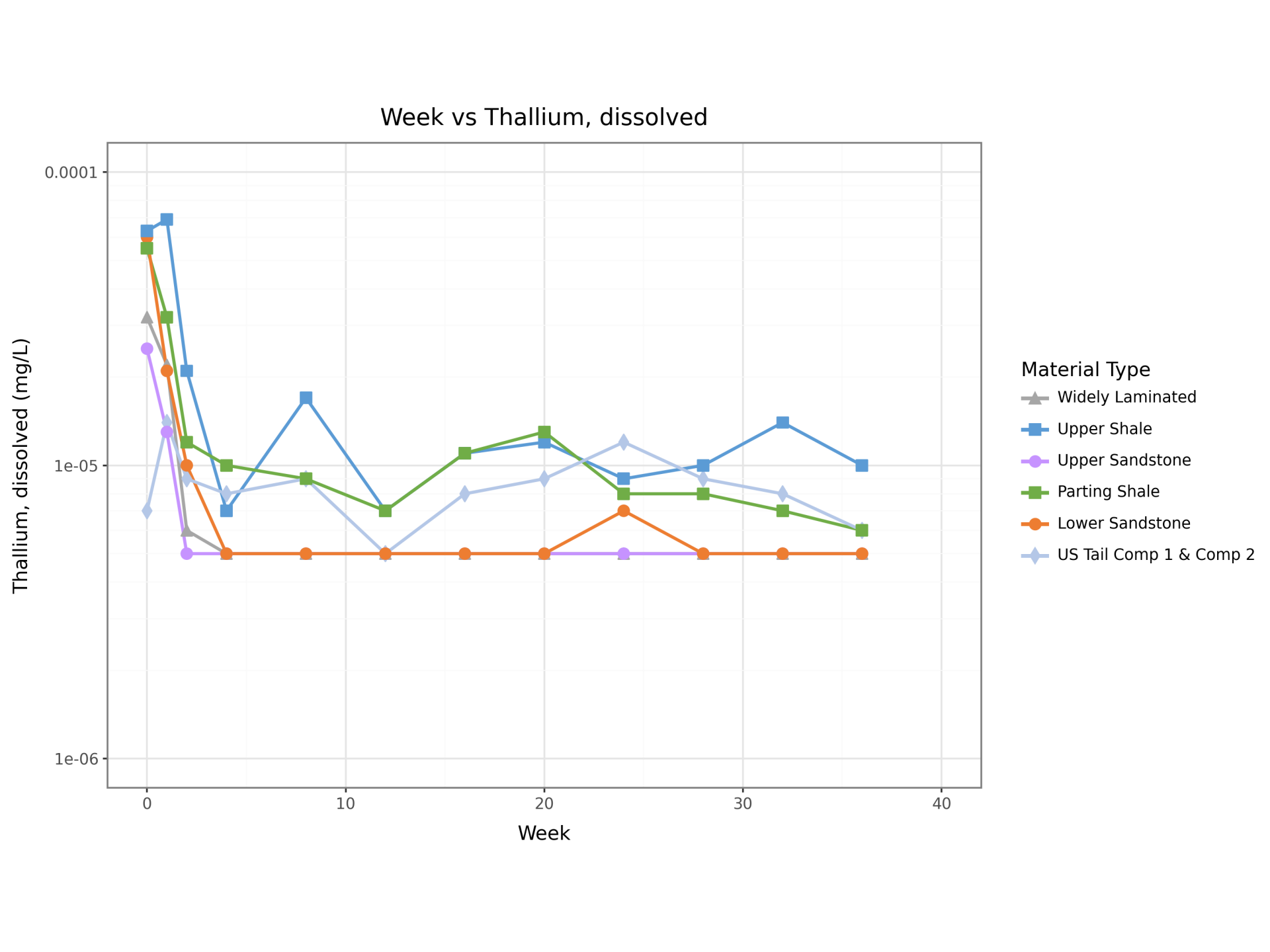

Week vs Silicon, dissolved
Silicon, dissolved (mg/L)
10
1
0.1
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

