DIANNE COPPER MINE

Waste Rock Management Plan

17 October 2025

Revision 01

DOCUMENT CONTROL

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DEFINITIONS

Acronym/ Initialism	Definition
AMD	Acid and metalliferous drainage
ASC	Australian Soil Classification
BCM	Bank Cubic Metre
BoM	Bureau of Meteorology
CCM	Compacted Cubic Metre
DCM	Dianne Copper Mine
EA	Environmental Authority
EC	Electrical Conductivity
FoS	Factor of Safety
GCL	Geosynthetic Clay Liner
GDE	Groundwater Dependant Ecosystems
LCM	Loose Cubic Metre
ML	Mining Lease
NAF	Non-Acid Forming
PAF	Potentially-Acid Forming
PMLU	Post-mining land use
PRCP	Progressive Rehabilitation Closure Plan
RA	Rehabilitation Area
REMP	Receiving Environmental Monitoring Program
RM	Rehabilitation Milestone
ROM	Run-of-Mine pad
SSE	Site Senior Executive
t/T	Tonne
WRMP	Waste Rock Management Plan

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1. Introduction

1.1. Project Description

The Dianne Copper Mine (DCM) is located in Cape York Peninsula, Queensland, approximately 165 kilometres northwest of Cairns and 100 km southwest of Cooktown. The Mine is situated on Mining Leases ML 2810, ML 2811, ML 2831, ML 2832, ML 2833, and ML 2834 as shown in Figure 1. The proponents for the Dianne Copper Mine are Mineral Projects Pty Ltd and Tableland Resources Pty Ltd.

The site was developed as a Direct Shipped Ore copper mine in the 1970s and operations ceased in 1982 when the mine was put under care and maintenance due to the global fall of copper prices. At this time, all processing infrastructure, administration, and accommodation were removed from site and rehabilitation of some areas of the site was carried out.

The site is currently under care and maintenance, with the recommencement of mining activities being proposed under a major EA amendment. Current disturbance at the site is minimal, totalling 14.1 ha across all mining leases. Rehabilitation related activities to date have focused on water management, in particular the construction and maintenance of infrastructure to isolate the waste rock stockpile from overland flow and to manage mine affected water.

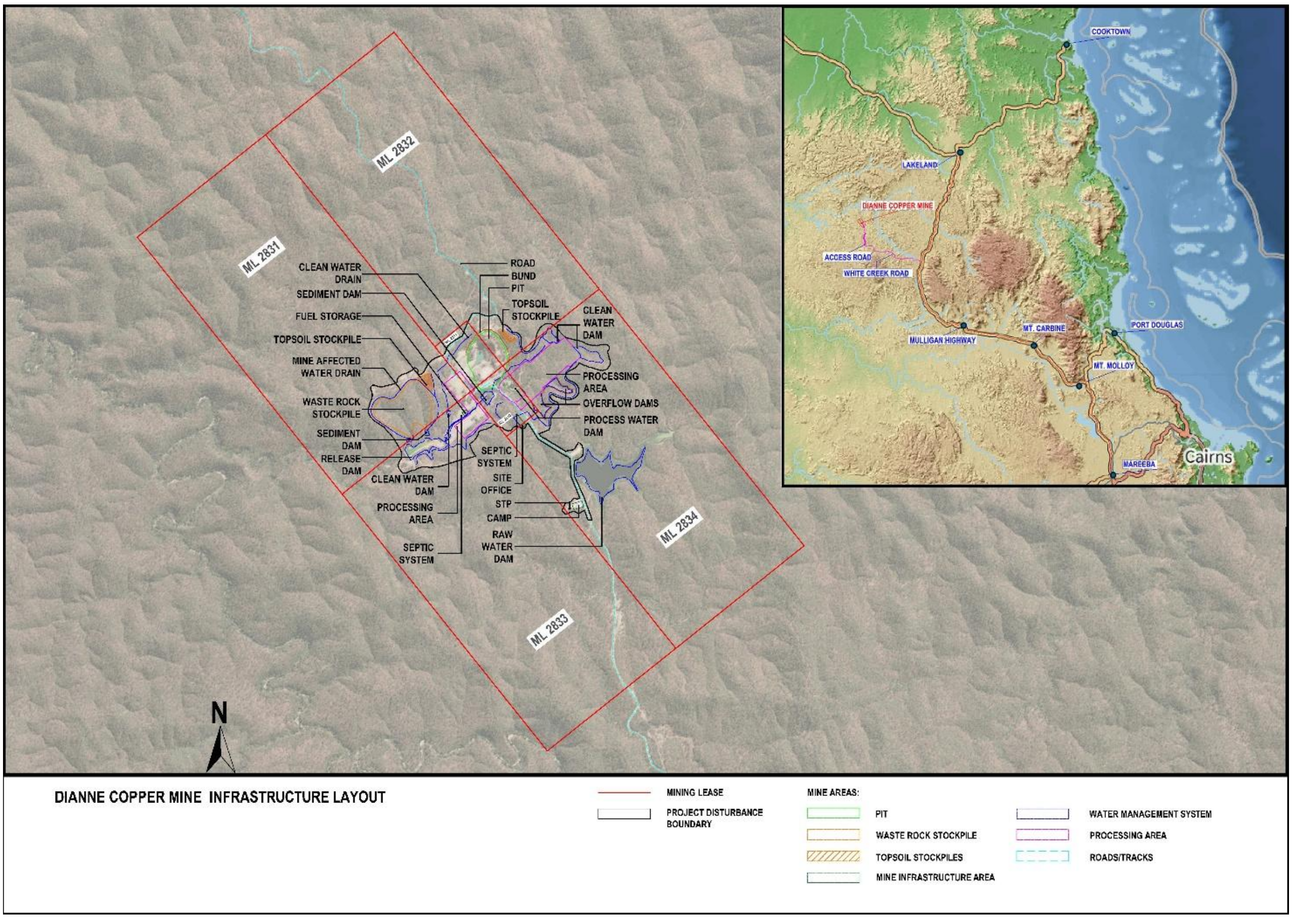


Figure 1 - Proposed Project Layout

(SEE ALSO DWG. J022.130.10-SKE-004.1-MINE_INFRASTRUCTURE_LAYOUT)

The Dianne Recommencement Project (the project) involves the recommencement of mining and associated activities at the Dianne Copper Mine. The project will be a traditional truck and shovel hard rock mine and processing facility. It will consist of the following elements, which are shown in Figure 2:

- Reprocessing and disposing of the existing waste rock stockpile from previous mining operations;
- Mining Overburden, Waste Rock and Ore from the pit;
- Crushing and beneficiating Ore;
- Acid leaching of copper metal in gravity heaps;
- Solvent extraction of the leach liquor for purification and concentration of copper and subsequent recycling of acid to leaching;
- Electrowinning of high purity copper cathodes from the concentrated SX solution;
- Ancillary operations such as maintenance and camp facilities;
- Exploration activities;
- Rehabilitation and closure.

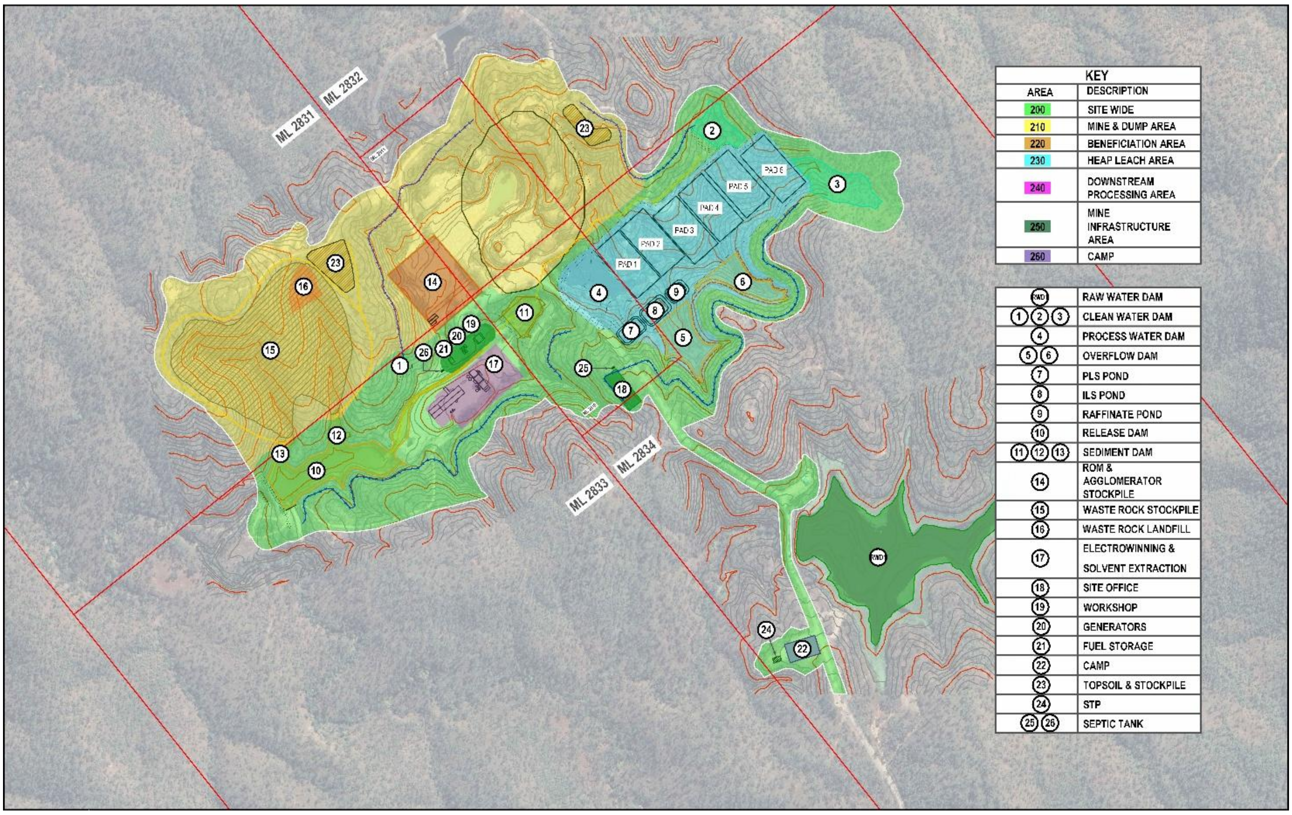


Figure 2 - Planned Site Layout

(SEE ALSO DWG. J022.200.00-DWG-003.08.1-AREA_LAYOUT)

The project involves a total of 4.2Mt of ore and overburden with the planned mine pit shown in Figure 3 below.

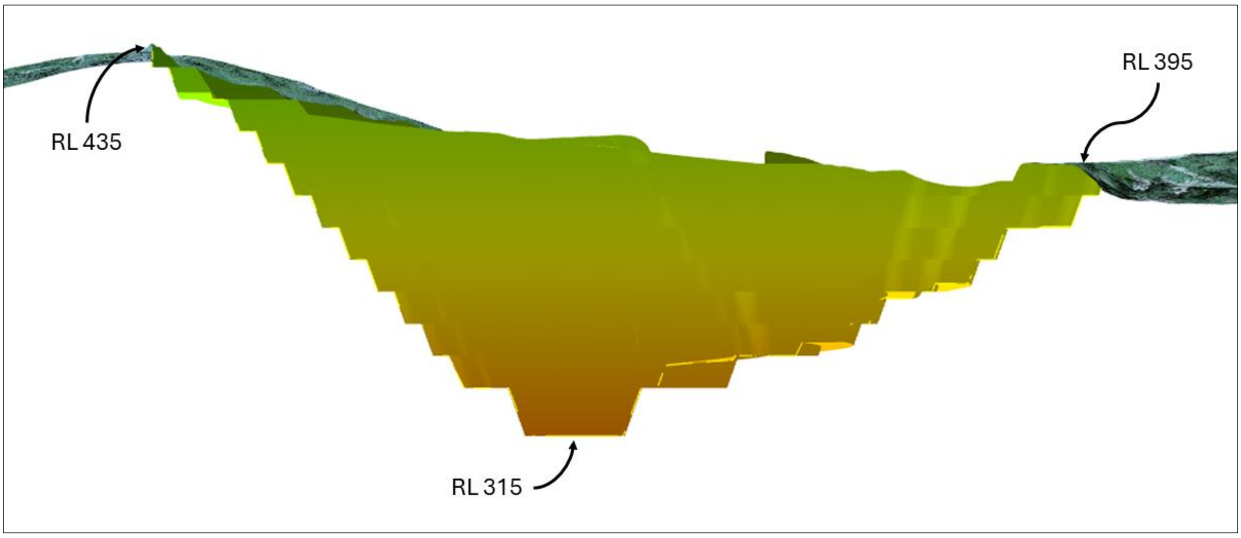


Figure 3 - Open Pit N-S Section

1.2. About this Plan

This Waste Rock Management Plan (WRMP) has been prepared in accordance with the Environmental Authority (EA) EPML00881213. The purpose of this WRMP is to outline the strategies and process for managing the waste rock to minimise potential adverse impacts on the environment and human health values. Objectives include:

1. Environmental Protection: Preventing contamination of environmental values (including soil, groundwater, surface water and ecology) through effective waste rock management practices;
2. Compliance: Ensuring all waste rock management activities comply with relevant regulations and industry standards;
3. Monitoring and Reporting: Establishing protocols for regular monitoring and reporting to track the effectiveness of waste rock management practices and identify areas for improvement.

The scope of this WRMP encompasses all activities related to the handling, storage, and rehabilitation of the existing and planned waste rock stockpiles. This includes:

a) Waste Rock Characterisation
   - Identifying the types of waste rock, including their chemical and physical properties;
   - Assessing potential environmental risks associated with different types of waste rock, such as acid and metalliferous drainage (AMD) potential.

b) Waste Rock Storage
   - Designing waste rock stockpiles to ensure stability and minimise environmental impact, including the use of liners, covers, and drainage systems.

c) Environmental Monitoring
   - Establishing a comprehensive monitoring program to regularly assess the environmental impact of waste rock storage.

d) Rehabilitation and Closure
   - Outlining plans for the progressive rehabilitation of the waste rock stockpile, including recontouring, topsoil replacement, and revegetation.

e) Reporting and Documentation

- Defining the requirements for regular reporting to regulatory authorities and stakeholders on waste rock management activities and environmental performance.

By addressing these elements, the WRMP aims to ensure that waste rock management at the Dianne Copper Mine is conducted in an environmentally responsible, safe, and compliant manner.

This WRMP demonstrates that approximately 5% of the total mined quantities are expected to be at risk of being PAF and that approximately 15% of total mined quantities can be encapsulated within the encapsulation zone within the in pit waste rock stockpile.

2. STATUTORY AND BEST PRACTICE REQUIREMENTS

This WRMP has been developed in alignment with the requirements of the Dianne Copper Mine EA (EPML00881213) and the Dianne Copper Mine Progressive Rehabilitation and Closure Plan (Dianne Mining Corporation Pty Ltd, 2025). It covers the existing waste rock stockpile at Dianne Copper Mine and additional waste rock that will be generated during the proposed mining operations.

2.1. WRMP Requirements from Existing Environmental Authority

Schedule D – Land and Rehabilitation of the Dianne Copper Mine EA (EPML00881213) requires that a "…Waste Rock Management Plan must be developed and certified by an appropriately qualified person and implemented by 1 February 2014. The Waste Rock Management Plan must be reviewed annually to assess its adequacy, ensure actual and potential environmental impacts are managed, and identify any necessary amendments to ensure compliance with this environmental authority." Further, the particular requirements of the WRMP are set out in Table 1 below. This updated WRMP addresses the EA requirements for both the existing waste rock stockpile and proposed waste rock stockpiles for the project as demonstrated by Table 1.

Table 1 - EA Requirements

EA Requirement	Where addressed in this WRMP for existing waste rock stockpile	Where addressed in this WRMP for proposed WRMP
A detailed design of any waste rock stockpile(s) to be constructed	N/A	S5.5
A detailed site plan showing the location of existing and planned waste rock stockpiles, including drainage features	S3.2	N/A
An Action Plan for the management of the existing waste rock stockpile, as identified in Schedule A — Table 1 (Project Infrastructure Layout — Mine Area)	S3.2, S5.3.1	N/A
The Action Plan must include, but not necessarily be limited to, timeframes and critical dates	S6.3	S6.3
The Action Plan must include, but not necessarily be limited to, details of relocation, capping or other control strategies that remove, minimise or mitigate the current environmental risk from mine drainage, including contingency plans	S5.3.1	S5.7, S5.8
The Action Plan must include, but not necessarily be limited to, characterisation of the waste rock to allow conclusive determination of the chemistry of runoff and seepage generated	S4.1, Annexure 1	S4.2, S4.3, Annexure 2
The Action Plan must include, but not necessarily be limited to a materials balance and disposal plan demonstrating how waste rock will be managed to minimise the generation of acid, neutral and/or saline mine drainage	S5.3.1	S5
The Action Plan must include, but not necessarily be limited to a sampling program to verify the management of potentially acid forming rock and acid forming rock and waste rock that has a potential to generate neutral mine drainage	N/A	S6.1, S7

2.2. Legislative and Best Practice Requirements

This WRMP addresses the specific legislation related to waste rock management planning including Statutory Guideline, Progressive Rehabilitation and Closure Plan 2019 and the Environmental Protection Regulation, 2019.

The authors have also considered relevant best practice guidance including:

- Best Practice Principles for Mine Waste Cover Systems and Mineral Mine Rehabilitation In Queensland, Gagen et al 2022
- Mine waste cover system trials - a literature review: Technical Paper 1, Office of the Queensland Mine Rehabilitation Commissioner, 2025
- Mine waste cover system trials – a comparative review of case studies: Technical Paper 2, Office of the Queensland Mine Rehabilitation Commissioner, 2025
- Mine waste cover system trials – a leading practice approach for field-scale trials in Queensland: Technical Paper 3, Office of the Queensland Mine Rehabilitation Commissioner, 2025

3. EXISTING ENVIRONMENT

3.1. Existing Site Conditions

Figure 4 provides an overview of the existing site. The mining leases are located on undulating topography and on the upper stretches of a ridgeline, with a number of small gullies that constitute ephemeral drainage lines that connect to Gum Creek, which connects to the Palmer River and flows into the Mitchell River. All drainage lines within the mining leases are minor in nature and unnamed (Groundwater and Surface Water Report, C&R, 2024).

The region has historically been mined for gold, including alluvial gold mining from the 1850's, and there is an active alluvial gold mining lease currently being operated approximately 5km upstream of the mining leases on Gum Creek. Cattle grazing is the current main land use.

Figure 4 - Existing Site

3.2. Existing Waste Rock Stockpile

There is one existing waste rock stockpile on site, totalling 0.98 ha. This stockpile and associated water management features are shown in Figure 5 and Figure 6.

The existing waste rock stockpile has been reprofiled and compacted to prevent ponding and reduce water infiltration, including the installation of contour drains to ensure run off flows into the Settling Dam. A drainage channel has been installed north of the waste rock stockpile to divert water around the area and directly into the Settling Dam. An additional bund has been installed upstream of the waste rock stockpile, to divert all overland flow (clean water) around disturbance areas. This waste rock stockpile will be removed prior to constructing the processing facilities.

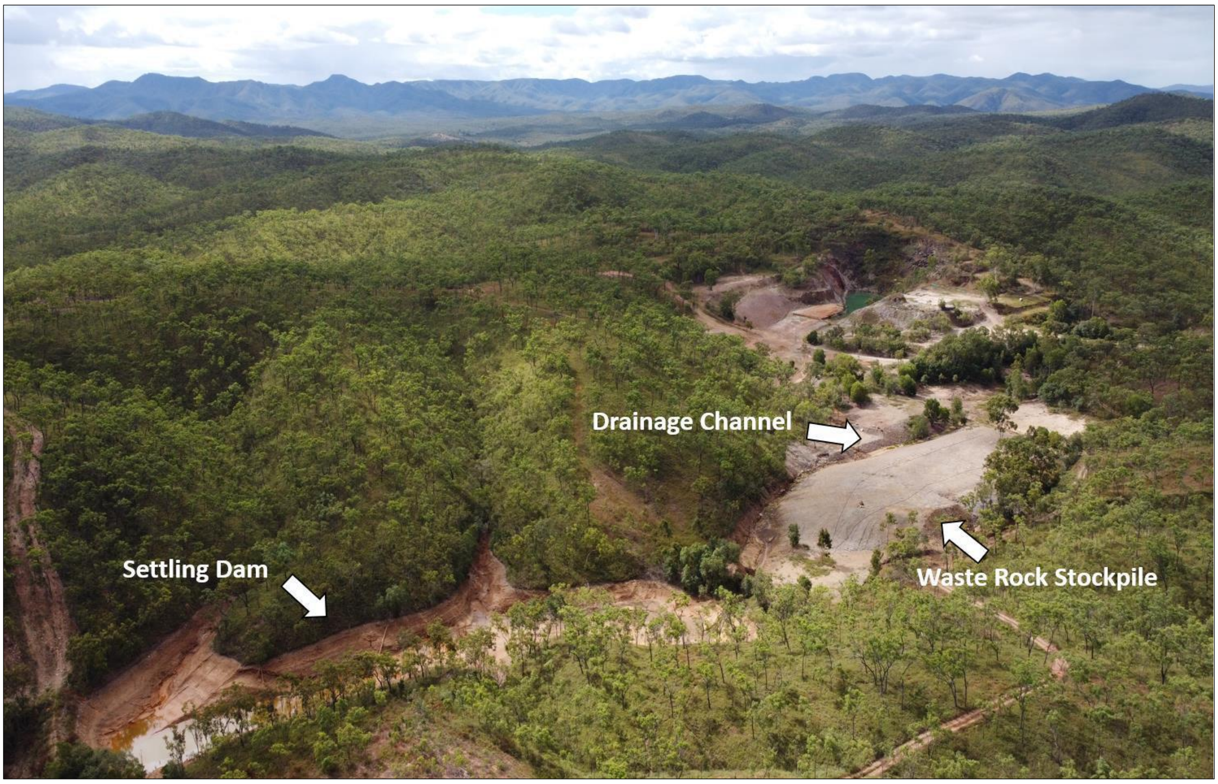


Figure 5 - Waste Rock Stockpile (May 2021)

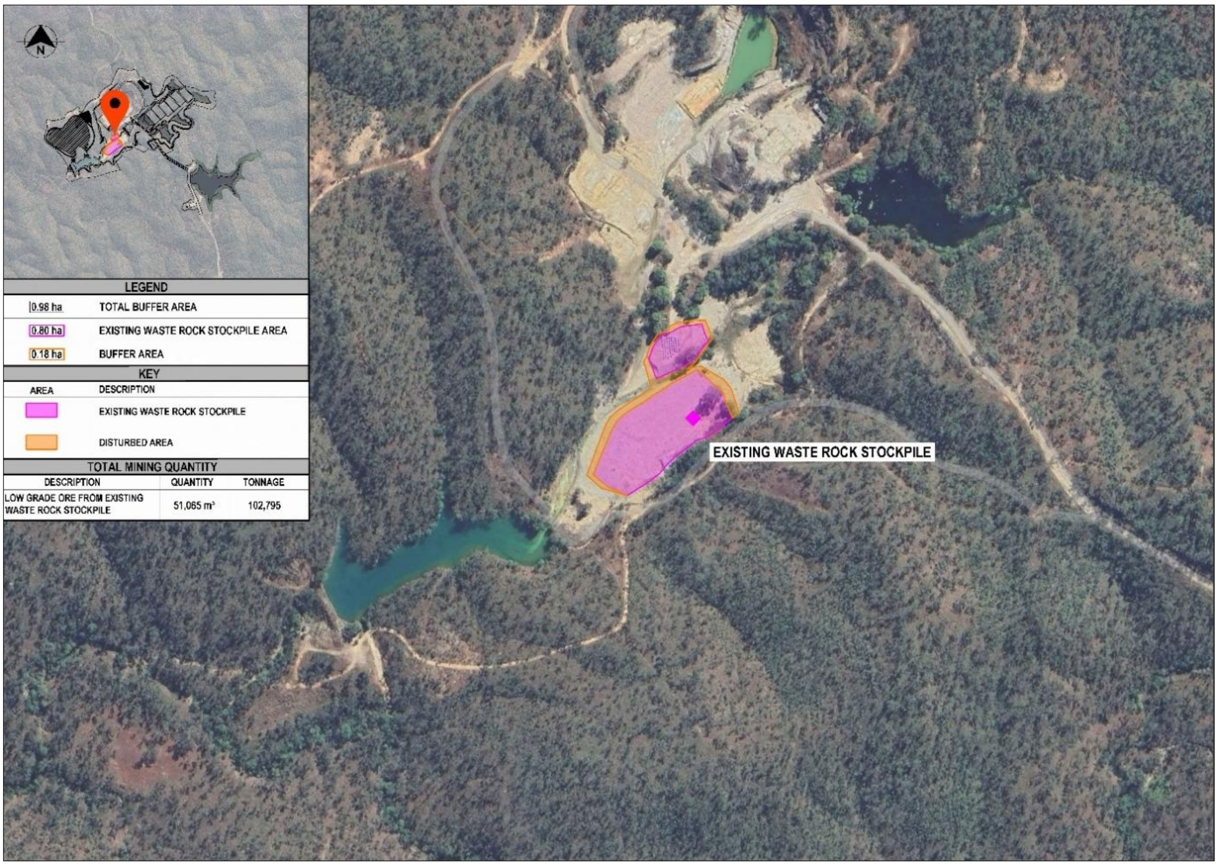


Figure 6 - Existing Waste Rock Stockpile

(SEE ALSO DWG. J022.240.10-DWG-003.02-EXISTING_WASTE_ROCK_LOCATION)

3.3. Surface Water

Dianne Copper Mine is located within the Gulf of Carpentaria Drainage Division, the Mitchell drainage basin (71,622 km^2), and the Palmer River drainage sub-basin (8,424 km^2). The confluence of the Palmer River and the Mitchell River occurs approximately 243 km downstream of the DCM.

The receiving environment of the project site is Gum Creek. The site has two main watercourses, both unnamed tributaries of Gum Creek and referred herein as South Creek and North Creek. These tributaries flow into Gum Creek, which joins Granite Creek before entering the Palmer River less than 2 km north of the mine lease boundary. Gum Creek is a contributing catchment to the Palmer River sub-basin, which is part of the Mitchell River basin flowing west into the Gulf of Carpentaria.

The catchment context is shown in Figure 4. The site itself is located high in the upper catchment of a small tributary of Gum Creek. The drainage lines in this area are characterised as steep, small valleys formed in between the various hills with ephemeral or intermittent drainage lines. Drainage lines in the region peak during the wet season, with ephemeral systems like North Creek flowing only during rainfall, and intermittent streams such as Gum Creek and South Creek sustained for a period afterward by groundwater seepage from the highly fractured rock (Hodgkinson Formation). These systems likely dry out in the dry season, though some pools may persist year-round.

Figure 7 - Catchment Context (Umwelt, 2022)

3.4. Site Hydrology

The Palmer River sub-basin covers approximately 8,424 km2, while the Michell River basin contains about 71,622 km2. Large portions of the Palmer River catchment area have historically been targeted for gold mining (dating back almost 150 years), including the Gum Creek catchment. While alluvial gold mining still occurs within Gum Creek, it is no longer the dominant land use within the region. Beef cattle grazing is the main land use within the Palmer River catchment area. The area of the Gum Creek catchment above the junction with the site is approximately 3,750 ha. The site has a catchment area of approximately 310 ha.

Drainage lines within the region record peak flows in the wet season, with North Creek being ephemeral (only flowing while rains persist) and South Creek being intermittent (minor flows sustained for an extended period after the wet season via groundwater seepage). It is likely that all systems dry out entirely over the dry season, although pools are expected to persist year-round in some areas (C&R, 2024).

The mine site is located high in the upper catchment. The drainage lines in this area are characterised as steep, small valleys formed in between the many hills. The mine's positioning within the catchment and the geomorphology of the catchment area suggest it would be highly unlikely to be affected by riverine flooding (C&R, 2021).

Based on the Water Act definitions of a watercourse and drainage feature and the onsite observations, the unnamed tributary (and associated tributaries) meets the criteria for classification as a drainage feature. Therefore, no diversions are required for the recommencement of operations at Dianne Copper Mine.

3.5. Groundwater Levels and Properties

A detailed groundwater investigation and impact assessment has been completed for the site, including field work and completion of a conceptual groundwater model. In summary:

- No registered groundwater bores exist within the bounds of the mining leases, or within a 10 km radius. There are 23 registered bores within a 30 km radius of the site, of which 9 are abandoned. These bores are utilised for groundwater monitoring of nearby mines, exploration, and homestead water supply.
- There are no mapped groundwater dependent ecosystems (GDEs) within the mining leases, however most of the waterways within the local area are considered GDEs because water (flows and remnant pools) is maintained for an extended period (i.e. months) following significant rainfalls.
- Groundwater quality data displays no evidence of impacts from historical mining operations.

There are currently three groundwater monitoring bores within the DCM area with an additional seven proposed for the project (see Section 7 Monitoring).

3.6. Climate

Dianne Copper Mine is located within the Queensland dry tropics region, with highly seasonal rainfall and high temperatures characterising the region's climate. The wet season generally occurs from November through to April, while dry conditions are experienced from May to October.

The closest Bureau of Meteorology (BoM) rainfall gauge is located at Maitland Downs Station (BoM Station 28013), approximately 24 km from the site. The average annual rainfall total from 1965 – 2021 recorded at BoM Station 28013 is 929 mm, however, annual averages are highly variable, ranging from 333.2 mm (1966) to 1,879.0 mm (1981). High, intense rainfall is commonly observed throughout the summer months, with little to no rainfall throughout the dry season.

High temperatures are observed year-round, contributing to high evaporation rates which can exceed 2,000 mm annually. Subsequently, water losses to evaporation typically exceed total rainfall volumes recorded in the region.

Rainfall and evaporation statistics were derived from daily rainfall and evaporation data sourced from the SILO Climate Database for grid point (-16.10° latitude, 144.55° longitude) for the period 1 January 1900 to 31 December 2022 and are presented in Table 2 and Figure 8.

Table 2 - Annual Rainfall and Evaporation

Statistic	Rainfall (mm)	Pan Evaporation (mm)
10th percentile	612	1,876
50th percentile	949	1,909
90th percentile	1,301	2,040
Average	957	1,934

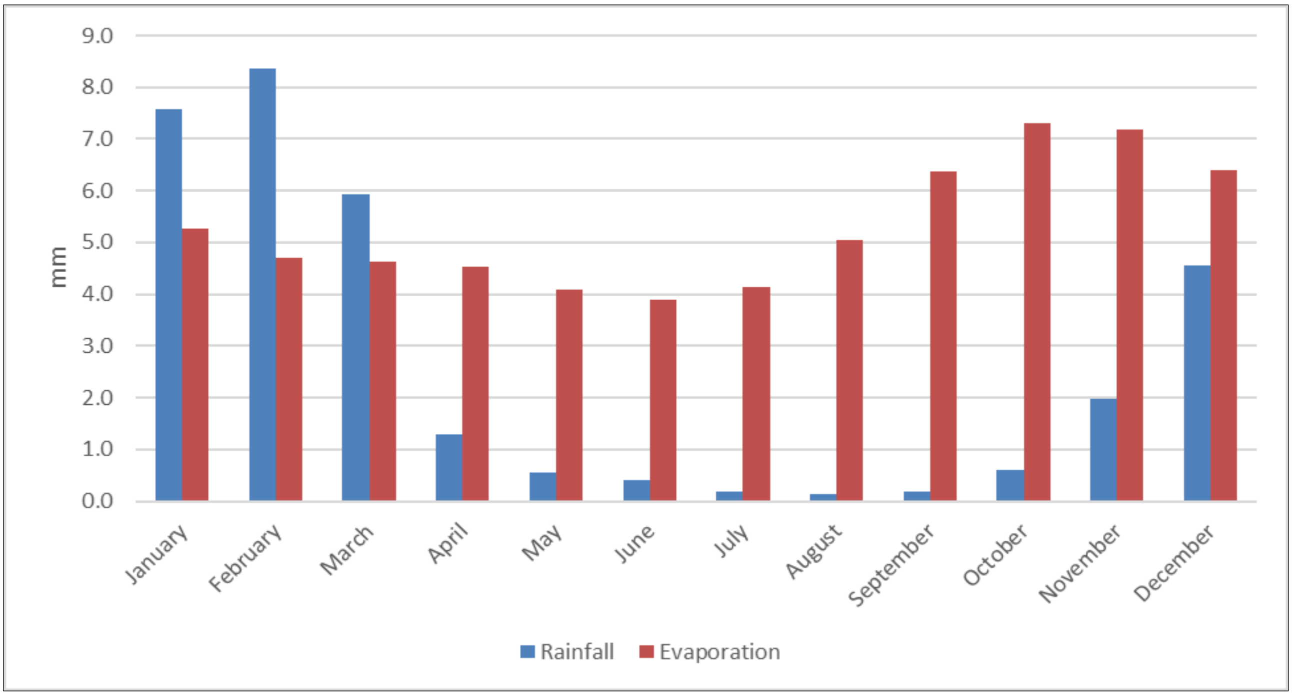


Figure 8 - Average Daily Rainfall and Evaporation

3.7. Geology

Mineralisation is hosted by Late Silurian to Late Devonian age, Hodgkinson Formation, a sequence of interbedded phyllitic shales and greywacke on the western limb of a north-northwest plunging syncline which is overturned and dips steeply to the west. Numerous NNE trending diorite dykes occur within a 3 km wide, high strain zone that hosts the mineralisation. The “dykes” are typically moderately sericte-pytite-siderite altered adjacent to the deposit but don’t directly host primary copper mineralization. No genetic link between the copper deposit and the dykes has been demonstrated. However, it is possible the “dykes” originated as a series of subseafloor sills that are temporally related to mineralisation and have subsequently been tectonically rotated into a sub-vertical position during post-mineral folding that has also rotated the massive sulphide lens into the current sub-vertical position.

The Dianne mineralisation is developed as a sub-vertical 0.2 to 7.8 m wide massive sulphide lens. The primary sulphide is dominated by banded pyrite-chalcopyrite-sphalerite and has been interpreted as an epi-genetic intrusive related body. The main ore lens is broadly north south trending and steeply dipping and separates the eastern and western domain waste zones. The footwall-hanging wall contact, lithologically, is along the contact between thick massive sandstone (footwall, west side) and weak phyllitic slates (hanging wall, east side).

A broad halo of oxide/supergene copper mineralisation (Greenhill Mineralisation) hosted in sandstone with stockwork veining that envelope the massive sulphide lens. The Greenhill domain strikes NNW over 240m and has a 'Y' shape geometry in cross-section with broad low-grade mineralisation (>0.2% Cu) hosted in sandstone at surface most strongly developed to the west of the massive sulphide. The mineralisation narrows rapidly, plunging to a depth of 240m following the trend of the massive sulphide mineralisation. The Greenhill mineralisation is dominated by copper carbonates, oxide, supergene sulphides and locally native copper. Malachite-Azurite in the upper portion of the deposit transitions to tenorite dominant in the supergene zone (tenorite commonly logged as chalcocite or black copper oxides).

A series of more intense stacked lenses/zones of veining within the Greenhill halo contain higher-grade mineralisation (Greenhill West) for which sub-domains have been generated at higher 1% and 3% Cu cut-off grades. Higher-grade mineralisation at Greenhill West is steeply dipping (75 degrees) to the NE.

3.8. Soils

Soil sampling was conducted in 2024 and 2025 across both disturbed and undisturbed sites.

All soils in undisturbed areas have an A horizon of clayey loam overlying a finer-textured, light- to medium clay B horizon. In most cases, coarse, angular to sub-angular metamorphic pebble fragments are abundant. These soils would generally be classed as dermosols, which have structured B2 horizons and lack a strong texture contrast between the A and B horizons. Each soil was classified in accordance with the ASC. Their distribution, as allocated under the ASC, was mapped within the project footprint at Figure 9 below.

The sampling of natural soils across the mine site indicated that they were generally within nutrient and salinity ranges conducive to the successful growth of endemic plant species. Most sampled soils are not overly susceptible to erosion based on their physical and chemical properties.

Soil mapping indicated that the undisturbed sites consisted of red and brown dermosols, while the disturbed areas were classified as anthroposols. The soil classifications and sampling locations are shown in Figure 9 below.

In natural soils, EC values varied between 1 µS/cm and 26 µS/cm, which corresponds to a very low salinity rating (defined as <70 µS/cm; Hazelton, 2016). In contrast, EC values in disturbed soils were more variable. The only sample taken in 2024 (SS5) had a salinity of 1,530 µS/cm. However, further salinity tests in 2025 (ROM1, ROM2 and ROM4) had salinity values of 100 µS/cm, 6–21 µS/cm and 259 µS/cm indicating that the 2024 sample is an outlier.

Emerson Aggregate Tests were undertaken on all natural soils and subsoils sampled in 2024. All surface soils and most subsoils were assigned an Emerson class of 7, except for SS1 and SS10, which were rated 5, and SS9, which was rated 3. This indicates that most of the project soils and subsoils have a low erosion risk with only some of the soils (as represented by samples SS1, 9 and 10) have a moderate to low erosion risk.

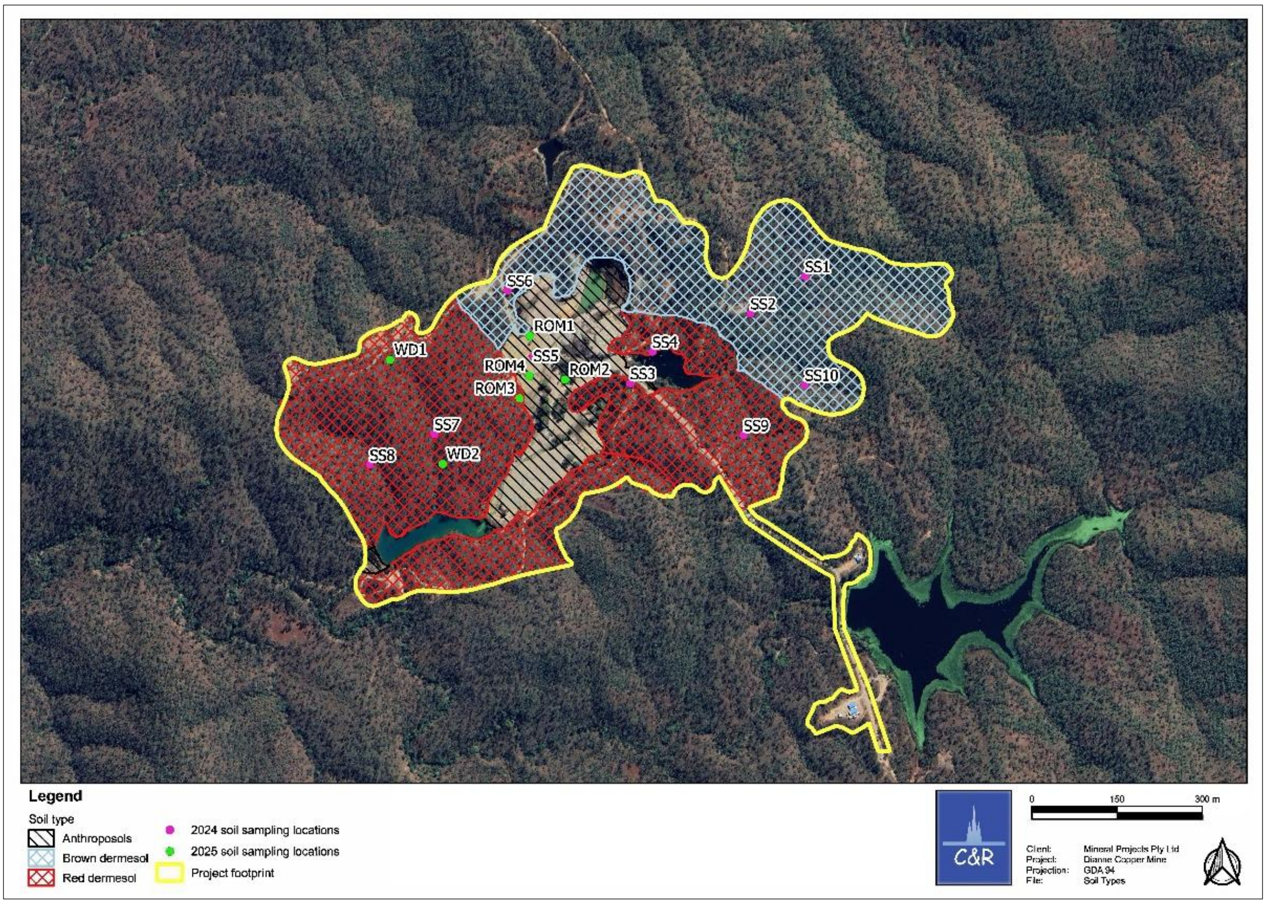


Figure 9 - Soil Mapping and Sampling Locations

3.9. Existing Land Use and Ecology

The existing land use within the mining leases and surrounding areas is cattle grazing, with a number of other mining tenements overlaying the grazing properties. The area remains subject to exploration and mining activities primarily prospecting alluvial gold.

