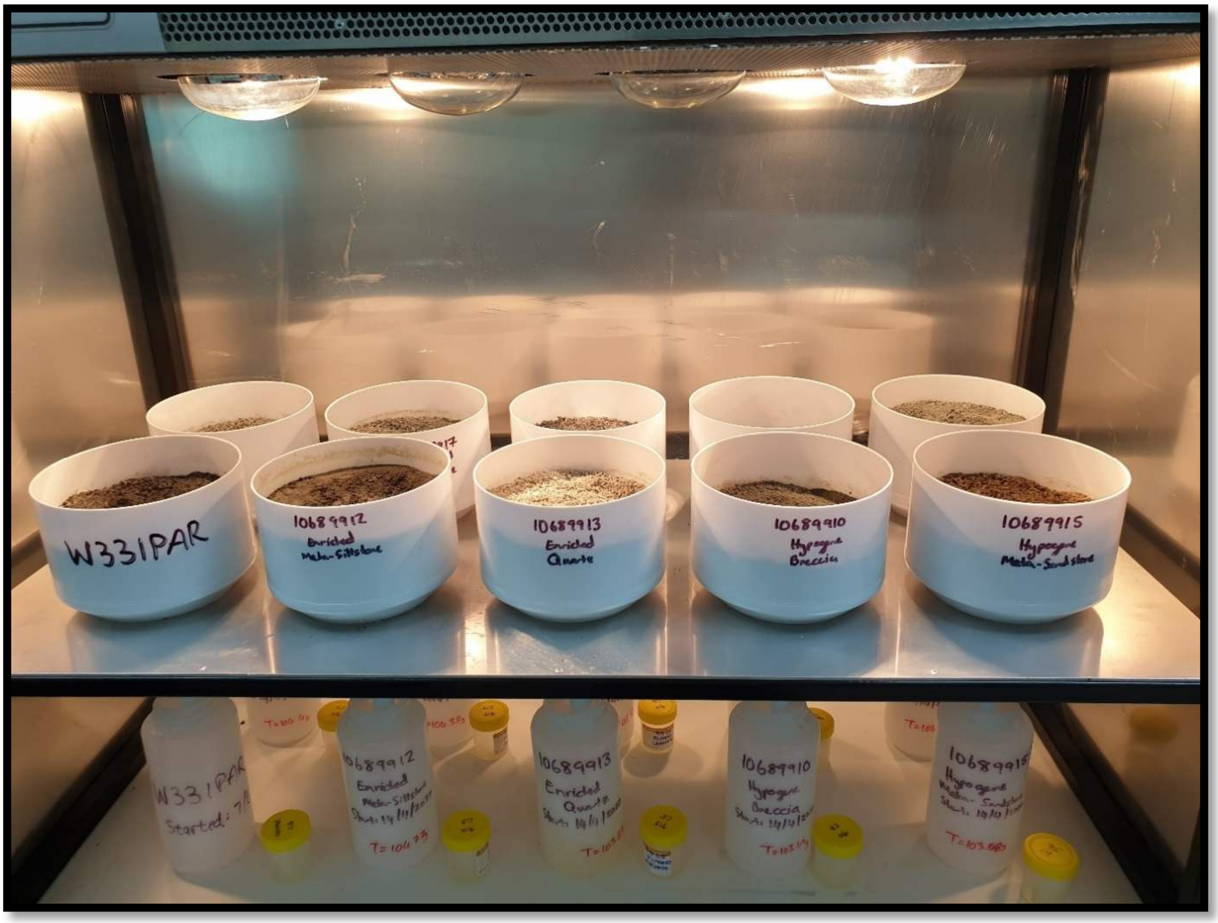
RioTinto

Winu Waste Characterisation

– Primary Sulfide (Hypogene) Zone

4th July 2025



Cover image: Kinetic column leach tests.

Revision History

Prepared for: Winu Study

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Version	Date	Author	Reviewer	Changes
6	4/07/2025	RG		Updated free-draining column results.
5	20/06/2024	RG	PM	Updated free-draining column results.
4	14/05/2021	MHA / BX	RG	Updated free-draining column results.
3	28/09/2020	MHA	RG	Updated samples from 2020 drilling
2	24/04/2020	MHA	RG	Updated sample classifications and mineralogy.
1		MHA	RG	Report created

EXECUTIVE SUMMARY

The Winu project is located in the Western Australian Great Sandy Desert, approximately 130 km NW of the Telfer copper-gold project. The deposit is characterised by a weathering profile with an upper leached cap followed by a copper oxide zone, an enrichment secondary sulfide zone and a hypogene primary sulfide zone. An Acid and Metalliferous Drainage (AMD) study was completed for these three zones as part of project development to assist with understanding AMD risk and thereby enable the development of management strategies. This report focuses on the primary sulfide hypogene zone.

Static AMD characterisation work was completed on 143 samples of waste rock and 28 samples of mineral resource grade material to augment the existing mineralogical and whole rock assay data. Of these, 37 samples were subjected to water leach tests to assess potential constituent release. Fifteen kinetic leach columns were conducted to obtain a better understanding of acid generation and constituent release rates.

The major acid neutralising minerals in the Winu deposit are dolomite and low-Fe ankerite. Biotite and chlorite make up a significant proportion of Acid Neutralisation Capacity (ANC) but are most effective in the long term due to slow reaction rates. Due to the presence of acid neutralising minerals, the primary sulfide zone had a lower proportion of Potentially Acid Forming (PAF) samples compared with the secondary sulfide zone test work, with 42% of the primary sulfide waste samples classified as Non Acid Forming (NAF). There is an acidification lag of at least eight years predicted for the primary sulfide zone.

As was noted for the other deposit zones, F was released at elevated levels during short term leach tests, particularly for mafic and quartz sandstone samples under more alkaline conditions. However, elevated or increasing F concentrations and acidic leachates was generally not observed in the kinetic leach tests, except in one mineral resource grade sample. Lower pH leachates from acid generation may result in elevated release of metals, including Cd, Co, Cu, Mn, Ni and Zn, although this has not yet been observed in most kinetic test work. NAF classified material had low metal and F concentration release. Likewise, soluble metal release during the acidification lag phase (pH > 6) is low.

Incorporation of sulfur concentrations into the Winu geological model has been completed and will be advantageous for optimising tailings sulfur deportment and waste rock landform designs. Due to varied ANC in the primary sulfides, a more complex model incorporating carbon and siderite zones is necessary. Currently, classification of samples being NAF when the Neutralisation Potential Ratio (NPR) (calculated via total sulfur and total carbon) is greater than 1.5 is being applied. The classification includes a correction for the likely siderite proportions and a maximum sulfur concentration for NAF samples of 1.5%. This method only allows a small percentage of PAF-LC samples, (where LC represents a low capacity for acidity generation) should be classified as NAF under this scheme, although a large proportion of NAF samples will likely be classified as PAF.

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1. INTRODUCTION AND BACKGROUND

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1.1. PROJECT BACKGROUND

Rio Tinto has discovered copper-gold mineralisation at the Winu project in the Yeneena Basin of the Paterson Province in Western Australia. The Winu project is located approximately 130 km north of the Telfer mine and 350 km southeast of Port Hedland.

As part of the project development, an AMD study has been carried out to assess the potential for future operations to generate AMD. The study characterised both waste rock and mineral resource grade samples expected from the deposit and will develop mitigation plans for waste storage. This report focuses on the characterisation of waste rock expected from the primary sulfide zone of the deposit.

The 2023 mine plan indicated that most of the feed mineral resource will be primary sulfides (85%), followed by secondary sulfides (12%), primary mafics (1.4%), oxides (1.3%), mixed oxides including oxide mafics (0.4%), and secondary mafics (0.01%).

The findings from this report have been integrated into geological and mining models. In regard to waste rock, 22% is expected to be classified as Potentially Acid Forming (PAF), with the proportions of PAF predicted to come from the primary sulfides (86%), secondary sulfides (6.8%), leached cap and leached cap mafics (5.2%), primary mafics (1.1%), oxides/overburden (0.8%) and secondary mafics (0.1%). The remaining 78% of the waste rock is classified as Non Acid Forming (NAF) and will primarily consist of oxide and overburden (94%), primary sulfides (4.6%), secondary sulfides and mixed oxides (1.4%). These proportions may change with future iterations of the mine plan.

1.2. GEOLOGICAL CONTEXT

The regional geology at Winu is characterised by low-grade metasedimentary rock with granitoid intrusions. The tenement is covered by an overburden composed of sand and a sequence of permian mudstones, sandstones and diamictites. The deposit itself is hosted in low-grade metasedimentary rock dominated by siltstones and sandstones, with some igneous intrusions. Based on the supergene profile, the deposit is divided into a leached cap, a copper oxide zone, enrichment zone and hypogene (primary sulfide) zone (Figure 1). This sequence is, however, not uniform and the zones may have highly localised expressions.

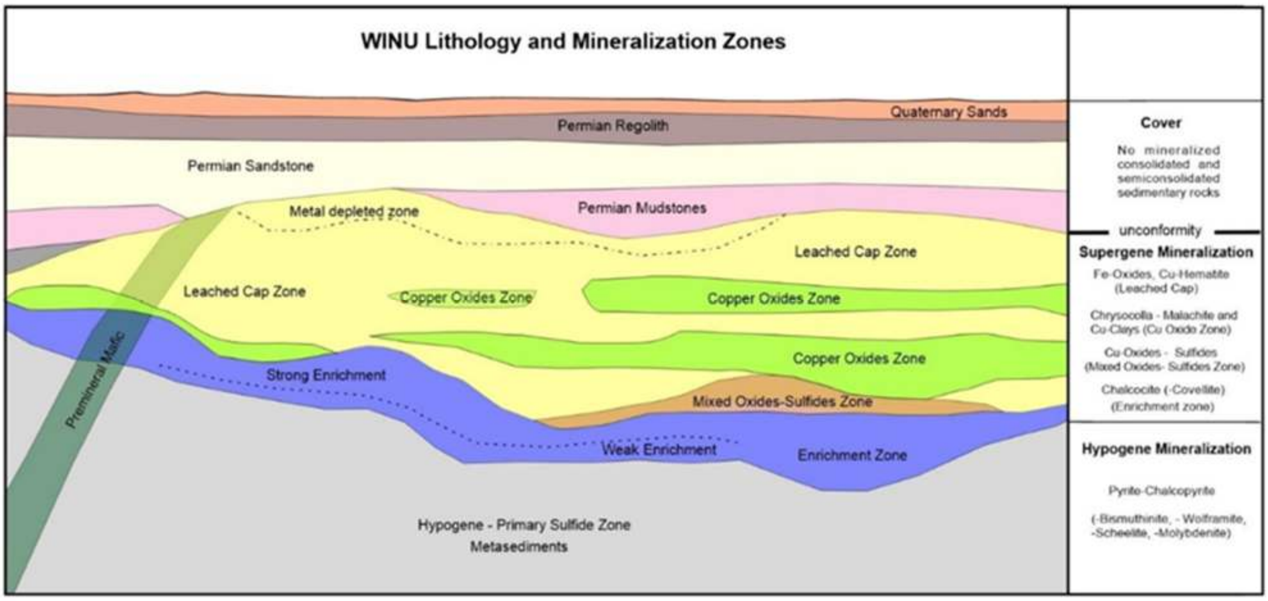


Figure 1: Geological model of the Winu deposit.

2. SAMPLE SELECTION AND LABORATORY METHODS

Static AMD characterisation work was completed on 143 samples of waste rock and 28 mineral resource grade samples. Of these, 37 samples were subjected to a short term water leach to assess potential constituent release and 12 samples underwent longer term kinetic column leaching.

2.1. SAMPLE SELECTION

Samples for characterisation of the primary sulfide zone were selected from available drill core assay data as of 1 August 2019 and 1 March 2020. Samples were manually selected from the available logging data to cover the range of lithologies, alteration types, ranges of sulfur and Cu, and locations within the drilled area. Waste samples have been defined as those with a Cu concentration below 0.2 wt.% and Au concentrations below 0.2 mg/kg. Although this grade classification is not necessarily indicative of the mining schedule, it is a useful guide for distinguishing waste versus mineral resource. Some higher grade Au and Cu samples were selected to produce a wider range of samples and an understanding of the geochemistry of mineral resource grade samples that may be stockpiled for prolonged timeframes.

Selected samples were held either in storage at ALS or at the Rio Tinto Exploration (RTX) warehouse in Perth and were collated and shipped to ALS in Perth for analysis. The samples have been classified into the following lithologies using the September 2020 version of the Solve Winu Model Predictor[1]:

- Arkose 1 (referred to as metasediment 1 throughout this report)
- Arkose 2 (referred to as metasediment 2 throughout this report)
- High Nb permian mudstone
- Mottled and siliceous zone

[1] Solve lithology predictor is based on assay values for immobile trace elements. Accessed 09-09-2020: https://rstudio-connect.riotinto.org/content/102/

- Oxidised permian mudstone
- Permian sandstone
- Post-mineral mafic
- Quartz sandstone
- Quartz vein
- Quaternary aeolian sands
- Reduced permian mudstone

The Solve Predictor classifies samples based on the concentration of immobile trace elements. Although the classifications are not necessarily stratigraphic, the patterns they generate on a deposit scale are used to generate stratigraphic units. Locations of selected samples for the primary sulfide are shown in Figure 2. There is reasonable coverage below −100 m Australian Height Datum (AHD) with some additional sample selection from even deeper samples.

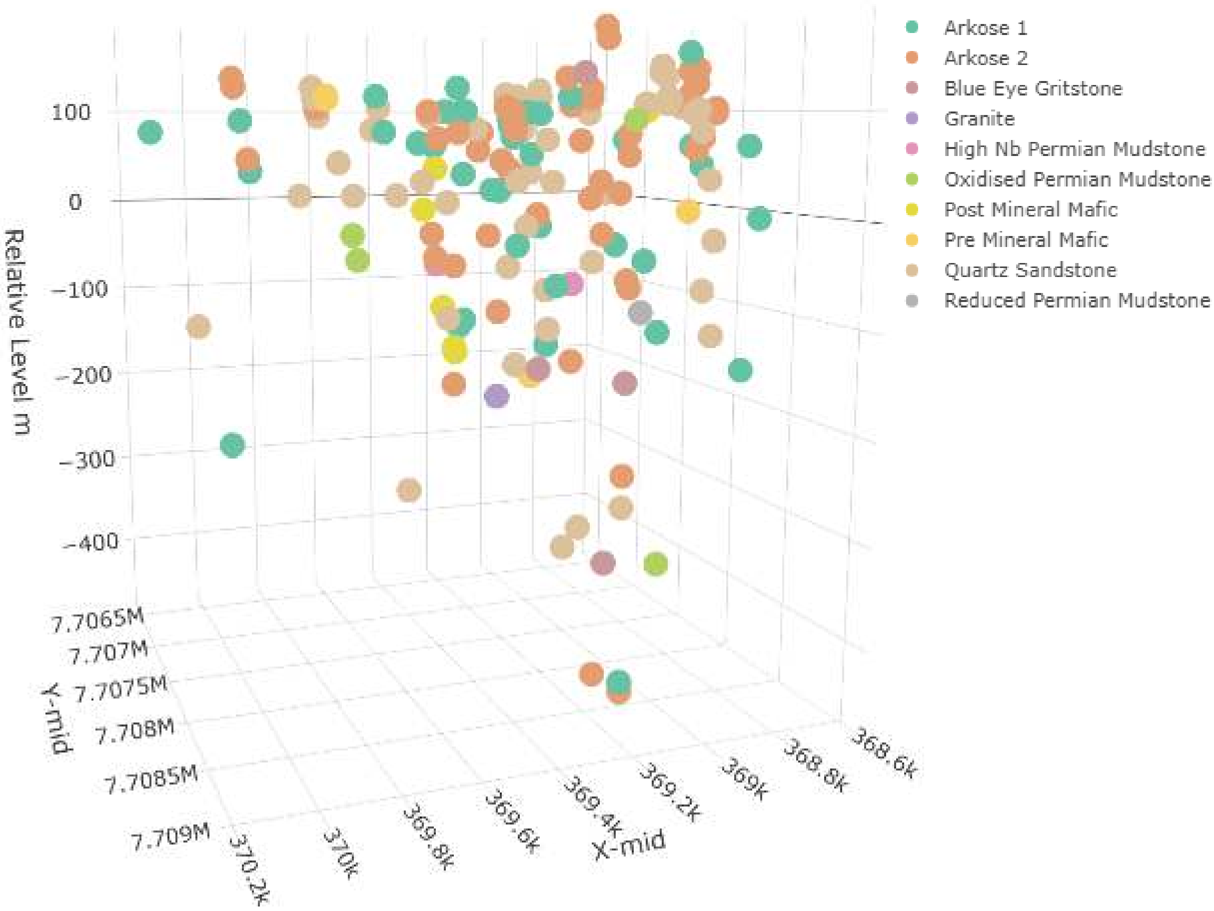
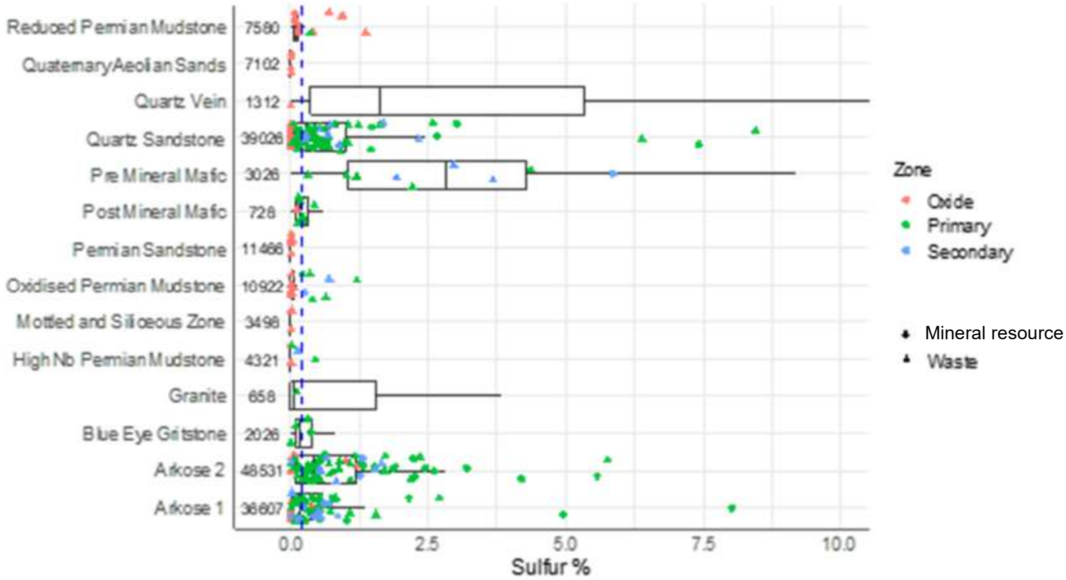


Figure 2: Location of waste rock samples for the primary sulfide zone grouped by predicted lithology.

A graph showing the distribution of sulfur concentration in selected waste rock samples (points) compared with the underlying Winu geochemical database (box and whiskers) is shown in Figure 3 and zoomed in (S < 3 wt.%) to only waste and low grade samples (Cu < 0.2 wt.% and Au < 0.2 mg/kg) in Figure 4. Some samples taken from the oxidised permian mudstone, high Nb permian mudstone, pre-mineral mafic and quartz sandstone lithologies were above the 75th percentile of the Winu database. This suggests that although these samples may be classified as PAF, they would not be representative of the deposit as an average.

The difference between the box and whisker plots in Figure 3 and Figure 4 demonstrates that the waste grade samples contain substantially less sulfur than the mineral resource. The pre-mineral mafic median sulfur content falls from 2.8 wt.% in the overall database to only 1.6% for waste and low grade samples. A similar large difference is observed for the low abundance quartz vein lithology (1.6% to 0.1%). Notably, 80% of the quartz vein samples in the Winu database would be considered of mineral resource grade from these graphs and hence the low number of tested samples in this lithology is not appropriate. Similarly, the low representation of granite samples in this characterisation program is a result of low abundance of this lithological unit in the Winu database.



Bars show -1.5 × inter quartile range (IQR), 25th percentile, median, 75th percentile, 1.5 × IQR. Blue dotted line at 0.2 % S designated cut-off between low and high sulfur samples. Numbers indicate the number of samples of that type in the Winu database.

Figure 3: Box plots of Winu drill hole samples with scatter plot for waste rock and mineral resource grade samples overlaid. Primary sulfide samples coloured green.

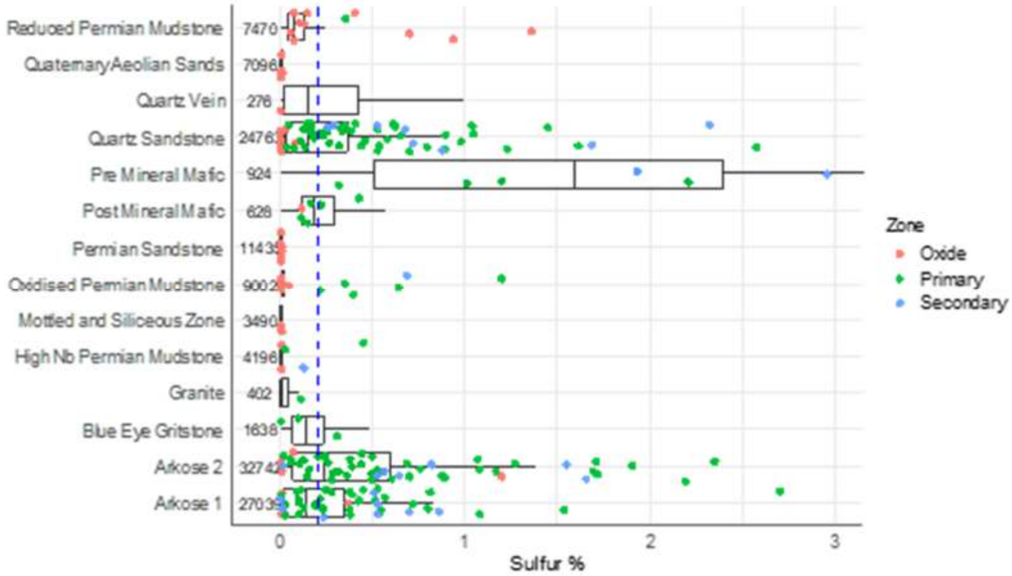


Figure 4: Box plot of Winu drill hole samples with low Cu (< 0.2%) and Au (< 0.2 mg/kg) with scatter plot for waste rock samples overlaid (zoomed in to 0 – 3% S). Primary sulfide samples coloured green.

2.2. LABORATORY METHODS

2.2.1. *MINERALOGY*

Information on general mineral resource mineralogy was generated by Rio Tinto Development and Technology (Bundoora) and is based on automated Scanning Electron Microscopy (SEM) using Mineral Liberation Analysis (MLA) and hyperspectral analysis of cut core (CoreScan).

2.2.2. *WHOLE ROCK DIGESTS*

Whole rock digest and assay results were completed by ALS laboratories. Assay results were reported for: Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Ge, Hf, In, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Pd, Pt, Rb, Re, Sb, Sc, Si, Sn, S, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn, Zr.

The data for selected samples was supplied by RTX to allow assessment of trace element elevation and calculation of the Geochemical Abundance Index (GAI). The GAI was calculated using average crustal abundance as the background concentration. The GAI is calculated from:

$$\mathrm{GAI} = \log_2\left(\frac{Measured\ Concentration}{1.5 \times Average\ Abundance}\right)$$

The results of the GAI correspond to the relative concentration of an element compared to the background (Table 1). A GAI of three or above indicates where a component is considered ‘enriched’. Although enriched elements may require further investigation, it does not imply that they will be mobile or of environmental concern.

Table 1: Corresponding GAI values relative to global crustal abundance.

GAI	Relative Concentration
0	1–3 times global crustal abundance
1	3–6 times global crustal abundance
2	6–12 times global crustal abundance
3	12–24 times global crustal abundance

All concentrations are weight (wt. %) but referred to within the text hereafter as %.

2.2.3. *ACID BASE ACCOUNTING*

Acid Base Accounting (ABA) test work was carried out according to the AMIRA (2002) and aligned with guidance in DFAT (2016). Test work was completed by ALS laboratories and included the methods described in Table 2.

Table 2: ABA test methods.

Test	Method
Total sulfur %	LECO furnace.
Sulfide sulfur %	HCl leach of sulfate minerals and LECO furnace of residual sulfur.
Total carbon %	LECO furnace.
Organic carbon %	HCl leach of carbonate minerals and LECO furnace for residual carbon.
Acid Neutralisation Capacity by Modified Sobek (ANC), kg H_2SO_4/t	Reaction of sample with HCl and subsequent back-titration with NaOH to determine the amount of acid consumed.
ANC with siderite correction (ANC_SC), kg H_2SO_4/t	Reaction of sample with HCl followed by prolonged (24 hours) addition of H_2O_2 and subsequent back-titration with NaOH to determine the amount of acid consumed.
Net Acid Generation (NAG), pH and kg H_2SO_4/t	Addition of hydrogen peroxide (H_2O_2) for oxidation of sulfide minerals and subsequent acid generation. Generated acid is consumed by ANC present in the sample during the test. Residual acid is determined via back-titration.
Acid Base Characterisation Curve (ABCC)	Slow titration of a sample with hydrochloric acid with continuous monitoring of pH. Allows identification of available ANC and potential minerals responsible for ANC via comparison of characteristic buffering curves.
Sequential NAG	A sequential NAG repeats the NAG test procedure on the same sample, sequentially, up to five times or until there is no acid generated from the sample.
Kinetic NAG	Similar to NAG tests, with continuous monitoring of pH and temperature to obtain qualitative estimate of the lag time for acid generation.

The tests in Table 2 were used to calculate the Maximum Potential Acidity (MPA), ANC by inorganic carbon (ANC_{TIC}), Net Acid Producing Potential (NAPP) and Neutralisation Potential Ratio (NPR) via the following equations:

- MPA (kg H_2SO_4/t) = Sulfide S% × 30.6.
- ANC_{TIC} (kg H_2SO_4/t) = Inorganic C% × 81.7.
- NAPP (kg H_2SO_4/t) = MPA – ANC.
- NPR = ANC/MPA.

On the basis of the above tests, samples are classified as either NAF, Uncertain (UNC) or PAF. The following rules are used for sample classification (AMIRA 2002):

- Barren: Total S < 0.1%, ANC ≤ 5 kg H_2SO_4/t
- NAF: NAPP < 0, NAG pH ≥ 4.5.
- PAF: NAPP > 0, NAG pH < 4.5, NAG_pH4.5 > 5 kg H_2SO_4/t.
- PAF-LC (low capacity): NAPP > 0, NAG pH < 4.5, NAG_pH4.5 ≤ 5 kg H_2SO_4/t.
- UNC: Samples not assigned as Barren, NAF or PAF.

2.2.4. *STATIC LEACH TESTS*

ALS Laboratories conducted static leach tests on selected samples to determine the potential for constituent release from the primary sulfide waste rock through contact with meteoric water. The tests were conducted on pulverised samples at a Liquid:Solid (L:S) ratio of 2:1 using Deionised water (DI) over 12 hours. The leachate was filtered (0.7 µm) and analysed for a multi-element suite using ICP-AES (Na, Mg, K, Ca, Si) and ICP-MS (Ag, Al, As, Ba, Bi, B, Cd, Co, Cr, Cs, Cu, Fe, Mn, Mo, Ni, Pb, Re, Sb, Se, Sn, Te, Tl, Ti, V, W, U, Zn). Mercury was analysed separately via a mercury analyser. Anions (Cl, NO_3, sulfate, P, F) and ammonia (NH_3) were analysed using a discrete analysis and alkalinity was determined by titration.

A sequential leach test was completed by Chemistry Centre (Perth, WA) for one low sulfur sample using an in-house protocol for determining type of mobility for constituents under eight varying regimes: (1) water soluble, (2) ion-exchangeable, (3) labile (metal carbonates), (4) easily reducible (amorphous Fe/Mn oxides), (5) moderately reducible (crystalline Fe/Mn oxides), (6) easily oxidisable, (7) recalcitrant oxidisable and (8) total residual. The Chemistry Centre method uses a L:S ratio of 1:20 by weight for the water soluble fraction.

The mass of the residue following Step seven was recorded and indicated that between 10% and 18% of the sample mass had been lost. The residue was submitted for assay in the final step via four acid digestion with ICP-AES or ICP-MS analysis.

2.2.5. *KINETIC COLUMN LEACH TESTS*

Kinetic column leach tests (AMIRA 2002) were conducted at Bundoora and at ALS in Brisbane to investigate kinetic controls to acid and constituent release from Winu mineral wastes. Samples were loaded into Buchner funnels as −4 mm chips, or as received. The column operation is designed to mimic a wet and dry cycle to simulate rainfall and evaporation. Drying is achieved by heating the samples to 35 °C using heat lamps (Cover photo). The samples are 'wetted' every week with DI water at a L/S of 0.1 kg/kg. Every four weeks the samples are 'leached' at a L/S of 0.4 kg/kg. The total leachate over each four week period is collected, filtered (0.2 µm for both laboratories) and analysed for pH, Electrical Conductivity (EC), metals and anions.

2.2.6. *OXYGEN CONSUMPTION RATES*

The Oxygen Consumption Rate (OCR) provides an indication of the rate at which sulfide minerals oxidise (under conditions where supply of oxygen is not a limiting factor). Tests were undertaken by Graeme Campbell & Associates. The dried samples (-2 mm nominal) were moistened using high purity DI water which was added incrementally via a spray bottle. Following moistening, the samples were stored in a plastic bag at 20-22 ^{o}C for two to three days to equilibrate. The equilibrated moist crushing's were then placed in the oxygen consumption cell and an incubator at 30 ^{o}C.

3. RESULTS AND DISCUSSION

Pyrite and chalcopyrite are the major acid producing minerals. The majority of acid neutralisation in the primary sulfide zone is expected to occur via dolomite and low-Fe ankerite dissolution. Siderite, a non-net acid neutralising carbonate, is abundant in primary sulfide waste samples, although typically at low concentrations. Approximately 50% of metasediment 1 and metasediment 2 samples were classified as PAF or uncertain; metasediment 2, pre-mineral mafic and quartz sandstone samples appear most likely to generate acid due to higher average sulfide concentrations. Mineral resource grade samples contained higher sulfide grades (approximately double on average) and hence are more acid generating than waste samples. Some metasediment and quartz sandstone samples exhibited high neutralisation capacities and may be ideal for use as encapsulation of PAF material if present in discrete minable amounts. Fluoride release was noted from higher pH mafic samples during short term leach tests however elevated concentrations were not typically observed during the longer-term kinetic test work. There is a significant acidification lag period for primary sulfide samples (> 8 years) due to neutralising minerals. Carbonate minerals are the most effective in the short term, with the presence of silicate minerals contributing to the longer term, particularly if the sample acidifies to less than pH 6. NAF classified sample and PAF classified samples that have not acidified have a low constituent release.

3.1. MINERALOGY

Quartz, feldspar and muscovite occur in all samples in highly variable concentrations through both the primary and secondary sulfide zones. The variability reflects the heterogeneous vein density, with quartz and feldspar most common in veins, and muscovite most common in the metasediment host.

The weathered supergene and fresh hypogene show very distinct and reproducible differences in accessory mineralogy: kaolinite and Fe oxide dominate in the weathered leach cap and oxide zone, whereas biotite and chlorite dominate in the fresh sulfide mineralisation. Between these two end-members, the strong and weak enrichment have mixed accessory gangue. This difference is so reproducible across the deposit that the first occurrence of biotite is used as a marker for the start of weak enrichment, and the first siderite is used as a marker for the start of the primary sulfide mineralisation.

Pyrite is the most abundant sulfide mineral in the both the secondary and primary sulfide zone (Figure 5, all mineral resource and waste samples), including when analysing waste-grade samples only (Figure 6). Pyrite accounts for > 70% of sulfur in all the analysed waste and mineral resource samples. Indicative proportions of pyrite and chalcopyrite combined in the waste samples of > 90% are shown in Figure 7, with the remaining ~10% of sulfide typically present as pyrrhotite. Exceptions to this, shown in Figure 7, are samples 10410775 (> 50% pyrrhotite) and 10457774 (15% pyrrhotite).

Pyrrhotite has been noted to occur with pyrite in some mafic samples, although was not observed in the six mafic waste rock samples. Of the mineral resource samples analysed, sulfur deportment to pyrrhotite can be as high as 80%, although only three samples were measured with pyrrhotite above 50%, one of which was of waste-grade (Figure 7). Chalcopyrite was the second most abundant sulfide mineral in the primary sulfide zone. Whilst pyrite is always dominant, the transition from chalcocite dominated in the secondary sulfide zone to chalcopyrite dominated copper sulfides in the primary sulfide zone is gradual, with increasingly higher proportions of chalcopyrite towards the hypogene.

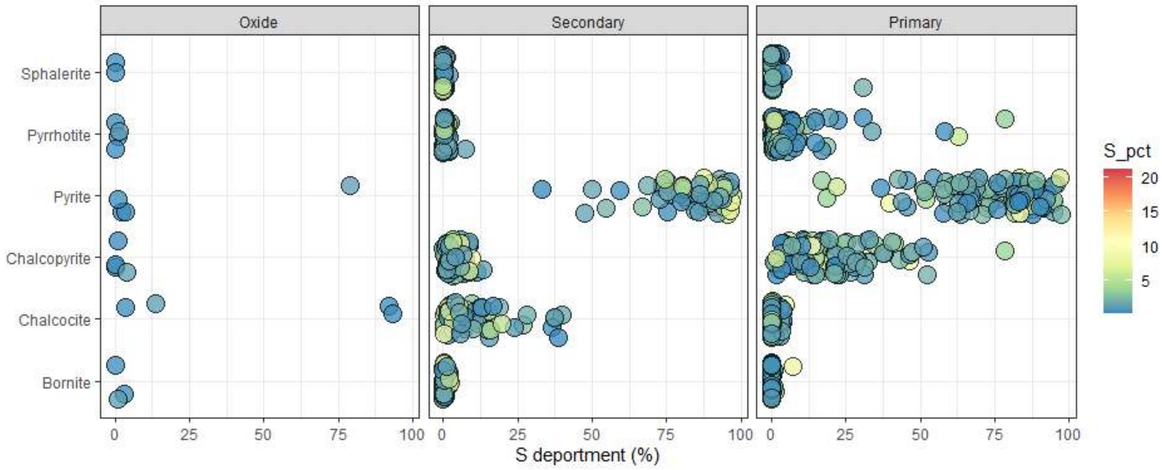


Figure 5: Sulfur deportment in all MLA samples (waste and mineral resource) where S > 0.2%.

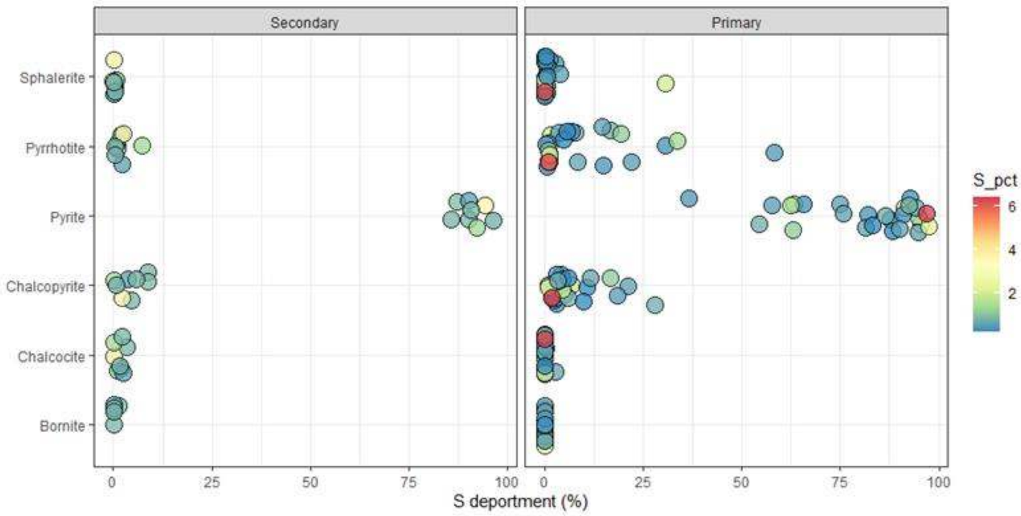


Figure 6: Sulfur deportment in waste-grade MLA samples (Cu < 0.2%, Au < 0.2 mg/kg) where S > 0.2%.

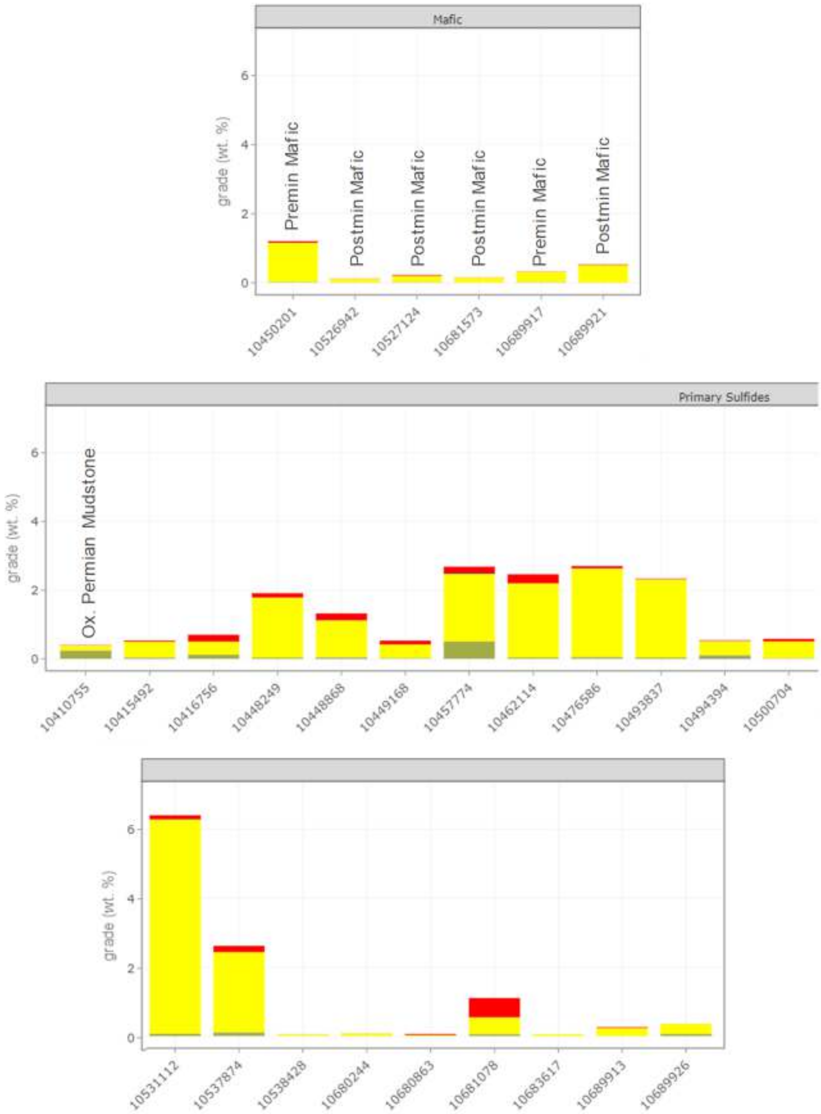


Figure 7: Sulfide mineral deportment in samples (waste only). Bright yellow is sulfur as pyrite, brown pyrrhotite and red sulfur as chalcopyrite. Sample types are meta-sediments (metasediment 1, metasediment 2 or quartz sandstone) unless noted.

Gangue mineralogy is summarised as a ternary plot in Figure 8, the vein assemblage of quartz and feldspar is grouped at the top, the mica minerals and chlorite grouped at the left corner and the weathered assemblage of clays and oxides is grouped at the right corner.

Absolute abundance is variable but, in general, primary sulfide samples in black plot along the quartz/feldspar – mica/chlorite axis, oxide-zone samples in green have higher clay/iron oxide content and enriched samples in pink and orange have variably mixed mineralogy. In the primary sulfide zone, acid neutralising micas and chlorite tend to be distributed fairly randomly, with low Cu samples deporting as both low (10%) and high (60%) mica/chlorite. Although quartz/feldspar is typically variable in the primary sulfide zone, clays and oxides are systematically low. The implication of this is that there will be some limited but variable acid neutralising capacity in the primary sulfide zone available from chlorite, noting very slow rates of reaction and lower solubility at moderate pH that may render them largely ineffective in the short term.

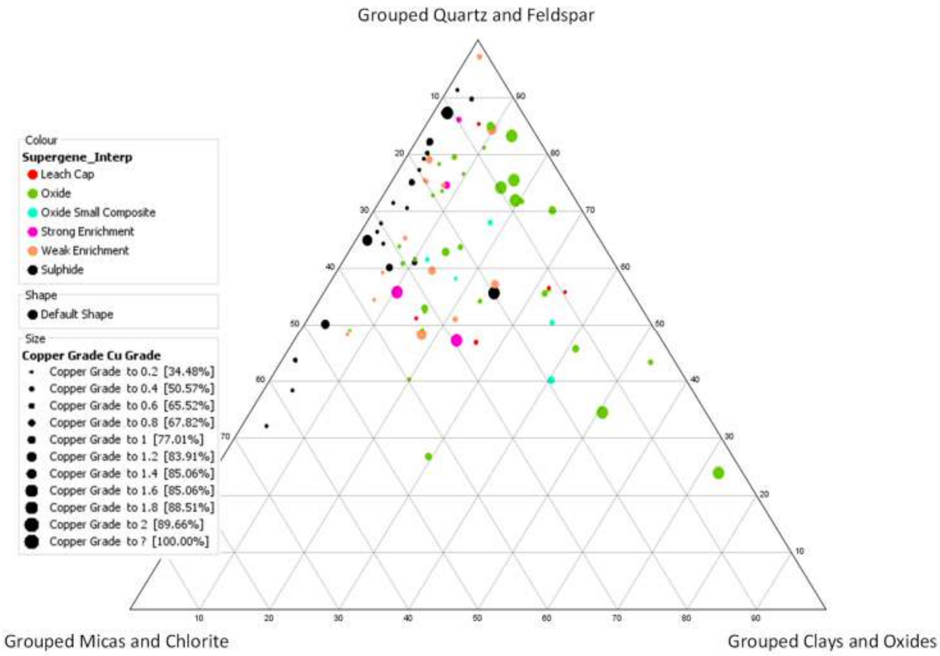


Figure 8: Grouped gangue mineralogy by geo-domain; Cu grade correlates with symbol size.

Carbonate mineralisation is more prominent in the primary sulfide zone compared with the upper oxidised zone and secondary sulfide zone. For all samples, including mineral resource, measured by MLA (Figure 9), carbonate was deported either to ankerite / dolomite (approximately 50:50) or to siderite (100% or not present). This trend was maintained in waste-grade samples (Cu < 0.2%, Figure 10). Organic carbon was typically measured as less than 0.1%, but was present at between 0.3% and 0.6% in nine of the 11 reduced permian mudstone samples collected across all three zones of the deposit.

Carbonate deportment for samples analysed as part of the mineral waste program with carbon greater than 0.1% is shown in Figure 11 to give an indication of sample variability. Although there are some samples with complete deportment of carbonate as siderite (teal colour), the weighted average of carbonate is skewed slightly towards ankerite (darker blue) and dolomite (lighter blue) due to the abundance of higher carbonate contents in samples expressing these minerals.

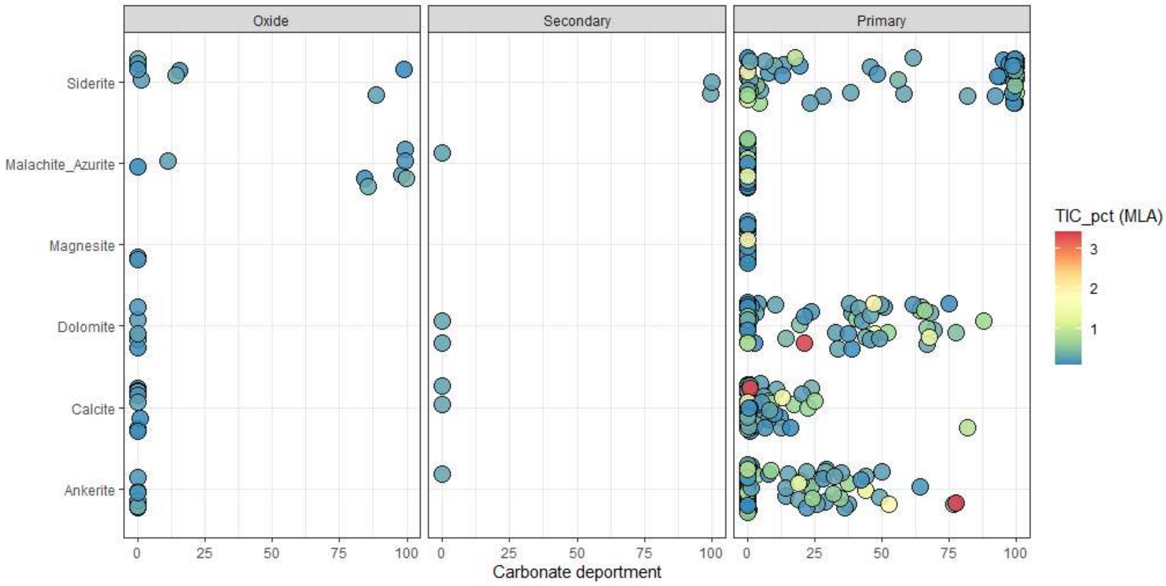


Figure 9: Carbonate deportment of all MLA samples (mineral resource and waste) with Total Inorganic Carbon (TIC) > 0.1% coloured by calculated TIC%. The majority of samples have TIC < 1%.

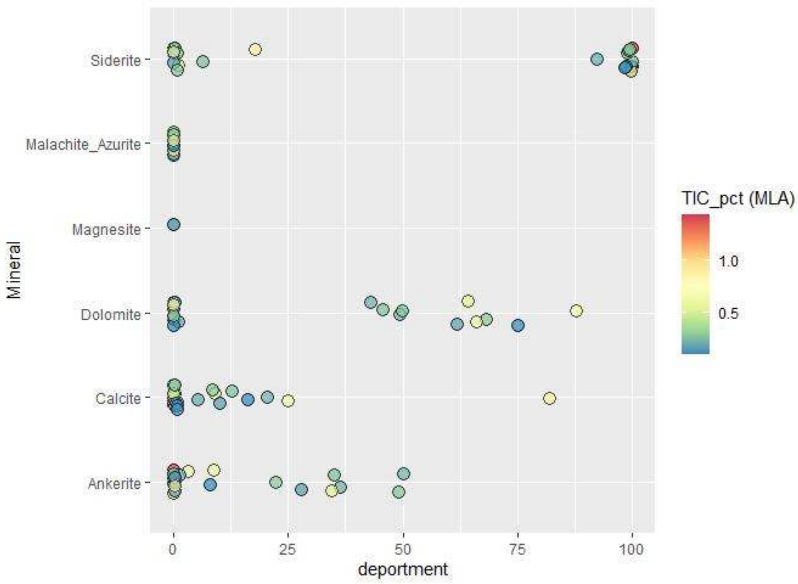


Figure 10: Carbonate deportment of waste-grade MLA samples (where Cu < 0.2%) with TIC > 0.1% coloured by calculated TIC%.

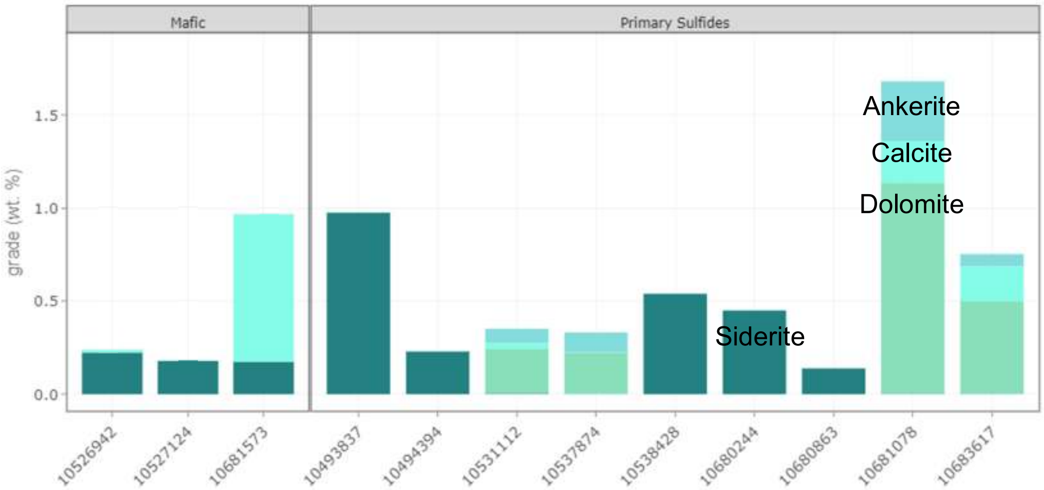


Figure 11: Carbonate mineral deportment in samples analysed (waste study samples only). Sample types are metasediments (metasediment 1, metasediment 2 and quartz sandstone) unless noted.

Siderite is not net-acid neutralising due to the release of protons as a result of Fe(III) precipitation after mobilisation and oxidation. As with siderite, the presence of iron in ankerite will reduce the acid neutralising capacity of the mineral compared to dolomite. From analysis of 11 ankerite grains from three waste rock samples, ankerite in the Winu deposit has qualitatively been noted to have a mole ratio of Fe to carbonate of about 1:20 (approximate composition of $CaMg_{0.4}Fe_{0.1}(CO_3)_2$). Ankerite in the Winu deposit is therefore likely to be net-acid neutralising, with about 90% of the neutralising capacity of dolomite.