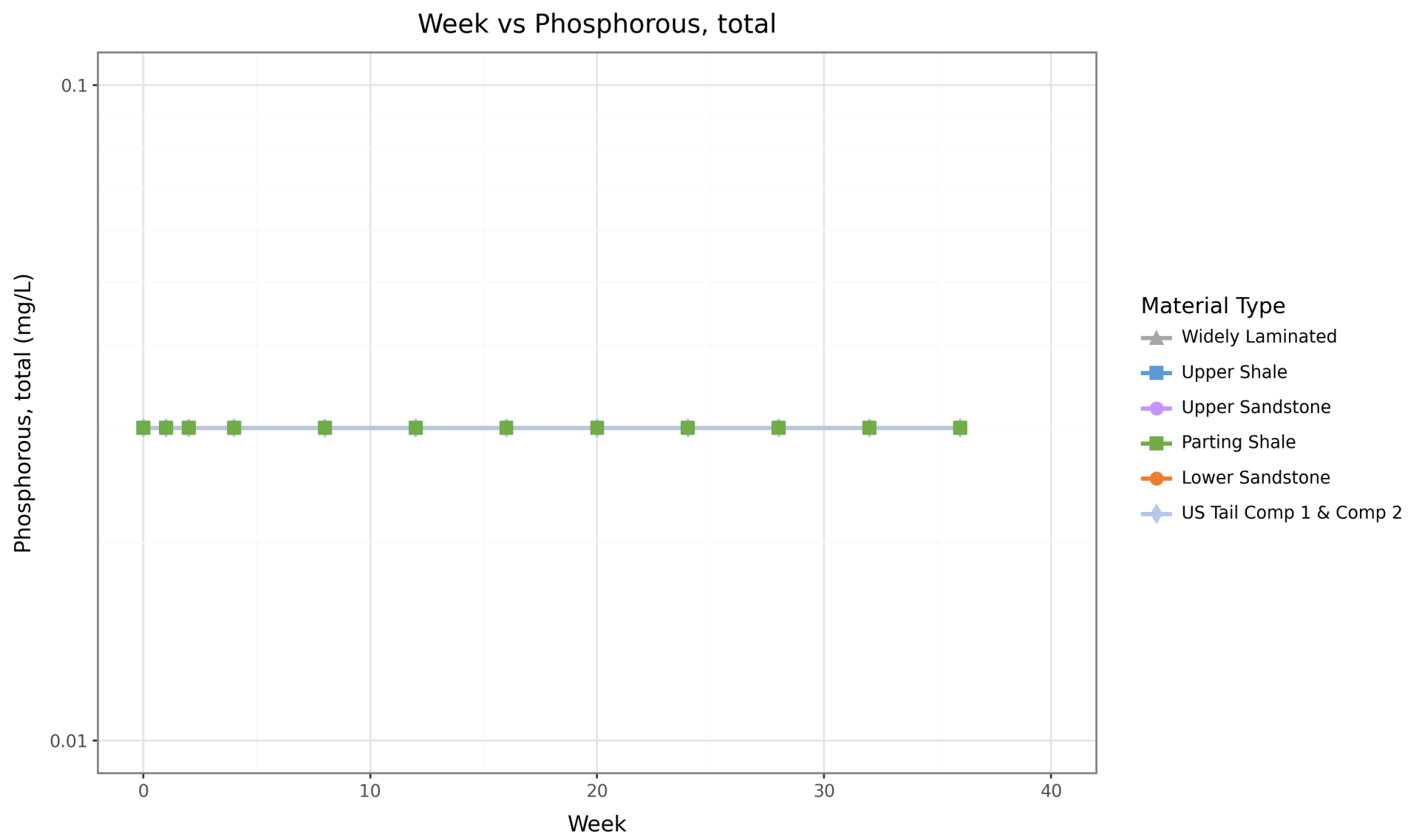

Week vs Tin, dissolved
0.0001
1e-05
Tin, dissolved (mg/L)
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