The region has been heavily impacted for over 120 years, with significant areas cleared and disturbed historically for gold mining including alluvial and instream mining; and cattle grazing; and is subject to frequent uncontrolled fire. Approximately 30% of the proposed disturbance area has previously been cleared for historic mining operations and exploration activities, with much of the remainder historically disturbed for cattle grazing.

The vegetation within the project site is listed as Least Concern Regional Ecosystems and consists of Eucalypt low, open woodlands. No threatened ecological communities or flora species have been identified.

4. WASTE ROCK CHARACTERISATION

This section provides classification information for each material type for the project (which are shown schematically in Figure 10):

- Existing waste rock stockpile
- Mined ore
- Mined overburden

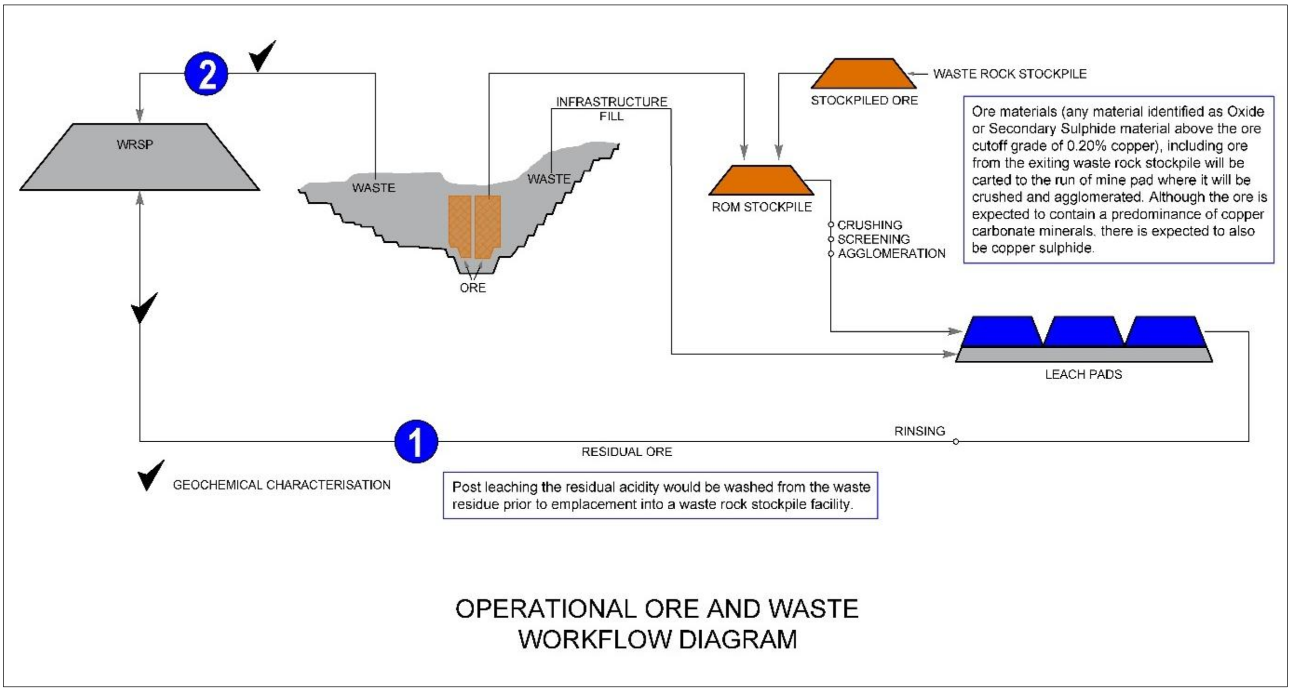


Figure 10 - Schematic of Waste Rock Movements

(SEE ALSO DWG. J022.200.00-SKE-005.002-COMBINED_ORE_AND_WASTE_WORKFLOW_DIAGRAMS)

The total material generated from mining (including the existing waste rock stockpile) is as follows:

Table 3 - Total Mining Quantities

Item	Description	Quantity	Units	Tonnage
1	Proposed Mined Overburden	967,650	bcm	2,602,007
2	Proposed Mined Ore	593,483	bcm	1,506,883
3	Low grade ore from the existing waste rock stockpile	51,065	bcm	102,795
	Total Material to be Mined		T	4,211,685

4.1. Existing Waste Rock Stockpile

The existing waste rock stockpile constitutes material previously removed from the current open-pit void, and contains both mineralised and barren material that was deemed uneconomic at the time of development. A comprehensive waste geochemical characterisation sampling program was completed in 2020 on the existing waste rock stockpile. A total of 46 auger drill holes were sampled across the waste rock stockpile to a maximum depth of 13 m, which provided spatially representative information for the entire stockpile. The results indicated that the waste rock material is intermittently layered with low grade waste containing presence of mineralisation consistent with the halo of 'Green Hills' mineralisation surrounding the historically mined ore body (Dianne Mining Corporation Pty Ltd, 2022). Mineralisation observed is dominated by oxide copper mineralisation (malachite, azurite, cuprite and tenorite) with sub-ordinate chalcocite. No pyrite was noted in logging.

From drill data samples in 2020, a block model including sulphur content was created (see Figure 11). For areas of the existing waste rock stockpile outside of available drill data, the average sulphur content of drill data intersecting the existing waste rock stockpile was applied. This model estimated that less than 1.5% of the material contained in this waste rock stockpile contained higher than 0.2% sulphur (within global average of <0.05% Total S). The waste stockpile is comprised of majority oxidised 'Green hills' rock-type which possibly contains minor (<5%) potentially acid forming material associated with the waste oxide supergene high-grade Main Ore lens.

Figure 11 - Existing Waste Rock Stockpile Sulphur Content Representation

Further reconciliation of the stockpiled material within the deposit void has identified the stockpile as containing economic concentrations of copper mineralisation. Therefore, the current development plan proposes to move and treat the current waste stockpile through the leach pads. The reconciliation of the deposit material removed to the waste stockpile also validated the low Total S content. As the current development proposes to treat and recover economic concentration of copper from the stockpiled material, additional test work has been undertaken to understand the PAF attributes of the residual leached material.

More detailed characterisation information is provided within Annexure 1, Geochemical Characterisation of the Existing Waste Rock Stockpile.

4.2. Mined Ore

After leaching, key AMD risks from ore will be:

- residual leaching solution, which could be a source of problematic drainage if not adequately neutralised; and
- loadings of sulphur and readily leachable metals and metalloids, as well as sulphides that may have not oxidised completely over the course of residence time at the heap leach pad.

As the ore on the leach pads will be flushed with fresh water to remove residual acidity and neutralised prior to removal from the heap leach facilities, leached ore is not anticipated to be a source of adverse drainage water quality for either surface water or groundwater.

A spent ore geochemical sampling and test work characterisation program specific to the proposed Dianne Copper mine was undertaken between 2022 and 2025 on ore residues from large-scale representative column leach testwork completed in early 2025.

Modelling indicates that 95% of the ore is oxide ore. The waste sampling and characterisation program on oxide ore heap leach residue suggests this will be geochemically benign (i.e. NAF) in terms of acid forming characteristics.

The remaining 5% of mined ore (or 3% of total mined quantities) is secondary sulphide ore. Although no PAF has been identified within the secondary sulphide ore in the planned pit shell, there is a risk that the sulphides in this ore will not sufficiently oxidise during residence time on the leach pads, so it has been classified as at risk of being PAF. Modelling indicates that ore with a risk of being PAF makes up 3% of total tonnes mined and is at the bottom of the pit, as shown in Figure 12.

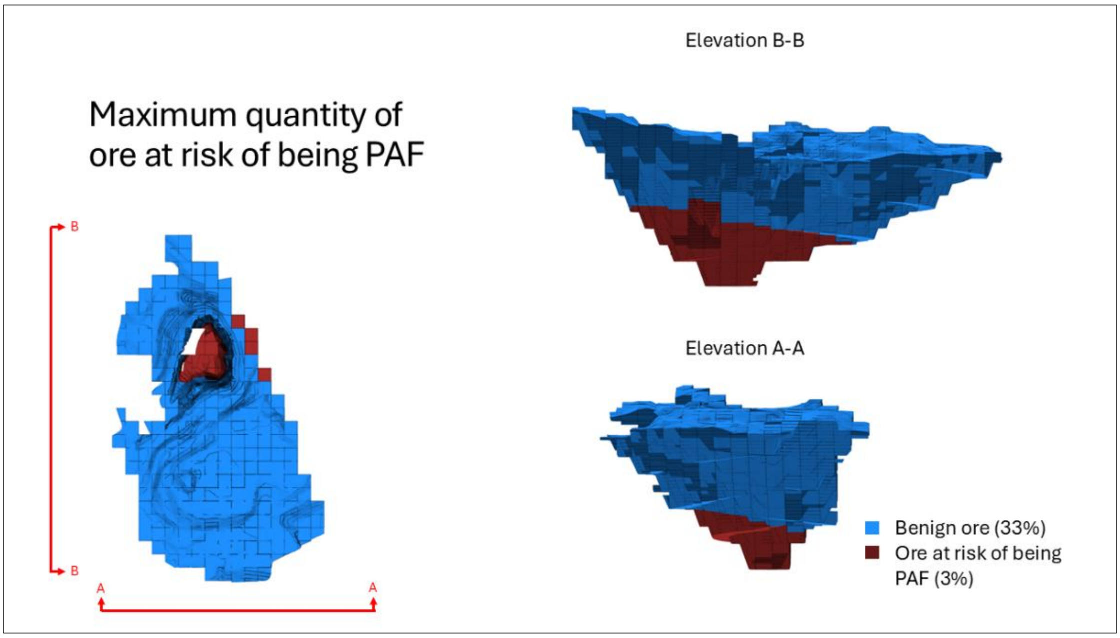


Figure 12 - Modelling of Ore at Risk of Being PAF

Note: Percentages in Figure 12 are expressed as percentages of total mined quantities.

Any leached ore identified as PAF or PAF-LC will be transferred directly to the encapsulation zone within the in pit waste stockpile or held temporarily in the interim waste stockpile and then transferred to the encapsulation zone in accordance with Section 5.7 of this waste rock management plan.

More detailed characterisation information is provided within Annexure 2 Geochemical Characterisation of the Pit.

4.3. Mined Overburden

Mined overburden will consist of a range of rock types. This includes unmineralised waste rock units as well as material from the mineralised zones that is below the copper cut-off grades.

A comprehensive waste rock characterisation program has been completed to validate and improve the confidence in the quantity and geochemical characteristics of the waste materials to provide a basis for scheduling any PAF materials and more geochemically benign materials that will be mined. This program sampled a range of unmineralised (<0.05% Cu) to weakly mineralised (<0.35% Cu) samples collected across the three weathering zones within the pit within the Eastern Domain, Western Domain and Internal Greenhills Domain. All samples tested as NAF materials, and based on deposit geology and test work completed, the majority of mined overburden materials are expected to be geochemically benign.

Although the waste characterisation program has not identified any PAF materials reporting directly to the waste rock stockpile, a review of the geology has identified thin discrete quantities of overburden with elevated sulphur (>0.2% S) within the Transitional Zone in a thin margin either side of the main ore lens. These zones are not associated with the visible presence of sulphides. Modelled estimates as shown in Figure 13 indicate that this overburden could constitute a maximum of 2% of the total material tonnage of material and is located at the bottom of the pit. This means that exposure of this identified material that is at risk of being PAF or PAF-LC can be readily managed via identification, segregation and placement in the encapsulation zone.

Static sulphur levels will continue to be used as a screening method for identification, segregation and tracking of PAF and NAF materials.

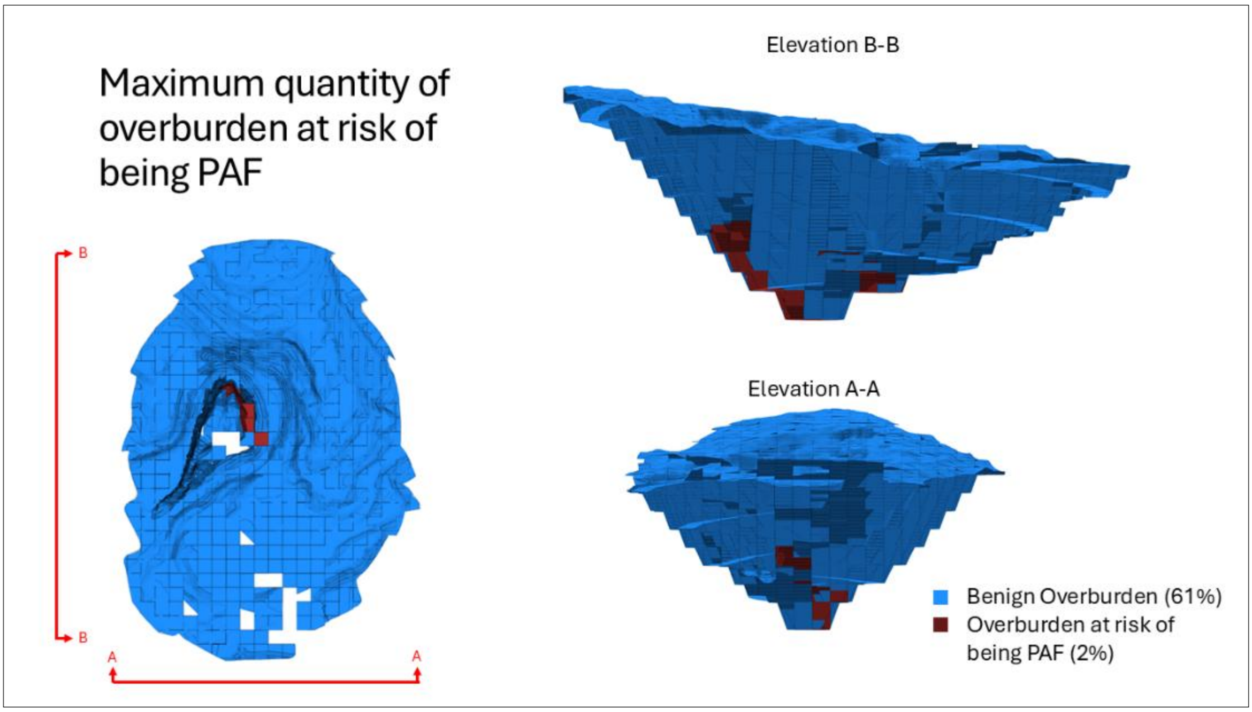


Figure 13 - Modelling of Overburden at Risk of Being PAF

Note: Percentages in Figure 13 are expressed as percentages of total mined quantities.

More detailed characterisation information is provided within Annexure 2 Geochemical Characterisation of the Pit.

4.4. Summary

Geochemical characterisation of the Dianne Copper Project has identified that 95% of the total quantity mined (within all three streams of the existing waste, and ore and waste from the pit) is chemically benign.

However, 235kt out of the 4,211kt total mined quantity has the risk of being potentially acid-forming (PAF). This material (ore and overburden) is located at the lowest depths of the pit, at the end of the mine schedule, as shown in Figure 14.

Notwithstanding, this WRMP outlines management measures that will be implemented for the management of any PAF material identified during mining operations. Further classification during mining and leaching will be undertaken as described in Section 6.

This WRMP has taken a conservative approach of identifying 100% of the mined material at risk of being PAF as possibly PAF, despite no PAF being identified within samples of the mined overburden or ore from the pit. Furthermore, as demonstrated in Section 5.7 below, a worst-case scenario allows for 272% of this quantity of PAF (or 640kt in total) to be stored within the Encapsulation Zone. This WRMP will be revised in the event that forecast total PAF reaches 470kt or 200% of the forecast quantity at risk of being PAF, and well before the limit of containment designed within this plan.

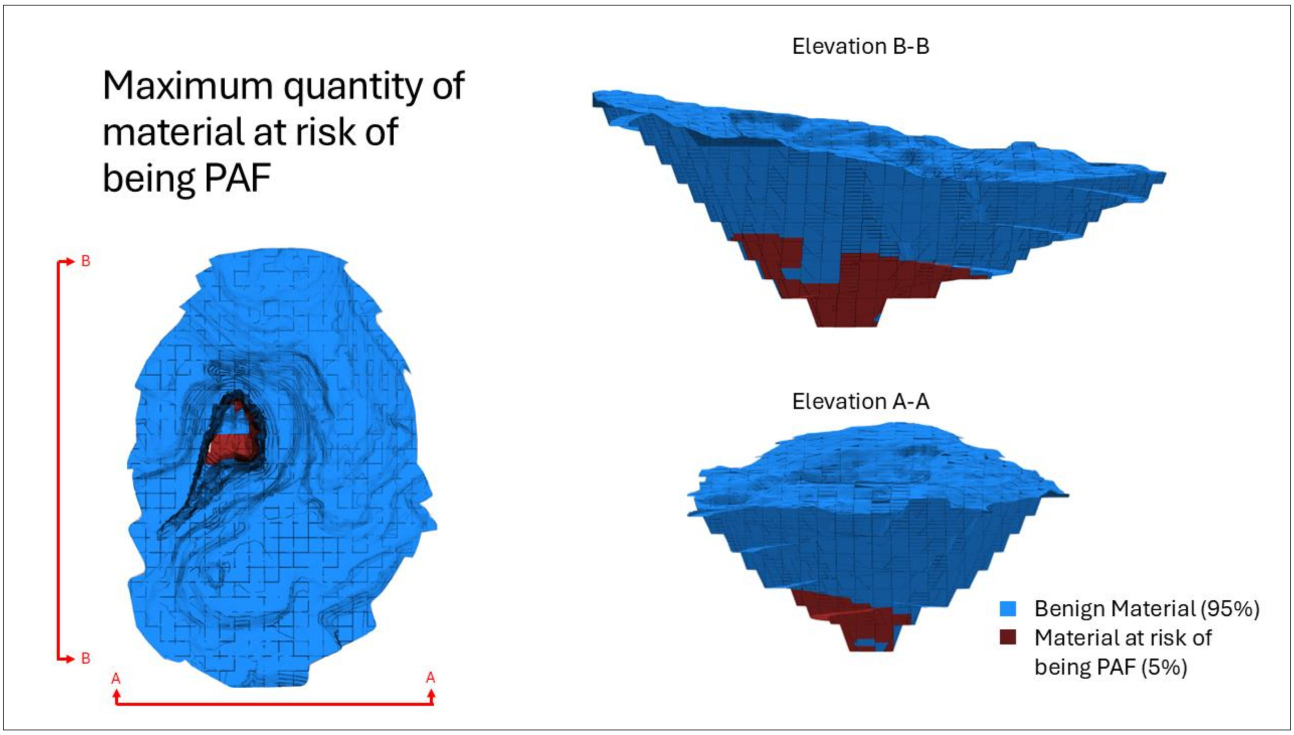


Figure 14 - Total Material at Risk of Being PAF

Note: Percentages in Figure 14 are expressed as percentages of total mined quantities.

5. WASTE ROCK STORAGE AND MANAGEMENT

5.1. Mass Balance

5.1.1. Operational Quantities

The material balance during operations, up to a maximum balance when mining ceases, is given in Table 4**,** below:

Table 4 - Material Balance During and After Mining

Item	Description	Max Quantity	Units	Tonnage
1	Copper Recovered on Site	14,640	T	14,640
2	Overburden used in construction:			
3a	Heap Leach Pads and Dams	375,000	ccm	787,500
3b	Building Pad for SX/EW Plant	60,000	ccm	126,000
3c	General Site Earthworks (ROM)	50,000	ccm	105,000
3d	Roadworks	50,000	ccm	112,500
4	Temporary Stockpiles			
4a	Waste Rock Stockpile Interim Design Volume	1,323,000	m^3	2,664,745
4b	Reshaping Drainage East of the Pit.	100,000	m^3	201,300
4c	Spent Ore on Leach Pads	99,354	m^3	200,000
	Total Material Inventory during Operations		**T**	**4,211,685**

5.1.2. Quantities at Mine Closure

Closure planning for the Dianne Copper Project includes backfilling the pit with the mine waste rock and reshaping the out of pit waste rock stockpile to a stable landform.

The balance of waste material from the mine after closure is summarised in Table 5.

Table 5 - Material Balance at Closure

Item	Description	Quantity	Units	Tonnage
1	Copper Recovered on Site	14,640	T	14,640
2	Overburden used in construction:			
2a	Heap Leach Pads and Dams	326,187	ccm	684,992
2b	Building Pad for SX/EW Plant	60,000	ccm	126,000
2c	General Site Earthworks (ROM)	50,000	ccm	105,000
2d	Roadworks	50,000	ccm	112,500
3	Final Stockpiles			
3a	In Pit Waste Rock Stockpile	1,024,906	m^3	2,063,136
3b	Out of Pit Waste Rock Stockpile Final Volume	548,500	m^3	1,104,131
	Total Material Inventory after Mine Closure		**T**	**4,211,685**

5.2. Risk Assessment

In accordance with Section 126C(1)(f) of the EP Act, a risk assessment was completed which assessed the risks of a stable PMLU not being achieved, and how these risks will be managed or minimised. Risks relating to the waste rock identified during the assessment are described in Table 5 and Table 6**.**

Table 6 - Risk Matrix

Likelihood of Risk	Consequence of Risk				
	Insignificant	**Minor**	**Moderate**	**Major**	**Catastrophic**
Almost Certain	Moderate	High	High	High	High
Likely	Low	Moderate	High	High	High
Possible	Low	Moderate	Moderate	High	High
Unlikely	Low	Low	Moderate	Moderate	Moderate
Rare	Low	Low	Low	Moderate	Moderate

Table 7 - Risk Assessment

Hazard / Risk and Potential Impact	Risk Classification			Risk Treatment Plan, Mitigation Measures and Performance Measures	Risk Classification		
	Likelihood	Consequence	Classification		Likelihood	Consequence	Classification
Unmanaged PAF results in mobilisation of metals and low pH water discharges	L	Mo	H	• Quantity at risk of being PAF has been quantified in this WRMP. • PAF will be placed in the encapsulation zone within the final landform. • PAF will be monitored during operations. Water quality will be monitored during operations and at closure.	U	Mi	L
Ore oxidises prior to being placed on the leach pads	P	Mi	Mo	• ROM pad will be constructed from engineered NAF waste with bunds in place. • Ore residence time on the ROM pad will be limited. • Water runoff from the ROM pad will be monitored.	U	Mi	L
PAF quantities exceed encapsulation zone capacity	R	Ma	Mo	• This WRMP will be rewritten if forecast for materials at risk of PAF exceed 10% of material mined.	U	Mi	L
Final landform fails due to structural instability	P	Mo	Mo	• Waste rock durability has been determined as high. • Final landform structural assessment has been completed with a minimum FoS of 1.6. • QA controls and monitoring during stockpile construction and maintenance.	R	Mo	L
Final landform fails due to erosion	P	Mo	Mo	• Site erosion risk has determine as low or moderate to low. • Erosion control structures will be installed as per the Erosion and Sediment Control Plan. • Final landform will be progressively rehabilitated • Rehabilitation will be monitored according to the PRCP	U	Mi	L

The progressive rehabilitation plan, water management plan, and monitoring programs have been put in place to adequately manage these risks. These measures are fully detailed in Table 7 of the PRCP, and include, but are not limited to:

- Progressive rehabilitation;
- Regular water quality testing;
- Topsoil and subsoil capping materials will be stripped from new disturbance areas and are adequate for rehabilitation;

- Identify areas of higher risk geochemistry on site, including exposed surfaces of waste rock through regular static testing programs;
- Mine water management system to redirect water around waste rock stockpiles;
- Encapsulation of PAF material in waste rock stockpiles deep in the backfilled pit void, as detailed in the Final Landform and Cover Design Report and PRCP;
- Reshaped landforms will be shaped in such a way to ensure a stable landform long-term, including reduction of slopes, benching of areas, and adequate water management structure installation;
- Site investigation to evaluate the strength of the foundation of the proposed waste rock stockpile will be completed prior to construction of the waste rock stockpile;
- Complete additional erosion modelling to guide final landform design.

5.3. Ore

5.3.1. Existing Waste Rock Stockpile

All material currently in the existing waste rock stockpile will be relocated to the ROM as one of the earliest operations, so that construction can commence on the processing plant which is planned to be constructed in the location of the existing waste rock stockpile. Within this plan, the existing waste rock is then treated with the mined ore.

5.3.2. ROM Operations

Any mined material identified as Oxide or Secondary Sulphide ore above the ore cutoff grade of 0.2% copper, and all of the material from the existing waste rock stockpile, will be placed on the ROM where it will be crushed, agglomerated and then carted and stacked on the heap leach pads, where the ore will be heap leached. Retention time of all stockpiled ore materials prior to crushing will be kept to a minimum. Heap leaching will be carried out on an HDPE-lined pad (HL Pad) area with dimensions of 300 m in length and 100 m in width. The HL Pad lining will be made with an impermeable 1.5 mm HDPE material, covered by a 300 mm cushion layer (crushed & screened material from Existing Ore Stockpiles) to protect the liner from mechanical damage. A total of six heaps, each with dimensions of 100 m length by 50 m width, will be filled at one (1) pad per month by truck dumping of ore, followed by stacking and levelling with an excavator to a height of 5 m.

Despite retention times on the ROM being kept to a minimum, best practice ROM operations will be implemented to mitigate AMD risk at the ROM. These include:

- Construction of the ROM with bunds and engineered fill. The fill will be NAF overburden targeted for the most cohesive material types.
- Runoff will be directed into sediment dams where it will be monitored (see Section 7 - Monitoring).

5.3.3. Leaching and Spent Ore

Leaching of copper ore is achieved by distributing a dilute sulphuric acid onto the heaps. Solution distribution to the heaps will be by drip emitters or drippers at 1 m spacings on the heap surface and arranged in 50 m cells to ensure even pressure and flow distribution. After leaching the ore until it has reached its targeted recovery of copper, the ore on the heaps will be deemed spent ore. The spent ore will be irrigated with water to displace leach solution from the heap and then tested for AMD classification.

All spent ore identified as NAF will be removed from the leach pads and will be dumped in the same waste stream as the NAF overburden.

Any spent ore classified as PAF will be removed from the leach pads and either:

- carted direct to the Encapsulation Zone within the in pit waste rock stockpile; or
- if the Encapsulation Zone is not prepared, carted to temporary storage within the interim waste rock stockpile, where its location will be recorded, and runoff will be captured within the sediment management system. After cessation of mining, it will be relocated to the Encapsulation Zone within the in pit waste rock stockpile.

5.4. Overburden

Any material mined from the pit that is below the ore cutoff grade of 0.2% copper will be classified as overburden. This material will be used and disposed of in one of the following ways:

- Construction materials (only if confirmed as geochemically benign);
- Stored, during mining, in the interim waste rock stockpile, where it will either:
  - Remain as part of the final out of waste rock stockpile, or
  - Be carted to the in pit waste rock stockpile at the cessation of mining.

To achieve best use of raw materials and minimise the area required for the waste rock stockpile, the project design maximises the use of overburden as bulk fill for roads and pads and for the production of road base. Bulk fill is required in the processing area, for dams, drains, and heap leach pad construction. Construction works will require road base for roads, hardstands and laydown areas. This will also be sourced from overburden and crushed onsite.

Any overburden mined from domains at risk of being PAF will be tested for AMD classification. All PAF overburden will be temporarily stored within the interim waste rock stockpile where its location will be recorded, and runoff will be captured within the sediment management system.

5.5. Design of Waste Rock Stockpiles

5.5.1. Interim Waste Rock Stockpile

The waste rock stockpile during operations is referred to as the interim waste rock stockpile. Due to the geography of the site, Mineral Projects' desire to minimise the environmental footprint of operations and the closure plan of filling the pit, the temporary nature of the interim waste rock stockpile allows for much steeper batter angles during operations.

The interim waste rock stockpile design is shown in Figure 15. The stockpile is located on the northwest corner of the project on the steep slope rising up from the Release Dam and processing area. It covers two drainage channels that run downgrade on the hill, effectively making an eastern and western zone of the waste stockpile. The general waste landfill cell is also contained within the eastern zone footprint (under what will be the final landform).

Preparation of the waste rock stockpile footprint will involve clearing and grubbing and stripping of topsoil and subsoil. The stripped area will be inspected prior to placement of fill. This will be undertaken progressively to minimise the area at risk to erosion. The eastern zone of the waste stockpile will be prepared and progressively filled before commencing to prepare the western zone.

Once all needs for construction materials have been satisfied, NAF waste will be hauled from the pit to the waste stockpile with the stockpile being constructed generally in a bottom-up manner (some waste will be placed top-down with the final make-up to be determined by detailed mine scheduling) for each of the two zones described above. Compaction of the waste will be achieved by dozer pushing and truck rolling during haulage. The stockpile will be visually inspected each day that waste is placed and prior to recommencement of fill placement after rainfall.

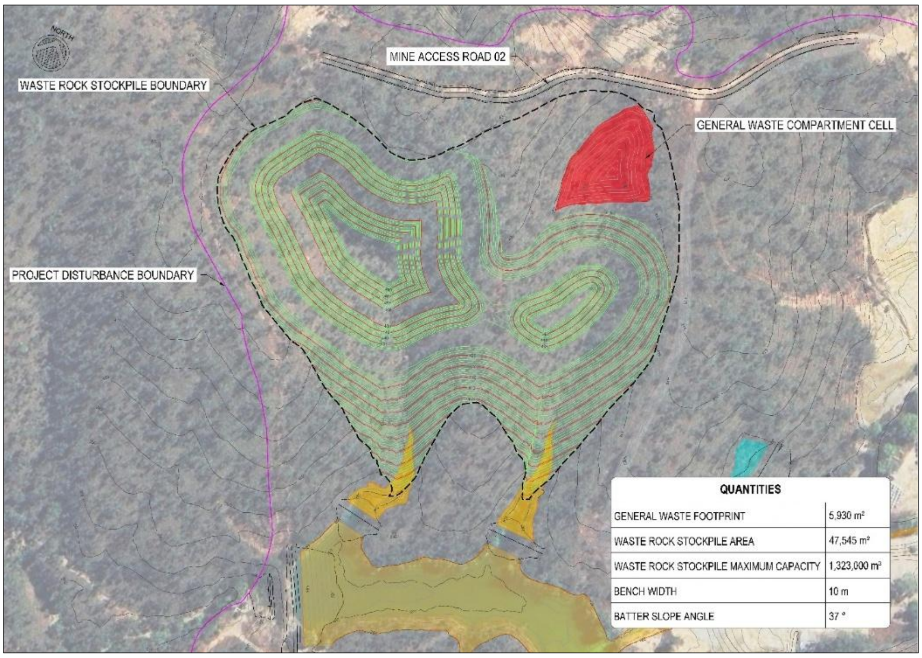


Figure 15 - Interim Waste Rock Stockpile

(SEE ALSO DWG. J022.210.30-SKE-003.02-OPERATIONAL_WASTE_ROCK_STOCKPILE)

5.5.2. Out Of Pit Waste Rock Stockpile at Closure

There is one out of pit waste rock stockpile planned for the Dianne Copper Mine. A final landform design has been completed to determine the ultimate capacity, footprint, and integration into the site water management strategy. This waste rock stockpile is shown in Figure 16**.**

After cessation of mining, waste will be selectively relocated from the interim waste rock stockpile so that a maximum of 548,000m3 is left at the out of pit stockpile. Any PAF that is temporarily stored at the interim waste rock stockpile be relocated to the encapsulation zone in the in pit waste rock stockpile. The final landform of the out of pit waste rock stockpile will be chemically benign at closure.

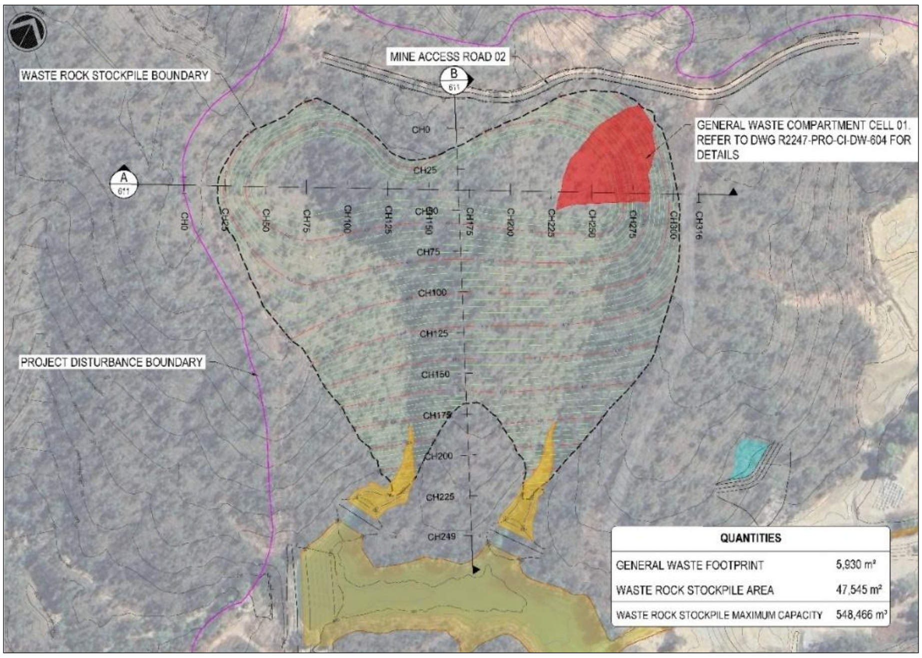


Figure 16 - Designed Final Landform for the Waste Rock Stockpile

(SEE ALSO DWG. J022.210.30-DWG-004.00B-WASTE_ROCK_STOCKPILE_AT_CLOSURE_-_LAYOUT_PLAN)

A geotechnical stability analysis of the final landform was provided by Blackrock Mining Solutions (BMS, 2025), showing that the final landform has a minimum Factor of Safety (FOS) of 1.6, exceeding the critical FOS of 1.3, indicating long term stability in the waste rock stockpile final landform. Critical results are shown in Figures 17 to Figure 24.