Although still at low overall concentrations, Bi is elevated throughout the mineral resource compared with average crustal abundance. In the primary sulfide zone Bi is present primarily as bismuthinite (Bi_2S_3). In the enrichment and primary sulfide zones, emplectite and bismuthinite are often associated with other sulfide minerals, mainly chalcopyrite and pyrite. Inclusions of bismuthinite in gangue, such as quartz, micas or carbonates are also common (Figure 12). Native Bi typically occurs as isolated rounded inclusions in quartz or as swarms with multiple inclusions in a small area of the grain. Oxidation of the bismuth sulfide minerals is likely to generate bismite (Bi_2O_3) rather than mobilise soluble Bi.

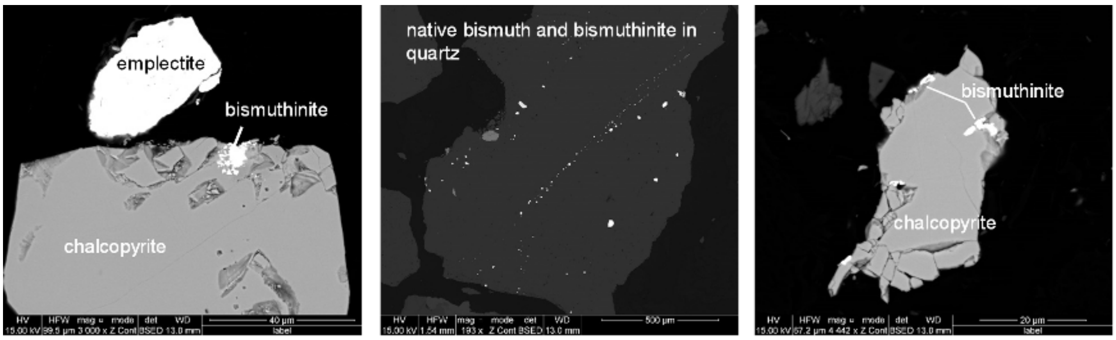


Figure 12: BSE images of the microstructure of Bi minerals in the enrichment and sulfide zone.

3.2. ACID BASE ACCOUNTING

3.2.1. *ACID NEUTRALISATION CAPACITY*

For samples with ANC below 100 kg H_2SO_4/t, the acid neutralisation potential of the primary sulfide samples was often lower when calculated from inorganic carbon content compared with the AMIRA (2002) Modified Sobek method (Figure 13). Consistent with the secondary sulfide zone, this trend is indicative of the relatively high level of biotite and chlorite ANC in the samples. Aluminosilicates are not generally considered effective at mitigating AMD in the short term, since they react slowly and at lower pH, thus ANC will somewhat overestimate the actual neutralising potential. A summary of results for each sample is in Appendix 1.

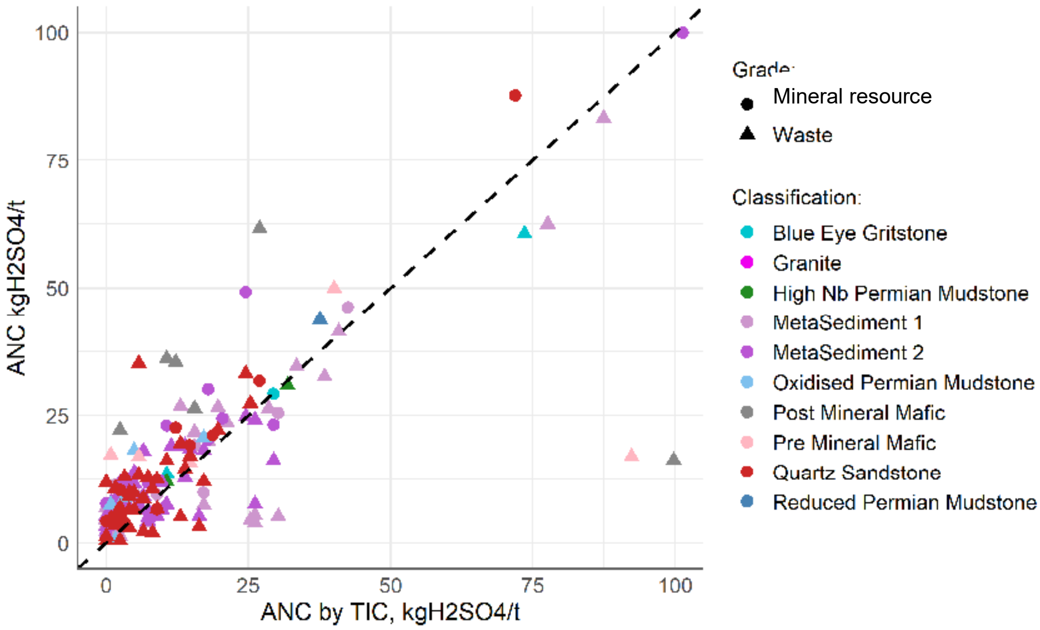


Figure 13: Plot of ANC by inorganic carbon against ANC by HCl digest. Some very high ANC values are omitted for clarity.

As discussed in the mineralogy section, the neutralisation capacity calculated from TIC may be an overestimation due to the presence of the iron rich carbonate minerals (siderite, Figure 9), as indicated by samples in the bottom right of Figure 13. In addition to this, incomplete oxidation of ferrous ions in the ANC digest solution, and therefore limited precipitation of $Fe(OH)_3$ (which releases acidity), can lead to an overestimation of the ANC via the AMIRA ANC method. Additional ANC tests using H_2O_2 added over longer time frames to assist with complete Fe oxidation were therefore completed on a range of samples over both the primary and secondary sulfide zones to quantify this effect.

The ANC measured by the modified ANC test (AMIRA 2002) to correct for siderite was consistently 20% higher than the standard ANC method (Figure 14). This result suggests that the absolute abundance of siderite in all samples tested was low enough that Fe oxidation and precipitation during the standard AMIRA (2002) ANC test, which uses a smaller dose of H_2O_2, was complete.

The additional ANC obtained from the test for siderite correction is likely due to the different sample handling methods in the test for siderite correction, which involves filtering the sample before back titration and allowing the solution to react with H_2O_2 for 48 hours. Filtering the samples before back-titration removes acidity that may be adsorbed onto mica from the measured ANC value. For the Winu waste rock samples, the standard ANC value is considered more accurate than the ANC corrected for siderite, despite the likely over-estimation of ANC due to dissolution of biotite and chlorite.

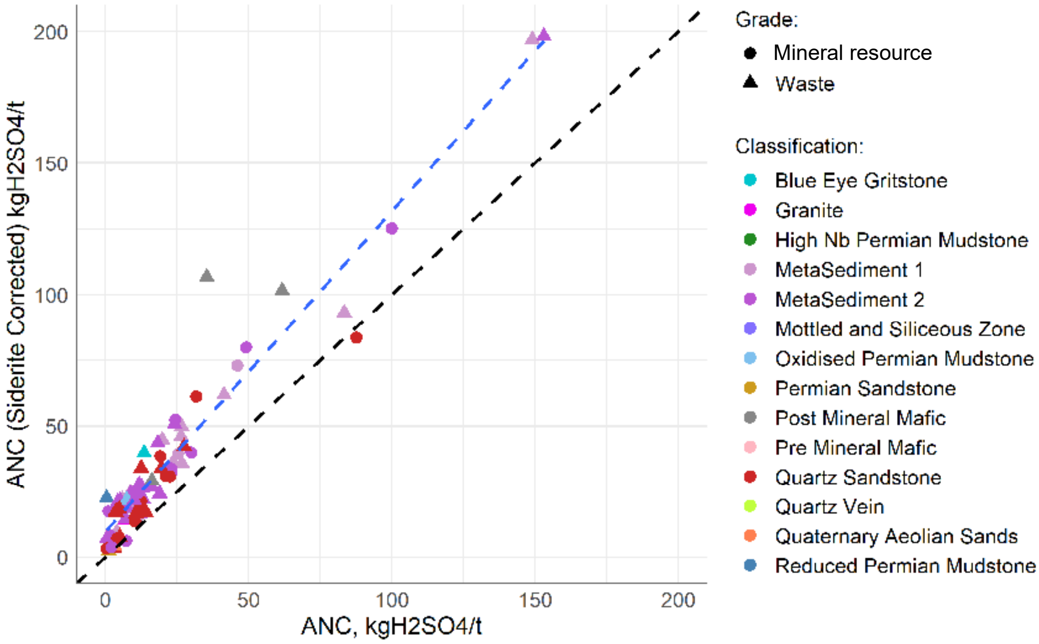


Figure 14: Relationship between the standard ANC method and ANC conducted to correct for siderite for all Winu samples showing a 1:1 relationship (black) and the line of best-fit (blue).

The overestimation of ANC by the AMIRA (2002) modified Sobek method is due to aggressive sample digestion conditions that unrealistically increase the extent of mica and other silicate mineral dissolution extents.

In summary, the standard ANC value is currently the most appropriate value to use for assessing the neutralising capacity of Winu waste rock. Although the standard ANC may overestimate neutralising capacity at low ANC values compared with ANC_{TIC} it is more reliable for higher ANC values over 20 kg H_2SO_4/t. Standard ANC by modified Sobek (AMIRA 2002) will therefore be used as the ANC value for assessing the primary sulfide samples in this report. More details on R&D test work associated with Winu ANC can be found in Gerson *et. al.* (2021).

3.2.2. *NEUTRALISATION POTENTIAL RATIO AND NET ACID PRODUCTION POTENTIAL*

In the secondary sulfide zone, acidic weathering resulted in many of the samples reporting a calculated inorganic carbon content near to 0%. In contrast, the samples from the primary sulfide zone exhibit higher carbonate mineral contents and therefore higher ANC (mean of 25 kg H_2SO_4/t). The distribution of ANC, however, was highly variable, with values ranging from 1 to 450 kg H_2SO_4/t.

Calculated MPA was similarly variable, although samples generally measured between 0 and 30 kg H_2SO_4/t, with an average of 26 kg H_2SO_4/t. As a result, the calculated NPR for primary sulfide samples was generally variable, with 54% of measured samples having NPR greater than one (Figure 15), or an NAPP of less than 0 kg H_2SO_4/t (Figure 15).

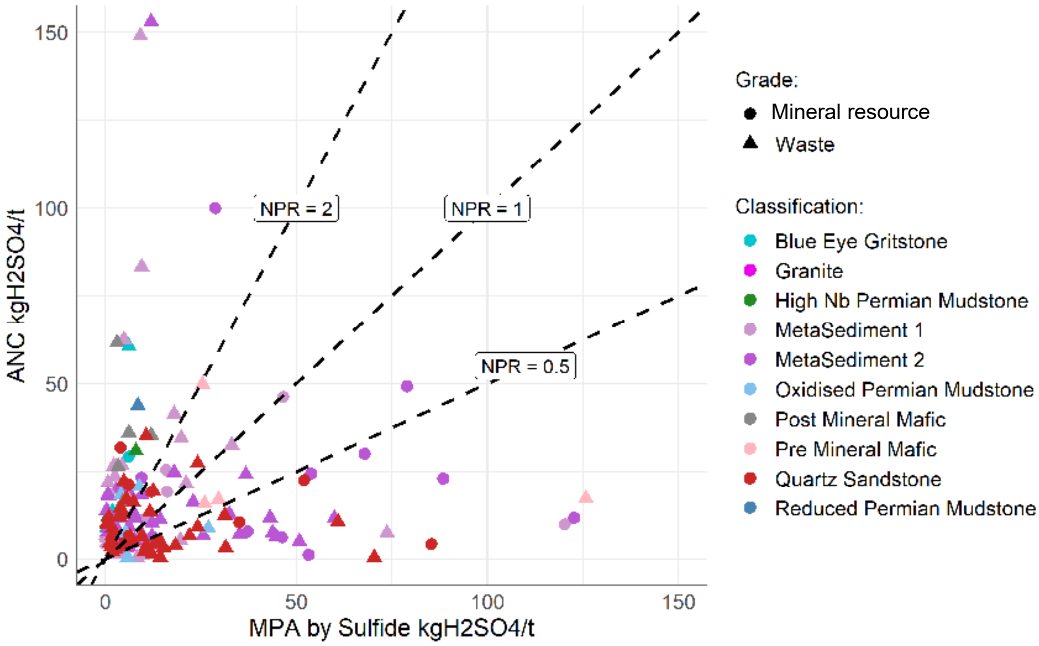


Figure 15: Plot of the NPR. Some very high ANC values are omitted for clarity.

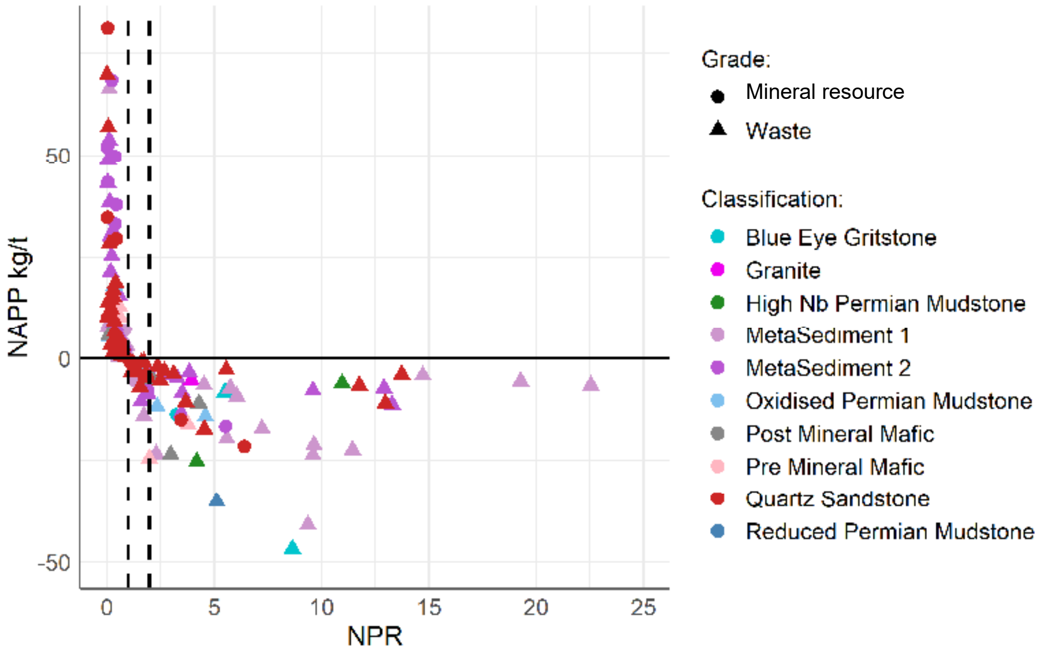


Figure 16: NPR versus NAPP. For clarity, some high NPR and very negative NAPP values were excluded.

Samples of very high ANC (above 100 kg H_2SO_4/t) were classified as either metasediment or quartz sandstone. Geological logging has identified these samples as calcite breccia or metasediment samples that likely contain significant carbonate veining. High Ca and Mg bearing breccias and metasediments could possibly be used as acid neutralising material if present in discrete minable sections.

The pre-mineral mafics, quartz sandstone and metasediment samples are areas of high grade sulfide mineralisation, and hence all exhibit high MPA values. This is particularly true for mineral resource grade samples where they were sampled (Table 4). As a result, over 50% of the mineral resource grade metasediment 2 and quartz sandstone samples were classified as PAF along with over 50% of the waste-grade pre-mineral mafic samples (Table 3).

Both of the metasediment and the quartz sandstone lithologies showed high variability between MPA and ANC, resulting in high variability in the calculated NPR and NAPP values. Sample NPR ranged from as high as 45 (metasediment 2) to close to zero. In general, the metasediment 1 had a higher proportion of samples in the low NAPP / high NPR region, suggesting that this lithology would be less acid generating than metasediment 2 (Figure 17). This is supported by the relative proportions of NAF samples for metasediment 1 (56%) and metasediment 2 (32%).

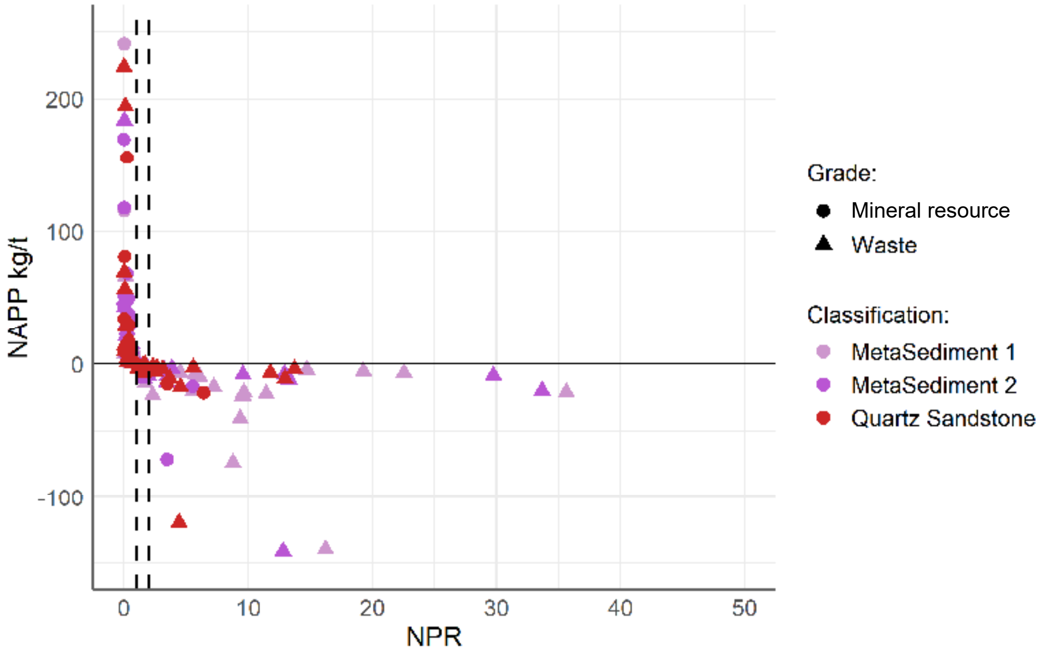


Figure 17: NPR versus NAPP for metasediment samples only.

3.2.3. *NET ACID GENERATION*

In general, samples with low NAPP values (< 0 kg H_2SO_4/t) generated high NAG pH values (Figure 18). The exception was a group of mostly metasediment 2 and quartz sandstone samples that generated low pH NAG solutions despite NAPP values less than one. These samples all had low ANC and generally resulted in ANC values over 50% higher than calculated from TIC, suggesting that the realised NAPP would be revised above one with a more conservative ANC digestion method (Appendix 3) and these samples would likely be classified as PAF.

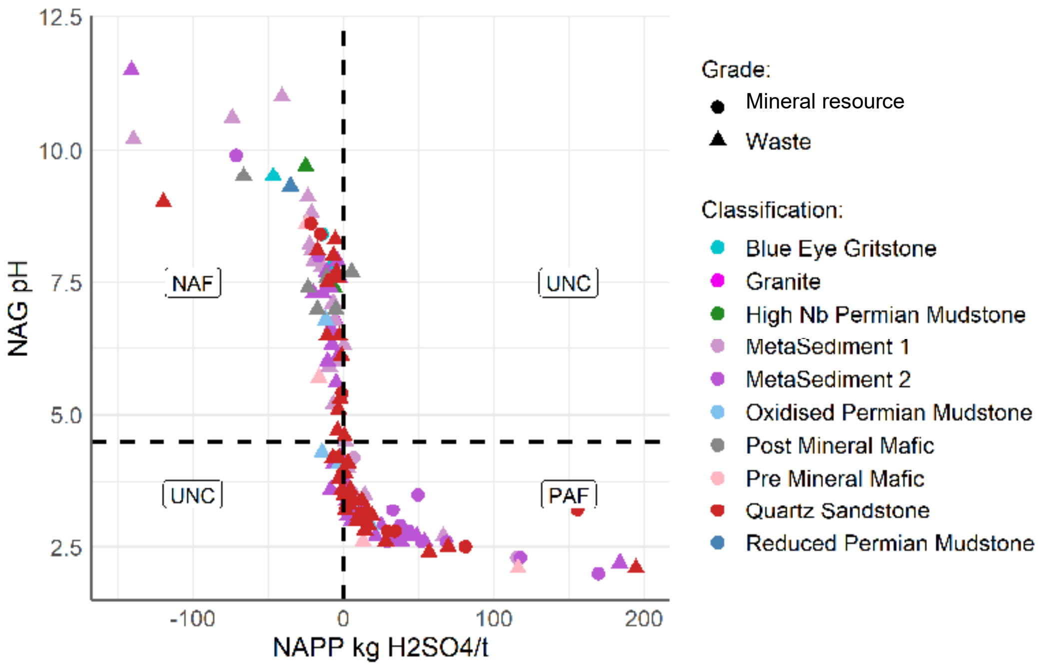


Figure 18: NAPP versus NAG pH value.

High NAG pH values were particularly evident for the high ANC metasediment samples where NAG pH values approached pH 12. Typically, NAG pH values do not rise above about pH 8.2, however, and as such the validity of these results is questionable. In some cases, high carbonate content of a sample can generate high NAG pH values due to CO_2 disequilibrium, which can be misleading (Charles *et. al.* 2015). Although the classification as NAF is still accurate for these samples, it is not recommended to use the NAG pH values for modelling or prediction. Further, it is recommended that if high carbonate samples are used in a NAG liquor analysis for metal content in future work, the solutions be sampled prior to boiling.

3.2.4. *SAMPLE CLASSIFICATION*

In general, only the metasediment 1, metasediment 2, pre-mineral mafic, and quartz sandstone samples were classified as PAF, with the acid generation capacity being generally higher for the mineral resource grade samples (Table 3, Table 4). Approximately 41% of the metasediment samples were classified as NAF.

Due to the generally lower MPA values in the waste rock, metasediment 1 samples were more likely to be classified as NAF (53%) compared with metasediment 2 samples (32%). This is supported by analysing the waste-grade samples in the Winu database (Figure 4): median sulfur is 0.14% for metasediment 1 and 0.24% for metasediment 2 waste-grade samples.

The spatial distribution of samples and their classifications is shown in Figure 19.

Table 3: Summary of acid generation capacity for primary sulfide zone 'waste grade' sample classifications. Mean values shown for each sample type.

Description	n	MPA by Sulfide kg H_2SO_4/t	ANC kg H_2SO_4/t	NAG pH	NAPP kg H_2SO_4/t	% PAF	% PAF-LC	% NAF / Barren
Metasediment 1	34	9.7	18.8	3.6	-9.1	18%	26%	53%
Metasediment 2	41	19.0	11.9	3.1	7.1	34%	24%	32%
Blue eye gritstone	3	2.8	24.0	7.0	-21.2	0%	0%	100%
Granite	1	1.8	7.2	6.8	-5.4	0%	0%	100%
High Nb permian mudstone	2	4.3	20.0	7.7	-15.7	0%	0%	100%
Oxidised permian mudstone	5	10.2	11.1	3.4	-1.0	20%	20%	20%

Description	n	MPA by Sulfide kg H_2SO_4/t	ANC kg H_2SO_4/t	NAG pH	NAPP kg H_2SO_4/t	% PAF	% PAF-LC	% NAF / Barren
Post-mineral mafic	6	5.7	25.2	7.3	-19.6	0%	0%	83%
Pre-mineral mafic	5	42.5	22.8	2.6	19.8	60%	0%	40%
Quartz sandstone	45	21.6	21.7	3.1	-0.1	29%	27%	33%
Reduced permian mudstone	1	8.6	43.8	9.3	-35.2	0%	0%	100%

Table 4: Summary of acid generation capacity for primary sulfide zone 'mineral resource grade' sample classifications. Mean values shown for each sample type.

Description	n	MPA by Sulfide kg H_2SO_4/t	ANC kg H_2SO_4/t	NAG pH	NAPP kg H_2SO_4/t	% PAF	% PAF-LC	% NAF / Barren
Metasediment 1	7	65.8	13.8	2.9	51.9	43%	29%	14%
Metasediment 2	12	63.4	21.3	2.7	42.1	58%	17%	25%
Blue eye gritstone	1	6.1	19.9	8.4	-13.8	0%	0%	100%
Quartz sandstone	8	51.1	18.2	3.1	32.9	50%	0%	38%

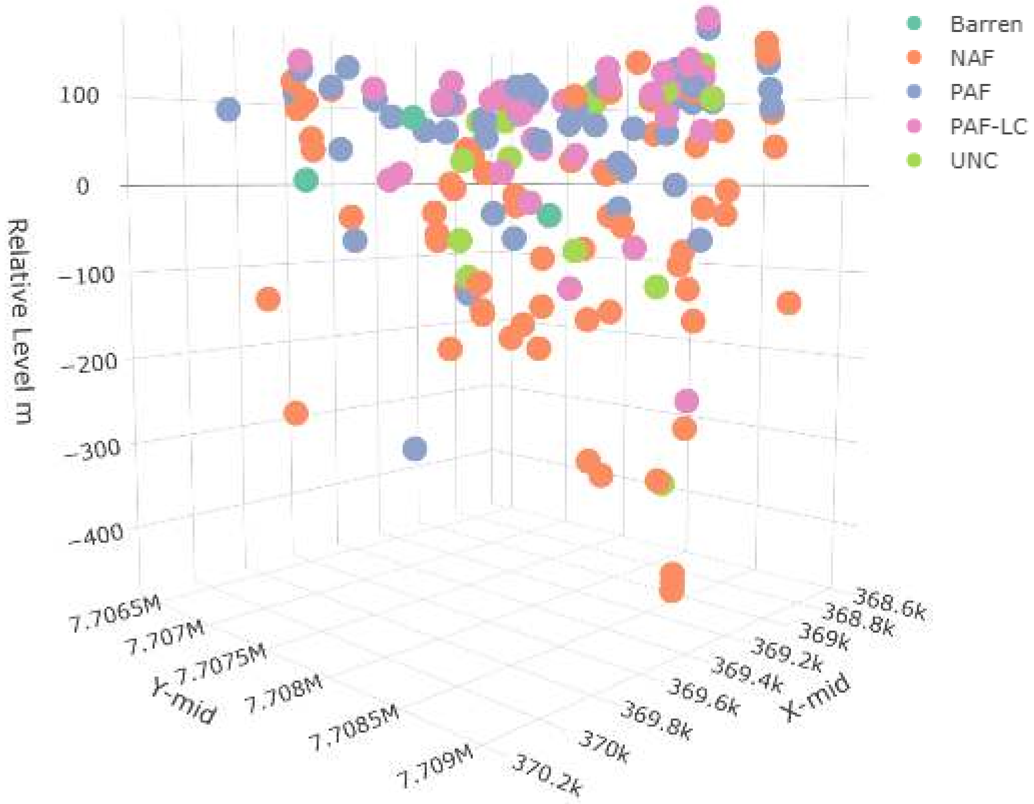


Figure 19: Primary sulfide zone samples by sample location classified by NAF / PAF (AMIRA 2002).

3.2.5. *CORRELATION BETWEEN SULFUR AND SAMPLE CLASSIFICATION*

Unlike the secondary sulfide zone samples, there was no clear cut-off between sulfur content and acid generation classification in the primary sulfide zone. This is because the secondary sulfide zone was characterised by negligible ANC, whereas the primary sulfide is characterised by highly variable ANC. NAF samples could have sulfur contents as high as 1.3%, whereas PAF samples could have sulfur contents as low as 0.15% (Figure 20).

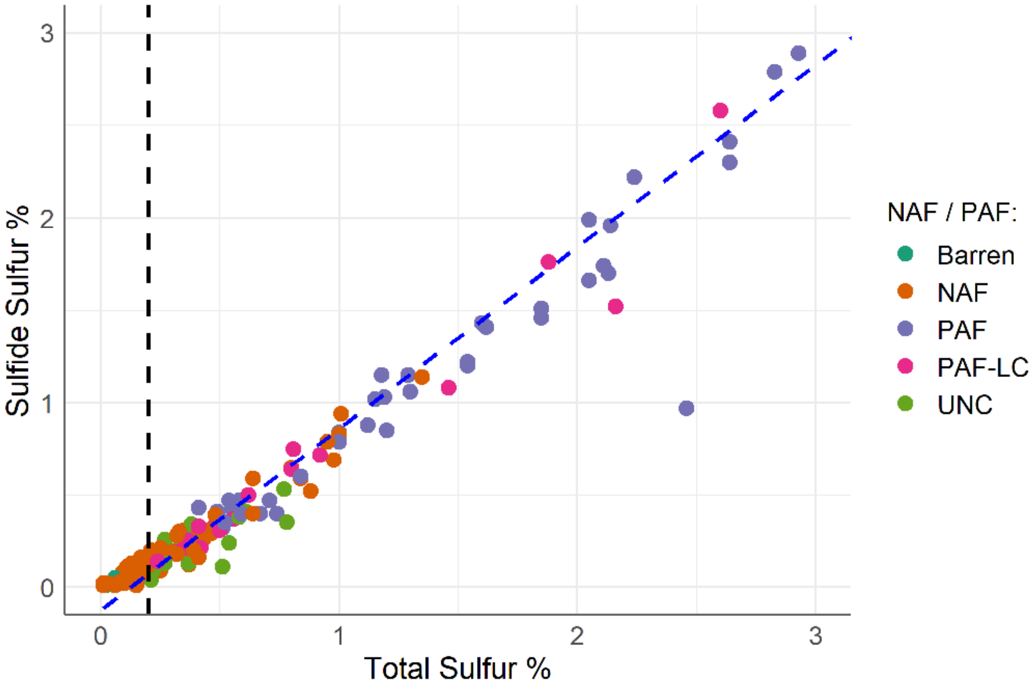


Figure 20: Plot of sulfide sulfur against total sulfur by sample classification (zoomed in to 3%). Total sulfur cut-off for NAF/PAF plotted at 0.2%.

In contrast to the sulfur cut-off, there is a clearer cut-off to classify a sample as NAF when the measured ANC of a sample is greater than 25 times the sulfur content (Figure 21). More complicated models were used attempting to correlate ANC of a sample to available assays data in the drill core database that included positive terms for CaO and MgO and a negative term for Fe_2O_3. These models resulted in relatively low correlations (R^2 = 0.65), unless total carbon was included into the equation (R^2 = 0.86). As a result, there is value to adding total carbon to the sample assay suite at Winu to assist with designation of NAF and PAF for the primary sulfides in the geological model.

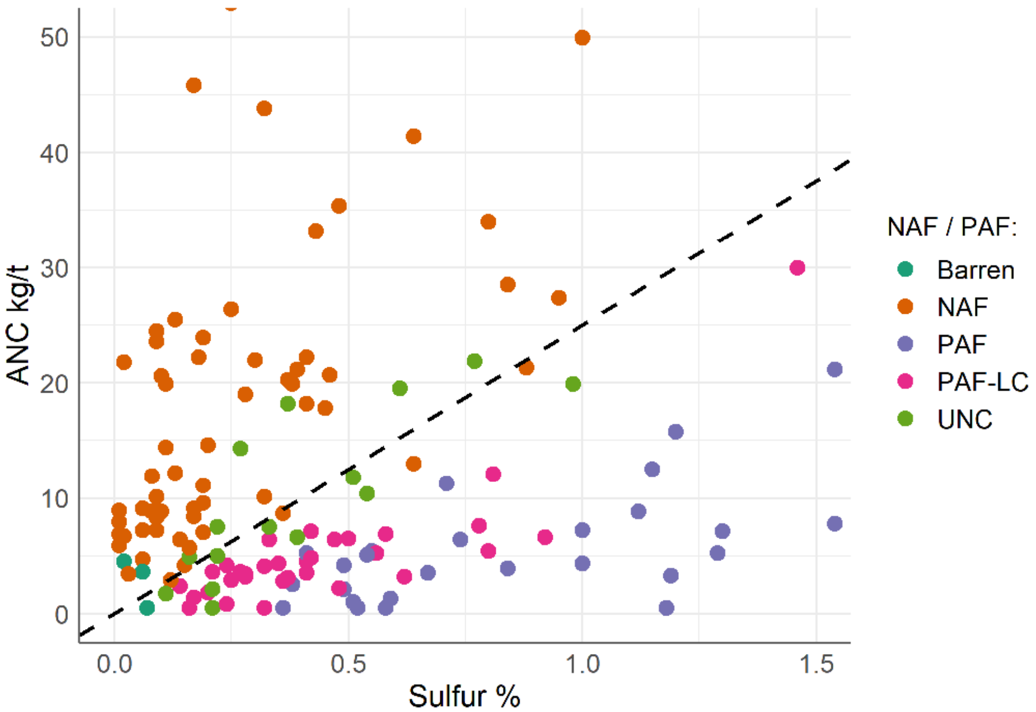


Figure 21: Plot of ANC against total sulfur by sample classification showing a cut-off designation for NAF samples when the measured ANC is greater than 25 times the sulfur content.

On the basis of Figure 20 and Figure 21, a NAF/PAF cut-off for NPR of 1.5 calculated from total sulfur and total carbon has been proposed for incorporation into the block model (with no sulfur exceeding 1.5%). This classification is relatively conservative in that a high proportion of NAF samples are classified as PAF (35% of NAF samples when total sulfur is not included in the classification). Under this classification scheme only some PAF-LC samples (three out of 36 PAF-LC samples) were mis-classified as NAF (Figure 22).

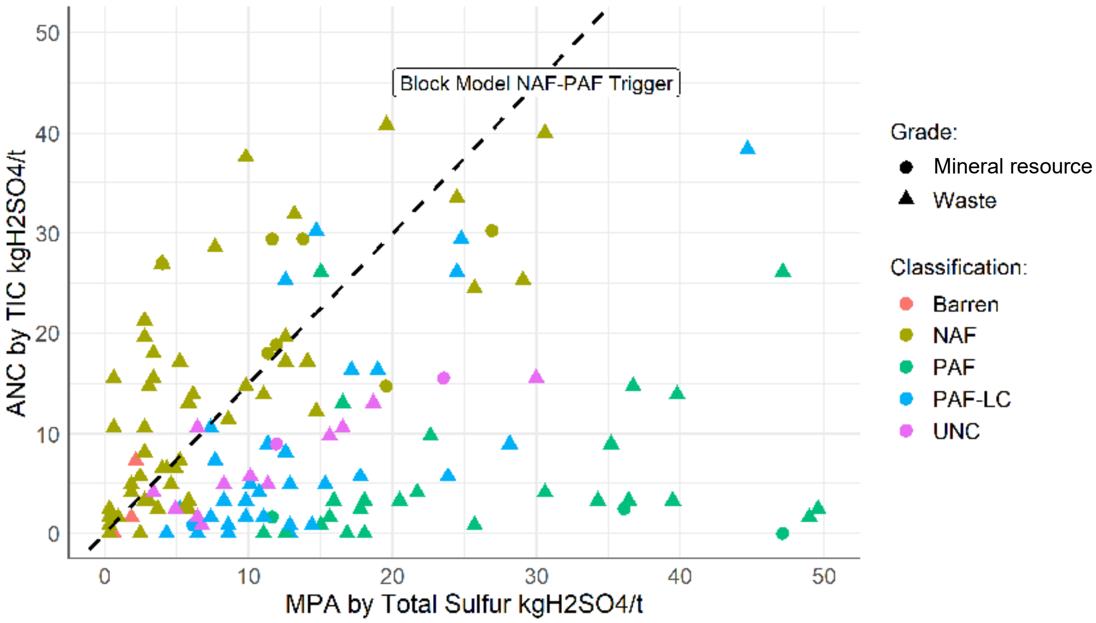


Figure 22: Primary sulfide samples by AMIRA (2002) classification from static test work compared to NAF/PAF classification based on NPR > 1.5 as applied in the block model.

3.3. WHOLE ROCK DIGEST

The primary sulfide samples were enriched in Bi and Te. The majority were enriched in W, with GAI values often exceeding three for each lithologies (Table 5). GAI values for Bi ranged from three to as high as 14. Similar to the secondary sulfide zone, Cd was occasionally marked as enriched in the primary sulfide zone (6% of samples).

Copper, Au and Ag were occasionally present at enriched concentrations, as would be expected for a Cu-Au deposit. Fluoride has only been measured in a few samples in the deposit but was occasionally 'enriched' (13% of samples).

As discussed in the mineralogy section, Bi and Te are known to be present in the primary sulfide zone minerals, as observed in the secondary and upper zone samples. Tellurium is often associated with Bi as tellurobismuthinite, explaining a general trend observed between increasing Bi content and increasing Te content.

Table 5: Whole rock digest assays coloured by GAI. Yellow represents a GAI of 3-5, red a GAI ≥ 6. Elements with a GAI < 3 for all samples have been excluded from the list.

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	As_pct	Au_ppm	Bi_ppm	Cd_ppm	Co_ppm	Cu_pct	Mo_ppm	Pb_pct	Sb_ppm	Sn_ppm	S_pct	Te_ppm	U_ppm	W_ppm	Zn_pct	F_ppm
			Average crustal abundance			0.08	0.0002	0.00	0.01	0.15	25.0	0.01	1.2	0.001	0.20	2	0.04	0.001	2.7	1.3	0.01	59
10526942	Primary	Post Mineral Mafic	WINU0087	286	287	0.05	0.0001	0.00	0.2	0.09	47.3	0.01	0.4	0.000	0.09	1	0.12	0.038	0.7	0.8	0.01	80
10527124	Primary	Post Mineral Mafic	WINU0087	407	408	0.25	0.0001	0.01	2.3	0.10	51.4	0.03	0.5	0.001	0.47	2	0.22	0.110	1.2	23.2	0.01	560
10531112	Primary	Quartz Sandstone	WINU0077	696.92	697.72	1.03	0.0007	0.06	19.1	0.04	252.0	0.10	2.2	0.003	0.25	3	6.39	0.771	1.4	8.7	0.00	190
10537713	Primary	MetaSediment 1	WINU0337	178	179	12.65	0.0001	5.50	770.0	0.71	370.0	1.90	2.2	0.002	0.16	47	8.04	53.500	2.6	119.0	0.02	620
10537874	Primary	MetaSediment 2	WINU0337	320	321	1.77	0.0004	0.35	43.7	0.55	164.0	0.17	0.9	0.001	0.43	9	2.61	1.430	3.7	64.9	0.02	800
10695143	Primary	MetaSediment 2	WINU0339	128	129	1.09	0.0002	0.32	58.0	2.65	304.0	0.14	1.1	0.001	0.03	6	5.58	2.760	3.1	49.8	0.06	300
10697163	Primary	Quartz Sandstone	WINU0316	165	166	0.23	0.0058	0.17	22.0	0.08	153.5	0.03	0.6	0.001	0.74	5	1.62	0.886	2.8	12.0	0.00	320
10698774	Primary	MetaSediment 1	WINU0330	451	452	1.54	0.0000	0.21	129.5	0.61	168.5	0.21	7.9	0.001	0.15	13	4.97	4.720	3.1	91.1	0.01	820
10701260	Primary	Quartz Sandstone	WINU0332	312	313	4.62	0.0124	0.25	27.5	6.71	551.0	0.61	14.8	0.034	0.93	15	7.43	1.480	3.0	19.7	0.17	620
10701684	Primary	MetaSediment 2	WINU0338	272	273	0.97	0.0000	0.33	62.2	0.10	173.5	0.15	0.4	0.001	0.07	7	4.20	3.330	3.7	32.0	0.01	510
10721834	Primary	MetaSediment 2	WINU0344	177	178	0.34	0.0003	0.11	18.5	0.12	182.5	0.06	0.4	0.002	0.12	8	5.76	0.810	3.7	50.7	0.01	630
10722187	Primary	Quartz Sandstone	WINU0349	176.94	178	4.79	0.0001	0.15	17.2	2.64	116.0	0.72	0.7	0.001	0.18	15	3.01	0.797	3.9	330.0	0.05	330
10722219	Primary	MetaSediment 2	WINU0349	201	202	0.88	0.0000	0.16	21.2	0.45	43.0	0.13	53.9	0.001	0.08	7	1.17	0.754	2.6	15.7	0.01	520
10745182	Primary	MetaSediment 2	WINU0458	241	242	1.41	0.0001	0.13	16.5	0.15	183.0	0.28	4.2	0.001	0.07	9	3.19	0.778	1.8	38.4	0.01	570
10699820	Primary	Quartz Sandstone	WINU0331	173.8	174.65	3.25	0.0042	0.19	25.3	0.19	1060.0	0.15	2.4	0.014	5.74	20	8.45	1.850	4.5	77.0	0.98	880
10701625	Primary	MetaSediment 2	WINU0338	219	220	0.69	0.0000	0.18	20.7	0.24	114.0	0.11	1.2	0.001	0.03	10	2.35	1.045	3.9	163.0	0.01	700
10808376	Primary	Pre Mineral Mafic	WINU0623	118	119	1.87	0.0037	0.14	32.2	0.09	93.4	0.15	5.1	0.013	1.40	56	4.36	0.850	2.6	161.0	0.02	920
10722335	Primary	MetaSediment 2	WINU0349	298	299	2.06	0.0001	0.09	20.9	0.32	96.0	0.26	0.7	0.003	0.51	8	2.26	1.665	4.2	112.5	0.01	410
10493837	Primary	MetaSediment 2	WINU0324	234.5	235.1	1.30	0.0022	0.04	3.3	0.03	103.5	0.04	0.9	0.007	0.34	13	2.34	0.109	41.5	42.6	0.03	380
10494394	Primary	MetaSediment 2	WINU0328	233	234	0.09	0.0002	0.07	3.0	0.06	121.0	0.03	2.7	0.001	0.28	5	0.54	0.056	3.9	24.7	0.06	440
10538428	Primary	Quartz Sandstone	WINU0097	146.65	147.45	0.08	0.0001	0.48	15.0	0.01	11.3	0.00	1.2	0.000	0.06	3	0.05	0.809	1.8	33.5	0.01	200
10680244	Primary	MetaSediment 1	WINU0308	289.7	291	0.09	0.0003	0.03	2.6	0.10	28.0	0.01	0.5	0.001	0.27	5	0.08	0.075	3.4	20.0	0.01	670
10680863	Primary	MetaSediment 1	WINU0314	257	258	0.15	0.0001	0.01	9.6	0.19	16.1	0.02	1.8	0.002	0.14	8	0.06	0.858	2.4	14.4	0.00	550
10680867	Primary	MetaSediment 1	WINU0314	261	262.2	1.31	0.0003	0.22	94.0	1.18	19.6	0.20	56.0	0.001	0.35	19	0.61	5.180	3.9	29.2	0.02	770
10681078	Primary	MetaSediment 2	WINU0314	424	425	3.29	0.0020	0.14	41.7	0.02	55.3	0.48	2.2	0.007	1.23	14	1.10	1.750	1.8	24.8	0.00	350
10681426	Primary	MetaSediment 1	WINU0322	216.3	217.5	1.74	0.0001	0.50	49.8	1.19	37.3	0.26	0.9	0.001	0.26	16	0.81	1.435	3.0	155.5	0.03	650
10681427	Primary	MetaSediment 1	WINU0322	217.5	218.2	1.20	0.0008	0.06	23.1	0.23	29.8	0.19	3.1	0.001	0.38	14	0.34	1.265	2.0	36.0	0.01	460
10681434	Primary	Quartz Vein	WINU0322	221.1	221.8	6.10	0.0003	0.24	53.0	1.41	66.2	0.87	6.1	0.001	0.45	18	2.49	4.000	1.3	2880.0	0.03	590
10681573	Primary	Post Mineral Mafic	WINU0322	328	329	0.08	0.0000	0.00	1.3	0.03	36.1	0.01	0.3	0.000	0.11	1	0.15	0.083	1.2	12.1	0.00	510
10683617	Primary	MetaSediment 1	WINU0086	500	501	0.07	0.0001	0.12	8.2	0.00	6.7	0.00	2.3	0.001	0.26	20	0.05	0.342	4.8	9.1	0.00	620
10683822	Primary	Quartz Sandstone	WINU0086	661.17	661.83	14.20	0.0215	1.67	269.0	0.20	178.5	3.90	4.0	0.012	7.22	31	6.87	6.560	0.4	165.5	0.01	150
10684106	Primary	Quartz Sandstone	WINU0086	883.75	884.4	1.58	0.0002	0.13	86.9	0.01	55.2	0.19	13.4	0.002	4.24	9	5.84	2.180	1.7	42.2	0.00	290
10684552	Primary	MetaSediment 1	WINU0323	180	181	0.44	0.0011	0.06	1.5	0.09	40.4	0.08	0.4	0.001	0.55	17	0.29	0.238	3.6	25.2	0.02	580
10684558	Primary	Quartz Sandstone	WINU0323	182.76	184	5.27	0.0001	0.21	38.7	2.23	59.1	1.12	6.3	0.002	0.44	19	1.70	1.360	1.7	19.3	0.06	280
10689545	Primary	MetaSediment 1	WINU0305	336.13	337	0.20	0.0015	0.03	9.5	0.00	15.0	0.06	0.9	0.001	1.42	20	0.41	0.409	3.7	36.2	0.00	910
10689647	Primary	Quartz Sandstone	WINU0305	412.91	414	2.10	0.0019	0.17	49.3	0.30	28.0	0.50	4.7	0.010	1.09	13	1.53	2.250	1.1	600.0	0.01	340
10694797	Primary	Oxidised Permian Mudstone	WINU0302	404	404.73	0.18	0.0001	0.02	18.1	0.00	8.7	0.13	31.5	0.000	0.22	8	0.36	0.275	0.9	8.9	0.00	240
10694835	Primary	Quartz Sandstone	WINU0302	433	434	1.78	0.0015	0.10	69.0	0.31	162.0	0.45	4.4	0.001	0.17	18	4.36	2.300	2.1	22.9	0.01	170
10698829	Primary	MetaSediment 1	WINU0330	493	494	0.67	0.0000	0.01	2.2	0.29	12.0	0.13	2.2	0.001	0.02	10	0.31	0.225	3.3	155.0	0.01	360
10698903	Primary	Quartz Sandstone	WINU0330	546	547	0.35	0.0006	0.04	5.5	0.09	17.7	0.16	9.2	0.001	0.39	5	0.63	0.246	1.2	4.0	0.00	260
10698904	Primary	MetaSediment 1	WINU0330	547	548	0.15	0.0002	0.03	3.0	0.00	8.2	0.01	0.6	0.001	0.22	6	0.09	0.154	2.3	7.6	0.00	480
10701704	Primary	MetaSediment 2	WINU0338	289	290	0.52	0.0000	0.09	18.2	0.10	86.2	0.11	1.3	0.000	0.21	11	1.94	0.711	3.6	155.0	0.01	690
10701788	Primary	Quartz Sandstone	WINU0338	365	366	0.08	0.0002	0.04	10.8	0.00	18.2	0.02	1.4	0.000	0.19	9	0.20	0.946	2.0	19.7	0.00	520
10741541	Primary	Quartz Sandstone	WINU0335	323	324	0.46	0.0000	0.10	28.8	0.15	7.1	0.12	1.6	0.001	0.06	7	0.15	1.310	1.7	19.4	0.00	230
10413826	Primary	MetaSediment 1	WINU0004	323	324	0.07	0.0008	0.01	1.0	0.01	19.8	0.01	2.3	0.001	0.64	13	0.20	0.070	3.9	14.2	0.00	
10415695	Primary	Quartz Sandstone	WINU0012	355	356	0.26	0.0004	0.04	3.7	0.00	14.3	0.04	2.1	0.000	0.14	4	0.26	0.120	2.4	24.8	0.00	
10443087	Primary	Reduced Permian Mudstone	WINU0013	357	358	0.47	0.0008	0.04	6.5	0.01	29.4	0.05	0.8	0.002	0.67	9	0.36	0.090	2.5	23.7	0.00	
10444732	Primary	MetaSediment 2	WINU0032	299	300	0.10	0.0002	0.01	3.1	0.00	15.2	0.03	2.9	0.001	0.06	6	0.52	0.050	3.5	26.3	0.00	
10459916	Primary	MetaSediment 1	WINU0055	316	317	0.19	0.0049	0.01	4.4	0.37	32.1	0.01	6.6	0.003	1.11	14	0.38	0.190	2.6	23.2	0.01	
10373739	Primary	Quartz Sandstone	RC17PAW0002	158	159	0.94	0.0001	0.07	22.3	0.10	64.8	0.15	4.0	0.001	0.13	13	0.90	0.470	3.5	37.0	0.01	