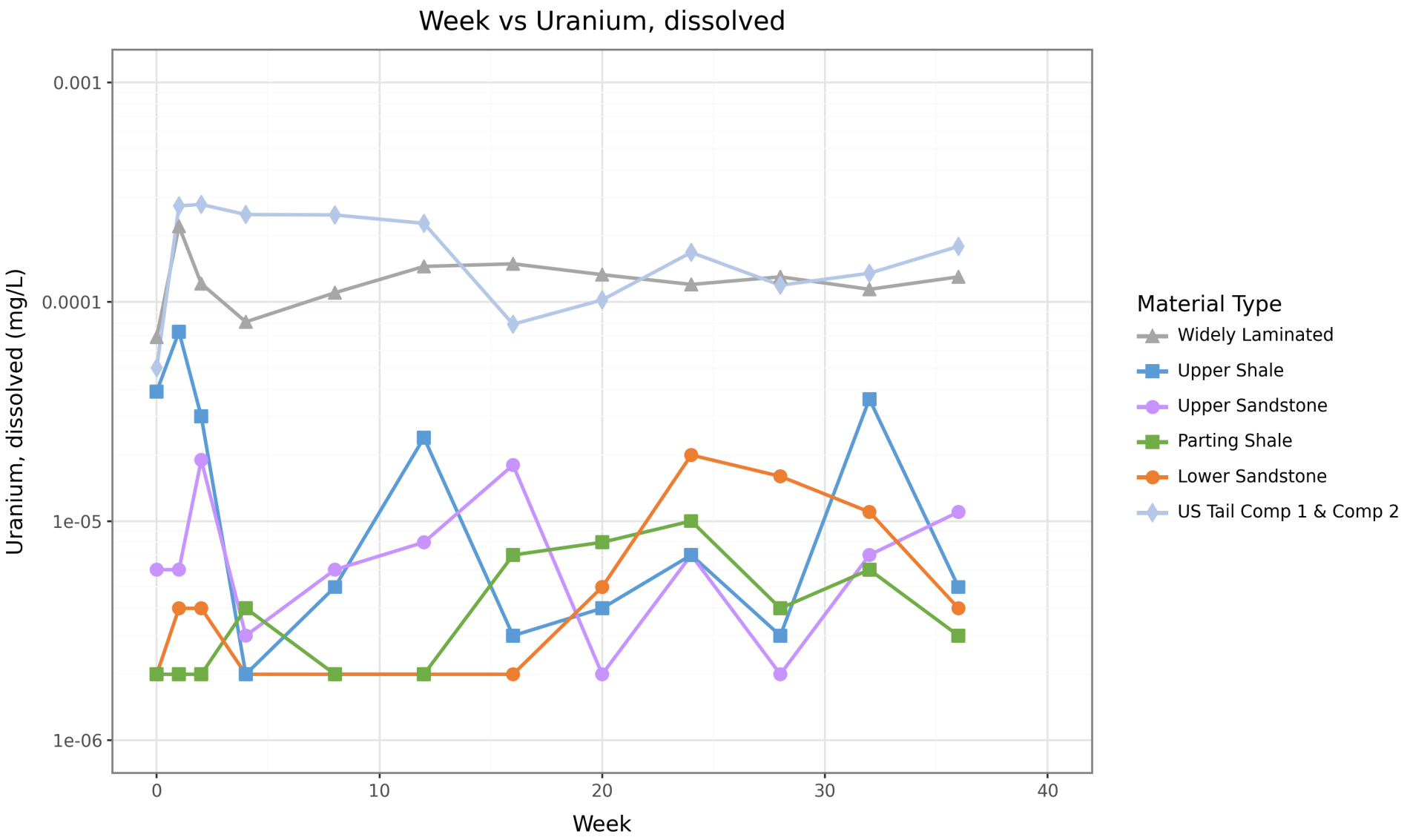

Week vs Strontium, dissolved
Strontium, dissolved (mg/L)
100
10
1
0.1
0.01
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