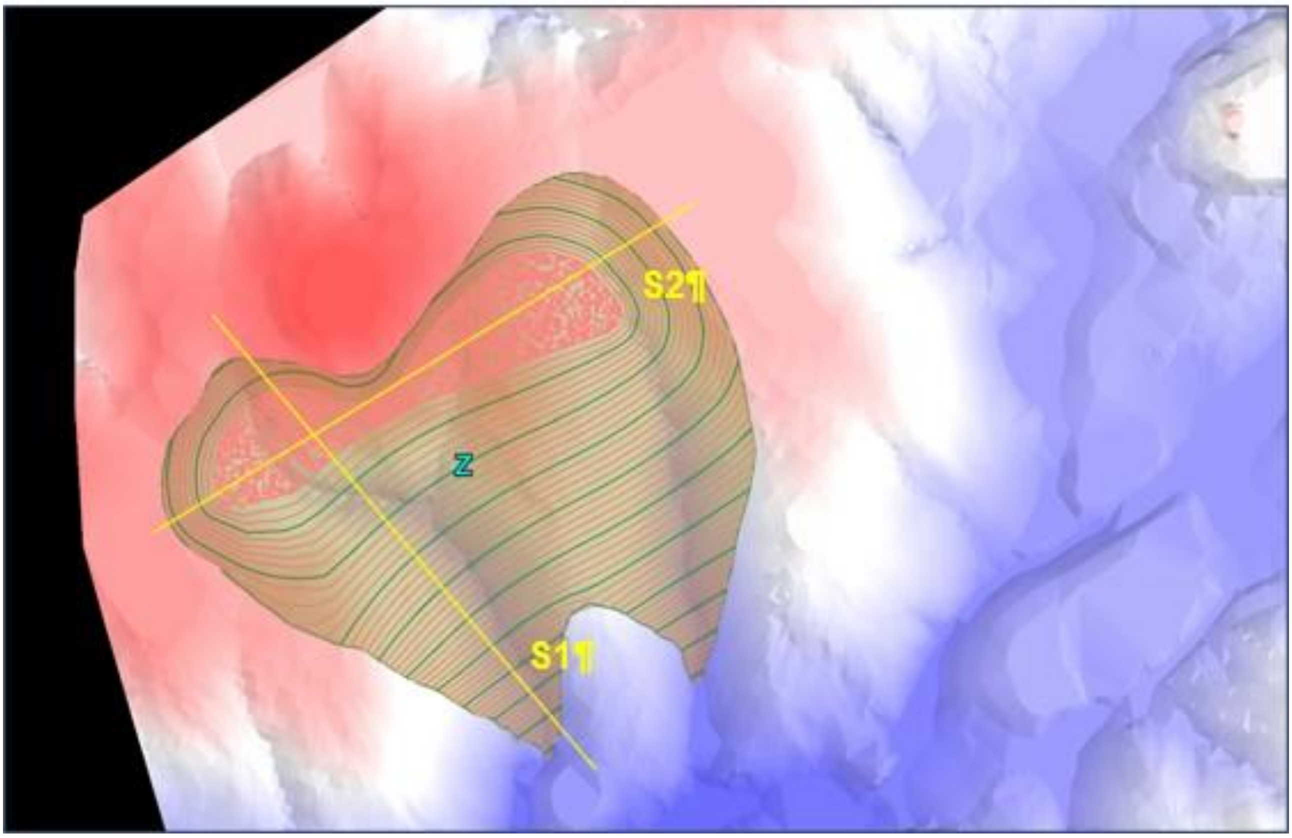
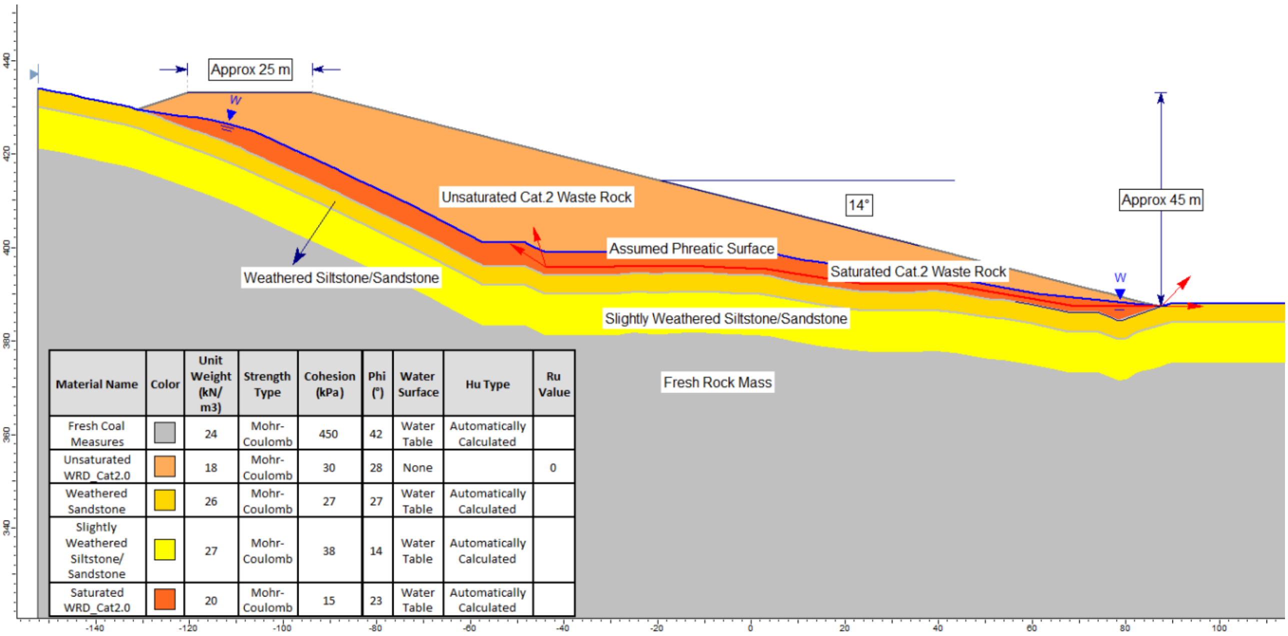
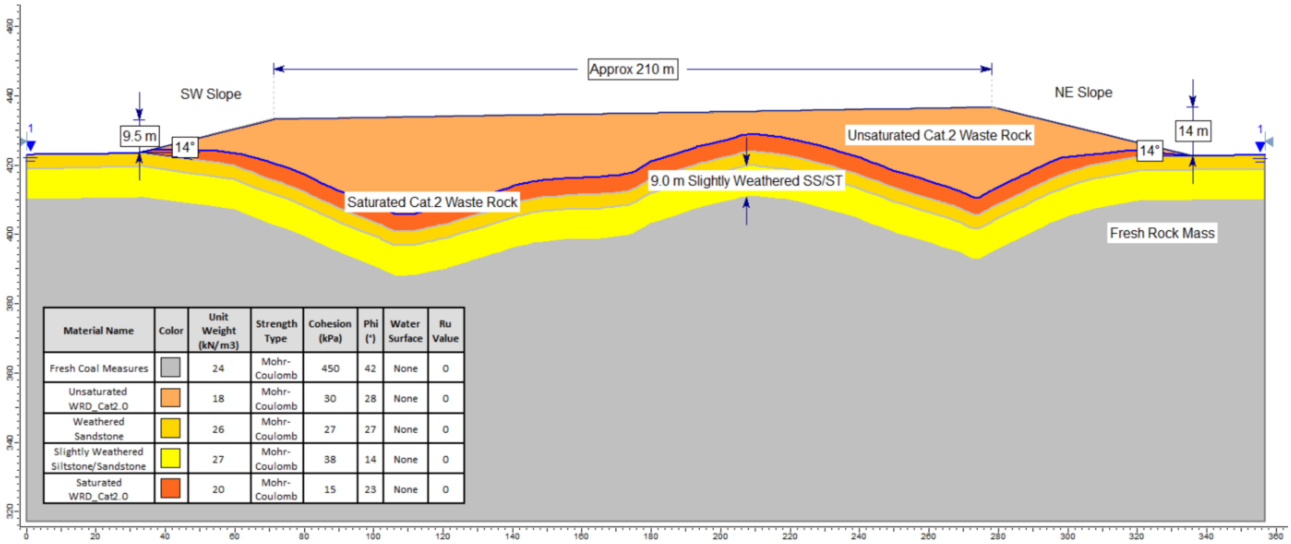


Figure 17 - Waste Rock Stockpile Design Layout and Representative Sections



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Ru Value
Fresh Coal Measures		24	Mohr-Coulomb	450	42	Water Table	Automatically Calculated	
Unsaturated WRD_Cat2.0		18	Mohr-Coulomb	30	28	None		0
Weathered Sandstone		26	Mohr-Coulomb	27	27	Water Table	Automatically Calculated	
Slightly Weathered Siltstone/ Sandstone		27	Mohr-Coulomb	38	14	Water Table	Automatically Calculated	
Saturated WRD_Cat2.0		20	Mohr-Coulomb	15	23	Water Table	Automatically Calculated	

Figure 18 - Waste Rock Stockpile - Section 1 (Final Landform Design)



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Ru Value
Fresh Coal Measures		24	Mohr-Coulomb	450	42	None	0
Unsaturated WRD_Cat2.0		18	Mohr-Coulomb	30	28	None	0
Weathered Sandstone		26	Mohr-Coulomb	27	27	None	0
Slightly Weathered Siltstone/Sandstone		27	Mohr-Coulomb	38	14	None	0
Saturated WRD_Cat2.0		20	Mohr-Coulomb	15	23	None	0

Figure 19 - Waste Rock Stockpile - Section 2 (Final Landform Design)

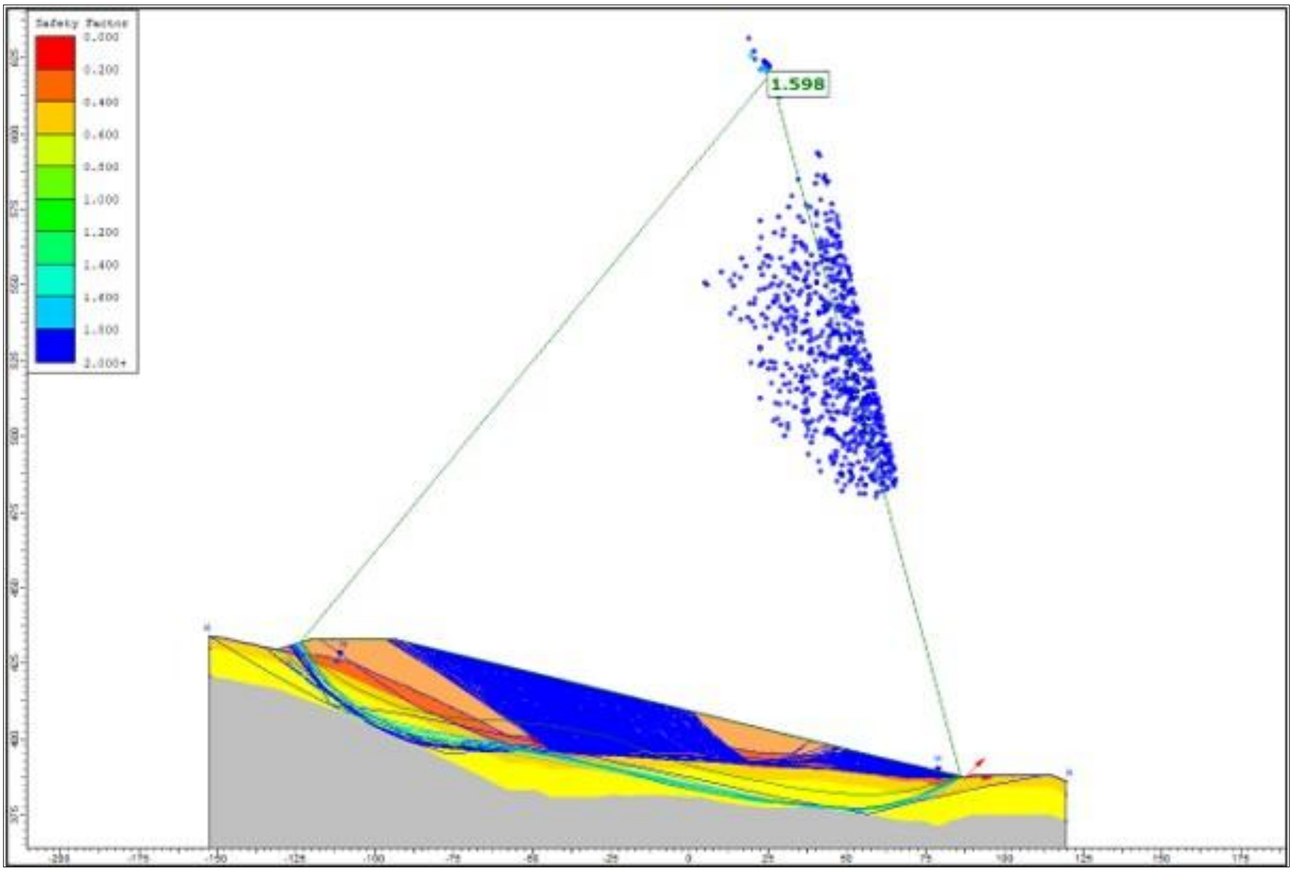


Figure 20 - S1 Slope Stability Model Result - FoS = 1.60 - Block

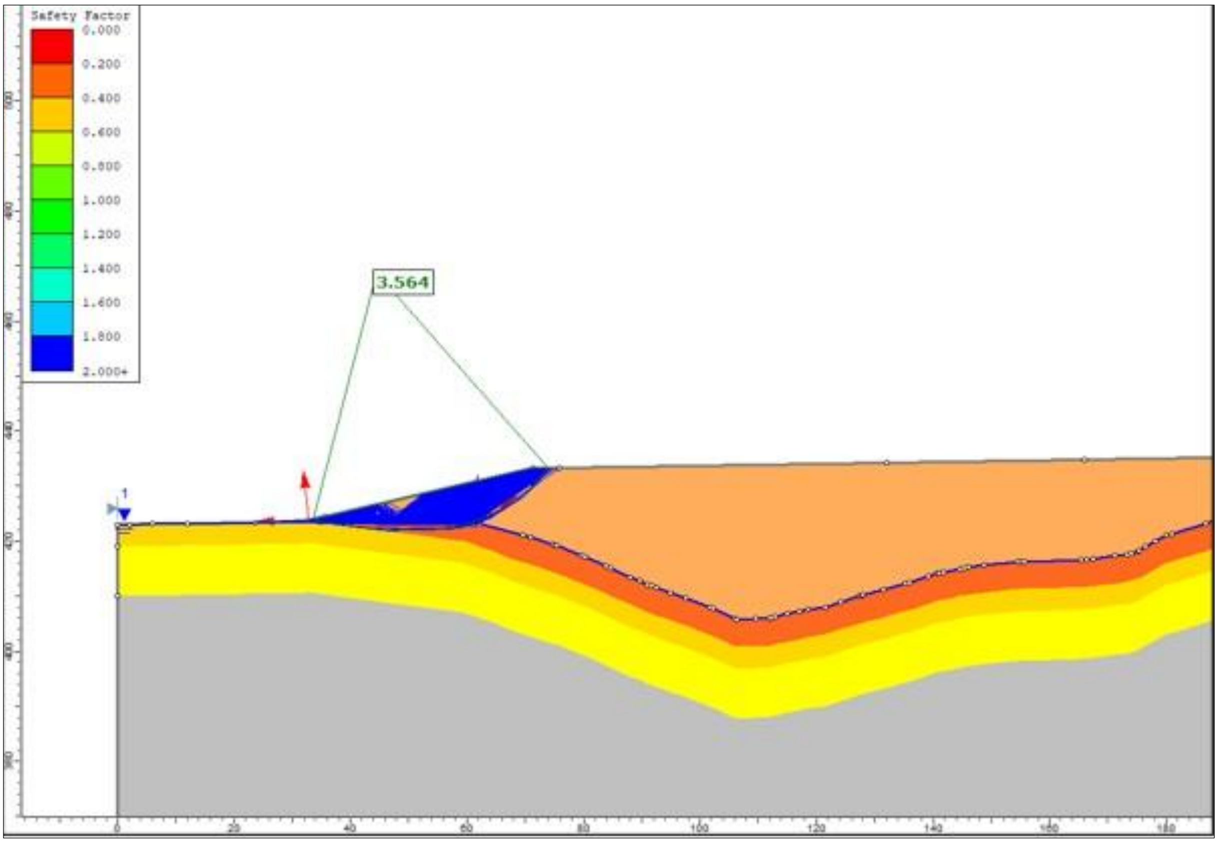


Figure 21 - S2 SW Slope Stability Model Result - FoS = 3.56 - Block

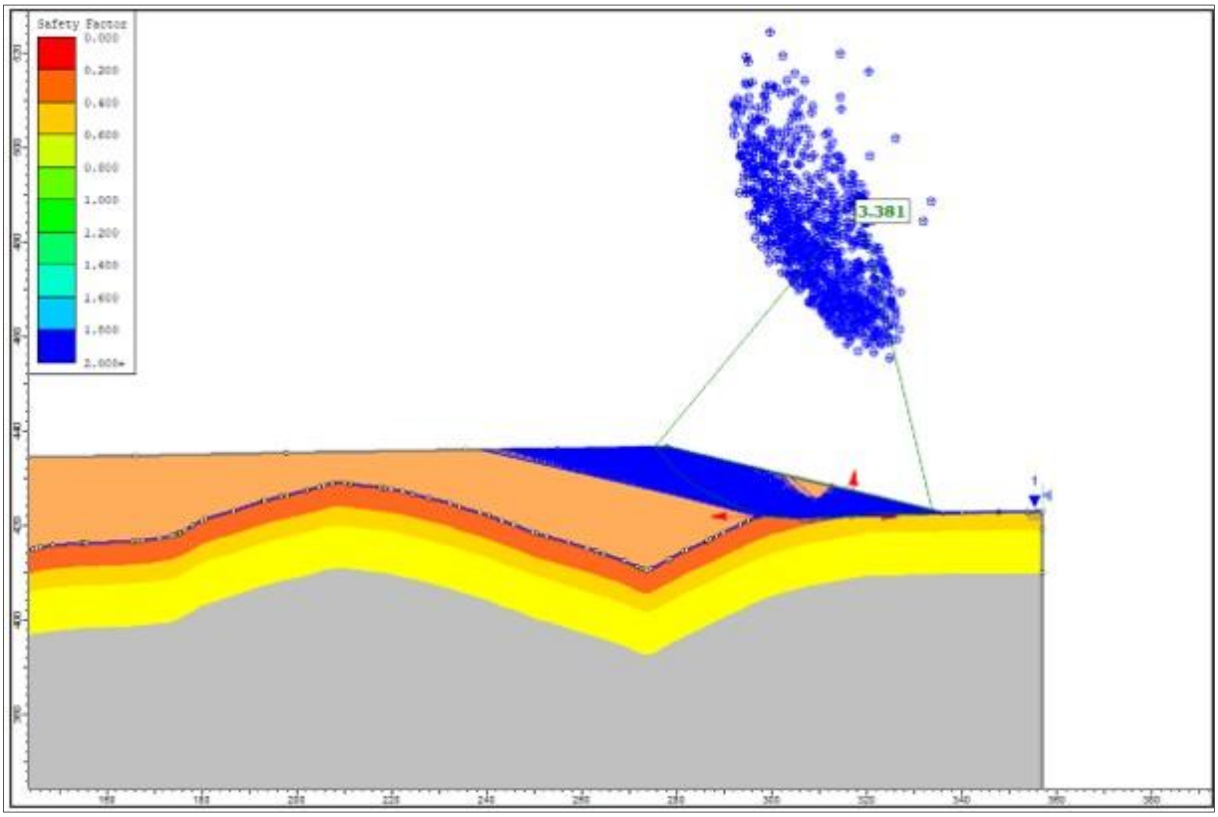


Figure 22 - S2 NE Slope Stability Model Result - FoS = 3.38 - Block

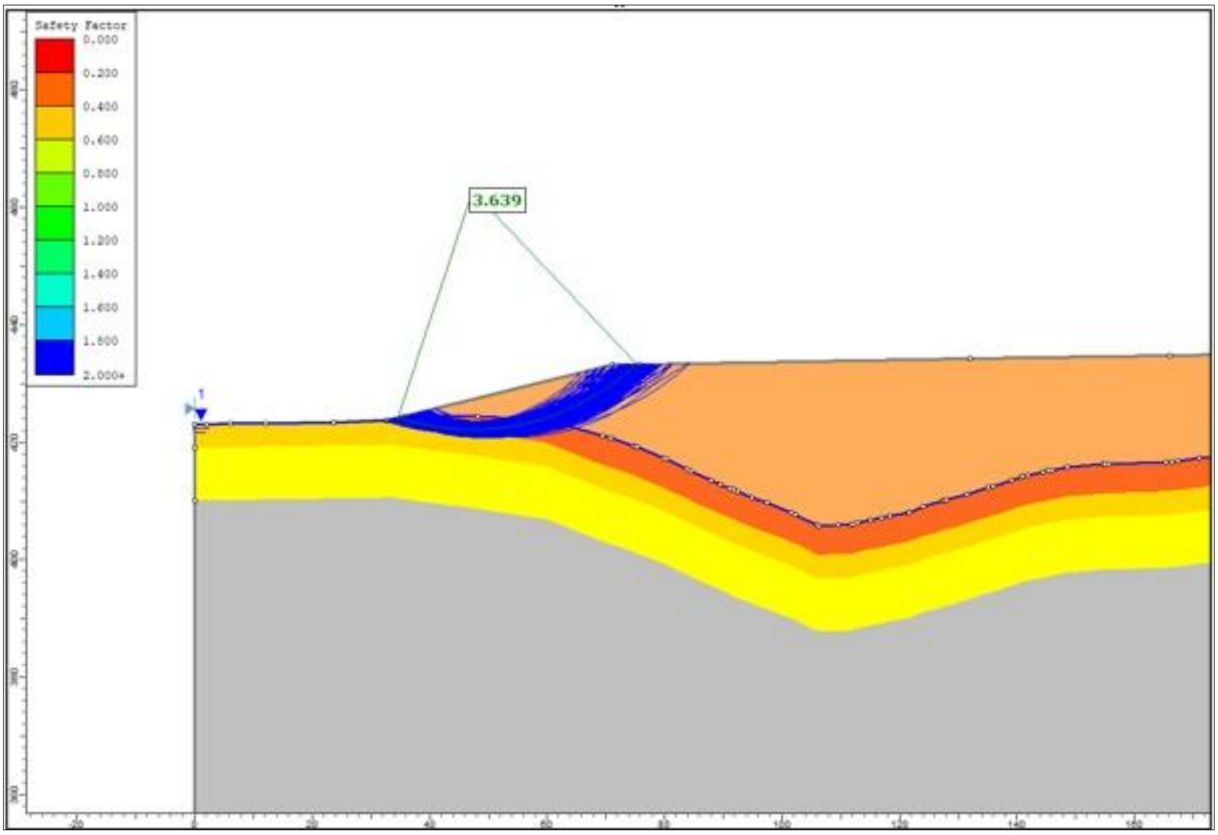


Figure 23 - S2 SW Slope Stability Model Result - FoS = 3.64 - Auto Refine

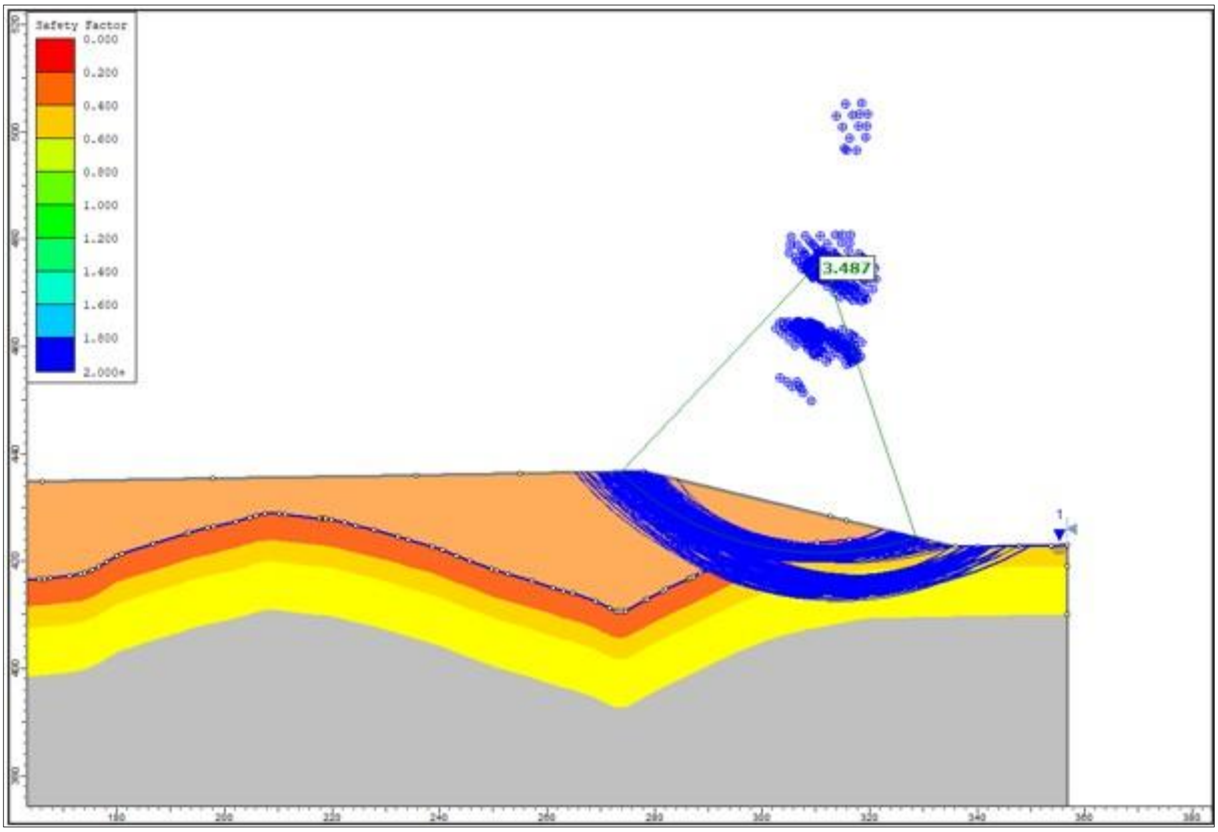


Figure 24 - S2 NE Slope Stability Model Result - FoS = 3.49 - Auto Refine

Geotechnical stability of the waste rock has been confirmed with a Slaked Durability test on a combined representative of cores from the site achieving 98.1% on the first cycle and 96.5% on the second cycle (Trilab Report No. 25090868-RSDI, Sep 2025)

Suitable erosion modelling has been completed (Capital Consulting Engineering, 2025) and incorporated into the final landform and cover design to ensure the long-term stability of all final waste storage landforms.

The proposed final landform of the waste rock stockpile will:

- Provide a geotechnically stable final landform;
- Provide for the final land use of native ecosystem.

5.6. In Pit Waste Rock Stockpile at Closure

To minimise the impact on the final landform, the pit will be backfilled so that it drains to the lowest point on the edge of the pit, as shown in Figure 25. This will be the largest final placement of waste at approximately 2.06 Mt. Due to the configuration of the pit, this backfilling will only begin once mining of the pit has been completed. During mining operations, some of this material will be stored temporarily in the out of pit waste rock stockpile (see Section 5.5.1 Interim Waste Rock Stockpile).

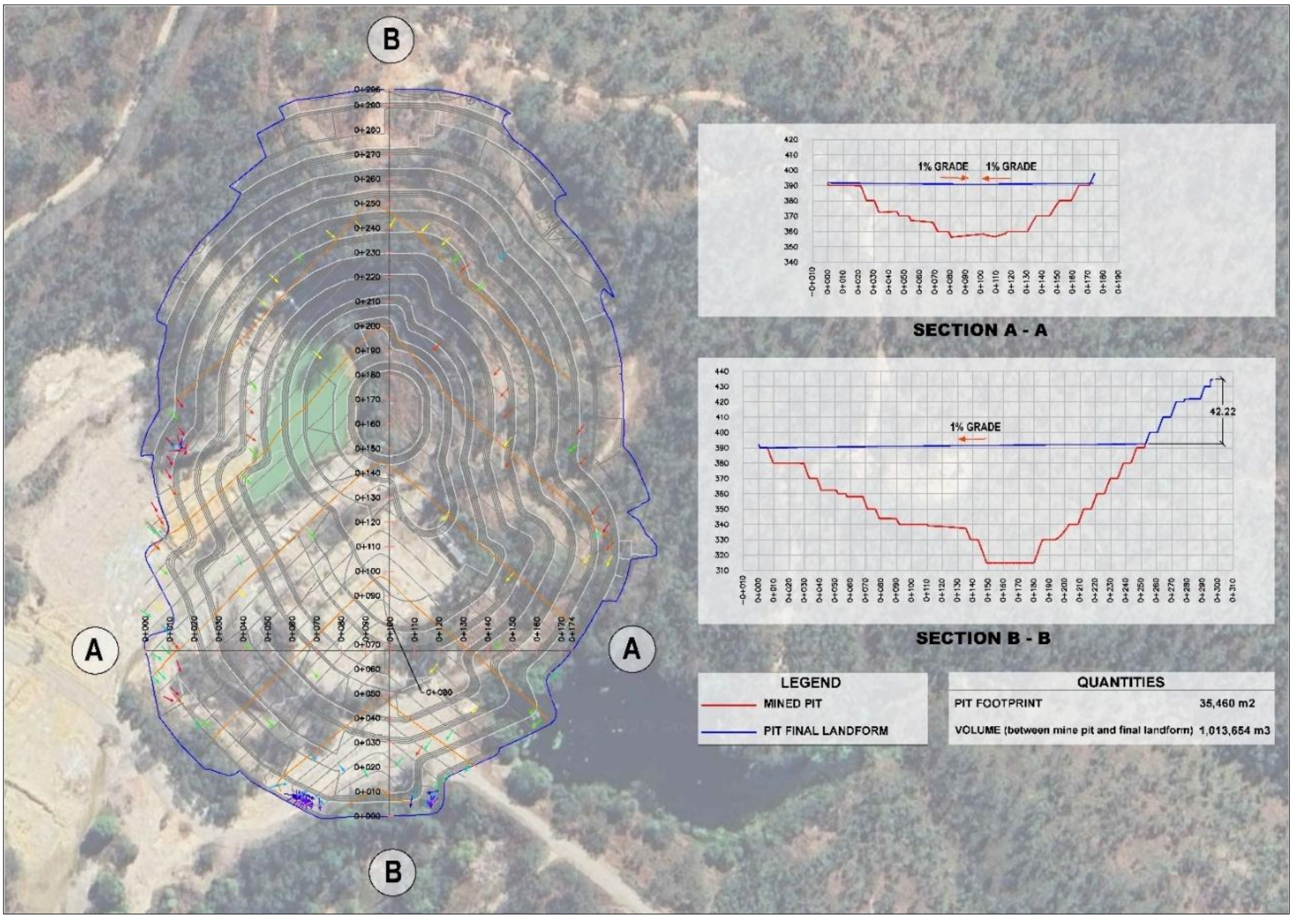


Figure 25 - Pit Void Design with Backfilled Surface

(SEE ALSO DWG. J022.210.10-DWG-001.1.1-PIT_DESIGN)

5.7. Storage of PAF Materials

The current mine schedule, in conjunction with the waste characterisation testwork, estimates that at least 97% of the overburden (95% of total mined quantities) that will be mined from the pit is from the unmineralised zone and is classified as NAF. This unmineralised waste rock will provide sufficient NAF material for use in construction and to encapsulate any potential minor volumes of PAF material in the waste rock storage areas, should that be identified through the ongoing geochemical sampling programs.

Any PAF identified during mining and operations will be encapsulated in the final landform within the in pit waste rock storage. The in pit waste rock storage has the capacity to store approximately 320,000m3 or 640kt with a benign (NAF) cover of 20m in all directions from the PAF encapsulation zone, as shown in Figure 24. This capacity is approximately 272% of the amount of waste that is forecast to be at risk of being PAF (230kt).

Prior to the commencement of placement of PAF in the pit, the pit will be backfilled with NAF to RL335m (20m above the base of the pit). Once this benign layer is in place, placement of PAF can commence in the pit. As layers of PAF are placed in the base of the pit, the edges of fill will be raised with NAF to maintain 20m separation between the pit wall and the encapsulation zone.

Should any PAF or PAF-LC require temporary storage prior to the cessation of mining and preparation of the encapsulation zone it will be temporarily stored in the northern corner of the interim waste rock stockpile. A compacted base will be prepared and lined with Geosynthetic Clay Liner (GCL). A lined drainage path will direct overland flow from the temporary PAF storage to the landfill cell. The landfill cell has a valve for controlling stormwater before it is released into the sediment control system for the stockpile. This will enable runoff from the PAF storage to be monitored and ameliorated (if necessary) before release. With this control in place, due to the short timeframe for operations and relative geochemical stability of the rock, a benign cover for the temporary PAF stockpile is not considered necessary.

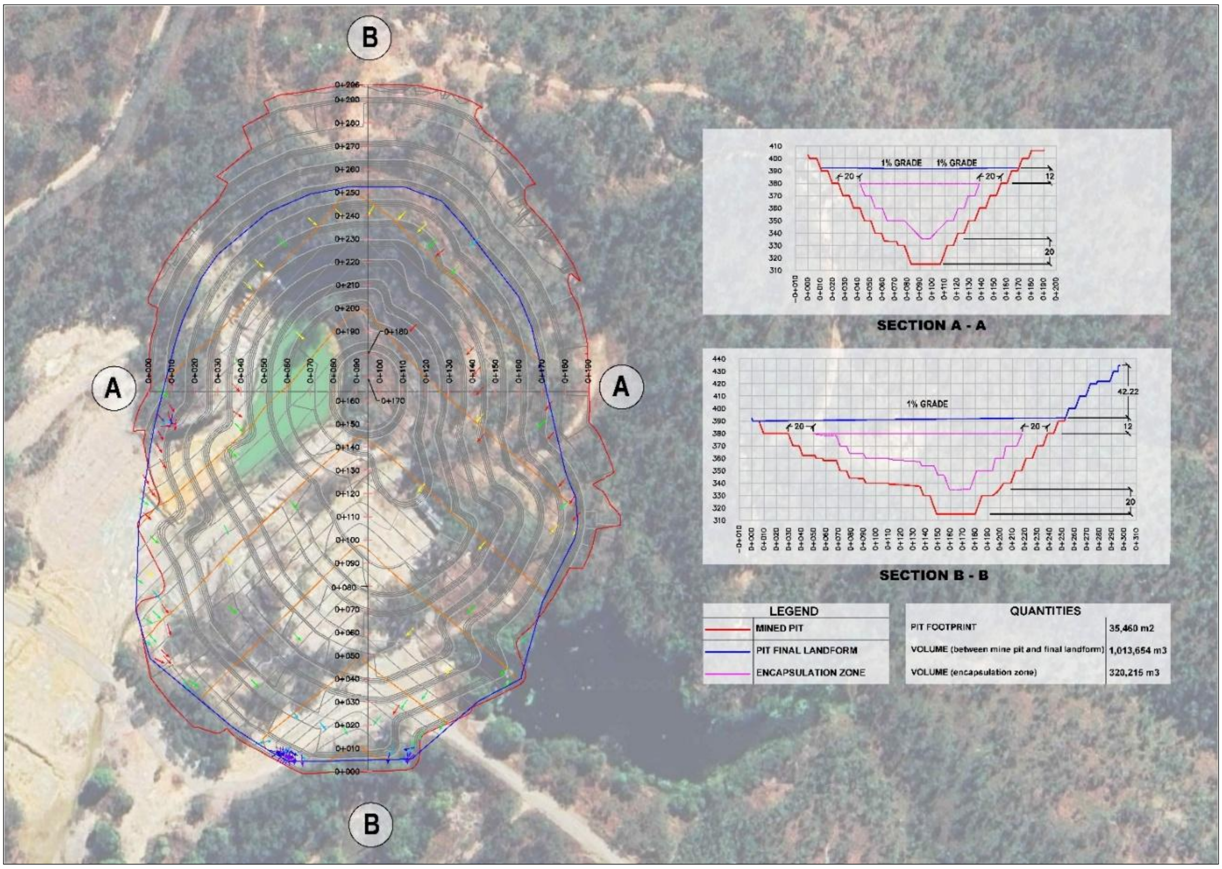


Figure 26 - PAF Encapsulation Zone

(SEE ALSO DWG. J022.210.10-DWG-002.01-ENCAPSULATION_ZONE_CROSS_SECTION)

5.8. Cover Design

Guidelines published by The Department of the Environment, Tourism, Science and Innovation on general rehabilitation practices require placement of a cover system on any waste landform where waste has the potential for AMD, neutral mine drainage, or saline mine drainage. In accordance with these guidelines, the design of cover systems must take into account the following:

- Geochemical and physical characteristics of the waste material being covered;
- Site conditions;
- Availability of suitable cover material in terms of both quality and quantity;
- Design criteria for discharge (i.e. to protect environmental values);
- Suitable vegetation.

A conceptual cover design assessment was completed by Environmental Geochemistry International. The intent of this conceptual cover system options assessment is to complete the following key tasks in a manner that provides a preliminary basis for the above-mentioned requirements:

- Selection of appropriate cover type(s) for the climate regime prevalent at Dianne Copper Mine considering the site-specific climate classification, rainfall and evaporation;
- Conceptual development of three cover system layering options using reference material properties.
- 1D numerical modelling of the conceptual cover systems to assess performance;
- Preparation of a technical memorandum to document methods and key findings of the conceptual cover system and the preferred option.

Considering the general objectives of the cover system and uncertainty of available materials, the focus of the preliminary modelling has been on three variations of a store and release cover over waste rock:

- Cover #1: Store and Release.
- Cover #2: Store and Release with Vegetation.
- Cover #3: Store and Release with Infiltration Barrier Layer.

The conceptual layering of these variations at closure is presented in Figure 27.

Figure 27 - Closure Conceptual Layering for Modelled Store and Release Cover Variations

The cover modelling shows that placement of a 2m store-and-release cover using typical silty sand type material is predicted to reduce infiltration into the waste rock to 109.1 mm/yr (approximately 15 % of annual rainfall) as long as there is good vegetation established in the growth horizon (Cover #2). Much greater security can be achieved with a compacted infiltration barrier layer at the base of the store and release layer, which would help control high-intensity and high-duration rainfall events and account for the current uncertainty around re-vegetation effectiveness (Cover #3).

Prior to the construction of the waste rock stockpile, and to confirm the suitability of construction material in exhibiting the characteristics expected of the store and release layer, the following will be completed:

Availability and suitability of materials properties:

- Infiltration testing will be performed using a Guelph permeameter or equivalent;
- Test pits will be used to examine soil structure below the surface and permeability testing by falling head tests in the test pits;
- Geotechnical testing of cover system material and waste rock will be completed, including:
  - Particle size distribution;
  - Specific gravity;
  - Dry density;
  - Moisture content;
  - Modified Proctor;
  - Atterberg Limits;

These tests will allow:

- Improved estimates of both saturated hydraulic conductivity and soil moisture content of available material;
- Detailed calibration of seepage models and confirmation of design parameters (e.g., thickness, target compaction) for the store and release layer.

Following these investigations, the seepage model applied in the assessment will be calibrated to the estimated parameter values and the concept design presented, confirmed or updated if required.

6. OPERATIONAL REQUIREMENTS

6.1. Waste Rock Classification Program

An ongoing program for further classifying all waste rock materials will be required to effectively manage the waste rock. A staged geochemistry sampling and test work program will be completed on screened elevated S levels through mine scheduling to identify and estimate the types and quantities of rock with AMD potential. For each material type, the program will:

- Develop a project specific set of criteria that can be used to readily identify Potentially-Acid Forming (PAF) and Non-Acid Forming (NAF) materials;
- Indicate the proportions of PAF and NAF materials to be scheduled;
- Develop protocol for regular short interval sampling and geochemical test work to identify PAF materials for the future grade control drilling programs;
- Develop a protocol for incorporating the data into the block model and ongoing mine schedule of PAF and NAF materials to be mined.

This program will include sampling and testing of the existing waste rock stockpiles, overburden to be mined from the pit, and samples of spent ore material to provide an indication of the acid-forming and leaching characteristics of mined materials, which will include:

- paste pH and EC;
- total sulphur;
- standard ANC;
- single addition NAG;
- chromium reducible sulphur;
- sequential NAG;
- acid-buffering characteristic curve (ABCC);
- carbon forms;
- XRD mineralogy;
- single stage water extracts; and
- peroxide extracts.

A selection of samples most representative of key PAF and NAF mine materials will be used for kinetic column test work. This will provide an indication of longer-term leaching behaviour under oxidising conditions. Results from the kinetic column test work will also be used to validate and adjust the AMD classification criteria and define geochemical source terms for any water quality modelling.

Figure 28 describes the process for AMD classification to be used at Dianne Copper Mine.

For the spent ore, in addition to these tests, multi-stage water extractions will be completed to provide an indication of the degree to which the materials will require rinsing and/or lime treatment to attenuate loadings of acidity and metals and metalloids prior to emplacement within the waste rock storage facilities.

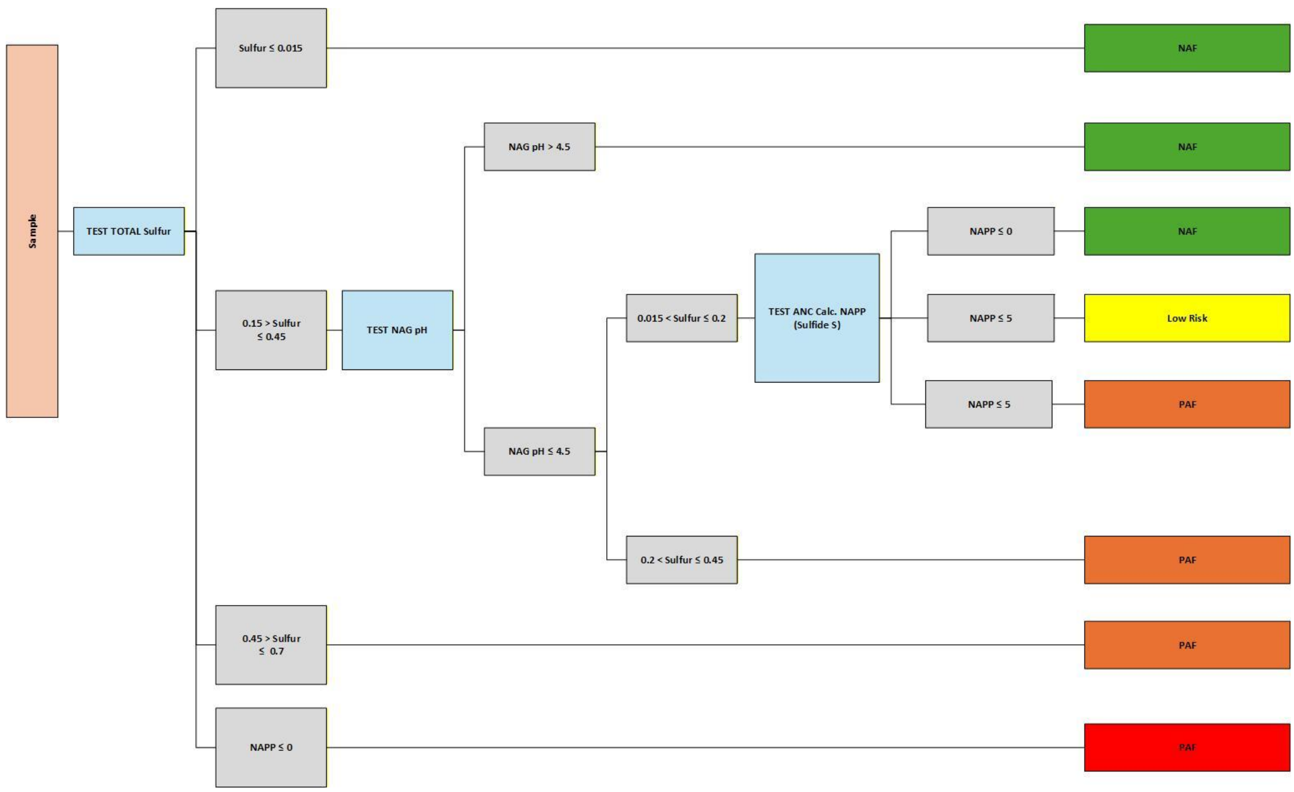


Figure 28 - Waste Rock and Classification Workflow

6.2. Waste Rock Stockpile Construction

Following completion of the waste rock characterisation program, detailed construction plans for all waste rock facilities will be completed. These plans will include:

- Segregation of AMD rock types and tracking of these materials to their storage areas.
- Where practicable, maintaining material with the highest AMD potential at the core of the in pit waste rock stockpile.
- Limiting lift heights to approximately 5 m to minimise the risk of coarse rock segregation, providing pathways for convective oxygen and subsequent generation of high loads of AMD.
- Operate multiple tip heads when possible, to allow sufficient time for waste rock stockpile development works.
- Planning use of geochemically benign, well graded material for use in construction of the cover system for infiltration control.

