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WIRRALIE GOLD MINE

Waste Rock Characterisation

Report Prepared for:
Wulguru Technical Services

Date:
September 2021

CLIENT: WULGURU TECHNICAL SERVICES
PROJECT: WIRRALIE GOLD MINE
REPORT: WASTE ROCK CHARACTERISATION
DATE: SEPTEMBER 2021



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SUMMARY OF RELEVANT INFORMATION

Project Title	Wirralie Gold Mine – Waste Rock Characterisation
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EXECUTIVE SUMMARY

C&R Consulting Pty Ltd (C&R) were commissioned by Wulguru Technical Services (WTS) to undertake a geochemical waste rock characterisation study of the Wirralie Gold Mine (Wirralie). This study will form part of the progressive rehabilitation and closure plan (PRCP) and associated estimated rehabilitation cost (ERC) that WTS are currently preparing on behalf of Wirralie's current owners, Solomons Gold Pty Ltd.

In accordance with the Queensland Department of Environment and Science (DES) *Guideline – Progressive rehabilitation and closure plans (PRC plans)* (DES, 2021), this waste rock characterisation study has been undertaken to:

“Characterise mine wastes in a report that describes the likely physical behaviour and chemical reactivity of the waste materials under the conditions in which they would be stored. The report must address the constituent elements present, and their likely future speciation and mobility.”

To achieve this, 155 rock/sediment samples were collected from 82 sampling locations, including the Wirralie waste rock dumps (WRDs), heap leach pad (HLP), former run-of-mine (ROM), haul road and tailings surface facility (TSF). These samples were tested in a National Association of Testing Authorities (NATA) accredited laboratory for a range of static and kinetic geochemical properties, including acid generation, salinity and metal/metalloid concentrations. The kinetic leach testwork is still ongoing and the results will be included in an updated version of this report. Therefore, the present report mostly pertains to the static geochemical results.

The undertaken static geochemical testwork identifies that all of the Wirralie waste rock samples have similar physical and geochemical characteristics, apart from those obtained from the TSF. This is to be expected given that most waste rock areas are constructed of the same lithology (volcaniclastic sediment), whereas the TSF waste consists of processed (mineralised) ore. The static geochemical results indicate that:

- All waste rock areas, including the TSF, are overwhelmingly (98%) non-acid forming;
- All waste rock areas, excluding the TSF, are not particularly saline (mean of 137 $\mu\text{S/cm}$), whereas the TSF has a much higher salinity (mean of 1,592 $\mu\text{S/cm}$) and may present salinity issues;
- All waste rock areas, including the TSF, have significant arsenic enrichment. However, all of the levels are still below the National Environment Protection Measure (NEPM) health-based investigation level (HIL) for 'Recreational C' (public open space scenario) of 300 mg/kg (National Environment Protection Council [NEPC], 2013); and
- All waste rock areas, excluding the TSF, are not particularly enriched with respect to any of the other metals/metalloids analysed.

Further to this, when comparing the TSF static testwork to the other waste rock areas:

- The arsenic enrichment in the TSF is more frequent and occurring at higher mean concentration of 114 mg/kg;
- The arsenic enrichment in the TSF is accompanied by mercury enrichment, although these mercury levels are still below NEPM HIL 'Residential A' (residential garden scenario) of 10 mg/kg (NEPC, 2013); and
- Historical static geochemical samples undertaken on the TSF were also significantly enriched with respect to arsenic, mercury, antimony and selenium (Environmental Geochemistry International [EGI], 2002).



The kinetic leach column (KLC) geochemical testwork that is currently underway will provide more insight into the future speciation and mobility of these enriched elements under current storage conditions. It is expected that arsenic enrichment in all waste areas, apart from the TSF, will be relatively immobile. This is due to the nature of the material (rock), as well as the fact that the rehabilitated WRD – capped with non-mineralised Tertiary clay – is displaying relatively low levels of arsenic enrichment (i.e. the clay has not adsorbed any arsenic to date).

The speciation and mobility of the saline and metal/metalloid components of the TSF are relatively undetermined and this report will need to be updated upon receipt of the KLC results. However, in the meantime, sampling of the surface waters ponding in the southwest of the TSF is highly recommended as it will provide important insight into the speciation and mobility of these aforementioned components under Wirralie conditions.

1. INTRODUCTION

1.1 BACKGROUND INFORMATION

C&R Consulting Pty Ltd (C&R) have been asked to undertake a geochemical waste rock characterisation study of the Wirralie Gold Mine (Wirralie), on behalf of Wulguru Technical Services (WTS). This study will form part of the progressive rehabilitation and closure plan (PRCP) and associated estimated rehabilitation cost (ERC) that WTS are currently preparing on behalf of Wirralie's current owners, Solomons Gold Pty Ltd.

Wirralie is located in north Queensland, approximately 210 km (280 km by road) south of Townsville and 40 km north of the historical gold mining township of Mt Coolon. Surface gold mineralisation was discovered at Wirralie by Australian Consolidated Minerals Limited in March 1986, with mining commencing in November 1987 (Fellows and Hammond, 1990).

Following the initial commencement of mining, a number of different owners acquired and mined the ore body between 1987 and 1993 – and between 1999 and 2001. During this time, all mined ore was treated by an on-site, conventional carbon-in-leach (CIL) mill. The Wirralie site was placed into care and maintenance in January 2002. Subsequently, much of the site infrastructure was sold and removed from the site (Northern Resource Consultants [NRC], 2016).

The latest sale of Wirralie occurred in December 2013, when Solomons Gold Pty Ltd acquired the mining lease (ML1079) and facilities, with a view to recommence mining and processing operations. The current plan is to process the Wirralie ore by utilising converging CIL and heap-leach circuits supplying strip columns (NRC, 2016). These activities will be undertaken under the current environmental authority (EA) EPML00772413 (dated 28 October 2016).

In accordance with the Queensland Department of Environment and Science (DES, 2021), a waste characterisation assessment should be undertaken at Wirralie. This assessment will be a contributing factor when choosing appropriate rehabilitation strategies and suitable post-mining land uses.

1.2 SCOPE OF WORK

The PRCP guideline (DES, 2021) outlines the waste characterisation reporting requirement:

“Characterise mine wastes in a report that describes the likely physical behaviour and chemical reactivity of the waste materials under the conditions in which they would be stored. The report must address the constituent elements present, and their likely future speciation and mobility.”

In order to characterise the mine waste as per the PRCP guideline, this investigation employed the following scope of works:

- Review existing geological and geochemical data;
- Design a sampling programme to allow for accurate spatial representation of all mined materials (ore, overburden, tailings and accessible voids);
- Collate, validate and statistically analyse geochemical test results from a National Association of Testing Authorities (NATA) accredited laboratory;
- Compile a waste rock characterisation dataset to consider the estimated mining waste streams and the environmental risk they may pose; and

CLIENT: WULGURU TECHNICAL SERVICES
PROJECT: WIRRALIE GOLD MINE
REPORT: WASTE ROCK CHARACTERISATION
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- Conduct a waste rock characterisation study to provide supporting evidence for the rehabilitation requirements to support the submission of the Wirralie ERC.

2. SITE DESCRIPTION

Wirralie is an open-cut gold mining operation located within the Whitsunday Regional Shire in north Queensland, approximately 40 km north of Mt Coolon (Figure 1). Mining commenced in 1987 and continued on a periodic basis until January 2002, when the mine was placed on care and maintenance. All mining activities undertaken at Wirralie are permitted under the EA EPML00772413 (dated 28 October 2016).

2.1 CLIMATE

Wirralie is located within the seasonally arid tropics, with the area dominated by intense rainfall events throughout the summer months. These rainfall events are often highly variable in their spatial and temporal distribution, with the majority of the rain falling in distinct, spatially separated cells across the landscape. Rainfall throughout the remainder of the year is generally limited to an occasional shower in June or July and evaporation tends to exceed rainfall for almost all days of the year, with the exception of periods with intense rainfall events. The Wirralie operations are exposed to this seasonal rainfall, where it is expected that more than 90% of the rainfall will eventuate as either surface runoff or waste dump seepage.

2.2 GEOLOGY

The Wirralie deposit is located in the northeastern portion of the Drummond Basin, within the Late Devonian Mount Wyatt Formation (Olgers, 1972). Olgers (1972) recognised that the Mount Wyatt Formation is connected to the earliest Drummond Basin depositional cycle, associated with marine and continental sedimentation followed by widespread volcanism. Locally at Wirralie, the Mount Wyatt Formation comprises volcanoclastic sediments, with subordinate, interbedded lapilli and crystal tuffs (Fellows and Hammond, 1990).

Gold-silver mineralisation at Wirralie is hosted by a low sulphidation, epithermal quartz vein complex, associated with the Mt Wyatt Formation. Host rock lithology is predominantly volcanoclastic sediments (with minor tuff), containing a network of quartz-chalcedony veins and quartz matrix breccia veins (Fellows and Hammond, 1990). The host rock lithology is principally volcanoclastic in origin. Therefore, for the purpose of this waste rock characterisation study, the waste rock is inferred to be entirely composed of the same unit: volcanoclastic sediments with silicified veins and/or breccia.

A series of stratified hydrothermal alteration assemblages surround the Wirralie ore body. Argillic alteration comprised of illite (with interstitial smectite), kaolinite and minor limonite occurs in the oxide zone rocks, whereas phyllic alteration composed of quartz, sericite, pyrite (or iron oxide) and clay is present within the ore body itself (Fellows and Hammond, 1990). Propylitic alteration – including quartz, siderite and calcite – is constrained below both the base of oxidation and Wirralie ore body (Fellows and Hammond, 1990), and has yet to be intersected by mining. Most of the hydrothermal alteration in the Wirralie mining area is clay +/- quartz and/or pyrite (or iron oxide). Alteration was therefore not considered a significant factor in this waste rock characterisation study.

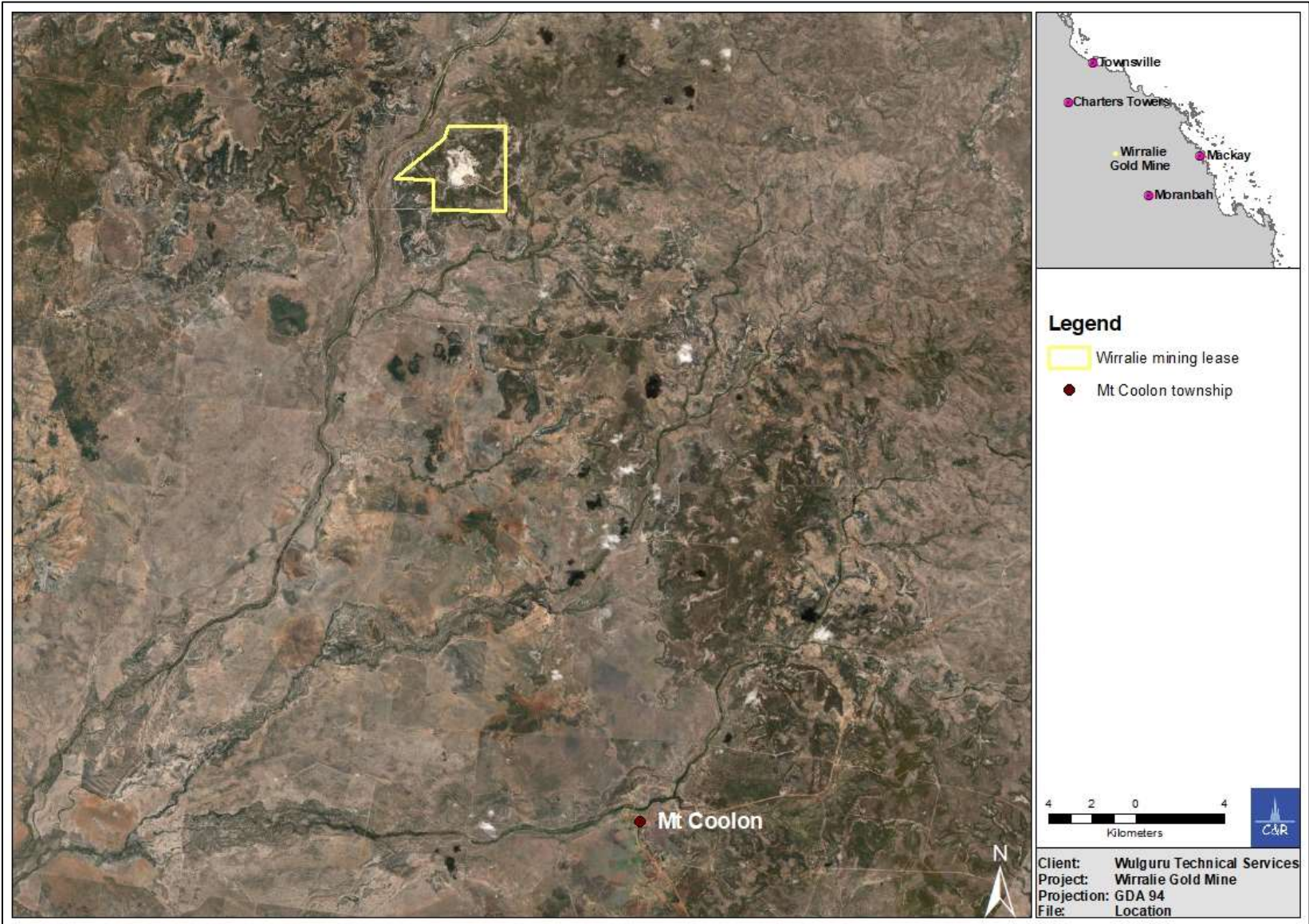


Figure 1: Location of Wirralie operations.

2.3 WASTE AREAS

2.3.1 DESKTOP REVIEW

The relevant waste areas for this investigation were identified as the waste rock dumps (WRDs), heap leach pad (HLP) and tailings surface facility (TSF; Figure 2).

Note: The runoff dam and open-cut pits are not assessed in this waste characterisation study. This is because both are categorised in the Wirralie EA (Schedule F – Table 1) as post-mine land classification *Class VIII - Land not suitable for agricultural or grazing uses* (Department of Mines and Energy [DME], 1995) and should be rehabilitated accordingly.

2.3.2 WASTE CHARACTERISATION SAMPLING STRATEGY

The waste characterisation sampling programme for Wirralie was guided by Australian technical guidelines for the geochemical assessment of mining wastes (DME, 1995; Department of Environment and Heritage Protection [DEHP], 2013; Commonwealth of Australia [COA], 2016). The DME (1995) guideline recommends that the tonnage of mined material determine the sampling interval, whereas the more recent guidelines favour a risk-based approach.

The waste characterisation sampling strategy for Wirralie incorporated the collection of samples from regular intervals in drill holes on the WRDs and HLP – in order to reach to the estimated depth of these piles. The TSF waste was sampled differently: A trowel was used to sample the surface crust and a push-tube was used to sample the tailings to depth.