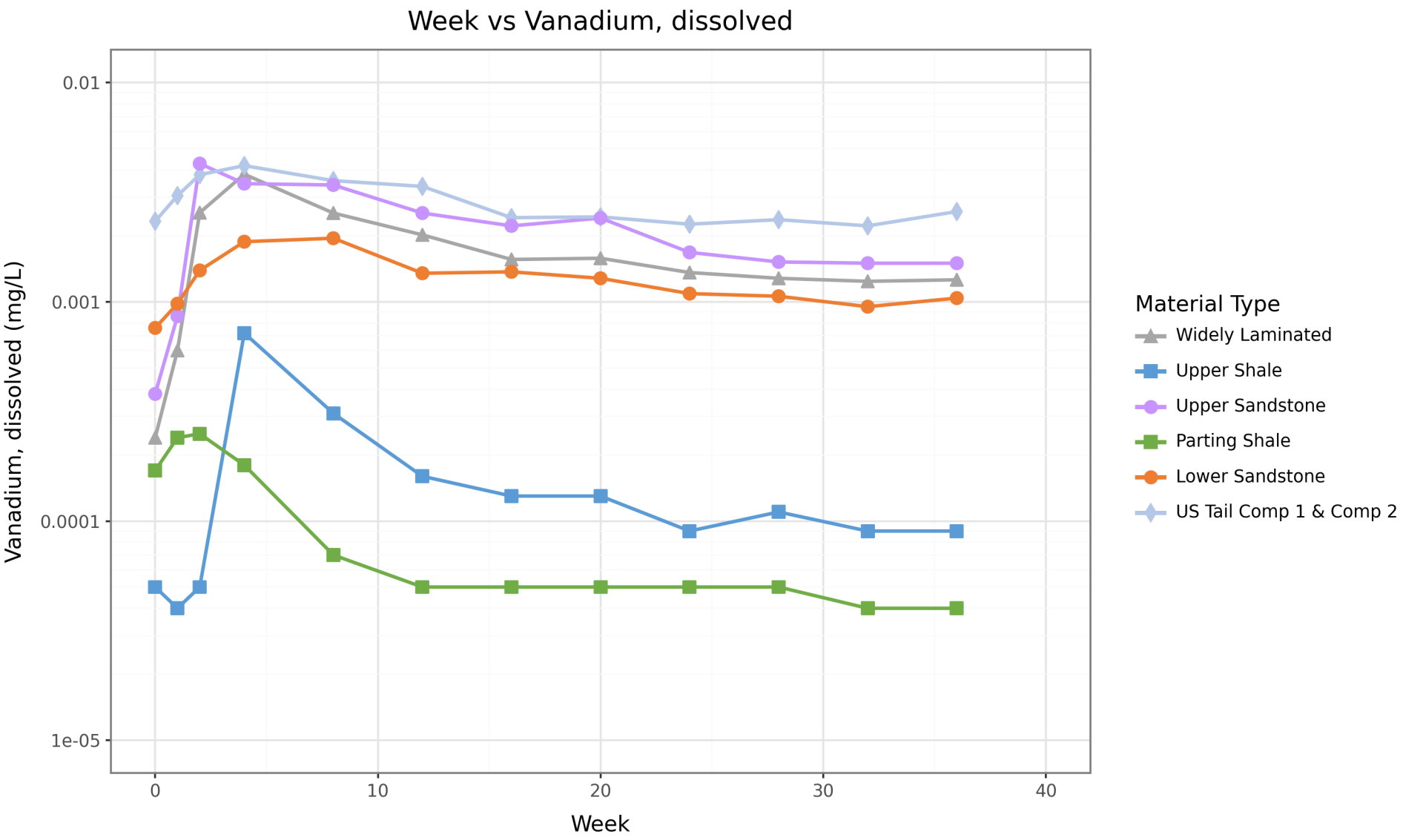

Week vs TDS
TDS (mg/L)
10000
1000
100
10
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