6.3. Rehabilitation Schedule

The rehabilitation of the pit area is included in RA2, while the waste rock stockpile is included in RA3 in the PRCP. Section C of the PRCP Schedule shows that this rehabilitation will take place at the end of mine life, beginning 01/07/31 and will be completed by 30/12/42. Table 5 and Table 6 show the Rehabilitation Milestone schedules for these two areas. Further details on required actions are contained in the PRCP. The proposed PMLU for both areas is native ecosystem.

The existing waste rockpile will be removed to the ROM before commencement of any processing operations, where it will be crushed and agglomerated prior to heap leaching.

Table 8 - Rehabilitation Area 2 Milestone Schedule

Post-Mining Land Uses (PMLU)					
Rehabilitation area	RA2				
Relevant activities	Pit				
Total rehabilitation area size (ha)	4.84				
Commencement of first milestone: <insert milestone reference>	End of mine life				
PMLU	Native ecosystem				
Date area is available	1/07/31	30/12/33			
Cumulative area available (ha)	4.84	4.84			
Milestone completed by	30/12/33	30/12/42			
Cumulative area achieved (ha)					
Milestone Reference					
RM2	4.84				
RM6	4.84				
RM7	4.84				
RM8		4.84			
RM					

Milestone references:

- RM2: Backfill of pit (void);
- RM6: Remediation of contaminated land;
- RM7: Landform Development and Reshaping/Reprofiling and Revegetation;
- RM8: Establishment of target PMLU vegetation and stable landform PMLU achieved

Table 9 - Rehabilitation Area 3 Milestone Schedule

Post-Mining Land Uses (PMLU)					
Rehabilitation area	RA3				
Relevant activities	Waste Rock Stockpile				
Total rehabilitation area size (ha)	4.74				
Commencement of first milestone: <insert milestone reference>	End of mine life				
PMLU	Native ecosystem				
Date area is available	1/07/31	30/12/33			
Cumulative area available (ha)	4.74	4.74			
Milestone completed by	30/12/33	30/12/42			
Cumulative area achieved (ha)					
Milestone Reference					
RM2	4.74				
RM6	4.74				
RM7	4.74				
RM8		4.74			
RM					

Milestone references:

- RM3: Rehabilitation of overburden stockpile;
- RM6: Remediation of contaminated land;
- RM7: Landform Development and Reshaping/Reprofiling and Revegetation;
- RM8: Establishment of target PMLU vegetation and stable landform PMLU achieved.

7. MONITORING PROGRAM

The Dianne Copper Mine currently has an extensive maintenance and monitoring program in accordance with the EA requirements.

The monitoring program for the proposed operations will be increased to include the newly constructed features. An updated Water Management Plan was developed by Engeny, key features of which are shown in Figure 29, along with proposed water monitoring locations. Further details on the water monitoring program are available in the Water Management Plan (Engeny, 2024), including details on reporting, record keeping, and notifications of emergencies, incidents, and exceptions related to the water monitoring.

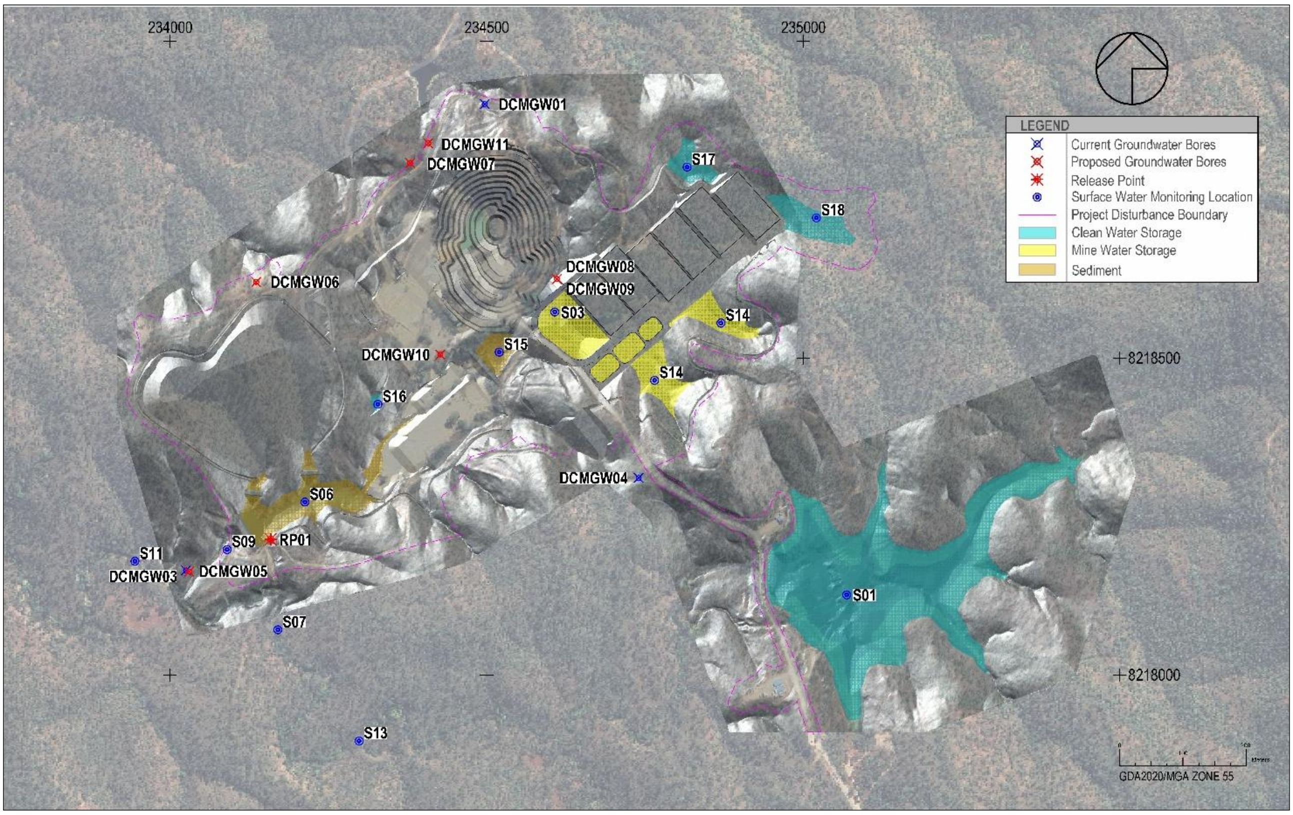


Figure 29 - Operational Water Monitoring Locations

(SEE ALSO DWG. J022.200.00-SKE-009.00D-GROUNDWATER_BOREHOLE_LOCATIONS)

Additional components of the planned waste rock monitoring program will include:

- updated groundwater monitoring program;
- updated REMP;
- regular administrative checks and visual inspections of any ore and waste storage areas;
- review of material segregation, AMD rock type material tracking, and reconciliation with quantity survey records;
- mapping and survey of material types within waste storage areas;
- survey of volume and height of all waste storage landforms to ensure compliance to designs;
- checks on methods of waste emplacement;
- visual inspection for evidence of AMD seepage around ore and waste storage areas, surface water drainage lines and dams, and around or near the crusher;

- inspection for indicators of geotechnical instability such as surface cracking, subsidence, and scouring;
- review of QA/QC testing of cover system materials to ensure compliance with construction specifications;
- infiltration monitoring below the cover system to confirm predicted control performance; and
- regular review of water quality data for indications of AMD development.

8. PLAN REVIEW

As per EA Condition D6, this WRMP will be reviewed annually by a suitably qualified person or team. The annual review will assess the adequacy of the plan, ensure actual and potential environmental impacts relating to waste rock are managed, and identify any necessary amendments to the plan to ensure compliance. The review process will include consideration of the results of the monitoring program.

This WRMP will also be updated in the event that modelling or testing at any stage indicates that materials at risk of being classified as PAF / PAF material / AMD material are likely to exceed 10% of total material mined.

If required amendments to this WRMP are identified, this WRMP will be updated and provided to the administering authority.

9. WRMP IMPLEMENTATION

Environmental management at the Dianne Copper Mine is the responsibility of all employees. The Mineral Projects directors have overall responsibility for environmental management of the operations, which includes the implementation of this WRMP. Roles and responsibilities for the implementation of this WRMP for all personnel are outlined in Table 10.

Table 10 - Roles and Responsibilities

Role	Responsibility
Mineral Projects Directors	Provide sufficient resources for the implementation of this plan. Be aware of the environmental legislative requirements associated with the Dianne Copper Mine and take measures to ensure compliance. Ensure employees are competent through training and awareness programs Evaluate and report monitoring results as required by the EA.
Mine Site Senior Executive (SSE)	Control and direction of the construction of leach pads, infrastructure and waste rock storage locations to comply with the WRMP recommendations for safe and environmentally suitable execution. Undertake the monitoring program described in this plan. Maintain records of monitoring results as required by the EA.
All Employees and Contractors	Comply with all requirements in this plan. Report all potential environmental incidents to the Mineral Projects Directors and/or Mine SSE immediately. Operate in a manner that minimises risks of incidents to themselves, fellow workers, or the surrounding environment. Follow any instructions provided by the Mineral Projects Directors or Mine SSE.

10. CERTIFICATION

Projectick certifies that this WRMP is feasible and meets the intent of the relevant approved EA conditions and DETSI Guideline: Progressive rehabilitation and closure plans (ESR/2019/4964). The qualifications of the personnel suitably qualified to certify this WRMP are provided below.

10.1. Suitably Qualified Persons – Dr Bryce Healy

Dr Bryce Healy MAIG is listed as the suitably qualified person for this plan and has substantially written components related to geology and waste and ore geochemical characterisation relevant to this WRMP. Bryce is an experienced project manager having led multi-disciplinary teams at project stages from early exploration, through feasibility and project development. This plan has been completed in conjunction with expert recommendations from content experts in adjacent disciplines, including geotechnical, hydrogeological, landform evolution modelling, environmental, and operational execution. The expert recommendations and opinions are utilised with reliance on their validity and appropriateness for the basis of the WRMP.

Bryce's experience relevant to the WRMP at Dianne mine, covers 23 years in geological and geochemical investigation and he has been the lead geologist for the Dianne project for 3 years.

10.2. Suitably Qualified Persons – Rob McCahill

Rob McCahill MAUSIMM is also signatory to this WRMP as founder and Managing Director of Projectick. Rob has 26 years of experience in the design, planning and construction of mines and quarries throughout most mainland Australian states and pacific nations, with most of that experience being in northern Queensland. Rob has verified that expert content in adjacent disciplines, including geotechnical, hydrogeological, landform evolution modelling, environmental, and operational execution has been incorporated into the WRMP. Projectick is providing project management, mine scheduling and civil engineering services to Mineral Projects for the project.

11. REFERENCES

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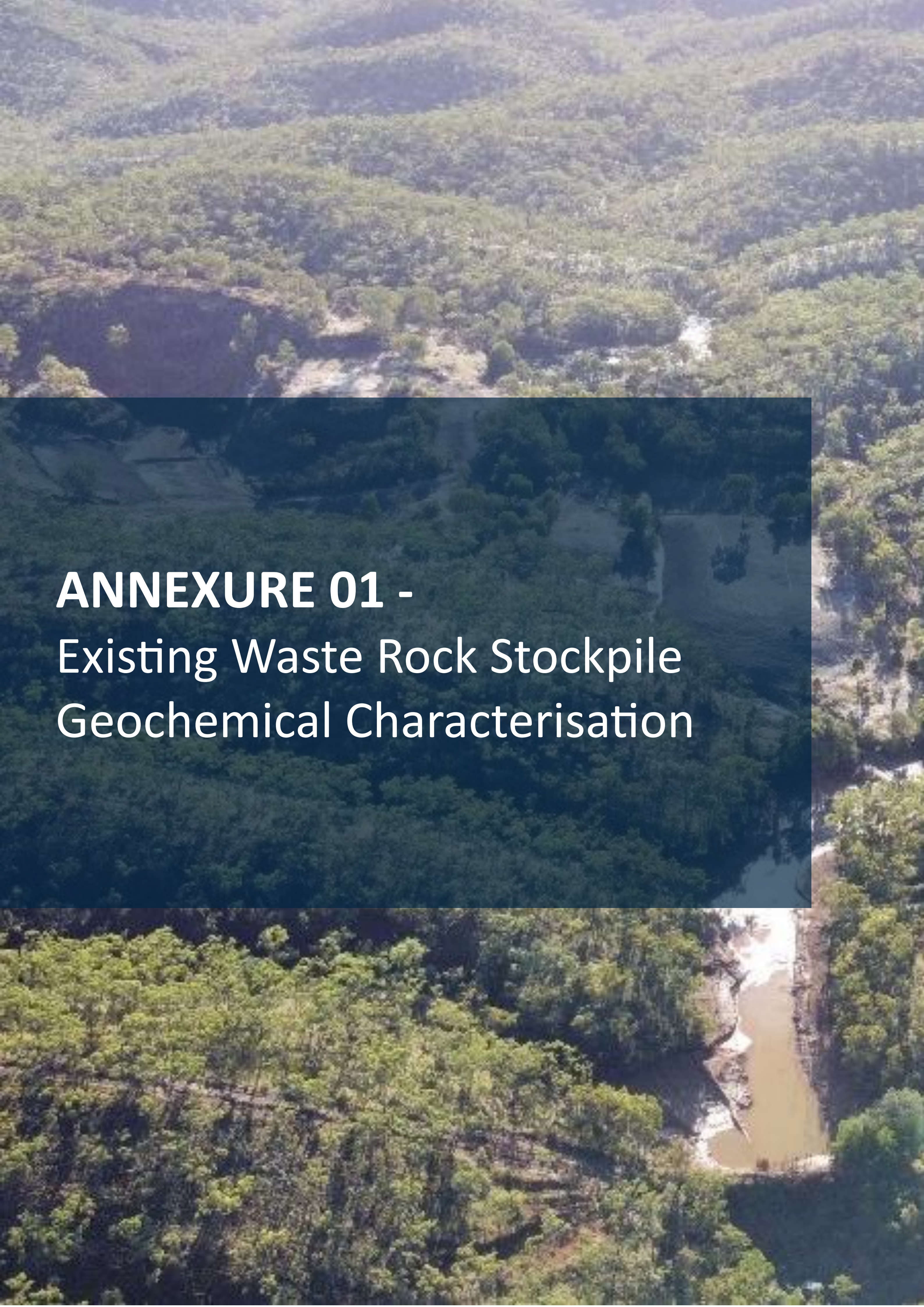


ANNEXURE 01 - Existing Waste Rock Stockpile Geochemical Characterisation

1. EXISTING WASTE ROCK STOCKPILE GEOCHEMICAL CHARACTERISATION

In 2022, 46 Auger drills were sampled across the existing waste rock stockpile, as shown in Figure 1, below. Individual drill hole sulphur and copper contents were extrapolated to nearby volumes, and a representative 3-dimensional waste volume was generated with material consistent with the halo of mineralisation surrounding the historically mined ore body, as shown in Figure 2. The density of the existing waste rock stockpile is estimated at 2t/m3, with approximately 50,000m3 of waste in the stockpile.

Table 1, below, displays the sulphur content of each drill hole by metre, with totals weighted by the volume of material extrapolated from the sample. The global average is 0.054% Sulphur, with 1.5% of total material containing more than 0.2% Sulphur. The material with > 0.2% Sulphur will be considered Potentially Acid Forming, and will be encapsulated by benign materials in the final landforms. The current schedule includes processing all material from the existing waste rock stockpiles as ore economically, where the material will be crushed, agglomerated, leached, rinsed, then moved to the waste rock stockpiles as spent ore.

Figure 1 - Existing Waste Rock Stockpile Drill Hole Locations

Figure 2 - Existing Waste Rock Stockpile Block Model Split by Sulphur Content

Table 1 - Detailed Sulphur Percentages of Existing Waste Rock Stockpile

Drill Hole	20DSP001	20DSP002	20DSP003	20DSP004	20DSP005	20DSP006	20DSP007	20DSP008	20DSP009	20DSP010	20DSP011	20DSP012	20DSP013	20DSP014	20DSP015	20DSP016
RL 394																
RL 393							0.047%	0.029%	0.031%	0.121%	0.068%	0.074%	0.057%			
RL 392	0.026%	0.023%	0.044%	0.077%	0.037%	0.026%	0.037%	0.027%	0.039%	0.126%	0.078%	0.045%	0.061%	0.056%	0.087%	0.108%
RL 391	0.041%	0.093%	0.076%	0.071%	0.075%	0.081%	0.029%	0.060%	0.035%	0.101%	0.040%	0.032%	0.080%	0.144%	0.062%	0.034%
RL 390	0.052%	0.065%	0.063%	0.099%	0.092%	0.283%	0.101%	0.027%	0.025%	0.180%	0.060%	0.030%	0.108%	0.066%	0.029%	0.073%
RL 389	0.045%	0.030%	0.052%	0.077%	0.029%	0.081%	0.099%	0.040%	0.035%	0.042%	0.049%	0.030%	0.089%	0.099%	0.025%	0.090%
RL 388	0.030%	0.067%	0.063%	0.094%	0.026%	0.039%	0.086%	0.037%	0.077%	0.043%	0.026%	0.086%	0.217%	0.049%	0.024%	0.078%
RL 387	0.027%	0.035%	0.055%	0.102%	0.058%	0.071%	0.149%	0.069%	0.027%	0.040%	0.027%	0.126%	0.102%	0.029%	0.029%	0.092%
RL 386	0.055%	0.057%	0.056%	0.058%	0.026%	0.100%	0.131%	0.125%	0.022%	0.034%	0.024%	0.091%	0.065%	0.025%	0.033%	0.066%
RL 385	0.052%	0.032%	0.079%	0.078%	0.029%	0.073%	0.071%	0.052%	0.025%	0.042%	0.021%	0.101%	0.035%	0.027%	0.024%	0.060%
RL 384	0.027%	0.040%	0.055%	0.047%	0.032%	0.030%	0.068%	0.062%	0.026%	0.048%	0.058%	0.063%	0.042%	0.025%	0.036%	0.046%
RL 383		0.000%	0.029%	0.037%	0.034%	0.044%	0.182%	0.042%	0.025%			0.026%	0.035%	0.048%	0.022%	0.031%
RL 382			0.000%	0.018%	0.019%	0.028%	0.067%									
RL 381				0.000%												
Weighted Average by Volume	**0.040%**	**0.048%**	**0.058%**	**0.071%**	**0.042%**	**0.081%**	**0.096%**	**0.054%**	**0.035%**	**0.065%**	**0.044%**	**0.066%**	**0.084%**	**0.058%**	**0.033%**	**0.067%**

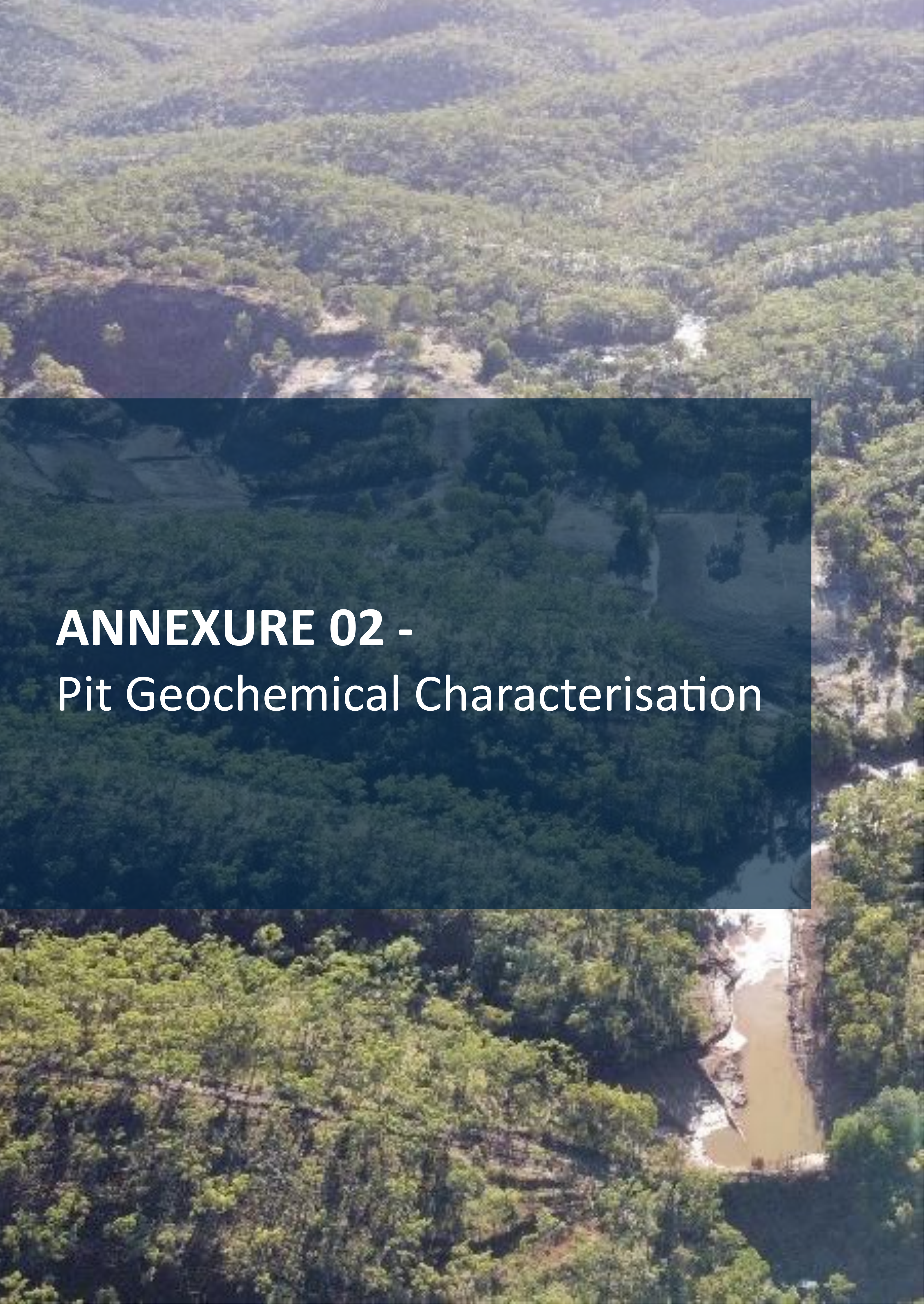
**All averages are weighted averages, based on the volume of material in each bench and drill hole.*

Drill Hole	20DSP017	20DSP018	20DSP019	20DSP020	20DSP021	20DSP022	20DSP023	20DSP024	20DSP025	20DSP026	20DSP027	20DSP028	20DSP029	20DSP030	20DSP031	20DSP032
RL 394						0.076%										
RL 393						0.055%										
RL 392	0.121%	0.073%	0.077%	0.045%	0.026%	0.036%	0.040%	0.062%	0.117%	0.354%	0.068%	0.030%	0.055%	0.068%	0.048%	0.092%
RL 391	0.053%	0.078%	0.030%	0.035%	0.025%	0.026%	0.045%	0.031%	0.138%	0.252%	0.043%	0.027%	0.031%	0.037%	0.038%	0.088%
RL 390	0.089%	0.043%	0.022%	0.042%	0.026%	0.027%	0.031%	0.028%	0.135%	0.139%	0.028%	0.023%	0.025%	0.045%	0.035%	0.033%
RL 389	0.043%	0.068%	0.027%	0.038%	0.028%	0.031%	0.034%	0.037%	0.196%	0.048%	0.028%	0.027%	0.035%	0.036%	0.034%	0.033%
RL 388	0.040%	0.078%	0.028%	0.021%	0.025%	0.037%	0.028%	0.025%	0.108%	0.060%	0.031%	0.027%	0.033%	0.030%	0.031%	0.041%
RL 387	0.054%	0.047%	0.024%	0.029%	0.022%	0.208%	0.020%	0.028%	0.095%	0.043%	0.023%	0.030%	0.037%	0.024%	0.038%	0.052%
RL 386	0.051%	0.043%	0.047%	0.036%	0.046%	0.133%		0.026%	0.047%	0.037%	0.036%	0.039%	0.066%	0.024%	0.034%	0.149%
RL 385	0.043%	0.068%	0.068%	0.038%	0.029%	0.000%		0.000%	0.000%	0.000%			0.000%	0.000%	0.000%	0.000%
RL 384	0.027%	0.055%	0.024%	0.000%	0.000%											
RL 383		0.000%														
RL 382																
RL 381																
Weighted Average by Volume	**0.055%**	**0.061%**	**0.037%**	**0.033%**	**0.028%**	**0.054%**	**0.032%**	**0.030%**	**0.126%**	**0.129%**	**0.036%**	**0.028%**	**0.037%**	**0.030%**	**0.032%**	**0.063%**

**All averages are weighted averages, based on the volume of material in each bench and drill hole.*

Drill Hole	20DSP033	20DSP034	20DSP035	20DSP036	20DSP037	20DSP038	20DSP039	20DSP040	20DSP041	20DSP042	20DSP043	20DSP044	20DSP045	20DSP046	Weighted Average by Volume
RL 394															**0.076%**
RL 393			0.116%	0.107%											**0.081%**
RL 392	0.084%	0.179%	0.187%	0.118%	0.053%			0.013%		0.012%	0.006%		0.028%	0.007%	**0.070%**
RL 391	0.537%	0.161%	0.076%	0.042%	0.080%	0.044%	0.021%	0.008%	0.078%	0.009%	0.017%	0.046%	0.007%	0.007%	**0.068%**
RL 390	0.083%	0.155%	0.069%	0.032%	0.089%	0.019%	0.010%	0.010%	0.018%	0.003%	0.020%	0.006%	0.016%	0.005%	**0.063%**
RL 389	0.044%	0.068%	0.044%	0.140%	0.126%	0.022%	0.015%	0.005%	0.005%	0.035%	0.047%	0.015%	0.014%	0.022%	**0.049%**
RL 388	0.037%	0.046%	0.049%	0.098%	0.090%	0.011%	0.029%	0.004%	0.012%	0.057%	0.037%	0.013%	0.008%	0.007%	**0.048%**
RL 387	0.041%	0.033%	0.028%	0.136%	0.049%	0.013%	0.007%	0.006%	0.044%	0.026%	0.053%	0.004%	0.005%	0.008%	**0.050%**
RL 386	0.040%	0.032%	0.028%	0.209%	0.044%	0.015%	0.005%	0.008%	0.058%	0.000%	0.026%	0.006%	0.009%	0.012%	**0.055%**
RL 385	0.000%	0.036%	0.046%	0.083%	0.028%		0.012%	0.000%	0.000%		0.000%	0.007%	0.000%	0.000%	**0.047%**
RL 384		0.035%	0.082%	0.030%	0.019%										**0.042%**
RL 383		0.030%	0.031%												**0.052%**
RL 382		0.028%													**0.032%**
RL 381															**0.000%**
Weighted Average by Volume	**0.123%**	**0.076%**	**0.073%**	**0.101%**	**0.071%**	**0.019%**	**0.015%**	**0.007%**	**0.032%**	**0.023%**	**0.028%**	**0.012%**	**0.011%**	**0.010%**	**0.054%**

**All averages are weighted averages, based on the volume of material in each bench and drill hole.*



ANNEXURE 02 -
Pit Geochemical Characterisation

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1. WEATHERING PROFILE AND DISTRIBUTION OF SULPHUR AND CARBONATE MINERALS

A merged geological assay drillhole database has been developed by Revolver Resources for the Dianne Copper deposit. This dataset included predominantly diamond drillholes (DD) and some reverse circulation (RC), with samples filtered to within the proposed mining envelope. A total of 1642 sample intervals are included, of which 1634 have Sulphur (S) assays, primarily analysed within a broad 4-acid digest ICP suite of elements. There are no indicators for carbonate content, such as total C or inorganic C, within the dataset.

The intended mining pit envelope comprises oxidised and transitional materials, with primary (fresh rock) materials occurring below the base of pit. Weathering zone is visually assessed by geologists based on iron mineral alteration and the presence of copper oxide/carbonate species, with transitional zones showing mixed oxide and sulphide copper minerals.

The copper resource at Dianne is primarily supergene, with mineralisation dominated by copper carbonates and oxides such as malachite, azurite, cuprite, tenorite, and native copper. These minerals are typically found in the upper oxidised zone, where host rocks, mainly sandstones and phyllites, show pervasive iron oxidation, often visible with iron oxide (rust) staining. Beneath this, the transitional zone contains enrichment minerals including chalcocite, covellite, and bornite, while deeper primary mineralisation is characterised by chalcopyrite. Other sulphides minerals including pyrite and sphalerite are also present across the transitional primary zones and assist in identifying the extent of weathering within both the host rocks and mineralised structures.

The distribution of S was assessed by varying groupings, including ore/waste classification, weathering zone, logged lithology and mineralisation domain, as shown in Figures 1 to 3. Ore/waste classification was assigned using a 0.2%Cu cut-off grade. Descriptions of logged lithologies and associated groups are provided in Annexure 2.1. Weathering zones and key mineralisation domains were already assigned to each sample within the dataset and align with the details in Table 1. Sulphur has yet to be block modelled; however, as illustrated in Figures 4 and 5, moderate to high sulphur appears to be generally within the ore zone, of which most material will report to the heap leach pad.

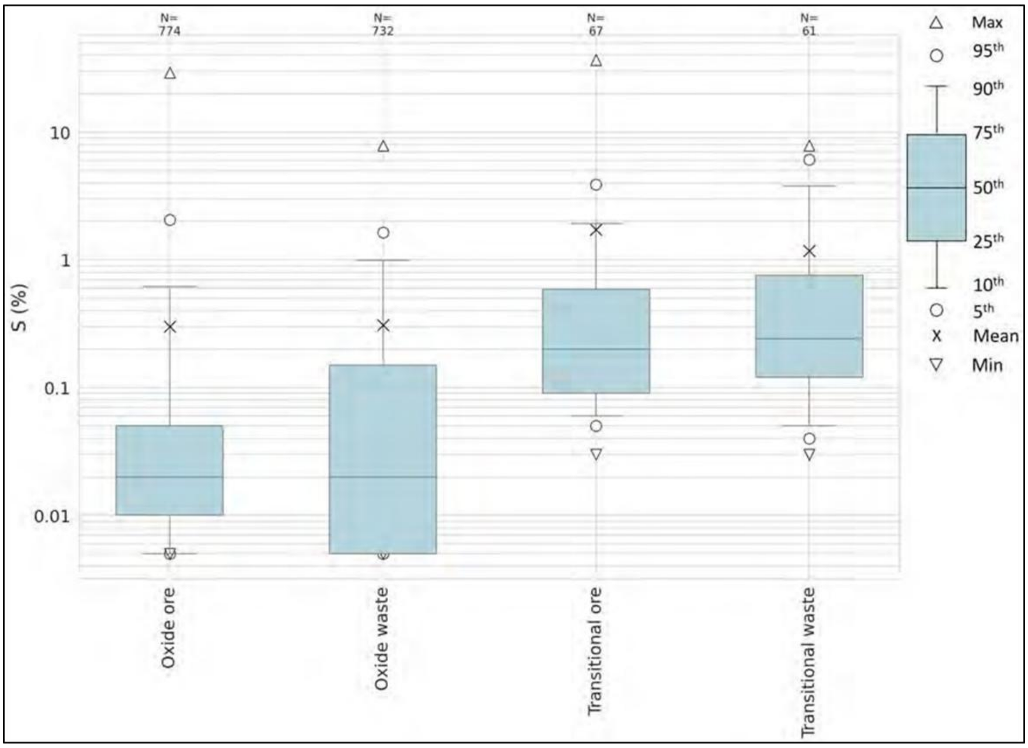

Figure 1: Distribution of Database ICP S (%) Split by Oxidation

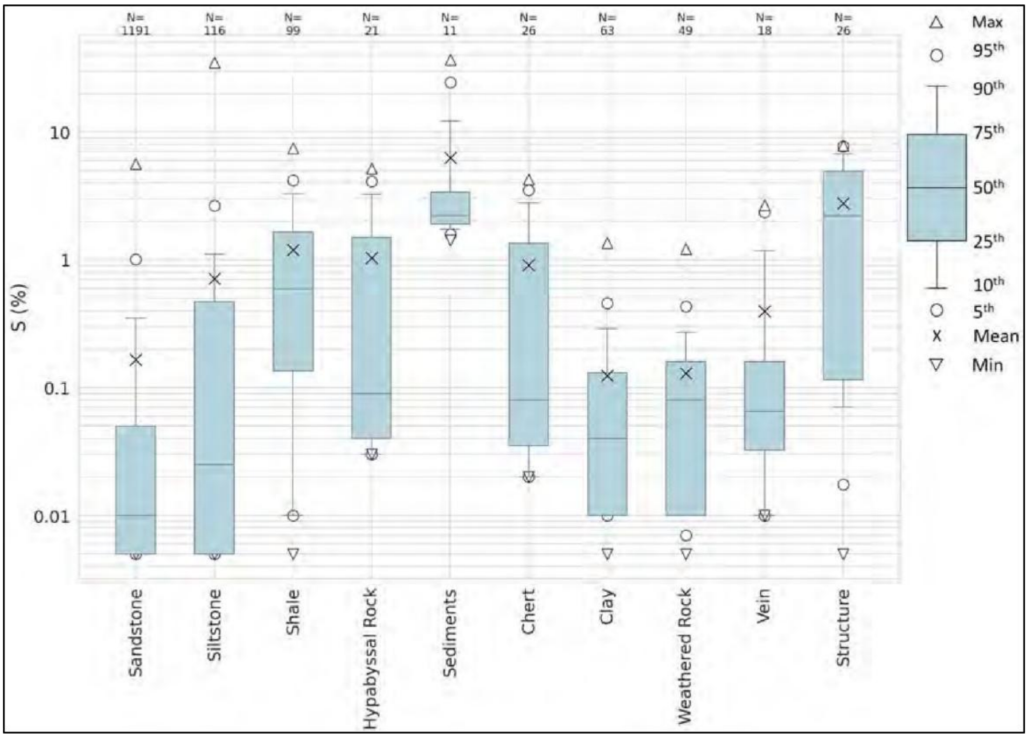

Figure 2: Distribution of Database ICP S (%) Split by Lithology

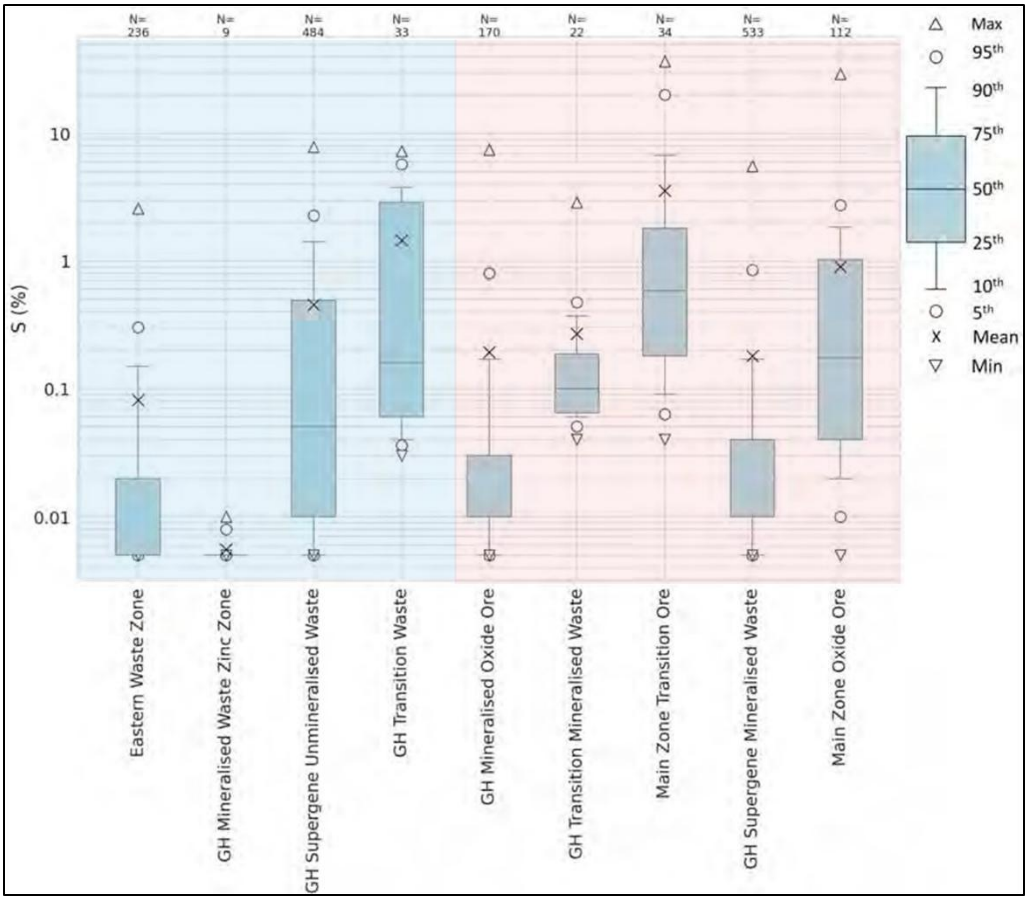

Figure 3: Distribution of ICP S (%) Split by Combined Weathering Zone and Mineralisation Domain

Note: blue = waste domains, pink = ore domains

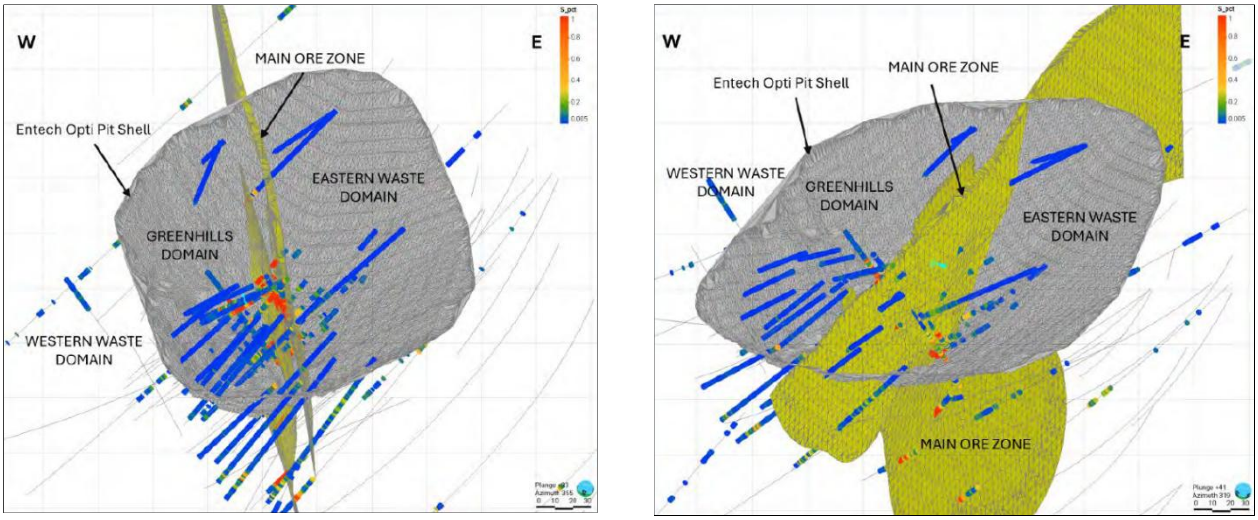

Figure 4: Oblique Views of the Entech 2022 pit

Note: Drill sulphur intercepts and the main ore lens (yellow) are shown.