Standards Australia (2005) was used to validate the Wirralie sampling methodology. This standard corroborated that the Wirralie sampling methodology would provide a good statistical and spatial representation of the potentially contaminated waste material across the Wirralie site.

The proposed Wirralie waste characterisation sampling locations are presented in Figure 3.

2.3.3 FIELD SAMPLING LOCATIONS

The proposed Wirralie waste characterisation sampling locations were not the final field sampling sites. The original, proposed locations were chosen based on the desktop review (section 2.3.1) which did not take into account accessibility issues or ground-truth the extent of the WRDs. Therefore, when the site was accessed for field sampling in July 2021, it became evident that not all of the designated rehabilitated WRD was waste and some intended sampling areas (including portions of the HLP, rehabilitated WRD and TSF) were inaccessible due to surface constraints. As a result, these areas were not sampled (Figure 4).

During the fieldwork, it was also determined that additional areas required sampling, including the former run-of-mine (ROM) pad that was built out of waste rock material, and parts of the haul road that were sheeted with waste material. Therefore, additional sampling was undertaken in these areas (Figure 4).

A comparison between the proposed and actual sampling programme is presented in Table 1.

Table 1: Summary of Wirralie waste characterisation samples.

Waste Area	Proposed Sampling Programme					Actual Sampling Programme				
	Area (hectares)	Estimated Depth* (metres)	Estimated Tonnage# (tonnes)	Proposed Number of Locations	Proposed Number of Samples	Area (hectares)	Estimated Tonnage (tonnes)	Actual Number of Locations	Actual Number of Samples	Comment
WRD01	1.7	10	340,000	5	13	1.7	340,000	5	11	-
WRD02	3.2	10	640,000	9	23	3.2	640,000	8	13	-
WRD03	6.1	5	610,000	13	24	6.1	610,000	12	29	-
Rehabilitated WRD	14.3	10	2,860,000	32	86	8.3	1,660,000	16	31	6.0 ha of rehabilitated WRD identified as natural landform (non-WRD), and 2.2 ha of rehabilitated WRD was inaccessible
Heap leach pad (HLP)	9.6	10	1,920,000	21	57	9.6	1,920,000	7	7	Most of the HLP pad (9.5 ha) was inaccessible
Tailings surface facility (TSF)	72.2	2	2,599,200	37	67	72.2	2,599,200	27	50	20.5 ha of saturated part of TSF (in the southwest) was inaccessible
Former run-of-mine (ROM) pad	2.3	10	460,000	-	-	2.3	460,000	5	12	Former ROM identified as waste rock
Haul road	-	-	-	-	-	-	-	2	2	Parts of the haul road were sheeted with waste material
TOTAL	109.4	-	9,429,200	117	270	103.4	8,229,200	82	155	6.0 ha identified as non-WRD and 32.2 ha was inaccessible^

* Estimated depths based on desktop review of artificial landform high-points versus surrounding natural topography (tiering of dumps, pads and tailings have not been considered).

Estimated tonnage based on area, estimated (high-point) depth and estimated density of the waste material (2.0 t/m³ for waste rock and 1.8 t/m³ for tailings).

^ Refer to Figure 4 for overview of non-WRD and inaccessible areas.

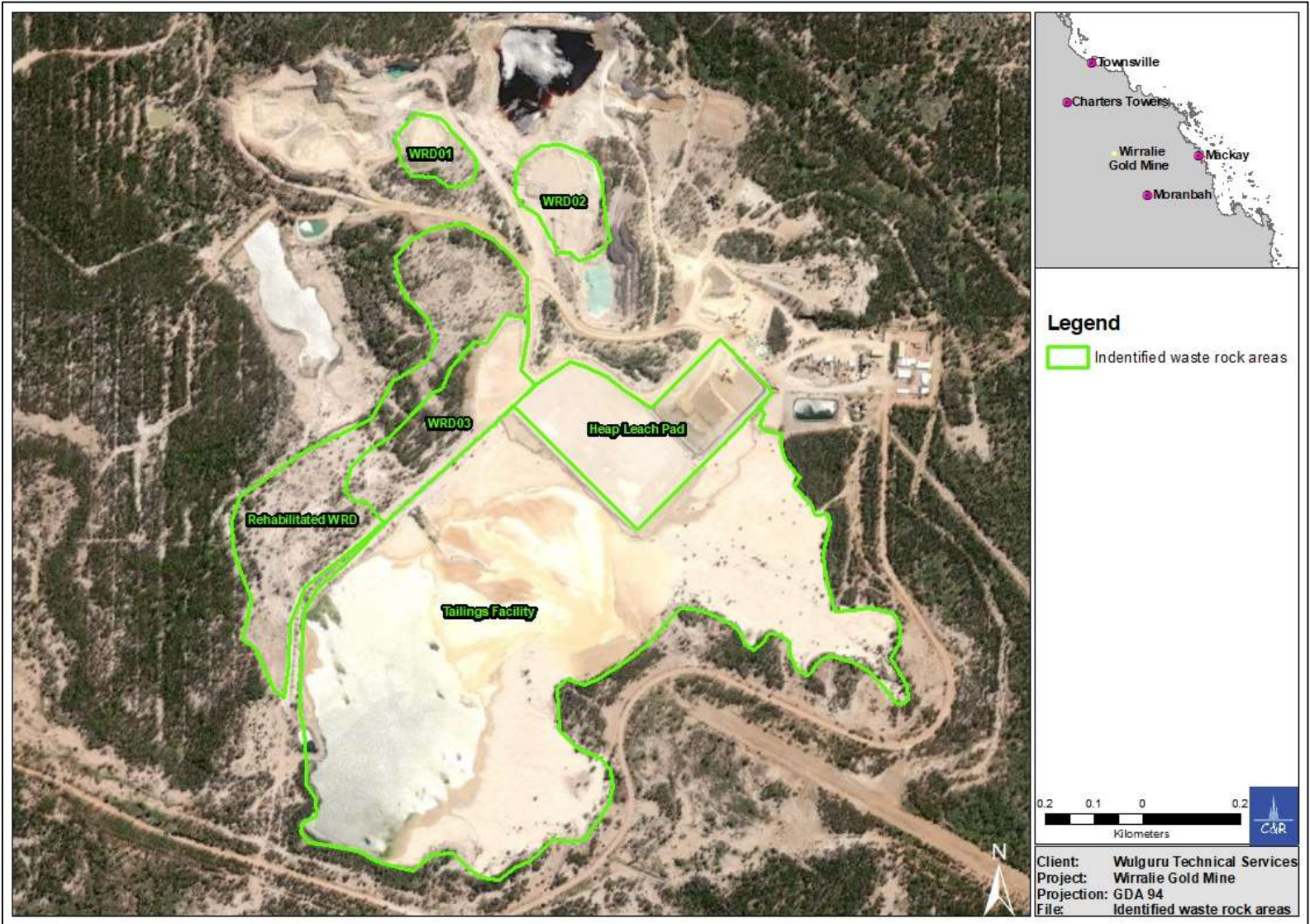


Figure 2: Waste rock areas identified by the desktop review.

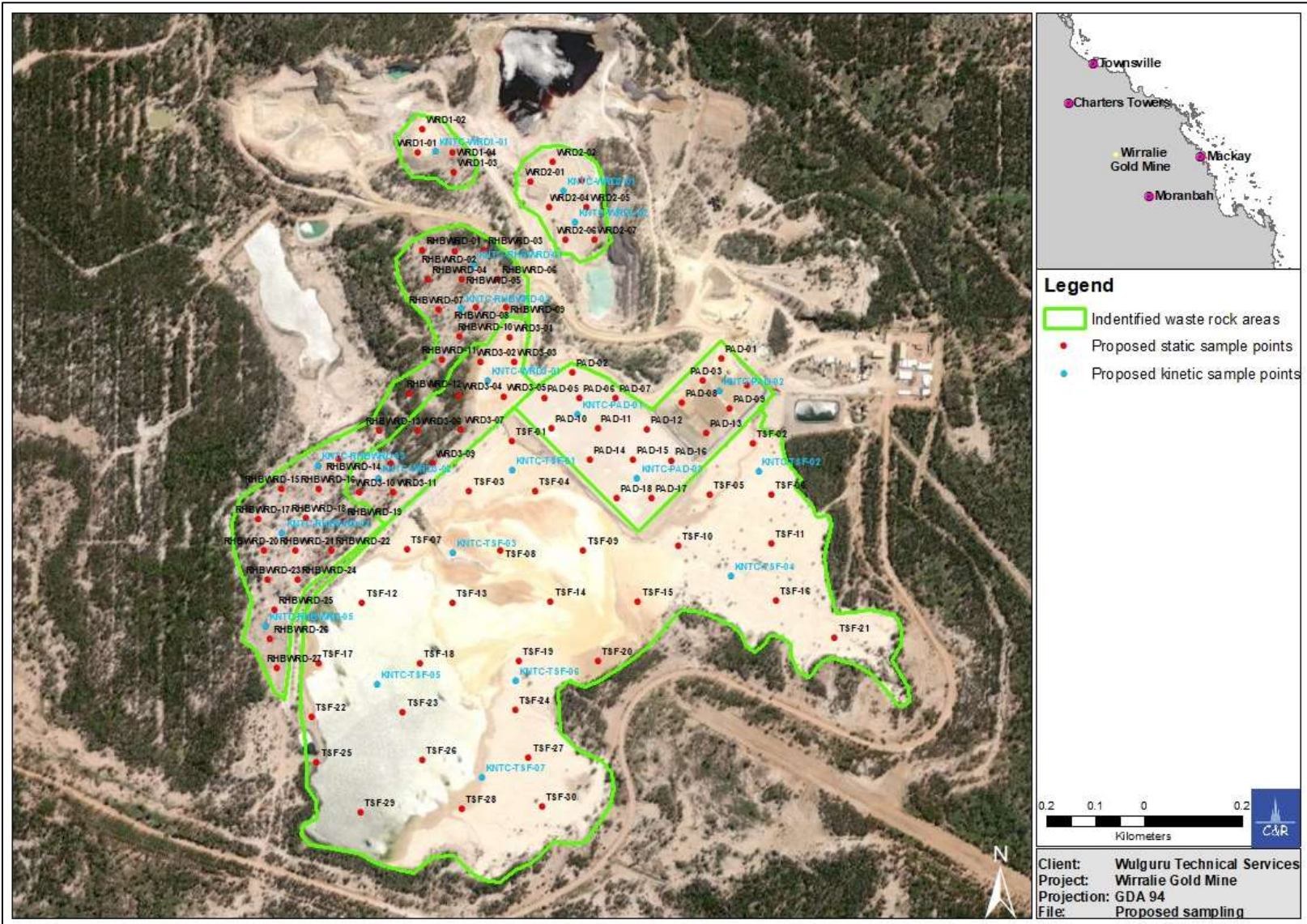


Figure 3: Proposed sampling locations.

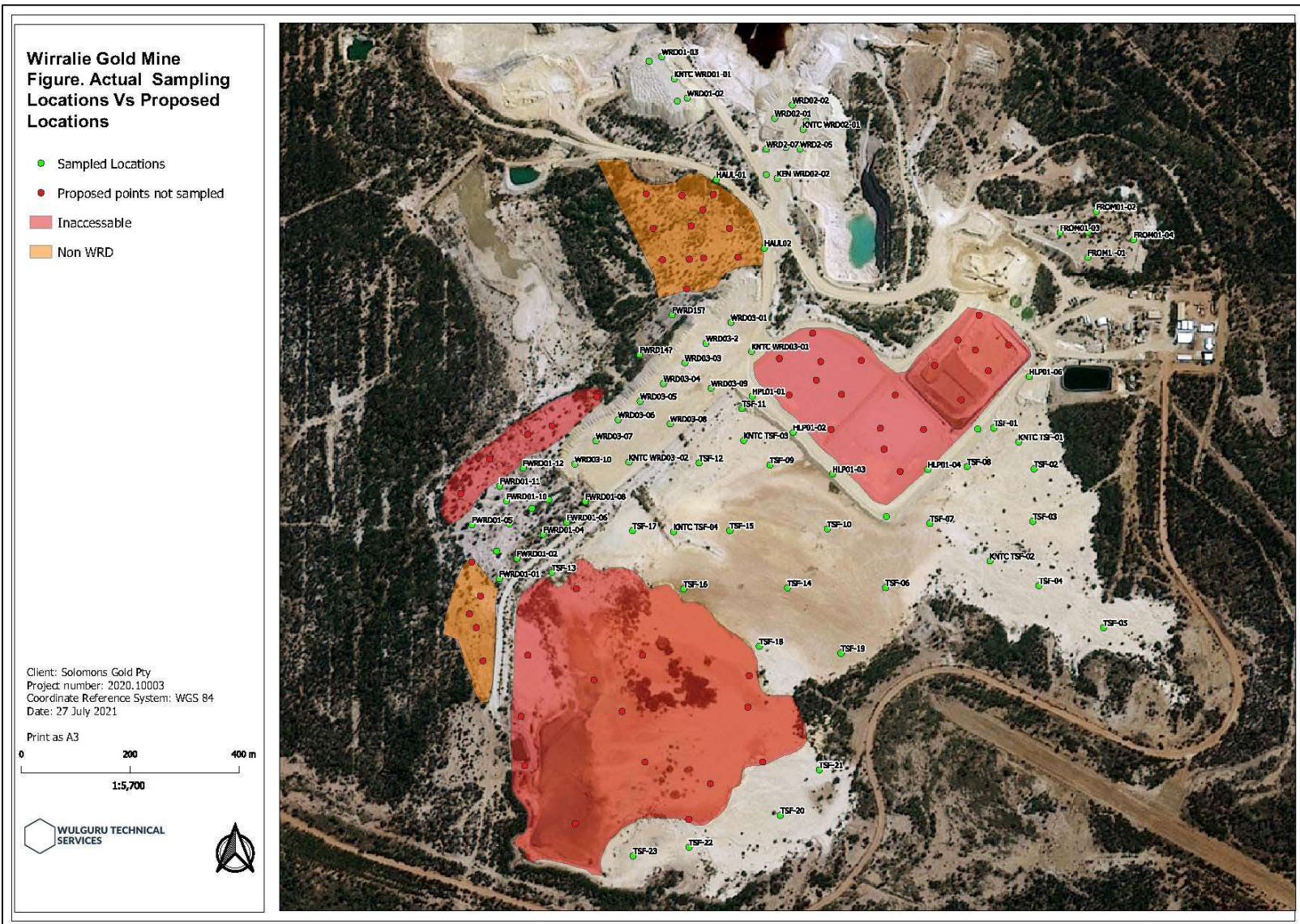


Figure 4: Actual sampling locations vs proposed locations. Figure sourced from Wulguru Technical Services (who undertook actual sampling programme).

3. METHODS

3.1 SAMPLING PROGRAMME

A total of 155 rock/sediment samples were collected from 82 sampling locations at Wirralie (Figure 4). These samples provide a good overall representation of the Wirralie waste material (waste rock and mine tailings), whilst maintaining a suitable site distribution.