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	As_pct	Au_ppm	Bi_ppm	Cd_ppm	Co_ppm	Cu_pct	Mo_ppm	Pb_pct	Sb_ppm	Sn_ppm	S_pct	Te_ppm	U_ppm	W_ppm	Zn_pct	F_ppm
			Average crustal abundance			0.08	0.0002	0.00	0.01	0.15	25.0	0.01	1.2	0.001	0.20	2	0.04	0.001	2.7	1.3	0.01	59
10384643	Primary	MetaSediment 2	RC18WIN0001	158	159	0.10	0.0000	0.01	2.2	0.15	19.5	0.01	1.1	0.002	0.14	9	0.06	0.060	5.5	14.4	0.01	
10384656	Primary	MetaSediment 2	RC18WIN0001	170	171	0.74	0.0002	0.18	49.8	0.22	46.4	0.11	1.8	0.007	0.47	15	1.69	1.190	5.2	66.1	0.01	
10384663	Primary	MetaSediment 2	RC18WIN0001	176	177	0.58	0.0002	0.13	21.5	0.16	34.2	0.09	1.5	0.004	0.25	13	1.08	0.620	4.1	39.5	0.01	
10384418	Primary	MetaSediment 2	WB18WIN0002	106	107	0.81	0.0002	0.15	20.0	0.19	213.0	0.13	2.0	0.001	0.26	6	2.19	1.170	3.5	55.6	0.01	
10384444	Primary	MetaSediment 2	WB18WIN0002	129	130	0.14	0.0003	0.01	1.3	0.11	33.0	0.03	2.8	0.001	0.13	5	0.24	0.110	3.1	12.3	0.01	
10384456	Primary	MetaSediment 2	WB18WIN0002	140	141	0.58	0.0000	0.07	6.5	0.20	59.2	0.10	1.9	0.002	0.14	8	0.76	0.240	4.0	23.6	0.01	
10410118	Primary	MetaSediment 2	WINU0003	127	128	0.23	0.0001	0.05	7.7	0.09	22.0	0.03	1.8	0.001	0.17	7	0.36	0.190	3.9	20.3	0.01	
10410141	Primary	MetaSediment 1	WINU0003	147	148	0.85	0.0000	0.15	18.2	0.22	44.3	0.09	1.0	0.001	0.18	13	1.54	0.620	2.9	57.3	0.01	
10410151	Primary	MetaSediment 2	WINU0003	156	157	0.62	0.0001	0.10	28.0	0.52	28.9	0.10	1.9	0.001	0.17	15	0.89	1.110	3.0	10.4	0.01	
10410755	Primary	Oxidised Permian Mudstone	WINU0003	701	702	0.04	0.0000	0.04	3.2	0.02	17.2	0.02	0.9	0.000	0.09	7	0.40	0.070	4.2	6.2	0.01	
10413756	Primary	Quartz Sandstone	WINU0004	260	261	0.30	0.0000	0.05	3.1	0.05	17.8	0.05	2.3	0.000	0.04	6	0.34	0.210	2.1	5.1	0.00	
10411278	Primary	Quartz Sandstone	WINU0006	335	336	0.13	0.0001	0.01	2.6	0.08	17.1	0.02	3.3	0.001	0.08	6	0.23	0.200	2.4	6.0	0.00	
10414252	Primary	MetaSediment 2	WINU0007	222	223	0.29	0.0001	0.07	4.3	0.05	36.9	0.06	1.3	0.001	0.11	8	0.69	0.260	4.1	29.8	0.01	
10414362	Primary	MetaSediment 1	WINU0007	321	322	0.08	0.0004	0.02	2.1	0.14	15.5	0.01	2.0	0.001	0.16	5	0.10	0.180	3.2	19.5	0.01	
10414761	Primary	Quartz Sandstone	WINU0007	680	681	0.05	0.0000	0.06	3.2	0.03	24.1	0.01	2.6	0.000	0.03	2	0.15	0.040	2.1	14.1	0.00	
10411913	Primary	Quartz Sandstone	WINU0008	127	128	0.13	0.0010	0.02	1.6	0.07	70.7	0.02	3.0	0.000	0.04	3	0.46	0.050	2.8	14.0	0.00	
10411941	Primary	Quartz Sandstone	WINU0008	152	153	0.10	0.0001	0.07	5.0	0.06	41.7	0.02	3.0	0.000	0.02	4	0.22	0.100	3.2	6.5	0.00	
10411942	Primary	Quartz Sandstone	WINU0008	153	154	0.57	0.0002	0.03	3.2	0.33	75.4	0.09	4.9	0.001	0.05	7	0.70	0.070	3.2	440.0	0.01	
10412193	Primary	Quartz Sandstone	WINU0008	379	380	0.02	0.0001	0.04	3.3	0.01	13.9	0.00	2.9	0.000	0.06	3	0.14	0.090	1.7	1.5	0.00	
10412255	Primary	Quartz Sandstone	WINU0008	436	437	0.05	0.0002	0.01	0.8	0.00	14.5	0.01	3.5	0.001	0.12	4	0.18	0.040	2.4	7.2	0.00	
10442102	Primary	Quartz Sandstone	WINU0009	124	125	0.20	0.0002	0.03	8.4	0.29	61.4	0.02	3.8	0.002	0.08	6	0.39	0.050	3.4	77.0	0.01	
10415251	Primary	MetaSediment 1	WINU0010	449	450	0.34	0.0004	0.03	4.3	0.03	68.5	0.04	0.6	0.001	0.11	6	0.80	0.070	3.5	10.1	0.00	
10412553	Primary	MetaSediment 1	WINU0011	181	182	0.91	0.0002	0.05	14.1	0.18	37.4	0.08	0.8	0.005	0.30	14	0.54	0.320	4.0	47.8	0.01	
10412602	Primary	Quartz Sandstone	WINU0011	225	226	0.49	0.0002	0.13	17.8	0.07	28.3	0.08	3.4	0.001	0.24	7	0.44	1.190	1.5	14.8	0.00	
10413047	Primary	Quartz Sandstone	WINU0011	626	627	0.63	0.0000	0.05	6.1	1.17	13.3	0.09	4.5	0.000	0.29	8	0.33	0.140	1.9	17.9	0.04	
10415473	Primary	MetaSediment 1	WINU0012	155	156	0.37	0.0001	0.07	4.7	0.48	50.2	0.05	8.7	0.001	0.13	11	0.52	0.200	5.4	15.8	0.02	
10415524	Primary	MetaSediment 1	WINU0012	201	202	1.05	0.0004	0.18	54.9	0.15	40.3	0.15	0.6	0.000	0.49	16	0.81	3.480	4.4	18.1	0.01	640
10442857	Primary	Quartz Sandstone	WINU0013	150	151	0.71	0.0001	0.07	16.7	0.00	56.5	0.09	1.5	0.000	0.13	7	1.45	0.370	1.4	21.0	0.00	
10443377	Primary	Blue Eye Gritstone	WINU0013	618	619	0.49	0.0012	0.06	3.3	0.00	22.2	0.06	4.5	0.001	0.58	18	0.31	0.110	5.0	34.0	0.00	
10445638	Primary	MetaSediment 1	WINU0014	167	168	0.70	0.0006	0.08	13.4	1.83	24.5	0.08	4.2	0.002	0.51	16	0.43	0.660	2.2	20.4	0.06	
10445726	Primary	Quartz Sandstone	WINU0014	246	247	1.91	0.0001	0.05	4.8	10.90	18.3	0.10	0.7	0.005	0.59	6	0.41	0.270	2.6	8.0	0.24	
10416015	Primary	MetaSediment 2	WINU0015	196	197	0.18	0.0000	0.02	6.0	0.13	29.3	0.04	1.4	0.001	0.10	5	0.50	0.420	4.0	30.1	0.01	
10416095	Primary	MetaSediment 1	WINU0015	268	269	0.03	0.0001	0.01	1.8	0.01	20.3	0.01	0.3	0.001	0.18	4	0.25	0.020	4.5	5.4	0.00	
10413371	Primary	MetaSediment 2	WINU0017	151	152	0.79	0.0001	0.12	7.6	1.81	65.1	0.11	0.7	0.001	0.04	7	0.26	0.830	3.5	28.2	0.07	
10413389	Primary	Quartz Sandstone	WINU0017	168	169	0.81	0.0001	0.37	19.9	0.47	67.2	0.14	0.8	0.001	0.04	7	0.41	1.310	3.1	10.2	0.03	
10449112	Primary	MetaSediment 1	WINU0017	368	369	1.35	0.0000	0.11	50.5	0.36	43.9	0.20	4.7	0.001	0.12	10	1.08	1.840	3.4	7.3	0.01	
10416547	Primary	MetaSediment 2	WINU0018	167	168	0.12	0.0000	0.03	1.7	1.92	34.3	0.05	0.4	0.002	0.05	7	0.29	0.040	6.8	87.8	0.01	
10416554	Primary	Quartz Sandstone	WINU0018	173	174	0.55	0.0001	0.05	6.9	3.05	86.1	0.14	1.9	0.001	0.05	8	0.89	0.550	2.4	21.9	0.03	343
10416756	Primary	MetaSediment 2	WINU0018	355	356	1.04	0.0001	0.18	42.4	0.13	26.5	0.18	15.0	0.001	0.10	9	0.70	1.890	5.1	17.3	0.00	523
10416833	Primary	MetaSediment 1	WINU0018	424	425	0.13	0.0026	0.03	4.2	0.01	45.6	0.01	4.1	0.001	0.78	10	0.38	0.100	5.1	23.1	0.00	
10446153	Primary	MetaSediment 1	WINU0020	166	167	0.55	0.0001	0.27	15.3	0.32	36.2	0.09	0.9	0.002	0.16	10	0.28	0.640	6.4	74.9	0.00	
10446502	Primary	Quartz Sandstone	WINU0020	480	481	0.85	0.0001	0.20	7.8	0.11	18.0	0.20	0.4	0.003	0.15	6	0.44	0.190	1.3	3.9	0.00	
10452536	Primary	MetaSediment 1	WINU0026	139	140	0.20	0.0001	0.02	3.4	0.55	28.5	0.03	7.7	0.001	0.16	17	0.45	0.170	3.5	69.6	0.01	
10452853	Primary	MetaSediment 2	WINU0026	424	425	0.09	0.0001	0.07	4.0	0.01	29.1	0.02	0.4	0.001	0.15	3	0.45	0.150	3.6	5.9	0.00	
10449499	Primary	MetaSediment 1	WINU0028	204	205	0.14	0.0002	0.03	3.6	0.32	46.8	0.01	4.5	0.002	0.57	10	0.39	0.080	11.0	16.2	0.01	
10449621	Primary	MetaSediment 2	WINU0028	313	314	0.05	0.0001	0.03	2.9	0.00	30.9	0.01	5.7	0.001	0.13	5	0.39	0.130	4.0	5.1	0.00	
10449827	Primary	MetaSediment 2	WINU0028	499	500	0.03	0.0001	0.01	4.1	0.01	17.0	0.01	0.2	0.001	0.05	6	0.11	0.020	3.9	5.4	0.00	
10453003	Primary	Quartz Sandstone	WINU0029	156	157	0.12	0.0003	0.00	0.4	0.07	30.4	0.02	0.7	0.002	0.12	4	0.58	0.020	2.7	2.8	0.01	
10453056	Primary	MetaSediment 1	WINU0029	204	205	0.05	0.0001	0.01	3.8	0.00	13.7	0.01	0.3	0.001	0.06	8	0.11	0.020	3.8	5.2	0.00	
10444104	Primary	Quartz Sandstone	WINU0031	182	183	0.05	0.0001	0.05	2.5	0.34	33.6	0.01	4.1	0.000	0.05	3	0.07	0.080	2.7	14.3	0.01	

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	As_pct	Au_ppm	Bi_ppm	Cd_ppm	Co_ppm	Cu_pct	Mo_ppm	Pb_pct	Sb_ppm	Sn_ppm	S_pct	Te_ppm	U_ppm	W_ppm	Zn_pct	F_ppm
			Average crustal abundance			0.08	0.0002	0.00	0.01	0.15	25.0	0.01	1.2	0.001	0.20	2	0.04	0.001	2.7	1.3	0.01	59
10444113	Primary	MetaSediment 1	WINU0031	190	191	0.12	0.0001	0.03	1.6	0.34	19.2	0.01	0.7	0.001	0.16	9	0.03	0.020	4.0	13.4	0.01	
10444567	Primary	Quartz Sandstone	WINU0032	151	152	0.27	0.0002	0.05	24.9	0.14	30.1	0.07	1.5	0.004	0.22	8	0.80	0.330	2.8	26.7	0.01	
10444577	Primary	MetaSediment 2	WINU0032	160	161	0.17	0.0001	0.00	1.7	0.08	15.4	0.01	0.6	0.002	0.12	6	0.16	0.020	4.3	6.9	0.01	
10444613	Primary	Quartz Sandstone	WINU0032	192	193	0.11	0.0001	0.01	0.8	0.07	18.4	0.01	1.5	0.002	0.17	3	0.17	0.020	2.7	5.1	0.00	
10444748	Primary	MetaSediment 1	WINU0032	314	315	0.16	0.0001	0.01	2.7	0.01	37.2	0.03	1.7	0.001	0.09	6	0.72	0.040	5.0	10.5	0.00	
10453335	Primary	MetaSediment 1	WINU0034	155	156	0.06	0.0001	0.08	3.8	0.03	20.8	0.01	0.5	0.001	0.23	7	0.23	0.100	5.3	9.6	0.01	
10453335	Primary	MetaSediment 1	WINU0034	155	156	0.06	0.0001	0.08	3.8	0.03	20.8	0.01	0.5	0.001	0.23	7	0.23	0.100	5.3	9.6	0.01	
10453352	Primary	Quartz Sandstone	WINU0034	170	171	0.28	0.0001	0.05	12.2	0.09	34.7	0.04	0.5	0.004	0.14	4	0.62	0.460	1.9	21.0	0.01	
10453478	Primary	Quartz Sandstone	WINU0034	284	285	0.41	0.0006	0.10	5.2	0.38	48.1	0.06	0.5	0.004	0.45	6	0.62	0.120	3.1	17.5	0.01	
10449894	Primary	Quartz Sandstone	WINU0035	141	142	0.03	0.0032	0.02	1.0	0.01	51.4	0.01	0.4	0.001	0.05	3	0.05	0.020	2.8	9.3	0.00	
10449911	Primary	Quartz Sandstone	WINU0035	156	157	0.11	0.0002	0.06	13.7	0.02	27.9	0.02	0.6	0.001	0.06	3	0.98	0.560	1.7	4.8	0.00	
10449925	Primary	MetaSediment 2	WINU0035	169	170	0.01	0.0000	0.00	0.3	0.02	15.6	0.01	0.3	0.000	0.05	4	0.28	0.020	2.9	3.6	0.00	
10449937	Primary	Quartz Sandstone	WINU0035	180	181	0.06	0.0001	0.01	0.5	0.08	11.6	0.01	0.7	0.002	0.06	2	0.18	0.020	2.2	2.1	0.00	
10450295	Primary	Quartz Sandstone	WINU0036	235	236	0.21	0.0003	0.01	2.7	0.04	63.4	0.02	1.1	0.001	0.09	4	1.05	0.120	3.1	15.0	0.00	
10450398	Primary	Oxidised Permian Mudstone	WINU0036	328	329	0.21	0.0000	0.02	3.6	0.00	24.2	0.02	39.5	0.002	0.08	7	0.64	0.160	4.1	3.1	0.01	
10450435	Primary	Oxidised Permian Mudstone	WINU0036	361	362	0.16	0.0001	0.13	4.0	0.13	50.5	0.04	0.4	0.005	0.12	3	1.20	0.100	2.7	5.0	0.01	
10444953	Primary	Quartz Sandstone	WINU0039	191	192	1.39	0.0013	0.14	5.3	0.66	109.0	0.15	0.4	0.021	0.15	4	2.58	0.240	1.6	28.6	0.01	
10453702	Primary	MetaSediment 2	WINU0040	128	129	0.34	0.0006	0.17	10.9	0.36	49.6	0.06	1.4	0.001	0.26	8	0.50	0.110	5.1	27.0	0.01	
10453713	Primary	MetaSediment 2	WINU0040	138	139	0.35	0.0002	0.54	22.8	0.22	93.9	0.10	0.8	0.001	0.16	3	1.54	0.550	4.5	15.3	0.02	
10453755	Primary	MetaSediment 1	WINU0040	176	177	0.09	0.0002	0.03	2.7	0.01	17.7	0.02	0.4	0.001	0.18	5	0.01	0.120	4.8	9.9	0.01	
10453804	Primary	MetaSediment 2	WINU0040	220	221	0.19	0.0000	0.05	2.0	0.06	20.0	0.04	0.7	0.000	0.04	5	0.21	0.080	3.8	4.7	0.01	
10453819	Primary	MetaSediment 1	WINU0040	234	235	0.24	0.0000	0.05	4.4	0.15	11.3	0.14	0.3	0.001	0.05	15	0.22	0.110	6.3	17.1	0.01	
10446688	Primary	MetaSediment 2	WINU0041	125	126	0.05	0.0001	0.00	1.7	0.03	13.4	0.01	0.2	0.001	0.10	9	0.02	0.020	4.4	26.4	0.01	
10446701	Primary	MetaSediment 2	WINU0041	135	136	0.27	0.0001	0.15	77.5	0.04	23.9	0.07	0.7	0.001	0.16	11	1.72	0.880	5.2	57.0	0.01	
10446735	Primary	Quartz Sandstone	WINU0041	166	167	0.11	0.0001	0.02	6.0	0.03	16.4	0.02	1.9	0.000	0.14	4	0.53	0.090	1.4	7.5	0.00	
10446809	Primary	Quartz Sandstone	WINU0041	234	235	0.19	0.0002	0.04	14.2	0.04	49.5	0.03	1.9	0.002	0.08	5	1.04	0.410	2.0	3.8	0.00	
10386989	Primary	MetaSediment 1	WINU0041	430	431	0.02	0.0001	0.00	0.2	0.02	11.9	0.00	1.6	0.001	0.11	6	0.03	0.020	3.2	5.3	0.00	
10451023	Primary	Quartz Sandstone	WINU0042	247	248	0.38	0.0001	0.01	1.9	0.03	10.6	0.01	4.0	0.001	0.08	8	0.13	0.080	2.2	20.8	0.00	
10451216	Primary	Quartz Sandstone	WINU0042	414	415	1.83	0.0002	0.06	17.2	0.45	22.3	0.28	1.7	0.001	0.15	12	0.68	0.590	1.8	26.9	0.01	
10454334	Primary	MetaSediment 1	WINU0045	190	191	0.09	0.0003	0.51	30.1	0.01	22.7	0.03	0.9	0.000	0.47	3	0.53	2.620	3.7	6.6	0.00	
10454664	Primary	Quartz Sandstone	WINU0045	421	422	0.02	0.0001	0.00	0.2	0.01	11.3	0.01	2.6	0.000	0.03	2	0.11	0.020	2.8	2.3	0.00	
10454840	Primary	MetaSediment 1	WINU0045	575	576	0.04	0.0001	0.01	2.8	0.06	16.2	0.01	0.5	0.001	0.08	8	0.13	0.060	4.9	10.7	0.00	
10457352	Primary	MetaSediment 1	WINU0048	201	202	0.11	0.0001	0.01	1.5	0.02	16.7	0.01	0.9	0.001	0.16	8	0.09	0.040	4.2	13.5	0.01	
10452285	Primary	Granite	WINU0051	497.8	498.5	0.50	0.0000	0.01	6.7	0.07	1.7	0.06	10.3	0.000	0.09	3	0.11	0.210	0.1	0.4	0.00	
10454973	Primary	Blue Eye Gritstone	WINU0052	126	127	0.30	0.0002	0.01	2.1	0.08	15.3	0.04	1.4	0.002	0.10	8	0.01	0.060	4.2	21.6	0.01	
10455833	Primary	MetaSediment 2	WINU0052	775	776	0.42	0.0000	0.03	3.3	0.09	19.9	0.08	1.6	0.001	0.02	10	0.15	0.110	5.4	4.8	0.01	
10457774	Primary	Quartz Sandstone	WINU0053	166	167	1.19	0.0001	0.30	44.4	0.17	169.0	0.20	0.9	0.034	0.64	11	2.68	1.510	4.3	144.5	0.01	528
10457847	Primary	MetaSediment 1	WINU0053	224	225	0.17	0.0001	0.01	0.9	0.06	39.3	0.03	4.3	0.001	0.05	12	0.28	0.020	5.0	4.4	0.01	
10457955	Primary	Quartz Sandstone	WINU0053	310	310.4	0.01	0.0000	0.01	0.4	0.01	10.8	0.00	0.7	0.000	0.04	2	0.04	0.020	2.4	4.0	0.00	
10462114	Primary	MetaSediment 2	WINU0054	161	162.2	1.65	0.0001	0.12	25.1	0.54	86.5	0.27	0.8	0.001	0.22	18	2.46	0.730	3.5	240.0	0.02	430
10462206	Primary	MetaSediment 2	WINU0054	232	233	0.66	0.0000	0.03	9.3	0.16	27.2	0.09	0.4	0.001	0.11	17	0.44	0.490	5.7	84.9	0.01	
10459657	Primary	MetaSediment 2	WINU0055	88	89	1.02	0.0007	0.09	56.8	0.05	19.0	0.15	1.4	0.006	0.59	15	0.32	0.620	5.7	55.7	0.01	
10459669	Primary	MetaSediment 2	WINU0055	99	100	0.34	0.0003	0.07	40.7	0.12	18.5	0.07	1.0	0.002	0.17	12	0.61	0.360	7.2	88.7	0.01	
10448040	Primary	Oxidised Permian Mudstone	WINU0056	172.4	173	0.11	0.0001	0.00	0.9	0.02	13.4	0.01	0.5	0.001	0.08	7	0.22	0.020	3.5	32.7	0.00	
10448527	Primary	MetaSediment 2	WINU0056	539	540	1.35	0.0001	0.11	57.0	0.01	96.4	0.23	2.1	0.002	0.70	18	2.24	1.570	2.9	100.5	0.00	
10448572	Primary	Quartz Sandstone	WINU0056	575	576	0.17	0.0001	0.33	10.5	0.00	10.5	0.01	3.2	0.000	0.19	7	0.16	0.110	2.1	26.5	0.00	
10448850	Primary	MetaSediment 1	WINU0056	791	792	0.13	0.0001	0.03	2.0	0.14	11.3	0.01	4.8	0.001	0.05	8	0.10	0.041	8.5	27.0	0.01	
10448868	Primary	MetaSediment 2	WINU0056	804	805	1.61	0.0000	0.27	324.0	2.13	38.7	0.23	7.0	0.001	0.08	12	1.32	5.960	2.5	51.4	0.05	123
10458183	Primary	Quartz Sandstone	WINU0057	141.1	142	0.38	0.0002	0.53	34.4	0.05	91.4	0.06	1.1	0.007	0.17	3	1.48	0.280	3.2	6.9	0.00	
10458192	Primary	Quartz Sandstone	WINU0057	149.17	150	0.06	0.0001	0.07	6.9	0.03	26.6	0.02	1.3	0.001	0.06	3	0.32	0.210	3.5	12.3	0.00	

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	As_pct	Au_ppm	Bi_ppm	Cd_ppm	Co_ppm	Cu_pct	Mo_ppm	Pb_pct	Sb_ppm	Sn_ppm	S_pct	Te_ppm	U_ppm	W_ppm	Zn_pct	F_ppm
			Average crustal abundance			0.08	0.0002	0.00	0.01	0.15	25.0	0.01	1.2	0.001	0.20	2	0.04	0.001	2.7	1.3	0.01	59
10459205	Primary	Quartz Sandstone	WINU0062	263.07	264	0.32	0.0000	0.12	20.4	0.04	12.2	0.07	1.2	0.001	0.07	5	0.27	0.766	1.5	3.0	0.00	
10467665	Primary	MetaSediment 2	WINU0101	106	107	0.18	0.0002	0.05	5.1	0.06	63.1	0.03	3.8	0.001	0.07	6	0.38	0.080	3.6	24.7	0.01	
10467749	Primary	MetaSediment 2	WINU0101	182	183	0.70	0.0001	0.18	32.5	0.31	67.6	0.13	4.1	0.001	0.13	12	1.07	1.170	4.0	106.0	0.01	
10464688	Primary	MetaSediment 2	WINU0102	169	170	0.41	0.0001	0.10	22.8	0.25	19.7	0.05	5.6	0.001	0.12	9	0.31	0.510	3.3	14.3	0.01	
10464711	Primary	MetaSediment 2	WINU0102	189	190	0.57	0.0004	0.06	12.8	0.22	79.9	0.08	2.1	0.001	0.37	9	1.71	0.240	3.8	27.4	0.01	
10468088	Primary	MetaSediment 2	WINU0103	143	144	1.12	0.0047	0.09	7.3	0.39	121.0	0.18	2.9	0.001	0.07	13	0.88	0.230	5.7	22.9	0.01	
10468093	Primary	MetaSediment 2	WINU0103	147	148	1.25	0.0002	0.12	21.7	0.26	115.0	0.23	3.5	0.001	0.10	10	1.87	0.310	2.9	77.0	0.01	
10467973	Primary	MetaSediment 2	WINU0104	128	129	0.22	0.0001	0.16	7.5	0.04	32.6	0.04	2.5	0.001	0.14	6	0.50	0.140	4.9	42.4	0.00	
10468588	Primary	Quartz Sandstone	WINU0105	224	225	0.40	0.0001	0.09	14.7	0.12	46.0	0.07	4.1	0.001	0.08	7	0.70	0.550	2.6	45.3	0.01	
10472480	Primary	MetaSediment 2	WINU0117	174	175	0.75	0.0002	0.15	17.5	0.86	66.6	0.07	2.2	0.012	0.34	6	1.27	0.760	4.2	67.6	0.03	
10463142	Primary	MetaSediment 2	WINU0118	232	233	1.29	0.0003	0.28	64.3	0.29	48.2	0.29	4.2	0.002	0.21	11	0.62	3.010	3.3	158.0	0.01	
10465149	Primary	MetaSediment 1	WINU0121	214	215	1.68	0.0001	0.05	6.7	0.58	35.5	0.20	7.3	0.001	0.24	9	1.02	0.330	3.0	30.6	0.01	
10466541	Primary	MetaSediment 1	WINU0127	232	233	1.74	0.0004	0.24	50.9	0.22	153.5	0.28	3.4	0.002	0.75	8	2.15	3.080	3.0	105.0	0.01	
10481427	Primary	MetaSediment 2	WINU0149	167	168	0.75	0.0001	0.15	52.3	0.45	21.9	0.14	6.0	0.001	0.14	13	0.53	3.760	3.8	41.8	0.01	
10476586	Primary	MetaSediment 1	WINU0151	149	150	0.73	0.0000	0.17	25.5	0.66	122.5	0.09	2.5	0.001	0.13	12	2.70	1.230	4.6	97.3	0.02	520
10476696	Primary	Quartz Sandstone	WINU0151	248	249	0.20	0.0001	0.08	26.3	0.04	20.5	0.04	9.6	0.001	0.14	5	0.17	2.000	2.3	151.5	0.00	
10386741	Primary	MetaSediment 1	WINU0001	420	421	0.67	0.0001	0.22	45.9	0.05	43.1	0.14	1.9	0.001	0.17	8	0.77	1.710	4.0	12.1	0.00	
10414914	Primary	Quartz Sandstone	WINU0010	146	147	0.35	0.0001	0.05	6.0	1.96	28.8	0.04	8.0	0.001	0.88	8	0.65	0.350	8.8	188.0	0.01	
10414923	Primary	Oxidised Permian Mudstone	WINU0010	154	155	0.85	0.0002	0.02	12.1	77.70	151.5	0.13	3.7	0.004	0.18	7	0.35	0.390	16.8	340.0	0.04	
10414941	Primary	MetaSediment 1	WINU0010	170	171	0.13	0.0001	0.10	11.0	0.30	14.0	0.01	3.7	0.002	0.12	7	0.19	0.310	5.7	220.0	0.01	
10414945	Primary	MetaSediment 1	WINU0010	174	175	0.53	0.0000	0.06	17.5	0.30	32.4	0.09	1.7	0.001	0.24	14	0.57	1.260	3.9	240.0	0.02	
10414954	Primary	MetaSediment 1	WINU0010	182	183	0.36	0.0001	0.10	9.3	0.37	35.1	0.05	1.3	0.002	0.16	9	0.53	0.730	4.4	175.0	0.02	
10415087	Primary	Quartz Sandstone	WINU0010	302	303	0.17	0.0001	0.07	4.1	0.06	30.1	0.02	1.9	0.000	0.04	2	0.36	0.130	2.3	5.7	0.00	
10412822	Primary	Blue Eye Gritstone	WINU0011	423	424	1.48	0.0002	0.22	109.5	0.45	11.8	0.16	5.5	0.003	0.76	10	0.39	3.530	2.0	43.3	0.01	
10416593	Primary	MetaSediment 1	WINU0018	208	209	0.19	0.0001	0.02	1.4	0.16	31.7	0.02	1.3	0.002	0.27	9	0.55	0.060	4.3	15.3	0.01	
10452568	Primary	MetaSediment 1	WINU0026	168	169	0.18	0.0001	0.02	0.8	0.28	25.7	0.01	0.2	0.004	0.15	6	0.38	0.780	3.5	12.1	0.02	
10449653	Primary	MetaSediment 2	WINU0028	342	343	0.02	0.0001	0.00	0.4	0.00	21.7	0.00	0.5	0.001	0.04	7	0.06	0.020	3.9	5.0	0.00	
10444672	Primary	Quartz Sandstone	WINU0032	245	246	0.28	0.0002	0.08	10.5	0.12	35.4	0.10	1.0	0.002	0.16	9	0.62	0.320	3.5	14.9	0.01	
10450746	Primary	Quartz Sandstone	WINU0038	280	281	0.06	0.0001	0.00	0.5	0.00	14.2	0.00	0.3	0.000	0.11	8	0.08	0.020	3.0	6.4	0.00	
10446674	Primary	MetaSediment 1	WINU0041	112	113	0.19	0.0002	0.02	8.0	0.15	12.2	0.02	0.4	0.001	0.13	11	0.01	0.150	4.0	48.3	0.01	
10446763	Primary	MetaSediment 2	WINU0041	193	194	0.01	0.0001	0.01	0.3	0.00	13.2	0.01	0.9	0.001	0.02	6	0.13	0.020	3.1	4.6	0.00	
10457449	Primary	MetaSediment 1	WINU0048	283	284	0.06	0.0002	0.00	0.4	0.00	18.6	0.00	0.4	0.000	0.18	5	0.10	0.020	4.7	12.9	0.00	
10448387	Primary	Blue Eye Gritstone	WINU0056	437	438	0.06	0.0001	0.00	0.9	0.02	16.8	0.01	2.9	0.001	0.14	5	0.10	0.020	3.3	7.0	0.00	
10373747	Primary	Post Mineral Mafic	RC17PAW0002	166	167	0.07	0.0000	0.01	2.6	0.01	40.3	0.02	1.0	0.000	0.12	1	0.17	0.150	0.7	23.0	0.00	
10451267	Primary	Post Mineral Mafic	WINU0042	457	457.52	0.04	0.0002	0.01	0.3	0.02	46.5	0.01	0.6	0.001	0.45	1	0.43	0.060	0.7	2.9	0.00	
10478026	Primary	Post Mineral Mafic	WINU0135	205	206	0.06	0.0000	0.01	2.3	0.06	56.0	0.02	3.6	0.001	0.15	3	0.22	0.100	1.9	19.1	0.01	
10412085	Primary	Pre Mineral Mafic	WINU0008	282	283	0.30	0.0000	0.06	20.7	0.03	65.2	0.13	2.6	0.000	0.06	25	2.21	0.540	1.0	69.7	0.02	
10416373	Primary	Pre Mineral Mafic	WINU0015	518	519	0.22	0.0003	0.14	12.8	0.00	52.1	0.05	2.3	0.001	0.12	17	1.01	0.080	2.1	51.0	0.01	
10450201	Primary	Pre Mineral Mafic	WINU0036	151	152.4	0.07	0.0001	0.06	15.2	0.00	61.9	0.05	1.9	0.001	0.07	25	1.20	0.580	1.1	14.5	0.02	1476
10450206	Primary	Pre Mineral Mafic	WINU0036	155	156	0.07	0.0002	0.01	1.3	0.21	50.3	0.02	2.3	0.003	0.10	7	0.32	0.100	1.4	15.9	0.02	
10411406	Primary	MetaSediment 2	WINU0006	450	451	1.80	0.0001	0.04	10.6	0.79	18.2	0.26	4.0	0.001	0.26	11	0.39	1.440	3.3	11.9	0.02	0
10442109	Primary	Quartz Sandstone	WINU0009	131	132	0.59	0.0000	0.02	4.9	0.33	7.1	0.09	3.5	0.000	0.05	9	0.17	0.140	1.7	1330.0	0.01	
10445862	Primary	High Nb Permian Mudstone	WINU0014	368	369	0.74	0.0000	0.03	2.1	0.07	14.8	0.16	1.2	0.000	0.05	4	0.45	0.090	0.3	2.7	0.00	
10449168	Primary	Quartz Sandstone	WINU0017	419	420	0.62	0.0000	0.09	18.5	0.04	20.2	0.14	0.7	0.000	0.08	6	0.53	0.600	1.2	168.5	0.00	304
10449662	Primary	High Nb Permian Mudstone	WINU0028	350	351	0.01	0.0000	0.00	0.3	0.05	1.3	0.00	1.8	0.000	0.07	2	0.03	0.020	0.4	1.4	0.00	
10451261	Primary	Post Mineral Mafic	WINU0042	451	452	0.07	0.0001	0.00	0.2	0.05	46.0	0.02	0.6	0.000	0.09	1	0.15	0.040	0.8	4.7	0.01	
10442851	Primary	Quartz Sandstone	WINU0013	144	145	1.00	0.0002	0.05	16.7	0.00	50.7	0.10	1.6	0.001	0.26	7	1.23	0.280	1.7	11.9	0.00	
10446756	Primary	Quartz Sandstone	WINU0041	187	188	0.18	0.0001	0.05	10.3	0.00	29.1	0.01	1.2	0.000	0.13	6	0.54	0.350	1.7	9.0	0.00	
10448249	Primary	MetaSediment 2	WINU0056	338	339	0.74	0.0013	0.06	24.6	0.02	81.3	0.15	1.5	0.001	0.30	11	1.91	0.520	3.4	38.3	0.00	428

3.4. ADVANCED ACID BASE ACCOUNTING

Advanced ABA characterisation, including kinetic NAG, sequential NAG, and Acid Base Characterisation Curves (ABCC) were completed for a selection of samples from the secondary sulfide zone and primary sulfide zone. ABCC results give an indication of the available neutralisation capacity, kinetic NAG results give an indication of the rate of acid generation over time, and sequential NAG tests give an indication of total acid generation over longer timeframes.

3.4.1. *ACID BASE CHARACTERISATION CURVES*

The characterisation curves for samples with high ANC (values over 50 kg H_2SO_4/t) followed a dolomite-type neutralisation curve (Figure 23) suggesting that the buffering from high ANC samples would be generally available for acid neutralisation and would react at a reasonable rate. This is corroborated by the mineralogy results suggesting that carbonate mineralogy for samples with high ANC is approximately 80% dolomite or low-Fe ankerite.

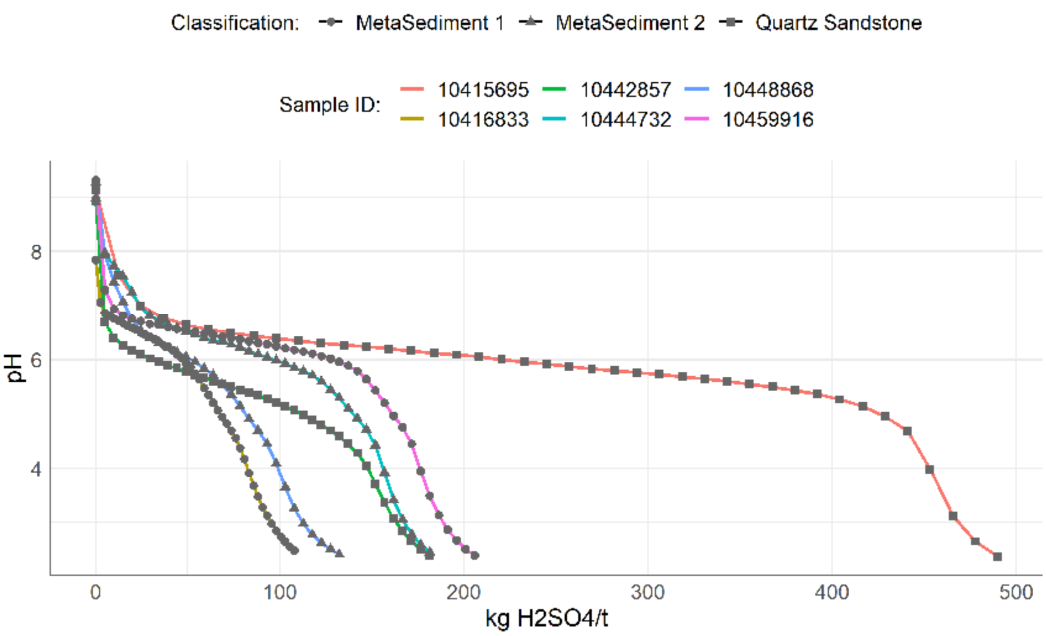


Figure 23: ABCC curves for samples with ANC over 50 kg H_2SO_4 /t.

Samples with ANC under 50 kg H_2SO_4/t showed less buffering capacity and the pH curves were more likely to drop rapidly below pH 4. The metasediment 2 and two post-mineral mafic curves strongly resembled a siderite-type curve (Figure 24). The mineralogical analysis of the mafic samples similarly suggested the possibility of a high proportion of the carbonate present as siderite (up to 100%). As such, it is suspected that neutralising capacity provided by the post-mineral mafic unit may be largely unavailable for net acid neutralisation.

The high Nb permian mudstone (10445862) and pre-mineral mafic (10416373) samples, showed some buffering capacity more resembling dolomite buffering, suggesting that the ANC in these samples could be more available than in the other low ANC samples tested.

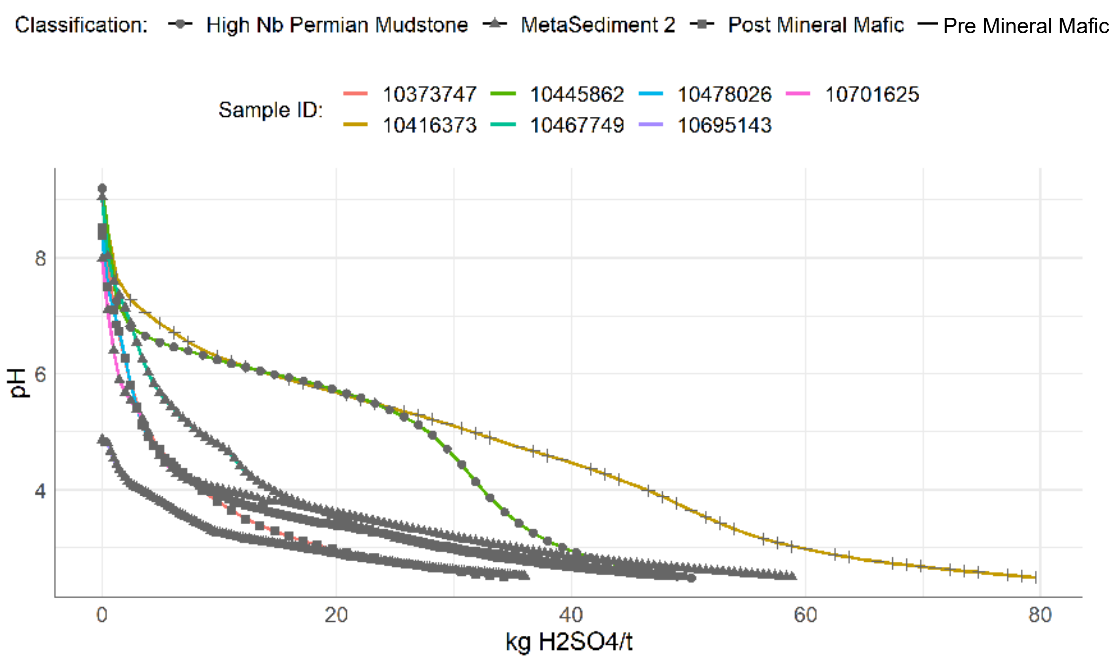


Figure 24: ABCC curves for samples with ANC under 50 kg H_2SO_4/t.

One post-mineral mafic sample had significantly greater ANC_{TIC} than the titrated ANC (10478026) and there potentially could be iron rich carbonates (siderite and ferro-dolomite) in this sample (Table 6). The low acid consumption, even at pH 4.5, further indicates that the ANC_{TIC} value of this sample would not be available for acid neutralisation. The other post-mineral mafic sample showed similar results – although the ANC_{TIC} was low, the limited ANC that was measured was not available during the ABCC test.

A large portion of the ANC is readily available in the remaining primary sulfide samples (70-100%). Importantly, high ANC metasediment and quartz sandstone samples have almost 100% of the considerable measured ANC available for acid neutralisation.

Table 6: Measured ANC and available ABCC to pH 7, 6 and 4.5. Mineral resource grade samples in *purple italics*.

Sample	Sample Type	ANC_{TIC} kg H_2SO_4/t	ANC kg H_2SO_4/t	% ANC Consumed at		
				pH 7	pH 6	pH 4.5
10416833	Metasediment 1	87.4	83.3	6%	59%	94%
10459916	Metasediment 1	188.8	149	7%	89%	115%
10444732	Metasediment 2	170.8	153	16%	64%	99%
10448868	*Metasediment 2*	*101.3*	*100*	*20%*	*54%*	*93%*
10467749	Metasediment 2	29.4	16.3	15%	27%	72%
10695143	*Metasediment 2*	*0*	*1.8*	*0%*	*0%*	*68%*
10701625	Metasediment 2	4.9	11.6	8%	13%	46%
10445862	High Nb permian mudstone	31.9	30.9	8%	48%	99%
10373747	Post-mineral mafic	2.5	22.2	6%	11%	28%
10478026	Post-mineral mafic	99.7	16.3	9%	15%	36%
10416373	Pre-mineral mafic	40.0	49.9	10%	29%	81%

Sample	Sample Type	ANC_{TIC} kg H_2SO_4/t	ANC kg H_2SO_4/t	% ANC Consumed at pH 7	pH 6	pH 4.5
10415695	Quartz sandstone	473.0	450	5%	49%	101%
10442857	Quartz sandstone	161.8	174	3%	20%	79%

1. Neutralisation at pH 7 and above is typically indicative of control by calcite.
2. Neutralisation at pH 6 to 7 is typically indicative of control by dolomitic carbonate.

3.4.2. *KINETIC NET ACID GENERATION*

Metasediment 1 and metasediment 2 samples, in general, appeared to generate acid more slowly than the quartz sandstone samples, often taking at least three hours to reach pH 4. In comparison, quartz sandstone and PAF metasediment samples reached pH 4 in under an hour, suggesting the potential for very rapid generation of acid during operations from PAF material (Figure 25, Figure 26). A summary table showing the time to the maximum temperature (indicative of rate of reaction) demonstrates that the samples with the lowest final pH reacted most rapidly (Table 7).

In general, the remaining metasediment samples generated acidic NAG leachates below pH 4.5, although the time to achieve this was up to six hours. Two metasediment samples (10446153 and 10459657) were particularly slow to generate acidic leachates. Both of these samples had both low ANC (< 5 kg H_2SO_4/t) and low sulfide (~0.2%). The two remaining metasediment 2 samples (10444732 and 10448868) and one quartz sandstone sample (10442857) did not generate acidic NAG leachates. Both of these samples had high sulfide (> 0.2%) but also very high ANC suggestive of significant calcite or dolomite veining (> 100 kg H_2SO_4/t).

Table 7: Summary statistics for kinetic NAG tests. Mineral resource grade samples in purple italics.

Sample	Lithology	NAF/PAF	MPA kg H_2SO_4/t	ANC kg H_2SO_4/t	Max Temp °C	Time @ Max T min	Initial pH	Final pH
10476586	Metasediment 1	PAF	73.746	7.4	92.3	80	6.28	2.45
10415524	Metasediment 1	PAF-LC	19.584	5.4	77	150	5.08	2.9
10452568	Metasediment 1	PAF-LC	8.874	6.4	25.2	360	5.29	3.81
10414941	Metasediment 1	PAF-LC	3.672	1.4	21.5	340	6	3.83
10446153	*Metasediment 1*	*PAF-LC*	*4.59*	*1.8*	*23.3*	*360*	*5.97*	*3.96*
10448249	Metasediment 2	PAF	43.146	11.8	90.3	120	5.92	2.54
10472480	Metasediment 2	PAF	32.436	12.8	81.2	160	6.34	2.83
10467749	Metasediment 2	PAF-LC	22.95	16.3	41	360	4.91	3.07
10414252	Metasediment 2	PAF	12.24	10.3	52	360	6.13	3.14
10468088	Metasediment 2	PAF	14.382	11.3	32.8	360	4.28	3.17
10459669	Metasediment 2	PAF	13.158	5.2	29.7	360	6.26	3.25
10481427	Metasediment 2	PAF-LC	11.322	5.2	63.7	320	5.5	3.29
10464688	Metasediment 2	PAF-LC	4.59	4.3	29.6	360	6.29	3.39
10459657	Metasediment 2	PAF-LC	6.12	3.4	23.9	160	6.18	4.4
10448868	*Metasediment 2*	*NAF*	*28.764*	*100*	*26.9*	*360*	*6.39*	*6.93*
10444732	Metasediment 2	NAF	11.934	153	29.2	NA	6.41	7.05
10450435	Oxidised permian mudstone	PAF	26.928	8.8	81.5	90	4.97	2.74
10412085	Pre-mineral mafic	PAF	29.682	17	85.3	80	6.14	2.44
10450201	Pre-mineral mafic	PAF	26.01	15.8	80.7	180	6.06	2.7

Sample	Lithology	NAF/PAF	MPA kg H_2SO_4/t	ANC kg H_2SO_4/t	Max Temp °C	Time @ Max T min	Initial pH	Final pH
10416373	Pre-mineral mafic	NAF	25.398	49.9	24.1	NA	5.33	6.62
10450295	Quartz sandstone	PAF	31.518	3.3	80.2	130	5.65	2.58
10446756	Quartz sandstone	PAF	14.382	5.1	50.8	350	6.08	2.8
10411942	Quartz sandstone	PAF	12.852	4.2	35.2	360	6.24	2.81
10458183	*Quartz sandstone*	*PAF*	*35.19*	*10.4*	*85.8*	*110*	*5.76*	*2.82*
10442851	Quartz sandstone	PAF	31.212	12.5	83	150	5.66	2.9
10453352	Quartz sandstone	PAF	12.24	1.3	78.3	160	5.56	2.95
10453478	Quartz sandstone	PAF-LC	15.3	3.2	70.8	210	4.93	3
10412602	Quartz sandstone	PAF-LC	10.098	2	33	340	6.05	3.07
10449168	Quartz sandstone	PAF-LC	9.486	6.5	24.6	360	6.03	3.87
10415087	Quartz sandstone	PAF-LC	6.426	6.4	21.6	270	6.08	4.25
10442857	Quartz sandstone	NAF	34.884	174	24.3	NA	6.06	6.92

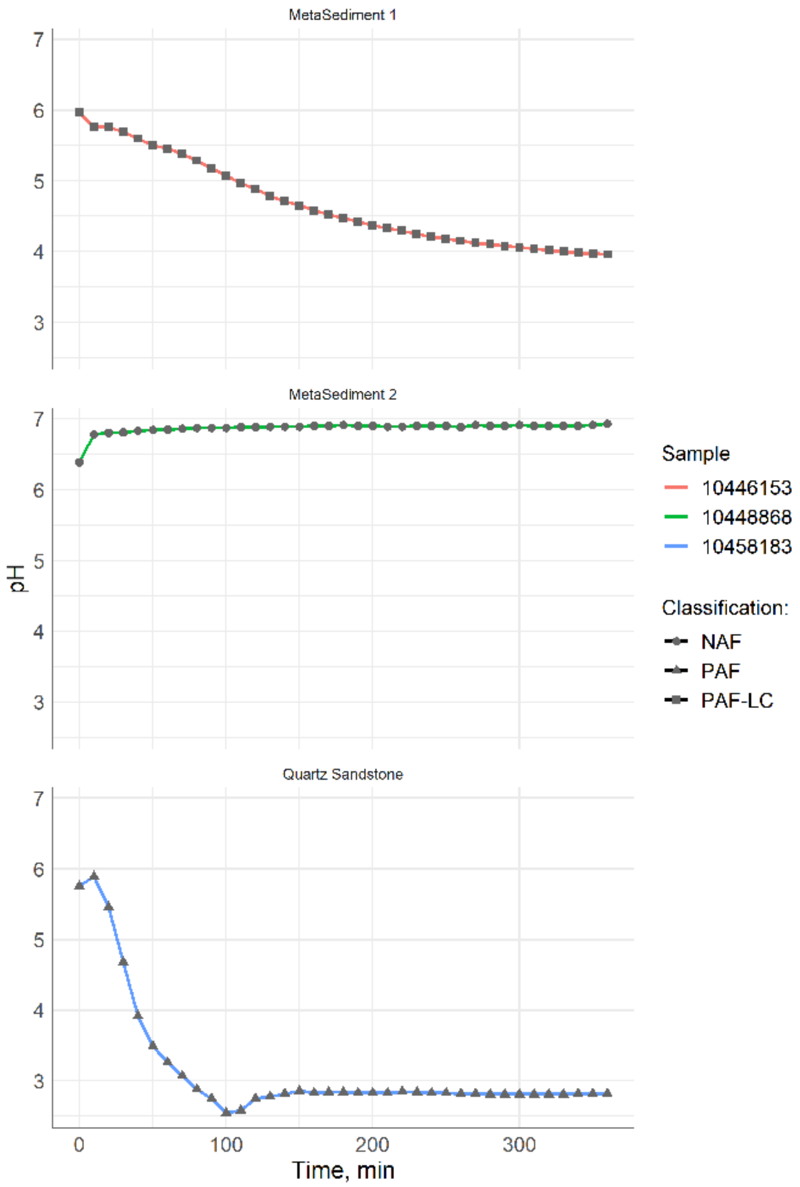


Figure 25: Kinetic NAG pH profiles by sample type for mineral resource grade samples.