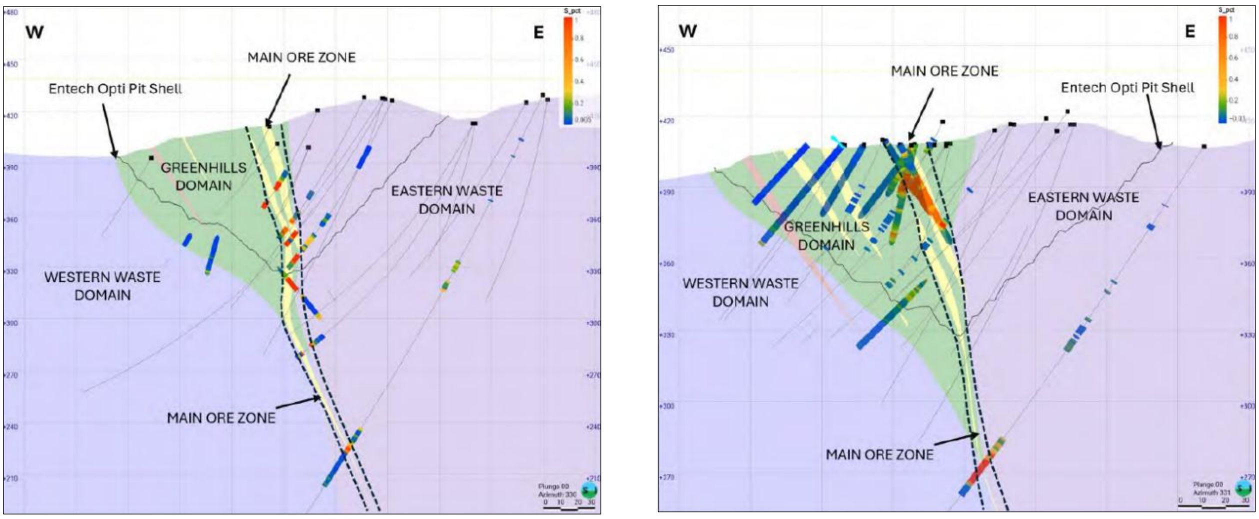

Figure 5: Geological Cross-Sections

Note: Drill sulphur intercepts and ore-waste domains are shown. The left image highlights the main ore lens zone in the northern half of the pit, while the right image includes the Greenhills domain in the southern part of the pit.

The database review, combined with deposit geology information and assessment of S distributions suggests the following in relation to sulphur and carbonate mineral distribution within the pit envelope:

- The combined ore and waste materials both have an overall similar low[1] S content, with median values of 0.02% S. S concentrations range from negligible to a maximum of 36.8%, although 75% of samples contain less than 0.2% S.
- Transitional materials generally have higher S content than oxide materials.
- According to logged intervals within the database, waste rock within the pit envelope mostly consists of sandstone with interbedded zones of siltstones and shales and lesser hypabyssal basalt, clays or weathered materials, sediments including diamictite, conglomerate, ironstone, cherts, and structure affected, which generally refers to fault related and zones of intense alteration.

---

[1] *Descriptors for ICP sulphur: negligible (less than 0.05%); very low (0.05% to 0.1%); low (greater than 0.1% to 0.3%); moderate (greater than 0.3% to 1%); high (greater than 1% to 5%) and very high (greater than 5%)*

- S content varies across waste rock types. Shale, sediments, and structure related materials (fault and altered rock) show higher S concentrations, with median values exceeding 0.6% S. Other rock types including sandstone, siltstone, hypabyssal basalt, chert, clay, weathered rock, and veins generally exhibit lower S contents, with medians below 0.2% S. Sandstone and siltstone display a broad range of S, which may reflect interbedding with pyritic carbonaceous shales or siltstones.
- Greenhills Supergene and oxide ore and waste types are the dominant domains within the envelope as well as waste from the eastern waste zone. Western waste zone materials are not captured within the pit envelope. Transitional ore and waste types from both the main zone and Greenhills appear to have smaller proportions within the envelope based on sample count.
- Main zone transitional ore materials have higher S content with a median of 0.6%S compared to other ore domain types, which have median values below 0.2%S. Within the waste domains, Greenhills transitional waste has higher and more variable S content than other waste domain types, with a 75th percentile of 2%S.
- While there are no direct indicators of carbonate content, such as total carbon (C) or inorganic carbon in the dataset, discussions with Revolver Resources suggest varying degrees of carbonate veining, with a distinct calcium boundary separating mineralisation from waste. This implies that calcium (Ca) may serve as a useful proxy for carbonate content. However, further validation is required to confirm its reliability, particularly in distinguishing carbonate-rich zones from other calcium-bearing lithologies.

2. SAMPLE SELECTION AND TEST WORK

2.1. Sample Selection

2.1.1. Drill Core Samples

An overview of the sample locations and descriptions selected for testing are presented in Figure 6 and Table 1. A total of 17 samples were sourced from diamond drillholes and selected by Revolver Resources to represent geologically representative zones across the project area. These composites reflect dominant lithologies, primarily sandstone, siltstone and shale across all weathering zones. Many of these units are interbedded, as illustrated in **Figure 7**.

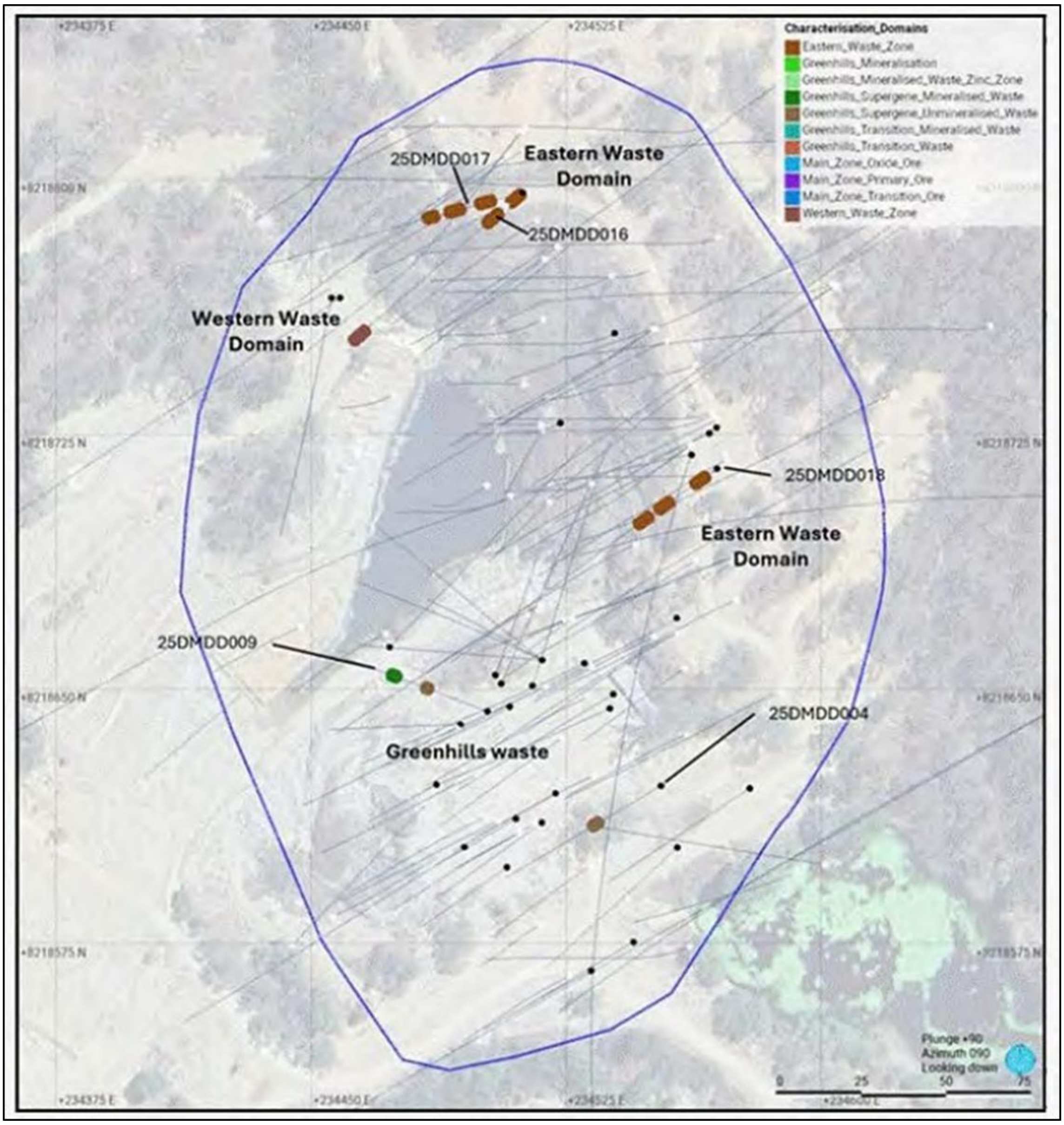

Figure 6: Locations of Waste Rock Samples

Note: These have been selected for testing across defined waste domains, including eastern, western, and Greenhills zones.

Figure 7: Drill Core from 25DMDD016

Note: sample 25DW0003 collected from 68-72m (red outline)

Table 1: Waste Rock Sample Details

EGi Code	Drill Hole	Composite Sample Interval			Sample ID	Category	Domain	Weathering	Lithology	Minerals Present	Sulphides
		From (m)	To (m)	Interval (m)							
28086	25DMDD016	1	7	6	25DW0001	Waste	Eastern Waste	Oxide	Siltstone	Iron oxide, limonite	-
28087	25DMDD016	14	21	7	25DW0002	Waste	Eastern Waste	Oxide	Sandstone	-	-
28088	25DMDD016	68	72	4	25DW0003	Waste	Western Waste	Fresh	Interbedded Sandstone, shale and siltstone	Haematite	Pyrite associated with organic rich shale beds
28089	25DMDD016	82	86	4	25DW0004	Waste	Western Waste	Fresh	Sandstone	-	-
28090	25DMDD016	86	93	7	25DW0005	Waste	Western Waste	Fresh	Interbedded Sandstone, shale and siltstone	-	Pyrite on fissure surfaces near contact with sandstone
28091	25DMDD016	93	100	7	25DW0006	Waste	Western Waste	Fresh	Interbedded Sandstone, shale and siltstone	-	Pyrite on fissure surfaces near contact with sandstone
28092	25DMDD017	14	20	6	25DW0007	Waste	Eastern Waste	Oxide	Sandstone with minor shale and carbonaceous siltstone beds	Iron oxide	-
28093	25DMDD017	28	34	6	25DW0008	Waste	Eastern Waste	Oxide	Interbedded siltstone and shale	Iron Oxide	-
28094	25DMDD017	40	45	5	25DW0009	Waste	Eastern Waste	Oxide	Sandstone with minor shale and carbonaceous beds	Iron oxide	-
28095	25DMDD018	6	12	6	25DW0010	Waste	Eastern Waste	Oxide	Sandstone	Iron oxide, haematite?	-
28096	25DMDD018	25	31	6	25DW0011	Waste	Eastern Waste	Oxide	Sandstone with minor bands of shale and siltstone	Qtz-carb veining	-
28097	25DMDD018	36	42	6	25DW0012	Waste	Eastern Waste	Oxide	Sandstone with siltstone and minor shale beds	Iron oxide	-
28098	25DMDD018	117	120	3	25DW0013	Waste	Western Waste	Fresh	Sandstone with carbonaceous siltstone and minor shale beds	Qtz-carb veins	Fine grained sulphide throughout, pyrite coating laminations.
28099	25DMDD018	120	126	6	25DW0014	Waste	Western Waste	Fresh	Interbedded sandstone, siltstone, and minor shale beds	Qtz-carb veins	Fine grained sulphide throughout, pyrite coating laminations
28100	25DMDD004	40	44	4	25DW0015	Waste	Greenhills	Trans	Sandstone	Black minerals	-
28101	25DMDD009	27	29	2	25DW0016	Waste	Greenhills	Trans	Sandstone with black shale beds	Copper oxide veins, iron oxide/carbonate?	-
28102	25DMDD009	42	45	3	25DW0017	Waste	Greenhills	Trans	Sandstone with black shale beds	Cuprite, malachite	-

2.1.2. Heap Leach Residue Samples

As part of the geochemical characterisation program, four heap leach residue samples were sourced from metallurgical column leach test work. Heap leach residue metallurgical samples that were subject to test work are presented in Table 2. Sample locations are presented in Figure 8. Two composites were created for those samples, specifically Composite 1 from Column 1 and Column 2 (C1/C2) and Composite 2 from Column 3 and Column 4 (C3/C4).

These samples were derived from larger-scale kinetic leach column (KLC) tests designed to simulate heap leach conditions, including both free-draining and saturated. The column tests were conducted using four-metre-high columns containing approximately 85 kg of ore material each, irrigated with acidic lixiviant over a six-month period to assess copper recovery performance.

The residue samples represent materials remaining after leaching and were selected to reflect the range of ore types processed during the metallurgical program. Two of the columns contained Greenhills oxide ore, representing most of the heap leach residue that will be generated by the operation, while the other two were blended composites consisting of approximately 90% oxide and 10% transitional (primary sulphide/supergene) ore. These columns comprised material from multiple drill holes, with sample intervals selected based on logged copper mineralogy and assay data to ensure representativeness of the broader ore zones. Sample Composite 2 contains primary material that has elevated pyrite contents and very high sulphur.

Table 2: Heap Leach Residue Metallurgical Samples

Composite Sample	Sample ID	Composition	S (wt %)
Composite 1	Column 1 Residue	100% Oxide	0.21
	Column 2 Residue	100% Oxide	0.2
Composite 2	Column 3 Residue	90% Oxide, 10% Transition	1.23
	Column 4 Residue	90% Oxide, 10% Transition	1.44

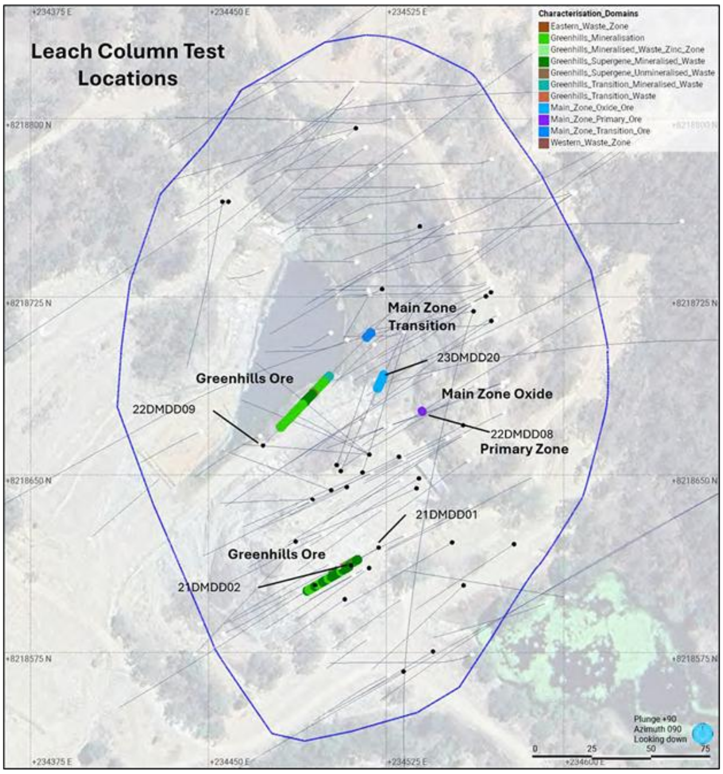

Figure 8: Locations of Drillholes used for Leach Column Residue Sampling

Note: Distribution across key mineralisation zones is shown.

2.2. Static Test Work Program

A summary of the test work program is provided in Table 3.

The analysis of samples at EGi's laboratory in Castle Hill, NSW included: acid neutralising capacity (ANC); single addition and sequential Net Acid Generation (NAG) tests; single and 4-stage batch water extractions and peroxide extractions; pH/EC and acidity/alkalinity titration; and Acid-Buffering Characteristic Curve (ABCC) testing.

Total sulphur, Chromium Reducible Sulphur (CRS), total carbon, organic carbon, multi element of solids analyses were carried out by Australian Laboratory Services (ALS), Brisbane, QLD. Multi-element analyses on liquors from water and peroxide extractions were carried out by ALS, Smithfield, NSW.

Table 3: Testing Program

Test	Diamond Drill (DD) Sample	Heap Leach Samples
Acid Neutralising Capacity (ANC)	17	2
Single Additional Net Acid Generation (NAG)	17	2
Total Sulphur	17	2
Carbon Forms (total and organic C)	17	2
Multi-element Assay of Solids by 4 Acid Digest and ICP-OES/ICP-MS	17	2
Chromium reducible sulphur (CRS)	1	2
pH, EC, Acidity/Alkalinity and Multi-element Testing of 1:2 Single Stage Deionised Water Extraction	17	-
4-stage water extracts (1:2) and analysis for pH, EC, major ions and trace metals and metalloids	-	2
Multi-element Testing of Peroxide Extracts	1	2
Sequential NAG Testing of Higher S Samples	1	-
Acid Buffering Characteristic Curve (ABCC) Testing	7	-

3. WASTE ROCK RESULTS

3.1. Acid-Forming Characteristics

Acid forming characteristic test work data for the 17 waste rock composite samples are presented in Annexure 2.2. Results are discussed in the following subsections.

3.1.1. pH and EC

$pH_{1:2}$ and $EC_{1:2}$ results were determined on all 17 samples by equilibrating the sample in deionised water for approximately 16 hours at a solid to water ratio of 1:2 (w/w). This gives an indication of the inherent acidity and salinity of the tested material when flushed soon after exposure. Figure 9 shows a scatterplot of $pH_{1:2}$ and $EC_{1:2}$ extracts against total S for all selected samples. Results indicate the following:

- $pH_{1:2}$ values were moderately alkaline[2].
- $EC_{1:2}$ values suggested low residual salinity[3].

Results show no significant readily available acidity or salinity from these samples, including sample 28088 with elevated total S of 1.0 %S.

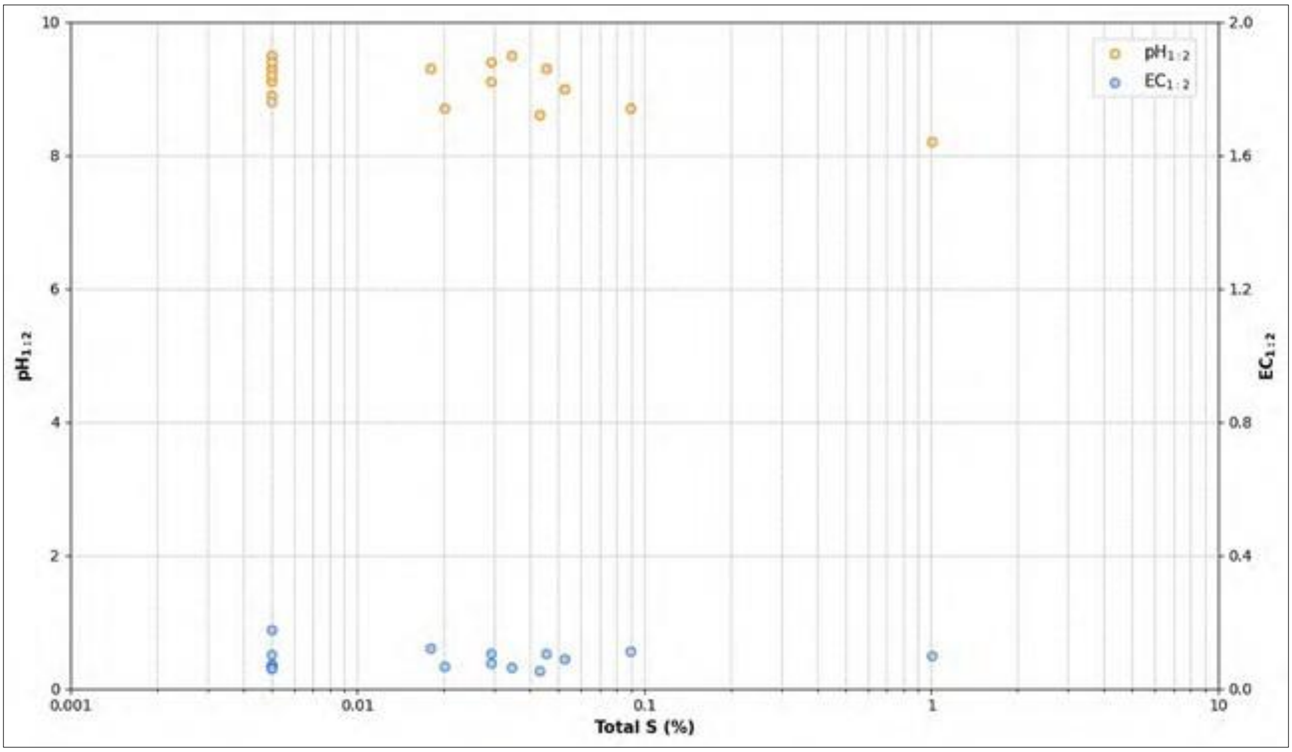

Figure 9: Scatter Plot of $pH_{1:5}$ and $EC_{1:5}$

Note: This shows $pH_{1:5}$ and $EC_{1:5}$ results against total S for all samples

[2] *pH descriptors: very strongly acidic: pH less than 3; strongly acidic: pH from 3 to less than 4; moderately acidic: pH from 4 to less than 5.5; slightly acidic: pH from 5.5 to less than 7; slightly alkaline; pH from 7 to less than 8; moderately alkaline: pH from 8 to less than 9.5; strongly alkaline: pH from 9.5 to less than 10.5; very strongly alkaline: pH of 10.5 or greater.*

[3] *EC descriptors at 1:2: low salinity: up to 0.8 dS/m; moderately salinity: greater than 0.8 and up to 1.6 dS/m; highly saline: greater than 1.6 dS/m.*

3.1.2. Total Sulphur and Sulphur Forms

All 17 composite samples were analysed for total sulphur (S) by Leco furnace, and one sample (28088) was analysed for sulphide-S by the chromium reducible sulphur (CRS) method. Total S values were used to calculate the maximum potential acidity (MPA).

Results indicate the following:

- Total S contents were negligible[4] to very low (<0.1 %S) for all transition and fresh composite samples with the exception of the fresh composite sample 28088 which reported 1.0 %S, as shown in Figure 10.
- The CRS result for composite sample 28088 was 0.15 %S, suggesting the majority of sulphur in the sample is not present as pyritic S.
- Sulphur results were generally consistent with what was established via review of deposit geology and assay database information as far as negligible to very low total S content for oxide waste materials and greater total S content in transitional and fresh waste rock materials.

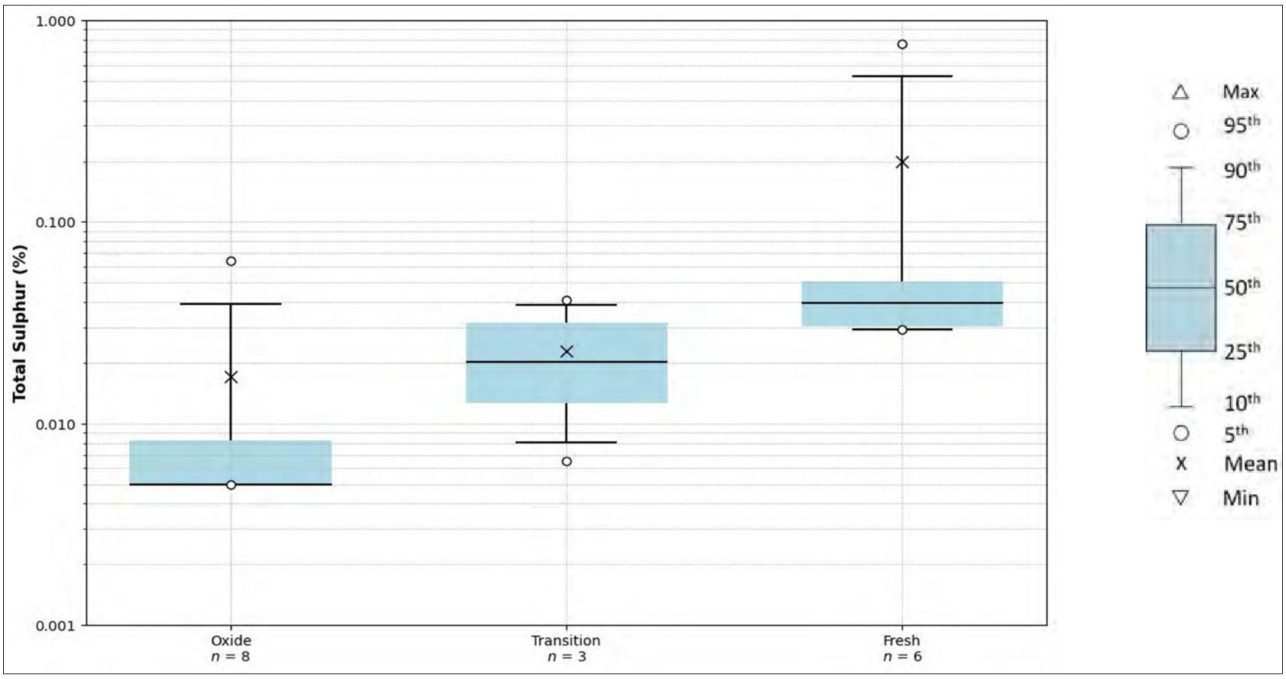

Figure 10: Boxplot of Waste Rock Total Sulphur by Weathering Zone

3.1.3. Acid-neutralisation Capacity (ANC) and Carbon Forms

All 17 composite samples were analysed for standard ANC using the modified Sobek method and analysed for carbon forms by Leco furnace[5]. Effective ANC values were determined from acid buffering characteristic curve (ABCC) testing for 7 samples and are provided in Annexure 2.3. The distribution of standard ANC results split by weathering zone is presented in Figure 11.

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[4] *Descriptors for total sulphur: negligible (less than 0.05%); very low (0.05% to 0.1%); low (greater than 0.1% to 0.3%); moderate (greater than 0.3% to 1%); high (greater than 1% to 5%) and very high (greater than 5%)*

[5] *Total carbon (TC) by Leco Furnace, organic carbon (OC) by Leco furnace after acid digestion, and inorganic carbon (IC) calculated as the difference between TC and OC*

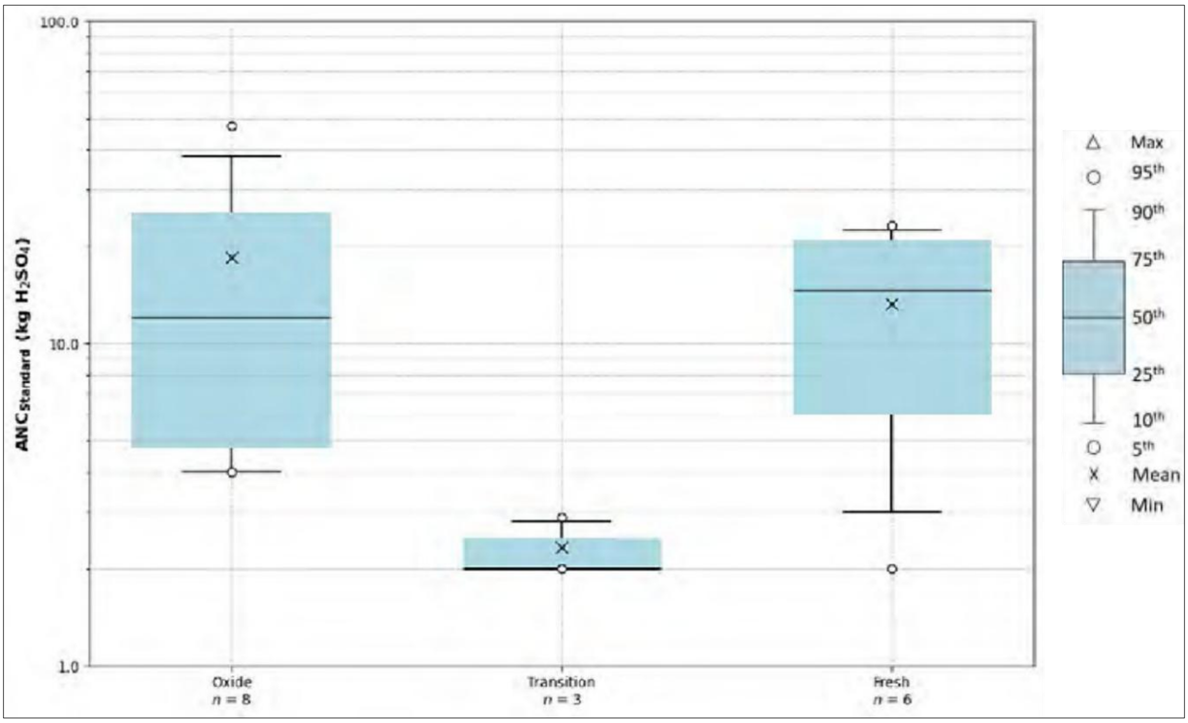

Figure 11: Boxplot of Standard ANC by Weathering Zone

Figure 12 is a comparison of Total Carbon (TC) versus Inorganic Carbon (IC). Carbonate ANCs were calculated using IC values, assuming all IC occurs as calcite[6]. A plot of standard ANC versus carbonate ANC are shown in Figure 13. A plot of standard ANC and carbonate ANC against effective ANC is presented in Figure 14.

Results indicate:

- Standard ANC values[7] varied from very low (4 kg H2SO4/t) to moderate (57 kg H2SO4/t) for oxide samples, were very low (median 2 kg H2SO4/t) for transition samples, and varied from very low (1 kg H2SO4/t) to low (24 kg H2SO4/t) for fresh samples.
- Carbon forms data (TC, OC, and IC) indicates a high proportion of organic carbon within the samples, with 60% of the tested samples containing >50% of total carbon present in organic form.
- Comparison of carbonate ANC and standard ANC shows considerably higher estimation of ANC in the standard ANC, particularly for oxide samples, likely due to the influence of silicate dissolution.
- ABCC results (28086, 28091, 280925, 28098, 28099) showed that standard ANC and TC ANC tend to significantly overestimate the effective ANC, with effective ANC for all sample tested relatively low at less than 20 kg H2SO4/t. ANC IC results are similar to ABCC effective ANC, indicating IC could be used as a proxy for ANC.
- Although the ANC is relatively low, the ABCC profiles for most samples (28086, 28091, 280925, 28098, 28099) showed buffering similar to calcite and dolomite standard curves with readily available ANC of >70%. The ABCC result for sample 28087 showed buffering similar to ferroan dolomite and siderite (47% effective ANC), and sample 28092 showed buffering similar to siderite (17% effective ANC).

[6] *Carbonate ANC assumes all inorganic carbon is present as calcite. Carbonate ANC = Inorganic C% x 81.66 (kg H_2SO_4/t)*

[7] *Descriptors for ANC: very low (less than 10 kg H_2SO_4/t); low (10 to 30 kg H_2SO_4/t); moderate (30 to 100 kg H_2SO_4/t); and high (greater than 100 kg H_2SO_4/t)*

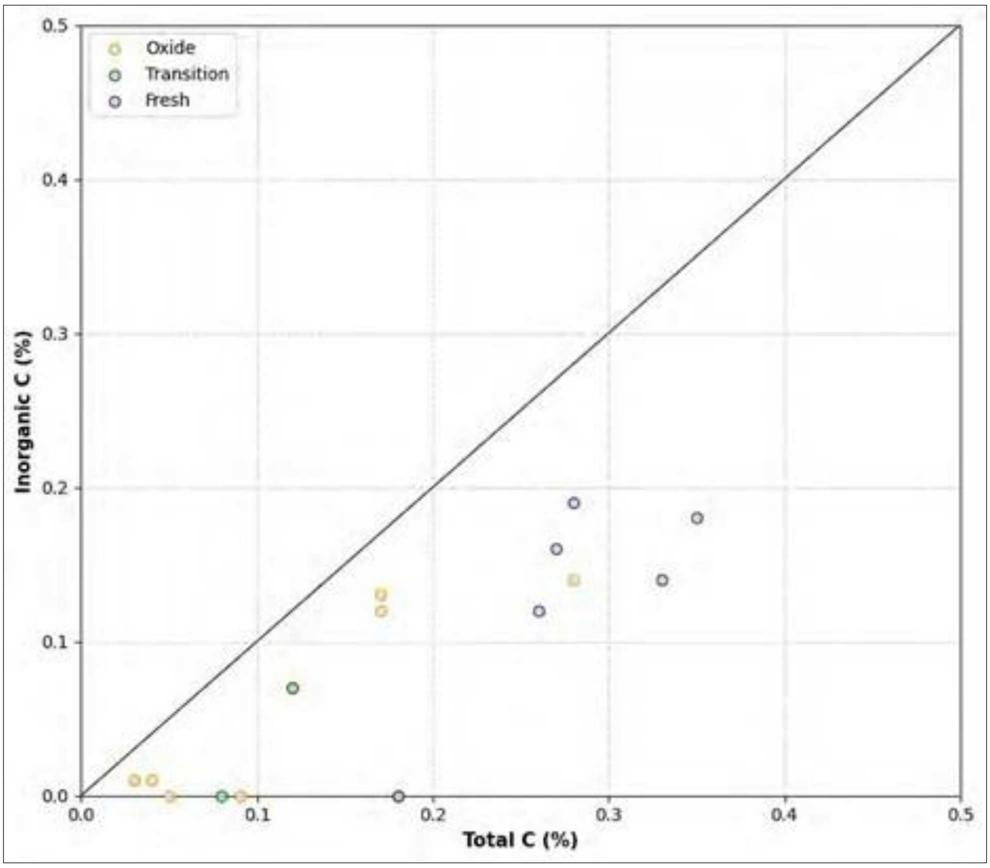

Figure 12: Inorganic Carbon vs. Total Carbon by Weathering Zone

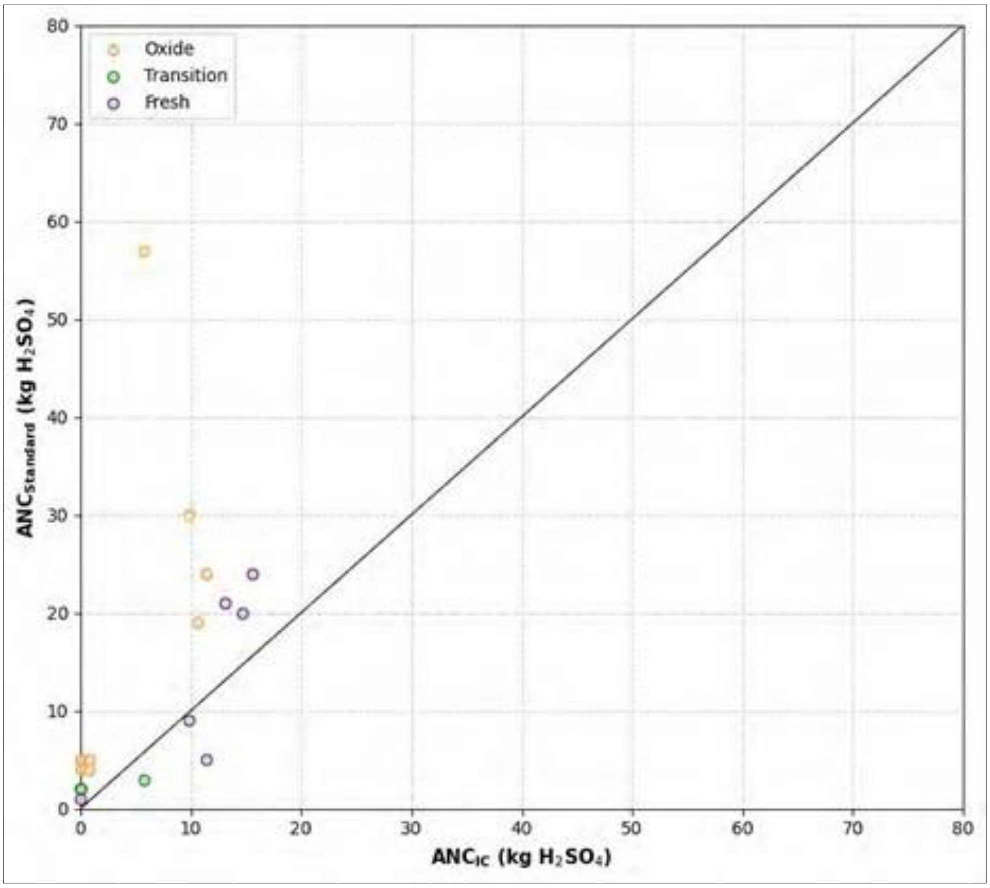

Figure 13: Standard ANC vs Carbonate ANC by Weathering Zone

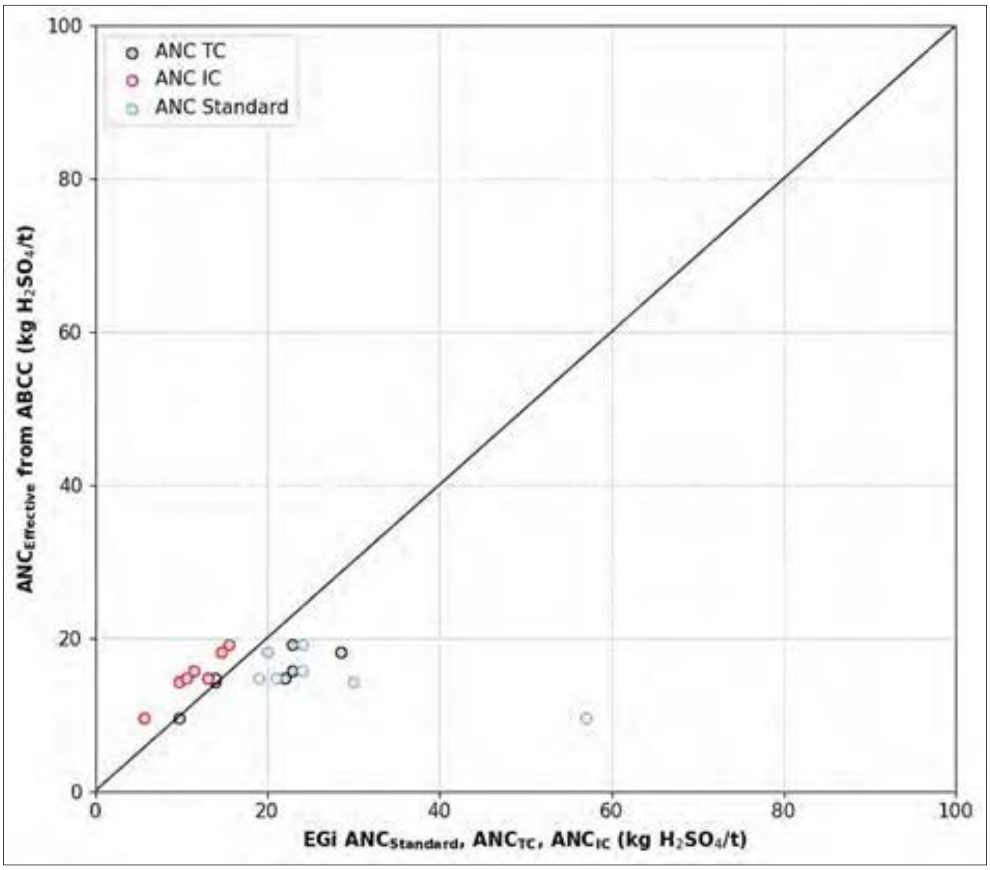

Figure 14: Effective ANC vs Standard ANC/Carbonate ANC from ABCC Testing

3.1.4. Net Acid Producing Potential (NAPP)

The net acid producing potential (NAPP) value represents the balance between the acid generating component and the acid neutralising component of a sample and was calculated from the following formula:

NAPP = MPA-ANC

Where MPA (maximum potential acidity) = Total S x 30.6

A positive NAPP value indicates that the sample may be acid generating. Conversely, a negative NAPP value indicates that it may have sufficient ANC to prevent acid generation.

Figure 15 presents an acid-base accounting plot showing total S and standard ANC for the 17 tested samples, split by weathering zone. The NAPP zero line, which is equivalent to an ANC/MPA ratio of 1, defines the boundary between the NAPP positive and negative domains. Usually, a ratio of 2 or higher signifies a high probability that the material will remain circumneutral in pH and should not be problematic with respect to AMD. However, this does not preclude the generation of metalliferous or saline drainage in sulphide rich samples. An ANC/MPA ratio between 1 and 2 indicates a lower factor of safety, and additional test work may be required as the existing ANC might not be sufficient to maintain circumneutral drainage over time.