Each sample consisted of either drillhole rock cuttings, (trowel) scoops of crust or push-tube sediments. The drillhole cuttings were obtained from the WRD, HLP, former ROM and haul road, whereas the crustal scoops and push-tube sediments were taken from the TSF (Table 2).

Table 2: Summary of Wirralie waste material sample types.

Sample Type	Area	Number of Samples Taken
Drillhole cuttings	WRD01	11 (from 5 holes)
	WRD02	13 (from 8 holes)
	WRD03	29 (from 12 holes)
	Rehabilitated WRD	31 (from 16 holes)
	Former run-of-mine (ROM) pad	12 (from 5 holes)
	Heap leach pad (HLP)	7 (from 7 holes)
	Haul road	2 (from 2 holes)
Trowel scoops	Tailings surface facility (TSF)	23
Push-tube sediments	TSF	27

All waste material samples were collected by WTS personnel during July 2021. The minimum amount of sample collected was 500 g, with up to 10 kg obtained for kinetic testwork. All samples were dispatched to the ALS Environmental Townsville laboratory for geochemical analysis.

3.2 GEOCHEMICAL CHARACTERISATION

The geochemical testwork was based on industry-recognised procedures for the geochemical characterisation and assessment on mine waste (AMIRA, 2002; The International Network for Acid Prevention [INAP], 2014; COA, 2016).

3.2.1 STATIC TESTWORK

Static geochemical tests provide information on the bulk geochemical characteristics of samples at a single point in time. They do not provide information on rates of chemical processes – or the release rates due to weathering processes.

All 155 samples dispatched to the ALS laboratory underwent static geochemical testing to evaluate the risk associated with the potential oxidation of sulphides, acid generation, and the presence of metals/metalloids and salts.

Each sample underwent static geochemical testing for:

- pH;
- Electrical conductivity;
- Moisture;
- Total sulphur;
- Acid neutralising capacity;
- Net acid generation capacity;
- Net acid producing potential; and
- Total metals/metalloids for Al, As, B, Ba, Be, Cd, Co, Cr, Cu, Fe, Hg, Mn, Ni, Pb, Se, V and Zn.

All static geochemical results are provided in Appendix A.

3.2.2 KINETIC LEACH COLUMN TESTWORK

Kinetic leach column (KLC) tests accelerate the weathering of samples, and provide information on the magnitude and/or effects of dynamic processes that result from weathering. Unlike static tests, KLC tests measure the varying geochemical characteristics of sample effluent over a prolonged period of time.

The kinetic column leach testwork is currently undertaken at ALS Environmental. Associated results will be reported at a later date because the testwork can take up to six months to complete. At the completion of the KLC testwork, C&R will update the present report by including the new results.

4. GEOCHEMICAL RESULTS

4.1 ACID BASE ACCOUNT

4.1.1 PH VALUE

The pH value of the 155 Wirralie waste rock samples ranges from strongly acidic (3.6) to slightly basic (9.7), with a slightly acidic median pH value of 4.9. The standard deviation (SD) of the dataset is 1.9 and the data are negatively skewed. In general, most Wirralie samples are in the slightly acidic range (Figure 5), indicative of the waste rock lithology (volcaniclastic sediments). Apart from a few waste rock dump samples, the majority of the strongly acidic samples occur in the sediments below the surface of the tailings dam.

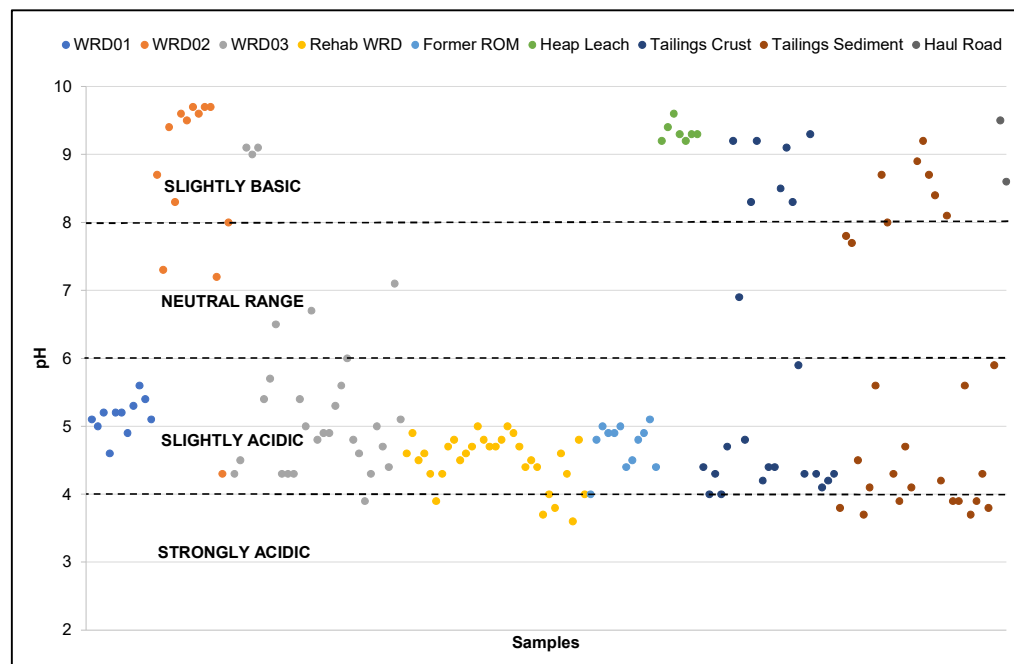


Figure 5: pH values for Wirralie waste rock samples.

Because of the method of testwork (i.e. fluid extract from crushed samples, with a very high surface area to solution ratio), it is expected that both the low and high pH results in the waste rock are a worst-case scenario. Therefore, it is envisaged that the pH of runoff from the Wirralie operations will not be as low or high as that reflected in the waste rock sample test results. Also, in order for significant runoff to occur at Wirralie, the rainfall dilution factor should be greater than the 1:5 (soil:water ratio) used in the extract solutions. This, in turn, would counteract the resulting acidity or alkalinity.

4.1.2 ELECTRICAL CONDUCTIVITY

The electrical conductivity (EC) of the 155 Wirralie waste rock samples ranges from 8 $\mu\text{S}/\text{cm}$ to 4,860 $\mu\text{S}/\text{cm}$ and has a low median value of 204 $\mu\text{S}/\text{cm}$. Most Wirralie waste rock samples have low EC values (<300 $\mu\text{S}/\text{cm}$) and, apart from the tailings dam samples, all waste rock has ECs below 1000 $\mu\text{S}/\text{cm}$ (Figure 6).

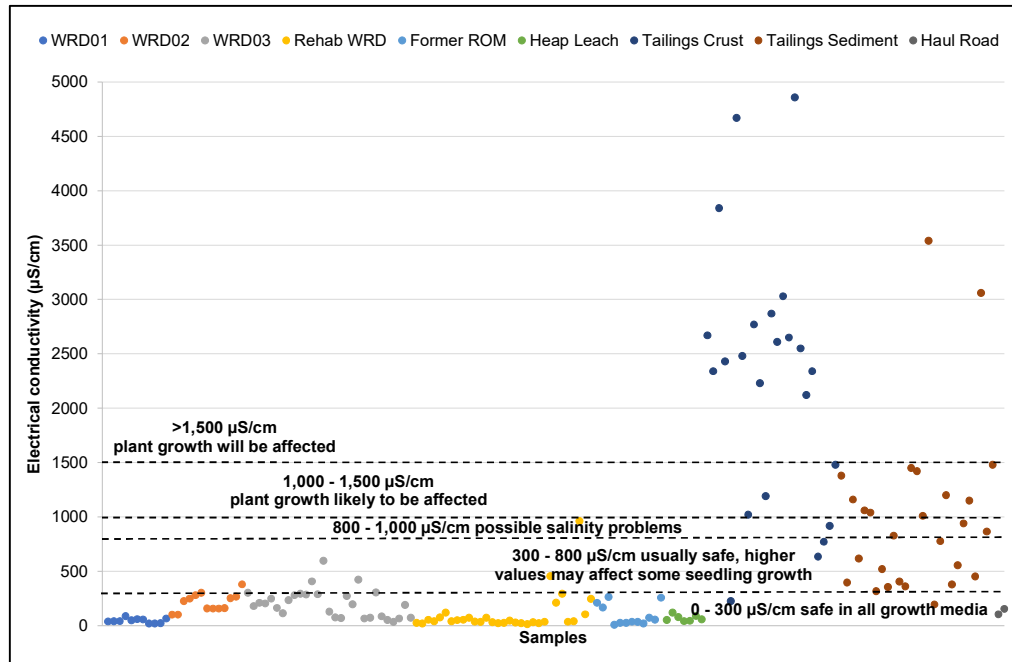


Figure 6: Electrical conductivity for Wirralie waste rock samples.

The Wirralie tailings dam samples have overall higher ECs than the rest of the waste rock samples (Figure 6). In particular, the salinity of the surface crust of the tailings dam is much higher than the rest of the waste rock, including the tailings sediment contained below the crust.

4.1.3 TOTAL SULPHUR

The total sulphur concentrations (measured by LECO method) of the 155 Wirralie waste rock samples range from 0.01% to 0.60% and have an extremely low median of 0.07%.

Figure 7 demonstrates that most of the Wirralie waste rock is barren (<0.1%) with respect to total sulphur concentrations. Both WRD03 and the TSF have higher sulphur levels than the rest of the waste rock. However, most of these elevated sulphur concentrations are still classified as very low (<0.55%).

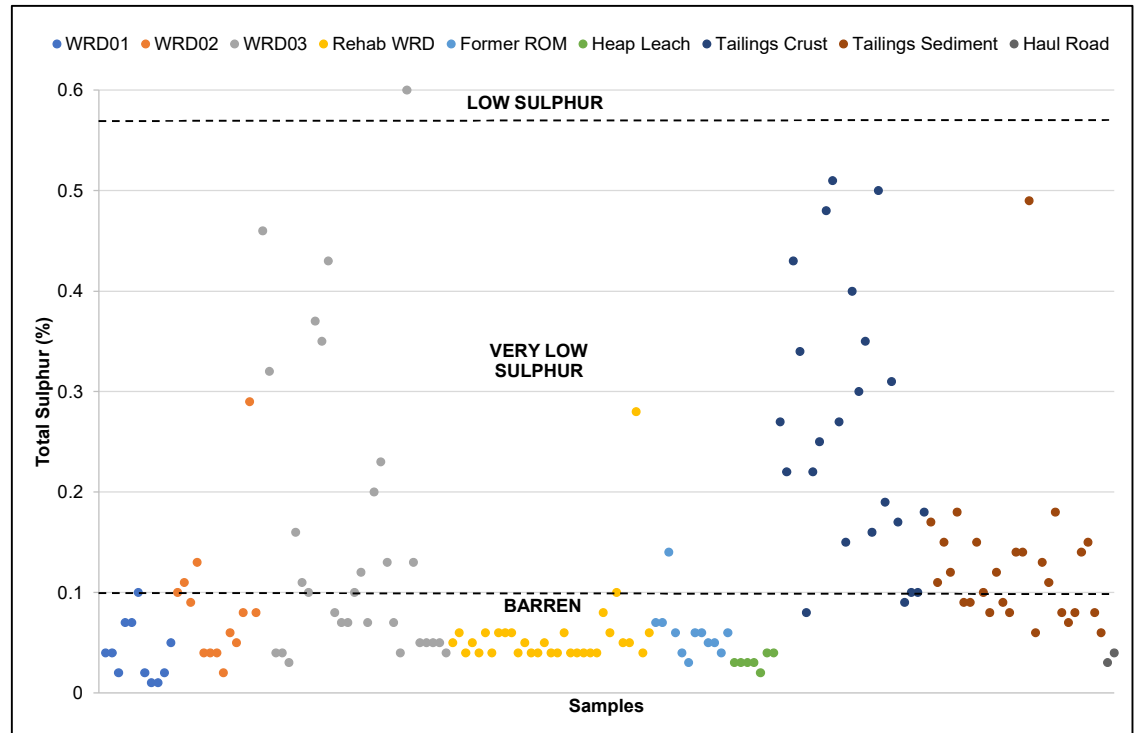


Figure 7: Total sulphur concentration for Wirralie waste rock samples.

4.1.4 MAXIMUM POTENTIAL ACIDITY

Maximum potential acidity (MPA) is the maximum amount of acid that can be produced by the oxidation of sulphur-bearing minerals in the waste rock material. MPA is calculated from the total sulphur content. The MPA – that could be generated by the 155 Wirralie waste rock samples – ranges from 0.3 to 18.4 kg H₂SO₄/t and has a low median value of 2.1 kg H₂SO₄/t.

4.1.5 ACID NEUTRALISING CAPACITY

Acid neutralising capacity (ANC) is related to the amount of acid neutraliser (usually carbonate minerals) in the waste rock sample. ANC is determined experimentally by reacting a standardised acid mixture with a known amount of waste rock sample – and is reported as kg H₂SO₄/t eq. (equivalent). The ANC of the 155 Wirralie waste rock samples ranges from 0.6 to 9.6 kg H₂SO₄/t eq., with a low median of 2.0 kg H₂SO₄/t eq.

4.1.6 ANC:MPA RATIO

The ANC:MPA ratio can assist in classifying the potential for waste rock samples to generate acid.

Generally speaking – and depending on the mineralogy – a sample with an ANC:MPA ratio below 1 is likely to be acid forming because it contains more acid-generating than acid-neutralising minerals. Samples with an ANC:MPA ratio of ≥ 1 but ≤ 2 have degree of uncertainty, whereas samples with an ANC:MPA ratio of > 2 are generally low risk. However there are exceptions because samples with an MPA of < 3.1 kg H₂SO₄/t are considered to contain insufficient acid forming potential (i.e. they are barren), and samples with an MPA of > 3.1 but < 10 kg H₂SO₄/t would, at worst, be classified as low capacity, potentially acid forming (PAF) material.

Wirralie waste rock samples have an ANC:MPA ratio ranging from 0 to 3.9, with a median value of 0.8. According to these ANC:MPA ratios, more than half of the Wirralie waste rock samples could be considered to be potentially acid forming. However, given the low MPA values, most of these samples are considered either barren or of low capacity with respect to acid forming potential (Figure 8). Additionally, most of the PAF material, identified using the ANC:MPA ratio, is associated with either WRD03 or the TSF.