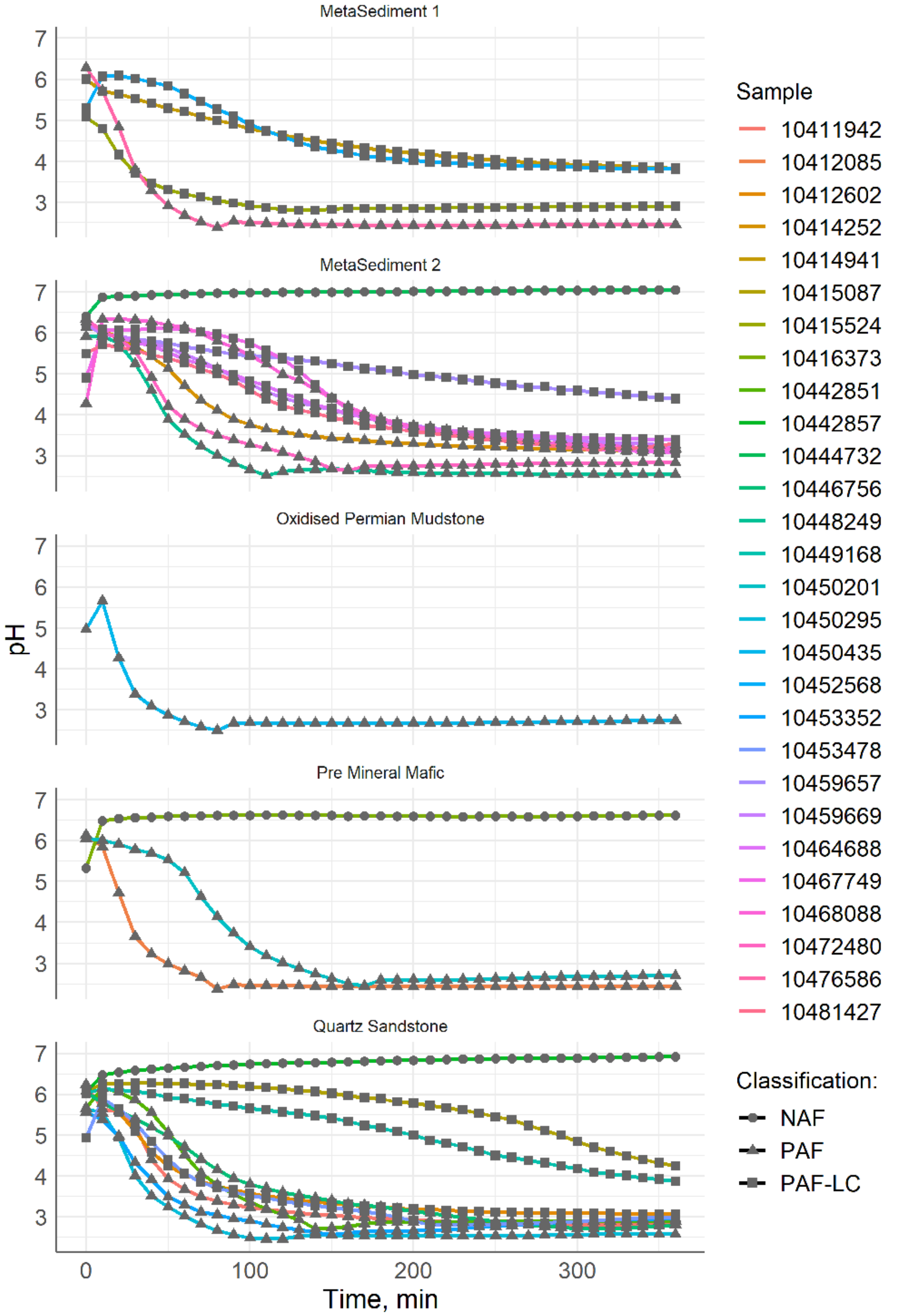


Figure 26: Kinetic NAG pH profiles by sample type for waste grade samples.

3.4.3. *SEQUENTIAL NET ACID GENERATION*

When testing samples with high sulfide contents it is common for oxidation to be incomplete in the single addition NAG test. Sequential NAG testing overcomes this limitation to an extent through successive additions of H_2O_2 to the same sample. It is particularly important in cases where the presence of primary sulfate or other non-acid forming sulfur species is suspected (e.g. where the NAPP value is significantly greater than the single addition NAG acidity).

In general, the single addition NAG test released only 65% of the net acidity of a sample in the primary sulfide zone and multiple contacts were required to achieve a value approaching the calculated NAPP. In general, the NAPP correlated well with the total sequential NAG, although the NAPP was not achieved for some samples with very high NAPP (> 150 kg H_2SO_4/t).

Table 8: Summary comparison data for sequential NAG tests. Mineral resource grade samples in *purple italics*.

Sample	Lithology	MPA kg H_2SO_4/t	ANC kg H_2SO_4/t	NAG (pH 7) kg H_2SO_4/t	NAPP kg H_2SO_4/t	Seq. NAG (pH 7 total) kg H_2SO_4/t
10531112	Quartz sandstone	216.0	33.2	109.0	182.8	159.0
10537713	*Metasediment 1*	*246.6*	*9.4*	*74.5*	*237.2*	*189.0*
10695143	*Metasediment 2*	*170.1*	*1.8*	*111.0*	*168.3*	*142.0*
10698774	*Metasediment 1*	*120.3*	*9.8*	*68.3*	*110.5*	*120.0*
10701260	*Quartz sandstone*	*207.5*	*87.7*	*15.5*	*119.8*	*124.0*
10701684	*Metasediment 2*	*122.7*	*11.7*	*79.7*	*111.0*	*83.5*
10721834	Metasediment 2	187.9	7.6	114.0	180.3	140.0
10722187	*Quartz sandstone*	*85.4*	*4.2*	*48.0*	*81.2*	*80.1*
10722219	Metasediment 2	35.2	7.1	29.0	28.1	26.7
10745182	*Metasediment 2*	*88.4*	*23.0*	*38.1*	*65.4*	*56.9*
10699820	Quartz sandstone	224.6	14.1	115.0	210.5	164.0
10701625	Metasediment 2	60.0	11.6	53.4	48.4	47.2
10722335	*Metasediment 2*	*67.9*	*30.1*	*18.2*	*37.8*	*37.6*

Only one metasediment 2 sample (10699820) appeared to be still increasing in acid generation with additional H_2O_2 contacts (Figure 27). The majority of samples had reached total NAG by the third contact.

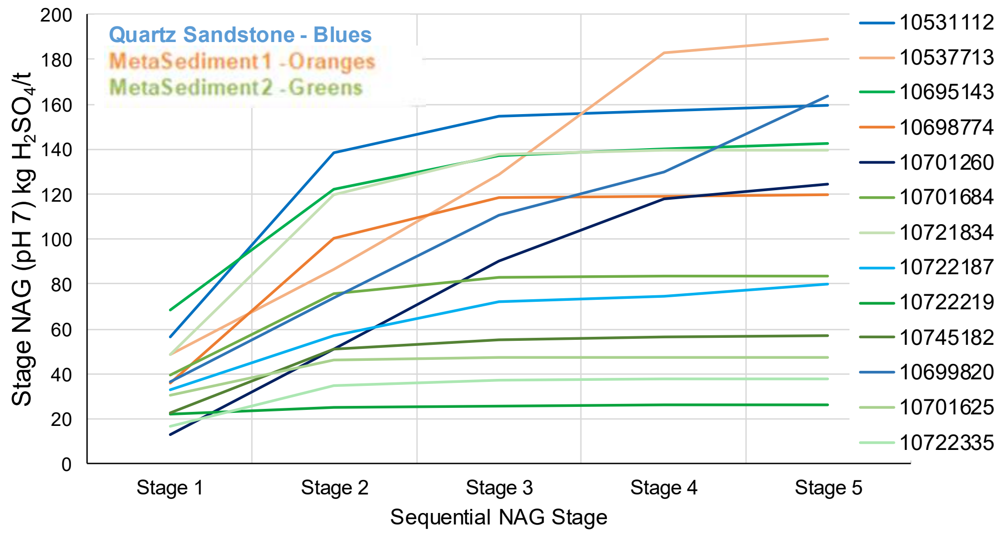


Figure 27: Sequential cumulative NAG for samples characterised by colour for different lithologies.

3.5. METAL LEACHING

3.5.1. *DEIONISED WATER 2:1 LEACH*

Metal leaching from the primary sulfide waste rock samples was assessed via low liquid to solid ratio (2:1) DI contact tests over 12 hours. In general, metal release from the primary sulfide waste rock samples was low, with isolated sporadic high releases for particular samples (Table 9). In contrast, F release from the primary sulfide waste rock was elevated for a number of samples, indicating F release from the waste rock may occur in all regions of the deposit.

F appeared to be mobile across all sample types with relatively elevated release rates in all sample types. The F release also appeared to increase with increasing pH (Figure 28), although was generally higher for quartz sandstone and mafic samples.

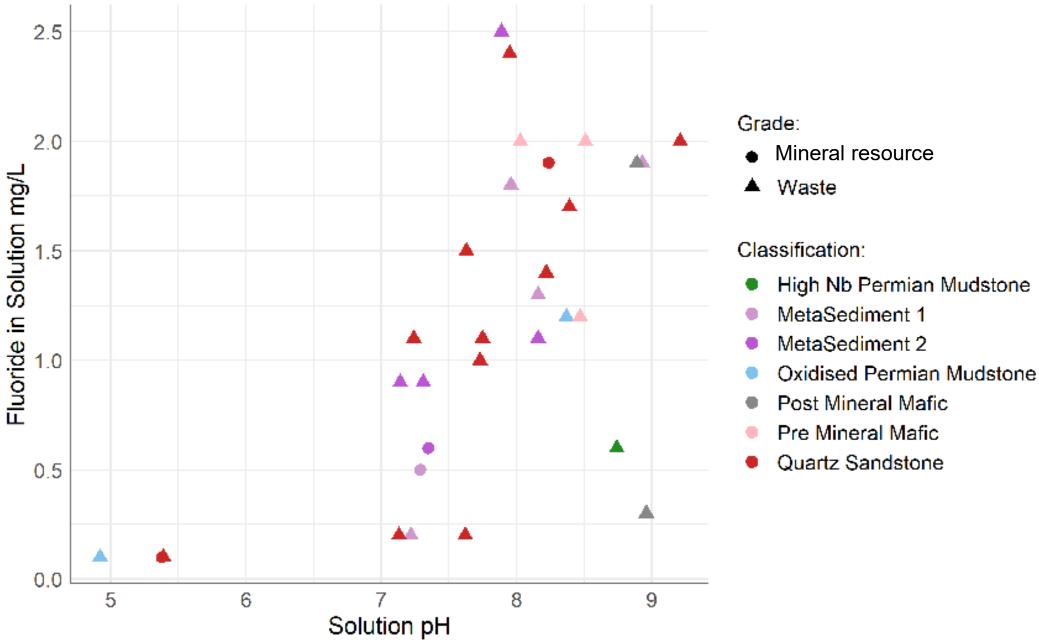


Figure 28: Relationship between F release and pH from water leach tests.

Elevated As, F and Sb release was noted from one particular composite: 10459916_10416833. This composite had a high ANC (140 kg H_2SO_4/t) and was found to be enriched in As (38 mg H_2SO_4/kg). The other high As composite (24 mg H_2SO_4/kg) did not release As into the leachate at levels above the detection limit. Ni release was elevated in three samples, despite no samples exhibiting enriched Ni concentrations in the whole rock digests. Selenium release was measured from only two samples (one quartz sandstone and one composite). Other environmentally sensitive elements (Sn, Cr, Cd) were also generally below detection limits.

Leachate pH values were high for the majority of the samples (up to pH 9). With the potential for acid generation over time, it is possible that metal release from the waste rock could increase as the pH of the leachate decreases. Three samples resulted in relatively 'low' pH values (~5.5). In these cases, leaching of metals into solution was increased, particularly for Cd, Co, Cu, Mn, Ni and Zn (Figure 29).

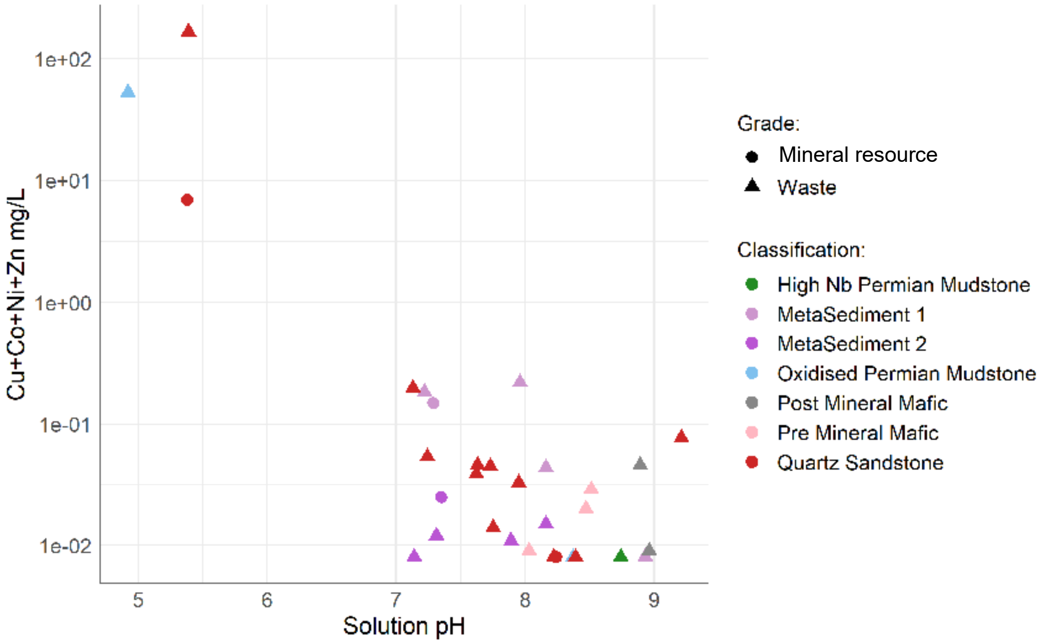


Figure 29: Relationship between leach pH and constituent release.

Salinity values from the 1:2 leachate were assessed against the guidelines for suitability as a soil growth medium (Hunt 1992) based on a 1:5 leachate:

- 0 – 400 µS/cm: suitable for a soil growth medium
- 400 – 1600 µS/cm: suitable for some salt tolerant species
- > 1600 µS/cm: may not be a suitable growth medium.

It should be noted that these guidelines are based on crops used in agriculture and for a 1:5 leach rather than a more concentrated 1:2 leach. The comparison is there therefore more conservative and should be used as a guide only.

Salinity was recorded above 1600 µS/cm only for one sample and rarely above 400 µS/cm. Hence appreciable salinity release was not observed from primary sulfide samples in the more conservative 2:1 leach.

Table 9: Results for leachate concentrations from DI water leach tests (L:S = 2:1 for 12 hours) for analytes consistently reporting above detection limits. *Blue italicised* numbers are at or below detection. Australian drinking water guidelines provided for reference only – actual trigger values will be site specific and depend on conditions of liquid extract test.

Sample ID	Lithology	EC µS/cm	pH	Total Alkalinity mg $CaCO_3$/L	SO_4 mg/L	Cl mg/L	F mg/L	Al mg/L	As mg/L	Ba mg/L	Cd mg/L	Co mg/L	Cu mg/L	Mn mg/L	Mo mg/L	Ni mg/L	W mg/L	Se mg/L	Zn mg/L
Australian Drinking Water Guidelines			*6.5 – 8.5*		*500*	*250*	*1.5*		*0.01*	*2*	*0.002*		*2*	*0.5*	*0.05*	*0.02*		*0.01*	*3*
10526942	Post-mineral mafic	197	8.96	95	5	5	0.3	1.33	*0.001*	0.002	*0.0001*	*0.001*	*0.001*	0.017	0.008	0.002	0.002	*0.01*	*0.005*
10527124	Post-mineral mafic	528	8.89	67	66	100	1.9	4.29	0.003	*0.001*	*0.0001*	0.005	0.021	0.013	0.015	0.012	0.048	*0.01*	0.008
10531112	Quartz sandstone	751	7.62	52	286	49	0.2	*0.01*	*0.001*	0.008	*0.0001*	0.008	0.002	0.407	0.075	0.024	*0.001*	*0.01*	*0.005*
10699820	Quartz sandstone	1820	5.39	2	1090	28	*0.1*	0.25	*0.001*	0.075	0.0008	31.1	0.115	6.09	*0.001*	17.1	*0.001*	0.02	119
10701625	Metasediment 2	706	7.89	84	206	76	2.5	0.08	*0.001*	0.035	*0.0001*	*0.001*	0.004	0.026	0.029	*0.001*	0.048	*0.01*	*0.005*
10722187	Quartz sandstone	862	5.38	*1*	358	30	*0.1*	0.09	*0.001*	0.098	0.0422	0.723	3.13	1.07	*0.001*	0.256	*0.001*	*0.01*	2.8
10384643	Metasediment 2	189	8.16	70	22	15	1.1	0.85	*0.001*	0.007	*0.0001*	*0.001*	0.008	0.003	0.017	*0.001*	0.011	*0.01*	*0.005*
10384656	Metasediment 2	721	7.31	26	205	69	0.9	0.03	*0.001*	0.014	*0.0001*	*0.001*	0.004	0.046	0.034	0.002	0.004	*0.01*	*0.005*
10384663	Metasediment 2	433	7.14	21	118	42	0.9	0.07	*0.001*	0.011	*0.0001*	*0.001*	*0.001*	0.015	0.026	*0.001*	0.003	*0.01*	*0.005*
10411941	Quartz sandstone	445	7.24	12	116	30	1.1	0.39	*0.001*	0.034	*0.0001*	0.012	0.022	0.019	0.007	0.015	0.004	*0.01*	*0.005*
10415524	Metasediment 1	547	7.96	64	120	39	1.8	4.7	*0.001*	0.063	0.0003	0.024	0.155	0.044	0.005	0.034	0.011	*0.01*	0.007
10442857	Quartz sandstone	221	9.21	86	12	14	2	18.6	0.004	0.134	*0.0001*	0.018	0.029	0.181	0.005	0.007	0.044	*0.01*	0.023
10445726	Quartz sandstone	465	8.39	68	100	40	1.7	0.18	*0.001*	0.021	*0.0001*	*0.001*	*0.001*	0.016	0.007	*0.001*	0.006	*0.01*	*0.005*
10413389	Quartz sandstone	464	8.24	73	97	31	1.9	0.18	*0.001*	0.019	*0.0001*	*0.001*	*0.001*	0.021	0.018	*0.001*	0.01	*0.01*	*0.005*
10446153	Metasediment 1	382	7.29	13	91	29	0.5	0.02	*0.001*	0.054	0.0004	0.062	0.074	0.225	0.002	0.006	0.003	*0.01*	0.007
10449499	Metasediment 1	-	-	-	-	-	-	0.07	*0.001*	0.016	*0.0001*	*0.001*	0.006	0.036	0.008	*0.001*	0.059	*0.01*	*0.005*
10453478	Quartz sandstone	445	7.73	40	150	24	1	4.41	*0.001*	0.052	*0.0001*	0.005	0.023	0.108	0.023	0.008	0.009	*0.01*	0.009
10450295	Quartz sandstone	505	7.13	11	140	30	0.2	0.03	*0.001*	0.03	*0.0001*	0.057	0.055	0.649	0.004	0.067	*0.001*	*0.01*	0.018
10450398	Oxidised mudstone	506	8.37	56	77	55	1.2	0.24	*0.001*	0.041	*0.0001*	*0.001*	*0.001*	0.006	0.024	*0.001*	0.003	*0.01*	*0.005*
10453713	Metasediment 2	683	7.35	26	265	19	0.6	0.02	*0.001*	0.023	*0.0001*	0.006	0.002	0.18	0.014	0.009	*0.001*	*0.01*	0.008
10386989	Metasediment 1	457	8.93	151	10	40	1.9	0.55	0.002	0.002	*0.0001*	*0.001*	*0.001*	0.002	0.002	*0.001*	0.018	*0.01*	*0.005*
10411942_10412602	Composite	460	7.5	39	119	29	1.1	0.58	*0.001*	0.04	*0.0001*	0.003	0.003	0.288	0.037	0.005	0.068	*0.01*	*0.005*
10458183_10472480	Composite	590	7.82	65	154	21	0.9	0.04	*0.001*	0.032	*0.0001*	0.005	0.022	0.061	0.015	0.007	0.011	*0.01*	0.006
10459657_10459669	Composite	333	7.06	15	67	13	0.6	0.04	*0.001*	0.006	*0.0001*	0.002	0.03	0.027	0.003	*0.001*	0.002	0.02	*0.005*

Sample ID	Lithology	EC µS/cm	pH	Total Alkalinity mg $CaCO_3$/L	SO_4 mg/L	Cl mg/L	F mg/L	Al mg/L	As mg/L	Ba mg/L	Cd mg/L	Co mg/L	Cu mg/L	Mn mg/L	Mo mg/L	Ni mg/L	W mg/L	Se mg/L	Zn mg/L
10459916_10416833	Composite	657	8.67	93	53	90	1.8	0.17	0.09	0.017	*0.0001*	0.002	*0.001*	0.004	0.019	0.01	0.012	*0.01*	*0.005*
10467749_10468088	Composite	770	8.13	82	147	65	2.1	0.14	*0.001*	0.023	*0.0001*	*0.001*	0.004	0.014	0.06	*0.001*	0.092	*0.01*	*0.005*
10414923	Oxidised permian mudstone	787	4.92	*1*	325	38	*0.1*	0.62	0.005	0.045	0.0308	33.7	0.047	2.19	*0.001*	13.9	*0.001*	*0.01*	5.48
10414941	Metasediment 1	452	7.22	12	101	44	0.2	*0.01*	*0.001*	0.04	0.0002	0.042	0.054	0.274	0.002	0.056	0.004	*0.01*	0.031
10452568	Metasediment 1	431	8.16	56	110	20	1.3	7.12	*0.001*	0.055	*0.0001*	0.007	0.01	0.056	0.002	0.012	0.017	*0.01*	0.015
10416373	Pre-mineral mafic	1250	8.51	95	173	239	2	0.24	*0.001*	0.007	*0.0001*	0.002	0.012	0.002	0.112	0.01	0.01	*0.01*	*0.005*
10450201	Pre-mineral mafic	347	8.03	56	91	16	2	0.03	*0.001*	0.027	*0.0001*	*0.001*	0.002	0.003	0.004	*0.001*	0.014	*0.01*	*0.005*
10450206	Pre-mineral mafic	366	8.47	131	39	14	1.2	*0.01*	*0.001*	0.009	*0.0001*	0.002	0.002	0.002	0.015	0.01	0.004	*0.01*	0.006
10442109	Quartz sandstone	232	7.63	25	21	38	1.5	5.4	*0.001*	0.239	*0.0001*	0.002	0.027	0.061	0.011	*0.001*	1.3	*0.01*	0.016
10449168	Quartz sandstone	553	8.22	66	42	104	1.4	0.3	*0.001*	0.026	*0.0001*	*0.001*	*0.001*	0.011	0.007	*0.001*	0.197	*0.01*	*0.005*
10449662	High Nb mudstone	320	8.74	59	9	46	0.6	*0.01*	*0.001*	0.017	*0.0001*	*0.001*	*0.001*	0.002	0.006	*0.001*	0.009	*0.01*	*0.005*
10442851	Quartz sandstone	586	7.95	44	146	46	2.4	0.06	*0.001*	0.004	*0.0001*	0.002	0.019	0.035	0.015	0.007	0.004	*0.01*	*0.005*

Note – Missing values where insufficient volume was available for assay

3.5.2. *SEQUENTIAL EXTRACTION METHOD*

The interpretation of sequential extraction results below was adapted from analysis provided by Claire Linklater (SRK Consulting).

One low sulfur sample was analysed via sequential extraction: 10689926 (metasediment 2, PAF-LC). Total recoveries were very good for most elements, ± 20% with respect to the head sample. Exceptions were noted for elements present at very low levels (< 1 mg/kg) in the head sample (e.g. Cd, Se), or where the element was present in the reagents.

In general, the major elements are distributed within the scheme as would be expected: Al, Si, Ca and K (key constituents of the silicate minerals present) did not leach significantly during Steps one to seven and reported mostly to the residual fraction. Iron and Mn predominantly reported to Step four and five (leaching from Fe/Mn oxides and potentially pyrrhotite) with minimal leaching from the oxidizable (sulfide) fraction. A significant mass of Mg (and noticeable Al and K) also leached during Step five, possibly indicating that one of the silicates (e.g. chlinochlore) was leached during this step.

Sulfur was distributed between Step one (water extractable) and Step six (easily oxidisable). This suggests only minor quantity of water soluble oxidation products with the majority of sulfur released during the chlorate oxidation step. All sulfide minerals were therefore likely oxidised during this step.

Trace element association with leachable (target) mineral phases is as follows:

- Steps four and five, interpreted as an association with Fe and Mn oxides include significant proportions of the leachable Cu Co Ni Cr and Zn content (and may include dissolution of some sulfides).
- Step six, interpreted as an association with sulfides – significant proportions of Cu, Co, Pb and Ni leached during this step.

Notably, Step three (carbonate fraction) was associated with the highest proportion of Co leaching. Copper, Pb and Zn leaching was also observed during Step three but was not the dominant fraction for these elements.

For some trace elements, significant mass remains un-leached after Step seven, reporting to the residual fraction (e.g. Pb, Sn, Ti, Ba, Sr, Cs) and is probably associated with silicates or any possibly unreacted crystalline oxide content, or less soluble secondary mineral phases (e.g. oxidation of galena would lead to the formation of anglesite).

In the context of mineral resource stockpiles or waste rock landforms, conditions are generally expected to be unsaturated and oxic. If placed as pit backfill and below the elevation of the long-term water table, waste rock may become saturated and anoxic post-closure (as water levels rebound and inundate the waste).

Direct correlation between the test results and the stockpiles/dumps are tenuous as the reagents used for Steps two to five are unlikely to be encountered. Steps six and seven represent contact with strong oxidants (stronger than would be encountered in the field). While sulfide minerals in the materials could be expected to oxidise, the rate of oxidation would not be reflected in sequential extraction test outcomes. Kinetic testing is required to provide a more appropriate basis for establishing release rates and potential constituent concentrations.

The results for the sulfide zone sample indicate that a significant proportion of trace element content is associated with Fe and Mn oxide (amorphous and crystalline), sulfide and residual mineral content. Noting that amorphous mineral content is not quantified, sample mineralogy indicated that hematite and magnetite (crystalline Fe oxides) comprised 1.4%

of the sample, and silicates (residual mineral content) comprised 98%. Sulfides were below method detection limits and were not identified (though sulfidic sulfur, 0.34%, was identified in ABA test work).

Leaching potential related to the dissolution of Fe and Mn oxides and silicates is low. The Fe and Mn oxide content, especially if crystalline, is expected to be unreactive unless conditions become either strongly acidic, or strongly reducing. Strongly reducing conditions are not considered likely unless a reducing agent is introduced (e.g. decomposing organic matter).

The greatest leaching potential may relate to the oxidation of sulfide mineral content; the rate of release and actual concentrations that may result however are not known. Several transition metals are associated with sulfidic mineral content, and also carbonate mineral content. Carbonates are expected to react in response to acid generation as the sulfides oxidise. The sulfide zone material has variable ANC content, and therefore shows a range of classification from NAF to PAF. If the PAF fraction is not managed appropriately, AMD and/or Neutral Metalliferous Drainage (NMD) may be possible.

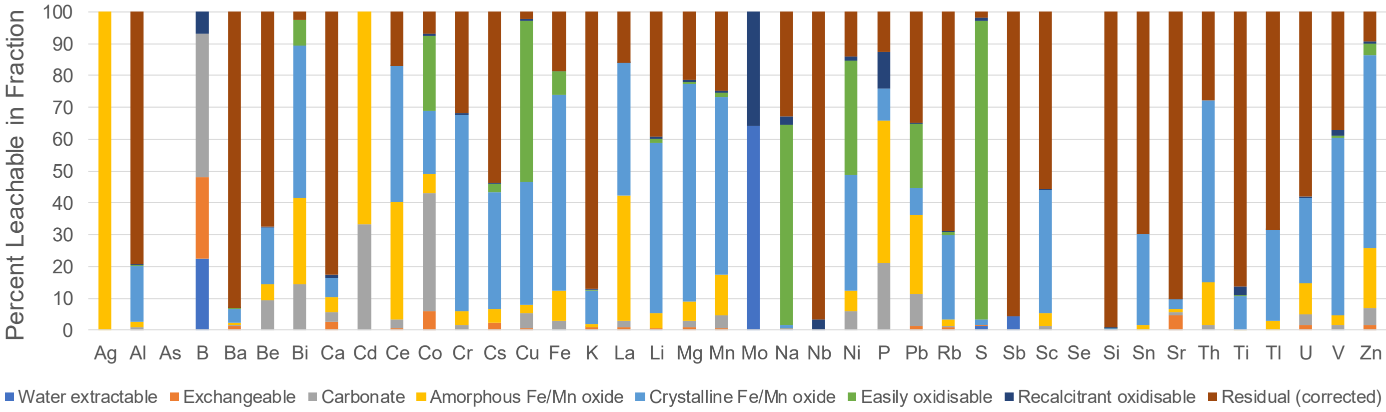


Figure 30: Sequential extraction results for 10689926 (PAF-LC metasediment 2). Arsenic and Se leaching below detection.

3.6. KINETIC TESTING: FREE DRAINING LEACH COLUMNS

Free draining leach (AMIRA 2002) columns have been run to assess the mobility of constituents in the primary sulfide material under field-relevant conditions that can occur when exposed to atmosphere, including successive dry-wet cycles. The free draining columns have been split into three categories, metasedimentary samples > 0.5% total sulfur, metasedimentary and mudstone samples < 0.5% total sulfur and mafic samples.

3.6.1. *METASEDIMENTARY SAMPLES > 0.5% TOTAL SULFUR*

Of the seven high sulfur metasedimentary samples (Table 10), three were classified as PAF-LC (10689925, W331 PAR and W332 PSS), two as NAF (10689919 and 10689921), one as PAF (10689910) and one UNC (10689923). Four samples (10689923, 10689925, W331 PAR and W332 PSS) are classified as mineral resource grade (> 0.2% Cu or > 0.2 mg/kg Au).

Table 10: Free draining column (metasedimentary samples > 0.5% total sulfur) sample information. Mineral resource grade samples highlighted in red bold.

Sample ID	Lithology	Cu (%)	Au (mg/kg)	S^{2-} (%)	ANC (kg H_2SO_4/t)	NAG pH	NAF/ PAF
10689910	Quartz sandstone	0.10	0.051	1.02	12.5	3.1	PAF
10689915	Quartz sandstone	0.07	0.095	0.50	3.2	3.4	PAF-LC
10689919	Quartz sandstone	0.04	0.037	0.79	27.4	5.1	NAF
10689923	Metasediment 1	0.14	**0.220**	0.53	19.2	4.2	UNC
10689925	Metasediment 2	**0.23**	0.109	1.76	24.4	3.2	PAF-LC
W331 PAR	Metasediment mineral resource composite	0.06	**0.313**	1.90	23.5	3.5	PAF-LC
W332 PSS	Siderite rich mineral resource composite	0.06	**0.325**	1.40	14.7	3.7	PAF-LC

Three quartz sandstone samples had classifications ranging from PAF (10689910), PAF-LC (10689915) and NAF (10689919). The NAF quartz sandstone sample had double the ANC of the PAF sample, mostly present as available carbonate. The PAF-LC quartz sandstone sample had the lowest ANC out of all samples in this group, but also lowest sulfide content. Metasediments, including the mineral resource composites, were either PAF-LC or uncertain (10689923) due to some moderate neutralising capacity present across all samples.

Despite most samples being classified as PAF or PAF-LC, most of the samples have not consistently generated acidic leachates below pH 5 (Figure 31). The exception is the PAF-LC quartz sandstone sample 10689915 where the leachates have generally been lower (pH 4.5 – 5.0). The ANC in this sample was the lowest measured (3.2 kg H_2SO_4/t), hence any sulfide oxidation will readily consume the available ANC. Quartz sandstone sample 10689919 was consistently above pH 6 over one year of leaching and sample 10689910 generally fluctuated between pH 5 and 6 for weeks 80 to 180, thereafter fluctuating between pH 5 and 8. One pH result (week 28) for the quartz sandstone sample 10689910 was lower than the general trend – pH 4.1. It is expected that this result is an error as there was no change to the sulfate or EC trend in the same sample. The dip in pH measured on the 26th of April 2024 (weeks 208 for samples 10689910 and 10689925, week 192 for W331 PAR) and 3rd of January 2025 (weeks 244 for samples 10689910 and 10689925, week 228 for W331 PAR) may also be an error, as the dip was measured in all 3 samples and inconsistent with previous measurements.

Metasediment sample 10689923 was consistently greater than pH 6 over the one year of leaching. Whilst, metasediment sample 10689925 had a dip in pH between pH 5 and 6 from weeks 88 to 100, but has otherwise been generally greater than pH 6, for 5 years of leaching.

Mineral resource sample W332 PSS has steadily decreased to a pH between 5 and 6 over the last two years. The other mineral resource sample, W331 PAR, had four measurements between pH 5 and 6, but otherwise has been greater than pH 6 for the 4.6 years of leaching.

LCG (2024) calculated acidification lag times in June 2024, while some columns were still underway. This was undertaken using methods described by Morin and Hutt (2002) and MEND (2009). The depletion rates under test conditions are extrapolated forward to evaluate whether the ANC will be depleted first (resulting in PAF conditions) or whether the sulfur will be depleted first (NAF conditions). However, the depletion rates may, and frequently do, vary throughout the testing duration, and also represent laboratory conditions, not field depletion rates. As such, they are not considered representative alone, but provide another method for overall evaluation of PAF/NAF when used in combination with other methods.

For uncertain or PAF classified samples with S > 0.5%., the ANC was predicted to deplete in eight to 148 years (median of 29 years, average 47 years) But, sulfur release in these samples is predicted to extend for 47 to 192 years (median of 96 years, average 105 years). Hence, the samples are predicted to eventually acidify, once the ANC is depleted. There is an extended lag time in primary sulfide samples, which could be due to several geochemical factors, including: sulfide mineral availability, morphology, surface area; secondary mineral coatings; and influence of neutralising minerals. Neutral conditions provided by reactive ANC may be limiting the sulfide oxidation rate, which accelerates under acidic conditions. Test design may also be limiting the oxidation rate, particularly conditions that affect flushing of the cell, moisture content, and air flow.

Columns 10689910, 10689925 and W331 PAR are still running. Whilst pH can fluctuate, these columns have yet to permanently acidify. The pH values that did drop below 6 have not correlated with EC or sulfate changes and there may be some errors in these measurements. The completed columns are marked with a black shaded marker for the last measurement within the following graphs.

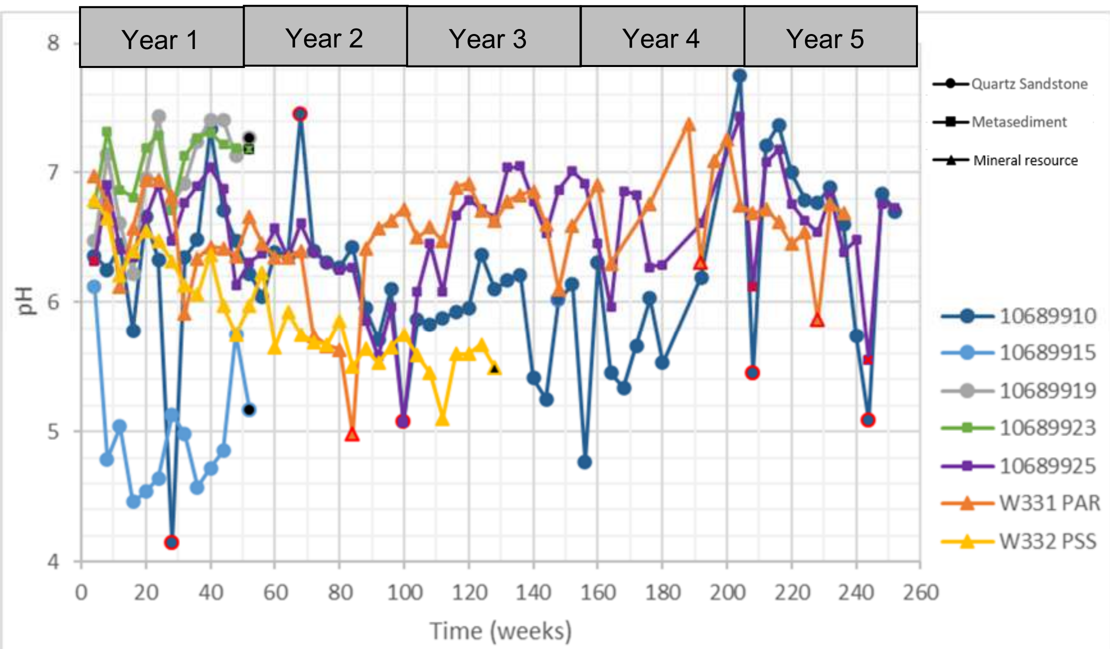


Figure 31: Free draining column pH vs. time (> 0.5% total sulfur).

Typically, the EC was low (Figure 32), correlating with low sulfate release (Figure 33) and low acid release, with no dramatic changes, suggesting samples are oxidising slowly. Metasediment sample 10689925 produced higher sulfate and EC values, despite having a pH that is mostly greater than six. This is likely due to ongoing oxidation and the high sulfide content being neutralised by high ANC content in this sample.

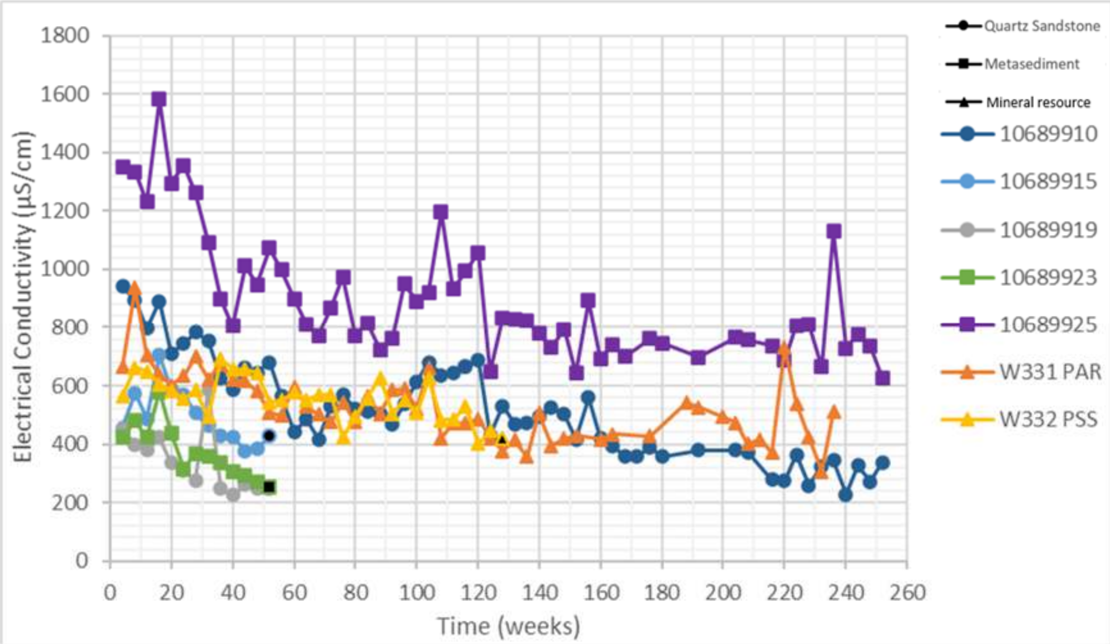


Figure 32: Free draining column EC vs. time (> 0.5% total sulfur).

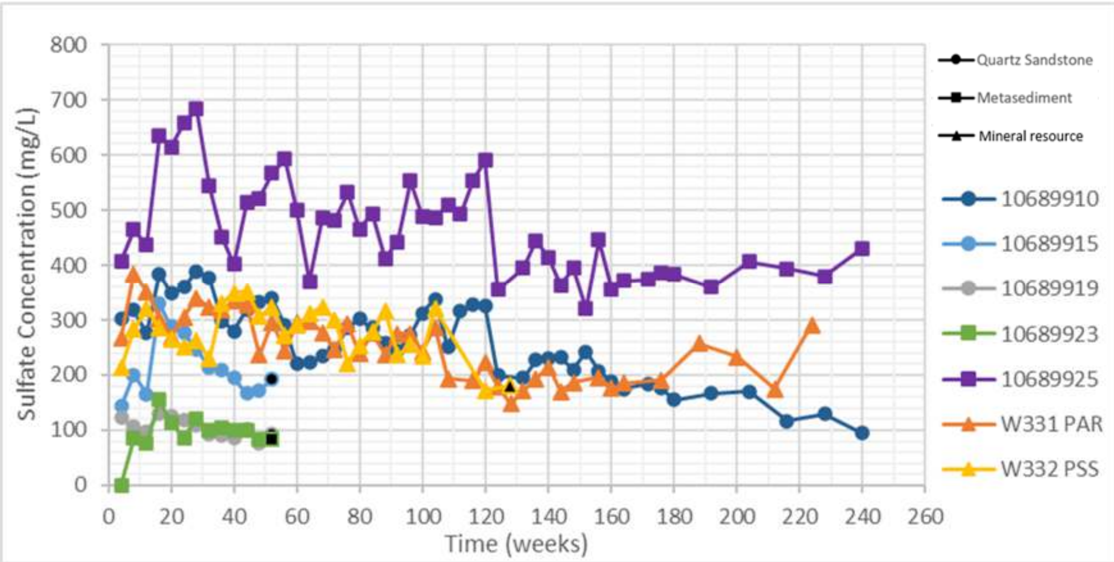


Figure 33: Free draining column sulfate concentration vs. time (> 0.5% total sulfur).

The high Ca (Figure 34) and Mg (Figure 35) concentrations in the leachate for metasediment sample 10689925 suggest ongoing dolomite dissolution with the potential for acidification once the ANC is consumed. Quartz sandstone sample 10689910 and the two mineral resource composites are also releasing leachate with higher Ca concentrations and Mg. Residual ANC calculations based on Ca and Mg concentrations, indicate that the ANC would have decreased from 24.4 to 20.8 kg H_2SO_4/t (86%) over the 5 years of leaching in sample 10689925. So, there a significant amount of ANC remaining in this sample. Likewise 91% and 82% of the calculated ANC is remaining in samples W331 PAR and 10689910 respectfully. Additionally, Si concentrations (Figure 36) also increased with time in 10689910, potentially indicating acid attack on silicate ANC in addition to carbonate ANC. There is evidence of increased Si concentrations over time in the columns that have operated for the longest times: 10689925, 10689925, W332 PSS and W331 PAR, which may be demonstrating the impact of Si mineral ANC effectiveness over the long term. Sample 10689915 also had slightly elevated Si during the 16 weeks of leachate collection.

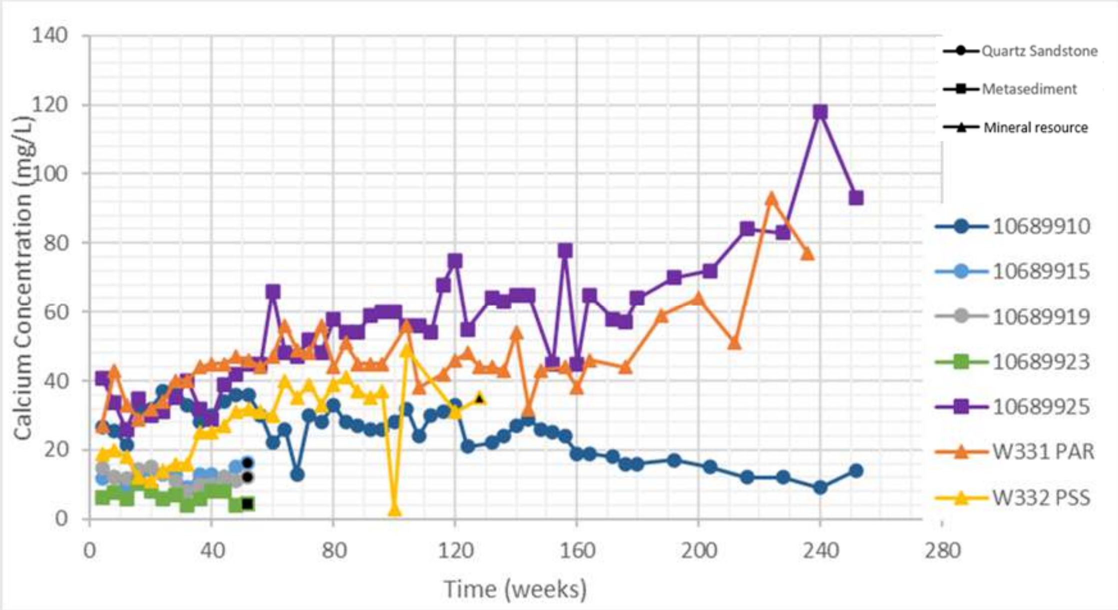


Figure 34: Free draining column Ca concentration vs. time (> 0.5% total sulfur).

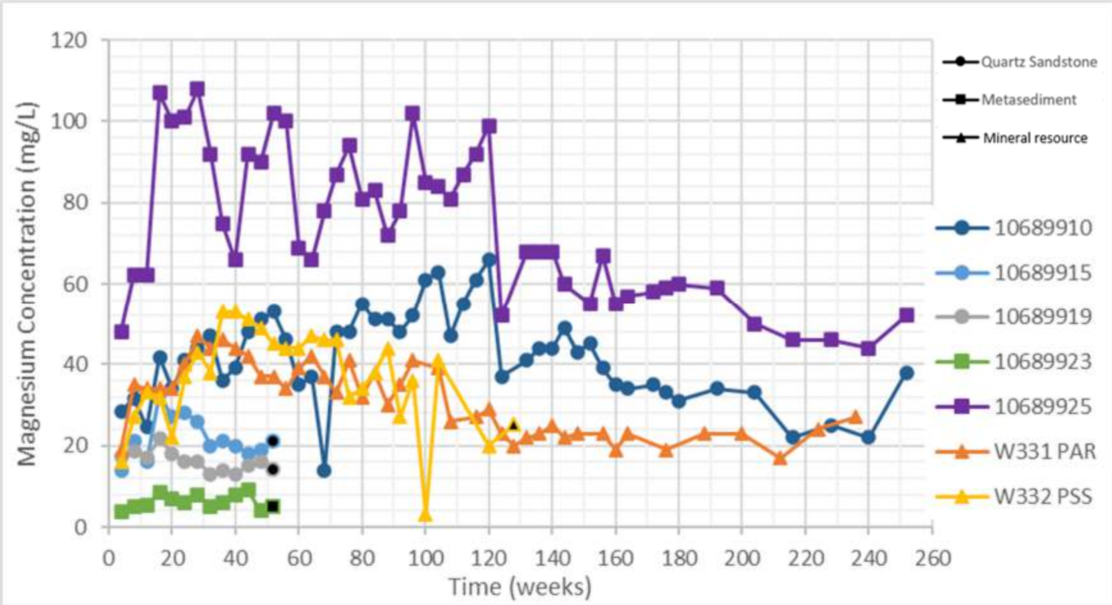


Figure 35: Free draining column Mg concentration vs. time (> 0.5% total sulfur).

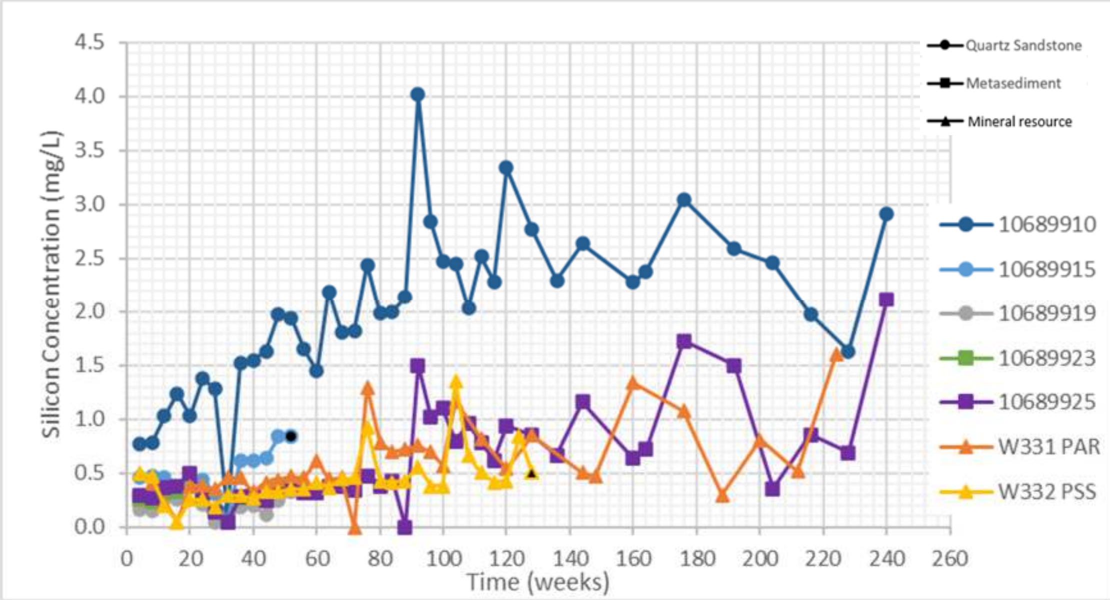


Figure 36: Free draining column Si concentration vs. time (> 0.5% total sulfur).

Leachate with relatively elevated F concentrations (Figure 37) was produced from the metasedimentary mineral resource composite (W331 PAR). Increases in F appeared initially to broadly align with increases in Ca concentration, however this trend was less apparent in later leaches. Given a trend noted in the DI leachates of increasing F from higher pH leachates, F may be being released from inclusions in carbonate minerals such as calcite or potentially fluorite dissolution, although fluorite has not been detected in mineralogy. Sample 10689923 has also released slightly elevated F concentrations (0.3 to 0.6 mg/L), although this has not correlated with any increase in Ca release.

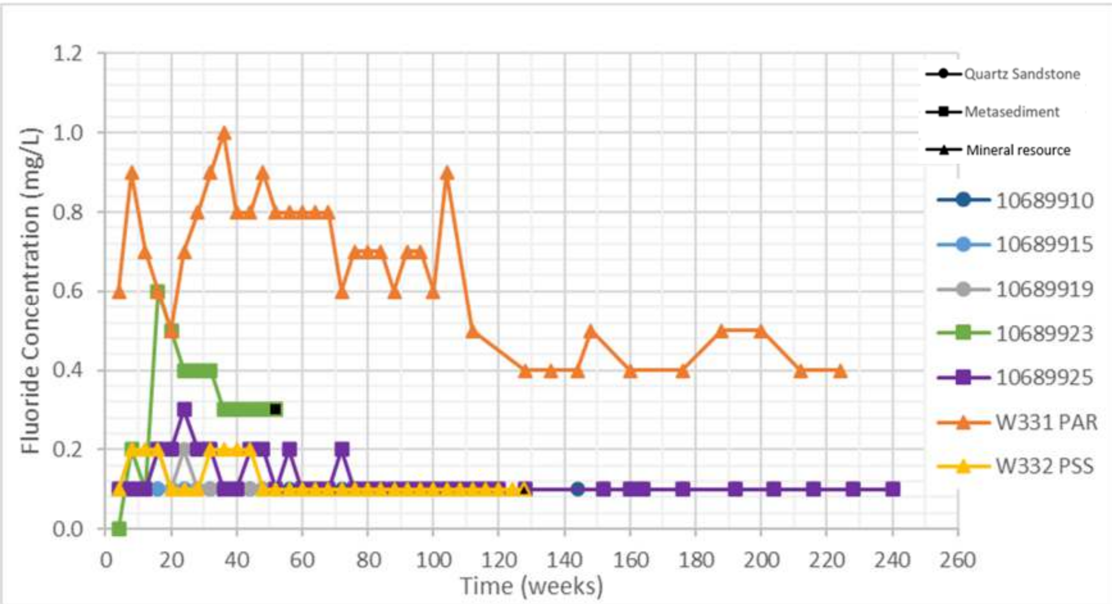


Figure 37: Free draining column F concentration vs. time (> 0.5% total sulfur).