Results indicate the following:

- The majority of composite samples plot within the negative NAPP domain with an ANC/MPA ratio of greater than 2.
- One transitional composite sample (28102) plots within the negative NAPP domain with an ANC/MPA ratio of 1.5; however, it is unlikely to present an AMD risk due to its negligible sulphur content (0.04 %S).
- One fresh composite sample (28088) plots within the positive NAPP domain with high total sulphur content (1.0%S), however, CRS testing indicated pyritic-S of only 0.15 %S.

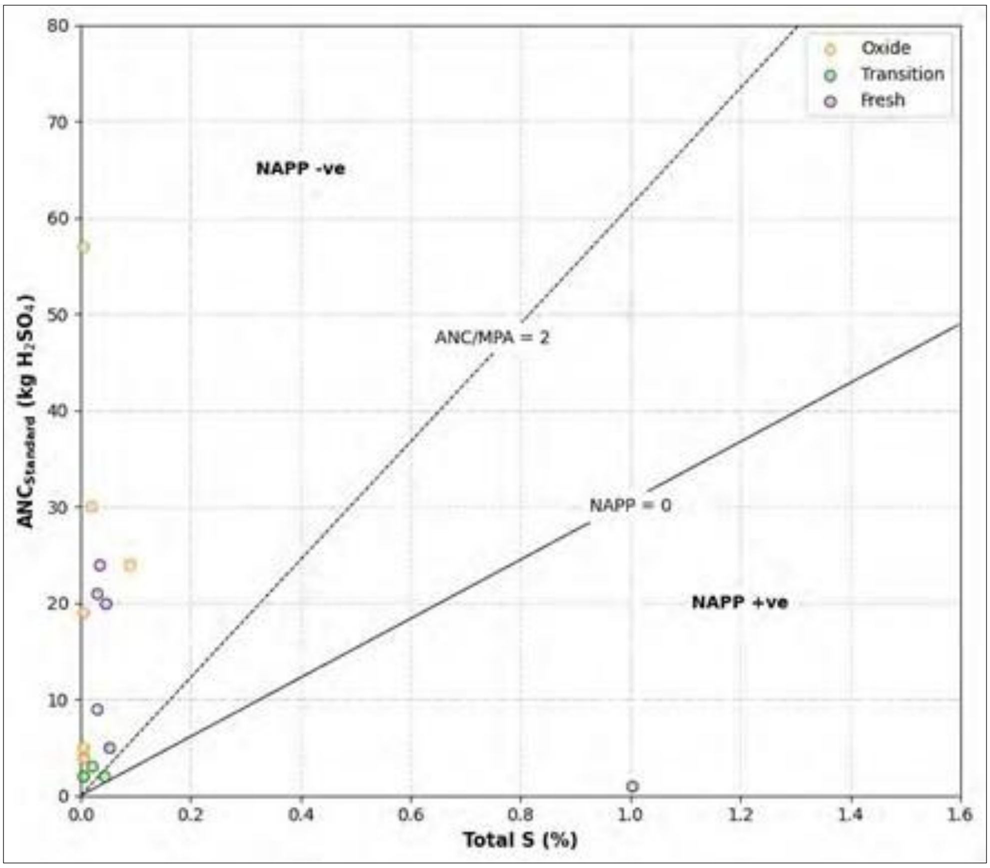

Figure 15: Acid-base Accounting Plot

Note: This shows standard ANC and total S split by weathering zone.

3.1.5. Single Addition NAG

Single addition NAG testing was carried out on all 17 waste rock samples. During the NAG test, the sulphide content in the sample is oxidised by hydrogen peroxide, which generates acidity. The acidity then reacts with any neutralising minerals in the samples. Consequently, the net result in terms of NAGpH and acidity represent the balance between the acid generating and acid neutralising potential of the sample. Generally, a NAGpH value less than 4.5 indicates a sample may be acid forming. NAG test results are used in conjunction with NAPP values to classify samples according to acid forming potential.

Figure 16 presents an AMD classification plot showing NAGpH and NAPP split by lithology for the waste rock samples. Potentially acid forming (PAF), non-acid forming (NAF) and uncertain (UC) classification domains are indicated in the plots. Specifically:

- Samples are classified as PAF when they have a positive NAPP and a NAGpH <4.5.
- Samples are classified as NAF when they have a negative NAPP and a NAGpH ≥4.5.
- Samples are classified as UC when there is an apparent contradiction between the NAPP and NAG results (i.e., when the NAPP is positive and the NAGpH ≥4.5, or when the NAPP is negative and the NAGpH <4.5).
- NAF samples are further classified as NAF-HS (NAF-High Sulphur) where total sulphur content is greater than 1%S.
- PAF samples are further classified as PAF-LC (PAF-Low Capacity) based on reporting a single addition NAGpH acidity value to pH 4.5 of ≤ 5 kg H2SO4/t.

Results indicate the following:

- 95% of samples have consistent NAPP and NAGpH results and plot within the NAF domain. Only one composite sample (28088) has a conflicting NAPP and NAGpH result, and plots in the upper right UC domain.
- All samples plotting within the NAF domain have negligible to very low sulphur content (<0.1 %S).
- The sample plotting within the UC domain(28088) has a high total sulphur content (1.0 %S) and negligible ANC (1 kg H2SO4/t), however, it has a low CRS value of 0.15 % and only acidified to a NAGpH of 5.1.

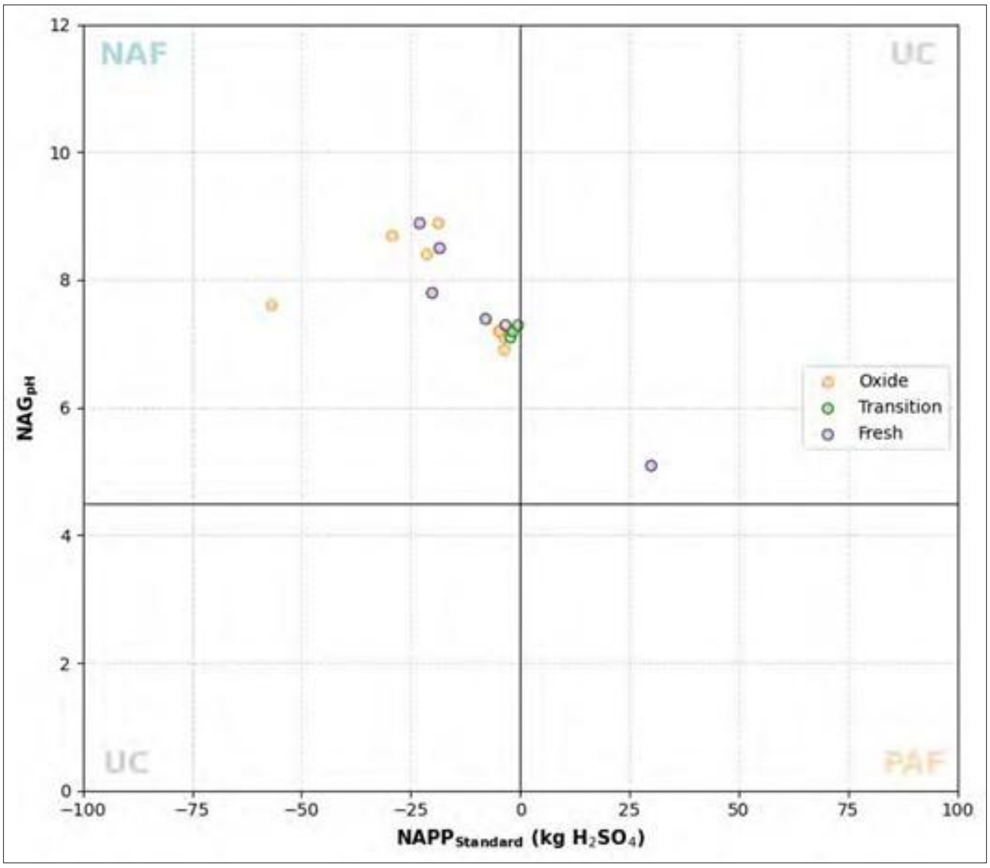

Figure 16: AMD Classification Plot for Waste Rock by Weathering Zone.

3.1.6. Sequential NAG

When testing samples with high sulphide contents, it is common for oxidation to be incomplete in the single addition NAG test. Sequential NAG testing overcomes this limitation via successive additions of peroxide on the same sample and is, therefore, better for determining the acid potential of samples and for refining their AMD classifications.

Sequential NAG testing was carried out up to four stages of peroxide addition on one sample 28088, which had an elevated total S of 1.0 %S, was NAPP positive, and had a conflicting single addition NAGpH value of 5.1. Complete results are presented in Annexure 2.4. The sample only acidified slightly further in subsequent NAG stages (lowest NAGpH of 4.8 in Stage 2), consistent with a low CRS value of 0.15 %S, and this sample was classified NAF.

3.1.7. Acid Mine Drainage (AMD) Classification

The results presented in Section 3.1 were used for AMD classification of the tested samples (i.e., NAF, PAF-LC, PAF or UC). Classifications for each sample are presented in Annexure 2.2. All samples with S values of less than or equal to 0.05 %S were classified NAF due to the negligible risk of acid formation. The expected classification of UC samples is indicated in brackets.

It should be noted that AMD classification of samples is intended to provide a preliminary indication of the proportion of AMD rock types that will be mined, and the proportion of samples with any particular AMD classification should not be relied upon for detailed mine planning purposes.

All 17 composite waste rock samples were classified as NAF.

3.2. Leaching Characteristics

3.2.1. Leachate Quality Screening Criteria

Table 4 shows the screening criteria that were used to provide perspective for evaluation of leachate chemistries for water extract tests (Section 3.3.2). Criteria representing 'slightly elevated' and 'elevated' concentrations were used.

The following should be noted in relation to the criteria used:

- The slightly elevated screening criteria were fresh-water ecosystem protection values, consistent with the 95% level of protection values (ANZG 2018) or a suitably conservative alternate freshwater ecosystem / beneficial water use protection value. It should be noted that baseline water quality within a natural watershed often has parameter values that exceed these values.
- The elevated screening criteria were considered threshold values where leachate water quality may adversely influence contact surface and or ground water quality in the immediate vicinity of the material represented.
- The terms 'slightly elevated' or 'elevated' are intended to convey a sense of the order of magnitude of the reported value and does not necessarily infer potential risk to human health and or the environment.[8]

[8] *An assessment of potential environmental risk would need to be based upon predicted water quality in the receiving environment as well as detailed consideration of the nature of environmental reception (e.g., both toxicity of the contaminant and dosage to the receptor).*

Table 4: Screening Criteria Applied to Leachate Data Sets

Parameter	Units	Screening Criteria	
		Slightly Elevated	Elevated [9]
pH	pH units	5.0 to 8.5[10]	4.0 to 9.5[11]
EC	dS/m	0.85[12]	1.5[11]
Sulphate	mg/L	429[13]	1000[14]
Chloride	mg/L	175[15]	700[16]
Aluminium	mg/L	0.055	5[14]
Antimony	mg/L	0.009	0.09
Arsenic	mg/L	0.013	0.5[14]
Beryllium	mg/L	0.00013	0.013[16]
Boron	mg/L	0.94	4.7[17]
Cadmium	mg/L	0.0002	0.01[14]
Cobalt	mg/L	0.0014	1[14]
Chromium	mg/L	0.001	1[14]
Copper	mg/L	0.0014	1[14]
Fluoride	mg/L	1.7	8.5[17]
Iron	mg/L	0.3[18]	3
Lead	mg/L	0.0034	0.115
Lithium	mg/L	2.5[19]	12.5[17]
Mercury	mg/L	0.0006	0.002[14]
Manganese	mg/L	1.9	9.5[17]
Molybdenum	mg/L	0.034	0.34
Nickel	mg/L	0.011	1[14]
Selenium	mg/L	0.011	0.11
Silver	mg/L	0.00005	0.005[16]
Thallium	mg/L	0.00003	0.003[16]
Uranium	mg/L	0.0005	0.2[14]
Vanadium	mg/L	0.006	0.6[16]
Zinc	mg/L	0.008	0.8[16]

[9] *Slightly elevated metal and metalloid concentrations times a factor of 10 unless otherwise stated was considered appropriate in terms of possible water quality influence.*

[10] *Nominal lower pH values based on wetland threshold values where there may be adverse ecological effects (ANZG 2018).*

[11] *Order of magnitude greater than slightly elevated pH screening criteria.*

[12] *Nominal lower end EC value considered 'fresh water' and upper value-based default trigger value for wetlands (ANZG 2018).*

[13] *Use of a Canadian based freshwater ecological protection guideline (BC WQG 2021) in the absence of local screening criteria.*

[14] *Generic threshold for non-adverse health effects to livestock (ANZG 2018) and in the case of sulphate, arsenic, cadmium, cobalt, chromium, copper, lead, mercury, nickel and uranium the threshold for no adverse effects to cattle.*

[15] *Default chloride concentrations causing foliar injury in crops, lower value for chloride sensitive, upper value for chloride tolerant (ANZG 2018).*

[16] *Two orders of magnitude (100 times) the slightly elevated screening criteria were considered appropriate in terms of possible water quality influence.*

[17] *Five times the slightly elevated screening criteria was considered sufficient in terms of possible water quality influence.*

[18] *Australian Drinking Water Guideline value (NHMRC 2022).*

[19] *Crop irrigation water quality guideline (CCME 2024) – slightly elevated.*

3.2.2. Water Extraction Results

The single stage water extraction test (1 part solid, 2 parts de-ionised water) was used to indicate drainage water quality as a result of short-term contact with an unbuffered water source (e.g., rainfall run-off). All 17 composite waste rock samples were subject to water extraction. These samples were representative of key mine waste rock weathering zones across a range of total S values and AMD classifications. Complete results compared with screening criteria are provided in Annexure 2.6. Results suggest waste rock may generate the following water quality after contact and initial mixing / infiltration with an unbuffered water source:

- Oxide materials - moderately alkaline[20], with low first flush salinity[21] and slightly elevated concentrations of several dissolved constituents such as aluminium, chromium, copper, fluoride, iron, lead, and zinc.
- Transitional materials - moderately alkaline, with low first flush salinity and slightly elevated concentrations of several dissolved constituents such as aluminium, arsenic, cadmium, cobalt, chromium, copper, iron, and zinc.
- Fresh materials - moderately alkaline, with low first flush salinity and slightly elevated concentrations of several dissolved constituents such as aluminium, cadmium, chromium, copper, iron, lead, and zinc.

3.2.3. Peroxide Extraction Results

Peroxide extraction tests are based on the single-stage NAG test and are used to provide an indication of probable drainage water quality if materials are subject to strongly oxidising conditions. Normally, only the pH and acidity of the NAG solution are measured following the oxidation stage, but in the extraction procedure, a sub-sample of the NAG solution is filtered and assayed for multi-elements to determine the extent of elemental release from mine materials when exposed to oxidising conditions. The peroxide extraction procedure is particularly relevant to sulphidic materials that typically undergo significant geochemical change over time when exposed to atmospheric conditions. For PAF samples, the oxidation of sulphide can result in release of significant loadings of acidity and/or sulphate salinity, metals and metalloids. For NAF-HS samples, this can result in the generation of significant loadings of sulphate salinity and metals and metalloids (neutral mine drainage).

When assessing the results, it should be noted that the actual concentrations of elements in a peroxide extract are directly related to the volume of peroxide used per unit weight of sample. The method involves a leach ratio of 100 mL/g, which is high compared to leach rates typically encountered under field conditions, as well as rates typically used in column leach tests. For example, the column leach tests routinely run by EGi typically average around 75 mL/kg/week, which over a five-year period (for example) equates to a leach ratio of around 20 mL/g. As such, it can be expected that the peroxide extracts represent a diluted condition in comparison to the "average" leachate quality that might be expected from the same samples under standard column leach test conditions. Therefore, to make the results more meaningful for the field situation, EGi typically apply a 5-times scaling factor to concentrations reported for acidic peroxide extracts (e.g., for PAF samples).

Peroxide extractions were carried out on the high total S fresh composite NAF waste rock sample (28088) with extract results are presented in Annexure 2.7. Results indicate that materials representative of this sample are not likely to release significant loadings of sulphate or metals and metalloids[22] under strongly oxidising conditions. This was to be expected as the sample had a low pyritic S content.

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[20] *pH descriptors: very strongly acidic: pH less than 3; strongly acidic: pH from 3 to less than 4; moderately acidic: pH from 4 to less than 5.5; slightly acidic: pH from 5.5 to less than 7; slightly alkaline; pH from 7 to less than 8; moderately alkaline: pH from 8 to less than 9.5; strongly alkaline: pH from 9.5 to less than 10.5; very strongly alkaline: pH of 10.5 or greater.*

[21] *EC descriptors: low salinity: up to 0.85 dS/m; slightly saline 0.85 to 1.5 dS/cm greater than 1.5 dS/m; saline: greater than 2.0 dS/m highly saline*

[22] *The term significant loadings is suggested by the order of magnitude of the scaled peroxide extraction results (e.g., greater than 1000 mg/L for sulphate; greater than 10 mg/L for metals and metalloids such as aluminium, iron and manganese; greater than 1 mg/L for metals and metalloids such as arsenic, chromium, cobalt, copper, nickel, selenium, and zinc; and greater than 10 µg/L for metals and metalloids such as cadmium, mercury and thallium).*

4. HEAP LEACH RESIDUE RESULTS

Two composite heap leach residue samples were provided to EGi for geochemical assessment. The analytical program for the heap leach samples included assessment of acid forming characteristics (total S, CRS, SO4-S, total C, organic C, carbonate C, MPA, ANC, NAPP, ANC/MPA ratio and single additional NAG), multi element of solids, single-stage water extraction, four-stage water extraction, and peroxide extraction. Results are discussed in the following subsections.

4.1. Acid-forming Characteristics

The acid forming characteristics of the two composite heap leach residue samples are summarised in Table 5. Results indicate the following:

- The total sulphur content of the C1/C2 residue composite was low (0.20 %S) with a very low CRS result (0.02 %S), suggesting the majority of sulphur in the sample is not present as pyritic S.
- The total sulphur content of the C3/C4 residue was high (1.98 %S) with a very high CRS result (1.64 %S) suggesting a significant pyritic mineral content subsequent to the heap leaching process for these materials.
- Both samples had very low standard ANC (<1 kg H2SO4/t) indicating, as expected, the acidic heap leaching process leaches all ANC from the agglomerated ore profile.
- Both samples had low total carbon results (<0.2 %C), with >95% of the carbon present as organic carbon.
- The NAGpH of the C1/C2 residue was 4.6, thus plotting in the NAF domain.
- The NAGpH of the C3/C4 residue was 2.3, with a NAGpH acidity to pH4.5 of 42 kg H2SO4/t, thus plotting in the PAF domain. This sample has a significant component of primary sulphide (>40% S) that contributes to the residual results. Secondary sulphides in the supergene and transitional zones show high leachability in metallurgical test work and is not anticipated to be present in elevated concentrations in the residual testwork.

Table 5: Summary of Acid-forming Characteristics of Composite Heap Leach Residues

Sample	TS	CRS-S	TC	IC	ANC	MPA	NAPP	NAGPH	$NAGPH_{4.5}$	$NAGPH_{7.0}$	ARD Class.
-	%				kg H2SO4/t			-	kg H_2SO_4/t		
C1/C2 (28103)	0.20	0.02	0.2	0.01	1	6	5	4.6	-	2	NAF
C3/C4 (28104)	2.98	1.64	0.19	0	0	61	61	2.3	42	48	PAF

4.2. Leaching Characteristics

4.2.1. Single-Stage Water Extraction

De-ionised water extraction (1:2 solids to water) was undertaken on both metallurgical leach residue samples to provide an indication of constituents that might be released upon short term contact with an unbuffered water source such as rainfall[23]. A summary of results is presented in Table 6. Results indicate the leachate residues may generate the following water quality after contact and initial mixing / infiltration with an unbuffered water source:

[23] *Client advised the samples were not neutralised after leaching.*

- The C1/C2 residue - moderately acidic, with low first flush salinity, elevated concentrations of zinc, and slightly elevated concentrations of aluminium, cadmium, cobalt, chromium, copper, iron, and nickel.
- The C3/C4 residue - strongly acidic, with low first flush salinity, elevated concentrations of copper, iron, and zinc, and slightly elevated concentrations of aluminium, beryllium, cadmium, copper, chromium, nickel, and uranium.

Table 6: Chemical Composition of Water Extractions for Composite Heap Leach Residues

Parameter	Unit	Detection Limit	Sample C1/C2 (28103)*	Sample C3/C4 (28104)*
pH		0.1	5.3	3.7
EC	dS/m	0.001	0.116	0.289
Acidity	mg/L	1	32	96
Alkalinity	mg/L	1	-	-
Ag	mg/L	0.001	<0.001	<0.001
Al	mg/L	0.01	0.28	2.40
As	mg/L	0.001	0.004	0.005
B	mg/L	0.05	0.26	0.25
Ba	mg/L	0.001	1.050	0.550
Be	mg/L	0.001	<0.001	0.001
Ca	mg/L	1	3	5
Cd	mg/L	0.0001	0.0022	0.0055
Cl	mg/L	1	5	5
Co	mg/L	0.001	0.015	0.250
Cr	mg/L	0.001	0.002	0.020
Cu	mg/L	0.001	0.940	4.730
F	mg/L	0.1	0.3	0.3
Fe	mg/L	0.05	1.95	11.10
Hg	mg/L	0.0001	<0.0001	<0.0001
K	mg/L	1	4	6
Mg	mg/L	1	3	7
Mn	mg/L	0.001	0.770	1.440
Mo	mg/L	0.001	<0.001	<0.001
Na	mg/L	1	10	8
Ni	mg/L	0.001	0.011	0.049
P	mg/L	1	<1	<1
Pb	mg/L	0.001	<0.001	0.001
Sb	mg/L	0.001	<0.001	<0.001
Se	mg/L	0.01	<0.01	<0.01
Si	mg/L	0.1	7.2	8.8
Sn	mg/L	0.001	<0.001	<0.001
SO4	mg/L	1	47	124
Sr	mg/L	0.001	0.036	0.048

Parameter	Unit	Detection Limit	Sample C1/C2 (28103)*	Sample C3/C4 (28104)*
Th	mg/L	0.001	<0.001	<0.001
Tl	mg/L	0.001	<0.001	<0.001
U	mg/L	0.001	<0.001	0.003
Zn	mg/L	0.005	1.140	2.270

Slightly elevated values highlighted in yellow. 'Elevated' values highlighted in red.

4.2.2. Four-stage Water Extraction

A four-stage de-ionised water extraction (1:2 solids to water) was undertaken on the two composite metallurgical leach residue samples to provide an indication of the effect of several flushing events with an unbuffered water source that may be used to rinse the residue on the heap leach pad. Complete results compared with screening criteria are provided in Annexure 2.8, with summaries shown in Figures 17 through 27. Results indicate the following:

- C1/C2 composite sample:
  - Leachate composition for the first stage was similar to the previous single stage extraction.
  - pH decreased slightly during stage two, then rapidly increased to pH 6.7 by stage four.
  - Concentrations of metals and metalloids decreased with sequential leaching and typically approached negligible to low concentration by stage four, with the exception of cadmium, cobalt, copper, and zinc, which were still above their respective ‘slightly elevated’ criteria.
  - The release of calcium, which occurred at significant concentrations in the first flush, decreased markedly with sequential leaching. This may have been due to the release of greater amounts of calcium from the heap leach residue clays in acidic conditions that then attenuated as the loading of acidity decreased.
  - There was only a minor decrease in soluble silica as the loading of acidity diminished, but concentrations were relatively low.
- C3/C4 composite sample:
  - Leachate composition for the first stage extraction was similar to the previous single stage extraction.
  - pH decreased slightly during stage two, then gradually increased to pH 4.5 by stage four.
  - Concentrations of metals and metalloids decreased with sequential leaching and typically approached negligible to low loadings by stage four, with the exception of copper that remained above ‘elevated’ criteria and aluminium, cadmium, cobalt, and zinc which were still above their respective ‘slightly elevated’ criteria.
  - As with the C1/C2 sample, the release of calcium, which occurred at significant concentrations in the first flush, decreased markedly with sequential leaching.
  - There was only a minor decrease in soluble silica as the loading of acidity diminished, but concentrations were relatively low.