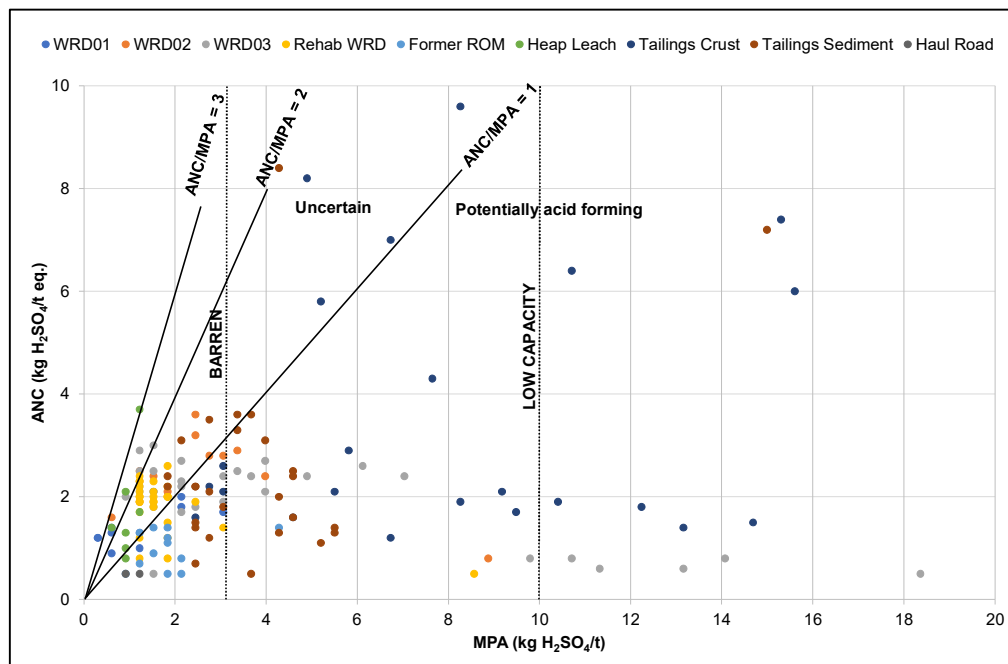


Figure 8: MPA versus ANC for Wirralie waste rock samples.

4.1.7 NET ACID PRODUCING POTENTIAL

Net acid producing potential (NAPP) is a theoretical calculation of the net acid producing (or consuming) value of a waste rock sample.

Generally speaking, waste rock samples with a negative NAPP value are non-acid forming (NAF), and those with a positive NAPP value are PAF. Miller (1997) provides further categorisation of waste rock material based on the magnitude of the NAPP value (Table 3).

Table 3: NAPP classification categories.

ARD Classification	NAPP Value (kg H ₂ SO ₄ /t)
Potentially Acid Forming (PAF)	> 10
Uncertain	0 to 10
Non-Acid Forming (NAF)	-50 to 0
Acid Consuming Material	< -50

Eight-five Wirralie waste rock samples have positive NAPP values. However, most of these positive samples are in the uncertain range, with only seven samples having values greater than 10. These are associated with either WRD03 or the TSF.

4.2 NET ACID GENERATION TEST

The net acid generation (NAG) test is used to directly measure the net amount of acid produced by a waste rock sample.

Generally speaking, samples with a $NAG_{(pH)}$ below 4.5 may be acid generating and samples with a $NAG_{(pH)}$ equal or greater than 4.5 (≥ 4.5) are unlikely to be acid generating. However, the NAG test does not estimate acid neutralisation potential. Therefore, AMIRA (2002) recommends the combined use of the NAPP values and the NAG results for a more detailed classification of acid generation.

Figure 9 demonstrates that most Wirralie waste rock samples have a $NAG_{(pH)}$ greater than 4.5 and are unlikely to be acid generating. There are still numerous uncertain samples (according to the NAPP). However, all of these uncertain samples can be confirmed as NAF based on their corresponding $NAG_{(pH)}$ and total sulphur values (Figure 10).

A summary of the $NAG_{(pH)}$ versus total sulphur geochemical classification criteria for the waste rock samples is presented in Table 4.

Table 4: Geochemical classification criteria for Wirralie waste rock samples (Sed. = sediment).

Geochemical Classification	Total Sulphur (%)	$NAG_{(pH)}$	WRD01	WRD02	WRD03	Rehab WRD	Former ROM	Heap leach	TSF Crust	TSF Sed.	Haul road
NAF (barren)	≤ 0.1	-	11	10	15	30	11	7	4	12	2
NAF (very low sulphur)	>0.1 to ≤ 0.55	≥ 4.5	0	3	11	0	1	0	19	15	0
NAF (low sulphur)	0.55 to 1.5	≥ 4.5	0	0	0	0	0	0	0	0	0
PAF (very low sulphur)	0.1 to ≤ 0.55	< 4.5	0	0	1	1	0	0	0	0	0
PAF (low sulphur)	0.55 to 1.5	< 4.5	0	0	1	0	0	0	0	0	0
Percentage of NAF samples			100%	100%	93%	97%	100%	100%	100%	100%	100%
Percentage of very low sulphur PAF samples			0%	0%	3.5%	3%	0%	0%	0%	0%	0%
Percentage of low sulphur PAF samples			0%	0%	3.5%	0%	0%	0%	0%	0%	0%

Applying the $NAG_{(pH)}$ and total sulphur geochemical classification criteria (Table 4), it can be shown that most waste characterisation samples (including that of the TSF) are NAF (Figure 10).

Of the 155 Wirralie waste rock samples, there are only three samples that could be categorised as PAF when the $NAG_{(pH)}$ and total sulphur values are considered:

- Two samples on WRD03, both of which occur in the same hole; and
- One sample on the rehabilitated WRD.

These samples make up less than 4% of the total sample size for their respective areas – and their sulphur values are still very low to low. It is therefore expected that these three samples will not present an acid drainage issue because:

- The amount of produced acid will be negligible; and
- Any acid produced by the samples will be buffered by the surrounding NAF rock that makes up more than 90% of the waste rock.

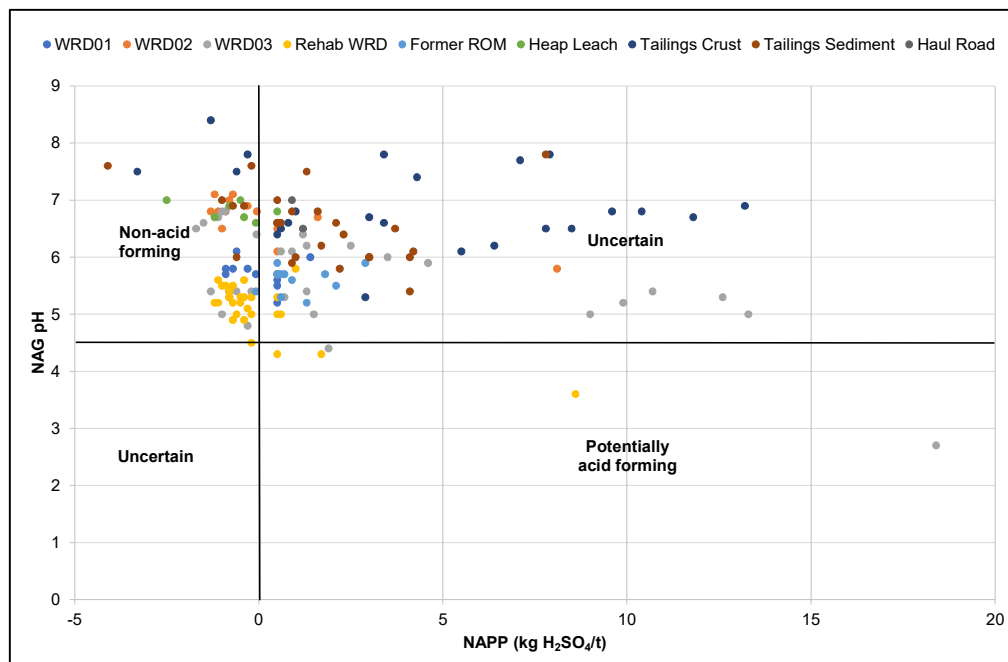


Figure 9: $NAG_{(pH)}$ versus NAPP for Wirralie waste rock samples.

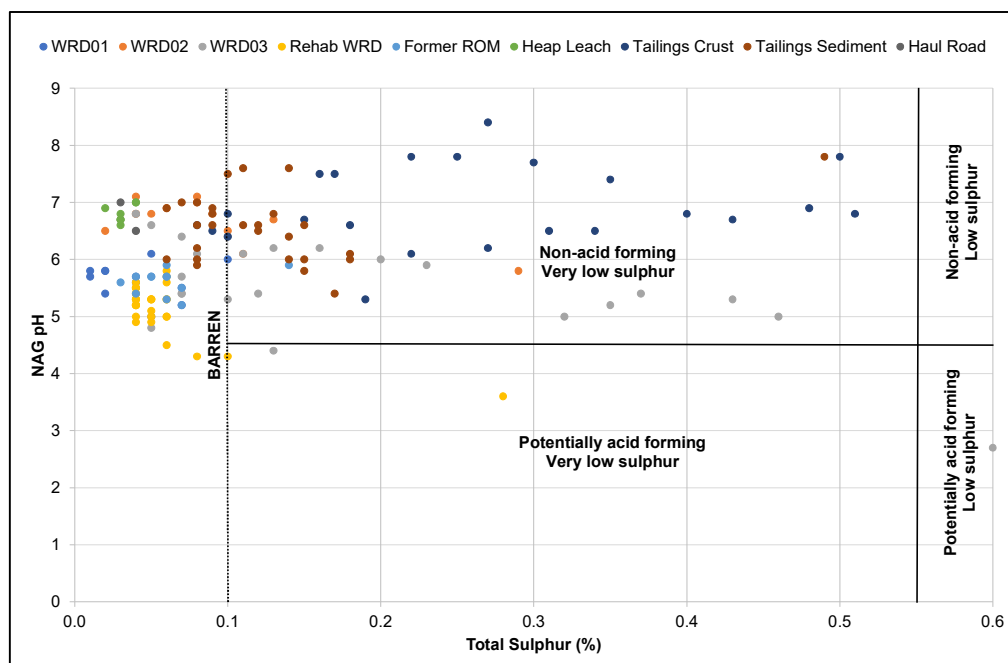


Figure 10: $NAG_{(pH)}$ versus sulphur for Wirralie waste rock samples.

4.3 METAL/METALLOID ANALYSES

Static multi-element scans were undertaken on the 155 Wirralie waste rock samples. This testwork was carried out to assess natural background elemental levels, and to identify if any

elements (particularly metals and metalloids) are present in the waste rock at concentrations that may be of environmental concern with respect to revegetation and water quality.

4.3.1 GEOCHEMICAL ABUNDANCE INDEX

The total metal and metalloid concentrations in the waste rock can be compared to the average crustal abundance of unmineralised soils (INAP, 2014). In this process, the geochemical abundance index (GAI) is used to report on the extent of elemental enrichment, by relating the actual concentration in a sample with the average crustal abundance on a log₂ scale (Table 5).

Table 5: Geochemical abundance index classification categories.

GAI	Enrichment Factor	Classification
<1	Less than 3-fold enrichment	Not enriched
1	3 – 6 fold enrichment	Not Enriched
2	6 – 12 fold enrichment	Slightly Enriched
3	12 – 24 fold enrichment	Significantly Enriched
4	24 – 48 fold enrichment	Significantly Enriched
5	48 – 96 fold enrichment	Highly Enriched
6	Greater than 96 fold enrichment	Highly Enriched

As a general guide, samples with a GAI of 3 or greater indicate enrichment that may warrant further investigation. However, elements identified as enriched may not necessarily be a reason for concern regarding revegetation and/or water quality because:

- The average crustal abundance varies between different literature sources;
- Some elements are more environmentally important than others;
(i.e. As, Al, Cr, Cd, Cu, Pb, Se and Zn are more important than Ca, Fe, Mg and Na);
- If a sample is shown to be enriched in a particular element, there is no direct correlation that the sample will leach the element at elevated concentrations; and
- The nature of an ore deposit means that the background levels for some elements are expected to be elevated.

Similarly, because an element is not enriched does not mean that it will never be a concern because – under certain conditions (e.g. low pH) – the solubility of some common, environmentally important elements (such as Al, Cu, Cd, Fe and Zn) will increase significantly.

Summaries of the multi-element scans and GAIs for the Wirralie waste rock samples are presented in Table 6. Beryllium, boron, cadmium and selenium were intentionally left out of these tables because all of the test results were below the limit of reporting (BLOR). Cobalt and lead were also intentionally left out because all but three cobalt results and one lead result were BLOR – and these four measurements were not enriched (as they all had a GAIs <1). Furthermore, any laboratory analyses that were reported as BLOR were not included in the statistical analysis (e.g. the Wirralie copper statistics were based on only 29 samples because the other 125 samples were BLOR). The BLOR data were purposely omitted to minimise bias in the GAI calculation and resulting statistics.

Table 6: Summary of multi-element analyses, results and geochemical abundance indices for Wirralie waste rock samples.

Element	Unit	Limit of Reporting	ACA*	n [#]	Concentration Statistics			NEPM Guideline HIL [~] Recreational C	GAI Statistics			
					Min.	Median	Max.		Min. GAI	Median GAI	Max. GAI	Number of GAIs ≥3
Aluminium	mg/kg	50	82,000	155	180	1,060	2,450	-	0	0	0	0
Arsenic	mg/kg	5	1.5	129	BLOR [^]	72	214	300	1	5	6	120
Barium	mg/kg	10	500	137	BLOR	30	280	-	0	0	0	0
Chromium	mg/kg	2	100	92	BLOR	6	19	300	0	0	0	0
Copper	mg/kg	5	50	29	BLOR	6	25	17,000	0	0	0	0
Iron	mg/kg	50	41,000	155	140	3,400	18,700	-	0	0	0	0
Manganese	mg/kg	50	950	67	BLOR	9	65	19,000	0	0	0	0
Mercury	mg/kg	0.1	0.05	64	BLOR	0.5	2.1	80	0	2	4	26
Nickel	mg/kg	2	80	53	BLOR	4	15	1,200	0	0	0	0
Vanadium	mg/kg	0.1	2.4	79	BLOR	8	38	-	0	0	0	0
Zinc	mg/kg	5	75	9	BLOR	7	36	30,000	0	0	0	0

* Average crustal abundance (Bowen, 1979).

[#] Number of reported measurements that were not below the limit of reporting.

[~] *National Environment Protection (Assessment of Site Contamination) Measure 1999 – Health-based investigation levels* (NEPC, 2013).

[^] Below limit of reporting.

Based on the GAI assessment of the Wirralie waste rock samples, it can be demonstrated that the waste rock at Wirralie is enriched with respect to arsenic – and to some extent mercury (Table 6). This is because 77% of the samples (including the BLOR samples) have an arsenic GAI ≥ 3 and 17% of samples have a mercury GAI ≥ 3 .

Figure 11 demonstrates that – apart from the tailings facility – there is no direct correlation between arsenic and mercury enrichment in the waste rock samples. Almost all of the tailings facility samples are enriched with respect to both arsenic and mercury. Apart from the tailings facility, mercury is only significantly enriched (GAI ≥ 3) in one WRD01 sample, whereas significant arsenic enrichments (GAI ≥ 3) frequently occur in all waste rock domains.