Elevated and increasing trends of metals associated with the deposit trends indicate a reactive release by sulfide oxidation and associated neutralisation processes as opposed to flushing effects of stored oxidation products or desorption. Samples with decreasing trends in metals may indicate some flushing of stored oxidation products or a decrease in metal availability with increased oxidation. Elevated Mn and Zn concentrations in W332

PSS may be attributed to siderite dissolution, as these metals easily substitute for Fe within the siderite structure.

The PAF-LC quartz sandstone sample (10689915) has resulted in significantly higher metal release than any other sample in this category, likely a result of the lower leachate pH promoting dissolution. Heavy metal release, including Co (< 2.6 mg/L, Figure 38), Ni (< 2.4 mg/L, Figure 39), Zn (< 1.4 mg/L, Figure 40), Fe (< 0.5 mg/L, Figure 42) and Mn (< 20 mg/L Figure 43) and light metal release for Al (< 0.3 mg/L, Figure 41) all peak during the 16 to 24 week mark. Decreases in metal release after week 24 suggest oxidation and release of metals was slowing from this sample.

Another quartz sandstone sample (10689910), a metasediment (10689925) and the siderite rich mineral resource composite (W332 PSS) also release slightly elevated concentrations of Co and Ni. In particular, W332 PSS had increasing Co and Ni concentration, but appear to steady in the last 30 weeks. W332 PSS leachate had an increasing Zn concentration, likely from ongoing sphalerite dissolution, but appears steady during the last 20 weeks (Figure 40). There potentially is some colloidal influence in some of the slightly elevated Al measurements in the most recent leaches from 10689925 and W331 PAR, or it could be due to the dip in pH that occurred for a single measurement.

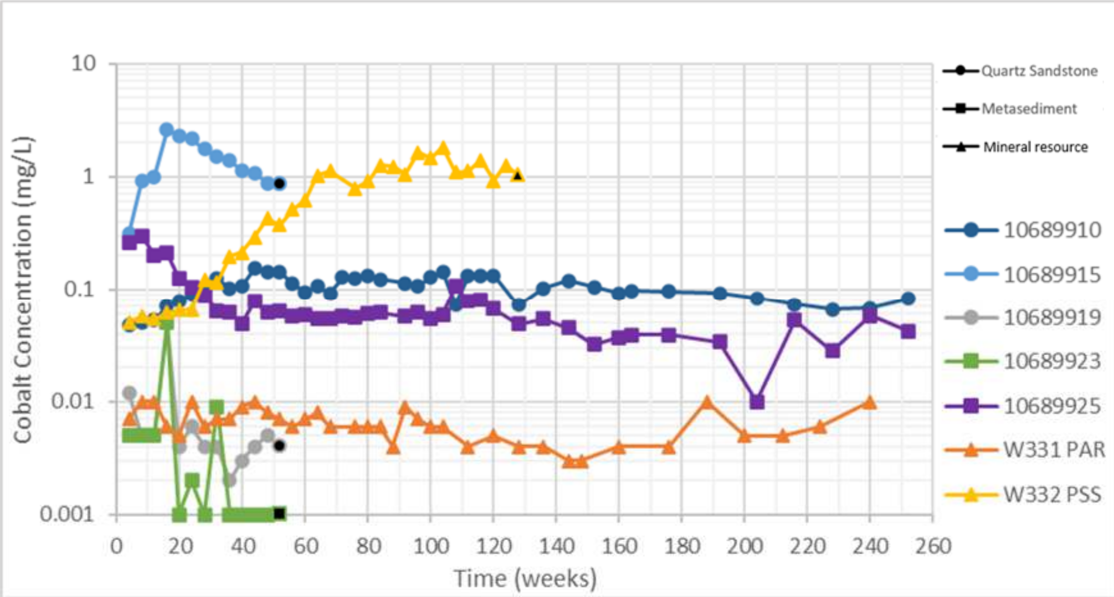


Figure 38: Free draining column Co concentration vs. time (> 0.5% total sulfur).

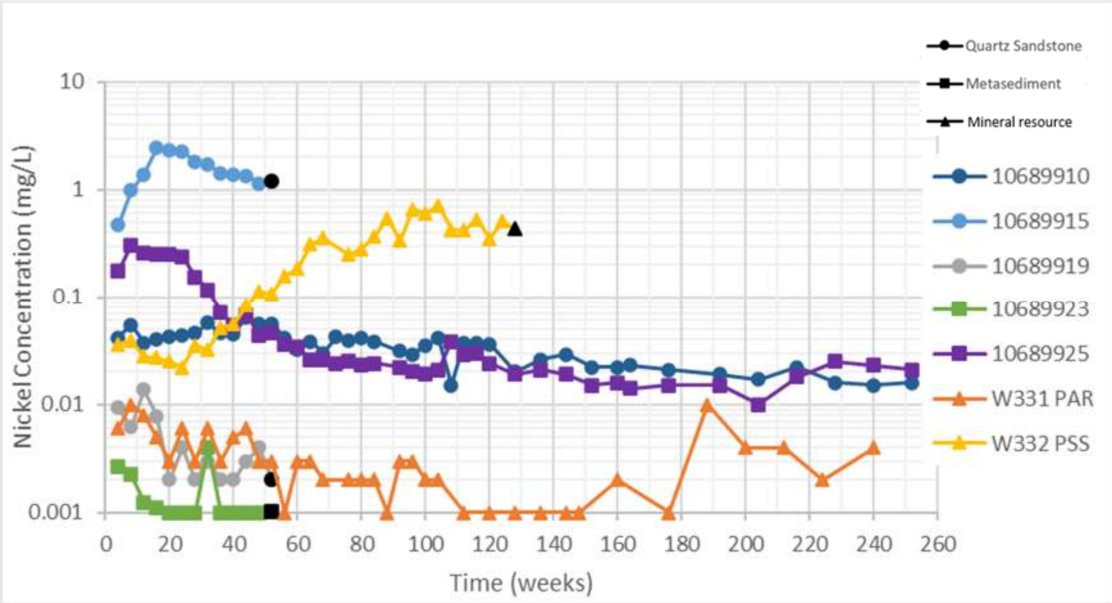


Figure 39: Free draining column Ni concentration vs. time (> 0.5% total sulfur).

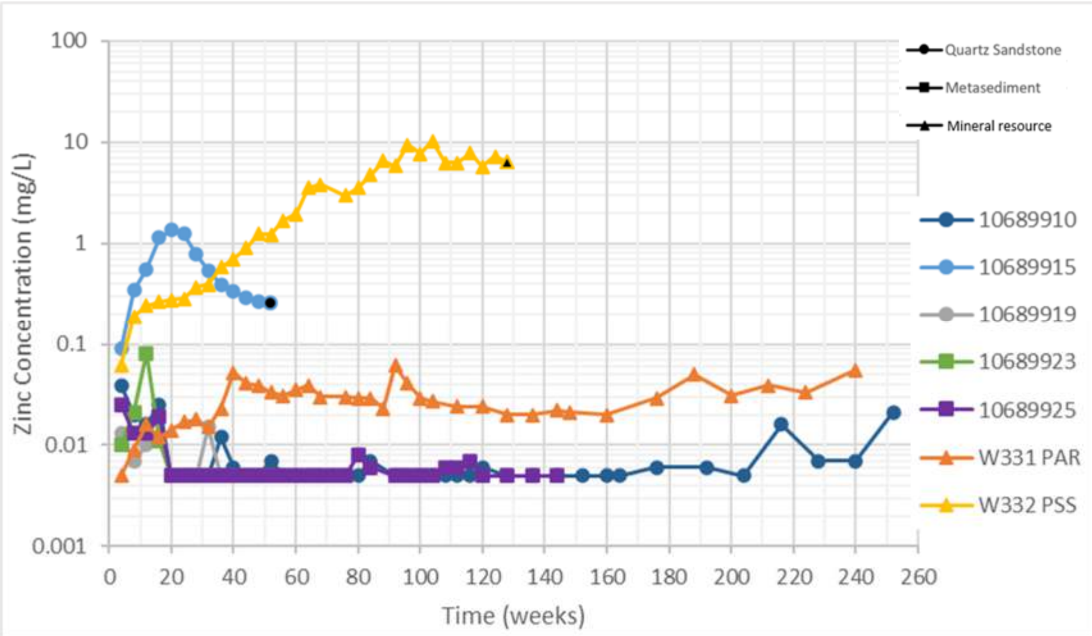


Figure 40: Free draining column Zn concentration vs. time (> 0.5% total sulfur).

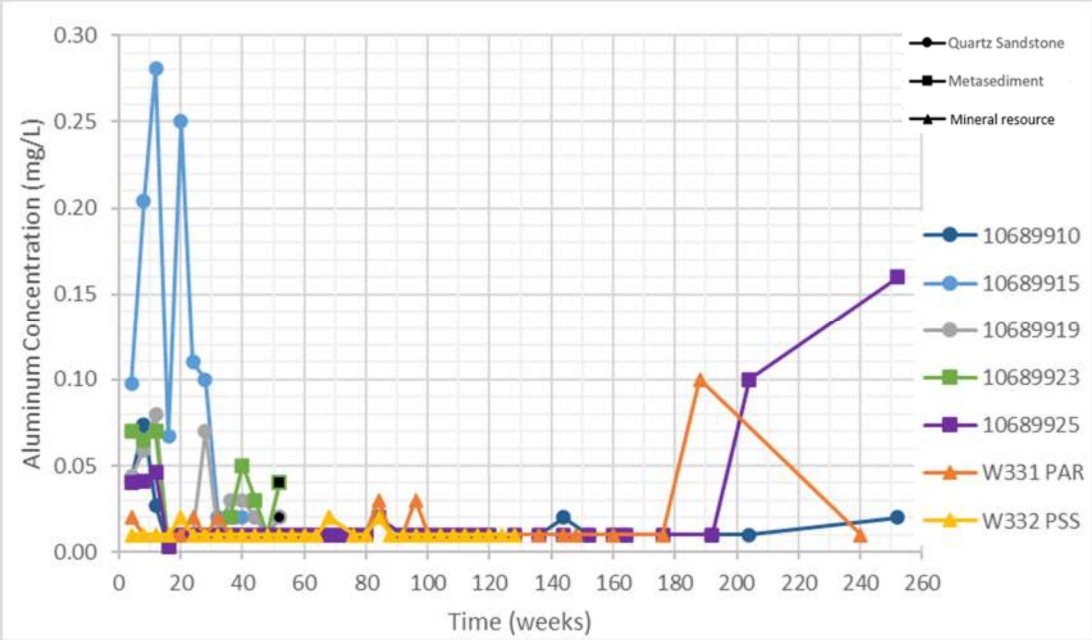


Figure 41: Free draining column Al concentration vs. time (> 0.5% total sulfur).

The leachates from column W332 PSS, a siderite rich mineral resource composite sample, did not contain iron above detection limits, indicating consumption of siderite did not take place or iron released under kinetic testing conditions is being precipitated. Similar to Al, there is a slight spike in Fe in the most recent samples for samples W331 PAR and 10689925.

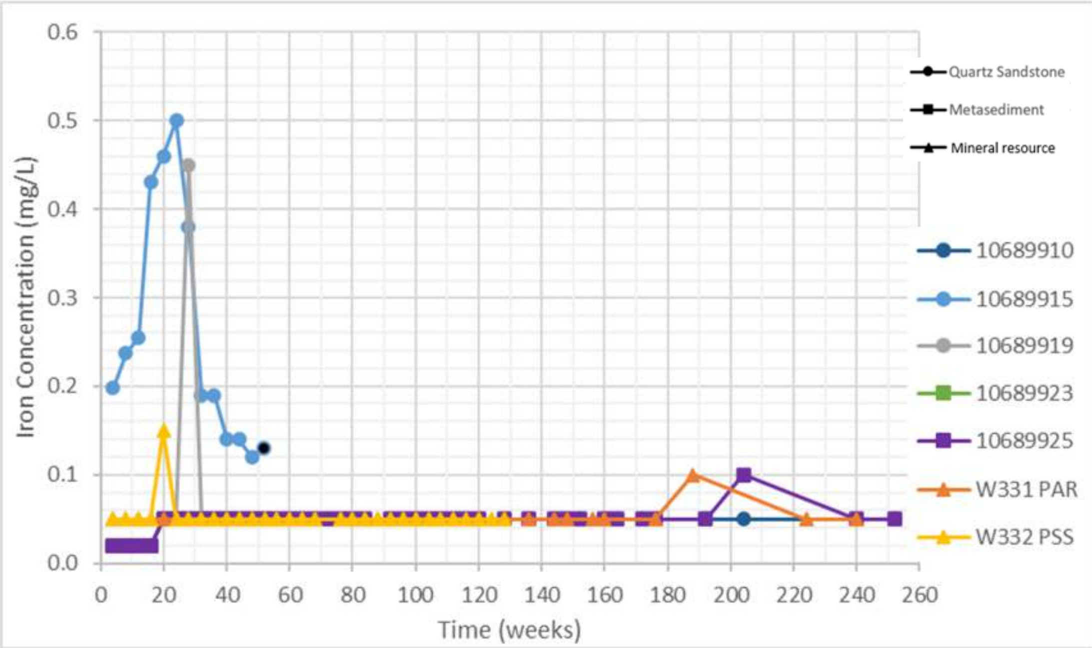


Figure 42: Free draining column Fe concentration vs. time (> 0.5% total sulfur).

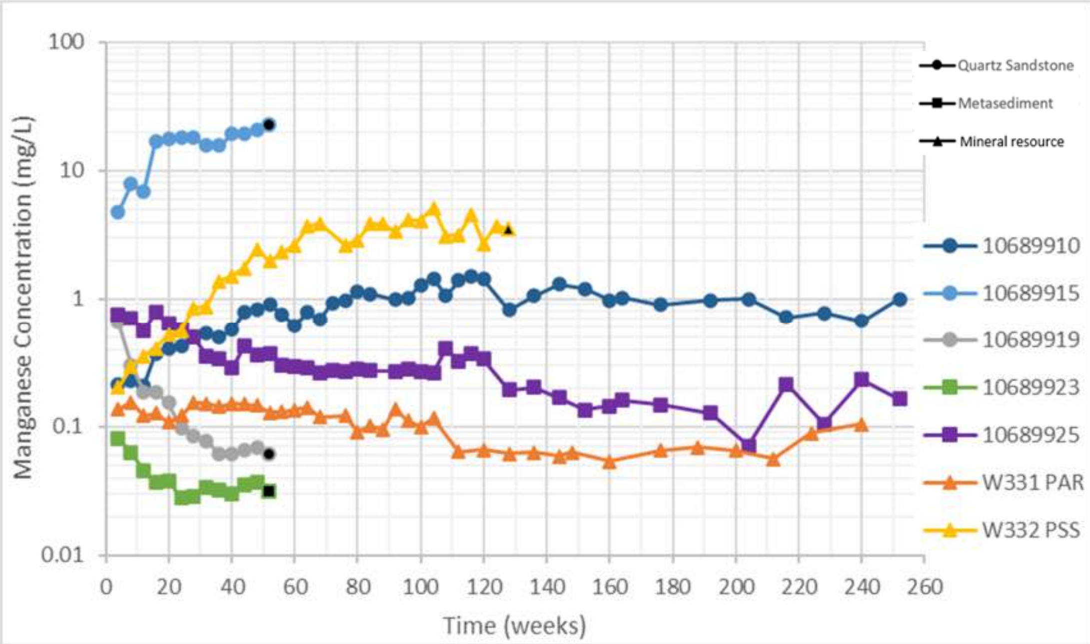


Figure 43: Free draining column Mn concentration vs. time (> 0.5% total sulfur).

3.6.2. *METASEDIMENTARY AND MUDSTONE SAMPLES < 0.5% TOTAL SULFUR*

Column leach tests were undertaken on four low sulfur metasedimentary or mudstone waste rock samples from the primary sulfide zone (Table 11), three NAF (10689911, 10689914, 10689918 and 10689920) and one UNC (10689926). No samples met the criteria to be classified as mineral resource grade (> 0.2% Cu or > 0.2 mg/kg Au).

Table 11: Free draining column (metasediments and mudstones < 0.5% total sulfur) sample information.

Sample ID	Lithology	Cu (%)	Au (mg/kg)	S^{2-} (%)	ANC (kg H_2SO_4/t)	NAG pH	NAF/ PAF
10689911	High Nb permian mudstone	0.16	0.033	0.26	30.9	9.7	NAF
10689914	Metasediment 2	0.03	0.009	0.39	198.3	11.5	NAF
10689918	Oxidised permian mudstone	0.02	0.018	0.29	20.7	6.8	NAF
10689926	Metasediment 2	0.02	0.050	0.33	9.2	3.9	PAF-LC

Both mudstone samples were classified as NAF and metasedimentary samples classified NAF (10689914) and UNC (10689926). Low sulfide sulfur content (0.26 to 0.39%) and moderate to high ANC (20 to 200 kg H_2SO_4/t) in the mudstone and metasedimentary sample 10689914 support the NAF classification. Metasedimentary sample 10689926 had moderate sulfide sulfur content (0.33%) and low ANC (9.2 kg H_2SO_4/t) in conjunction with low NAG pH (3.9) resulting in PAF-LC classification.

After an initial acidic flush for metasediment sample 10689926, all samples have generated leachate at circum-neutral pH levels after one year (~pH 6 to 7, Figure 44). One pH result (week 28) for sample 10689926 was lower than the trend – pH 2.9 compared with a general trend around pH 6.5 – it did however, corresponded to an increase in EC (Figure 45), potentially indicating sample contamination. Sample 10689926 has leached for 3.5 years and was selected for an extended period due to the lower ANC and PAF-LC classification. The pH has generally steadied between five and six for the last 100 weeks.

The LCG (2024) acidification lag projections undertaken during June 2024, found for sample 10689926 that the ANC and sulfur will deplete in 35 and 48 years respectively. The ANC calculated from carbonates depletes even more rapidly in nine years. The PAF-LC classification is appropriate, however it is possible that this sample wont acidify further than between pH 5 and 6.

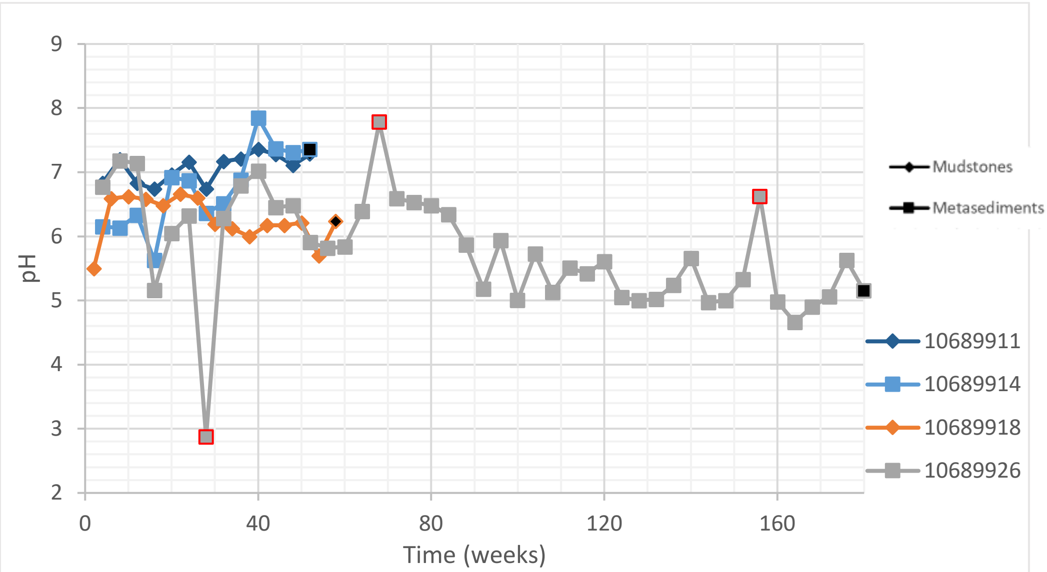


Figure 44: Free draining column pH vs. time (metasedimentary and mudstone samples < 0.5% total sulfur).

Most samples have produced leachate with low EC (< 400 µS/cm, Figure 45) and low sulfate (< 150 mg/L, Figure 46), except for metasediment sample 10689914. This sample produced leachate with the highest EC (initial flush of 1400 µS/cm, then returning to lower levels of 600 to 800 µS/cm) and sulfate concentrations (250 to 350 mg/L). The high initial EC flush suggests some oxidation of sulfide occurring during sample handling that reacted with the considerable ANC prior to the first leach.

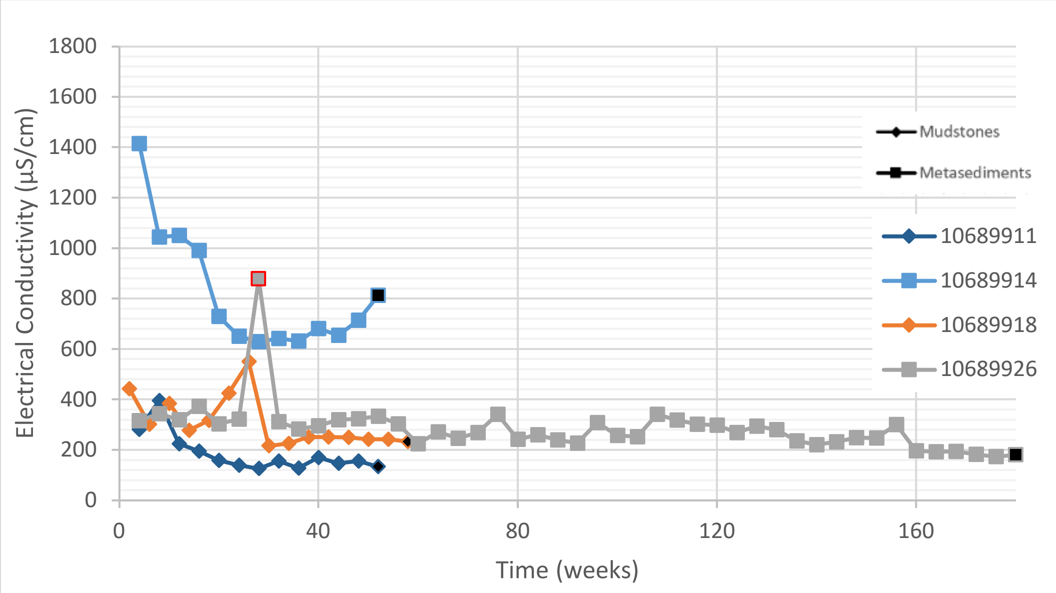


Figure 45: Free draining column EC vs. time (metasedimentary and mudstone samples < 0.5% total sulfur).

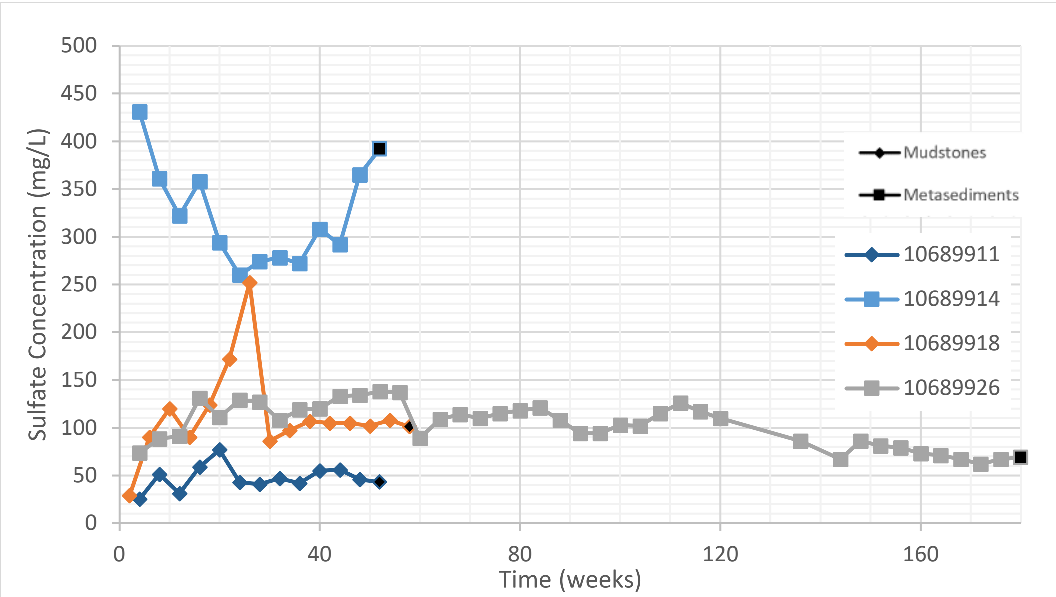


Figure 46: Free draining column sulfate concentration vs. time (metasedimentary and mudstone samples < 0.5% total sulfur).

Ongoing sulfate release from the high ANC metasediment sample 10689914 suggests ongoing oxidation of the moderate sulfide content over time. High Ca (Figure 47) and Mg (Figure 48) release for this sample support ongoing dissolution of dolomite and calcite. Mudstone sample 10689918 saw a peak in Mg and Ca release in week 26, this was confirmed with an increase in EC and sulfate release and slight decrease in pH. The silicon concentrations increased in the long term (after 92 weeks) for sample 10689926, which was leached over an extended period of time. This may indicate that silicate mineral ANC contributions are more significant in the long term, particularly when the corresponding pH drops between pH 5 and 6.

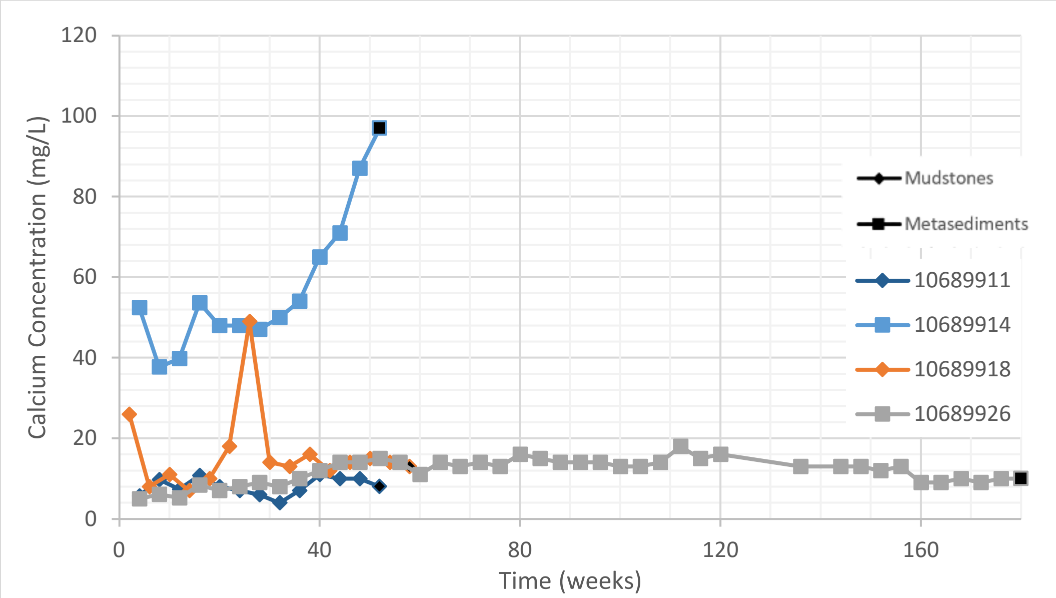


Figure 47: Free draining column Ca concentration vs. time (metasedimentary and mudstone samples < 0.5% total sulfur).

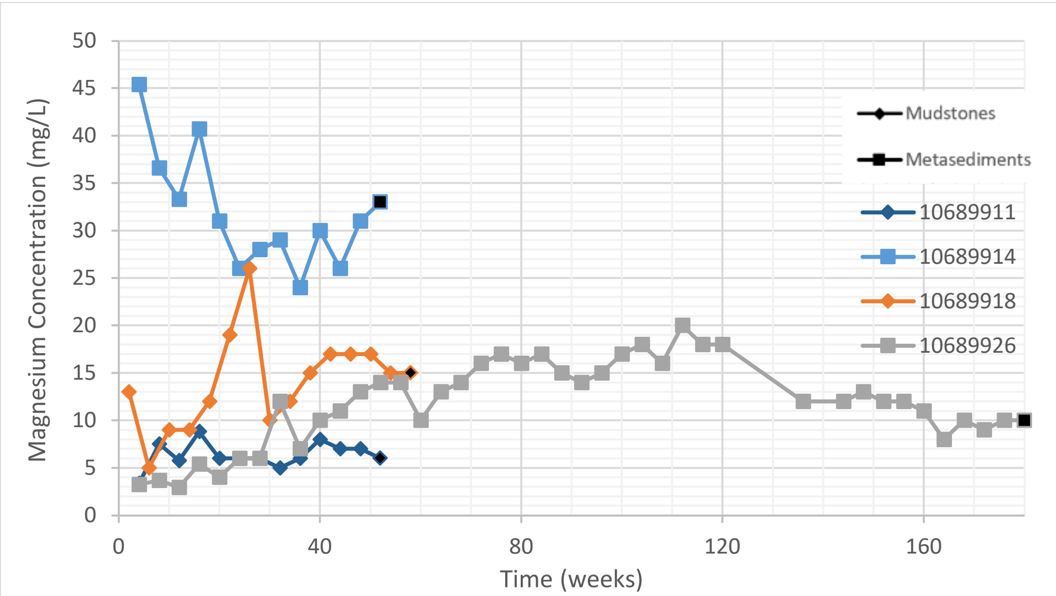


Figure 48: Free draining column Mg concentration vs. time (metasedimentary and mudstone samples < 0.5% total sulfur).

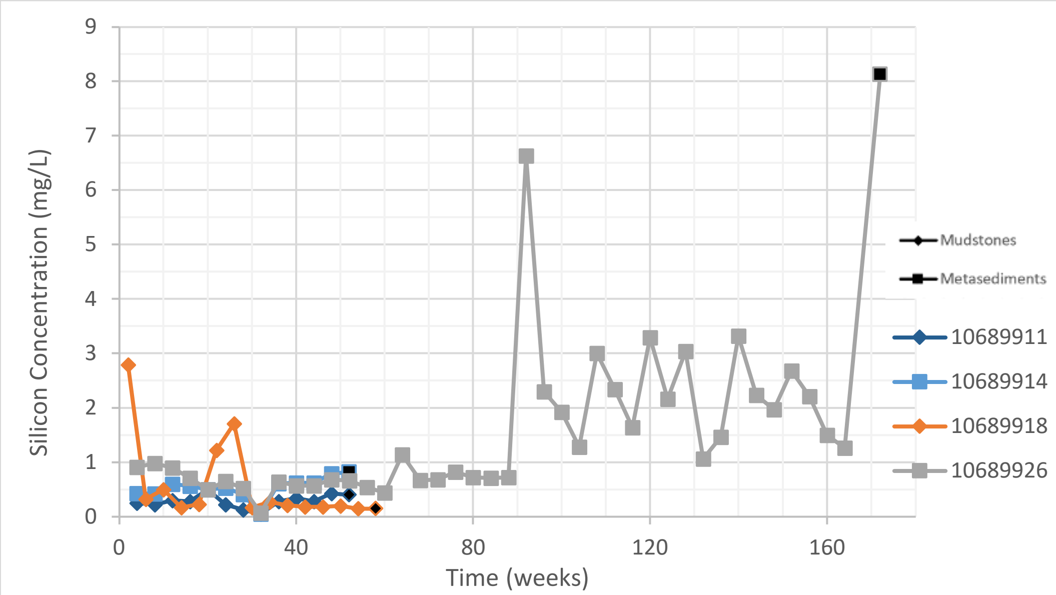


Figure 49: Free draining column Si concentration vs. time (metasedimentary and mudstone samples < 0.5% total sulfur).

Fluoride release from the low sulfur samples was generally low (Figure 50). Mudstone sample 10689914 had an initial flush (0.4 mg/L) of F before returning to low levels (limit of detection, 0.1 mg/L) suggesting immediately mobile F in this sample. Metasediment sample 10689918 and mudstone sample 10689926 had some initial F release just above detection (0.2 to 0.3 mg/L). Peaks in F release correlated with increases in Ca release suggesting possible trace fluorite dissolution or presence of F in carbonate minerals.

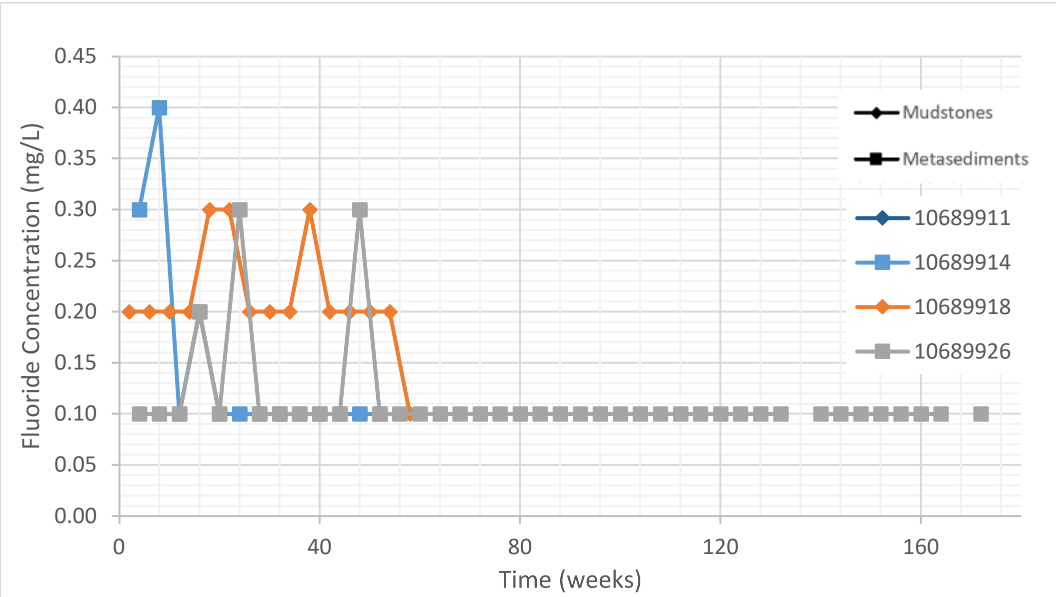


Figure 50: Free draining column F concentration vs. time (metasedimentary and mudstone samples < 0.5% total sulfur).

Cobalt (< 0.12 mg/L), Ni (< 0.1 mg/L), Zn (< 0.5 mg/L), Al (< 0.2 mg/L), Fe (< 0.2 mg/L except for a first flush measurement of 4 mg/L), Cu (< 0.2 mg/L) and Mn (< 1.2 mg/L) release from all samples was close to or below detection limit after the first flush. A small amount of metal release was detected after the first flush, with most leachates after the first flush resulting in analysis below the detection limit. Release of constituents that could contribute to NMD at high pH has not been noted for these materials.

3.6.3. *MAFIC SAMPLES*

Of the four mafic samples tested in this category (Table 12), three samples were classified as NAF (10689917, 10689920 and 10689921) and one was PAF (mineral resource composite W81 LM).

Table 12: Free draining column (hypogene mafic) sample information. Mineral resource grade samples highlighted in red bold.

Sample ID	Lithology	Cu (%)	Au (mg/kg)	S^{2-} (%)	ANC (kg H_2SO_4/t)	NAG pH	NAF/ PAF
10689917	Pre-mineral mafic	0.02	0.008	0.19	17.0	5.7	NAF
10689920	Pre-mineral mafic	0.01	0.005	0.39	106.8	7.4	NAF
10689921	Post-mineral mafic	0.04	0.013	0.39	31.0	6.4	NAF
W81 LM	Lower mafic mineral resource composite	0.05	**1.162**	4.87	35.4	2.7	PAF

Waste rock samples had relatively low sulfide contents (0.2 to 0.4%) and moderate ANC (17 to 107 kg H_2SO_4/t) supporting the NAF classification. In contrast, the very high sulfide content of the mineral resource composite (4.9%) resulted in a low NAG pH and hence classification as PAF.

Despite sample W81 LM being classified PAF and having 4.9% sulfide sulfur, it maintained a pH above pH 5 and was above pH 6 during the last 28 weeks (Figure 51). Sample 10689920 has produced the most alkaline leachates (pH 7 to 9) in this category, likely due to the considerable ANC.

LCG (2024) acidification lag calculations found that the ANC would deplete in 18 years for sample W81 LM, however the sulfur depletes in 87 years and hence the sample will acidify in the long term. For the remaining NAF classified mafic samples, the sulfur depletes before the ANC, which confirm the NAF classification as appropriate.

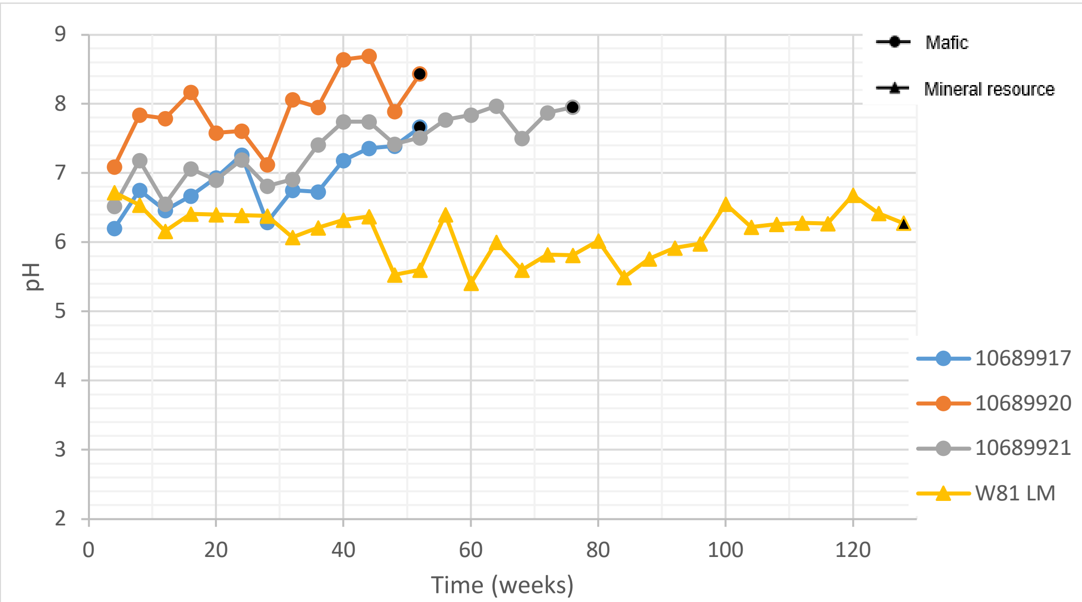


Figure 51: Free draining column pH vs. time (mafic samples)

The waste rock samples generally produced leachate with lowest EC (< 800 µS/cm, Figure 52) and sulfate release (< 300 mg/L, Figure 53). In contrast, the high sulfide (4.9%) mineral resource composite sample W81 LM produced leachates with the highest EC (> 1000 µS/cm) and sulfate release (> 600 mg/L).

The high sulfate and EC release for the mineral resource composite is likely a result of ongoing sulfide oxidation. It is expected that the leachates will acidify once all the available ANC becomes consumed. The high sulfate release from the mineral resource composite sample corresponds with high and initially increasing Ca (Figure 54) and Mg (Figure 55) release, further supporting consumption of ANC, likely present at dolomite.

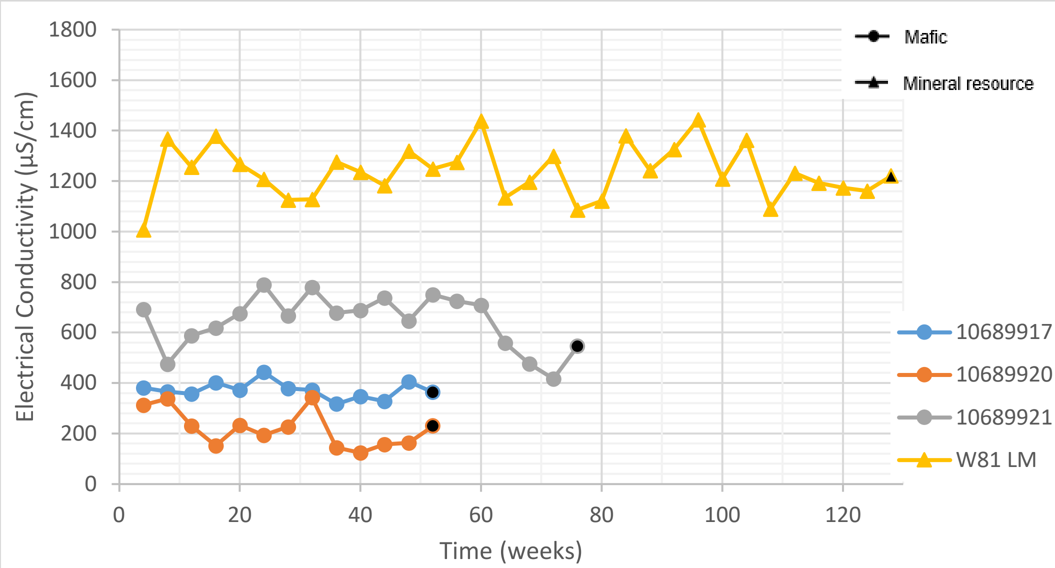


Figure 52: Free draining column EC vs. time (mafic samples).

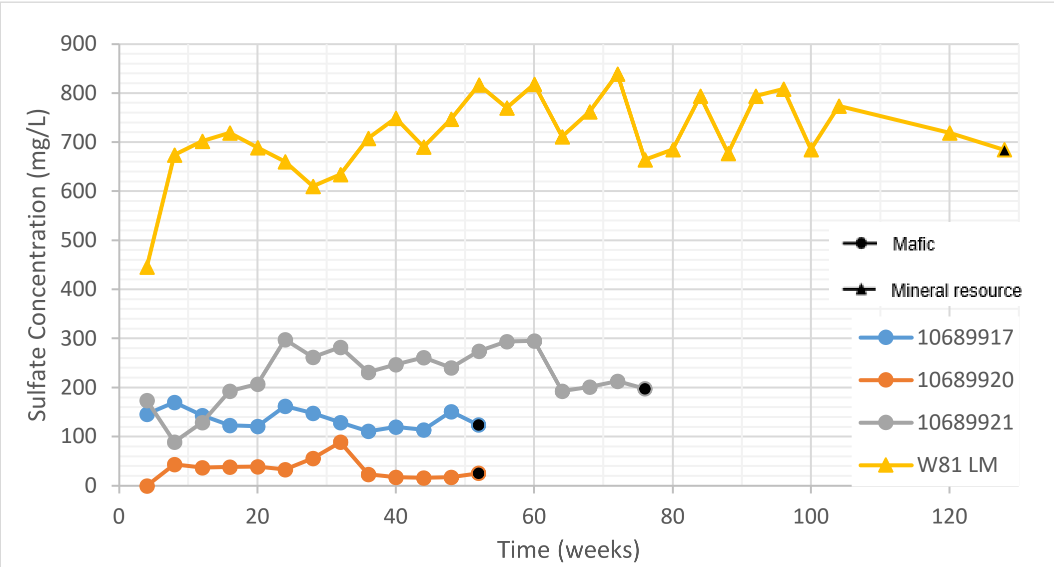


Figure 53: Free draining column sulfate concentration vs. time (mafic samples).

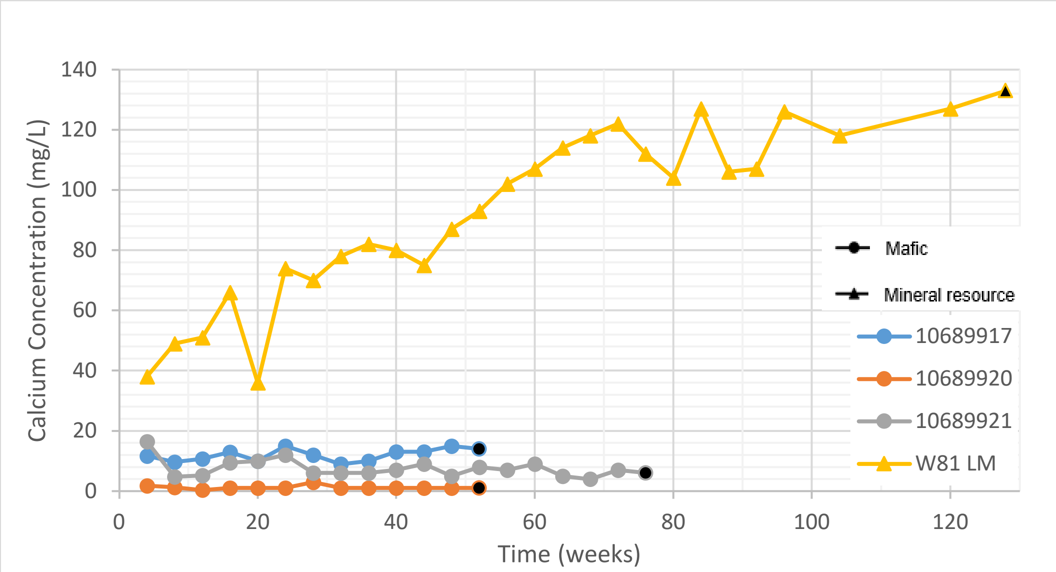


Figure 54: Free draining column Ca concentration vs. time (mafic samples).

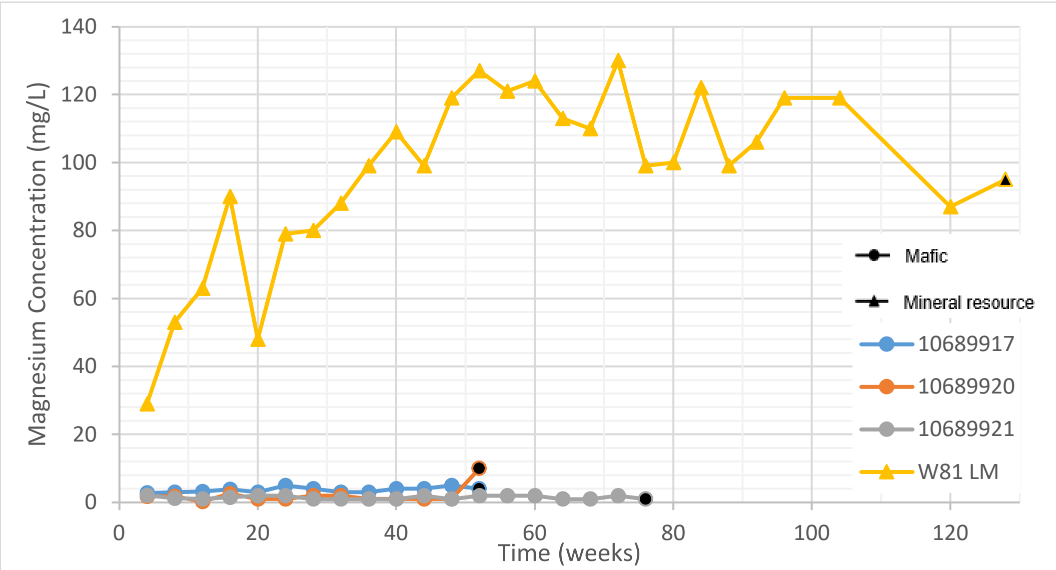


Figure 55: Free draining column Mg concentration vs. time (mafic samples).

Fluoride release was generally low, however there was slight increase with time for sample 10689920 (Figure 56).

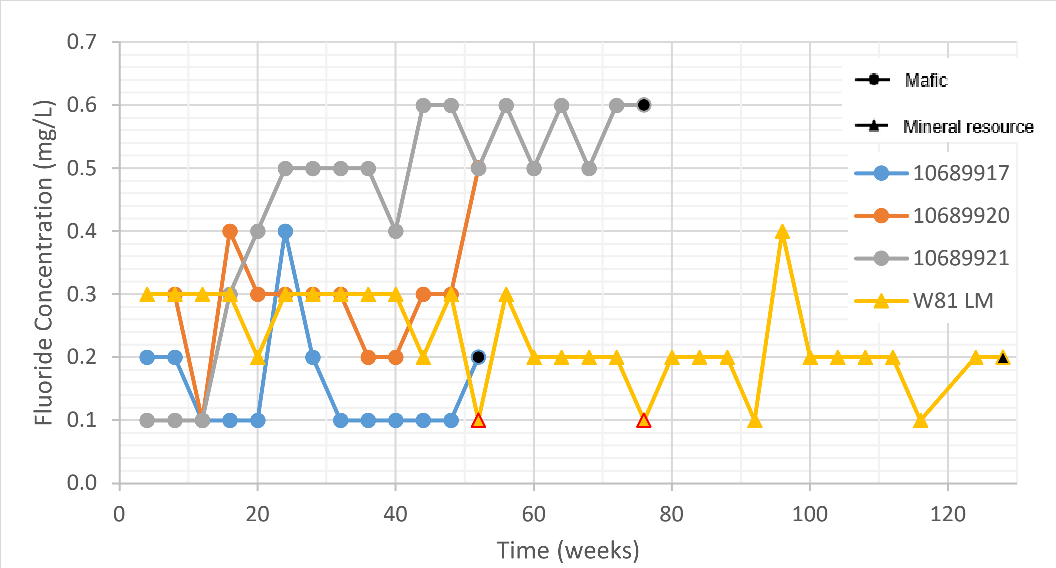


Figure 56: Free draining column F concentration vs. time (mafic samples).