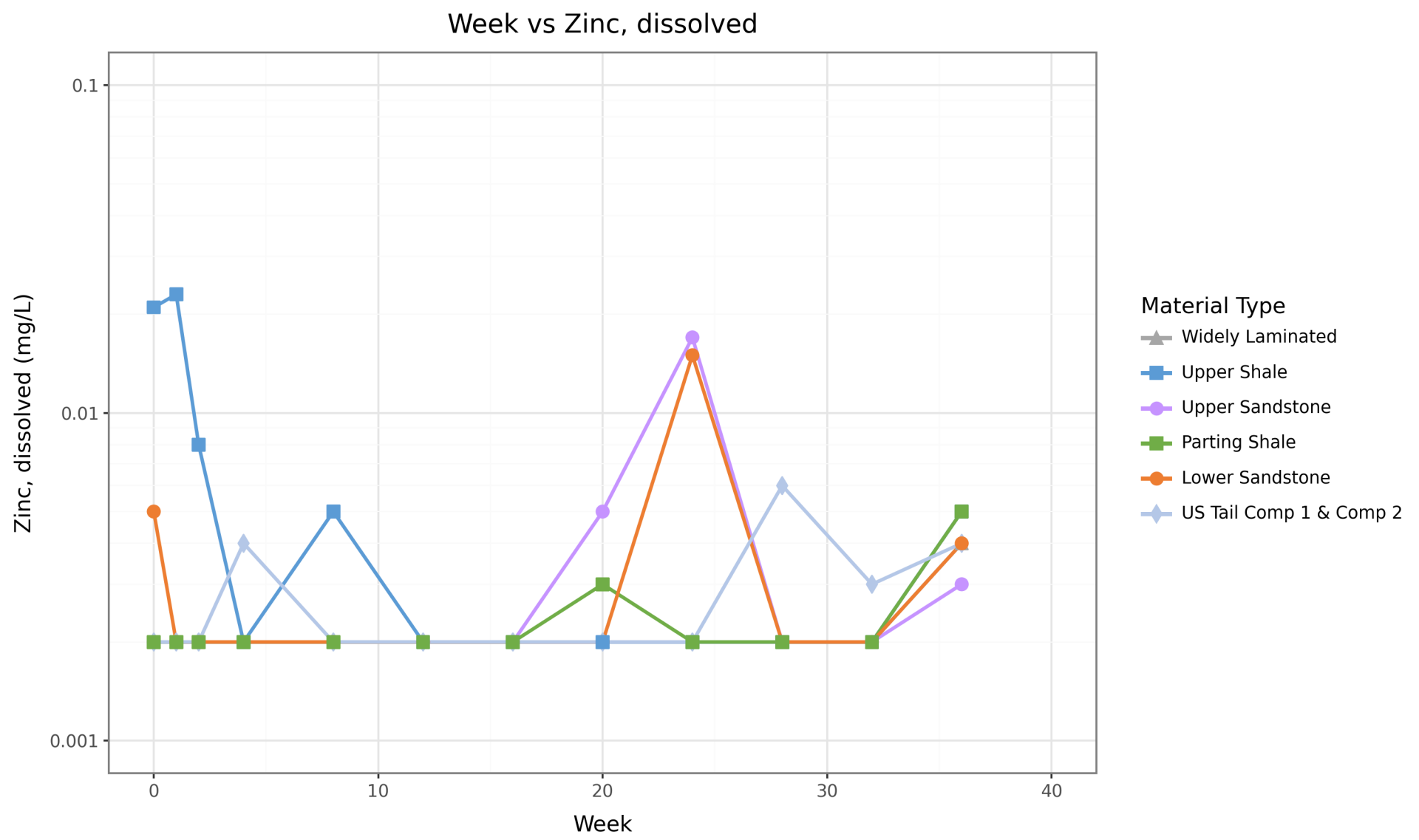

Week vs Titanium, dissolved
Titanium, dissolved (mg/L)
0.1
0.01
0.001
0.0001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2