Arsenic enrichment is present in all of the waste rock samples at Wirralie. However, there is a substantial decrease of arsenic levels in the rehabilitated waste rock dump (Figure 11). The rehabilitated waste rock dump has been capped with Tertiary clay and most (80%) surface samples (<3 metres deep) obtained from the rehabilitated dump are registering arsenic values BLOR.

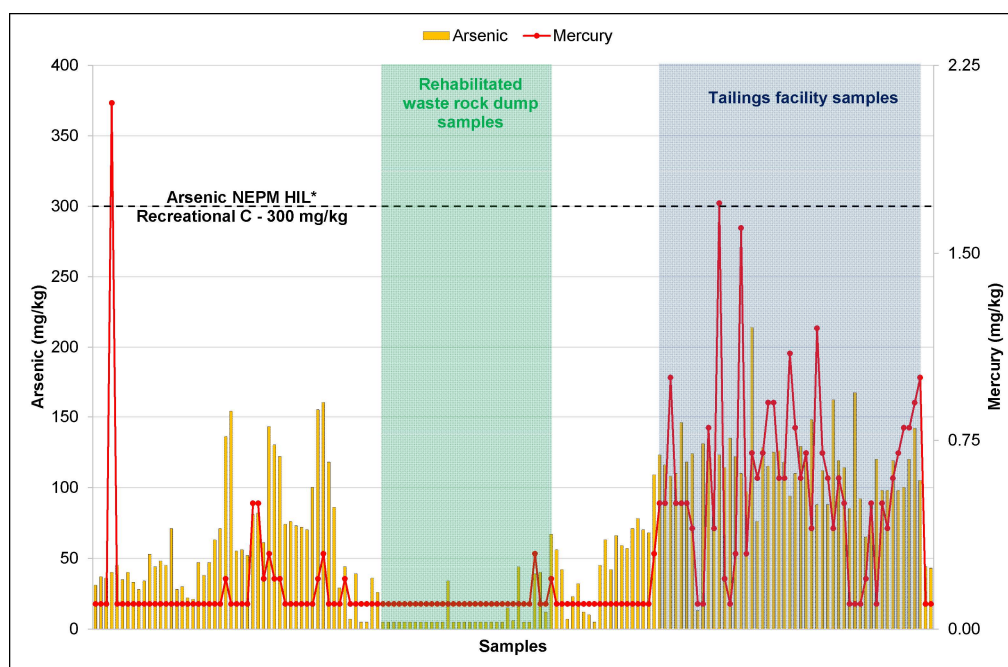


Figure 11: Total arsenic and mercury values for Wirralie waste rock samples (*NEPC, 2013).

The high arsenic values in the Wirralie waste rock are not a particular concern because they remain below the NEPM HIL for 'Recreational C' (public open space scenario) of 300 mg/kg (NEPC, 2013). The mercury enrichments are not a concern either because all mercury concentrations remain well below the HIL 'Residential A' (residential garden scenario) threshold of 10 mg/kg. For these aforementioned enrichments to be of environmental concern with respect to revegetation and water quality, a significant portion of the elements would need to be leached from the waste rock in order to enter the soil, surface water or groundwater.

4.4 KINETIC LEACH COLUMN WATER QUALITY ANALYSES

In order to understand the potential for the Wirralie waste rock to leach environmental contaminants into the surrounding environment, KLC testwork is currently being undertaken.

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Unlike static tests, KLC tests measure the varying geochemical characteristics of sample effluent over a prolonged period of time, providing a better indication of chemical reactivity of waste materials under the storage conditions.

The Wirralie kinetic column leach testwork is currently being undertaken at ALS Environmental and will be reported at a later date because the testwork can take up to six months to complete. At the completion of the KLC testwork, C&R will update the present report by including the new results.

5. CONCLUSION AND RECOMMENDATIONS

Most Wirralie waste rock samples demonstrate similar physical and geochemical characteristics. This is to be expected given that most sample sources have the same lithology. There is, however, a distinct difference between waste rock that occurs in the WRDs, HLP, former ROM, haul road and the waste rock contained in the TSF. The TSF contains processed (mineralised ore) waste and not just mined waste material, explaining the difference.

5.1 ACID MINE DRAINAGE

The acid base account results demonstrate that – although most pH values of the waste rock samples are slightly acidic – these results tend to be misleading due to the nature of the testwork (refer to section 4.1.1). It is expected that – under normal conditions (i.e. dissolution and erosion of the waste rock) – the pH of the surface runoff would not be as acidic as that represented by the 1:5 (pulverised soil:water) extracts.

The ANC:MPA ratio of the waste rock samples is generally low and it could be perceived that a lot of the Wirralie waste rock is PAF. However, both the MPA and ANC values of the waste rock samples are low ($< 20\text{kg H}_2\text{SO}_4/\text{t}$ or eq.). Therefore, the ANC:MPA ratios are only really demonstrating that the ANC of the waste rock is often much lower than the corresponding MPA.

Total sulphur concentrations in all waste areas – apart from the TSF – are mostly $< 0.1\%$ and therefore considered barren. However, there are some slightly elevated measurements (very low to low concentrations), particularly in WRD03 and the TSF (Figure 7). It can be shown that – although the TSF sample results are all NAF – there is a higher median concentration of sulphur in the TSF (0.15%) when compared with the rest of the waste rock areas (0.05%).

In order to adequately assess the potential acid forming properties of the waste rock, consideration has to be given to both the total sulphur concentration and $\text{NAG}_{(\text{pH})}$ of the waste rock samples. Total sulphur concentrations of all waste rock samples are either barren ($< 0.1\%$) or low ($< 0.55\%$), with only one slightly higher (0.6%) measurement recorded. Also, the $\text{NAG}_{(\text{pH})}$ of most waste rock samples is generally ≥ 4.5 . Thus, when assessed with the corresponding total sulphur concentrations, most (98%) of the Wirralie waste rock is considered NAF (refer to section 4.2). Of the 155 Wirralie waste rock samples, only 2% are classified as very low to low sulphur PAF (this amounts to 3 samples, as the other 152 are NAF). These PAF instances are considered rare – with a low acid generating potential – and are not representative of the dataset.

The overwhelming majority (98%) of waste rock samples at Wirralie are considered NAF (refer to Table 4). These samples represent material with a very low to low risk of acid generation and a high safety factor with respect to potential acid mine drainage (AMD).

5.2 SALINITY

The majority of EC measurements for the Wirralie waste rock samples – apart from the TSF – are generally low ($< 300\ \mu\text{S}/\text{cm}$). In contrast, the TSF waste rock samples tend to have much higher ECs, ranging from $195\ \mu\text{S}/\text{cm}$ to $4,860\ \mu\text{S}/\text{cm}$, with a median value of $1,175\ \mu\text{S}/\text{cm}$. Therefore, it is considered that there is a very low risk of salinity issues in all waste rock areas, apart from the TSF.

The TSF has the potential for salinity issues because a lot of the EC values are greater than 1,000 $\mu\text{S}/\text{cm}$. This is particularly evident with the TSF surface crust (Figure 6), which will have a higher potential for surface dissolution, erosion and transportability.

5.3 ELEMENTS

The Wirralie waste rock samples were assessed against the GAls for each individual analysed element. This assessment demonstrates that – although the waste rock is not significantly enriched with respect to the majority of the elements analysed (refer to section 4.3.1) – there is a definite enrichment of arsenic in all waste rock areas – and both arsenic and mercury in the TSF.

The significant arsenic enrichment in the Wirralie waste rock is most likely geological because it occurs in most of the volcanoclastic waste, but not the Tertiary clay (that has been used to cap the rehabilitated WRD). It is expected that arsenic enrichment may be common to the waste rock, although its mobility is unknown. The KLC tests that are currently underway will provide insight as to the mobility of the waste rock arsenic, under conditions similar to that encountered at Wirralie.

The significant mercury enrichments only occur in the TSF, apart from one sample taken from WRD01. Therefore, it is assumed that the mercury enrichment is associated with the ore rather than the mined waste, which is why it is almost entirely constrained to the TSF.

The high arsenic values in the Wirralie waste rock are not a particular concern because they remain below the NEPM HIL for 'Recreational C' (public open space scenario) of 300 mg/kg (NEPC, 2013). The mercury enrichments are not a concern either because all mercury concentrations remain well below the HIL 'Residential A' (residential garden scenario) threshold of 10 mg/kg. However, this is based on the assumption that these elements (arsenic and mercury) are not particularly mobile at Wirralie. This will need to be substantiated by the KLC testwork currently underway.

Although most of the Wirralie waste rock contains arsenic values below 100 mg/kg, the TSF regularly exceeds 100 mg/kg and these high concentrations are often accompanied by mercury (Figure 11). These high arsenic and mercury occurrences in the TSF have been identified in previous studies, where it was also shown that the TSF was enriched with respect to antimony and selenium (EGI, 2002). Therefore, it is assessed that metal/metalloid enrichment in the TSF is at a higher concentration and potential risk than that of the rest of the waste rock areas.

5.4 RECOMMENDATIONS

This geochemical investigation recognises that – apart from the TSF – all of the waste rock areas sampled for this report have similar physical and geochemical characteristics. As such, the risk profile for all areas (TSF excluded) are very similar. Therefore, apart from frequent arsenic enrichments (that need further clarification using KLC testwork), the anticipated risk with the storage of this type of waste material is considered to be very low to low.

The TSF has a different risk profile to the rest of the waste rock areas. When compared with the rest of the waste rock, the TSF has the following characteristics:

- Even though the waste rock samples are NAF, they contain more sulphur;
- Samples have elevated salinities (particularly on the crust of the TSF);
- Most samples have elevated arsenic and mercury concentrations;
- Previously sampling events (EGI, 2002) have identified antimony and selenium enrichments;



- The surface crust will be more prone to dissolution, erosion and transportability; and
- Due to the nature of the TSF waste (chemically processed material), the availability and mobility of metals/metalloids may be further enhanced.

It is recommended that – with respect to the TSF risk – further analysis is undertaken of the surface waters contained in the 20.5 ha of ponding in the southwest of the TSF. This analysis should be undertaken in order to understand the pH, salinity, future speciation and mobility of metals/metalloids in runoff and/or seepage from the TSF. Although the KLC tests will assist with this type of analysis, examination of the saturated section of the TSF would be more representative of the physical behaviour and chemical reactivity of the TSF waste under the Wirralie storage conditions.

6. REFERENCES

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Appendix A – Static Results

CERTIFICATE OF ANALYSIS

Work Order : **EB2121646**
Client : **C & R CONSULTING PTY LTD**
Contact : MR MATT KNOTT
Address : 188 ROSS RIVER ROAD
AITKENVALE QUEENSLAND 4812
Telephone : +61 07 47253751
Project : 2020.10003 - Solomons Gold Geochemistry
Order number : ----
C-O-C number : ----
Sampler : MATTHEW AYRE
Site : ----
Quote number : TV/110/21 v2
No. of samples received : 77
No. of samples analysed : 74

Page : 1 of 32
Laboratory : Environmental Division Brisbane
Contact : Princess Marcelo
Address : 2 Byth Street Stafford QLD Australia 4053
Telephone : +61-7-3243 7222
Date Samples Received : 02-Aug-2021 11:25
Date Analysis Commenced : 06-Aug-2021
Issue Date : 17-Aug-2021 16:47



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Inorganics, Stafford, QLD
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **SPLIT WORK ORDER:** It should be noted that ALS has split this work order over the following work orders (EB2121644, EB2121646) due to the size of the sample numbers. For any further information regarding this processing of samples please contact ALS client services division on ALSEnviro.Brisbane@alsglobal.com
- EG035T (Total Mercury): Sample TSF-03 0m and TSF-13 0m(EB2121646-023 and 043) shows poor matrix spike recovery due to sample heterogeneity. Confirmed by visual inspection.
- ASS: EA013 (ANC) Fizz Rating: 0- None; 1- Slight; 2- Moderate; 3- Strong; 4- Very Strong; 5- Lime.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HLP-01 0-2m	HLP-02 0-2m	HLP-03 0-2m	HLP-04 0-2m	HLP-05 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-001	EB2121646-002	EB2121646-003	EB2121646-004	EB2121646-005
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		9.2	9.4	9.6	9.3	9.2
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.08	<0.5	-1.2	-0.4	-0.8
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		52	119	79	42	45
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.6	6.8	6.7	6.7	6.9
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.5	1.2	1.1	1.0	0.2
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.0	0.8	2.1	1.3	1.4
ANC as CaCO3	----	0.1	% CaCO3		0.1	<0.1	0.2	0.1	0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		5.6	5.7	4.9	5.8	6.3
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.03	0.03	0.03	0.03	0.02
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		520	570	580	600	580
Arsenic	7440-38-2	5	mg/kg		66	59	57	71	78
Barium	7440-39-3	10	mg/kg		50	60	50	60	60
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		2160	2540	2680	2660	2730
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HLP-01 0-2m	HLP-02 0-2m	HLP-03 0-2m	HLP-04 0-2m	HLP-05 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-001	EB2121646-002	EB2121646-003	EB2121646-004	EB2121646-005
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HLP-06 0-2m	FROM01-01 0-3m	FROM01-01 3-6m	FROM01-01 6-9m	FROM01-02 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-006	EB2121646-007	EB2121646-008	EB2121646-009	EB2121646-010
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		9.3	4.0	4.8	5.0	4.9
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.5	1.3	2.1	2.9	<0.5
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		88	210	166	265	8
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		7.0	5.2	5.5	5.9	5.9
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		<0.1	1.8	2.0	1.4	1.3
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.7	0.8	<0.5	1.4	1.4
ANC as CaCO3	----	0.1	% CaCO3		0.2	<0.1	<0.1	0.1	0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		5.5	3.2	1.3	3.3	1.9
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.04	0.07	0.07	0.14	0.06
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		650	1790	1750	2070	1110
Arsenic	7440-38-2	5	mg/kg		70	67	56	42	7
Barium	7440-39-3	10	mg/kg		40	20	150	100	<10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	7	14	19	3
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		2720	4940	9520	18700	2610
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	23	47	<5
Nickel	7440-02-0	2	mg/kg		<2	3	12	15	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	24	22	18	19