Whilst an overall low Co concentration, the mineral resource composite sample W81 LM leachate increased in concentration during the initial leaching (Figure 57). The Ni concentration had a corresponding increase in this sample, appearing to reach peak concentrations after 68 weeks (Figure 58). This could indicate the presence and dissolution of Co and Ni sulfide minerals.

The Mn concentration also followed this trend (Figure 59). Sample 10689917 had a higher Co, Ni and Cu (Figure 60) release during the first three leachates, before returning to lower release rates. One Mn result (week 28) for waste rock sample 10689920 was higher than the trend: 0.6 mg/L compared with a general trend around 0.05 mg/L. It is expected that this result is an analytical or contamination error.

There appeared a first flush of elevated Cu for sample 10689917 and 10689920, but thereafter the concentrations were low (Figure 60).

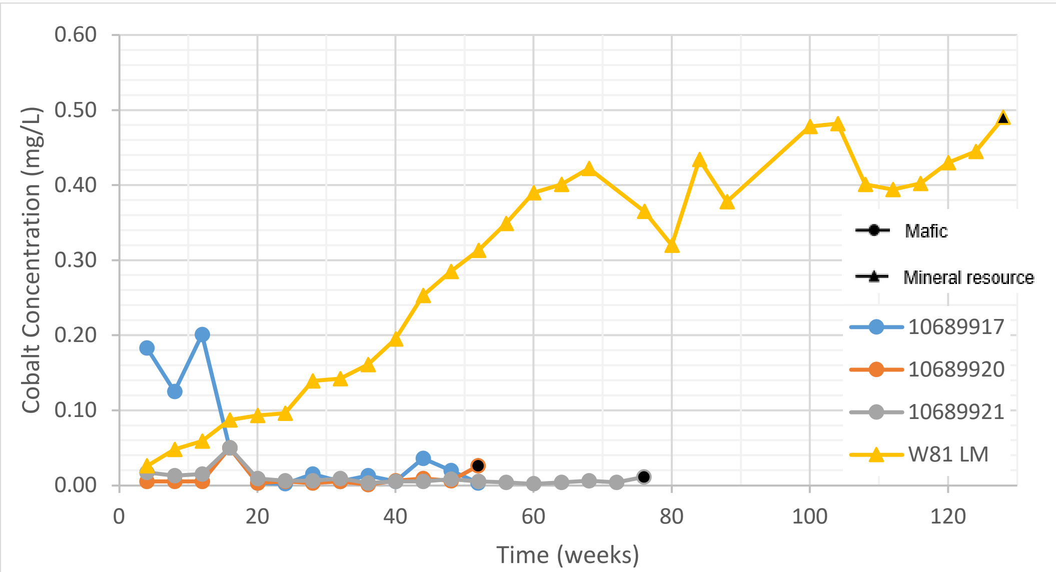


Figure 57: Free draining column Co concentration vs. time (mafic samples).

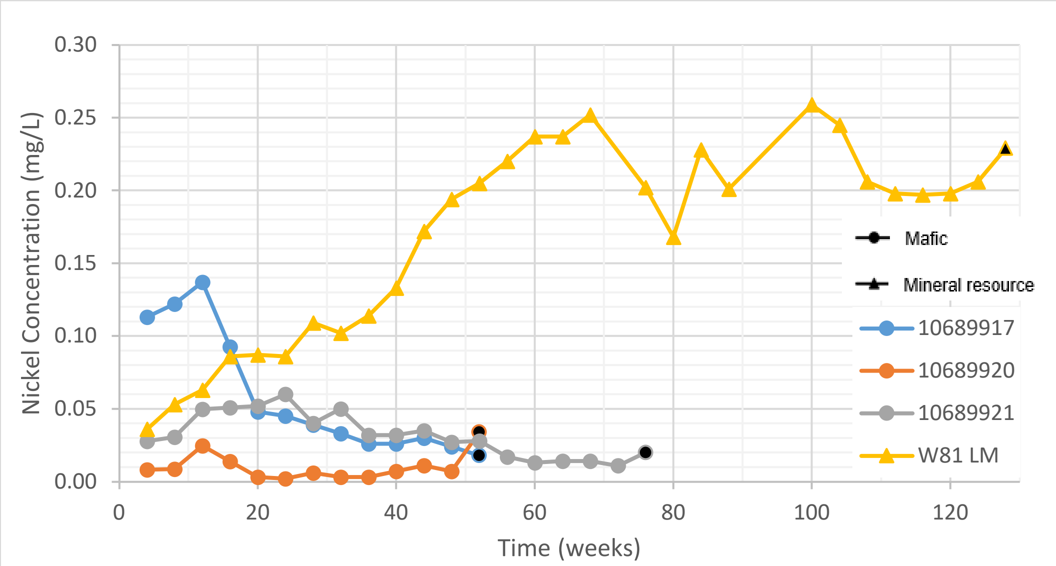


Figure 58: Free draining column Ni concentration vs. time (mafic samples).

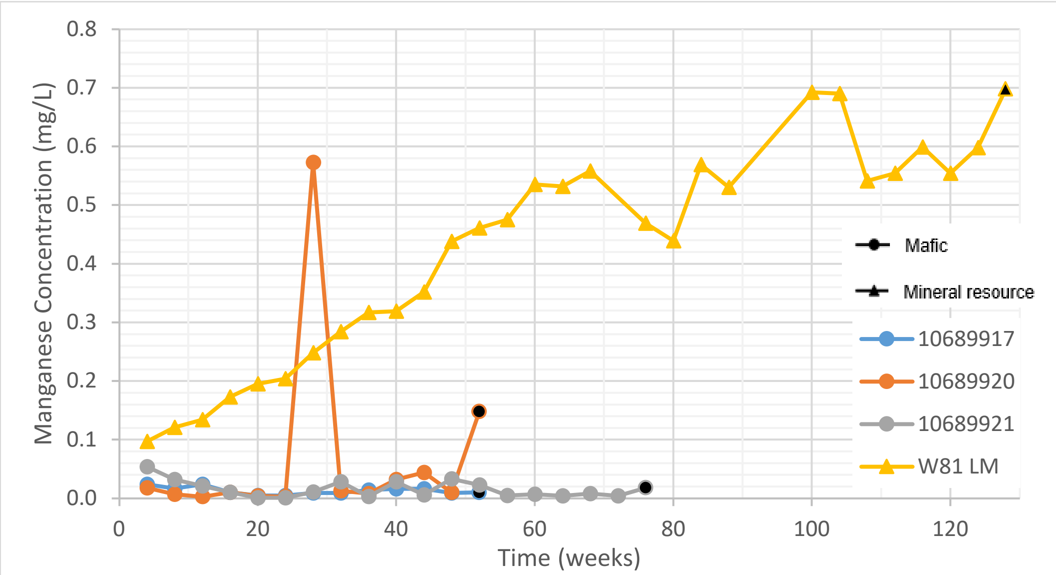


Figure 59: Free draining column Mn concentration vs. time (mafic samples).

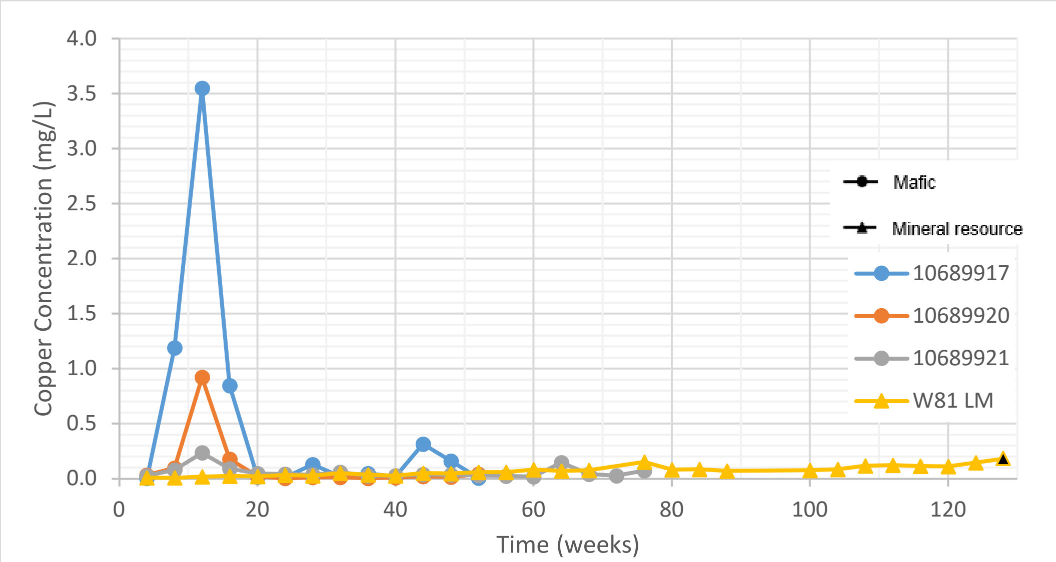


Figure 60: Free draining column Cu concentration vs. time (mafic samples).

Waste rock sample 10689920 released relatively greater Al (13 mg/L Figure 61) and Fe (30 mg/L, Figure 62) after week 40. There was an increasing Al and Fe concentration trend for sample 10689921 up until the column was terminated at 76 weeks. Since the corresponding pH is circum-neutral, it is likely that these concentrations are colloidal and due to particulates passing the filter before analysis.

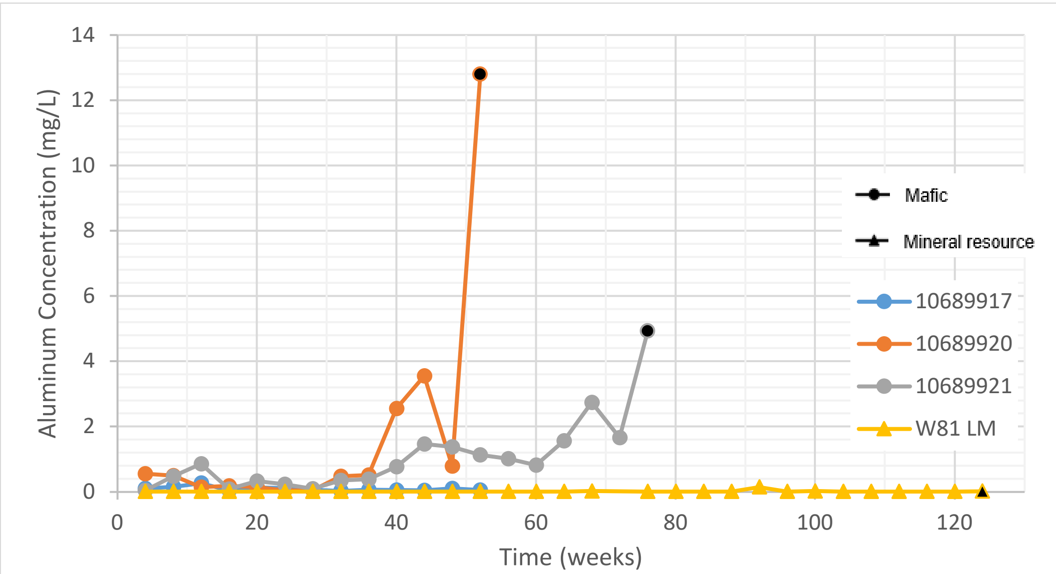


Figure 61: Free draining column Al concentration vs. time (mafic samples).

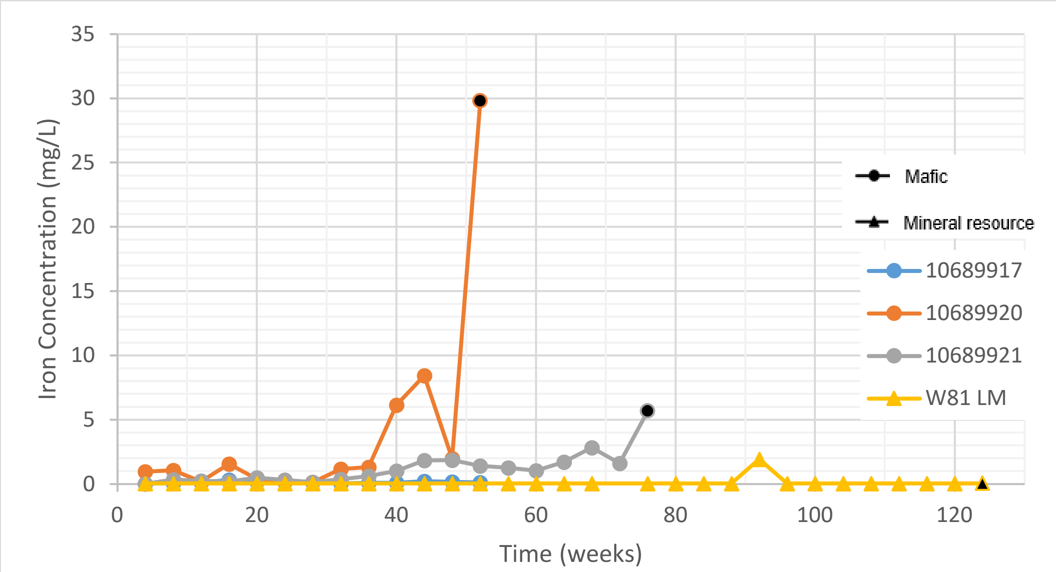


Figure 62: Free draining column Fe concentration vs. time (mafic samples).

3.6.4. *OXYGEN CONSUMPTION RATE*

The OCR provides an indication of the rate at which minerals in the sample may oxidise. Where sulfide minerals dominate, OCR can be related to sulfide oxidation.

OCR values have been measured in laboratory tests for samples of Winu waste rock (blue diamonds in Figure 63 to Figure 65). OCR was also calculated from sulfate released in the free draining columns[2] and plotted against the laboratory OCR values as well as other samples in the SRK database (grey triangles) (SRK 2020).

OCR calculated from sulfate release for all samples are typically one to two orders of magnitude lower than that calculated from laboratory work for the seven reference primary sulfide samples. Most of the samples analysed by laboratory tests were crushed to -2 mm or pulps. Hence, the smaller particle size may have increased the measured IOR values. The OCR values from the column leach tests align more closely with the samples in the SRK database for lower sulfide samples. The column test samples appear to be relatively free draining and unlikely to form anoxic conditions at the rock surface that could inhibiting oxidation. Waste rock sample surface images can be seen in Appendix 1.

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[2] Sulfate released during the first two to four weeks has been omitted from the OCR calculation to allow any mobile sulfate to be flushed out, the average OCR for the remaining life of the column has been used.

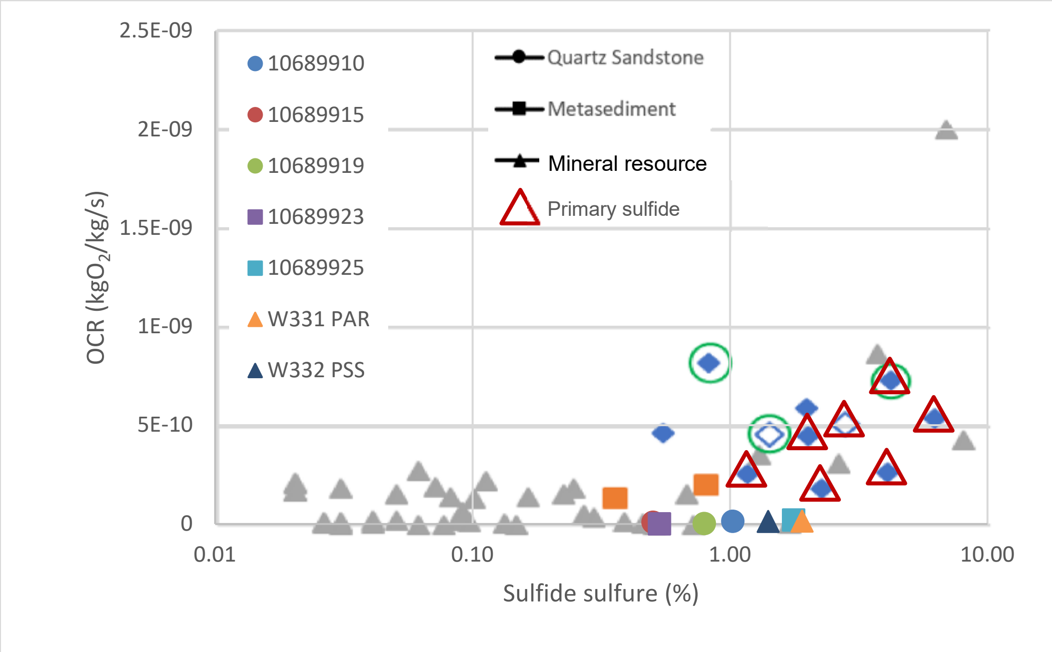

Figure 63: Free draining column oxidation rate vs. sulfide concentration (metasedimentary samples > 0.5% total sulfur). Blue diamonds are Winu waste rock samples, grey triangles are SRK database.

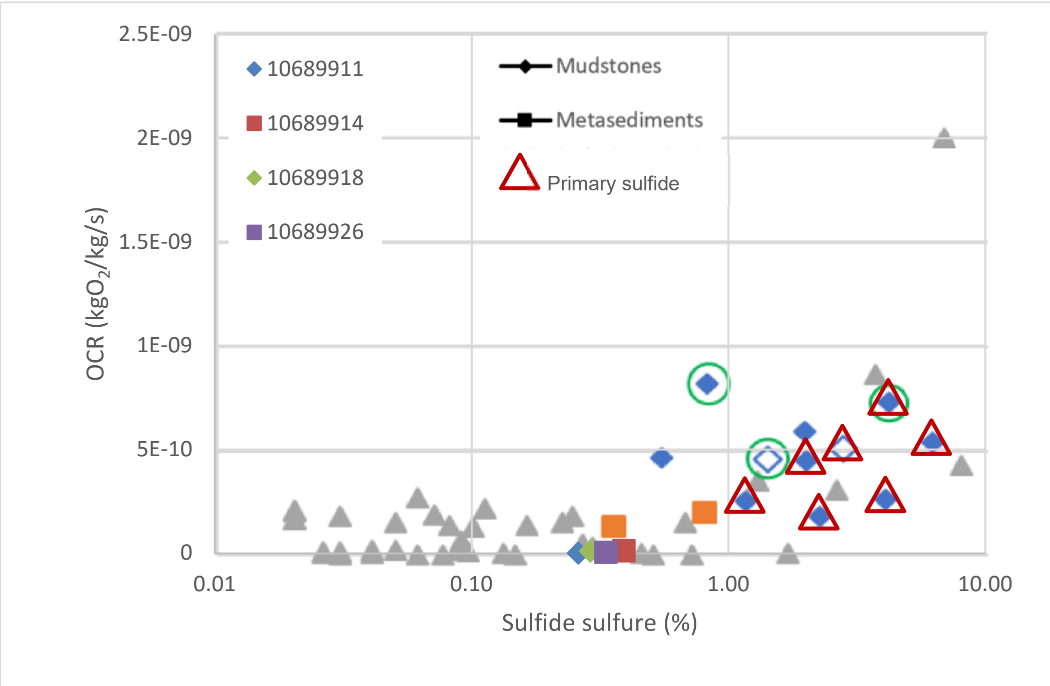

Figure 64: Free draining column oxidation rate vs. sulfide concentration (metasedimentary and mudstone samples < 0.5% total sulfur). Blue diamonds are Winu waste rock samples, grey triangles are SRK database.

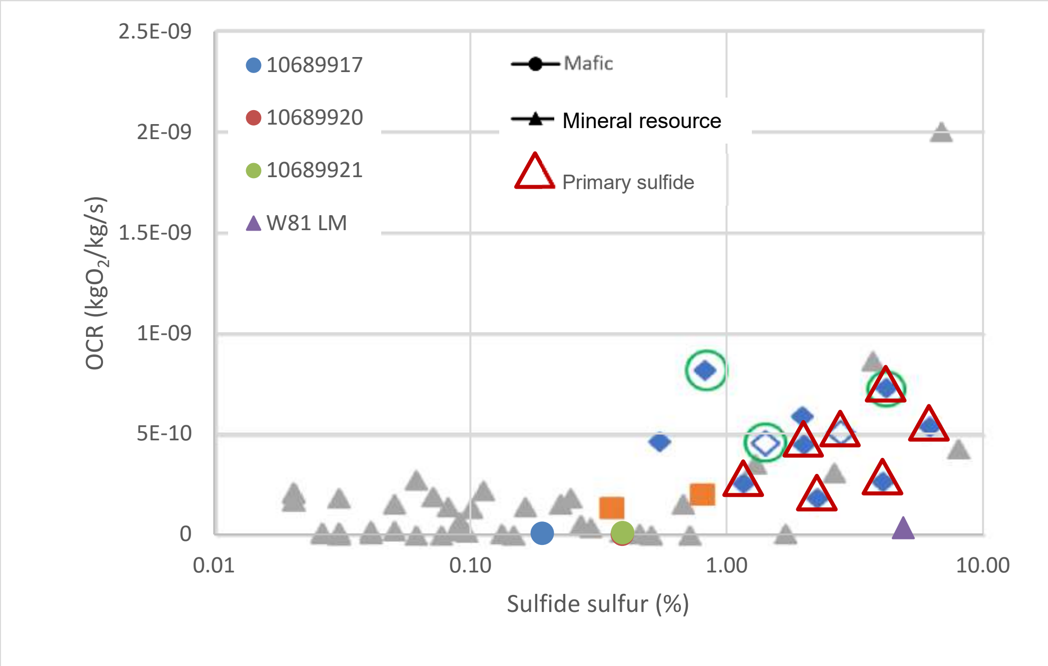

Figure 65: Free draining column oxidation rate vs. sulfide concentration (mafic samples. Blue diamonds are Winu waste rock samples, grey triangles are SRK database.

3.7. QUALITY ASSURANCE / QUALITY CONTROL

Data quality assurance and quality control was completed by assessing known correlations in the data received and comparing results from repeat sample submissions. In general, the data received from the laboratory was of good quality and can be used for generating defensible conclusions.

The total sulfur assays for the waste rock characterisation programme were consistently a few percent below (mean of −11% Relative Percentage Differences (RPD)) the RTX exploration assay results (Figure 66). The relatively consistent difference between the two suggests that the difference is due to a repeatable measurement error and could therefore be due to different analysis techniques. In this case, the LECO analysis is considered the most accurate.

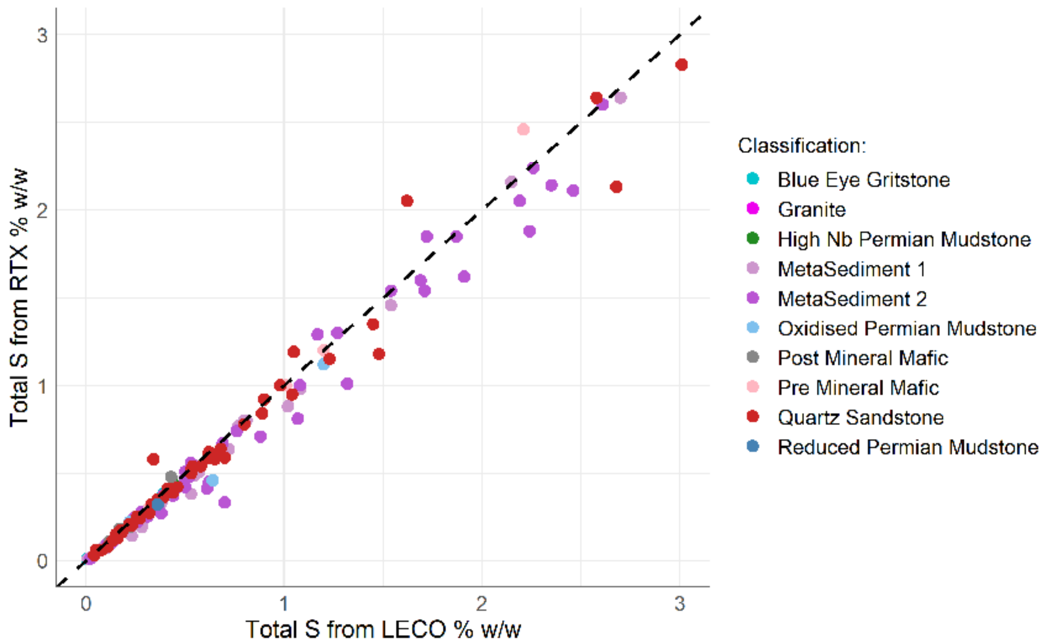

Figure 66: Total sulfur from RTX database and as reported by ALS.

Repeat ABA analysis demonstrated generally good repeatability of the assay results within the ABA program. Organic carbon was the only parameter to report outside of acceptable RP) of 15%. In these cases, the values were at or near to detection limits and the higher RPD is considered acceptable.

QA/QC for the water leach tests was completed by checking the charge balance on the leachate assays. The charge balance percentage difference was less than 10% for all but one sample, where the difference was 20%, suggesting good analytical accuracy for the leachate assays. A repeat test was not conducted on the leachate tests due to limited sample availability.

4. SUMMARY AND CONCLUSIONS

The Winu primary sulfide zone contains acid neutralising minerals and is unlikely to acidify in the short term (> 8 years). Approximately 42% of samples were classified as NAF (or barren) and the remainder as PAF or uncertain. The metasediment 2 and quartz sandstone were found to be the most likely lithologies to generate acid from the Winu deposit due to higher sulfide contents, with these samples typically generating acid more quickly during kinetic NAG tests.

Some metasediment and quartz sandstone samples contain significant readily available ANC (up to 473 kg H_2SO_4/t) indicating calcite breccias or significant carbonate veining. A higher proportion of dolomite or low-iron ankerite can be within these samples. In contrast, although some post-mineral mafic units could be NAF (average NAPP of -30 kg H_2SO_4/t and average NAG pH of 7), the contained ANC was generally unavailable. This is likely due to the presence of ANC as slow reacting aluminosilicates or non-neutralising siderite. However, column leach tests on four mafic samples did not acidify, indicating some effective ANC. Mineral resource samples contained twice as much sulfide on average as the corresponding lithologies containing only waste-grade samples and were therefore more likely to be classified as PAF.

As was noted for the other zones of the Winu deposit, F release occurred during short term leach tests. Fluoride was released at elevated levels from all lithologies but was particularly noted for quartz sandstone and mafic samples. However, sustained or increasing F release in the kinetic leach tests was not observed, suggesting a first flush affect. These short term leach tests also found that at lower pH values, the risk of elevated Cd, Co, Cu, Mn, Ni and Zn release increases. Most kinetic leach columns have yet to consistently acidify less than pH 5 and as such significant release of these constituents has not been noted from primary sulfide samples to date.

5. REFERENCES

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APPENDIX 1 – SAMPLE INFORMATION

Sample ID	Lithology	Relative Level m	Total S %	Sulfide %	MPA (Sulfide) kg H_2SO_4/t	Total C %	TIC %	ANC kg H_2SO_4/t	ANC_{TIC} kg H_2SO_4/t	NAPP kg H_2SO_4/t	NPR	NAF / PAF
10412822	Blue eye gritstone	-151	0.38	0.2	6.12	0.37	0.36	19.9	29.4	-13.8	3.25	NAF
10443377	Blue eye gritstone	-333	0.25	0.2	6.12	0.92	0.9	52.9	73.5	-46.8	8.64	NAF
10454973	Blue eye gritstone	135	0.01	0.01	0.306	0.04	0.03	8.9	2.5	-8.6	29.08	NAF
10448387	Blue eye gritstone	-146	0.09	0.06	1.836	0.15	0.13	10.1	10.6	-8.3	5.50	NAF
10452285	Granite	-187	0.09	0.06	1.836	0.05	0.04	7.2	3.3	-5.4	3.92	NAF
10445862	High Nb permian mudstone	-76	0.43	0.26	7.956	0.4	0.39	33.2	31.9	-25.2	4.17	NAF
10449662	High Nb permian mudstone	-67	0.02	0.02	0.612	0.14	0.13	6.7	10.6	-6.1	10.95	NAF
10386741	Metasediment 1	-122	0.77	0.53	16.218	0.2	0.19	21.9	15.5	-5.7	1.35	UNC
10410141	Metasediment 1	114	1.46	1.08	33.048	0.48	0.47	30	38.4	3.0	0.91	PAF-LC
10413826	Metasediment 1	-37	0.17	0.16	4.896	0.98	0.95	45.8	77.6	-40.9	9.35	NAF
10414362	Metasediment 1	-34	0.07	0.03	0.918	0.1	0.09	0.5	7.4	0.4	0.54	Barren
10414941	Metasediment 1	96	0.17	0.12	3.672	0.06	0.03	1.4	2.5	2.3	0.38	PAF-LC
10414945	Metasediment 1	93	0.51	0.32	9.792	0.03	0.02	1	1.6	8.8	0.10	PAF
10414954	Metasediment 1	86	0.49	0.33	10.098	0.03	0.01	2.1	0.8	8.0	0.21	PAF
10415251	Metasediment 1	-150	0.8	0.65	19.89	0.43	0.41	34	33.5	-14.1	1.71	NAF
10412553	Metasediment 1	75	0.55	0.43	13.158	0.05	0	5.4	0.0	7.8	0.41	PAF
10415473	Metasediment 1	100	0.48	0.32	9.792	0.38	0.37	2.2	30.2	7.6	0.22	PAF-LC
10415524	Metasediment 1	56	0.8	0.64	19.584	0.35	0.32	5.4	26.1	14.2	0.28	PAF-LC
10445638	Metasediment 1	98	0.41	0.24	7.344	0.34	0.31	4.5	25.3	2.8	0.61	PAF-LC
10416095	Metasediment 1	16	0.25	0.09	2.754	0.36	0.35	26.4	28.6	-23.6	9.59	NAF
10449112	Metasediment 1	-77	0.98	0.69	21.114	0.21	0.19	19.9	15.5	1.2	0.94	UNC
10416593	Metasediment 1	64	0.49	0.41	12.546	0.33	0.32	4.2	26.1	8.3	0.33	PAF
10416833	Metasediment 1	-127	0.35	0.31	9.486	1.09	1.07	83.3	87.4	-73.8	8.78	NAF
10446153	Metasediment 1	101	0.2	0.15	4.59	0.04	0.01	1.8	0.8	2.8	0.39	PAF-LC
10452536	Metasediment 1	126	0.42	0.27	8.262	0.02	0	4.8	0.0	3.5	0.58	PAF-LC
10452568	Metasediment 1	100	0.33	0.29	8.874	0.09	0.06	6.4	4.9	2.5	0.72	PAF-LC
10449499	Metasediment 1	66	0.36	0.27	8.262	0.02	0	0.5	0.0	7.8	0.06	PAF

Sample ID	Lithology	Relative Level m	Total S %	Sulfide %	MPA (Sulfide) kg H_2SO_4/t	Total C %	TIC %	ANC kg H_2SO_4/t	ANC_{TIC} kg H_2SO_4/t	NAPP kg H_2SO_4/t	NPR	NAF / PAF
10453056	Metasediment 1	65	0.09	0.06	1.836	0.11	0.1	8.3	8.2	-6.5	4.52	NAF
10444113	Metasediment 1	79	0.02	0.01	0.306	0.03	0	4.5	0.0	-4.2	14.71	Barren
10444748	Metasediment 1	-26	0.64	0.59	18.054	0.51	0.5	41.4	40.9	-23.3	2.29	NAF
10453335	Metasediment 1	118	0.21	0.14	4.284	0.02	0	3.6	0.0	0.7	0.84	PAF-LC
10453335	Metasediment 1	118	0.14	0.12	3.672	0.02	0	2.4	0.0	1.3	0.65	PAF-LC
10453755	Metasediment 1	91	0.01	0.01	0.306	0.04	0.02	5.9	1.6	-5.6	19.28	NAF
10453819	Metasediment 1	39	0.19	0.06	1.836	0.06	0.04	11.1	3.3	-9.3	6.05	NAF
10446674	Metasediment 1	148	0.01	0.01	0.306	0.01	0	6.9	0.0	-6.6	22.55	NAF
10386989	Metasediment 1	-127	0.02	0.02	0.612	0.21	0.19	21.8	15.5	-21.2	35.62	NAF
10454334	Metasediment 1	79	0.38	0.34	10.404	0.05	0.02	2.5	1.6	7.9	0.24	PAF
10454840	Metasediment 1	-248	0.11	0.09	2.754	0.23	0.22	19.9	18.0	-17.1	7.23	NAF
10457352	Metasediment 1	66	0.08	0.05	1.53	0.09	0.07	8.8	5.7	-7.3	5.75	NAF
10457449	Metasediment 1	-6	0.09	0.08	2.448	0.27	0.26	23.6	21.2	-21.2	9.64	NAF
10457847	Metasediment 1	47	0.19	0.14	4.284	0.17	0.16	23.9	13.1	-19.6	5.58	NAF
10459916	Metasediment 1	-30	0.33	0.3	9.18	2.33	2.31	149	188.7	-139.8	16.23	NAF
10448850	Metasediment 1	-451	0.09	0.07	2.142	0.26	0.24	24.5	19.6	-22.4	11.44	NAF
10465149	Metasediment 1	34	0.88	0.52	15.912	0.39	0.37	21.3	30.2	-5.4	1.34	NAF
10466541	Metasediment 1	16	2.16	1.52	46.512	0.55	0.52	39.5	42.5	7.0	0.85	PAF-LC
10476586	Metasediment 1	101	2.64	2.41	73.746	0.27	0.21	7.4	17.2	66.3	0.10	PAF
10698774	Metasediment 1	-131	4.01	3.93	120.258	0.24	0.21	4.6	17.2	115.7	0.04	PAF
10537713	Metasediment 1	67	8.1	8.06	246.636	0.17	0.11	5.3	9.0	241.3	0.02	PAF
10384643	Metasediment 2	98	0.06	0.04	1.224	0.03	0.02	4.7	1.6	-3.5	3.84	NAF
10384656	Metasediment 2	87	1.6	1.43	43.758	0.04	0.02	5.3	1.6	38.5	0.12	PAF
10384663	Metasediment 2	81	1	0.84	25.704	0.06	0.05	4.3	4.1	21.4	0.17	PAF
10384418	Metasediment 2	139	2.05	1.66	50.796	0.1	0.09	1.9	7.4	48.9	0.04	PAF
10384444	Metasediment 2	116	0.24	0.17	5.202	0.14	0.13	4.2	10.6	1.0	0.81	PAF-LC
10384456	Metasediment 2	105	0.74	0.4	12.24	0.13	0.12	6.4	9.8	5.8	0.52	PAF

Sample ID	Lithology	Relative Level m	Total S %	Sulfide %	MPA (Sulfide) kg H_2SO_4/t	Total C %	TIC %	ANC kg H_2SO_4/t	ANC_{TIC} kg H_2SO_4/t	NAPP kg H_2SO_4/t	NPR	NAF / PAF
10410118	Metasediment 2	132	0.32	0.2	6.12	0.05	0.04	4.1	3.3	2.0	0.67	PAF-LC
10410151	Metasediment 2	106	0.84	0.59	18.054	0.31	0.3	28.5	24.5	-10.4	1.58	NAF
10411406	Metasediment 2	-144	0.37	0.12	3.672	0.24	0.22	20.3	18.0	-16.6	5.53	NAF
10414252	Metasediment 2	52	0.67	0.4	12.24	0.05	0.04	3.5	3.3	8.7	0.29	PAF
10416015	Metasediment 2	78	0.51	0.11	3.366	0.14	0.12	11.8	9.8	-8.4	3.51	UNC
10413371	Metasediment 2	113	0.22	0.09	2.754	0.02	0.01	5	0.8	-2.2	1.82	UNC
10416547	Metasediment 2	100	0.28	0.18	5.508	0.02	0	3.2	0.0	2.3	0.58	PAF-LC
10416756	Metasediment 2	-67	0.33	0.19	5.814	0.08	0.07	7.5	5.7	-1.7	1.29	UNC
10452853	Metasediment 2	-124	0.41	0.31	9.486	0.23	0.21	18.2	17.2	-8.7	1.92	NAF
10449621	Metasediment 2	-33	0.36	0.2	6.12	0.18	0.17	8.7	13.9	-2.6	1.42	NAF
10449653	Metasediment 2	-60	0.06	0.01	0.306	0.1	0.06	9.1	4.9	-8.8	29.74	NAF
10449827	Metasediment 2	-205	0.1	0.02	0.612	0.19	0.18	20.6	14.7	-20.0	33.66	NAF
10444577	Metasediment 2	109	0.14	0.08	2.448	0.1	0.08	6.4	6.5	-4.0	2.61	NAF
10444732	Metasediment 2	-13	0.48	0.39	11.934	2.11	2.09	153	170.8	-141.1	12.82	NAF
10449925	Metasediment 2	105	0.28	0.18	5.508	0.15	0.14	19	11.4	-13.5	3.45	NAF
10453702	Metasediment 2	134	0.47	0.32	9.792	0.03	0.01	6.4	0.8	3.4	0.65	PAF-LC
10453713	Metasediment 2	125	1.54	1.22	37.332	0.02	0	7.8	0.0	29.5	0.21	PAF
10453804	Metasediment 2	52	0.19	0.07	2.142	0.05	0.03	7	2.5	-4.9	3.27	NAF
10446688	Metasediment 2	137	0.01	0.02	0.612	0.02	0.01	7.9	0.8	-7.3	12.91	NAF
10446701	Metasediment 2	128	1.85	1.46	44.676	0.05	0.03	1.4	2.5	43.3	0.03	PAF
10446763	Metasediment 2	77	0.1	0.03	0.918	0.05	0.04	8.8	3.3	-7.9	9.59	NAF
10455833	Metasediment 2	-423	0.13	0.03	0.918	0.09	0.08	12.2	6.5	-11.3	13.29	NAF
10462114	Metasediment 2	105	2.11	1.74	53.244	0.02	0	1.2	0.0	52.0	0.02	PAF
10462206	Metasediment 2	43	0.37	0.25	7.65	0.13	0.11	3.1	9.0	4.6	0.41	PAF-LC
10459657	Metasediment 2	170	0.28	0.2	6.12	0.03	0.01	3.4	0.8	2.7	0.56	PAF-LC
10459669	Metasediment 2	160	0.41	0.43	13.158	0.03	0	5.2	0.0	8.0	0.40	PAF
10448249	Metasediment 2	-57	1.62	1.41	43.146	0.05	0.03	11.8	2.5	31.3	0.27	PAF

Sample ID	Lithology	Relative Level m	Total S %	Sulfide %	MPA (Sulfide) kg H_2SO_4/t	Total C %	TIC %	ANC kg H_2SO_4/t	ANC_{TIC} kg H_2SO_4/t	NAPP kg H_2SO_4/t	NPR	NAF / PAF
10448527	Metasediment 2	-236	1.88	1.76	53.856	0.27	0.25	20.8	20.4	33.1	0.39	PAF-LC
10448868	Metasediment 2	-462	1.01	0.94	28.764	1.27	1.24	100	101.3	-71.2	3.48	NAF
10467665	Metasediment 2	139	0.27	0.26	7.956	0.08	0.06	14.3	4.9	-6.3	1.80	UNC
10467749	Metasediment 2	63	0.81	0.75	22.95	2.24	0.36	12.1	29.4	10.9	0.53	PAF-LC
10464688	Metasediment 2	79	0.25	0.15	4.59	0.14	0.09	2.9	7.4	1.7	0.63	PAF-LC
10464711	Metasediment 2	59	1.54	1.2	36.72	0.35	0.32	21.2	26.1	15.5	0.58	PAF
10468088	Metasediment 2	103	0.71	0.47	14.382	0.09	0.05	11.3	4.1	3.1	0.79	PAF
10468093	Metasediment 2	99	1.85	1.51	46.206	0.15	0.09	2.8	7.4	43.4	0.06	PAF
10467973	Metasediment 2	126	0.42	0.24	7.344	0.11	0.06	7.1	4.9	0.2	0.97	PAF-LC
10472480	Metasediment 2	71	1.3	1.06	32.436	0.28	0.17	7.1	13.9	25.3	0.22	PAF
10463142	Metasediment 2	14	0.45	0.31	9.486	0.39	0.36	17.8	29.4	-8.3	1.88	NAF
10481427	Metasediment 2	80	0.56	0.37	11.322	0.25	0.2	5.2	16.3	6.1	0.46	PAF-LC
10537874	Metasediment 2	-74	2.6	2.58	78.948	0.33	0.3	29.2	24.5	49.7	0.37	PAF-LC
10701625	Metasediment 2	26	2.14	1.96	59.976	0.16	0.06	6.1	4.9	53.9	0.10	PAF
10701684	Metasediment 2	-26	4.04	4.01	122.706	0.14	0.09	4.9	7.4	117.8	0.04	PAF
10695143	Metasediment 2	117	5.69	5.56	170.136	0.04	0	0.5	0.0	169.6	0.00	PAF
10721834	Metasediment 2	69	6.18	6.14	187.884	0.38	0.32	4	26.1	183.9	0.02	PAF
10722219	Metasediment 2	57	1.29	1.15	35.19	0.09	0.04	5.2	3.3	30.0	0.15	PAF
10722335	Metasediment 2	-34	2.24	2.22	67.932	0.26	0.22	30.1	18.0	37.8	0.44	PAF
10745182	Metasediment 2	19	2.93	2.89	88.434	0.22	0.13	20	10.6	68.4	0.23	PAF
10410755	Oxidised permian mudstone	-363	0.37	0.13	3.978	0.08	0.06	18.2	4.9	-14.2	4.58	UNC
10414923	Oxidised permian mudstone	110	0.32	0.19	5.814	0.08	0.02	0.5	1.6	5.3	0.09	PAF-LC
10450398	Oxidised permian mudstone	-39	0.46	0.29	8.874	0.22	0.21	20.7	17.2	-11.8	2.33	NAF
10450435	Oxidised permian mudstone	-68	1.12	0.88	26.928	0.05	0.04	8.8	3.3	18.1	0.33	PAF
10448040	Oxidised permian mudstone	92	0.22	0.17	5.202	0.04	0.01	7.5	0.8	-2.3	1.44	UNC
10373747	Post-mineral mafic	101	0.18	0.16	4.896	0.04	0.03	22.2	2.5	-17.3	4.53	NAF
10451261	Post-mineral mafic	-147	0.13	0.1	3.06	0.34	0.33	69.3	27.0	-66.2	22.65	NAF

Sample ID	Lithology	Relative Level m	Total S %	Sulfide %	MPA (Sulfide) kg H_2SO_4/t	Total C %	TIC %	ANC kg H_2SO_4/t	ANC_{TIC} kg H_2SO_4/t	NAPP kg H_2SO_4/t	NPR	NAF / PAF
10451267	Post-mineral mafic	-152	0.48	0.39	11.934	0.17	0.15	35.4	12.3	-23.5	2.97	NAF
10526942	Post-mineral mafic	-4	0.11	0.11	3.366	0.24	0.19	14.4	15.5	-11.0	4.28	NAF
10527124	Post-mineral mafic	-108	0.21	0.2	6.12	0.18	0.13	0.5	10.6	5.6	0.08	UNC
10478026	Post-mineral mafic	42	0.19	0.15	4.59	1.33	1.22	9.6	99.7	-5.0	2.09	NAF
10412085	Pre-mineral mafic	1	2.46	0.97	29.682	0.16	0.07	16.6	5.7	13.1	0.56	PAF
10416373	Pre-mineral mafic	-196	1	0.83	25.398	0.52	0.49	49.9	40.0	-24.5	1.96	NAF
10450201	Pre-mineral mafic	118	1.2	0.85	26.01	0.22	0.18	15.8	14.7	10.2	0.61	PAF
10450206	Pre-mineral mafic	115	0.3	0.19	5.814	1.16	1.13	22	92.3	-16.2	3.78	NAF
10808376	Pre-mineral mafic	140	4.22	4.11	125.766	0.11	0.01	9.5	0.8	116.3	0.08	PAF
10373739	Quartz sandstone	108	0.92	0.72	22.032	0.13	0.11	6.6	9.0	15.4	0.30	PAF-LC
10413756	Quartz sandstone	17	0.58	0.38	11.628	0.09	0.07	6.9	5.7	4.7	0.59	PAF-LC
10411278	Quartz sandstone	-46	0.2	0.13	3.978	0.18	0.17	14.6	13.9	-10.6	3.67	NAF
10414761	Quartz sandstone	-337	0.15	0.01	0.306	0.08	0.06	4.2	4.9	-3.9	13.73	NAF
10411913	Quartz sandstone	134	0.42	0.21	6.426	0.07	0.01	4.8	0.8	1.6	0.75	PAF-LC
10411941	Quartz sandstone	112	0.21	0.04	1.224	0.03	0.02	2.1	1.6	-0.9	1.72	UNC
10411942	Quartz sandstone	111	0.59	0.42	12.852	0.05	0.04	1.3	3.3	11.6	0.10	PAF
10412193	Quartz sandstone	-82	0.12	0.06	1.836	0.06	0.03	2.9	2.5	-1.1	1.58	NAF
10412255	Quartz sandstone	-129	0.17	0.15	4.59	0.14	0.09	8.4	7.4	-3.8	1.83	NAF
10442102	Quartz sandstone	142	0.36	0.23	7.038	0.04	0.02	2.8	1.6	4.2	0.40	PAF-LC
10442109	Quartz sandstone	136	0.16	0.06	1.836	0.09	0.08	0.5	6.5	1.3	0.27	PAF-LC
10414914	Quartz sandstone	117	0.58	0.47	14.382	0.08	0.03	0.5	2.5	13.9	0.03	PAF
10415087	Quartz sandstone	-21	0.35	0.21	6.426	0.06	0.05	4.3	4.1	2.1	0.67	PAF-LC
10412602	Quartz sandstone	34	0.41	0.33	10.098	0.14	0.1	3.5	8.2	6.6	0.35	PAF-LC
10413047	Quartz sandstone	-338	0.32	0.18	5.508	0.19	0.18	10.1	14.7	-4.6	1.83	NAF
10415695	Quartz sandstone	-90	0.25	0.21	6.426	5.81	5.79	537.3	473.0	-530.9	83.61	NAF
10442851	Quartz sandstone	112	1.15	1.02	31.212	0.13	0.11	12.5	9.0	18.7	0.40	PAF
10442857	Quartz sandstone	107	1.35	1.14	34.884	1.99	1.98	154.6	161.8	-119.7	4.43	NAF

Sample ID	Lithology	Relative Level m	Total S %	Sulfide %	MPA (Sulfide) kg H_2SO_4/t	Total C %	TIC %	ANC kg H_2SO_4/t	ANC_{TIC} kg H_2SO_4/t	NAPP kg H_2SO_4/t	NPR	NAF / PAF
10445726	Quartz sandstone	29	0.41	0.16	4.896	0.25	0.24	22.2	19.6	-17.3	4.53	NAF
10413389	Quartz sandstone	98	0.39	0.2	6.12	0.14	0.11	6.6	9.0	-0.5	1.08	UNC
10449168	Quartz sandstone	-121	0.5	0.31	9.486	0.08	0.06	6.5	4.9	3.0	0.69	PAF-LC
10416554	Quartz sandstone	95	0.84	0.6	18.36	0.02	0.01	3.9	0.8	14.5	0.21	PAF
10446502	Quartz sandstone	-169	0.39	0.2	6.12	0.24	0.23	21.2	18.8	-15.1	3.46	NAF
10453003	Quartz sandstone	107	0.54	0.24	7.344	0.14	0.13	10.4	10.6	-3.1	1.42	UNC
10444567	Quartz sandstone	117	0.78	0.35	10.71	0.09	0.07	7.6	5.7	3.1	0.71	PAF-LC
10444613	Quartz sandstone	80	0.16	0.06	1.836	0.05	0.03	4.9	2.5	-3.1	2.67	UNC
10444672	Quartz sandstone	34	0.61	0.41	12.546	0.18	0.16	19.5	13.1	-7.0	1.55	UNC
10453352	Quartz sandstone	105	0.59	0.4	12.24	0.02	0	1.3	0.0	10.9	0.11	PAF
10453478	Quartz sandstone	7	0.62	0.5	15.3	0.22	0.2	3.2	16.3	12.1	0.21	PAF-LC
10449894	Quartz sandstone	129	0.06	0.02	0.612	0.07	0.05	7.2	4.1	-6.6	11.76	NAF
10449911	Quartz sandstone	116	1	0.79	24.174	0.12	0.05	7.2	4.1	17.0	0.30	PAF
10449937	Quartz sandstone	95	0.16	0.06	1.836	0.1	0.08	5.7	6.5	-3.9	3.10	NAF
10450295	Quartz sandstone	44	1.19	1.03	31.518	0.05	0.04	3.3	3.3	28.2	0.10	PAF
10450746	Quartz sandstone	7	0.06	0.05	1.53	0.05	0.02	3.6	1.6	-2.1	2.35	Barren
10444953	Quartz sandstone	81	2.64	2.3	70.38	0.01	0	0.5	0.0	69.9	0.01	PAF
10446735	Quartz sandstone	101	0.52	0.35	10.71	0.08	0.04	0.5	3.3	10.2	0.05	PAF
10446756	Quartz sandstone	83	0.54	0.47	14.382	0.17	0.16	5.1	13.1	9.3	0.35	PAF
10446809	Quartz sandstone	42	0.95	0.79	24.174	0.32	0.31	27.4	25.3	-3.2	1.13	NAF
10451023	Quartz sandstone	29	0.11	0.08	2.448	0.06	0.05	1.7	4.1	0.7	0.69	UNC
10451216	Quartz sandstone	-115	0.64	0.4	12.24	0.19	0.18	13	14.7	-0.8	1.06	NAF
10454664	Quartz sandstone	-120	0.08	0.03	0.918	0.04	0	11.9	0.0	-11.0	12.96	NAF
10457774	Quartz sandstone	98	2.13	1.7	52.02	0.16	0.15	22.6	12.3	29.4	0.43	PAF
10457955	Quartz sandstone	-27	0.03	0.02	0.612	0.03	0.02	3.4	1.6	-2.8	5.56	NAF
10448572	Quartz sandstone	-267	0.13	0.13	3.978	0.35	0.33	25.5	27.0	-21.5	6.41	NAF
10458183	Quartz sandstone	123	1.18	1.15	35.19	0.04	0.03	0.5	2.5	34.7	0.01	PAF

Sample ID	Lithology	Relative Level m	Total S %	Sulfide %	MPA (Sulfide) kg H_2SO_4/t	Total C %	TIC %	ANC kg H_2SO_4/t	ANC_{TIC} kg H_2SO_4/t	NAPP kg H_2SO_4/t	NPR	NAF / PAF
10458192	Quartz sandstone	115	0.27	0.13	3.978	0.05	0.04	3.6	3.3	0.4	0.90	PAF-LC
10459205	Quartz sandstone	14	0.24	0.14	4.284	0.03	0.02	0.8	1.6	3.5	0.19	PAF-LC
10531112	Quartz sandstone	-327	7.09	7.06	216.036	0.35	0.3	21.5	24.5	194.5	0.10	PAF
10476696	Quartz sandstone	2	0.17	0.12	3.672	0.3	0.21	9.1	17.2	-5.4	2.48	NAF
10697163	Quartz sandstone	100	2.05	1.99	60.894	0.14	0.1	3.9	8.2	57.0	0.06	PAF
10699820	Quartz sandstone	72	7.58	7.34	224.604	2.23	2.16	0.7	176.5	223.9	0.00	PAF
10701260	Quartz sandstone	-64	6.81	6.78	207.468	0.92	0.88	51.7	71.9	155.8	0.25	PAF
10722187	Quartz sandstone	80	2.83	2.79	85.374	0.06	0	4.2	0.0	81.2	0.05	PAF
10443087	Reduced permian mudstone	-89	0.32	0.28	8.568	0.49	0.46	43.8	37.6	-35.2	5.11	NAF

Samples from the initial sampling campaign (104xxxxx and below) had been stored at Winu for longer periods before assay and tended to result in higher sulfate contents than fresher samples assayed soon after drilling (105xxxxx and above). It is suspected that the longer storage times in hot conditions at Winu for the first sampling campaign resulted in more oxidation and higher sulfate contents.