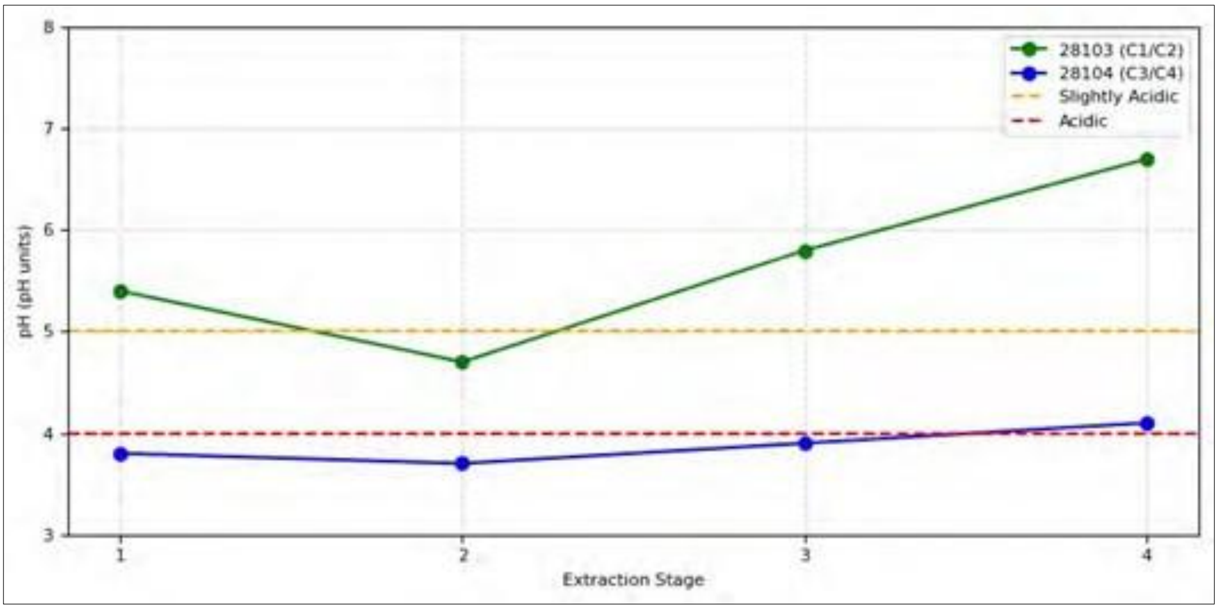

Figure 17: Four-stage Time Series Plot of pH Values

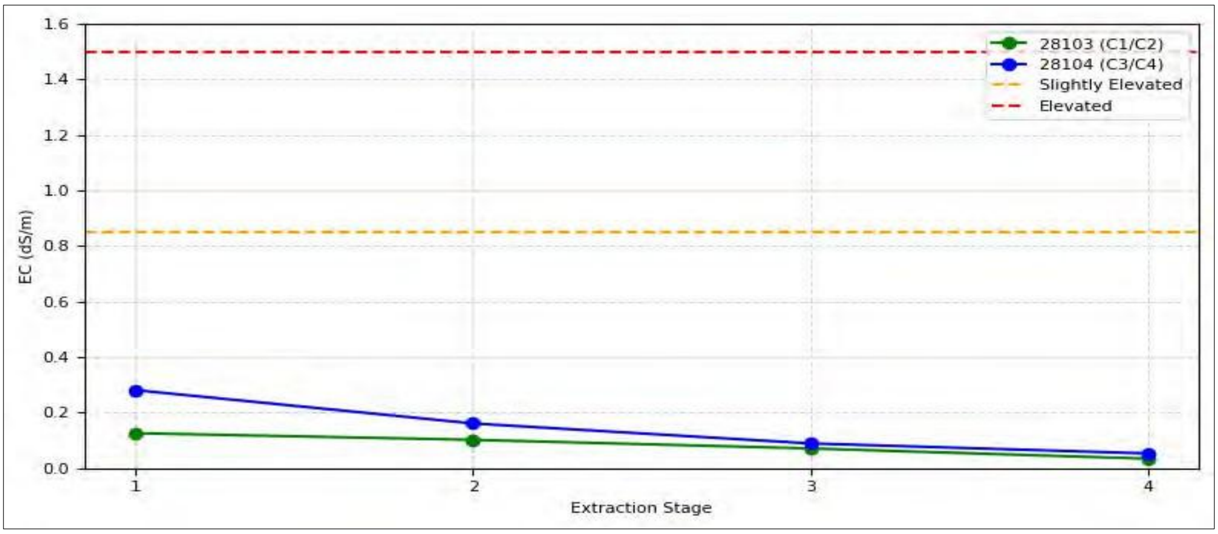

Figure 18: Four-stage Time Series Plot of EC Values

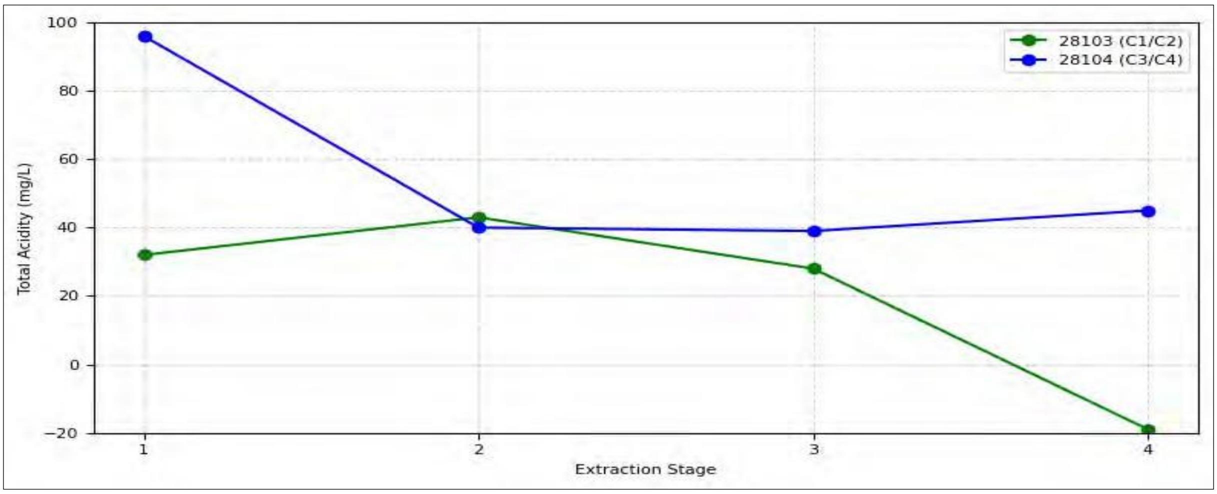

Figure 19: Four-stage Time Series Plot of Total Acidity Concentrations

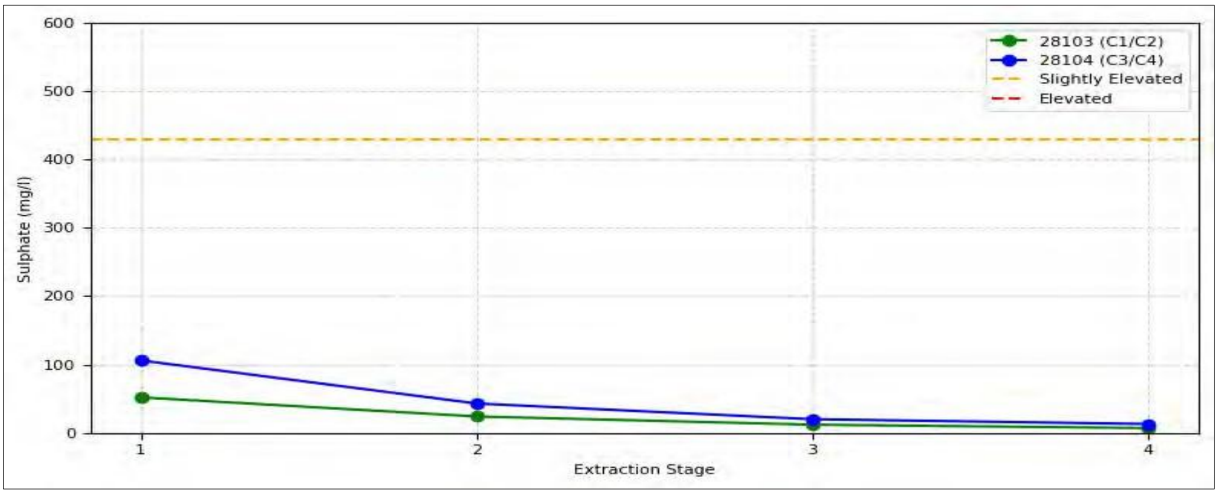

Figure 20: Four-stage Time Series Plot of Sulphate Concentrations

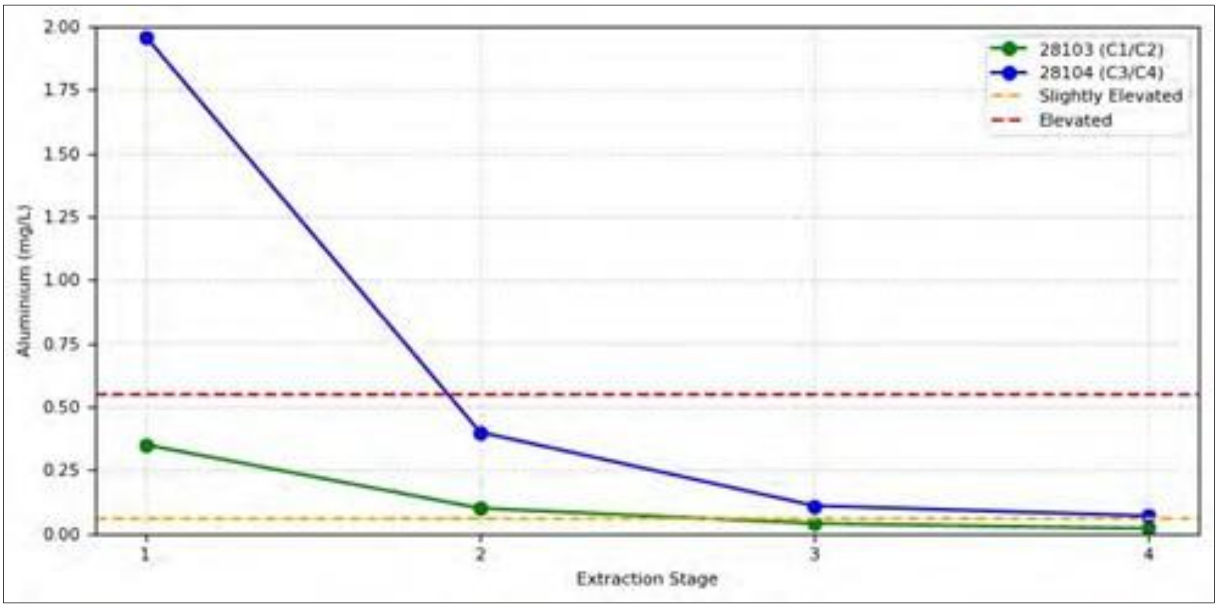

Figure 21: Four-stage Time Series Plot of Aluminium Concentrations

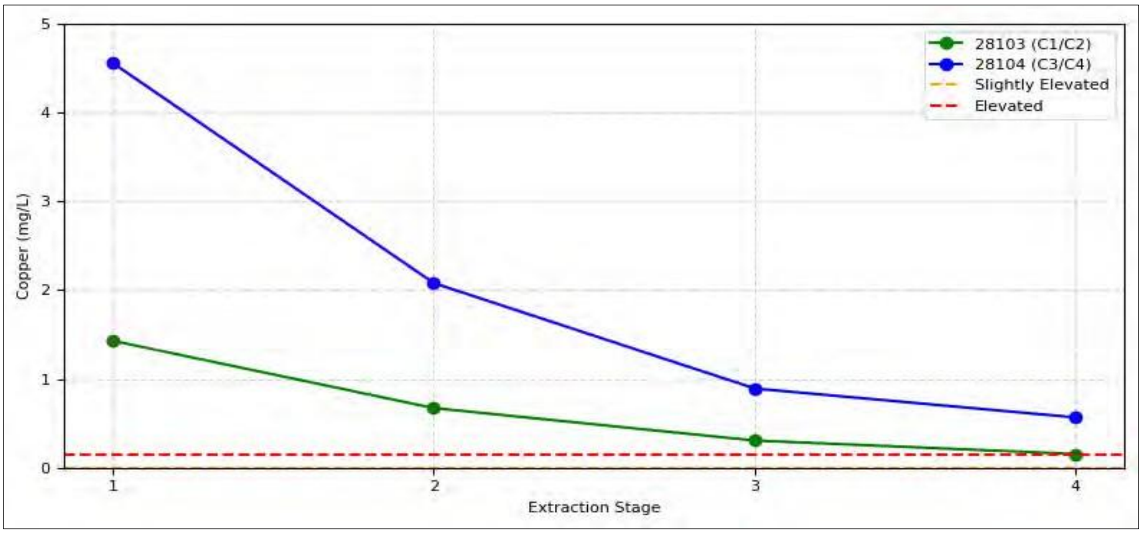

Figure 22: Four-stage Time Series Plot of Copper Concentrations

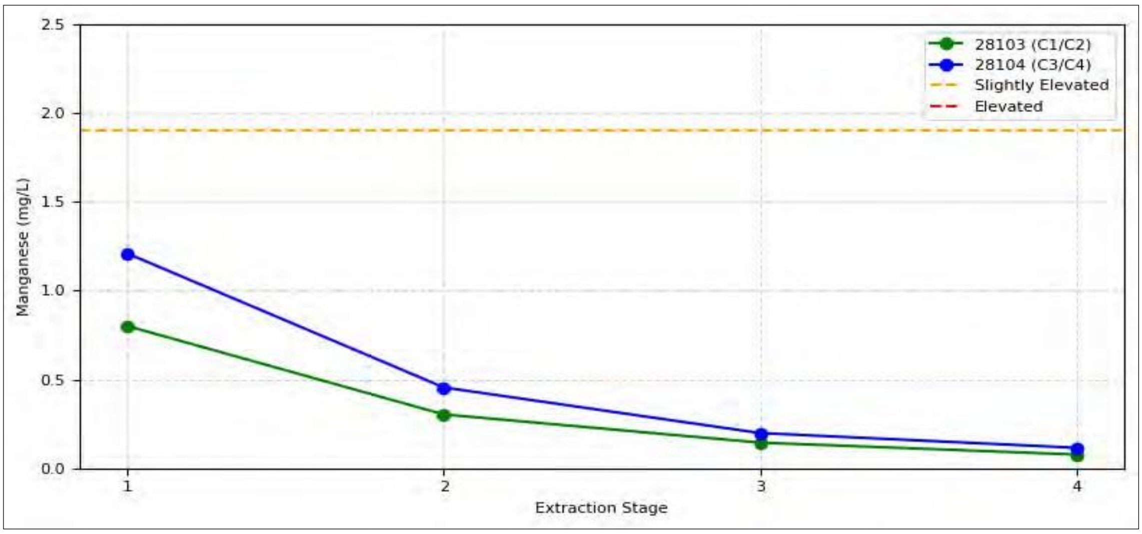

Figure 23: Four-stage Time Series Plot of Manganese Concentrations

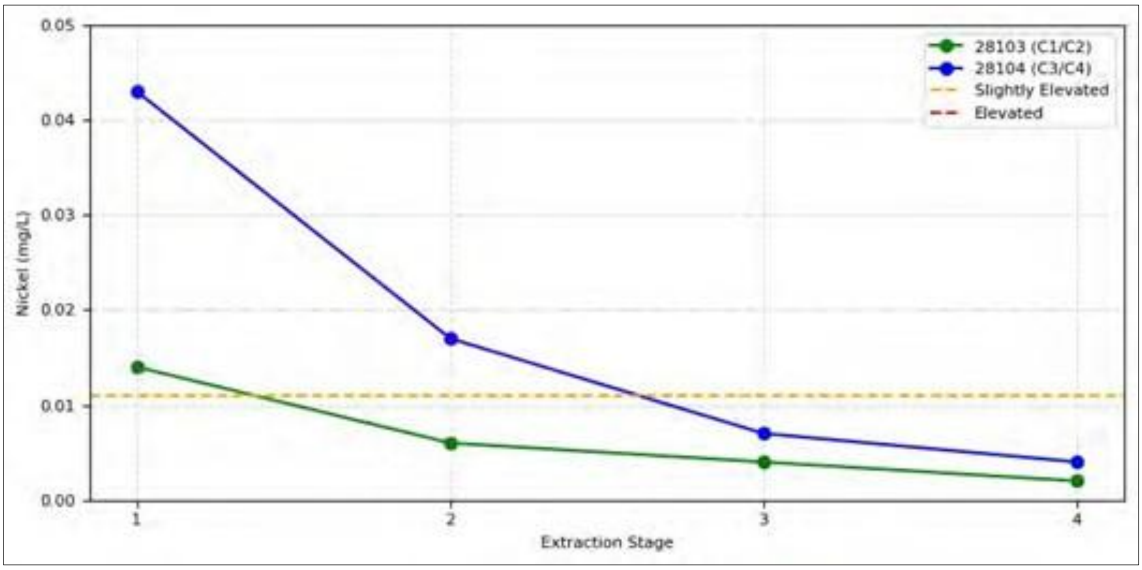

Figure 24: Four-stage Time Series Plot of Nickel Concentrations

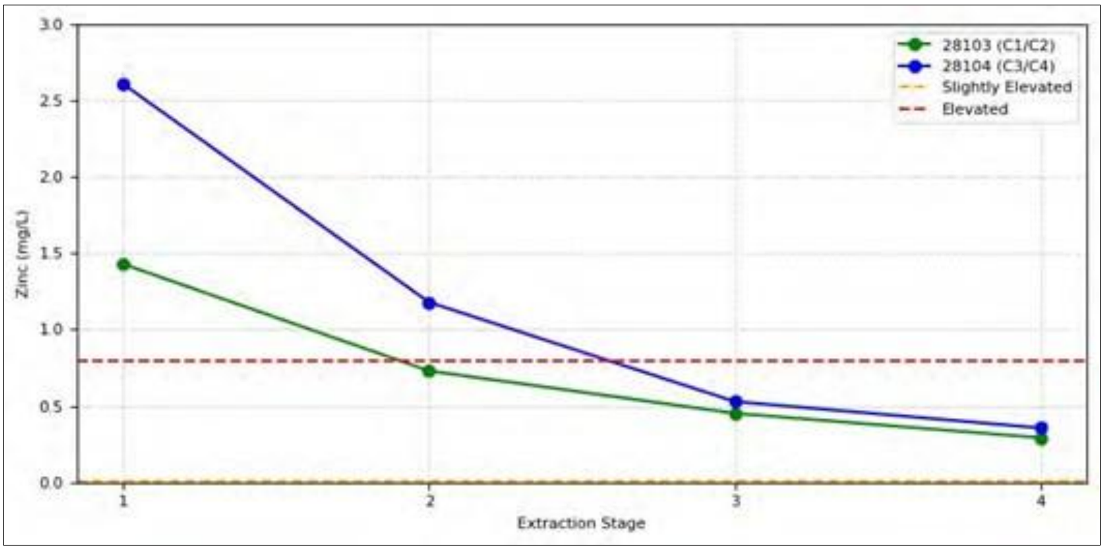

Figure 25: Four-stage Time Series Plot of Zinc Concentrations

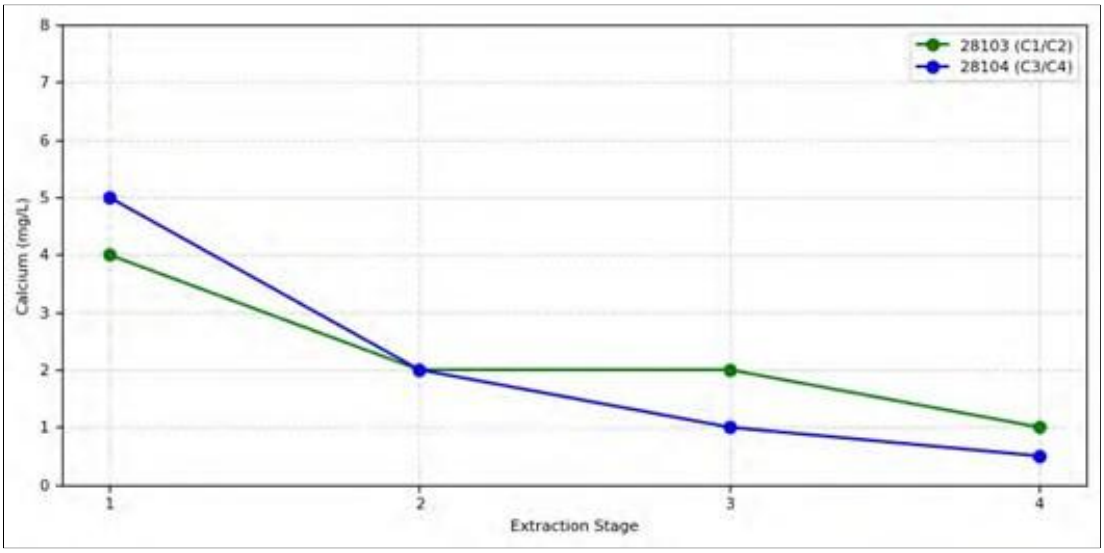

Figure 26: Four-stage Time Series Plot of Calcium Concentrations

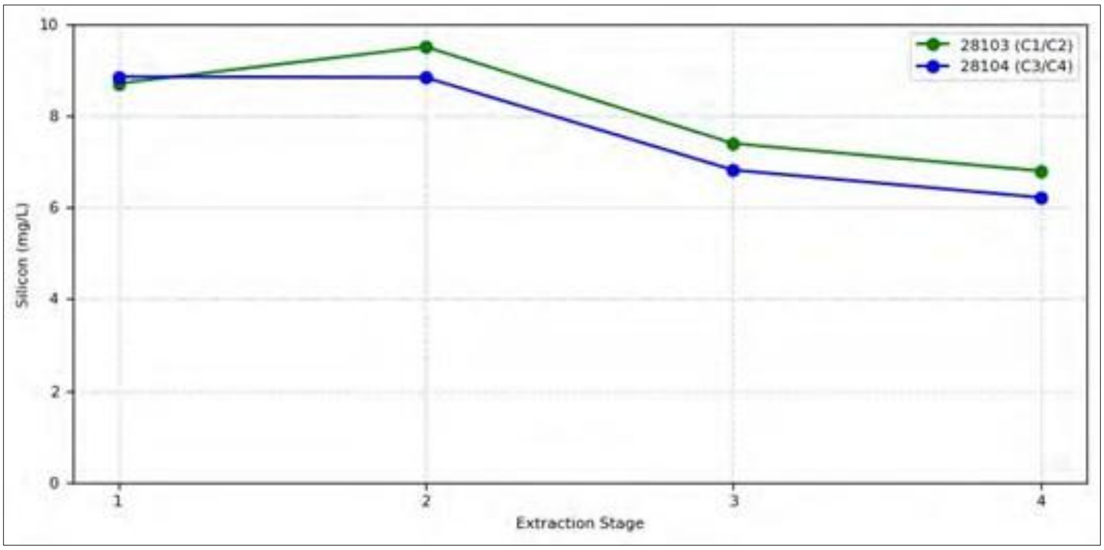

Figure 27: Four-stage Time Series Plot of Silicon Concentrations

4.2.3. Peroxide Extraction

Peroxide extraction was undertaken for the two composite heap leach residue samples. Results are presented in

Table 7, with a scaling factor of 5 were applied to PAF residue composite C3/C4.

Results indicate the following:

- Materials representative of the C1/C2 residue composite are unlikely to release significant loadings of metals or metalloids under strongly oxidising conditions.
- Materials representative of the C3/C4 residue composite may release significant loadings of aluminium, copper, iron, sulphate, and zinc under strongly oxidising conditions and the onset of acidic conditions.

Table 7: Water Chemistry for Composite Heap Leach Residues

Parameter	Unit	Detection Limit*	Sample C1/C2 (28103)	Sample C3/C4 (28104)
NAGpH		-	4.5	2.3
Ag	mg/L	0.001	<0.001	<0.005
Al	mg/L	0.01	0.08	35.05
As	mg/L	0.001	<0.001	0.005
B	mg/L	0.05	0.27	3.05
Ba	mg/L	0.001	0.78	0.825
Be	mg/L	0.001	<0.001	<0.005
Ca	mg/L	1	<1	5
Cd	mg/L	0.0001	0.0004	0.008
Cl	mg/L	1	5	25
Co	mg/L	0.001	0.005	0.705
Cr	mg/L	0.001	0.007	0.135
Cu	mg/L	0.001	0.28	12.75
F	mg/L	0.1	0.2	1
Fe	mg/L	0.05	<0.05	80.5
Hg	mg/L	0.0001	<0.0001	<0.0005
K	mg/L	1	3	30
Mg	mg/L	1	<1	5
Mn	mg/L	0.001	0.035	0.685
Mo	mg/L	0.001	0.002	<0.005
Na	mg/L	1	5	40
Ni	mg/L	0.001	0.003	0.105
P	mg/L	1	<1	<5
Pb	mg/L	0.001	<0.001	0.02
Sb	mg/L	0.001	<0.001	<0.005
Se	mg/L	0.01	<0.01	0.15
Si	mg/L	0.1	5.41	45.55
Sn	mg/L	0.001	<0.001	<0.005
SO4	mg/L	1	12	1980
Sr	mg/L	0.001	0.023	0.135
Th	mg/L	0.001	<0.001	0.03
Tl	mg/L	0.001	<0.001	<0.005
U	mg/L	0.001	<0.001	0.015
Zn	mg/L	0.005	0.661	8.25

***** Detection limit has not been scaled by a factor of 5.*

*** 'Significant' loading highlighted in red.*

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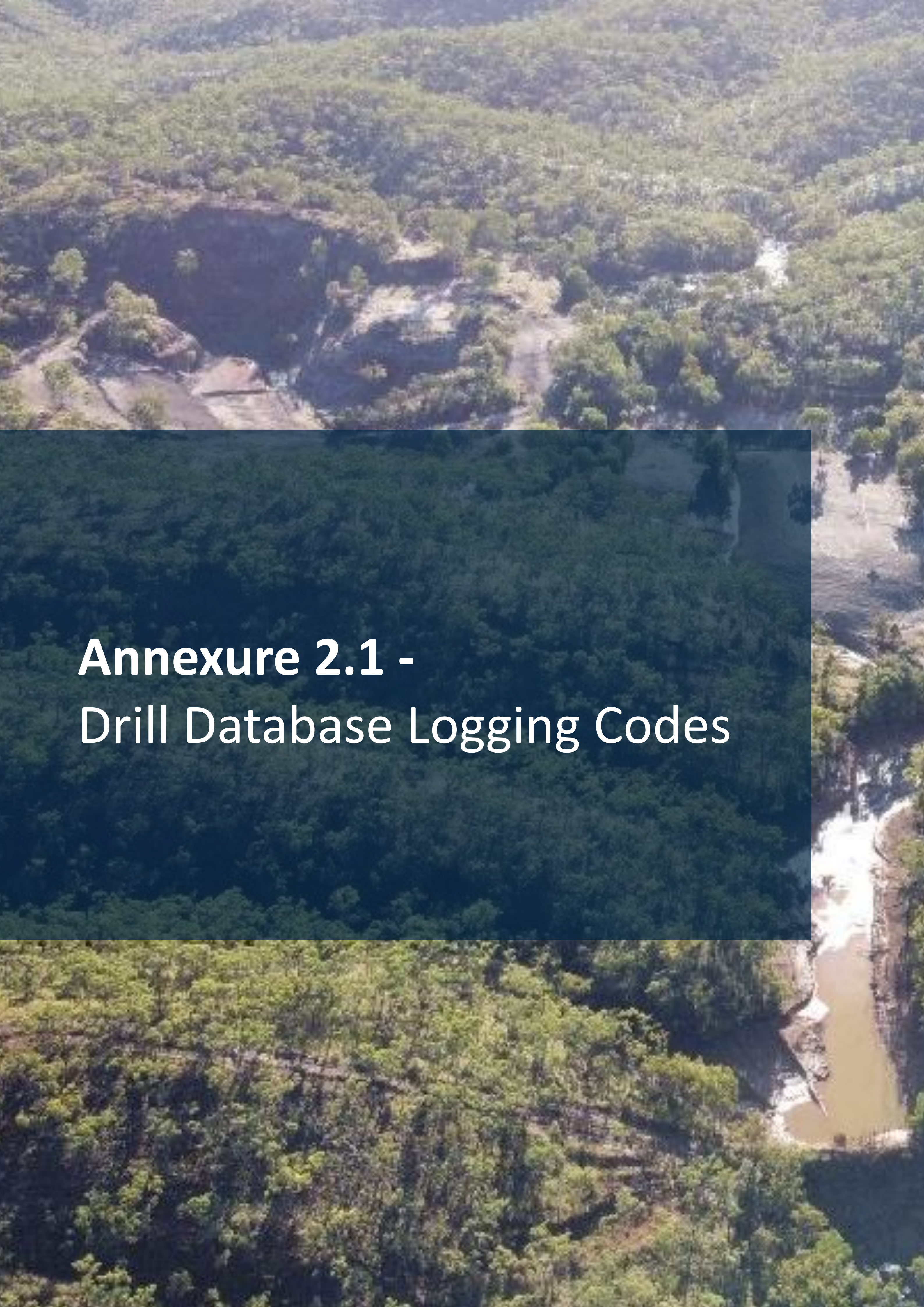
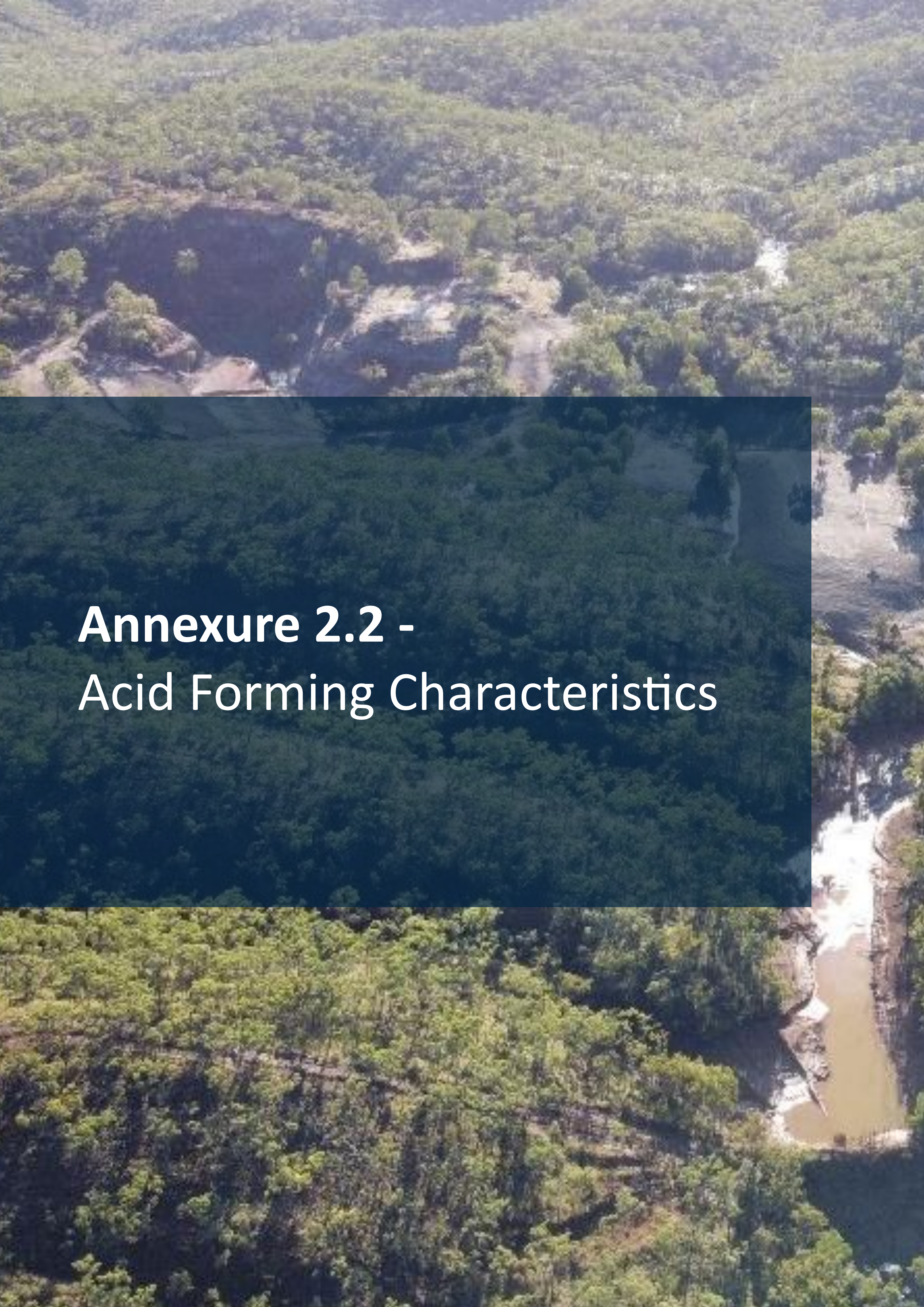


Annexure 2.1 -
Drill Database Logging Codes

Table 8: Revolver Resources Lithology Logging Codes

Code	Description	Group
ALTN	Intense Alteration	Structure
BXS	Breccia Sedimentary	Breccia
BXT	Tectonic Breccia	Breccia
CHRT	Chert	Chert
CLY	Clay	Clay
CNGL	Conglomerate	Sediments
COLV	Colluvium	Clay
DMCT	Diamictite	Sediments
FLT	Fault	Structure
HYBA	Hypabyssal Basalt	Hypabyssal Rock
IRST	Ironstone	Sediments
Lost Core	Lost Core	
MDST	Mudstone	Siltstone
MSUL	Massive Sulphide	VMS
NO	Not Logged	
SDBX	Brecciated Sandstone	Sandstone
SDST	Sandstone	Sandstone
SHLE	Shale	Shale
SLST	Siltstone	Siltstone
STOPE	Stope	Stope
VN	Vein undifferentiated	Vein
VN	Vein	Vein
VNC	Carbonate Vein	Vein
VNFEOX	Iron Oxide Vein	Vein
VNQTZ	Quartz Vein	Vein
WRK	Weathered Rock	Weathered Rock



Annexure 2.2 -
Acid Forming Characteristics

Table 9: Acid Forming Characteristics (EGI Samples)

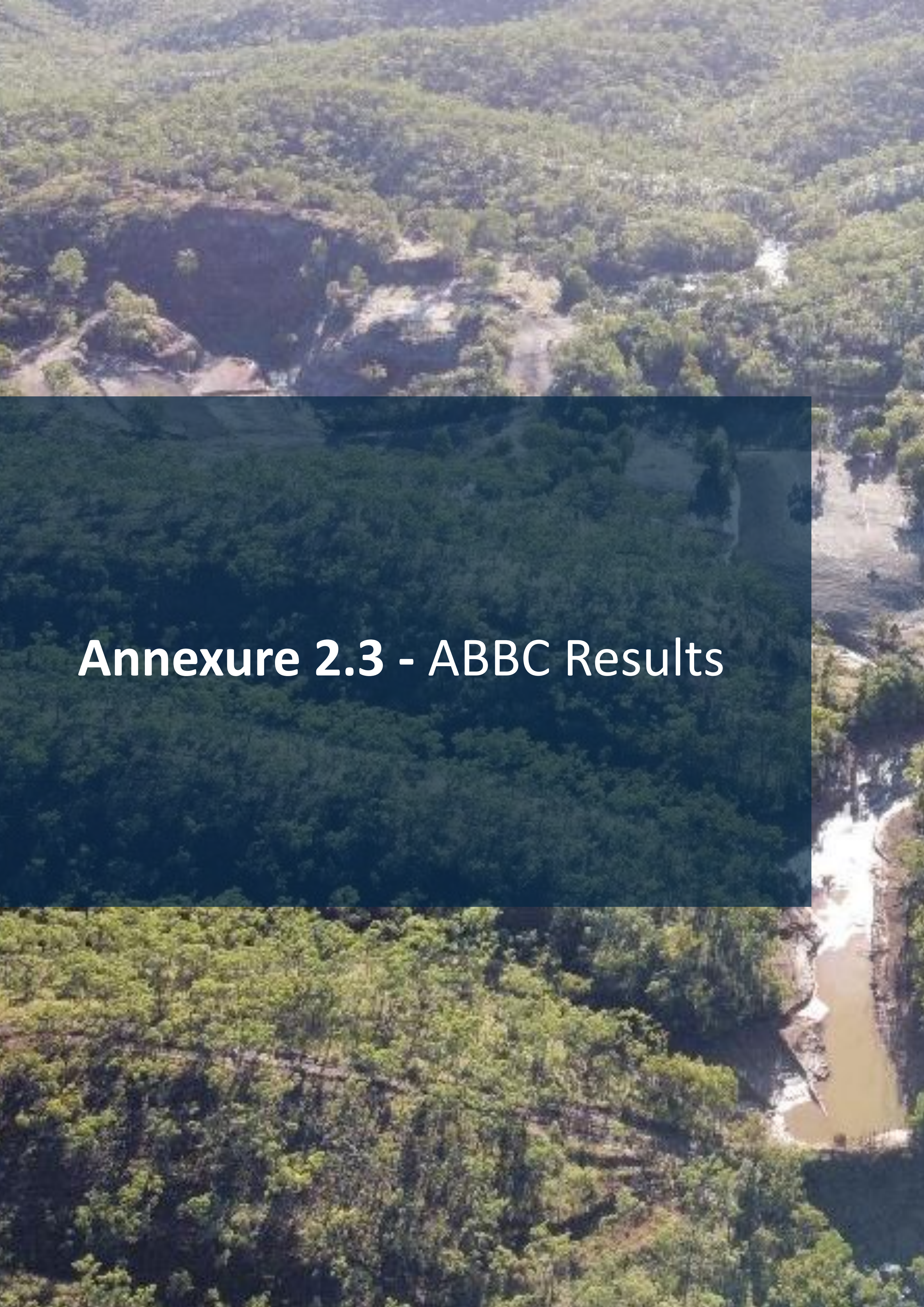
EGi Code	Hole ID	Sample ID	Depth (m) From	Depth (m) To	Depth (m) Interval (m)	Lithology	Ore/Waste	Domain	Oxidation Group	EGi Assay and Acid Base Analysis $pH_{1:5}$	$EC_{1:5}$ dS/m	Total S %	CRS %	Total C %	Org C %	Inorg C %	MPA kg H_2SO_4/t	MPA* kg H_2SO_4/t	$ANC_{Standard}$ kg H_2SO_4/t	ANC_{TC} kg H_2SO_4/t	ANC_{IC} kg H_2SO_4/t	$NAPP_{Standard}$ kg H_2SO_4/t	$NAPP_{TC}$ kg H_2SO_4/t	$NAPP_{IC}$ kg H_2SO_4/t	$NAPP_{IC}$* kg H_2SO_4/t	ANC/MPA	NAG Test NAGpH	$NAG_{(pH4.5)}$	$NAG_{(pH7.0)}$	ARD Classification
28086	25DMDD016	25DW0001	1.0	7.0	6.0	Siltstone	Waste	Eastern Waste	Oxide	8.7	0.11	0.09	-	0.28	0.14	0.14	3	-	24	23	11	-21	-20	-9	-	9	8	0	0	NAF
28087	25DMDD016	25DW0002	14.0	21.0	7.0	Sandstone	Waste	Eastern Waste	Oxide	9.3	0.12	0.02	-	0.17	0.05	0.12	1	-	30	14	10	-29	-13	-9	-	55	9	0	0	NAF
28088	25DMDD016	25DW0003	68.0	72.0	4.0	Sandstone	Waste	Western Waste	Fresh	8.2	0.10	1.00	0.15	0.18	0.18	0.00	31	4	1	15	0	30	16	31	4	0	5	0	2	NAF
28089	25DMDD016	25DW0004	82.0	86.0	4.0	Sandstone	Waste	Western Waste	Fresh	9.1	0.11	0.03	-	0.26	0.14	0.12	1	-	9	21	10	-8	-20	-9	-	10	7	0	0	NAF
28090	25DMDD016	25DW0005	86.0	93.0	7.0	Sandstone	Waste	Western Waste	Fresh	9	0.09	0.05	-	0.33	0.19	0.14	2	-	5	27	11	-3	-25	-10	-	3	7	0	0	NAF
28091	25DMDD016	25DW0006	93.0	100.0	7.0	Sandstone	Waste	Western Waste	Fresh	9.4	0.08	0.03	-	0.27	0.11	0.16	1	-	21	22	13	-20	-21	-12	-	24	8	0	0	NAF
28092	25DMDD017	25DW0007	14.0	20.0	6.0	Sandstone	Waste	Eastern Waste	Oxide	9.3	0.10	0.01	-	0.12	0.05	0.07	0	-	57	10	6	-57	-10	-6	-	373	8	0	0	NAF
28093	25DMDD017	25DW0008	28.0	34.0	6.0	Siltstone	Waste	Eastern Waste	Oxide	8.9	0.07	0.01	-	0.09	0.09	0.00	0	-	5	7	0	-5	-7	0	-	33	7	0	0	NAF
28094	25DMDD017	25DW0009	40.0	45.0	5.0	Sandstone	Waste	Eastern Waste	Oxide	9.1	0.07	0.01	-	0.05	0.05	0.00	0	-	4	4	0	-4	-4	0	-	26	7	0	0	NAF
28095	25DMDD018	25DW0010	6.0	12.0	6.0	Sandstone	Waste	Eastern Waste	Oxide	9.5	0.18	0.01	-	0.17	0.04	0.13	0	-	19	14	11	-19	-14	-10	-	124	9	0	0	NAF
28096	25DMDD018	25DW0011	25.0	31.0	6.0	Sandstone	Waste	Eastern Waste	Oxide	9.4	0.07	0.01	-	0.03	0.02	0.01	0	-	4	2	1	-4	-2	-1	-	26	7	0	0	NAF
28097	25DMDD018	25DW0012	36.0	42.0	6.0	Sandstone	Waste	Eastern Waste	Oxide	9.2	0.06	0.01	-	0.04	0.03	0.01	0	-	5	3	1	-5	-3	-1	-	33	7	0	0	NAF
28098	25DMDD018	25DW0013	117.0	120.0	3.0	Sandstone	Waste	Western Waste	Fresh	9.5	0.06	0.03	-	0.28	0.09	0.19	1	-	24	23	16	-23	-22	-14	-	23	9	0	0	NAF
28099	25DMDD018	25DW0014	120.0	126.0	6.0	Siltstone	Waste	Western Waste	Fresh	9.3	0.11	0.05	-	0.35	0.17	0.18	1	-	20	29	15	-19	-27	-13	-	14	9	0	0	NAF
28100	25DMDD004	25DW0015	40.0	44.0	4.0	Sandstone	Waste	Greenhills Low Grade	Trans	8.7	0.07	0.02	-	0.12	0.05	0.07	1	-	3	10	6	-2	-9	-5	-	5	7	0	0	NAF
28101	25DMDD009	25DW0016	27.0	29.0	2.0	Sandstone	Waste	Greenhills Low Grade	Trans	8.8	0.06	0.01	-	0.08	0.08	0.00	0	-	2	7	0	-2	-6	0	-	13	7	0	0	NAF
28102	25DMDD009	25DW0017	42.0	45.0	3.0	Sandstone	Waste	Greenhills Low Grade	Trans	8.6	0.05	0.04	-	0.18	0.18	0.00	1	-	2	15	0	-1	-13	1	-	2	7	0	0	NAF
28103	B2402 S#1 C1 and C2 Residue	Composite 1	-	-	-	-	-		-	5.3	0.12	0.20	0.02	0.2	0.19	0.01	6	1	1	16	1	5	-10	5	0	0	5	0	2	NAF
28104	B2402 S#1 C3 and C4 Residue	Composite 2	-	-	-	-	-		-	3.7	0.29	1.98	1.64	0.19	0.19	0.00	61	50	0	16	0	61	45	61	50	0	2	42	48	PAF

Key

$pH_{1:5}$ = pH of 1:5 extract
$EC_{1:5}$ = Electrical conductivity of 1:5 extract (dS/m)
MPA = Maximum Potential Acidity (H_2SO_4/t)
ANC = Acid Neutralising Capacity (H_2SO_4/t)
NAPP = Net Acid Producing Potential (kg H_2SO_4/t) based upon MPA and ANC

NAG_{pH} = pH of NAG liquor
$NAH_{(pH4.5)}$ = Net Acid Generation capacity to pH 4.5 (kg H_2SO_4/t)
$NAH_{(pH7.0)}$ = Net Acid Generation capacity to pH 7.0 (kg H_2SO_4/t)

NAF = Non-Acid Forming
NAF-HS = NAF (High Sulphur)
PAF-LC = PAF (Low Capacity)
PAF = Potentially Acid Forming



Annexure 2.3 - ABBC Results

Table 10: ABCC Results for Selected Samples

EGi Sample Number	Site Sample ID	Oxidation Group	Lithology	Type of Carbonate Buffering	ANC	Effective ANC (to pH4)	Effective ANC as % of Measured ANC	ABCC Plot Reference
28086	25DW0001	Oxide	Siltstone	Calcite/Dolomite	24	15.7	65%	B-2
28087	25DW0002	Oxide	Sandstone	Ferroan Dol/Sid	30	14.2	47%	B-3
28091	25DW0006	Fresh	Sandstone	Calcite/ Dolomite	21	14.7	70%	B-1
28092	25DW0007	Oxide	Sandstone	Siderite	57	9.6	17%	B-4
28095	25DW0010	Oxide	Sandstone	Calcite/Dolomite	19	14.7	77%	B-1
28098	25DW0013	Fresh	Sandstone	Calcite/Dolomite	24	19.1	80%	B-2
28099	25DW0014	Fresh	Siltstone	Calcite/Dolomite	20	18.1	91%	B-1