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HLP-06 0-2m	FROM01-01 0-3m	FROM01-01 3-6m	FROM01-01 6-9m	FROM01-02 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-006	EB2121646-007	EB2121646-008	EB2121646-009	EB2121646-010
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	7	11	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.2	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FROM01-02 3-6m	FROM01-02 6-9m	FROM01-03 0-3m	FROM01-03 3-6m	FROM01-04 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-011	EB2121646-012	EB2121646-013	EB2121646-014	EB2121646-016
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.9	5.0	4.4	4.5	4.8
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		0.5	0.9	1.8	0.7	0.6
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		26	26	35	34	18
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.7	5.6	5.7	5.7	5.7
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		2.0	2.3	1.2	1.1	1.3
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		0.7	<0.5	<0.5	1.1	0.9
ANC as CaCO3	----	0.1	% CaCO3		<0.1	<0.1	<0.1	0.1	<0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		1.3	2.1	4.7	3.8	5.2
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.04	0.03	0.06	0.06	0.05
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1610	1520	1290	1190	1080
Arsenic	7440-38-2	5	mg/kg		23	32	12	10	<5
Barium	7440-39-3	10	mg/kg		30	50	10	20	20
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		13	12	6	5	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		3290	3540	5440	3800	1320
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		9	8	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		10	9	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		13	15	38	28	12



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FROM01-02 3-6m	FROM01-02 6-9m	FROM01-03 0-3m	FROM01-03 3-6m	FROM01-04 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-011	EB2121646-012	EB2121646-013	EB2121646-014	EB2121646-016
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FROM01-04 3-6m	FROM01-04 6-9m	TSF-01 0m	TSF-01 0-2m	TSF-02 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-017	EB2121646-018	EB2121646-019	EB2121646-020	EB2121646-021
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.9	5.1	4.4	3.8	4.0
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		<0.5	-0.08	6.4	4.1	5.5
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		71	55	2670	1380	2340
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.7	5.4	6.2	5.4	6.1
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		2.6	2.2	0.7	1.0	0.7
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.4	1.3	1.9	1.1	1.2
ANC as CaCO3	----	0.1	% CaCO3		0.1	0.1	0.2	0.1	0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		3.2	2.3	3.6	9.3	3.7
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.05	0.04	0.27	0.17	0.22
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1420	1370	1140	1260	1360
Arsenic	7440-38-2	5	mg/kg		45	63	109	126	123
Barium	7440-39-3	10	mg/kg		30	50	30	20	30
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		5	9	6	6	7
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	5	5	8
Iron	7439-89-6	50	mg/kg		3890	4850	6290	6990	6360
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	5	17	8	14
Nickel	7440-02-0	2	mg/kg		4	7	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		16	28	10	9	10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FROM01-04 3-6m	FROM01-04 6-9m	TSF-01 0m	TSF-01 0-2m	TSF-02 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-017	EB2121646-018	EB2121646-019	EB2121646-020	EB2121646-021
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	6
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	0.3	0.6	0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-02 0-2m	TSF-03 0m	TSF-03 0-2m	TSF-04 0m	TSF-04 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-022	EB2121646-023	EB2121646-024	EB2121646-025	EB2121646-026
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		7.8	4.3	7.7	4.0	4.5
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		<0.5	11.8	2.1	8.5	<0.5
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		396	3840	1160	2430	617
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.6	6.7	6.6	6.5	6.6
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.4	0.6	0.7	0.7	1.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		3.3	1.4	2.5	1.9	3.6
ANC as CaCO3	----	0.1	% CaCO3		0.3	0.1	0.2	0.2	0.4
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		15.3	6.6	14.0	5.3	12.4
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.11	0.43	0.15	0.34	0.12
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1110	970	1070	1220	1170
Arsenic	7440-38-2	5	mg/kg		118	116	94	108	110
Barium	7440-39-3	10	mg/kg		40	20	50	30	30
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		6	7	7	8	8
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		7	<5	6	6	6
Iron	7439-89-6	50	mg/kg		5580	5730	5390	6250	6830
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		28	19	23	25	65
Nickel	7440-02-0	2	mg/kg		2	2	2	3	4
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		6	6	5	7	9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-02 0-2m	TSF-03 0m	TSF-03 0-2m	TSF-04 0m	TSF-04 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-022	EB2121646-023	EB2121646-024	EB2121646-025	EB2121646-026
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	7	<5	5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.6	0.5	1.1	1.0	0.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-05 0m	TSF-05 0-2m	TSF-06 0m	TSF-06 0-2m	TSF-07 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-027	EB2121646-028	EB2121646-029	EB2121646-030	EB2121646-031
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.7	3.7	9.2	4.1	6.9
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		0.8	4.1	-0.3	-0.7	3.4
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		227	1060	4670	1040	2480
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.6	6.0	7.8	6.9	7.8
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.8	0.8	<0.1	0.2	<0.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.6	1.4	7.0	3.5	4.3
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.1	0.7	0.4	0.4
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		2.2	14.5	4.1	13.0	6.1
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.08	0.18	0.22	0.09	0.25
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		710	1270	1500	1220	1500
Arsenic	7440-38-2	5	mg/kg		110	129	146	121	118
Barium	7440-39-3	10	mg/kg		30	20	110	20	40
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		9	6	2	6	8
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		5	6	<5	5	7
Iron	7439-89-6	50	mg/kg		6720	6290	6350	6210	6290
Lead	7439-92-1	5	mg/kg		26	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		8	10	7	6	8
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		6	8	8	7	8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-05 0m	TSF-05 0-2m	TSF-06 0m	TSF-06 0-2m	TSF-07 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-027	EB2121646-028	EB2121646-029	EB2121646-030	EB2121646-031
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.5	0.6	0.5	0.7	0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-07 0-2m	TSF-08 0m	TSF-08 0-2m	TSF-09 0m	TSF-09 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-032	EB2121646-033	EB2121646-034	EB2121646-035	EB2121646-036
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		5.6	4.8	8.7	8.3	8.0
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		1.6	13.2	2.2	9.6	1.3
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		317	1020	520	2770	356
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.8	6.9	5.8	6.8	7.5
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.4	0.4	1.7	2.8	<0.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.2	1.5	2.4	6.0	1.8
ANC as CaCO3	----	0.1	% CaCO3		0.1	0.2	0.2	0.6	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.4	6.4	16.4	14.0	16.2
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.09	0.48	0.15	0.51	0.10
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1210	1350	1260	180	1100
Arsenic	7440-38-2	5	mg/kg		148	124	88	13	112
Barium	7440-39-3	10	mg/kg		20	40	20	<10	30
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		6	8	8	<2	7
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	6	6	<5	<5
Iron	7439-89-6	50	mg/kg		6250	6670	6250	520	5620
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	10	9	<5	16
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		7	8	8	<5	7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-07 0-2m	TSF-08 0m	TSF-08 0-2m	TSF-09 0m	TSF-09 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-032	EB2121646-033	EB2121646-034	EB2121646-035	EB2121646-036
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.4	0.4	1.2	<0.1	0.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-10 0m	TSF-10 0-2m	TSF-11 0m	TSF-11 0-2m	TSF-12 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-037	EB2121646-038	EB2121646-039	EB2121646-040	EB2121646-041
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		9.2	4.3	4.2	3.9	4.4
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-1.3	<0.5	3.0	3.7	10.4
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		2230	828	1190	405	2870
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		8.4	7.0	6.7	6.5	6.8
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		<0.1	0.2	1.1	1.2	1.0
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		9.6	2.2	1.6	<0.5	1.8
ANC as CaCO3	----	0.1	% CaCO3		1.0	0.2	0.2	<0.1	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		3.0	15.5	8.7	13.4	12.1
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.27	0.08	0.15	0.12	0.40
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1280	1080	1450	1320	1920
Arsenic	7440-38-2	5	mg/kg		131	88	121	162	96
Barium	7440-39-3	10	mg/kg		240	40	40	30	20
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	6	7	15	7
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	8	6
Iron	7439-89-6	50	mg/kg		6180	5440	7460	10300	5040
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		6	19	8	14	7
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		5	7	14	8	10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-10 0m	TSF-10 0-2m	TSF-11 0m	TSF-11 0-2m	TSF-12 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-037	EB2121646-038	EB2121646-039	EB2121646-040	EB2121646-041
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.1	0.6	0.8	0.4	0.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-12 0-2m	TSF-13 0m	TSF-13 0-2m	TSF-14 0m	TSF-14 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-042	EB2121646-043	EB2121646-044	EB2121646-045	EB2121646-046
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.7	4.4	4.1	8.5	8.9
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		0.6	7.1	1.7	4.3	-4.1
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		362	2610	1450	3030	1420
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.6	7.7	6.2	7.4	7.6
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.6	<0.1	1.0	<0.1	<0.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.1	2.1	0.7	6.4	8.4
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	<0.1	0.6	0.8
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		15.4	7.6	8.8	20.4	22.5
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.09	0.30	0.08	0.35	0.14
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1380	1710	1170	1580	1720
Arsenic	7440-38-2	5	mg/kg		119	123	114	114	85
Barium	7440-39-3	10	mg/kg		30	20	30	110	50
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		8	9	8	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	8	<2	<2	<2
Copper	7440-50-8	5	mg/kg		9	20	<5	<5	<5
Iron	7439-89-6	50	mg/kg		6660	6970	6170	4310	3080
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		15	41	<5	7	15
Nickel	7440-02-0	2	mg/kg		2	10	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		9	7	10	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-12 0-2m	TSF-13 0m	TSF-13 0-2m	TSF-14 0m	TSF-14 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-042	EB2121646-043	EB2121646-044	EB2121646-045	EB2121646-046
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	36	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.6	1.7	0.5	0.2	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-15 0m	TSF-15 0-2m	TSF-16 0m	TSF-16 0-2m	TSF-17 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-047	EB2121646-048	EB2121646-049	EB2121646-050	EB2121646-051
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		9.1	9.2	8.3	8.7	5.9
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-3.3	2.3	7.9	7.8	2.9
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		2650	1010	4860	3540	2550
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		7.5	6.4	7.8	7.8	5.3
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		<0.1	0.9	<0.1	<0.1	1.7
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		8.2	2.0	7.4	7.2	2.9
ANC as CaCO3	----	0.1	% CaCO3		0.8	0.2	0.8	0.7	0.3
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		19.8	22.6	21.8	23.6	4.7
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.16	0.14	0.50	0.49	0.19
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1800	1890	1870	1640	1190
Arsenic	7440-38-2	5	mg/kg		135	167	122	92	110
Barium	7440-39-3	10	mg/kg		100	100	140	210	20
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	2	<2	<2	9
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	8
Iron	7439-89-6	50	mg/kg		5510	6130	4860	3940	5840
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		6	6	7	6	12
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		5	7	5	<5	5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-15 0m	TSF-15 0-2m	TSF-16 0m	TSF-16 0-2m	TSF-17 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-047	EB2121646-048	EB2121646-049	EB2121646-050	EB2121646-051
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.1	0.1	0.3	0.1	1.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-17 0-2m	TSF-18 0m	TSF-18 0-2m	TSF-19 0m	TSF-19 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-052	EB2121646-053	EB2121646-054	EB2121646-055	EB2121646-056
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		8.4	4.3	4.2	9.3	8.1
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.4	7.8	0.9	-0.6	-0.2
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		195	2120	778	2340	1200
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.9	6.5	6.8	7.5	7.6
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.2	1.0	0.6	<0.1	<0.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.2	1.7	3.1	5.8	3.6
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.3	0.6	0.4
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		8.3	3.6	18.4	11.2	13.3
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.06	0.31	0.13	0.17	0.11
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		540	1000	1360	2190	1350
Arsenic	7440-38-2	5	mg/kg		65	97	90	214	120
Barium	7440-39-3	10	mg/kg		30	<10	30	50	110
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		10	6	7	2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	6	<5	<5	<5
Iron	7439-89-6	50	mg/kg		5710	4960	7840	10200	4470
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		18	13	11	<5	6
Nickel	7440-02-0	2	mg/kg		<2	2	2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		8	6	13	10	5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-17 0-2m	TSF-18 0m	TSF-18 0-2m	TSF-19 0m	TSF-19 0-2m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-052	EB2121646-053	EB2121646-054	EB2121646-055	EB2121646-056
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	0.3	0.5	0.7	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-20 0m	TSF-20 0-2m	TSF-21 0m	TSF-21 0-2m	TSF-22 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-057	EB2121646-058	EB2121646-059	EB2121646-060	EB2121646-061
					Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.3	3.9	4.1	3.9	4.2
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		0.6	4.2	<0.5	0.9	1.0
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		634	378	772	556	917
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.5	6.1	6.4	5.9	6.8
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.1	0.3	0.4	0.4	<0.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.2	1.3	2.6	1.5	2.1
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.1	0.3	0.1	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		2.0	8.8	3.0	9.2	4.4
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.09	0.18	0.10	0.08	0.10
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		590	800	1040	1070	980
Arsenic	7440-38-2	5	mg/kg		76	98	128	98	115
Barium	7440-39-3	10	mg/kg		<10	30	10	20	20
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		5	5	7	5	15
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	6	<5	9
Iron	7439-89-6	50	mg/kg		4180	5490	6900	5140	6450
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		9	8	20	6	13
Nickel	7440-02-0	2	mg/kg		<2	<2	3	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	7	6	6	6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TSF-20 0m	TSF-20 0-2m	TSF-21 0m	TSF-21 0-2m	TSF-22 0m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121646-057	EB2121646-058	EB2121646-059	EB2121646-060	EB2121646-061
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.6	0.5	0.7	0.4	0.9



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				TSF-22 0-2m	TSF-23 0m	TSF-23 0-2m	KNTC WRD01 -01 0-3m	KNTC WRD02 -01 0-6m
Sampling date / time				29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	EB2121646-062	EB2121646-063	EB2121646-064	EB2121646-065	EB2121646-066
				Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	5.6	4.3	3.7	5.1	8.0
EA009: Net Acid Production Potential								
Net Acid Production Potential	----	0.5	kg H2SO4/t	-1.0	3.4	1.0	-0.6	-1.2
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	940	1480	1150	65	380
EA011: Net Acid Generation								
pH (OX)	----	0.1	pH Unit	7.0	6.6	6.0	6.1	7.1
NAG (pH 4.5)	----	0.1	kg H2SO4/t	<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t	<0.1	0.3	0.3	1.3	<0.1
EA013: Acid Neutralising Capacity								
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t	3.1	2.1	1.4	2.1	3.6
ANC as CaCO3	----	0.1	% CaCO3	0.3	0.2	0.1	0.2	0.4
Fizz Rating	----	0	Fizz Unit	0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	9.4	5.9	8.2	1.8	3.4
ED042T: Total Sulfur by LECO								
Sulfur - Total as S (LECO)	----	0.01	%	0.07	0.18	0.08	0.05	0.08
EG005(ED093)T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	1200	1320	1190	830	840
Arsenic	7440-38-2	5	mg/kg	119	125	98	53	71
Barium	7440-39-3	10	mg/kg	30	20	30	30	30
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	8	9	7	4	4
Cobalt	7440-48-4	2	mg/kg	<2	2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	6	7	5	<5	<5
Iron	7439-89-6	50	mg/kg	6570	6400	5840	2630	2930
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg	15	36	6	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	4	<2	2	4
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	8	6	8	<5	<5