RioTinto

Full Whole Rock Digest Results

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	Al2O3_pct	As_pct	Au_ppm	BaO_pct	Be_ppm	Bi_ppm	CaO_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_pct	Fe2O3_pct	Ga_ppm	Ge_ppm	Hf_ppm	In_ppm	K2O_pct	La_ppm	Li_ppm	MgO_pct	MnO_pct	Mo_ppm	Na2O_pct
Average crustal abundance						0.08	15.6	0.0002	0.00	0.05	2.8	0.01	5.81	0.15	66.5	25.0	102	3.0	0.01	8.0	19	1.50	3.0	0.25	2.5	39	20	3.86	0.12	1.2	3.18
10526942	Primary	Post Mineral Mafic	WINU0087	286	287	0.05	14.0	0.0001	0.00	0.02	0.6	0.2	8.59	0.09	22.6	47.3	41	1.6	0.01	11.8	15	0.15	2.0	0.06	1.3	11	31	8.08	0.18	0.4	1.61
10527124	Primary	Post Mineral Mafic	WINU0087	407	408	0.25	15.6	0.0001	0.01	0.03	2.6	2.3	3.50	0.10	37.4	51.4	47	4.1	0.03	10.2	18	0.21	2.6	0.07	2.0	18	104	7.58	0.06	0.5	1.84
10531112	Primary	Quartz Sandstone	WINU0077	696.92	697.72	1.03	3.0	0.0007	0.06	0.02	0.5	19.1	0.95	0.04	20.4	252.0	15	5.1	0.10	9.5	5	0.14	2.0	0.07	1.3	10	22	1.29	0.03	2.2	0.14
10537713	Primary	MetaSediment 1	WINU0337	178	179	12.65	12.9	0.0001	5.50	0.01	2.5	770.0	0.71	0.71	79.8	370.0	59	20.9	1.90	15.7	22	0.25	3.6	1.33	4.6	41	58	2.35	0.06	2.2	0.82
10537874	Primary	MetaSediment 2	WINU0337	320	321	1.77	13.6	0.0004	0.35	0.05	2.8	43.7	1.89	0.55	39.6	164.0	64	15.8	0.17	9.5	20	0.22	4.0	0.13	4.4	18	94	4.08	0.06	0.9	0.94
10695143	Primary	MetaSediment 2	WINU0339	128	129	1.09	11.8	0.0002	0.32	0.02	1.7	58.0	0.97	2.65	66.0	304.0	50	14.3	0.14	11.0	17	0.10	3.7	0.15	3.8	32	45	1.71	0.04	1.1	1.24
10697163	Primary	Quartz Sandstone	WINU0316	165	166	0.23	9.4	0.0058	0.17	0.05	1.5	22.0	0.81	0.08	54.0	153.5	39	9.7	0.03	5.8	13	0.19	4.1	0.05	3.6	25	29	1.11	0.05	0.6	0.57
10698774	Primary	MetaSediment 1	WINU0330	451	452	1.54	11.3	0.0000	0.21	0.03	1.4	129.5	1.99	0.61	75.8	168.5	50	10.5	0.21	11.4	16	0.19	3.7	0.13	3.5	38	48	2.14	0.06	7.9	0.66
10701260	Primary	Quartz Sandstone	WINU0332	312	313	4.62	11.0	0.0124	0.25	0.07	1.5	27.5	2.90	6.71	59.1	551.0	55	12.7	0.61	12.7	16	0.25	4.2	0.34	5.3	28	53	2.65	0.06	14.8	0.35
10701684	Primary	MetaSediment 2	WINU0338	272	273	0.97	14.1	0.0000	0.33	0.03	2.4	62.2	2.60	0.10	76.7	173.5	57	17.1	0.15	10.8	20	0.19	4.4	0.08	3.2	38	50	2.45	0.06	0.4	1.55
10721834	Primary	MetaSediment 2	WINU0344	177	178	0.34	13.8	0.0003	0.11	0.04	3.1	18.5	1.53	0.12	65.5	182.5	57	16.3	0.06	13.4	20	0.22	4.6	0.04	3.2	32	67	2.34	0.09	0.4	0.98
10722187	Primary	Quartz Sandstone	WINU0349	176.94	178	4.79	14.5	0.0001	0.15	0.05	2.5	17.2	0.04	2.64	156.0	116.0	64	14.6	0.72	6.6	21	0.37	4.9	0.48	3.7	74	52	1.48	0.04	0.7	0.07
10722219	Primary	MetaSediment 2	WINU0349	201	202	0.88	12.5	0.0000	0.16	0.10	1.9	21.2	1.16	0.45	68.8	43.0	59	21.0	0.13	6.4	18	0.25	3.9	0.14	5.4	34	39	1.67	0.05	53.9	1.34
10745182	Primary	MetaSediment 2	WINU0458	241	242	1.41	7.1	0.0001	0.13	0.05	1.0	16.5	1.12	0.15	44.9	183.0	60	15.7	0.28	8.1	13	0.24	2.4	0.17	2.7	21	49	2.52	0.06	4.2	0.33
10699820	Primary	Quartz Sandstone	WINU0331	173.8	174.65	3.25	11.9	0.0042	0.19	0.01	3.7	25.3	0.45	0.19	93.1	1060.0	61	15.1	0.15	26.2	20	0.56	3.2	0.25	4.4	56	48	1.36	0.36	2.4	0.14
10701625	Primary	MetaSediment 2	WINU0338	219	220	0.69	13.3	0.0000	0.18	0.07	2.6	20.7	2.43	0.24	103.5	114.0	65	16.8	0.11	7.5	20	0.17	5.2	0.04	3.5	50	49	1.96	0.06	1.2	1.50
10808376	Primary	Pre Mineral Mafic	WINU0623	118	119	1.87	14.5	0.0037	0.14	0.02	2.7	32.2	1.25	0.09	115.5	93.4	102	28.5	0.15	12.1	32	0.25	5.3	0.21	3.4	48	53	2.40	0.06	5.1	0.04
10722335	Primary	MetaSediment 2	WINU0349	298	299	2.06	12.8	0.0001	0.09	0.06	2.2	20.9	1.61	0.32	62.7	96.0	66	9.8	0.26	7.1	19	0.19	5.4	0.19	4.7	30	51	2.47	0.05	0.7	1.32
10493837	Primary	MetaSediment 2	WINU0324	234.5	235.1	1.30	11.8	0.0022	0.04	0.07	2.5	3.3	0.15	0.03	123.0	103.5	64	11.4	0.04	12.0	21	0.21	4.2	0.07	5.4	65	42	1.79	0.21	0.9	0.16
10494394	Primary	MetaSediment 2	WINU0328	233	234	0.09	15.1	0.0002	0.07	0.08	2.9	3.0	1.16	0.06	82.5	121.0	74	17.5	0.03	6.9	20	0.26	5.3	0.02	4.8	38	55	2.32	0.05	2.7	1.16
10538428	Primary	Quartz Sandstone	WINU0097	146.65	147.45	0.08	7.6	0.0001	0.48	0.05	1.5	15.0	0.10	0.01	22.6	11.3	29	6.4	0.00	5.8	9	0.12	2.2	0.01	2.8	11	31	0.99	0.07	1.2	0.06
10680244	Primary	MetaSediment 1	WINU0308	289.7	291	0.09	16.9	0.0003	0.03	0.08	2.7	2.6	0.21	0.10	90.8	28.0	77	14.0	0.01	7.3	23	0.23	4.1	0.04	5.4	44	51	1.72	0.10	0.5	1.24
10680863	Primary	MetaSediment 1	WINU0314	257	258	0.15	11.0	0.0001	0.01	0.11	1.4	9.6	0.18	0.19	50.9	16.1	44	9.8	0.02	4.3	15	0.21	2.9	0.04	5.3	24	44	1.44	0.04	1.8	0.58
10680867	Primary	MetaSediment 1	WINU0314	261	262.2	1.31	16.2	0.0003	0.22	0.11	2.4	94.0	0.15	1.18	104.0	19.6	68	13.1	0.20	4.1	22	0.24	3.7	0.19	5.7	54	44	1.09	0.04	56.0	1.98
10681078	Primary	MetaSediment 2	WINU0314	424	425	3.29	6.1	0.0020	0.14	0.04	1.3	41.7	4.27	0.02	42.8	55.3	33	3.3	0.48	3.6	9	0.11	2.5	0.31	2.6	18	67	3.30	0.07	2.2	0.07
10681426	Primary	MetaSediment 1	WINU0322	216.3	217.5	1.74	13.1	0.0001	0.50	0.12	2.1	49.8	0.18	1.19	69.5	37.3	55	10.6	0.26	6.4	17	0.19	3.7	0.25	5.3	34	57	1.91	0.05	0.9	0.69
10681427	Primary	MetaSediment 1	WINU0322	217.5	218.2	1.20	8.8	0.0008	0.06	0.13	1.3	23.1	0.13	0.23	37.0	29.8	41	7.2	0.19	5.1	11	0.16	2.3	0.10	4.5	16	35	1.14	0.06	3.1	0.10
10681434	Primary	Quartz Vein	WINU0322	221.1	221.8	6.10	5.3	0.0003	0.24	0.06	0.6	53.0	0.24	1.41	34.2	66.2	30	6.2	0.87	6.9	8	0.07	2.1	0.59	2.6	15	31	1.04	0.05	6.1	0.10
10681573	Primary	Post Mineral Mafic	WINU0322	328	329	0.08	12.2	0.0000	0.00	0.02	1.3	1.3	4.30	0.03	24.6	36.1	34	2.2	0.01	10.1	13	0.07	1.7	0.03	3.0	12	106	11.14	0.10	0.3	0.60
10683617	Primary	MetaSediment 1	WINU0086	500	501	0.07	15.4	0.0001	0.12	0.18	2.8	8.2	2.46	0.00	52.1	6.7	61	10.3	0.00	2.9	19	0.16	4.4	0.00	6.5	23	54	2.97	0.05	2.3	0.77
10683822	Primary	Quartz Sandstone	WINU0086	661.17	661.83	14.20	1.9	0.0215	1.67	0.01	0.3	269.0	5.26	0.20	10.7	178.5	12	1.9	3.90	11.6	3	0.13	0.7	4.50	0.4	4	16	3.83	0.10	4.0	0.03
10684106	Primary	Quartz Sandstone	WINU0086	883.75	884.4	1.58	4.8	0.0002	0.13	0.01	0.7	86.9	3.67	0.01	34.7	55.2	20	4.0	0.19	9.5	7	0.21	2.4	0.16	2.5	13	35	4.00	0.09	13.4	0.09
10684552	Primary	MetaSediment 1	WINU0323	180	181	0.44	13.6	0.0011	0.06	0.07	2.1	1.5	0.20	0.09	75.4	40.4	54	10.4	0.08	4.4	20	0.17	4.1	0.07	5.2	38	40	1.01	0.04	0.4	0.58
10684558	Primary	Quartz Sandstone	WINU0323	182.76	184	5.27	4.7	0.0001	0.21	0.03	0.7	38.7	0.08	2.23	48.1	59.1	17	2.8	1.12	4.4	6	0.13	2.9	0.52	2.0	25	17	0.36	0.03	6.3	0.13
10689545	Primary	MetaSediment 1	WINU0305	336.13	337	0.20	17.5	0.0015	0.03	0.12	2.8	9.5	1.48	0.00	94.5	15.0	72	8.5	0.06	3.0	26	0.21	3.9	0.09	7.7	51	57	1.97	0.04	0.9	0.30
10689647	Primary	Quartz Sandstone	WINU0305	412.91	414	2.10	3.6	0.0019	0.17	0.07	0.4	49.3	4.80	0.30	27.5	28.0	22	2.5	0.50	3.0	5	0.12	1.7	0.26	2.1	13	19	1.53	0.08	4.7	0.09
10694797	Primary	Oxidised Permian Mudstone	WINU0302	404	404.73	0.18	4.3	0.0001	0.02	0.06	0.5	18.1	4.00	0.00	39.6	8.7	13	3.2	0.13	2.3	5	0.09	1.3	0.09	2.2	16	16	2.82	0.09	31.5	0.06
10694835	Primary	Quartz Sandstone	WINU0302	433	434	1.78	8.7	0.0015	0.10	0.02	1.1	69.0	3.05	0.31	42.3	162.0	33	6.0	0.45	7.9	12	0.17	2.3	0.36	4.5	19	32	2.95	0.09	4.4	0.29
10698829	Primary	MetaSediment 1	WINU0330	493	494	0.67	11.1	0.0000	0.01	0.11	1.8	2.2	1.08	0.29	72.5	12.0	42	6.9	0.13	2.6	14	0.10	3.3	0.08	4.8	39	35	1.01	0.03	2.2	0.73
10698903	Primary	Quartz Sandstone	WINU0330	546	547	0.35	3.7	0.0006	0.04	0.07	0.4	5.5	4.98	0.09	40.3	17.7	14	2.9	0.16	2.5	5	0.13	1.5	0.12	2.2	20	14	3.02	0.10	9.2	0.09
10698904	Primary	MetaSediment 1	WINU0330	547	548	0.15	9.0	0.0002	0.03	0.06	1.3	3.0	3.15	0.00	57.4	8.2	36	7.4	0.01	2.6	12	0.14	2.9	0.03	4.2	26	36	3.00	0.08	0.6	0.21
10701704	Primary	MetaSediment 2	WINU0338	289	290	0.52	14.7	0.0000	0.09	0.08	3.2	18.2	0.45	0.10	67.4	86.2	68	17.1	0.11	7.5	20	0.12	4.5	0.04	4.6	32	62	2.16	0.07	1.3	0.23
10701788	Primary	Quartz Sandstone	WINU0338	365	366	0.08	8.7	0.0002	0.04	0.14	1.0	10.8	1.39	0.00	48.6	18.2	35	6.4	0.02	2.4	11	0.19	2.7	0.02	4.7	22	27	1.46	0.03	1.4	0.16
10741541	Primary	Quartz Sandstone	WINU0335	323	324	0.46	4.5	0.0000	0.10	0.06	0.5	28.8	0.18	0.15	23.8	7.1	17	6.3	0.12	2.3	6	0.11	2.9	0.17	2.4	11	22	0.71	0.03	1.6	0.24
10413826	Primary	MetaSediment 1	WINU0004	323	324	0.07	16.5	0.0008	0.01	0.16	2.6	1.0	2.38	0.01	103.5	19.8	76	9.9	0.01	3.1	23	0.21	4.7	0.03	5.6	54	30	1.53	0.06	2.3	0.87
10415695	Primary	Quartz Sandstone	WINU0012	355	356	0.26	7.3	0.0004	0.04	0.03	1.4	3.7	13.19	0.00	121.0	14.3	28	5.8	0.04	4.2	10	0.26	2.6	0.08	3.6	50	34	9.47	0.29	2.1	0.10
10443087	Primary	Reduced Permian Mudstone	WINU0013	357	358	0.47	10.8	0.0008	0.04	0.13	1.7	6.5	1.57	0.01	93.0	29.4	148	6.9	0.05	3.2	14	0.20	3.3	0.05	5.6	47	40	1.89	0.04	0.8	0.10
10444732	Primary	MetaSediment 2	WINU0032	299	300	0.10	11.9	0.0002	0.01	0.14	1.2	3.1	5.55	0.00	105.0	15.2	107	6.7	0.03	4.1	15	0.25	3.5	0.04	6.7	48	35	3.98	0.13	2.9	0.14
10459916	Primary	MetaSediment 1	WINU0055	316	317	0.19	15.8	0.0049	0.01	0.10	3.0	4.4	5.65	0.37	92.9	32.1	61	8.2	0.01	2.7	22	0.25	4.0	0.06	6.3	43	29	4.05	0.09	6.6	0.09
10373739	Primary	Quartz Sandstone	RC17PAW0002	158	159	0.94	11.3	0.0001	0.07	0.12	1.5	22.3	0.55	0.10	60.0	64.8	90	11.6	0.15	5.9	16	2.50	6.2	0.08	5.2	28	57	2.24	0.06	4.0	0.47

RioTinto

Sample_ID	Zone	Lithology	Hole	From	To	Nb_ppm	Ni_pct	P2O5_pct	Pb_pct	Pd_ppm	Pt_ppm	Rb_ppm	Re_ppm	Sb_ppm	Sc_ppm	SiO2_pct	Sn_ppm	S_pct	Sr_ppm	Ta_ppm	Te_ppm	Th_ppm	TiO2_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zn_pct	Zr_ppm	Hg_ppm	Se_ppm	B_ppm	Cl_ppm	F_ppm
Average crustal abundance						20.0	0.008	0.24	0.001	0.015	0.005	90	0.001	0.20	22	60	2	0.04	370	2.0	0.001	9.6	0.94	0.9	2.7	120	1.3	33	0.01	165	0.085	0.05	1.00	15	59
10526942	Primary	Post Mineral Mafic	WINU0087	286	287	3.2	0.007	0.09	0.000	0.001	0.002	43	0.001	0.09	40	43	1	0.12	253	0.2	0.038	3.6	0.75	0.2	0.7	236	0.8	18	0.01	71	0.010			10	80
10527124	Primary	Post Mineral Mafic	WINU0087	407	408	4.6	0.008	0.10	0.001	0.001	0.002	74	0.002	0.47	45	44	2	0.22	155	0.3	0.110	5.4	0.87	0.4	1.2	258	23.2	22	0.01	95	0.010			180	560
10531112	Primary	Quartz Sandstone	WINU0077	696.92	697.72	2.4	0.007	0.03	0.003	0.001	0.002	102	0.001	0.25	3	76	3	6.39	17	0.2	0.771	5.6	0.15	6.2	1.4	18	8.7	8	0.00	70	0.010			80	190
10537713	Primary	MetaSediment 1	WINU0337	178	179	11.3	0.015	0.07	0.002	0.011	0.005	409	0.002	0.16	15	49	47	8.04	77	1.0	53.500	17.3	0.61	5.6	2.6	84	119.0	23	0.02	121	0.010			110	620
10537874	Primary	MetaSediment 2	WINU0337	320	321	13.4	0.011	0.08	0.001	0.001	0.002	334	0.002	0.43	15	54	9	2.61	65	1.3	1.430	19.9	0.66	2.8	3.7	78	64.9	23	0.02	146	0.010			60	800
10695143	Primary	MetaSediment 2	WINU0339	128	129	11.2	0.030	0.06	0.001	0.001	0.002	257	0.002	0.03	12	54	6	5.58	81	1.1	2.760	15.3	0.55	2.9	3.1	69	49.8	21	0.06	124	0.010			30	300
10697163	Primary	Quartz Sandstone	WINU0316	165	166	9.0	0.006	0.06	0.001	0.001	0.002	260	0.000	0.74	8	70	5	1.62	40	0.8	0.886	13.5	0.48	1.6	2.8	52	12.0	17	0.00	141	0.010			10	320
10698774	Primary	MetaSediment 1	WINU0330	451	452	10.4	0.007	0.07	0.001	0.001	0.002	312	0.003	0.15	13	61	13	4.97	99	1.0	4.720	19.0	0.55	1.5	3.1	66	91.1	26	0.01	131	0.010			70	820
10701260	Primary	Quartz Sandstone	WINU0332	312	313	8.4	0.036	0.06	0.034	0.007	0.008	335	0.002	0.93	12	47	15	7.43	54	0.9	1.480	15.0	0.49	5.4	3.0	65	19.7	16	0.17	151	0.010			80	620
10701684	Primary	MetaSediment 2	WINU0338	272	273	13.7	0.007	0.08	0.001	0.001	0.002	320	0.001	0.07	15	56	7	4.20	115	1.3	3.330	21.4	0.65	4.7	3.7	80	32.0	28	0.01	149	0.010			100	510
10721834	Primary	MetaSediment 2	WINU0344	177	178	13.5	0.010	0.08	0.002	0.001	0.002	311	0.002	0.12	16	50	8	5.76	88	1.2	0.810	20.2	0.67	5.0	3.7	77	50.7	30	0.01	135	0.010			100	630
10722187	Primary	Quartz Sandstone	WINU0349	176.94	178	13.8	0.005	0.06	0.001	0.001	0.002	337	0.010	0.18	23	52	15	3.01	58	1.3	0.797	18.7	0.72	3.0	3.9	92	330.0	65	0.05	170	0.010			50	330
10722219	Primary	MetaSediment 2	WINU0349	201	202	11.4	0.003	0.06	0.001	0.001	0.002	402	0.001	0.08	13	60	7	1.17	82	1.0	0.754	16.4	0.58	1.9	2.6	71	15.7	22	0.01	135	0.010			70	520
10745182	Primary	MetaSediment 2	WINU0458	241	242	6.2	0.009	0.04	0.001	0.001	0.002	302	0.001	0.07	7	67	9	3.19	46	0.6	0.778	9.3	0.35	2.5	1.8	40	38.4	15	0.01	85	0.010			230	570
10699820	Primary	Quartz Sandstone	WINU0331	173.8	174.65	6.8	0.067	0.20	0.014	0.001	0.002	422	0.003	5.74	18	32	20	8.45	28	0.6	1.850	22.5	0.39	7.7	4.5	85	77.0	34	0.98	97	0.010			40	880
10701625	Primary	MetaSediment 2	WINU0338	219	220	15.6	0.004	0.08	0.001	0.001	0.002	345	0.004	0.03	14	61	10	2.35	131	1.4	1.045	20.3	0.74	2.8	3.9	73	163.0	36	0.01	172	0.010			100	700
10808376	Primary	Pre Mineral Mafic	WINU0623	118	119	47.7	0.010	0.96	0.013	NA	NA	377	0.006	1.40	49	NA	56	4.36	32	2.8	0.850	7.8	5.07	6.7	2.6	455	161.0	78	0.02	146	0.010			60	920
10722335	Primary	MetaSediment 2	WINU0349	298	299	12.6	0.006	0.06	0.003	0.001	0.002	316	0.002	0.51	14	58	8	2.26	65	1.1	1.665	19.2	0.67	2.5	4.2	80	112.5	26	0.01	180	0.010			110	410
10493837	Primary	MetaSediment 2	WINU0324	234.5	235.1	11.2	0.004	0.06	0.007	0.001	0.002	357	0.001	0.34	15	54	13	2.34	32	1.1	0.109	18.9	0.60	2.2	41.5	88	42.6	27	0.03	145	0.010				380
10494394	Primary	MetaSediment 2	WINU0328	233	234	14.3	0.009	0.08	0.001	0.001	0.002	375	0.001	0.28	15	56	5	0.54	73	1.2	0.056	22.5	0.69	4.1	3.9	82	24.7	31	0.06	174	0.010				440
10538428	Primary	Quartz Sandstone	WINU0097	146.65	147.45	5.8	0.002	0.06	0.000	0.001	0.002	190	0.001	0.06	7	71	3	0.05	29	0.5	0.809	8.9	0.30	1.0	1.8	39	33.5	11	0.01	73	0.010				200
10680244	Primary	MetaSediment 1	WINU0308	289.7	291	13.8	0.003	0.10	0.001	0.001	0.002	416	0.002	0.27	19	54	5	0.08	47	1.2	0.075	21.8	0.69	1.9	3.4	98	20.0	19	0.01	144	0.010				670
10680863	Primary	MetaSediment 1	WINU0314	257	258	7.6	0.002	0.06	0.002	0.011	0.002	334	0.001	0.14	11	66	8	0.06	55	0.7	0.858	12.1	0.43	1.4	2.4	61	14.4	14	0.00	103	0.010				550
10680867	Primary	MetaSediment 1	WINU0314	261	262.2	9.1	0.002	0.08	0.001	0.001	0.002	459	0.006	0.35	17	58	19	0.61	74	1.0	5.180	21.6	0.53	1.9	3.9	94	29.2	19	0.02	130	0.010				770
10681078	Primary	MetaSediment 2	WINU0314	424	425	6.0	0.005	0.04	0.007	0.001	0.002	166	0.001	1.23	6	59	14	1.10	18	0.6	1.750	8.1	0.28	0.9	1.8	36	24.8	16	0.00	90	0.010				350
10681426	Primary	MetaSediment 1	WINU0322	216.3	217.5	9.7	0.003	0.07	0.001	0.001	0.006	352	0.003	0.26	12	61	16	0.81	49	0.9	1.435	18.5	0.48	1.7	3.0	73	155.5	17	0.03	122	0.010				650
10681427	Primary	MetaSediment 1	WINU0322	217.5	218.2	7.4	0.002	0.05	0.001	0.003	0.002	276	0.001	0.38	8	69	14	0.34	41	0.7	1.265	11.3	0.34	1.4	2.0	47	36.0	13	0.01	81	0.010				460
10681434	Primary	Quartz Vein	WINU0322	221.1	221.8	1.8	0.003	0.04	0.001	0.001	0.002	177	0.013	0.45	6	74	18	2.49	24	0.0	4.000	7.5	0.24	1.0	1.3	39	2880.0	10	0.03	74	0.010				590
10681573	Primary	Post Mineral Mafic	WINU0322	328	329	2.9	0.006	0.08	0.000	0.001	0.002	51	0.002	0.11	34	36	1	0.15	81	0.2	0.083	3.1	0.65	0.2	1.2	204	12.1	17	0.00	59	0.010				510
10683617	Primary	MetaSediment 1	WINU0086	500	501	12.8	0.002	0.07	0.001	0.001	0.002	411	0.001	0.26	15	55	20	0.05	76	1.1	0.342	20.5	0.63	1.8	4.8	77	9.1	21	0.00	148	0.010				620
10683822	Primary	Quartz Sandstone	WINU0086	661.17	661.83	1.6	0.010	0.01	0.012	0.011	0.002	35	0.002	7.22	2	49	31	6.87	7	0.2	6.560	2.9	0.07	0.6	0.4	11	165.5	12	0.01	25	0.010				150
10684106	Primary	Quartz Sandstone	WINU0086	883.75	884.4	4.6	0.006	0.04	0.002	0.001	0.002	139	0.002	4.24	5	56	9	5.84	31	0.5	2.180	6.8	0.26	7.2	1.7	31	42.2	16	0.00	81	0.010				290
10684552	Primary	MetaSediment 1	WINU0323	180	181	9.6	0.003	0.07	0.001	0.001	0.002	381	0.001	0.55	14	61	17	0.29	30	0.8	0.238	17.7	0.53	1.8	3.6	79	25.2	15	0.02	145	0.010				580
10684558	Primary	Quartz Sandstone	WINU0323	182.76	184	3.1	0.003	0.04	0.002	0.003	0.002	133	0.003	0.44	3	77	19	1.70	11	0.3	1.360	7.8	0.20	0.9	1.7	21	19.3	8	0.06	103	0.010				280
10689545	Primary	MetaSediment 1	WINU0305	336.13	337	10.5	0.002	0.14	0.001	0.001	0.005	504	0.001	1.42	19	51	20	0.41	29	1.0	0.409	21.4	0.60	2.1	3.7	102	36.2	17	0.00	137	0.010				910
10689647	Primary	Quartz Sandstone	WINU0305	412.91	414	2.6	0.002	0.03	0.010	0.001	0.002	123	0.011	1.09	3	64	13	1.53	25	0.2	2.250	4.6	0.12	0.7	1.1	16	600.0	9	0.01	59	0.010				340
10694797	Primary	Oxidised Permian Mudstone	WINU0302	404	404.73	2.3	0.001	0.04	0.000	0.001	0.002	148	0.001	0.22	3	65	8	0.36	23	0.2	0.275	3.9	0.12	0.9	0.9	18	8.9	22	0.00	44	0.010				240
10694835	Primary	Quartz Sandstone	WINU0302	433	434	6.4	0.012	0.03	0.001	0.001	0.002	268	0.001	0.17	8	56	18	4.36	56	0.6	2.300	10.1	0.33	4.6	2.1	44	22.9	21	0.01	80	0.010				170
10698829	Primary	MetaSediment 1	WINU0330	493	494	7.2	0.001	0.05	0.001	0.001	0.002	285	0.004	0.02	9	69	10	0.31	79	0.7	0.225	16.9	0.42	1.1	3.3	55	155.0	15	0.01	114	0.010				360
10698903	Primary	Quartz Sandstone	WINU0330	546	547	2.1	0.001	0.03	0.001	0.001	0.002	120	0.001	0.39	3	62	5	0.63	39	0.2	0.246	4.7	0.12	0.5	1.2	16	4.0	14	0.00	53	0.010				260
10698904	Primary	MetaSediment 1	WINU0330	547	548	5.8	0.001	0.05	0.001	0.001	0.002	252	0.001	0.22	9	62	6	0.09	33	0.5	0.154	13.5	0.36	1.0	2.3	49	7.6	17	0.00	102	0.010				480
10701704	Primary	MetaSediment 2	WINU0338	289	290	14.0	0.004	0.10	0.000	0.001	0.002	412	0.003	0.21	15	59	11	1.94	27	1.3	0.711	20.7	0.73	2.4	3.6	76	155.0	26	0.01	151	0.010				690
10701788	Primary	Quartz Sandstone	WINU0338	365	366	7.3	0.002	0.05	0.000	0.001	0.002	288	0.000	0.19	7	73	9	0.20	35	0.7	0.946	10.8	0.35	1.5	2.0	42	19.7	10	0.00	99	0.010				520
10741541	Primary	Quartz Sandstone	WINU0335	323	324	3.8	0.001	0.03	0.001	0.001	0.006	160	0.001	0.06	3	83	7	0.15	38	0.4	1.310	7.8	0.22	0.9	1.7	23	19.4	9	0.00	96	0.010				230
10413826	Primary	MetaSediment 1	WINU0004	323	324	14.1	0.002	0.08	0.001	0.001	0.002	442	0.001	0.64	18		13	0.20	86	1.3	0.070	22.6	0.69	2.8	3.9	94	14.2	19	0.00	154					
10415695	Primary	Quartz Sandstone	WINU0012	355	356	6.2	0.001	0.04	0.000	0.001	0.002	215	0.001	0.14	7	28	4	0.26	45	0.5	0.120	10.3	0.33	1.2	2.4	41	24.8	58	0.00	92					
10443087	Primary	Reduced Permian Mudstone	WINU0013	357	358	9.6	0.002	0.08	0.002	0.001	0.002	331	0.001	0.67	9	64	9	0.36	44	0.7	0.090	13.7	0.42	1.5	2.5	53	23.7	23	0.00	110					
10444732	Primary	MetaSediment 2	WINU0032	299	300	11.0	0.002	0.09	0.001	0.001	0.002	355	0.004	0.06	12	49	6	0.52	82	1.0	0.050	14.9	0.50	2.8	3.5	64	26.3	26	0.00	129					
10459916	Primary	MetaSediment 1	WINU0055	316	317	11.1	0.002	0.06	0.003	0.001	0.002	422	0.002	1.11	14	48	14	0.38	21	1.0	0.190	18.3	0.59	2.1	2.6	84	23.2	23	0.01	141					
10373739	Primary	Quartz Sandstone	RC17PAW0002	158	159	11.9	0.003	0.08	0.001	0.001	0.001	371	0.001	0.13	11	66	13	0.90	68	1.1	0.470	16.3	0.56	1.7	3.5	64	37.0	29	0.01	227					

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	Al2O3_pct	As_pct	Au_ppm	BaO_pct	Be_ppm	Bi_ppm	CaO_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_pct	Fe2O3_pct	Ga_ppm	Ge_ppm	Hf_ppm	In_ppm	K2O_pct	La_ppm	Li_ppm	MgO_pct	MnO_pct	Mo_ppm	Na2O_pct
Average crustal abundance						0.08	15.6	0.0002	0.00	0.05	2.8	0.01	5.81	0.15	66.5	25.0	102	3.0	0.01	8.0	19	1.50	3.0	0.25	2.5	39	20	3.86	0.12	1.2	3.18
10384643	Primary	MetaSediment 2	RC18WIN0001	158	159	0.10	16.5	0.0000	0.01	0.16	2.6	2.2	0.45	0.15	55.4	19.5	72	20.8	0.01	5.4	24	0.22	4.5	0.05	6.7	26	71	2.24	0.04	1.1	0.39
10384656	Primary	MetaSediment 2	RC18WIN0001	170	171	0.74	14.8	0.0002	0.18	0.05	3.3	49.8	0.70	0.22	65.7	46.4	75	14.1	0.11	6.0	22	0.20	5.0	0.06	4.6	32	80	2.64	0.05	1.8	1.03
10384663	Primary	MetaSediment 2	RC18WIN0001	176	177	0.58	14.7	0.0002	0.13	0.11	3.1	21.5	1.27	0.16	61.6	34.2	74	11.7	0.09	5.0	20	0.19	5.3	0.06	4.7	29	55	1.76	0.05	1.5	1.14
10384418	Primary	MetaSediment 2	WB18WIN0002	106	107	0.81	12.1	0.0002	0.15	0.07	1.6	20.0	0.15	0.19	117.5	213.0	54	15.8	0.13	7.1	19	0.25	3.5	0.09	4.9	63	43	1.94	0.06	2.0	0.16
10384444	Primary	MetaSediment 2	WB18WIN0002	129	130	0.14	12.2	0.0003	0.01	0.07	2.2	1.3	1.48	0.11	64.8	33.0	66	13.5	0.03	5.0	17	0.12	4.1	0.04	4.6	31	44	1.56	0.06	2.8	0.75
10384456	Primary	MetaSediment 2	WB18WIN0002	140	141	0.58	13.9	0.0000	0.07	0.09	2.4	6.5	2.69	0.20	71.3	59.2	80	10.4	0.10	6.0	20	0.13	5.5	0.11	5.0	34	53	1.72	0.07	1.9	0.41
10410118	Primary	MetaSediment 2	WINU0003	127	128	0.23	14.6	0.0001	0.05	0.07	3.1	7.7	1.55	0.09	49.7	22.0	74	14.2	0.03	4.7	19	0.16	5.3	0.03	4.1	22	84	2.35	0.05	1.8	1.34
10410141	Primary	MetaSediment 1	WINU0003	147	148	0.85	13.3	0.0000	0.15	0.13	2.2	18.2	1.86	0.22	66.3	44.3	64	11.5	0.09	5.5	17	0.17	4.3	0.05	5.0	33	51	2.16	0.05	1.0	0.67
10410151	Primary	MetaSediment 2	WINU0003	156	157	0.62	12.2	0.0001	0.10	0.15	1.6	28.0	1.72	0.52	70.3	28.9	70	10.7	0.10	4.2	15	0.19	4.1	0.07	5.1	37	42	1.91	0.05	1.9	0.41
10410755	Primary	Oxidised Permian Mudstone	WINU0003	701	702	0.04	15.1	0.0000	0.04	0.04	2.6	3.2	7.08	0.02	90.6	17.2	70	5.1	0.02	7.0	20	0.17	4.9	0.03	2.8	46	33	2.26	0.13	0.9	0.78
10413756	Primary	Quartz Sandstone	WINU0004	260	261	0.30	5.8	0.0000	0.05	0.07	0.7	3.1	0.46	0.05	32.0	17.8	39	5.1	0.05	2.4	7	0.15	3.4	0.03	2.7	15	25	0.93	0.03	2.3	0.15
10411278	Primary	Quartz Sandstone	WINU0006	335	336	0.13	8.5	0.0001	0.01	0.06	1.6	2.6	0.98	0.08	34.8	17.1	64	7.7	0.02	2.7	11	0.10	2.9	0.01	3.3	18	40	1.44	0.03	3.3	0.56
10414252	Primary	MetaSediment 2	WINU0007	222	223	0.29	15.1	0.0001	0.07	0.08	2.9	4.3	2.22	0.05	76.5	36.9	81	12.2	0.06	5.5	22	0.34	4.7	0.02	4.4	37	56	2.02	0.05	1.3	1.14
10414362	Primary	MetaSediment 1	WINU0007	321	322	0.08	13.2	0.0004	0.02	0.07	2.3	2.1	0.80	0.14	74.4	15.5	68	11.2	0.01	3.2	19	0.17	3.6	0.04	4.7	40	30	1.18	0.04	2.0	1.42
10414761	Primary	Quartz Sandstone	WINU0007	680	681	0.05	8.9	0.0000	0.06	0.02	1.5	3.2	1.60	0.03	50.8	24.1	61	9.7	0.01	4.1	12	0.10	3.1	0.02	2.3	24	40	1.43	0.04	2.6	0.53
10411913	Primary	Quartz Sandstone	WINU0008	127	128	0.13	5.7	0.0010	0.02	0.05	0.8	1.6	0.46	0.07	59.2	70.7	45	6.7	0.02	3.3	8	0.11	5.0	0.02	2.5	29	17	0.75	0.03	3.0	0.44
10411941	Primary	Quartz Sandstone	WINU0008	152	153	0.10	9.2	0.0001	0.07	0.05	1.3	5.0	0.83	0.06	70.1	41.7	62	14.8	0.02	4.2	14	0.11	5.7	0.03	3.7	35	31	1.39	0.05	3.0	0.73
10411942	Primary	Quartz Sandstone	WINU0008	153	154	0.57	7.6	0.0002	0.03	0.14	0.6	3.2	0.13	0.33	115.5	75.4	54	18.6	0.09	4.7	11	0.17	3.5	0.07	4.7	67	35	1.71	0.06	4.9	0.18
10412193	Primary	Quartz Sandstone	WINU0008	379	380	0.02	5.7	0.0001	0.04	0.03	1.0	3.3	1.12	0.01	33.1	13.9	47	6.7	0.00	3.2	7	0.19	2.9	0.01	1.8	16	22	1.11	0.04	2.9	0.36
10412255	Primary	Quartz Sandstone	WINU0008	436	437	0.05	8.1	0.0002	0.01	0.05	1.4	0.8	0.69	0.00	25.6	14.5	58	5.4	0.01	2.8	10	0.12	3.4	0.01	3.1	12	35	1.28	0.03	3.5	0.17
10442102	Primary	Quartz Sandstone	WINU0009	124	125	0.20	8.6	0.0002	0.03	0.07	0.9	8.4	0.21	0.29	68.5	61.4	48	18.2	0.02	4.4	13	0.11	3.5	0.02	4.4	32	51	1.67	0.06	3.8	0.11
10415251	Primary	MetaSediment 1	WINU0010	449	450	0.34	15.4	0.0004	0.03	0.08	2.3	4.3	2.00	0.03	75.8	68.5	76	18.9	0.04	7.0	23	0.22	4.2	0.06	6.1	37	69	3.20	0.08	0.6	1.04
10412553	Primary	MetaSediment 1	WINU0011	181	182	0.91	14.9	0.0002	0.05	0.18	2.3	14.1	0.77	0.18	68.3	37.4	66	9.7	0.08	5.0	19	0.19	3.6	0.04	5.6	31	58	2.07	0.05	0.8	0.73
10412602	Primary	Quartz Sandstone	WINU0011	225	226	0.49	4.7	0.0002	0.13	0.05	0.6	17.8	0.11	0.07	10.9	28.3	46	4.3	0.08	2.5	6	0.08	2.3	0.10	2.2	5	24	0.91	0.04	3.4	0.14
10413047	Primary	Quartz Sandstone	WINU0011	626	627	0.63	6.6	0.0000	0.05	0.07	1.3	6.1	0.53	1.17	39.8	13.3	64	5.9	0.09	2.5	9	0.17	2.5	0.11	3.0	17	31	1.26	0.03	4.5	0.13
10415473	Primary	MetaSediment 1	WINU0012	155	156	0.37	17.0	0.0001	0.07	0.13	2.9	4.7	0.41	0.48	119.5	50.2	82	20.1	0.05	6.8	23	0.24	3.3	0.05	5.8	61	60	1.72	0.06	8.7	1.28
10415524	Primary	MetaSediment 1	WINU0012	201	202	1.05	20.4	0.0004	0.18	0.13	3.8	54.9	0.14	0.15	138.5	40.3	97	15.6	0.15	4.6	34	0.27	4.1	0.12	5.5	76	53	1.19	0.05	0.6	0.13
10442857	Primary	Quartz Sandstone	WINU0013	150	151	0.71	7.0	0.0001	0.07	0.05	1.0	16.7	4.59	0.00	65.6	56.5	41	6.2	0.09	6.3	11	0.11	2.5	0.10	2.5	30	50	6.00	0.07	1.5	0.07
10443377	Primary	Blue Eye Gritstone	WINU0013	618	619	0.49	17.0	0.0012	0.06	0.14	3.9	3.3	2.22	0.00	151.5	22.2	79	10.2	0.06	2.7	26	0.22	3.8	0.22	7.0	81	42	2.47	0.05	4.5	0.21
10445638	Primary	MetaSediment 1	WINU0014	167	168	0.70	12.2	0.0006	0.08	0.09	2.2	13.4	0.11	1.83	72.9	24.5	101	10.5	0.08	4.9	18	0.13	2.9	0.07	5.2	37	53	1.21	0.07	4.2	0.10
10445726	Primary	Quartz Sandstone	WINU0014	246	247	1.91	10.2	0.0001	0.05	0.08	1.6	4.8	1.58	10.90	48.1	18.3	171	12.3	0.10	4.1	14	0.11	3.9	0.12	4.0	22	46	1.64	0.04	0.7	1.20
10416015	Primary	MetaSediment 2	WINU0015	196	197	0.18	14.6	0.0000	0.02	0.10	2.5	6.0	2.70	0.13	85.5	29.3	128	12.4	0.04	5.1	18	0.19	5.6	0.02	4.0	42	40	1.77	0.05	1.4	2.02
10416095	Primary	MetaSediment 1	WINU0015	268	269	0.03	15.4	0.0001	0.01	0.09	3.0	1.8	1.72	0.01	85.3	20.3	129	16.1	0.01	4.3	20	0.25	3.5	0.04	6.1	43	39	1.61	0.04	0.3	0.99
10413371	Primary	MetaSediment 2	WINU0017	151	152	0.79	14.3	0.0001	0.12	0.11	1.8	7.6	0.42	1.81	75.8	65.1	128	13.8	0.11	3.8	20	0.23	4.2	0.10	6.1	38	41	1.29	0.04	0.7	0.84
10413389	Primary	Quartz Sandstone	WINU0017	168	169	0.81	11.6	0.0001	0.37	0.07	2.0	19.9	1.13	0.47	70.3	67.2	116	14.7	0.14	4.5	16	0.21	3.5	0.11	4.4	36	38	1.39	0.05	0.8	1.21
10449112	Primary	MetaSediment 1	WINU0017	368	369	1.35	10.1	0.0000	0.11	0.09	1.8	50.5	1.32	0.36	54.7	43.9	105	8.5	0.20	4.5	13	0.15	3.0	0.18	3.6	24	49	1.59	0.04	4.7	0.84
10416547	Primary	MetaSediment 2	WINU0018	167	168	0.12	15.1	0.0000	0.03	0.09	2.2	1.7	0.04	1.92	89.0	34.3	68	12.5	0.05	4.7	19	0.16	4.4	0.03	4.8	42	63	2.01	0.05	0.4	0.16
10416554	Primary	Quartz Sandstone	WINU0018	173	174	0.55	6.8	0.0001	0.05	0.10	0.8	6.9	0.04	3.05	41.9	86.1	45	5.5	0.14	3.0	9	0.17	2.6	0.07	3.7	20	28	1.03	0.03	1.9	0.08
10416756	Primary	MetaSediment 2	WINU0018	355	356	1.04	12.2	0.0001	0.18	0.11	2.3	42.4	1.76	0.13	68.4	26.5	127	12.7	0.18	4.4	17	0.22	5.6	0.16	5.3	32	42	1.49	0.05	15.0	1.07
10416833	Primary	MetaSediment 1	WINU0018	424	425	0.13	17.2	0.0026	0.03	0.12	3.0	4.2	2.67	0.01	127.0	45.6	144	19.6	0.01	3.4	27	0.30	4.7	0.05	7.5	67	47	2.94	0.05	4.1	0.14
10446153	Primary	MetaSediment 1	WINU0020	166	167	0.55	12.5	0.0001	0.27	0.12	1.3	15.3	0.01	0.32	90.4	36.2	81	6.4	0.09	0.9	15	0.16	3.2	0.07	4.4	43	26	0.27	0.01	0.9	0.10
10446502	Primary	Quartz Sandstone	WINU0020	480	481	0.85	5.1	0.0001	0.20	0.05	0.9	7.8	0.77	0.11	16.8	18.0	144	3.5	0.20	2.7	6	0.06	2.2	0.14	2.3	8	37	1.33	0.03	0.4	0.37
10452536	Primary	MetaSediment 1	WINU0026	139	140	0.20	17.1	0.0001	0.02	0.18	2.8	3.4	0.14	0.55	104.0	28.5	123	14.8	0.03	3.8	24	0.18	3.8	0.04	7.2	54	77	1.63	0.04	7.7	0.19
10452853	Primary	MetaSediment 2	WINU0026	424	425	0.09	13.0	0.0001	0.07	0.06	2.5	4.0	1.58	0.01	72.9	29.1	117	10.1	0.02	4.8	18	0.15	4.7	0.04	3.8	33	46	1.94	0.03	0.4	0.56
10449499	Primary	MetaSediment 1	WINU0028	204	205	0.14	19.7	0.0002	0.03	0.16	4.0	3.6	0.01	0.32	127.0	46.8	100	13.7	0.01	1.6	29	0.18	3.7	0.03	8.2	65	65	0.83	0.01	4.5	0.13
10449621	Primary	MetaSediment 2	WINU0028	313	314	0.05	14.1	0.0001	0.03	0.09	2.8	2.9	1.06	0.00	82.8	30.9	121	15.9	0.01	5.3	19	0.19	5.7	0.04	6.1	44	37	1.79	0.06	5.7	0.82
10449827	Primary	MetaSediment 2	WINU0028	499	500	0.03	14.2	0.0001	0.01	0.09	2.5	4.1	2.21	0.01	62.6	17.0	122	16.9	0.01	5.5	18	0.22	6.0	0.04	4.9	32	65	2.59	0.07	0.2	1.16
10453003	Primary	Quartz Sandstone	WINU0029	156	157	0.12	11.7	0.0003	0.00	0.05	2.3	0.4	0.85	0.07	48.4	30.4	119	26.2	0.02	7.0	15	0.16	3.6	0.04	4.2	24	53	2.35	0.06	0.7	0.58
10453056	Primary	MetaSediment 1	WINU0029	204	205	0.05	14.0	0.0001	0.01	0.11	2.3	3.8	1.13	0.00	74.6	13.7	171	13.0	0.01	3.3	20	0.17	4.4	0.06	6.2	36	47	1.51	0.04	0.3	0.70
10444104	Primary	Quartz Sandstone	WINU0031	182	183	0.05	7.8	0.0001	0.05	0.02	1.6	2.5	0.24	0.34	43.1	33.6	98	9.4	0.01	2.7	10	0.19	3.1	0.01	1.9	20	35	1.16	0.03	4.1	0.27