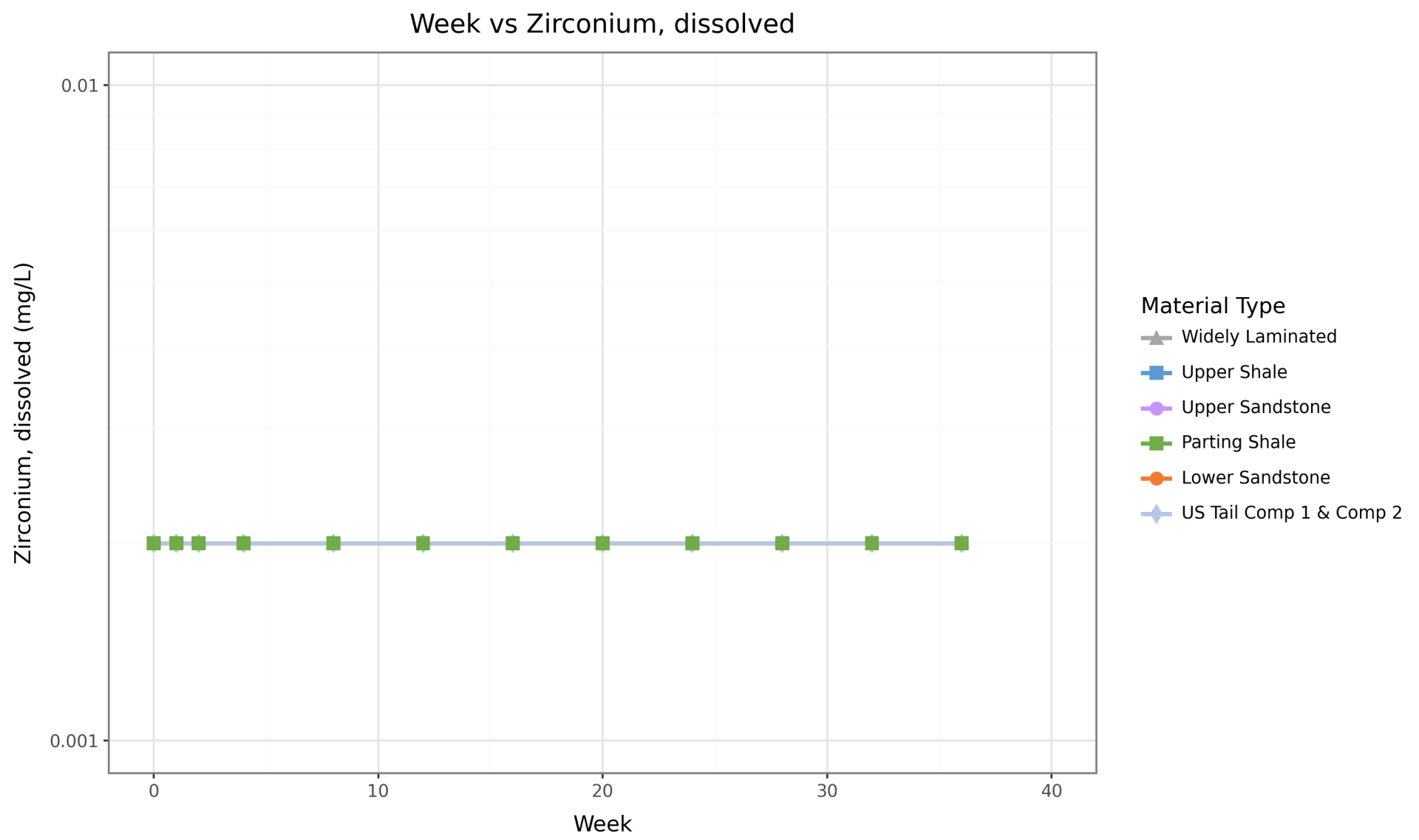

Week vs Thallium, dissolved
0.0001
1e-05
1e-06
Thallium, dissolved (mg/L)
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2


Week vs Phosphorous, total
0.1
0.01
Phosphorous, total (mg/L)
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2


Week vs Uranium, dissolved
Uranium, dissolved (mg/L)
0.001
0.0001
1e-05
1e-06
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2


Week vs Vanadium, dissolved
Vanadium, dissolved (mg/L)
0.01
0.001
0.0001
1e-05
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2


Week vs Zinc, dissolved
Zinc, dissolved (mg/L)
0.1
0.01
0.001
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2


Week vs Zirconium, dissolved
0.01
0.001
Zirconium, dissolved (mg/L)
0
10
20
30
40
Week
Material Type
Widely Laminated
Upper Shale
Upper Sandstone
Parting Shale
Lower Sandstone
US Tail Comp 1 & Comp 2