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				TSF-22 0-2m	TSF-23 0m	TSF-23 0-2m	KNTC WRD01 -01 0-3m	KNTC WRD02 -01 0-6m
Sampling date / time				29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	EB2121646-062	EB2121646-063	EB2121646-064	EB2121646-065	EB2121646-066
				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Zinc	7440-66-6	5	mg/kg	<5	7	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.6	0.9	0.7	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				KNTC WRD03 -01 0-4m	KNTC WRD03 -02 0-3m	KNTC FWRD01 -01 0-9m	KNTC HLP01 -01 0-2m	KNTC FROM01-01 0-9m
Sampling date / time				29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	EB2121646-067	EB2121646-068	EB2121646-069	EB2121646-070	EB2121646-071
				Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	7.1	5.1	4.0	9.3	4.4
EA009: Net Acid Production Potential								
Net Acid Production Potential	----	0.5	kg H2SO4/t	-1.5	-1.0	1.0	-2.5	0.6
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	190	71	246	58	257
EA011: Net Acid Generation								
pH (OX)	----	0.1	pH Unit	6.6	6.8	5.8	7.0	5.3
NAG (pH 4.5)	----	0.1	kg H2SO4/t	<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t	0.4	0.3	0.5	<0.1	1.2
EA013: Acid Neutralising Capacity								
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t	3.0	2.2	0.8	3.7	1.2
ANC as CaCO3	----	0.1	% CaCO3	0.3	0.2	<0.1	0.4	0.1
Fizz Rating	----	0	Fizz Unit	0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	3.5	4.2	1.7	5.3	1.3
ED042T: Total Sulfur by LECO								
Sulfur - Total as S (LECO)	----	0.01	%	0.05	0.04	0.06	0.04	0.06
EG005(ED093)T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	1520	1420	1230	490	1880
Arsenic	7440-38-2	5	mg/kg	36	26	12	68	42
Barium	7440-39-3	10	mg/kg	40	70	20	40	20
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	4	3	4	<2	12
Cobalt	7440-48-4	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg	5630	2160	1960	2610	4990
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg	<5	<5	<5	<5	10
Nickel	7440-02-0	2	mg/kg	<2	2	10	<2	8
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	27	10	7	<5	23



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				KNTC WRD03 -01 0-4m	KNTC WRD03 -02 0-3m	KNTC FWRD01 -01 0-9m	KNTC HLP01 -01 0-2m	KNTC FROM01-01 0-9m
Sampling date / time				29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	EB2121646-067	EB2121646-068	EB2121646-069	EB2121646-070	EB2121646-071
				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Zinc	7440-66-6	5	mg/kg	<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	KNTC TSF - 01 0-2m	KNTC TSF - 02 0-2m	KNTC TSF - 03 0-2m	KNTC TSF - 04 0-2m	----
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	----
Compound	CAS Number	LOR	Unit		EB2121646-072	EB2121646-073	EB2121646-074	EB2121646-075	-----
				Result	Result	Result	Result	Result	----
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		3.9	4.3	3.8	5.9	----
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		3.0	3.0	<0.5	-0.6	----
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		453	3060	865	1480	----
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.0	6.0	6.6	6.0	----
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	----
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.5	0.5	0.2	0.6	----
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.3	1.6	2.2	2.4	----
ANC as CaCO3	----	0.1	% CaCO3		0.1	0.2	0.2	0.2	----
Fizz Rating	----	0	Fizz Unit		0	0	0	0	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		16.8	6.8	15.9	2.2	----
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.14	0.15	0.08	0.06	----
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1140	1420	1220	1360	----
Arsenic	7440-38-2	5	mg/kg		100	120	142	105	----
Barium	7440-39-3	10	mg/kg		20	20	30	30	----
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	----
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg		4	9	10	10	----
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	----
Copper	7440-50-8	5	mg/kg		<5	11	8	10	----
Iron	7439-89-6	50	mg/kg		5210	7080	7110	7070	----
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	----
Manganese	7439-96-5	5	mg/kg		6	18	<5	11	----
Nickel	7440-02-0	2	mg/kg		<2	2	<2	2	----
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	----
Vanadium	7440-62-2	5	mg/kg		6	7	8	12	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	KNTC TSF - 01 0-2m	KNTC TSF - 02 0-2m	KNTC TSF - 03 0-2m	KNTC TSF - 04 0-2m	----
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	----
Compound	CAS Number	LOR	Unit		EB2121646-072	EB2121646-073	EB2121646-074	EB2121646-075	-----
					Result	Result	Result	Result	----
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	6	<5	7	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.8	0.8	0.9	1.0	----

CERTIFICATE OF ANALYSIS

Work Order : **EB2121644**
Client : **C & R CONSULTING PTY LTD**
Contact : MR MATT KNOTT
Address : 188 ROSS RIVER ROAD
AITKENVALE QUEENSLAND 4812
Telephone : +61 07 47253751
Project : 2020.10003 - Solomons Gold Geochemistry
Order number : ----
C-O-C number : ----
Sampler : MATTHEW AYRE
Site : ----
Quote number : TV/110/21 v2
No. of samples received : 78
No. of samples analysed : 78

Page : 1 of 34
Laboratory : Environmental Division Brisbane
Contact : Princess Marcelo
Address : 2 Byth Street Stafford QLD Australia 4053
Telephone : +61-7-3243 7222
Date Samples Received : 02-Aug-2021 11:25
Date Analysis Commenced : 06-Aug-2021
Issue Date : 18-Aug-2021 15:11



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Inorganics, Stafford, QLD
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **SPLIT WORK ORDER:** It should be noted that ALS has split this work order over the following work orders (EB2121644, EB2121646) due to the size of the sample numbers. For any further information regarding this processing of samples please contact ALS client services division on ALSEnviro.Brisbane@alsglobal.com
- EG005T (Total Metals by ICP-AES): Sample 'WRD02-01 3-6m' (EB2121644-002) shows poor matrix spike recovery due to sample heterogeneity. Confirmed by visual inspection.
- ASS: EA013 (ANC) Fizz Rating: 0- None; 1- Slight; 2- Moderate; 3- Strong; 4- Very Strong; 5- Lime.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD02-01 0-3m	WRD02-01 3-6m	WRD02-02 0-3m	WRD02-02 3-6m	WRD02-03 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-001	EB2121644-002	EB2121644-003	EB2121644-004	EB2121644-005
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		8.7	7.3	9.4	8.3	9.6
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		<0.5	<0.5	-0.05	1.6	-1.1
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		101	101	225	247	279
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.5	6.1	6.8	6.7	6.8
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.9	1.8	1.0	0.6	0.6
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.8	2.9	2.8	2.4	2.3
ANC as CaCO3	----	0.1	% CaCO3		0.3	0.3	0.3	0.2	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		3.6	3.8	5.1	4.2	2.8
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.10	0.11	0.09	0.13	0.04
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		710	870	520	650	460
Arsenic	7440-38-2	5	mg/kg		44	48	45	71	28
Barium	7440-39-3	10	mg/kg		20	20	30	60	20
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		4	3	<2	<2	7
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		2890	3720	1680	3600	1680
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		6	<5	6	<5	7
Nickel	7440-02-0	2	mg/kg		3	3	<2	<2	4
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD02-01 0-3m	WRD02-01 3-6m	WRD02-02 0-3m	WRD02-02 3-6m	WRD02-03 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-001	EB2121644-002	EB2121644-003	EB2121644-004	EB2121644-005
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD02-03 3-6m	WRD02-04 0-3m	WRD02-04 3-6m	WRD02-05 0-3m	WRD02-05 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-006	EB2121644-007	EB2121644-008	EB2121644-009	EB2121644-010
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		9.5	9.7	9.6	9.7	9.7
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.7	-1.3	-1.0	-0.3	-0.9
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		303	158	157	156	161
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		7.1	6.8	6.5	6.9	6.8
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		<0.1	0.4	0.7	0.2	0.4
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.9	2.5	1.6	2.1	2.4
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.2	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		2.8	3.2	1.2	4.0	2.5
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.04	0.04	0.02	0.06	0.05
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		520	400	600	490	460
Arsenic	7440-38-2	5	mg/kg		30	22	21	47	38
Barium	7440-39-3	10	mg/kg		20	20	20	30	20
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		7	3	5	5	8
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		1820	1080	1340	2140	2170
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		7	<5	6	7	8
Nickel	7440-02-0	2	mg/kg		5	2	4	3	5
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD02-03 3-6m	WRD02-04 0-3m	WRD02-04 3-6m	WRD02-05 0-3m	WRD02-05 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-006	EB2121644-007	EB2121644-008	EB2121644-009	EB2121644-010
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD02-06 0-3m	WRD02-07 0-3m	WRD01-01 0-3m	WRD01-01 3-6m	WRD01-01 6-9m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-011	EB2121644-012	EB2121644-013	EB2121644-014	EB2121644-015
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		7.2	4.3	5.1	5.0	5.2
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.8	8.1	-0.08	<0.5	-0.3
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		253	268	39	40	42
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		7.0	5.8	5.7	5.6	5.8
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		<0.1	1.0	1.5	1.5	1.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		3.2	0.8	1.3	1.0	0.9
ANC as CaCO3	----	0.1	% CaCO3		0.3	<0.1	0.1	0.1	<0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		5.3	5.2	3.1	3.7	2.1
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.08	0.29	0.04	0.04	0.02
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1460	650	560	580	580
Arsenic	7440-38-2	5	mg/kg		47	63	31	37	36
Barium	7440-39-3	10	mg/kg		50	50	<10	<10	<10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		4	<2	4	<2	7
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		4490	2500	1450	1620	2000
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	7	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	<2	2	<2	4
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		26	5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD02-06 0-3m	WRD02-07 0-3m	WRD01-01 0-3m	WRD01-01 3-6m	WRD01-01 6-9m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-011	EB2121644-012	EB2121644-013	EB2121644-014	EB2121644-015
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	0.1	0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD01-02 0-3m	WRD01-03 0-3m	WRD01-03 3-6m	WRD01-03 6-9m	WRD01-04 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-016	EB2121644-019	EB2121644-020	EB2121644-021	EB2121644-022
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.6	5.2	5.2	4.9	5.3
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		<0.5	<0.5	1.4	-0.8	-0.9
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		87	49	59	57	19
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.2	5.5	6.0	5.4	5.8
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.9	2.1	1.2	2.1	1.2
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.0	1.8	1.7	1.4	1.2
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.1	0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		1.4	1.9	2.1	3.7	2.4
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.07	0.07	0.10	0.02	0.01
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		880	600	590	560	480
Arsenic	7440-38-2	5	mg/kg		40	45	35	40	33
Barium	7440-39-3	10	mg/kg		100	10	<10	<10	10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		15	9	8	<2	2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		25	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		3300	2320	2070	1690	1340
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		10	6	5	<5	<5
Nickel	7440-02-0	2	mg/kg		10	7	5	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD01-02 0-3m	WRD01-03 0-3m	WRD01-03 3-6m	WRD01-03 6-9m	WRD01-04 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-016	EB2121644-019	EB2121644-020	EB2121644-021	EB2121644-022
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		2.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD01-04 3-6m	WRD01-04 6-9m	WRD03-01 0-3m	WRD03-01 3-6m	WRD03-02 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-023	EB2121644-024	EB2121644-025	EB2121644-026	EB2121644-027
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		5.6	5.4	4.3	4.5	9.1
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.9	-0.7	13.3	9.0	-1.7
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		20	21	303	179	210
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.7	5.8	5.0	5.0	6.5
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.8	1.4	1.5	2.1	1.0
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.2	1.3	0.8	0.8	2.9
ANC as CaCO3	----	0.1	% CaCO3		0.1	0.1	<0.1	<0.1	0.3
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		1.0	1.4	4.5	3.4	1.9
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.01	0.02	0.46	0.32	0.04
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		480	560	1450	2450	510
Arsenic	7440-38-2	5	mg/kg		28	34	136	154	55
Barium	7440-39-3	10	mg/kg		10	20	130	280	50
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		14	8	2	5	6
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		2330	1900	8870	14000	2590
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		10	<5	<5	<5	7
Nickel	7440-02-0	2	mg/kg		8	5	<2	4	4
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	6	11	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD01-04 3-6m	WRD01-04 6-9m	WRD03-01 0-3m	WRD03-01 3-6m	WRD03-02 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-023	EB2121644-024	EB2121644-025	EB2121644-026	EB2121644-027
				Result	Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	0.2	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-02 3-6m	WRD03-02 6-9m	WRD03-03 0-3m	WRD03-03 3-6m	WRD03-03 6-9m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-028	EB2121644-029	EB2121644-030	EB2121644-031	EB2121644-032
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		9.0	9.1	5.4	5.7	6.5
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.9	-1.1	2.5	0.9	1.2
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		204	248	162	114	234
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.8	6.7	6.2	6.1	6.4
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.3	0.7	0.7	1.2	0.7
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.1	2.0	2.4	2.5	1.9
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.2	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		<1.0	2.0	3.2	2.2	1.6
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.04	0.03	0.16	0.11	0.10
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		550	480	720	700	510
Arsenic	7440-38-2	5	mg/kg		56	52	81	82	61
Barium	7440-39-3	10	mg/kg		60	60	80	80	70
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		10	5	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		2930	2420	4560	4320	3430
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		10	6	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		7	3	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-02 3-6m	WRD03-02 6-9m	WRD03-03 0-3m	WRD03-03 3-6m	WRD03-03 6-9m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-028	EB2121644-029	EB2121644-030	EB2121644-031	EB2121644-032
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	0.5	0.5	0.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-04 0-3m	WRD03-04 3-6m	WRD03-04 6-9m	WRD03-05 0-3m	WRD03-05 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-033	EB2121644-034	EB2121644-035	EB2121644-036	EB2121644-037
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.3	4.3	4.3	5.4	5.0
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		10.7	9.9	12.6	0.6	<0.5
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		279	293	285	407	288
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.4	5.2	5.3	6.1	5.7
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.6	1.8	2.1	0.9	0.7
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		0.6	0.8	0.6	1.8	1.7
ANC as CaCO3	----	0.1	% CaCO3		<0.1	<0.1	<0.1	0.2	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		4.7	4.7	2.2	3.0	2.2
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.37	0.35	0.43	0.08	0.07
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1020	870	1000	620	670
Arsenic	7440-38-2	5	mg/kg		143	130	122	74	76
Barium	7440-39-3	10	mg/kg		100	100	80	70	40
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		9660	9520	7480	2930	2900
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-04 0-3m	WRD03-04 3-6m	WRD03-04 6-9m	WRD03-05 0-3m	WRD03-05 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-033	EB2121644-034	EB2121644-035	EB2121644-036	EB2121644-037
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.3	0.2	0.2	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-05 6-9m	WRD03-06 0-3m	WRD03-06 3-6m	WRD03-06 6-9m	WRD03-07 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-038	EB2121644-039	EB2121644-040	EB2121644-041	EB2121644-042
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		6.7	4.8	4.9	4.9	5.3
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.06	0.7	1.3	-0.2	3.5
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		597	129	77	69	274
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		6.4	5.3	5.4	5.4	6.0
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.5	0.8	0.7	1.2	0.7
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.2	2.4	2.4	2.3	2.6
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.2	0.3
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		1.1	3.9	3.4	3.8	1.9
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.07	0.10	0.12	0.07	0.20
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		670	780	790	880	730
Arsenic	7440-38-2	5	mg/kg		73	72	70	100	155
Barium	7440-39-3	10	mg/kg		80	40	30	40	80
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	3	2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		3140	2570	2480	3400	5610
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		3	<2	3	5	4
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-05 6-9m	WRD03-06 0-3m	WRD03-06 3-6m	WRD03-06 6-9m	WRD03-07 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-038	EB2121644-039	EB2121644-040	EB2121644-041	EB2121644-042
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	0.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-07 3-6m	WRD03-07 6-9m	WRD03-08 0-3m	WRD03-08 3-6m	WRD03-09 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-043	EB2121644-044	EB2121644-045	EB2121644-046	EB2121644-047
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		5.6	6.0	4.8	4.6	3.9
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		4.6	1.3	-0.6	-1.3	18.4
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		196	422	66	73	306
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.9	6.2	5.4	5.4	2.7
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	12.3
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.2	0.9	2.1	1.7	16.3
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.4	2.7	2.7	2.5	<0.5
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.3	0.3	0.2	<0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		2.4	1.0	2.6	2.6	4.5
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.23	0.13	0.07	0.04	0.60
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		810	720	1160	1470	1450
Arsenic	7440-38-2	5	mg/kg		160	118	86	29	44
Barium	7440-39-3	10	mg/kg		70	80	30	20	30
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		3	2	2	5	3
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		6790	4500	4820	4760	3360
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	5	<2	3	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	11	31	19