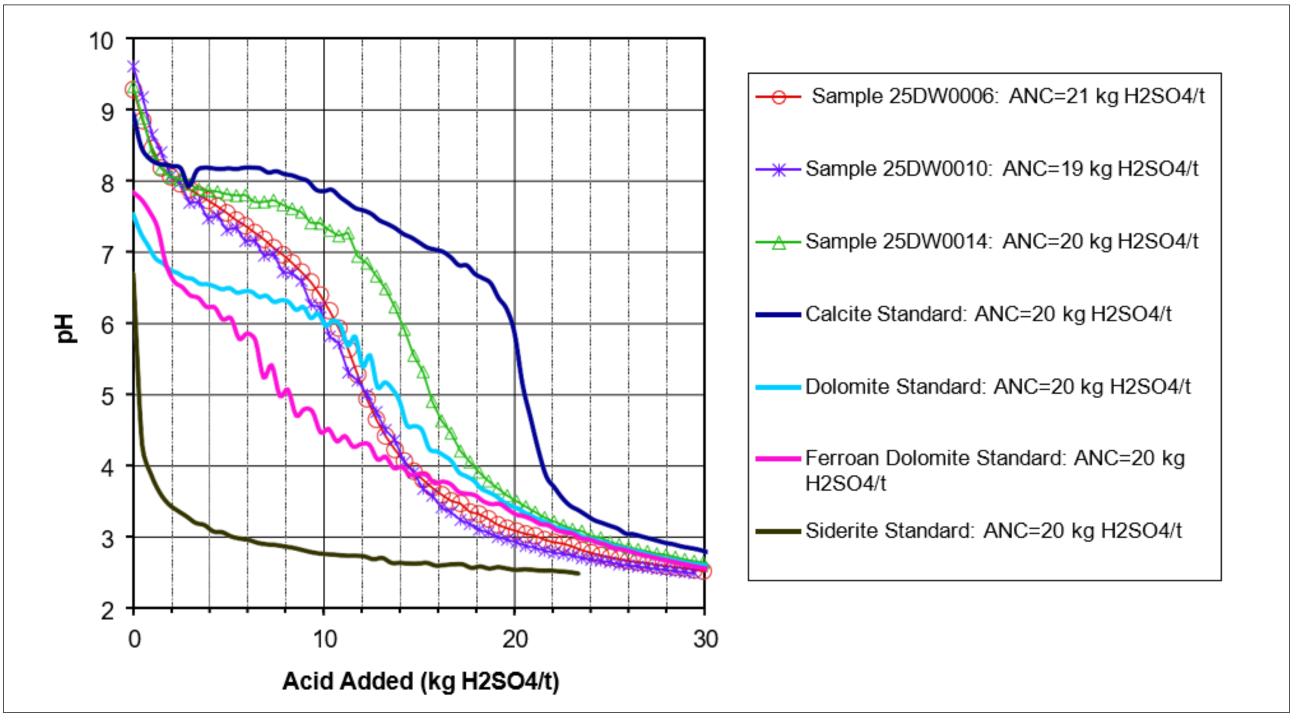


Figure 28: ABCC Profile for Samples with ANC of ~20 kg H_2SO_4/t

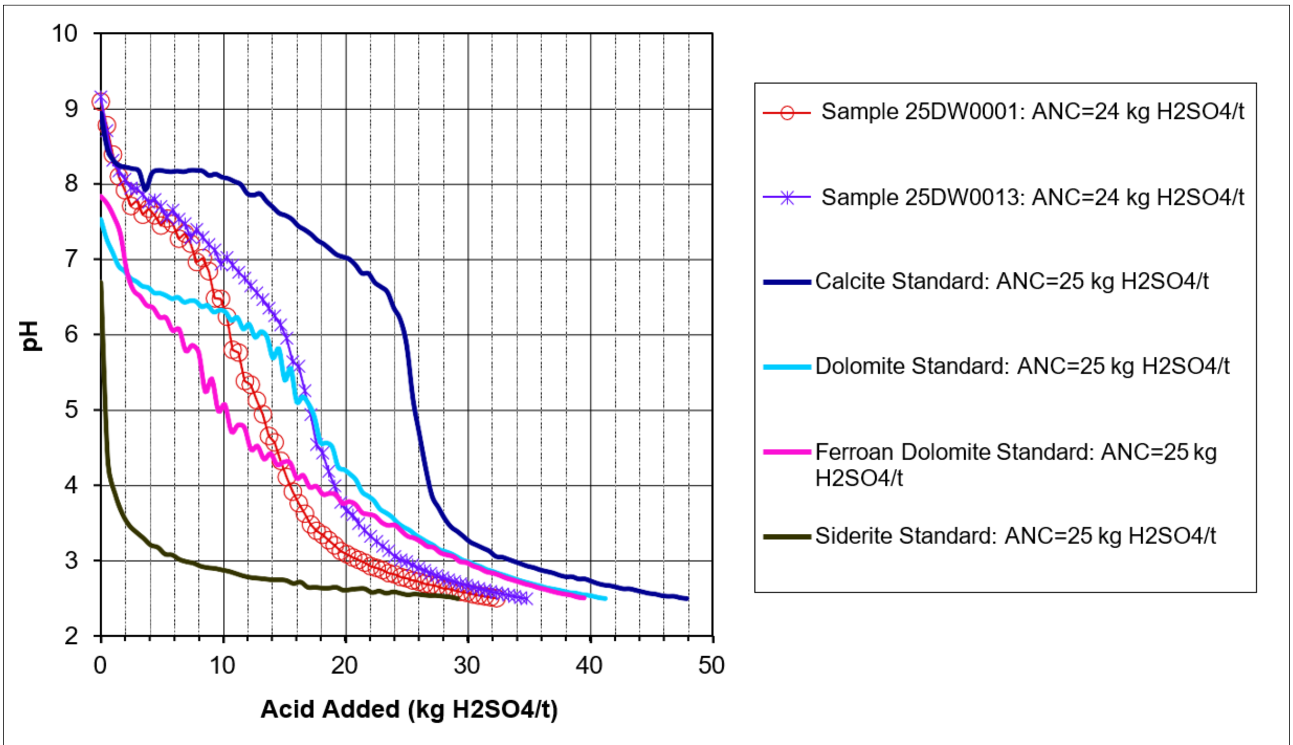


Figure 29: ABCC Profile for Samples with ANC of ~25 kg H_2SO_4/t

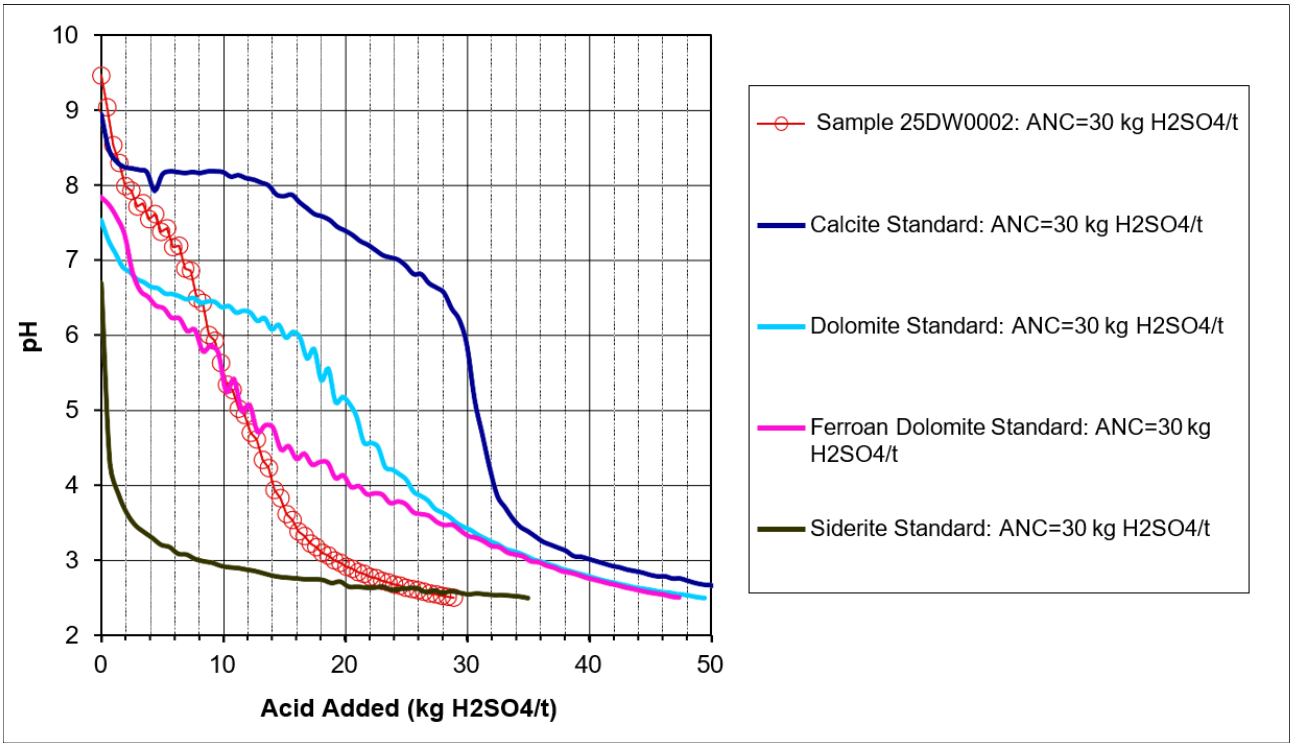


Figure 30: ABCC Profile for Samples with ANC of ~30 kg H_2SO_4/t

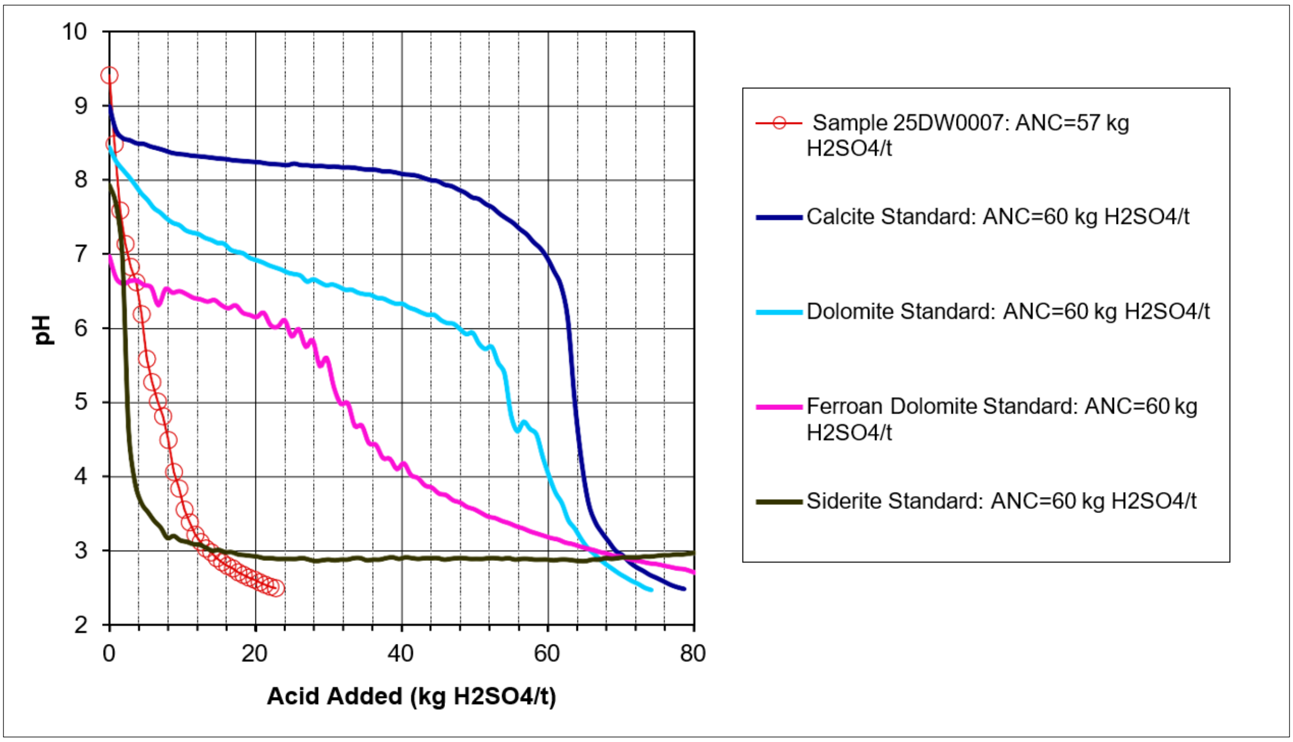
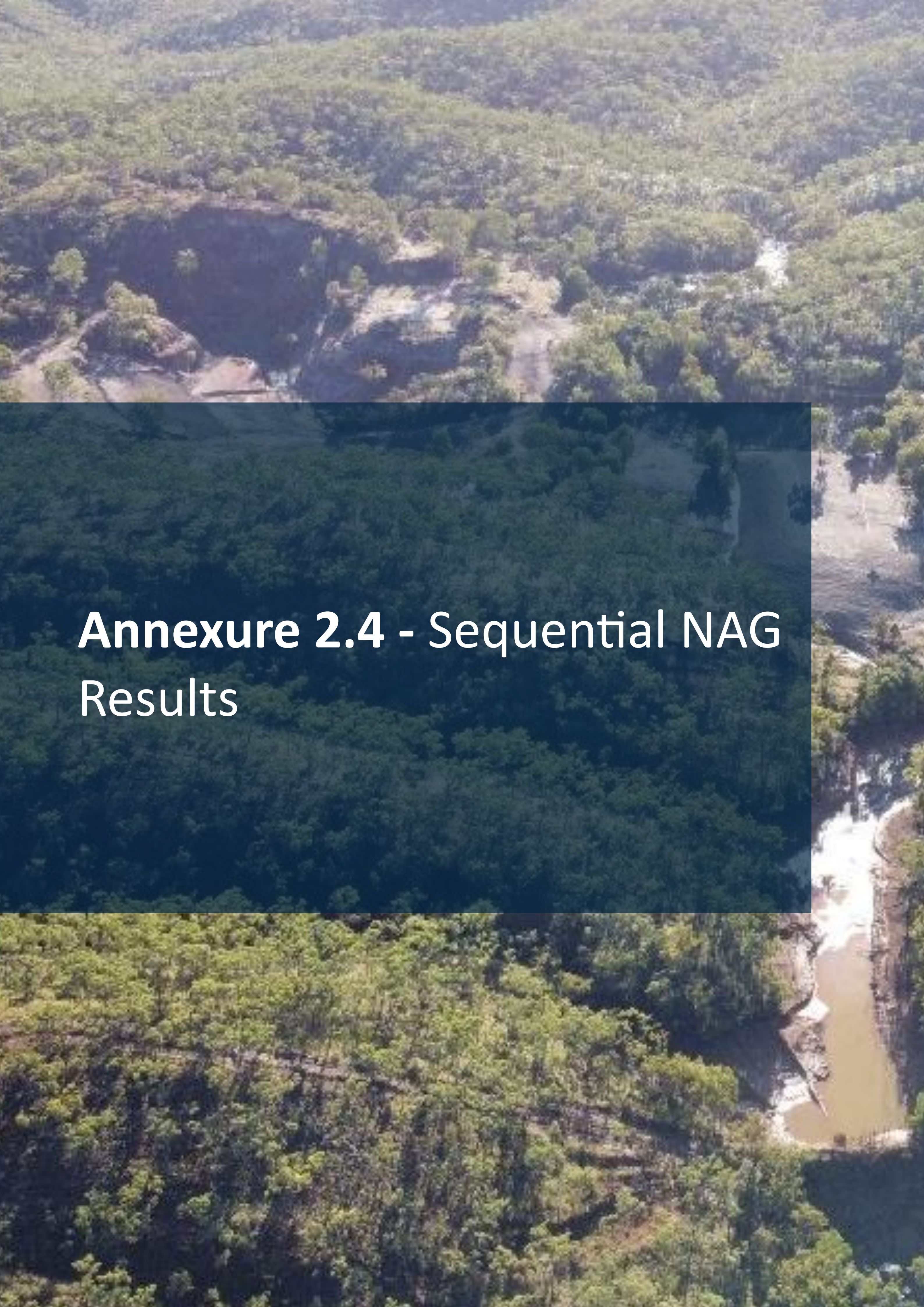


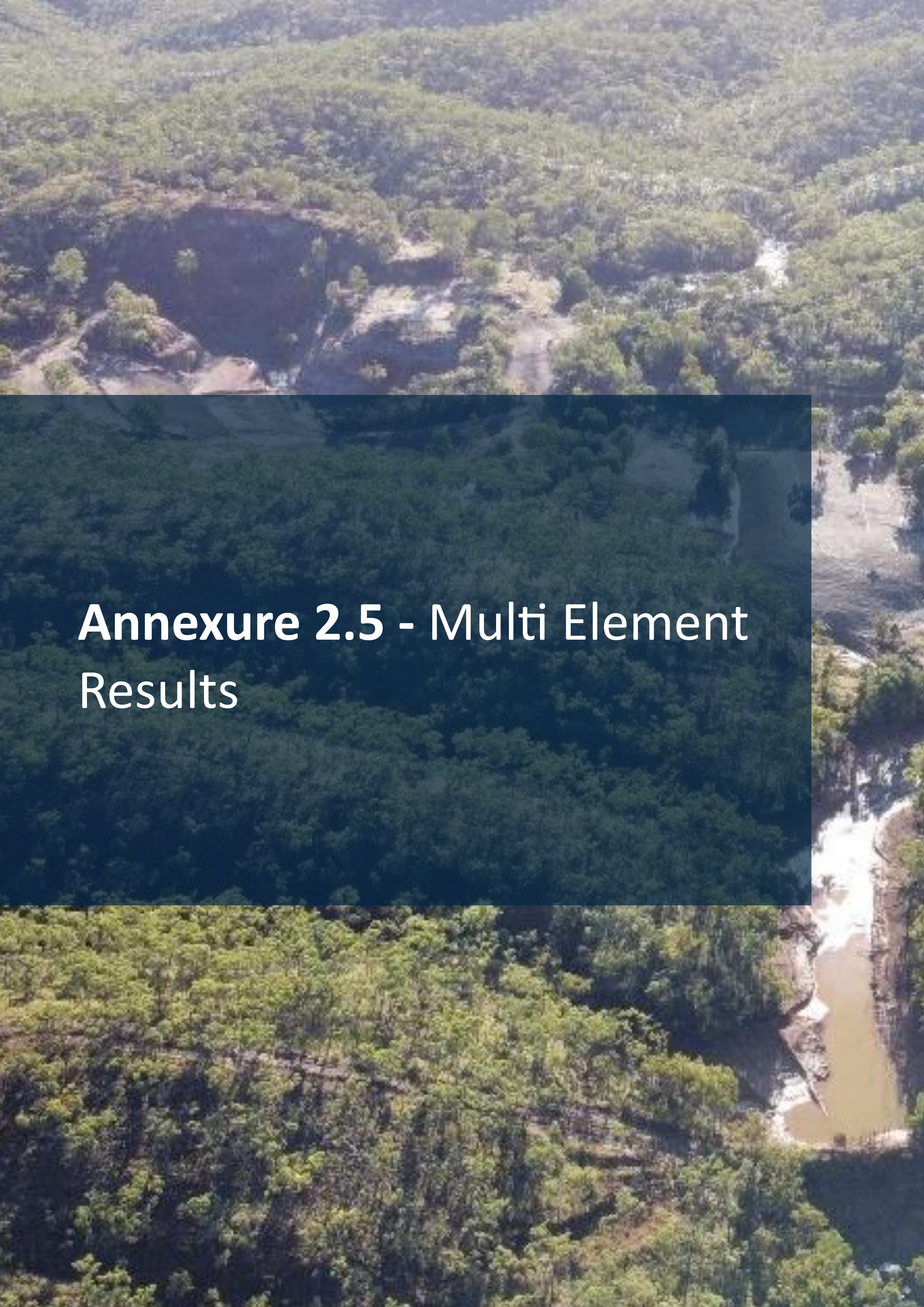
Figure 31: ABCC Profile for Sample SD25DW0007 (ANC value 57 kg H_2SO_4/t)



Annexure 2.4 - Sequential NAG Results

Table 11: Sequential NAG Test Results for Selected Samples

EGi Sample Code	Client Sample ID	Oxidation Group	Lithology	Total S	ANC	NAPP	NAGpH	STAGE 1			STAGE 2			STAGE 3			STAGE 4		Cumulative NAG	
								NAG$_{(pH4.5)}$	NAG$_{(pH7.0)}$	NAGpH	NAG$_{(pH4.5)}$	NAG$_{(pH7.0)}$	NAGpH	NAG$_{(pH4.5)}$	NAG$_{(pH7.0)}$	NAGpH	NAG$_{(pH4.5)}$	NAG$_{(pH7.0)}$	NAG`` $_{(pH4.5)}$	NAG$_{(pH7.0)}$
				%	(kg H_2SO_4/t)			(kg H_2SO_4/t)			(kg H_2SO_4/t)			(kg H_2SO_4/t)			(kg H_2SO_4/t)			
28088	25DW0003	Fresh	Sandstone	1	1	30	5.0	0	2	4.8	0	1	4.9	0	0	5.1	0	3	0	4



Annexure 2.5 - Multi Element Results

Table 12: Multi-element Analysis of Solids for Selected Samples

Parameter		Detection Limit	Sample ID																		
			28086	28087	28088	28089	28090	28091	28092	28093	28094	28095	28096	28097	28098	28099	28100	28101	28102	28103	28104
			Oxide	Oxide	Fresh	Fresh	Fresh	Fresh	Oxide	Oxide	Oxide	Oxide	Oxide	Oxide	Fresh	Fresh	Transition	Transition	Transition	Heap Leach	Heap Leach
			NAF	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*PAF*
Ag	mg/kg	0.01	0.38	0.12	0.09	0.07	0.07	0.07	0.06	0.09	0.05	0.06	0.1	0.07	0.06	0.06	0.05	20	0.11	0.39	1.39
Al	%	0.01%	8.99%	6.09%	7.27%	6.54%	7.19%	6.03%	6.13%	7.56%	6.67%	6.07%	7.28%	7.02%	5.79%	6.65%	5.42%	6.33%	6.95%	6.64%	6.60%
As	mg/kg	0.2	11.4	6.8	16.6	7.5	6.5	5.2	6.2	9.9	8	7.5	7.5	8.7	5.3	6.7	3.7	5.3	6.3	6.4	13.7
Ba	mg/kg	10	650	430	450	510	550	450	450	590	430	370	470	500	460	540	470	480	540	540	510
Be	mg/kg	0.05	2.98	2.01	2.05	2.24	2.41	2	2.02	2.76	2.16	1.89	2.41	2.46	1.97	2.21	1.75	1.97	2.41	2.26	2.12
Bi	mg/kg	0.01	1.64	0.43	0.51	0.43	0.58	0.36	0.33	0.8	0.48	0.31	0.57	0.52	0.32	0.48	0.22	0.41	0.52	0.36	0.46
Ca	mg/kg	0.01%	0.66%	0.61%	0.02%	0.13%	0.13%	0.60%	0.41%	0.16%	0.15%	0.63%	0.19%	0.18%	0.92%	0.79%	0.25%	0.03%	0.05%	0.03%	0.03%
Cd	mg/kg	0.02	1.4	0.22	0.09	5.93	9.19	0.75	0.07	0.08	0.1	0.05	0.1	0.15	0.04	0.54	1.11	0.21	0.32	0.26	0.31
Ce	mg/kg	0.01	103	93.6	62.6	77.6	86.3	81.7	82.1	80.4	95.3	84.6	90.5	68.9	84	84.3	78.5	141	87.1	84.7	75.4
Co	mg/kg	0.1	15.4	8.8	4.3	25.9	24.5	12	8.1	13	10.7	8.5	10.1	9.6	7.9	10.4	15.4	3.7	9.7	3.4	19.2
Cr	mg/kg	1	63	122	77	88	107	104	104	79	91	112	80	92	97	91	98	103	103	78	86
Cs	mg/kg	0.05	16.65	8.88	10.55	10.95	12.55	9.02	8.91	13.6	10	7.63	11.3	12.15	9.35	12.15	6.79	8.99	11.75	10.9	10.1
Cu	mg/kg	0.2	86	26.5	2860	96.1	106	57.3	17.6	35.2	21.8	15.4	23.6	22	14.6	21.5	177	1105	4270	373	494
Fe	%	0.01%	4.08%	2.59%	0.58%	3.43%	3.76%	2.76%	2.58%	3.56%	2.85%	2.53%	3.24%	3.09%	2.52%	2.99%	2.48%	2.72%	3.68%	2.01%	3.46%
Ga	mg/kg	0.05	23.1	14.05	15	15.95	17.4	14.1	14.05	19.45	16.3	13.9	17.35	18.2	13.6	16.3	12.3	14.05	16.2	14.25	14.25
Ge	mg/kg	0.05	0.1	0.07	0.025	0.025	0.06	0.06	0.025	0.05	0.06	0.06	0.06	0.025	0.06	0.07	0.06	0.12	0.07	0.05	0.08
Hf	mg/kg	0.01	3.8	2.6	2.8	2.7	3	3.1	2.5	3.1	2.9	2.5	2.9	2.7	2.7	2.7	2.3	2.4	2.9	3.1	2.8
Hg	mg/kg	0.005	0.071	0.016	0.047	0.054	0.02	0.015	0.008	0.017	0.009	0.006	0.0025	0.008	0.006	0.006	0.0025	1.1	0.027	0.091	0.412
In	mg/kg	0.005	0.108	0.048	0.1	0.052	0.06	0.046	0.041	0.072	0.053	0.044	0.056	0.06	0.046	0.051	0.037	0.046	0.055	0.051	0.06
K	%	0.01%	3.60%	1.91%	2.55%	2.46%	2.84%	2.04%	1.94%	3.23%	2.21%	1.66%	2.54%	2.73%	2.10%	2.66%	2.03%	2.19%	2.71%	2.49%	2.35%
La	mg/kg	0.5	54.2	49.6	32.8	39	44.3	42	42.7	39	48.9	41.8	46.2	34.3	42.9	43.5	40	65.9	44.9	45.1	38.5
Li	mg/kg	0.2	48.9	30.8	15	32.6	35.1	29	30.6	46.4	32.8	31.6	37.9	35.9	29.1	34.6	23.3	19.6	31.8	18.6	20.5
Mg	%	0.01%	0.84%	0.53%	0.19%	0.71%	0.70%	0.61%	0.54%	0.68%	0.57%	0.52%	0.60%	0.58%	0.60%	0.68%	0.53%	0.46%	0.69%	0.34%	0.46%
Mn	mg/kg	5	482	531	40	556	560	498	388	472	262	451	341	273	432	451	455	195	333	129	142

Parameter		Detection Limit	Sample ID																		
			28086	28087	28088	28089	28090	28091	28092	28093	28094	28095	28096	28097	28098	28099	28100	28101	28102	28103	28104
			Oxide	Oxide	Fresh	Fresh	Fresh	Fresh	Oxide	Oxide	Oxide	Oxide	Oxide	Oxide	Fresh	Fresh	Transition	Transition	Transition	Heap Leach	Heap Leach
			NAF	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*PAF*
Mo	mg/kg	0.05	0.63	0.74	0.58	0.5	0.68	0.67	0.58	0.62	0.56	0.66	0.51	0.54	0.61	0.84	0.58	0.59	0.64	0.49	1.18
Na	%	0.01%	0.10%	1.18%	0.22%	0.82%	0.71%	1.25%	1.14%	0.21%	0.81%	1.50%	0.76%	0.84%	1.19%	0.97%	1.38%	0.56%	0.73%	1.03%	0.91%
Nb	mg/kg	0.1	11.5	9.5	10.4	12.3	12.2	10.4	9.5	10.4	10	8.6	9.9	8.3	11	11.7	9.3	10.2	11.9	12.1	11.1
Ni	mg/kg	0.2	24.9	14.2	9.7	19.6	21.7	15.4	13.4	21.4	16.5	13	17.4	15.6	13.6	16.6	14.5	9.6	15.6	6.5	13.4
P	mg/kg	10	540	360	290	390	420	370	340	450	400	370	410	420	370	390	320	340	400	310	290
Pb	mg/kg	0.5	342	86.1	40.7	43.5	39.7	34.4	29.9	42.7	33.4	31.8	33.7	28.5	28.3	39.4	27.1	30.5	34	35.3	39.4
Rb	mg/kg	0.1	236	126	152.5	158	181	126.5	126.5	182.5	146.5	108	162	148.5	132	165.5	113	137	168.5	150.5	144
Re	mg/kg	0.002	0.001	0.001	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.002	0.003
S	%	0.01%	0.09%	0.02%	0.98%	0.02%	0.05%	0.03%	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.03%	0.05%	0.02%	0.00005	0.05%	0.21%	1.99%
Sb	mg/kg	0.05	3.3	1.36	1.22	0.81	1.26	0.87	1.5	2.52	1.76	1.29	1.24	1.9	1.35	1.68	1.08	0.9	1.68	1.08	2.16
Sc	mg/kg	0.1	15.5	8.3	9.2	9.6	10.9	8.5	8.3	11.3	9.8	7.9	10.6	9.5	8.3	9.7	7.1	9	10.2	9.1	9.5
Se	mg/kg	1	4	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	4
Sn	mg/kg	0.2	4.6	2.8	3.3	3.4	3.6	3	2.8	3.9	3.3	2.7	3.5	3.1	2.9	3.4	2.7	3	3.5	3.3	3.3
Sr	mg/kg	0.2	45	105	99.4	57.8	53.5	97.1	94.1	35	55.3	128.5	61.2	68	116	95.6	84.7	101	59.9	105	95.2
Ta	mg/kg	0.05	0.97	0.86	0.9	1.05	1.06	0.95	0.83	0.89	0.91	0.79	0.95	0.7	0.99	1.03	0.84	0.89	1.06	1.14	1.03
Te	mg/kg	0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.07
Th	mg/kg	0.2	21.8	17.5	12.75	16.1	17.15	17.2	15.7	17.15	18.95	16	18.05	13.4	16.4	16.15	14.75	16.3	17.35	15.2	14
Ti	%	0.005%	0.29%	0.28%	0.27%	0.29%	0.30%	0.29%	0.27%	0.27%	0.27%	0.26%	0.28%	0.24%	0.29%	0.30%	0.26%	0.27%	0.31%	0.33%	0.31%
Tl	mg/kg	0.02	1.4	0.71	1.38	1.15	1.26	0.83	0.72	1.2	0.85	0.62	0.92	0.99	0.8	1	0.75	0.85	1.05	0.99	1.04
U	mg/kg	0.1	4.2	3.1	2.8	4	4.5	4.1	2.9	4.2	3.9	3	3.7	3.3	4	4.1	3.6	5.1	4.7	4.2	3.9
V	mg/kg	1	80	49	60	54	60	51	50	71	55	48	61	61	47	56	42	51	59	54	56
W	mg/kg	0.1	3.3	2.5	3.4	2.4	2.5	2.1	2.2	2.9	2.6	3.2	2.8	2	2.4	2.8	1.9	2.6	3.1	2.9	2.7
Y	mg/kg	0.1	17.1	12.3	6.4	16.4	18.3	16.5	11.1	10.9	11.6	11.4	15.9	9.7	22.4	20	22.8	42.7	31.2	26.2	25.3
Zn	mg/kg	2	965	198	160	1190	1200	331	87	146	123	75	315	250	70	217	523	170	214	366	366
Zr	mg/kg	0.5	123	89	89.6	92.8	99	87.1	86.8	103.5	95.9	106.5	97.9	91.2	92.3	92.7	72.5	77.8	94.7	101	89.6

Table 13: GAI Results for Selected Samples

Parameter	Median Soil Abundance*	Sample ID																		
		28086	28087	28088	28089	28090	28091	28092	28093	28094	28095	28096	28097	28098	28099	28100	28101	28102	28103	28104
		Oxide	Oxide	Fresh	Fresh	Fresh	Fresh	Oxide	Oxide	Oxide	Oxide	Oxide	Oxide	Fresh	Fresh	Transition	Transition	Transition	Heap Leach	Heap Leach
		NAF	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*PAF*
Ag	0.05	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1	2	4
Al	7.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
As	6	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Ba	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Be	0.3	3	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2
Bi	0.2	2	1	1	1	1	-	-	1	1	-	1	1	-	1	-	-	1	-	1
Ca	1.5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cd	0.35	1	-	-	3	4	1	-	-	-	-	-	-	-	-	1	-	-	-	-
Ce	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Co	8	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Cr	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cs	4	1	1	1	1	1	1	1	1	1	-	1	1	1	1	-	1	1	1	1
Cu	30	1	-	6	1	1	-	-	-	-	-	-	-	-	-	2	5	7	3	3
Fe	4%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ga	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ge	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hf	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hg	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	2
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	1.4%	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
La	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Li	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mg	0.5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mn	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mo	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Na	0.5%	-	1	-	-	-	1	1	-	-	1	-	-	1	-	1	-	-	-	-
Nb	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ni	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pb	35	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Parameter	Median Soil Abundance*	Sample ID																		
		28086	28087	28088	28089	28090	28091	28092	28093	28094	28095	28096	28097	28098	28099	28100	28101	28102	28103	28104
		Oxide	Oxide	Fresh	Fresh	Fresh	Fresh	Oxide	Oxide	Oxide	Oxide	Oxide	Oxide	Fresh	Fresh	Transition	Transition	Transition	Heap Leach	Heap Leach
		NAF	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*PAF*
Rb	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Re	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	0.07%	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4
Sb	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Sc	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Se	0.4	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	3
Sn	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sr	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ta	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Th	9	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ti	0.5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tl	0.2	2	1	2	2	2	1	1	2	2	1	2	2	1	2	1	2	2	2	2
U	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-
V	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W	1.5	1	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Y	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zn	90	3	1	-	3	3	1	-	-	-	-	1	1	-	1	2	-	1	1	1
Zr	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Bowen H.J.M, 1979. Environmental Chemistry of the Elements.*

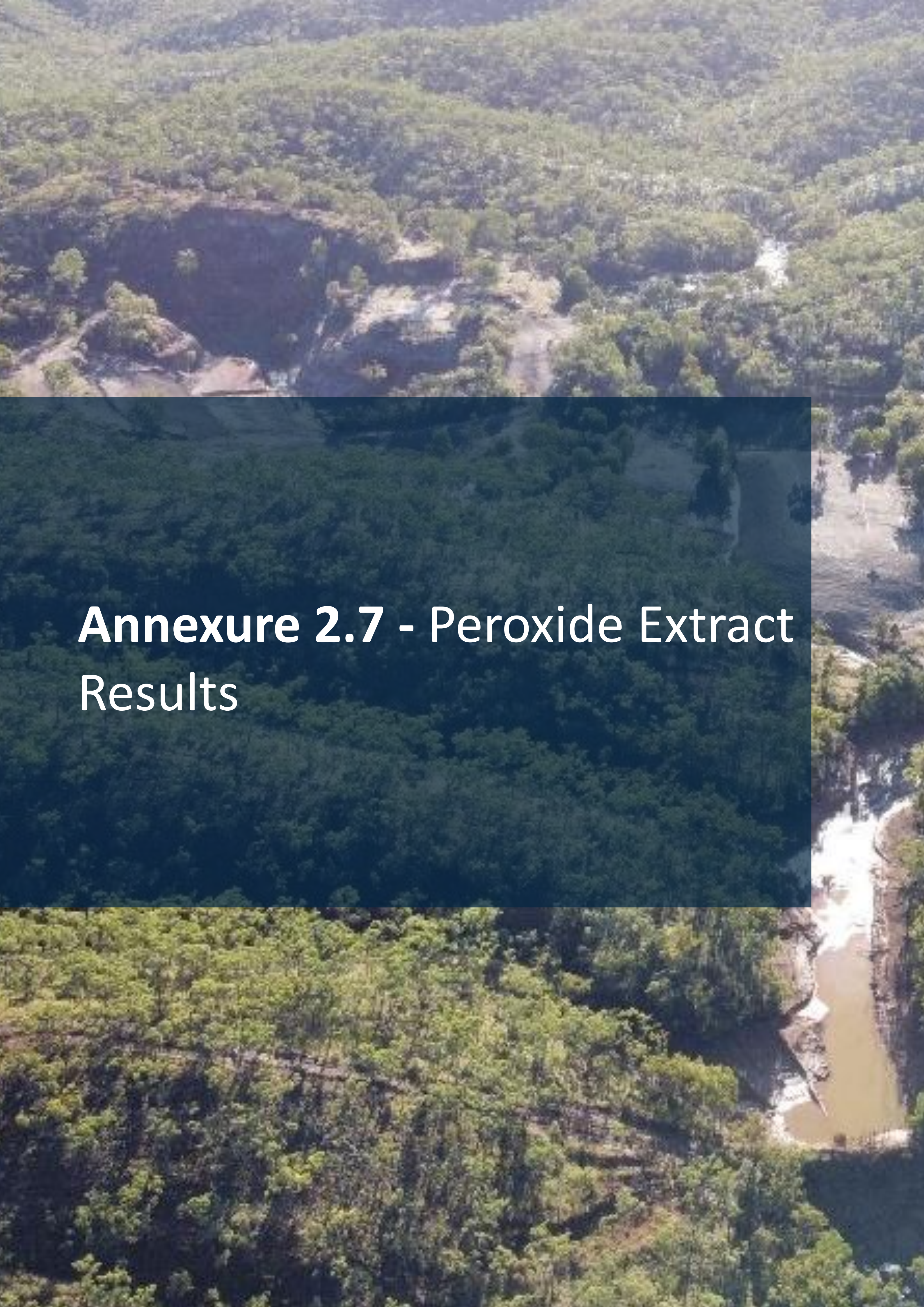
Annexure 2.6 - Single-Stage Water Extraction Results

Table 14: Chemical Composition of Water Extracts for Selected Samples.

Parameter		Detection Limit	Sample ID																			
			28086	**28087**	**28088**	**28089**	**28090**	**28091**	**28092**	**28093**	**28094**	**28095**	**28096**	**28097**	**28098**	**28099**	**28100**	**28101**	**28102**	**28103**	**28104**	**Blank**
			Oxide	Oxide	Fresh	Fresh	Fresh	Fresh	Oxide	Oxide	Oxide	Oxide	Oxide	Oxide	Fresh	Fresh	Transition	Transition	Transition	Heap Leach	Heap Leach	
			NAF	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*PAF*	
pH		0.1	8.7	9.3	8.2	9.1	9.0	9.4	9.3	8.9	9.1	9.5	9.4	9.2	9.5	9.3	8.7	8.8	8.6	5.3	3.7	6.6
EC	dS/m	0.001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.001
Acidity	mg/l	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	96	-
Alkalinity	mg/l	1	54	68	12	25	17	44	58	28	22	71	23	22	42	56	19	22	14	-	-	-
Ag	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Al	mg/l	0.01	0.15	0.98	0.04	1.82	1.54	1.44	1.05	1.31	1.55	1.91	1.34	0.9	0.81	0.88	1.1	0.64	0.64	0.28	2.4	<0.01
As	mg/l	0.001	<0.001	<0.001	0.001	0.003	0.002	0.003	0.002	0.002	0.002	0.002	<0.001	0.002	0.002	0.002	0.003	<0.001	<0.001	0.004	0.005	<0.001
B	mg/l	0.05	0.1	0.28	0.09	0.17	0.15	0.11	0.22	0.19	0.14	0.1	0.25	0.24	0.16	0.15	0.14	0.22	0.18	0.26	0.25	0.06
Ba	mg/l	0.001	0.596	0.741	0.636	0.38	0.346	0.547	1.3	0.31	0.277	0.541	0.525	1.19	1.22	1.09	0.37	0.409	0.236	1.05	0.55	<0.001
Be	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Ca	mg/l	1	10	<1	1	<1	<1	4	2	<1	<1	2	<1	2	4	4	<1	<1	<1	3	5	<1
Cd	mg/l	0.0001	<0.0001	<0.0001	0.0008	0.0019	0.0024	0.0002	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0001	<0.0001	0.0022	0.0055	<0.0001
Cl	mg/l	1	9	14	5	4	4	3	10	3	3	36	9	8	5	3	3	7	3	5	5	<1
Co	mg/l	0.001	<0.001	<0.001	0.021	0.002	0.001	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.005	<0.001	0.015	0.25	<0.001
Cr	mg/l	0.001	<0.001	0.002	<0.001	0.002	0.002	<0.001	0.001	0.002	0.002	0.001	0.002	0.001	<0.001	<0.001	0.001	0.001	<0.001	0.002	0.02	<0.001
Cu	mg/l	0.001	0.006	0.002	0.345	0.01	0.005	0.003	0.003	0.004	0.005	0.015	0.004	0.004	<0.001	0.002	0.079	0.189	0.159	0.94	4.73	<0.001
F	mg/l	0.1	2.2	2	0.2	0.7	0.7	0.4	1.9	1	0.6	1.6	1.2	1.2	0.5	0.7	0.6	0.5	0.6	0.3	0.3	<0.1
Fe	mg/l	0.05	0.05	0.76	<0.05	1.43	1.12	0.6	0.89	1.16	1.28	0.89	1.38	0.68	0.29	0.52	0.86	0.37	0.4	1.95	11.1	<0.05
Hg	mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
K	mg/l	1	<1	<1	3	2	3	10	<1	<1	<1	<1	<1	1	4	13	1	<1	<1	4	6	<1
Mg	mg/l	1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	3	7	<1
Mn	mg/l	0.001	0.004	0.031	0.232	0.038	0.027	0.015	0.02	0.046	0.046	0.029	0.014	0.015	0.007	0.014	0.022	0.041	0.007	0.77	1.44	<0.001
Mo	mg/l	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Na	mg/l	1	10	11	9	10	9	7	27	10	6	49	12	32	10	12	7	9	6	10	8	<1

Parameter		Detection Limit	Sample ID																			
			28086	28087	28088	28089	28090	28091	28092	28093	28094	28095	28096	28097	28098	28099	28100	28101	28102	28103	28104	Blank
			Oxide	Oxide	Fresh	Fresh	Fresh	Fresh	Oxide	Oxide	Oxide	Oxide	Oxide	Oxide	Fresh	Fresh	Transition	Transition	Transition	Heap Leach	Heap Leach	
			NAF	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*NAF*	*PAF*	
Ni	mg/l	0.001	<0.001	0.001	0.003	0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.011	0.049	<0.001
P	mg/l	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pb	mg/l	0.001	<0.001	0.003	<0.001	0.006	0.004	0.002	0.003	0.005	0.004	0.002	0.002	0.002	<0.001	0.002	0.003	<0.001	<0.001	<0.001	0.001	<0.001
Sb	mg/l	0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.005	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Se	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Si	mg/l	0.1	2.2	3.0	2.5	2.9	2.4	2.7	2.7	3.2	2.9	2.5	2.9	3.2	2.9	2.8	3.1	3.6	4.6	7.2	8.8	0.07
Sn	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SO4	mg/l	1	3	1	19	3	4	1	<1	<1	<1	<1	<1	<1	<1	9	2	3	<1	47	124	<1
Sr	mg/l	0.001	0.033	0.009	0.01	0.008	0.007	0.02	0.022	0.007	0.005	0.018	0.007	0.023	0.026	0.027	0.006	0.008	0.004	0.036	0.048	<0.001
Th	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Tl	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
U	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001
Zn	mg/l	0.005	0.007	0.03	0.297	0.121	0.077	0.026	0.016	0.029	0.029	0.018	0.031	0.024	0.009	0.017	0.058	0.087	0.022	1.14	2.27	<0.005

< : element at or below analytical detection limit.



Annexure 2.7 - Peroxide Extract Results

Table 15: Chemical Composition of Peroxide Extractions for Selected Samples

Parameter		Detection Limit	Sample ID			
			27390	27402	27521*	Blank
			Fresh	Heap Leach	Heap Leach	
			NAF	*NAF*	*PAF*	
NAGpH		0	5.0	4.5	2.3	5.5
Ag	mg/l	0.001	<0.001	<0.001	<0.005	<0.001
Al	mg/l	0.01	0.02	0.08	35.05	<0.01
As	mg/l	0.001	<0.001	<0.001	0.005	<0.001
B	mg/l	0.05	0.18	0.27	3.05	<0.05
Ba	mg/l	0.001	0.902	0.776	0.825	<0.001
Be	mg/l	0.001	<0.001	<0.001	<0.005	<0.001
Ca	mg/l	1	2	<1	5	<1
Cd	mg/l	0.0001	0.0008	0.0004	0.008	<0.0001
Cl	mg/l	1	4	5	25	3
Co	mg/l	0.001	0.034	0.005	0.705	<0.001
Cr	mg/l	0.001	0.001	0.007	0.135	<0.001
Cu	mg/l	0.001	9.1	0.275	12.75	<0.001
F	mg/l	0.1	0.2	0.2	1	0.1
Fe	mg/l	0.05	<0.05	<0.05	80.5	<0.05
Hg	mg/l	0.0001	<0.0001	<0.0001	<0.0005	<0.0001
K	mg/l	1	2	3	30	<1
Mg	mg/l	1	<1	<1	5	<1
Mn	mg/l	0.001	0.047	0.035	0.685	<0.001
Mo	mg/l	0.001	0.002	0.002	<0.005	0.002
Na	mg/l	1	6	5	40	<1
Ni	mg/l	0.001	0.016	0.003	0.105	<0.001
P	mg/l	1	<1	<1	<5	<1
Pb	mg/l	0.001	<0.001	<0.001	0.02	<0.001
Sb	mg/l	0.001	<0.001	<0.001	<0.005	<0.001
Se	mg/l	0.01	<0.01	<0.01	0.15	<0.01
Si	mg/l	0.1	5.3	5.4	45.6	<0.05
Sn	mg/l	0.001	<0.001	<0.001	<0.005	<0.001
SO4	mg/l	1	28	12	1980	<1
Sr	mg/l	0.001	0.016	0.023	0.135	<0.001
Th	mg/l	0.001	<0.001	<0.001	0.03	<0.001
Tl	mg/l	0.001	<0.001	<0.001	<0.005	<0.001
U	mg/l	0.001	<0.001	<0.001	0.015	<0.001
Zn	mg/l	0.005	0.755	0.661	8.25	<0.005

< : element at or below analytical detection limit.

**** : scaled by 5 x magnitude***

Annexure 2.8 - Four-Stage Water Extraction Results

Table 16: Chemical Composition of Batch Water Extractions for Selected Samples

Parameter	Detection Limit	Sample ID								
		28103-1	28103-2	28103-3	28103-4	28104-1	28104-2	28104-3	28104-4	Blank
		Heap Leach				Heap Leach				
		NAF				***PAF***				
pH	0.1	5.4	4.7	5.8	6.7	19.0	18.5	19.5	20.5	6.7
EC dS/m	0.001	0.1	0.1	0.1	0.0	1.4	0.8	0.4	0.3	0.001
Acidity mg/l	1	32	43	28	-	480	200	195	225	-
Alkalinity mg/l	1	-	-	-	19	-	-	-	-	-
Ag mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
Al mg/l	0.01	0.35	0.1	0.04	0.02	9.8	2	0.55	0.35	<0.01
As mg/l	0.001	0.005	0.003	0.001	0.001	0.025	0.01	0.005	<0.05	<0.001
B mg/l	0.05	0.29	0.22	0.18	0.13	1.9	1	0.8	0.65	0.07
Ba mg/l	0.001	1.28	0.725	0.561	0.598	2.585	3.19	1.085	0.995	<0.001
Be mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
Ca mg/l	1	4	2	2	1	25	10	5	<5	<1
Cd mg/l	0.0001	0.0027	0.0012	0.0006	0.0003	0.0275	0.0115	0.0055	0.0035	<0.0001
Cl mg/l	1	6	4	3	4	25	10	<5	<5	<1
Co mg/l	0.001	0.018	0.008	0.004	0.002	1.01	0.35	0.14	0.08	<0.001
Cr mg/l	0.001	0.003	0.001	<0.001	<0.001	0.08	0.015	<0.005	<0.005	<0.001
Cu mg/l	0.001	1.43	0.672	0.306	0.154	22.8	10.4	4.46	2.83	<0.001
F mg/l	0.1	0.3	0.2	0.2	0.2	2	1	<0.5	<0.5	<0.1
Fe mg/l	0.05	1.7	0.34	0.07	<0.05	39.65	9.3	1.9	1	<0.05
Hg mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0001
K mg/l	1	6	4	2	2	30	20	10	10	<1
Mg mg/l	1	4	2	1	<1	30	15	5	<5	<1
Mn mg/l	0.001	0.801	0.303	0.144	0.077	6.05	2.275	0.99	0.575	<0.001
Mo mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
Na mg/l	1	9	4	3	3	75	40	25	<5	<1
Ni mg/l	0.001	0.014	0.006	0.004	0.002	0.215	0.085	0.035	0.02	<0.001
P mg/l	1	<1	<1	<1	<1	<5	<5	<5	<5	<1
Pb mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
Sb mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
Se mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01
Si mg/l	0.1	8.7	9.5	7.4	6.8	44.3	44.2	34.1	31.1	0.06
Sn mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
SO4 mg/l	1	52	24	12	7	530	215	100	65	<1
Sr mg/l	0.001	0.054	0.018	0.011	0.008	0.285	0.14	0.08	0.05	<0.001
Th mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
Tl mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001
U mg/l	0.001	<0.001	<0.001	<0.001	<0.001	0.015	0.005	<0.005	<0.005	<0.001
Zn mg/l	0.005	1.43	0.73	0.452	0.292	13.05	5.9	2.645	1.78	<0.005

< : element at or below analytical detection limit.