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-07 3-6m	WRD03-07 6-9m	WRD03-08 0-3m	WRD03-08 3-6m	WRD03-09 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-043	EB2121644-044	EB2121644-045	EB2121644-046	EB2121644-047
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.3	0.1	<0.1	<0.1	0.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-09 3-6m	WRD03-10 0-3m	WRD03-10 3-6m	FWRD01-01 0-3m	FWRD01-01 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-048	EB2121644-049	EB2121644-050	EB2121644-051	EB2121644-052
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.3	5.0	4.7	4.6	4.9
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		1.9	-0.3	-1.0	-0.8	0.6
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		86	52	33	24	18
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		4.4	4.8	5.0	5.3	5.0
NAG (pH 4.5)	----	0.1	kg H2SO4/t		0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.2	2.4	2.1	1.4	1.8
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.1	1.8	2.5	2.3	1.2
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.2	0.1
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		1.0	5.8	5.0	3.5	3.8
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.13	0.05	0.05	0.05	0.06
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		450	1090	1050	960	890
Arsenic	7440-38-2	5	mg/kg		7	39	5	<5	<5
Barium	7440-39-3	10	mg/kg		20	20	10	<10	20
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		1030	2230	610	270	440
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		7	6	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	WRD03-09 3-6m	WRD03-10 0-3m	WRD03-10 3-6m	FWRD01-01 0-3m	FWRD01-01 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-048	EB2121644-049	EB2121644-050	EB2121644-051	EB2121644-052
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-02 0-3m	FWRD01-02 3-6m	FWRD01-03 0-3m	FWRD01-03 3-6m	FWRD01-04 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-053	EB2121644-054	EB2121644-055	EB2121644-056	EB2121644-057
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.5	4.6	4.3	3.9	4.3
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		<0.5	-0.5	-1.1	-0.2	-0.7
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		53	40	74	118	40
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.3	5.3	5.2	5.0	4.9
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.9	1.3	1.6	1.2	2.6
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.2	2.0	2.3	2.0	1.9
ANC as CaCO3	----	0.1	% CaCO3		0.1	0.2	0.2	0.2	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		3.4	3.3	5.6	4.8	4.2
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.04	0.05	0.04	0.06	0.04
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1130	880	1240	1050	1240
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg		20	30	<10	10	10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		440	330	360	240	360
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-02 0-3m	FWRD01-02 3-6m	FWRD01-03 0-3m	FWRD01-03 3-6m	FWRD01-04 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-053	EB2121644-054	EB2121644-055	EB2121644-056	EB2121644-057
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-04 3-6m	FWRD01-05 0-3m	FWRD01-05 3-6m	FWRD01-06 0-3m	FWRD01-06 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-058	EB2121644-059	EB2121644-060	EB2121644-061	EB2121644-062
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.7	4.8	4.5	4.6	4.7
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		<0.5	-0.4	-0.8	<0.5	-0.3
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		50	54	71	37	34
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.7	5.6	5.3	5.0	5.1
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		0.7	0.8	1.2	2.3	2.0
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.5	2.2	2.6	0.8	1.8
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.3	<0.1	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		3.9	3.4	2.4	4.0	3.3
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.06	0.06	0.06	0.04	0.05
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		830	850	780	1040	850
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg		20	20	20	10	<10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		480	350	470	360	1160
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		6	<5	6	<5	9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-04 3-6m	FWRD01-05 0-3m	FWRD01-05 3-6m	FWRD01-06 0-3m	FWRD01-06 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-058	EB2121644-059	EB2121644-060	EB2121644-061	EB2121644-062
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-06 6-9m	FWRD01-07 0-3m	FWRD01-07 3-6m	FWRD01-07 6-9m	FWRD01-08 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-063	EB2121644-064	EB2121644-065	EB2121644-066	EB2121644-067
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		5.0	4.8	4.7	4.7	4.8
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.9	-0.8	-0.4	-0.8	-1.0
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		73	30	23	25	46
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.5	5.3	5.3	5.3	5.5
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.1	1.8	1.1	1.2	1.2
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.1	2.0	1.9	2.0	2.2
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.2	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		2.7	4.0	4.1	4.2	3.5
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.04	0.04	0.05	0.04	0.04
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1090	1060	920	990	1120
Arsenic	7440-38-2	5	mg/kg		34	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg		10	10	20	10	10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		4	<2	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		2430	490	430	450	650
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		7	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	<5	<5	6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-06 6-9m	FWRD01-07 0-3m	FWRD01-07 3-6m	FWRD01-07 6-9m	FWRD01-08 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-063	EB2121644-064	EB2121644-065	EB2121644-066	EB2121644-067
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-08 3-6m	FWRD01-09 0-3m	FWRD01-09 3-6m	FWRD01-10 0-3m	FWRD01-10 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-068	EB2121644-069	EB2121644-070	EB2121644-071	EB2121644-072
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		5.0	4.9	4.7	4.4	4.5
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.2	-0.7	-1.2	-0.7	-0.8
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		27	23	14	30	23
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.3	5.5	5.2	5.2	5.4
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.1	1.2	1.5	1.3	1.0
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.0	1.9	2.4	1.9	2.0
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.2	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		2.9	4.8	4.6	4.4	3.6
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.06	0.04	0.04	0.04	0.04
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		690	1040	1060	1150	830
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg		10	20	20	<10	<10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	<2	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		680	340	350	240	140
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		6	<5	<5	<5	<5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-08 3-6m	FWRD01-09 0-3m	FWRD01-09 3-6m	FWRD01-10 0-3m	FWRD01-10 3-6m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-068	EB2121644-069	EB2121644-070	EB2121644-071	EB2121644-072
					Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-11 0-3m	FWRD01-11 3-6m	FWRD01-12 0-3m	FWRD01-12 3-6m	FWRD01-13 0-3m
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit		EB2121644-073	EB2121644-074	EB2121644-075	EB2121644-076	EB2121644-077
				Result	Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.4	3.7	4.0	3.8	4.6
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.5	0.5	-0.2	1.7	-0.4
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		36	456	212	293	36
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.2	4.3	4.5	4.3	4.9
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	0.1	<0.1	0.2	<0.1
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.6	1.6	2.8	2.8	2.1
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		1.7	1.9	2.0	1.4	1.9
ANC as CaCO3	----	0.1	% CaCO3		0.2	0.2	0.2	0.1	0.2
Fizz Rating	----	0	Fizz Unit		0	0	0	0	0
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		3.8	4.0	4.1	2.6	4.6
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.04	0.08	0.06	0.10	0.05
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1160	1070	1410	1160	1040
Arsenic	7440-38-2	5	mg/kg		<5	15	6	44	<5
Barium	7440-39-3	10	mg/kg		20	20	<10	<10	<10
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg		<50	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		<2	<2	3	3	<2
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Iron	7439-89-6	50	mg/kg		400	910	3480	3840	210
Lead	7439-92-1	5	mg/kg		<5	<5	<5	<5	<5
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg		<5	<5	27	20	<5



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				FWRD01-11 0-3m	FWRD01-11 3-6m	FWRD01-12 0-3m	FWRD01-12 3-6m	FWRD01-13 0-3m
Sampling date / time				29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	EB2121644-073	EB2121644-074	EB2121644-075	EB2121644-076	EB2121644-077
Result				Result	Result	Result	Result	Result
EG005(ED093)T: Total Metals by ICP-AES - Continued								
Zinc	7440-66-6	5	mg/kg	<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-13 3-6m	FWRD01-14 0-3m	FWRD01-15 0-3m	----	----
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2121644-078	EB2121644-079	EB2121644-080	-----	-----
				Result	Result	Result	Result	----	----
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		4.3	3.6	4.8	----	----
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		-0.6	8.6	-1.1	----	----
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		40	961	103	----	----
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		5.0	3.6	5.6	----	----
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	1.8	<0.1	----	----
NAG (pH 7.0)	----	0.1	kg H2SO4/t		1.5	5.4	2.5	----	----
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		2.1	<0.5	2.3	----	----
ANC as CaCO3	----	0.1	% CaCO3		0.2	<0.1	0.2	----	----
Fizz Rating	----	0	Fizz Unit		0	0	0	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		5.2	1.6	2.8	----	----
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.05	0.28	0.04	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		1090	2410	1030	----	----
Arsenic	7440-38-2	5	mg/kg		<5	39	40	----	----
Barium	7440-39-3	10	mg/kg		10	<10	10	----	----
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	----	----
Boron	7440-42-8	50	mg/kg		<50	<50	<50	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg		<2	11	2	----	----
Cobalt	7440-48-4	2	mg/kg		<2	3	<2	----	----
Copper	7440-50-8	5	mg/kg		<5	14	<5	----	----
Iron	7439-89-6	50	mg/kg		340	5070	2270	----	----
Lead	7439-92-1	5	mg/kg		<5	<5	<5	----	----
Manganese	7439-96-5	5	mg/kg		<5	6	<5	----	----
Nickel	7440-02-0	2	mg/kg		<2	7	<2	----	----
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	----	----
Vanadium	7440-62-2	5	mg/kg		<5	19	7	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	FWRD01-13 3-6m	FWRD01-14 0-3m	FWRD01-15 0-3m	----	----
Sampling date / time					29-Jul-2021 00:00	29-Jul-2021 00:00	29-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2121644-078	EB2121644-079	EB2121644-080	-----	-----
					Result	Result	Result	----	----
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.3	<0.1	----	----

CERTIFICATE OF ANALYSIS

Work Order : **EB2125703**
Client : **C & R CONSULTING PTY LTD**
Contact : MR MATT KNOTT
Address : 188 ROSS RIVER ROAD
AITKENVALE QUEENSLAND 4812
Telephone : +61 07 47253751
Project : 2020.10003 - Solomons Gold Geochemistry
Order number : ----
C-O-C number : ----
Sampler : MATTHEW AYRE
Site : ----
Quote number : TV/110/21 v2
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 4
Laboratory : Environmental Division Brisbane
Contact : Princess Marcelo
Address : 2 Byth Street Stafford QLD Australia 4053
Telephone : +61-7-3243 7222
Date Samples Received : 09-Sep-2021 11:56
Date Analysis Commenced : 10-Sep-2021
Issue Date : 17-Sep-2021 12:28



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Inorganics, Stafford, QLD
Mark Hallas	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EG005T (Total Metals by ICP-AES): Sample (EB2125627_041) shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- ASS: EA013 (ANC) Fizz Rating: 0- None; 1- Slight; 2- Moderate; 3- Strong; 4- Very Strong; 5- Lime.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	Haul-01 0-2m	Haul-02 0-1m	WRD03-10 6-9m	----	----
Sampling date / time					25-Jul-2021 00:00	25-Jul-2021 00:00	25-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2125703-001	EB2125703-002	EB2125703-003	-----	-----
				Result	Result	Result	Result	----	----
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit		9.5	8.6	4.4	----	----
EA009: Net Acid Production Potential									
Net Acid Production Potential	----	0.5	kg H2SO4/t		0.9	1.2	1.5	----	----
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm		103	154	66	----	----
EA011: Net Acid Generation									
pH (OX)	----	0.1	pH Unit		7.0	6.5	5.0	----	----
NAG (pH 4.5)	----	0.1	kg H2SO4/t		<0.1	<0.1	<0.1	----	----
NAG (pH 7.0)	----	0.1	kg H2SO4/t		<0.1	0.7	1.2	----	----
EA013: Acid Neutralising Capacity									
ANC as H2SO4	----	0.5	kg H2SO4 equiv./t		<0.5	<0.5	<0.5	----	----
ANC as CaCO3	----	0.1	% CaCO3		<0.1	<0.1	<0.1	----	----
Fizz Rating	----	0	Fizz Unit		0	0	0	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		3.6	3.3	3.7	----	----
ED042T: Total Sulfur by LECO									
Sulfur - Total as S (LECO)	----	0.01	%		0.03	0.04	0.05	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		370	530	1060	----	----
Arsenic	7440-38-2	5	mg/kg		44	43	<5	----	----
Barium	7440-39-3	10	mg/kg		40	40	20	----	----
Beryllium	7440-41-7	1	mg/kg		<1	<1	<1	----	----
Boron	7440-42-8	50	mg/kg		<50	<50	<50	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg		<2	<2	<2	----	----
Cobalt	7440-48-4	2	mg/kg		<2	<2	<2	----	----
Copper	7440-50-8	5	mg/kg		<5	<5	<5	----	----
Iron	7439-89-6	50	mg/kg		1220	1730	770	----	----
Lead	7439-92-1	5	mg/kg		<5	<5	<5	----	----
Manganese	7439-96-5	5	mg/kg		<5	<5	<5	----	----
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	----	----
Selenium	7782-49-2	5	mg/kg		<5	<5	<5	----	----
Vanadium	7440-62-2	5	mg/kg		<5	<5	6	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	Haul-01 0-2m	Haul-02 0-1m	WRD03-10 6-9m	----	----
Sampling date / time					25-Jul-2021 00:00	25-Jul-2021 00:00	25-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2125703-001	EB2125703-002	EB2125703-003	-----	-----
					Result	Result	Result	----	----
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	----	----

Appendix B – Kinetic Results*

** The kinetic testwork has not yet been completed. As a result, this Appendix B will be provided by C&R upon completion of the KLC testwork.*