Sample_ID	Zone	Lithology	Hole	From	To	Nb_ppm	Ni_pct	P2O5_pct	Pb_pct	Pd_ppm	Pt_ppm	Rb_ppm	Re_ppm	Sb_ppm	Sc_ppm	SiO2_pct	Sn_ppm	S_pct	Sr_ppm	Ta_ppm	Te_ppm	Th_ppm	TiO2_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zn_pct	Zr_ppm	Hg_ppm	Se_ppm	B_ppm	Cl_ppm	F_ppm
Average crustal abundance						20.0	0.008	0.24	0.001	0.015	0.005	90	0.001	0.20	22	60	2	0.04	370	2.0	0.001	9.6	0.94	0.9	2.7	120	1.3	33	0.01	165	0.085	0.05	1.00	15	59
10384643	Primary	MetaSediment 2	RC18WIN0001	158	159	16.7	0.004	0.22	0.002	0.001	0.002	460	0.002	0.14	17		9	0.06	58	1.6	0.060	21.0	0.71	2.6	5.5	92	14.4	22	0.01	153					
10384656	Primary	MetaSediment 2	RC18WIN0001	170	171	14.6	0.004	0.10	0.007	0.003	0.002	391	0.003	0.47	16		15	1.69	72	1.3	1.190	22.5	0.70	3.2	5.2	86	66.1	33	0.01	172					
10384663	Primary	MetaSediment 2	RC18WIN0001	176	177	14.3	0.003	0.11	0.004	0.001	0.004	330	0.002	0.25	15		13	1.08	150	1.5	0.620	22.7	0.73	2.5	4.1	79	39.5	24	0.01	180					
10384418	Primary	MetaSediment 2	WB18WIN0002	106	107	10.6	0.008	0.08	0.001	0.001	0.002	371	0.002	0.26	12		6	2.19	28	1.0	1.170	15.3	0.56	2.2	3.5	73	55.6	20	0.01	118					
10384444	Primary	MetaSediment 2	WB18WIN0002	129	130	11.0	0.004	0.10	0.001	0.001	0.002	349	0.001	0.13	13		5	0.24	59	1.0	0.110	15.4	0.57	1.8	3.1	72	12.3	22	0.01	134					
10384456	Primary	MetaSediment 2	WB18WIN0002	140	141	13.9	0.005	0.07	0.002	0.001	0.002	383	0.001	0.14	15		8	0.76	70	1.3	0.240	19.6	0.75	1.9	4.0	76	23.6	26	0.01	186					
10410118	Primary	MetaSediment 2	WINU0003	127	128	13.6	0.002	0.09	0.001	0.001	0.002	322	0.002	0.17	14		7	0.36	112	1.3	0.190	22.4	0.72	1.7	3.9	79	20.3	24	0.01	189					
10410141	Primary	MetaSediment 1	WINU0003	147	148	8.4	0.003	0.09	0.001	0.001	0.002	390	0.001	0.18	13		13	1.54	87	0.8	0.620	20.3	0.50	1.8	2.9	70	57.3	22	0.01	142					
10410151	Primary	MetaSediment 2	WINU0003	156	157	12.1	0.002	0.07	0.001	0.001	0.002	401	0.001	0.17	13		15	0.89	89	1.1	1.110	18.3	0.62	1.8	3.0	69	10.4	23	0.01	143					
10410755	Primary	Oxidised Permian Mudstone	WINU0003	701	702	16.9	0.004	0.19	0.000	0.001	0.002	173	0.001	0.09	15		7	0.40	198	1.4	0.070	21.8	0.75	0.9	4.2	83	6.2	39	0.01	172					
10413756	Primary	Quartz Sandstone	WINU0004	260	261	5.6	0.001	0.04	0.000	0.001	0.002	200	0.001	0.04	4		6	0.34	38	0.5	0.210	10.6	0.31	1.1	2.1	25	5.1	16	0.00	114					
10411278	Primary	Quartz Sandstone	WINU0006	335	336	6.9	0.002	0.04	0.001	0.001	0.002	229	0.001	0.08	7		6	0.23	56	0.6	0.200	10.6	0.38	1.1	2.4	39	6.0	12	0.00	102					
10414252	Primary	MetaSediment 2	WINU0007	222	223	15.7	0.003	0.08	0.001	0.001	0.002	308	0.001	0.11	16		8	0.69	121	1.4	0.260	21.6	0.74	1.7	4.1	89	29.8	27	0.01	161					
10414362	Primary	MetaSediment 1	WINU0007	321	322	9.2	0.002	0.05	0.001	0.001	0.002	311	0.001	0.16	15		5	0.10	76	0.8	0.180	17.5	0.55	1.4	3.2	81	19.5	17	0.01	120					
10414761	Primary	Quartz Sandstone	WINU0007	680	681	6.7	0.003	0.05	0.000	0.001	0.002	234	0.001	0.03	7		2	0.15	61	0.6	0.040	10.9	0.37	1.3	2.1	39	14.1	23	0.00	106					
10411913	Primary	Quartz Sandstone	WINU0008	127	128	6.8	0.003	0.04	0.000	0.001	0.002	175	0.001	0.04	4		3	0.46	37	0.7	0.050	14.1	0.39	0.8	2.8	29	14.0	20	0.00	177					
10411941	Primary	Quartz Sandstone	WINU0008	152	153	10.7	0.002	0.05	0.000	0.001	0.002	269	0.001	0.02	8		4	0.22	43	1.0	0.100	17.6	0.60	1.3	3.2	51	6.5	15	0.00	200					
10411942	Primary	Quartz Sandstone	WINU0008	153	154	6.2	0.004	0.04	0.001	0.001	0.002	345	0.005	0.05	8		7	0.70	47	0.6	0.070	10.2	0.40	1.6	3.2	55	440.0	18	0.01	119					
10412193	Primary	Quartz Sandstone	WINU0008	379	380	4.4	0.002	0.04	0.000	0.001	0.002	176	0.001	0.06	4		3	0.14	42	0.5	0.090	10.0	0.27	1.0	1.7	26	1.5	17	0.00	104					
10412255	Primary	Quartz Sandstone	WINU0008	436	437	6.9	0.002	0.04	0.001	0.001	0.002	218	0.001	0.12	7		4	0.18	30	0.7	0.040	13.1	0.39	1.2	2.4	44	7.2	16	0.00	123					
10442102	Primary	Quartz Sandstone	WINU0009	124	125	7.3	0.004	0.15	0.002	0.003	0.002	356	0.002	0.08	8		6	0.39	40	0.7	0.050	12.2	0.41	1.9	3.4	51	77.0	17	0.01	109					
10415251	Primary	MetaSediment 1	WINU0010	449	450	13.5	0.006	0.06	0.001	0.001	0.002	421	0.001	0.11	17		6	0.80	75	1.4	0.070	19.2	0.68	2.9	3.5	83	10.1	22	0.00	141					
10412553	Primary	MetaSediment 1	WINU0011	181	182	13.3	0.004	0.09	0.005	0.001	0.002	345	0.001	0.30	15		14	0.54	102	1.2	0.320	22.1	0.64	2.5	4.0	83	47.8	21	0.01	128					
10412602	Primary	Quartz Sandstone	WINU0011	225	226	3.7	0.002	0.03	0.001	0.001	0.002	167	0.001	0.24	3		7	0.44	30	0.3	1.190	5.9	0.20	0.9	1.5	22	14.8	7	0.00	78					
10413047	Primary	Quartz Sandstone	WINU0011	626	627	5.7	0.001	0.04	0.000	0.001	0.002	218	0.001	0.29	6		8	0.33	27	0.5	0.140	8.8	0.30	0.9	1.9	33	17.9	11	0.04	89					
10415473	Primary	MetaSediment 1	WINU0012	155	156	15.3	0.004	0.09	0.001	0.003	0.002	390	0.003	0.13	20		11	0.52	113	1.4	0.200	24.4	0.61	3.2	5.4	112	15.8	31	0.02	119					
10415524	Primary	MetaSediment 1	WINU0012	201	202	16.7	0.003	0.08	0.000	0.003	0.002	350	0.001	0.49	25		16	0.81	13	1.4	3.480	28.1	0.81	2.5	4.4	135	18.1	27	0.01	142					640
10442857	Primary	Quartz Sandstone	WINU0013	150	151	5.6	0.003	0.04	0.000	0.001	0.002	202	0.001	0.13	6	53	7	1.45	25	0.5	0.370	9.9	0.29	1.2	1.4	39	21.0	23	0.00	88					
10443377	Primary	Blue Eye Gritstone	WINU0013	618	619	13.9	0.002	0.10	0.001	0.002	0.002	421	0.001	0.58	17	53	18	0.31	16	1.4	0.110	34.4	0.58	1.9	5.0	87	34.0	26	0.00	133					
10445638	Primary	MetaSediment 1	WINU0014	167	168	7.9	0.002	0.06	0.002	0.001	0.002	352	0.001	0.51	13	58	16	0.43	34	0.7	0.660	16.5	0.43	1.8	2.2	77	20.4	15	0.06	96					
10445726	Primary	Quartz Sandstone	WINU0014	246	247	9.3	0.002	0.04	0.005	0.001	0.002	255	0.001	0.59	9	60	6	0.41	72	0.8	0.270	13.2	0.48	1.2	2.6	57	8.0	15	0.24	119					
10416015	Primary	MetaSediment 2	WINU0015	196	197	16.1	0.004	0.08	0.001	0.001	0.002	286	0.001	0.10	14	50	5	0.50	136	1.2	0.420	21.0	0.76	1.4	4.0	86	30.1	33	0.01	197					
10416095	Primary	MetaSediment 1	WINU0015	268	269	11.9	0.003	0.08	0.001	0.001	0.002	440	0.001	0.18	18	49	4	0.25	86	1.0	0.020	22.9	0.59	2.2	4.5	98	5.4	24	0.00	125					
10413371	Primary	MetaSediment 2	WINU0017	151	152	13.0	0.004	0.08	0.001	0.001	0.002	348	0.002	0.04	14	65	7	0.26	82	1.2	0.830	15.6	0.70	2.3	3.5	79	28.2	18	0.07	151					
10413389	Primary	Quartz Sandstone	WINU0017	168	169	8.5	0.003	0.06	0.001	0.001	0.002	308	0.001	0.04	10	71	7	0.41	94	0.8	1.310	15.0	0.51	2.0	3.1	59	10.2	18	0.03	126					
10449112	Primary	MetaSediment 1	WINU0017	368	369	9.1	0.002	0.05	0.001	0.001	0.002	267	0.001	0.12	10	73	10	1.08	68	0.8	1.840	14.7	0.44	1.4	3.4	49	7.3	21	0.01	103					
10416547	Primary	MetaSediment 2	WINU0018	167	168	13.5	0.005	0.02	0.002	0.001	0.002	368	0.001	0.05	17	58	7	0.29	44	1.3	0.040	19.4	0.72	2.1	6.8	91	87.8	39	0.01	155					
10416554	Primary	Quartz Sandstone	WINU0018	173	174	4.9	0.010	0.02	0.001	0.002	0.002	223	0.008	0.05	7	77	8	0.89	44	0.4	0.550	8.2	0.28	1.5	2.4	37	21.9	24	0.03	91					343
10416756	Primary	MetaSediment 2	WINU0018	355	356	12.3	0.003	0.06	0.001	0.002	0.002	321	0.005	0.10	13	68	9	0.70	57	1.2	1.890	19.2	0.66	1.6	5.1	68	17.3	24	0.00	189					523
10416833	Primary	MetaSediment 1	WINU0018	424	425	14.0	0.004	0.08	0.001	0.001	0.002	550	0.004	0.78	21	50	10	0.38	32	1.3	0.100	27.3	0.73	2.8	5.1	113	23.1	25	0.00	163					
10446153	Primary	MetaSediment 1	WINU0020	166	167	10.3	0.003	0.02	0.002	0.001	0.002	268	0.001	0.16	15	77	10	0.28	44	0.9	0.640	15.3	0.49	1.2	6.4	68	74.9	22	0.00	102					
10446502	Primary	Quartz Sandstone	WINU0020	480	481	4.2	0.002	0.04	0.003	0.001	0.002	140	0.001	0.15	4	76	6	0.44	34	0.4	0.190	6.7	0.23	0.9	1.3	24	3.9	9	0.00	74					
10452536	Primary	MetaSediment 1	WINU0026	139	140	12.9	0.002	0.09	0.001	0.001	0.002	433	0.002	0.16	21	63	17	0.45	75	1.1	0.170	23.3	0.64	2.5	3.5	115	69.6	30	0.01	123					
10452853	Primary	MetaSediment 2	WINU0026	424	425	11.9	0.003	0.09	0.001	0.001	0.005	253	0.001	0.15	14	62	3	0.45	44	1.2	0.150	19.1	0.62	1.7	3.6	78	5.9	25	0.00	164					
10449499	Primary	MetaSediment 1	WINU0028	204	205	12.6	0.005	0.03	0.002	0.008	0.002	520	0.002	0.57	25	60	10	0.39	57	1.1	0.080	25.5	0.65	2.7	11.0	136	16.2	26	0.01	120					
10449621	Primary	MetaSediment 2	WINU0028	313	314	13.5	0.006	0.08	0.001	0.001	0.002	362	0.005	0.13	14	58	5	0.39	44	1.2	0.130	19.0	0.70	1.7	4.0	108	5.1	22	0.00	203					
10449827	Primary	MetaSediment 2	WINU0028	499	500	14.2	0.003	0.08	0.001	0.001	0.002	323	0.001	0.05	14	58	6	0.11	83	1.3	0.020	18.8	0.73	1.7	3.9	81	5.4	23	0.00	199					
10453003	Primary	Quartz Sandstone	WINU0029	156	157	11.2	0.005	0.07	0.002	0.003	0.002	314	0.001	0.12	11	65	4	0.58	39	0.9	0.020	13.8	0.53	2.0	2.7	63	2.8	14	0.01	130					
10453056	Primary	MetaSediment 1	WINU0029	204	205	13.3	0.002	0.07	0.001	0.001	0.002	369	0.001	0.06	16	62	8	0.11	71	1.2	0.020	20.5	0.66	1.7	3.8	90	5.2	17	0.00	143					
10444104	Primary	Quartz Sandstone	WINU0031	182	183	6.9	0.004	0.07	0.000	0.001	0.002	193	0.003	0.05	7	65	3	0.07	33	0.5	0.080	9.3	0.34	1.1	2.7	39	14.3	15	0.01	104					

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	Al2O3_pct	As_pct	Au_ppm	BaO_pct	Be_ppm	Bi_ppm	CaO_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_pct	Fe2O3_pct	Ga_ppm	Ge_ppm	Hf_ppm	In_ppm	K2O_pct	La_ppm	Li_ppm	MgO_pct	MnO_pct	Mo_ppm	Na2O_pct
Average crustal abundance						0.08	15.6	0.0002	0.00	0.05	2.8	0.01	5.81	0.15	66.5	25.0	102	3.0	0.01	8.0	19	1.50	3.0	0.25	2.5	39	20	3.86	0.12	1.2	3.18
10444113	Primary	MetaSediment 1	WINU0031	190	191	0.12	19.1	0.0001	0.03	0.12	3.1	1.6	0.18	0.34	123.0	19.2	101	15.1	0.01	5.3	30	0.31	3.9	0.07	7.4	63	52	1.66	0.02	0.7	0.30
10444567	Primary	Quartz Sandstone	WINU0032	151	152	0.27	6.9	0.0002	0.05	0.03	1.3	24.9	0.60	0.14	40.3	30.1	112	10.4	0.07	4.0	10	0.19	4.8	0.07	2.4	17	50	1.48	0.04	1.5	0.12
10444577	Primary	MetaSediment 2	WINU0032	160	161	0.17	13.4	0.0001	0.00	0.08	2.5	1.7	0.38	0.08	37.9	15.4	98	16.7	0.01	4.7	19	0.19	4.5	0.05	5.6	17	49	1.87	0.04	0.6	0.29
10444613	Primary	Quartz Sandstone	WINU0032	192	193	0.11	9.1	0.0001	0.01	0.04	1.5	0.8	0.73	0.07	38.5	18.4	40	8.9	0.01	3.3	12	0.19	3.7	0.01	3.3	17	33	1.09	0.03	1.5	0.49
10444748	Primary	MetaSediment 1	WINU0032	314	315	0.16	16.5	0.0001	0.01	0.10	3.1	2.7	1.87	0.01	74.5	37.2	115	12.1	0.03	5.4	22	0.20	4.5	0.04	7.2	35	70	3.05	0.06	1.7	0.68
10453335	Primary	MetaSediment 1	WINU0034	155	156	0.06	18.5	0.0001	0.08	0.10	3.7	3.8	0.10	0.03	103.5	20.8	90	12.8	0.01	4.5	28	0.19	4.0	0.07	6.6	53	59	1.67	0.03	0.5	0.13
10453335	Primary	MetaSediment 1	WINU0034	155	156	0.06	18.5	0.0001	0.08	0.10	3.7	3.8	0.10	0.03	103.5	20.8	90	12.8	0.01	4.5	28	0.19	4.0	0.07	6.6	53	59	1.67	0.03	0.5	0.13
10453352	Primary	Quartz Sandstone	WINU0034	170	171	0.28	5.8	0.0001	0.05	0.05	0.9	12.2	0.07	0.09	36.0	34.7	205	4.6	0.04	2.5	8	0.08	3.2	0.04	2.8	17	23	0.58	0.02	0.5	0.06
10453478	Primary	Quartz Sandstone	WINU0034	284	285	0.41	10.4	0.0006	0.10	0.07	1.6	5.2	0.08	0.38	63.9	48.1	86	7.3	0.06	3.5	16	0.14	3.2	0.10	4.9	31	24	0.58	0.04	0.5	0.15
10449894	Primary	Quartz Sandstone	WINU0035	141	142	0.03	8.8	0.0032	0.02	0.05	1.5	1.0	1.09	0.01	53.7	51.4	198	7.2	0.01	3.2	12	0.20	6.5	0.02	3.3	27	35	0.95	0.05	0.4	0.35
10449911	Primary	Quartz Sandstone	WINU0035	156	157	0.11	4.0	0.0002	0.06	0.01	0.7	13.7	0.98	0.02	31.2	27.9	249	3.3	0.02	3.2	5	0.19	3.3	0.02	1.2	16	15	0.65	0.03	0.6	0.32
10449925	Primary	MetaSediment 2	WINU0035	169	170	0.01	14.3	0.0000	0.00	0.07	2.6	0.3	1.58	0.02	85.5	15.6	112	16.3	0.01	6.7	19	0.24	4.5	0.04	4.5	42	53	2.27	0.06	0.3	0.92
10449937	Primary	Quartz Sandstone	WINU0035	180	181	0.06	7.6	0.0001	0.01	0.03	1.5	0.5	1.33	0.08	38.2	11.6	161	9.6	0.01	4.5	9	0.24	3.1	0.03	2.0	19	41	1.31	0.06	0.7	0.71
10450295	Primary	Quartz Sandstone	WINU0036	235	236	0.21	6.5	0.0003	0.01	0.05	1.1	2.7	0.03	0.04	48.1	63.4	78	5.3	0.02	3.3	9	0.15	6.2	0.03	2.9	23	19	0.70	0.02	1.1	0.06
10450398	Primary	Oxidised Permian Mudstone	WINU0036	328	329	0.21	14.4	0.0000	0.02	0.27	2.9	3.6	1.01	0.00	89.0	24.2	120	16.9	0.02	4.3	17	0.30	3.0	0.04	8.1	45	32	1.53	0.05	39.5	0.70
10450435	Primary	Oxidised Permian Mudstone	WINU0036	361	362	0.16	10.7	0.0001	0.13	0.03	2.3	4.0	1.32	0.13	52.4	50.5	100	17.2	0.04	7.6	14	0.27	3.6	0.02	3.2	25	54	2.02	0.06	0.4	0.49
10444953	Primary	Quartz Sandstone	WINU0039	191	192	1.39	6.1	0.0013	0.14	0.00	0.9	5.3	0.01	0.66	39.0	109.0	87	1.2	0.15	3.5	8	0.08	2.7	0.10	0.4	19	19	0.05	0.00	0.4	0.02
10453702	Primary	MetaSediment 2	WINU0040	128	129	0.34	12.8	0.0006	0.17	0.03	2.6	10.9	0.35	0.36	54.4	49.6	61	11.2	0.06	5.9	16	0.14	4.4	0.01	3.3	25	52	1.69	0.04	1.4	0.57
10453713	Primary	MetaSediment 2	WINU0040	138	139	0.35	14.8	0.0002	0.54	0.04	3.0	22.8	1.94	0.22	73.0	93.9	72	11.6	0.10	6.9	19	0.14	5.5	0.02	2.7	32	51	1.87	0.05	0.8	1.72
10453755	Primary	MetaSediment 1	WINU0040	176	177	0.09	15.0	0.0002	0.03	0.06	2.7	2.7	1.13	0.01	109.5	17.7	149	17.6	0.02	4.5	21	0.23	4.7	0.04	4.5	53	51	2.02	0.04	0.4	1.55
10453804	Primary	MetaSediment 2	WINU0040	220	221	0.19	14.2	0.0000	0.05	0.04	3.0	2.0	3.81	0.06	85.8	20.0	243	15.3	0.04	4.2	19	0.18	4.9	0.03	2.3	41	47	1.76	0.05	0.7	2.37
10453819	Primary	MetaSediment 1	WINU0040	234	235	0.24	16.2	0.0000	0.05	0.18	2.6	4.4	1.18	0.15	66.8	11.3	126	13.6	0.14	4.6	23	0.19	4.0	0.11	5.4	31	69	2.26	0.06	0.3	1.29
10446688	Primary	MetaSediment 2	WINU0041	125	126	0.05	15.8	0.0001	0.00	0.15	2.9	1.7	0.25	0.03	42.6	13.4	83	19.6	0.01	5.5	22	0.15	5.2	0.04	7.3	18	65	2.06	0.07	0.2	0.25
10446701	Primary	MetaSediment 2	WINU0041	135	136	0.27	11.8	0.0001	0.15	0.12	2.5	77.5	0.92	0.04	71.6	23.9	130	13.1	0.07	5.7	17	0.12	4.7	0.03	4.9	33	64	1.71	0.07	0.7	0.47
10446735	Primary	Quartz Sandstone	WINU0041	166	167	0.11	5.3	0.0001	0.02	0.03	0.8	6.0	0.13	0.03	10.0	16.4	31	4.8	0.02	2.8	7	0.07	1.7	0.01	1.8	4	24	0.81	0.04	1.9	0.07
10446809	Primary	Quartz Sandstone	WINU0041	234	235	0.19	5.9	0.0002	0.04	0.05	0.9	14.2	1.30	0.04	23.1	49.5	24	5.4	0.03	3.9	8	0.10	2.2	0.01	2.4	11	29	1.67	0.06	1.9	0.16
10386989	Primary	MetaSediment 1	WINU0041	430	431	0.02	15.4	0.0001	0.00	0.05	3.7	0.2	1.65	0.02	76.0	11.9	67	10.8	0.00	3.6	21	0.23	2.8	0.02	4.6	33	106	2.44	0.06	1.6	0.45
10451023	Primary	Quartz Sandstone	WINU0042	247	248	0.38	9.0	0.0001	0.01	0.08	1.4	1.9	0.35	0.03	41.6	10.6	86	11.3	0.01	3.0	11	0.15	3.3	0.01	3.9	18	39	1.13	0.03	4.0	0.62
10451216	Primary	Quartz Sandstone	WINU0042	414	415	1.83	5.2	0.0002	0.06	0.05	0.6	17.2	0.50	0.45	14.9	22.3	29	12.5	0.28	3.1	9	0.15	3.3	0.18	2.6	7	43	1.96	0.05	1.7	0.12
10454334	Primary	MetaSediment 1	WINU0045	190	191	0.09	15.1	0.0003	0.51	0.07	2.9	30.1	1.09	0.01	85.9	22.7	80	12.8	0.03	5.6	18	0.19	4.5	0.02	3.8	45	36	1.49	0.04	0.9	2.13
10454664	Primary	Quartz Sandstone	WINU0045	421	422	0.02	9.4	0.0001	0.00	0.04	1.7	0.2	1.13	0.01	50.5	11.3	55	13.1	0.01	3.6	12	0.12	3.2	0.02	2.6	25	35	1.29	0.03	2.6	1.25
10454840	Primary	MetaSediment 1	WINU0045	575	576	0.04	19.0	0.0001	0.01	0.09	3.1	2.8	0.67	0.06	73.3	16.2	74	15.5	0.01	4.6	28	0.22	3.3	0.06	5.8	34	77	2.74	0.04	0.5	1.81
10457352	Primary	MetaSediment 1	WINU0048	201	202	0.11	18.5	0.0001	0.01	0.11	2.7	1.5	0.41	0.02	75.6	16.7	89	16.3	0.01	5.9	27	0.23	4.1	0.10	6.4	30	57	2.31	0.06	0.9	0.20
10452285	Primary	Granite	WINU0051	497.8	498.5	0.50	2.1	0.0000	0.01	0.09	0.1	6.7	0.14	0.07	1.7	1.7	6	1.4	0.06	0.9	2	0.08	0.1	0.06	1.7	1	2	0.07	0.01	10.3	0.07
10454973	Primary	Blue Eye Gritstone	WINU0052	126	127	0.30	13.8	0.0002	0.01	0.11	2.0	2.1	0.32	0.08	79.2	15.3	58	10.8	0.04	3.8	20	0.18	4.6	0.03	5.5	38	40	1.31	0.03	1.4	0.66
10455833	Primary	MetaSediment 2	WINU0052	775	776	0.42	16.8	0.0000	0.03	0.11	3.8	3.3	2.83	0.09	151.5	19.9	72	12.0	0.08	4.1	25	0.28	4.1	0.17	5.8	77	50	1.96	0.09	1.6	1.45
10457774	Primary	Quartz Sandstone	WINU0053	166	167	1.19	9.5	0.0001	0.30	0.05	1.4	44.4	1.34	0.17	80.9	169.0	52	16.9	0.20	7.6	15	0.17	6.7	0.12	3.5	40	65	2.42	0.07	0.9	0.21
10457847	Primary	MetaSediment 1	WINU0053	224	225	0.17	18.7	0.0001	0.01	0.10	3.6	0.9	2.73	0.06	109.0	39.3	78	21.4	0.03	5.0	28	0.19	4.6	0.04	6.3	60	111	3.33	0.09	4.3	0.54
10457955	Primary	Quartz Sandstone	WINU0053	310	310.4	0.01	6.3	0.0000	0.01	0.02	1.1	0.4	0.87	0.01	41.7	10.8	23	6.2	0.00	2.8	7	0.25	4.3	0.02	2.1	19	24	0.80	0.04	0.7	0.49
10462114	Primary	MetaSediment 2	WINU0054	161	162.2	1.65	15.2	0.0001	0.12	0.05	3.6	25.1	0.06	0.54	78.0	86.5	72	12.3	0.27	6.6	24	0.26	4.7	0.15	3.3	35	70	2.27	0.05	0.8	0.06
10462206	Primary	MetaSediment 2	WINU0054	232	233	0.66	15.3	0.0000	0.03	0.18	2.6	9.3	0.41	0.16	95.3	27.2	70	24.3	0.09	5.9	22	0.12	5.1	0.06	6.6	48	64	2.50	0.07	0.4	0.61
10459657	Primary	MetaSediment 2	WINU0055	88	89	1.02	14.3	0.0007	0.09	0.14	3.7	56.8	0.28	0.05	55.0	19.0	70	12.2	0.15	6.2	20	0.16	4.5	0.05	6.1	23	43	1.11	0.04	1.4	0.23
10459669	Primary	MetaSediment 2	WINU0055	99	100	0.34	14.5	0.0003	0.07	0.15	2.9	40.7	0.27	0.12	77.3	18.5	64	23.0	0.07	6.8	19	0.18	4.4	0.03	6.0	33	54	1.56	0.06	1.0	0.17
10448040	Primary	Oxidised Permian Mudstone	WINU0056	172.4	173	0.11	14.9	0.0001	0.00	0.12	1.3	0.9	0.32	0.02	63.0	13.4	61	23.2	0.01	5.8	9	0.03	4.4	0.05	6.2	30	38	2.42	0.06	0.5	0.22
10448527	Primary	MetaSediment 2	WINU0056	539	540	1.35	8.6	0.0001	0.11	0.06	1.7	57.0	0.73	0.01	19.8	96.4	43	6.9	0.23	6.4	13	0.10	3.6	0.19	3.3	9	58	2.37	0.06	2.1	0.12
10448572	Primary	Quartz Sandstone	WINU0056	575	576	0.17	8.8	0.0001	0.33	0.15	1.1	10.5	0.83	0.00	65.8	10.5	37	6.1	0.01	3.0	11	0.10	2.7	0.02	4.9	31	33	1.71	0.04	3.2	0.11
10448850	Primary	MetaSediment 1	WINU0056	791	792	0.13	15.6	0.0001	0.03	0.11	2.7	2.0	1.39	0.14	85.3	11.3	66	7.8	0.01	4.2	21	0.13	4.5	0.04	5.1	44	43	2.54	0.09	4.8	2.67
10448868	Primary	MetaSediment 2	WINU0056	804	805	1.61	8.9	0.0000	0.27	0.08	1.8	324.0	3.37	2.13	46.9	38.7	46	2.6	0.23	7.4	12	0.10	3.6	0.44	2.6	24	46	4.46	0.19	7.0	1.00
10458183	Primary	Quartz Sandstone	WINU0057	141.1	142	0.38	7.0	0.0002	0.53	0.05	1.0	34.4	0.20	0.05	63.2	91.4	34	6.0	0.06	4.1	10	0.15	6.5	0.05	2.7	32	24	0.78	0.03	1.1	0.19
10458192	Primary	Quartz Sandstone	WINU0057	149.17	150	0.06	12.9	0.0001	0.07	0.09	2.5	6.9	1.87	0.03	65.0	26.6	52	16.4	0.02	4.9	15	0.18	5.5	0.01	4.4	31	40	1.69	0.05	1.3	1.31

RioTinto

Sample_ID	Zone	Lithology	Hole	From	To	Nb_ppm	Ni_pct	P2O5_pct	Pb_pct	Pd_ppm	Pt_ppm	Rb_ppm	Re_ppm	Sb_ppm	Sc_ppm	SiO2_pct	Sn_ppm	S_pct	Sr_ppm	Ta_ppm	Te_ppm	Th_ppm	TiO2_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zn_pct	Zr_ppm	Hg_ppm	Se_ppm	B_ppm	Cl_ppm	F_ppm
Average crustal abundance						20.0	0.008	0.24	0.001	0.015	0.005	90	0.001	0.20	22	60	2	0.04	370	2.0	0.001	9.6	0.94	0.9	2.7	120	1.3	33	0.01	165	0.085	0.05	1.00	15	59
10444113	Primary	MetaSediment 1	WINU0031	190	191	15.1	0.004	0.12	0.001	0.001	0.002	480	0.001	0.16	22	52	9	0.03	51	1.3	0.020	31.2	0.78	2.1	4.0	122	13.4	23	0.01	136					
10444567	Primary	Quartz Sandstone	WINU0032	151	152	7.8	0.003	0.06	0.004	0.001	0.002	195	0.001	0.22	5	75	8	0.80	32	0.7	0.330	11.4	0.41	1.3	2.8	32	26.7	18	0.01	173					
10444577	Primary	MetaSediment 2	WINU0032	160	161	12.2	0.003	0.07	0.002	0.001	0.002	363	0.001	0.12	13	63	6	0.16	30	1.1	0.020	17.1	0.63	2.1	4.3	75	6.9	16	0.01	154					
10444613	Primary	Quartz Sandstone	WINU0032	192	193	7.7	0.001	0.05	0.002	0.002	0.002	207	0.002	0.17	8	66	3	0.17	35	0.8	0.020	11.6	0.44	1.1	2.7	45	5.1	17	0.00	125					
10444748	Primary	MetaSediment 1	WINU0032	314	315	13.8	0.004	0.06	0.001	0.004	0.002	388	0.004	0.09	18	54	6	0.72	82	1.2	0.040	22.1	0.71	2.7	5.0	101	10.5	24	0.00	149					
10453335	Primary	MetaSediment 1	WINU0034	155	156	15.5	0.004	0.08	0.001	0.001	0.004	421	0.002	0.23	22	63	7	0.23	25	1.3	0.100	25.3	0.78	2.1	5.3	123	9.6	25	0.01	141					
10453335	Primary	MetaSediment 1	WINU0034	155	156	15.5	0.004	0.08	0.001	0.001	0.004	421	0.002	0.23	22	63	7	0.23	25	1.3	0.100	25.3	0.78	2.1	5.3	123	9.6	25	0.01	141					
10453352	Primary	Quartz Sandstone	WINU0034	170	171	5.5	0.002	0.03	0.004	0.001	0.005	166	0.001	0.14	5	77	4	0.62	30	0.5	0.460	9.4	0.31	1.2	1.9	29	21.0	12	0.01	115					
10453478	Primary	Quartz Sandstone	WINU0034	284	285	8.2	0.003	0.05	0.004	0.002	0.002	285	0.001	0.45	8	60	6	0.62	18	0.8	0.120	11.0	0.40	1.5	3.1	50	17.5	11	0.01	109					
10449894	Primary	Quartz Sandstone	WINU0035	141	142	12.1	0.001	0.08	0.001	0.001	0.002	185	0.001	0.05	7	74	3	0.05	36	0.8	0.020	13.6	0.50	0.8	2.8	44	9.3	19	0.00	221					
10449911	Primary	Quartz Sandstone	WINU0035	156	157	8.5	0.002	0.04	0.001	0.001	0.002	87	0.001	0.06	2	80	3	0.98	25	0.4	0.560	7.6	0.23	0.7	1.7	19	4.8	17	0.00	109					
10449925	Primary	MetaSediment 2	WINU0035	169	170	13.6	0.003	0.08	0.000	0.001	0.002	265	0.001	0.05	15	58	4	0.28	45	1.1	0.020	19.1	0.64	1.4	2.9	79	3.6	19	0.00	153					
10449937	Primary	Quartz Sandstone	WINU0035	180	181	6.3	0.003	0.06	0.002	0.001	0.002	122	0.002	0.06	6	75	2	0.18	39	0.5	0.020	11.1	0.35	0.6	2.2	36	2.1	12	0.00	106					
10450295	Primary	Quartz Sandstone	WINU0036	235	236	9.2	0.002	0.02	0.001	0.007	0.004	167	0.001	0.09	5	81	4	1.05	22	0.8	0.120	16.8	0.47	1.7	3.1	36	15.0	19	0.00	214					
10450398	Primary	Oxidised Permian Mudstone	WINU0036	328	329	14.6	0.004	0.07	0.002	0.001	0.002	450	0.008	0.08	14	59	7	0.64	119	1.1	0.160	17.5	0.54	2.7	4.1	90	3.1	28	0.01	104					
10450435	Primary	Oxidised Permian Mudstone	WINU0036	361	362	11.5	0.004	0.07	0.005	0.001	0.002	342	0.001	0.12	10	66	3	1.20	44	0.9	0.100	13.7	0.51	2.5	2.7	58	5.0	23	0.01	120					
10444953	Primary	Quartz Sandstone	WINU0039	191	192	5.8	0.006	0.01	0.021	0.001	0.002	31	0.001	0.15	5	78	4	2.58	3	0.4	0.240	7.5	0.26	0.5	1.6	29	28.6	10	0.01	91					
10453702	Primary	MetaSediment 2	WINU0040	128	129	11.9	0.004	0.08	0.001	0.001	0.002	260	0.005	0.26	12	62	8	0.50	42	1.1	0.110	16.6	0.61	2.3	5.1	68	27.0	26	0.01	152					
10453713	Primary	MetaSediment 2	WINU0040	138	139	14.6	0.005	0.08	0.001	0.001	0.002	207	0.007	0.16	14	57	3	1.54	104	1.3	0.550	21.8	0.73	3.3	4.5	76	15.3	25	0.02	190					
10453755	Primary	MetaSediment 1	WINU0040	176	177	11.9	0.003	0.14	0.001	0.001	0.002	313	0.001	0.18	17	60	5	0.01	93	1.0	0.120	23.7	0.64	1.6	4.8	88	9.9	30	0.01	165					
10453804	Primary	MetaSediment 2	WINU0040	220	221	19.2	0.003	0.08	0.000	0.001	0.002	196	0.001	0.04	15	62	5	0.21	155	1.4	0.080	19.7	0.68	1.3	3.8	78	4.7	33	0.01	171					
10453819	Primary	MetaSediment 1	WINU0040	234	235	13.4	0.002	0.08	0.001	0.001	0.002	332	0.001	0.05	18	54	15	0.22	113	1.2	0.110	22.9	0.62	2.4	6.3	90	17.1	22	0.01	137					
10446688	Primary	MetaSediment 2	WINU0041	125	126	16.2	0.003	0.09	0.001	0.001	0.002	447	0.001	0.10	16	56	9	0.02	77	1.6	0.020	21.5	0.72	2.9	4.4	83	26.4	25	0.01	175					
10446701	Primary	MetaSediment 2	WINU0041	135	136	13.7	0.003	0.10	0.001	0.001	0.002	362	0.002	0.16	12	66	11	1.72	93	1.2	0.880	20.8	0.66	3.1	5.2	68	57.0	29	0.01	167					
10446735	Primary	Quartz Sandstone	WINU0041	166	167	3.3	0.001	0.03	0.000	0.002	0.002	157	0.001	0.14	4	80	4	0.53	11	0.3	0.090	6.3	0.19	1.6	1.4	25	7.5	7	0.00	61					
10446809	Primary	Quartz Sandstone	WINU0041	234	235	3.9	0.004	0.04	0.002	0.001	0.002	206	0.001	0.08	4	74	5	1.04	29	0.4	0.410	6.5	0.23	2.0	2.0	28	3.8	10	0.00	79					
10386989	Primary	MetaSediment 1	WINU0041	430	431	13.0	0.003	0.07	0.001	0.001	0.002	371	0.001	0.11	16	47	6	0.03	135	1.2	0.020	25.3	0.56	1.9	3.2	95	5.3	14	0.00	92					
10451023	Primary	Quartz Sandstone	WINU0042	247	248	7.7	0.002	0.05	0.001	0.001	0.002	248	0.003	0.08	7		8	0.13	55	0.7	0.080	9.1	0.38	1.2	2.2	37	20.8	12	0.00	117					
10451216	Primary	Quartz Sandstone	WINU0042	414	415	4.8	0.002	0.03	0.001	0.001	0.002	227	0.001	0.15	6	72	12	0.68	24	0.4	0.590	10.0	0.29	1.3	1.8	37	26.9	10	0.01	120					
10454334	Primary	MetaSediment 1	WINU0045	190	191	12.1	0.003	0.09	0.000	0.001	0.002	234	0.001	0.47	14	62	3	0.53	63	1.1	2.620	20.3	0.63	1.4	3.7	82	6.6	21	0.00	144					
10454664	Primary	Quartz Sandstone	WINU0045	421	422	7.3	0.002	0.05	0.000	0.001	0.002	174	0.001	0.03	8	73	2	0.11	55	0.6	0.020	13.2	0.41	1.0	2.8	46	2.3	11	0.00	115					
10454840	Primary	MetaSediment 1	WINU0045	575	576	16.5	0.003	0.09	0.001	0.001	0.002	356	0.001	0.08	19	53	8	0.13	54	1.5	0.060	21.6	0.70	1.8	4.9	105	10.7	22	0.00	127					
10457352	Primary	MetaSediment 1	WINU0048	201	202	17.0	0.004	0.15	0.001	0.001	0.002	385	0.001	0.16	22	56	8	0.09	23	1.5	0.040	27.7	0.79	2.1	4.2	121	13.5	25	0.01	142					
10452285	Primary	Granite	WINU0051	497.8	498.5	0.3	0.000	0.00	0.000	0.001	0.002	84	0.001	0.09	0	93	3	0.11	37	0.0	0.210	0.5	0.01	0.4	0.1	1	0.4	1	0.00	4					
10454973	Primary	Blue Eye Gritstone	WINU0052	126	127	13.0	0.003	0.08	0.002	0.001	0.002	344	0.001	0.10	13	63	8	0.01	82	1.4	0.060	20.8	0.60	1.9	4.2	71	21.6	16	0.01	154					
10455833	Primary	MetaSediment 2	WINU0052	775	776	13.7	0.004	0.24	0.001	0.001	0.002	362	0.001	0.02	16	56	10	0.15	162	1.5	0.110	26.2	0.67	1.6	5.4	87	4.8	40	0.01	144					
10457774	Primary	Quartz Sandstone	WINU0053	166	167	11.9	0.011	0.07	0.034	0.001	0.002	342	0.001	0.64	10	62	11	2.68	49	1.1	1.510	20.8	0.69	2.3	4.3	57	144.5	30	0.01	233					528
10457847	Primary	MetaSediment 1	WINU0053	224	225	15.6	0.003	0.10	0.001	0.001	0.002	412	0.001	0.05	20	49	12	0.28	260	1.5	0.020	25.2	0.75	2.1	5.0	120	4.4	38	0.01	157					
10457955	Primary	Quartz Sandstone	WINU0053	310	310.4	6.1	0.001	0.04	0.000	0.001	0.002	134	0.001	0.04	5	80	2	0.04	32	0.6	0.020	12.7	0.35	0.7	2.4	28	4.0	16	0.00	146					
10462114	Primary	MetaSediment 2	WINU0054	161	162.2	15.6	0.006	0.02	0.001	0.001	0.002	299	0.005	0.22	18	58	18	2.46	26	1.4	0.730	20.6	0.76	2.6	3.5	91	240.0	31	0.02	153					430
10462206	Primary	MetaSediment 2	WINU0054	232	233	15.0	0.003	0.09	0.001	0.007	0.002	460	0.001	0.11	17	56	17	0.44	90	1.4	0.490	23.5	0.73	2.6	5.7	99	84.9	31	0.01	170					
10459657	Primary	MetaSediment 2	WINU0055	88	89	14.0	0.004	0.10	0.006	0.001	0.002	431	0.002	0.59	13	57	15	0.32	80	1.4	0.620	22.2	0.73	2.9	5.7	73	55.7	24	0.01	149					
10459669	Primary	MetaSediment 2	WINU0055	99	100	14.8	0.003	0.11	0.002	0.006	0.002	450	0.004	0.17	14	57	12	0.61	104	1.4	0.360	21.1	0.73	2.8	7.2	77	88.7	23	0.01	142					
10448040	Primary	Oxidised Permian Mudstone	WINU0056	172.4	173	13.9	0.002	0.09	0.001	0.001	0.002	460	0.003	0.08	7	56	7	0.22	59	1.3	0.020	19.5	0.75	2.4	3.5	80	32.7	21	0.00	163					
10448527	Primary	MetaSediment 2	WINU0056	539	540	8.4	0.004	0.06	0.002	0.004	0.004	237	0.002	0.70	9	72	18	2.24	22	0.8	1.570	12.0	0.44	1.9	2.9	47	100.5	14	0.00	126					
10448572	Primary	Quartz Sandstone	WINU0056	575	576	6.4	0.001	0.05	0.000	0.003	0.002	245	0.001	0.19	8	67	7	0.16	38	0.6	0.110	10.6	0.33	1.1	2.1	44	26.5	16	0.00	94					
10448850	Primary	MetaSediment 1	WINU0056	791	792	11.4	0.003	0.07	0.001	0.001	0.002	277	0.001	0.05	14		8	0.10	109	1.1	0.041	23.6	0.63	1.4	8.5	80	27.0	23	0.01	150					
10448868	Primary	MetaSediment 2	WINU0056	804	805	8.7	0.004	0.06	0.001	0.001	0.002	143	0.001	0.08	8		12	1.32	32	0.8	5.960	12.5	0.47	1.5	2.5	45	51.4	26	0.05	121					123
10458183	Primary	Quartz Sandstone	WINU0057	141.1	142	7.2	0.005	0.06	0.007	0.001	0.002	163	0.001	0.17	6	77	3	1.48	22	0.7	0.280	14.8	0.44	2.2	3.2	35	6.9	15	0.00	218					
10458192	Primary	Quartz Sandstone	WINU0057	149.17	150	12.8	0.003	0.10	0.001	0.002	0.002	300	0.001	0.06	11	65	3	0.32	103	1.2	0.210	16.4	0.64	1.6	3.5	62	12.3	28	0.00	189					

RioTinto

Sample_ID	Zone	Lithology	Hole	From	To	Ag_ppm	Al2O3_pct	As_pct	Au_ppm	BaO_pct	Be_ppm	Bi_ppm	CaO_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_pct	Fe2O3_pct	Ga_ppm	Ge_ppm	Hf_ppm	In_ppm	K2O_pct	La_ppm	Li_ppm	MgO_pct	MnO_pct	Mo_ppm	Na2O_pct
					Average crustal abundance	0.08	15.6	0.0002	0.00	0.05	2.8	0.01	5.81	0.15	66.5	25.0	102	3.0	0.01	8.0	19	1.50	3.0	0.25	2.5	39	20	3.86	0.12	1.2	3.18
10459205	Primary	Quartz Sandstone	WINU0062	263.07	264	0.32	5.4	0.0000	0.12	0.04	0.6	20.4	0.31	0.04	24.0	12.2	18	7.6	0.07	2.7	6	0.09	2.3	0.08	2.2	11	24	0.80	0.03	1.2	0.56
10467665	Primary	MetaSediment 2	WINU0101	106	107	0.18	13.7	0.0002	0.05	0.08	2.4	5.1	2.53	0.06	86.6	63.1	87	17.1	0.03	5.3	22	0.13	5.4	0.04	5.6	44	50	1.92	0.07	3.8	0.71
10467749	Primary	MetaSediment 2	WINU0101	182	183	0.70	13.9	0.0001	0.18	0.11	2.4	32.5	2.42	0.31	83.8	67.6	91	17.8	0.13	6.7	21	0.21	4.9	0.09	5.3	40	61	2.12	0.08	4.1	0.47
10464688	Primary	MetaSediment 2	WINU0102	169	170	0.41	10.7	0.0001	0.10	0.08	1.7	22.8	1.27	0.25	57.2	19.7	60	11.3	0.05	4.5	15	0.10	3.5	0.05	3.5	30	37	1.48	0.05	5.6	1.00
10464711	Primary	MetaSediment 2	WINU0102	189	190	0.57	13.3	0.0004	0.06	0.07	2.3	12.8	1.86	0.22	88.9	79.9	64	15.2	0.08	6.2	20	0.19	5.6	0.11	4.1	45	46	2.09	0.04	2.1	1.28
10468088	Primary	MetaSediment 2	WINU0103	143	144	1.12	16.7	0.0047	0.09	0.21	2.7	7.3	2.10	0.39	258.0	121.0	71	16.5	0.18	5.2	29	0.20	5.5	0.17	6.6	141	55	1.91	0.07	2.9	0.81
10468093	Primary	MetaSediment 2	WINU0103	147	148	1.25	10.0	0.0002	0.12	0.11	1.3	21.7	0.67	0.26	65.2	115.0	48	10.4	0.23	6.0	14	0.14	3.0	0.21	4.7	33	37	1.48	0.05	3.5	0.38
10467973	Primary	MetaSediment 2	WINU0104	128	129	0.22	14.5	0.0001	0.16	0.12	2.3	7.5	0.97	0.04	74.6	32.6	77	14.0	0.04	4.5	21	0.09	5.8	0.07	5.5	37	42	1.49	0.06	2.5	0.90
10468588	Primary	Quartz Sandstone	WINU0105	224	225	0.40	7.9	0.0001	0.09	0.06	1.2	14.7	1.11	0.12	61.2	46.0	47	10.9	0.07	4.0	13	0.07	4.0	0.06	3.4	32	35	1.33	0.04	4.1	0.35
10472480	Primary	MetaSediment 2	WINU0117	174	175	0.75	14.6	0.0002	0.15	0.06	3.2	17.5	2.49	0.86	81.6	66.6	70	19.2	0.07	7.8	21	0.12	4.9	0.06	4.0	39	85	3.12	0.06	2.2	1.24
10463142	Primary	MetaSediment 2	WINU0118	232	233	1.29	12.8	0.0003	0.28	0.10	2.4	64.3	1.85	0.29	57.1	48.2	64	14.5	0.29	5.9	19	0.11	5.0	0.20	5.1	30	71	2.54	0.05	4.2	0.92
10465149	Primary	MetaSediment 1	WINU0121	214	215	1.68	10.8	0.0001	0.05	0.10	1.4	6.7	1.01	0.58	71.2	35.5	56	8.9	0.20	4.5	15	0.15	3.1	0.16	5.3	36	29	1.39	0.05	7.3	0.70
10466541	Primary	MetaSediment 1	WINU0127	232	233	1.74	9.5	0.0004	0.24	0.06	1.4	50.9	1.92	0.22	42.6	153.5	57	7.6	0.28	6.9	15	0.11	2.9	0.13	3.8	22	44	2.84	0.05	3.4	0.54
10481427	Primary	MetaSediment 2	WINU0149	167	168	0.75	11.5	0.0001	0.15	0.09	2.4	52.3	0.62	0.45	69.3	21.9	55	14.6	0.14	5.5	16	0.13	4.9	0.20	4.1	35	60	1.96	0.07	6.0	0.62
10476586	Primary	MetaSediment 1	WINU0151	149	150	0.73	17.5	0.0000	0.17	0.12	2.8	25.5	0.81	0.66	126.5	122.5	82	13.9	0.09	7.9	27	0.19	4.1	0.14	5.9	64	55	1.77	0.06	2.5	1.13
10476696	Primary	Quartz Sandstone	WINU0151	248	249	0.20	7.2	0.0001	0.08	0.08	0.9	26.3	0.74	0.04	49.2	20.5	67	7.8	0.04	2.9	10	0.12	3.6	0.03	3.4	26	29	1.26	0.04	9.6	0.53
10386741	Primary	MetaSediment 1	WINU0001	420	421	0.67	14.5	0.0001	0.22	0.14	2.6	45.9	1.44	0.05	62.1	43.1	87	12.9	0.14	4.7	18	0.12	4.0	0.09	5.0	32	52	2.17	0.06	1.9	0.86
10414914	Primary	Quartz Sandstone	WINU0010	146	147	0.35	14.9	0.0001	0.05	0.01	1.7	6.0	0.01	1.96	80.2	28.8	68	3.6	0.04	1.2	21	0.11	5.9	0.11	0.8	36	30	0.13	0.00	8.0	0.04
10414923	Primary	Oxidised Permian Mudstone	WINU0010	154	155	0.85	15.8	0.0002	0.02	0.01	1.9	12.1	0.03	77.70	72.8	151.5	72	2.7	0.13	0.8	19	0.08	5.2	0.50	0.7	36	31	0.08	0.00	3.7	0.04
10414941	Primary	MetaSediment 1	WINU0010	170	171	0.13	17.4	0.0001	0.10	0.10	1.9	11.0	0.03	0.30	113.5	14.0	66	4.7	0.01	0.6	22	0.14	5.7	0.05	5.0	58	30	0.13	0.00	3.7	0.18
10414945	Primary	MetaSediment 1	WINU0010	174	175	0.53	15.9	0.0000	0.06	0.17	1.8	17.5	0.03	0.30	72.5	32.4	65	6.0	0.09	1.3	19	0.13	4.7	0.06	5.5	37	39	0.27	0.01	1.7	0.22
10414954	Primary	MetaSediment 1	WINU0010	182	183	0.36	17.2	0.0001	0.10	0.09	2.4	9.3	0.04	0.37	80.2	35.1	72	10.5	0.05	3.8	22	0.13	4.8	0.05	5.7	40	58	1.56	0.04	1.3	0.16
10415087	Primary	Quartz Sandstone	WINU0010	302	303	0.17	7.7	0.0001	0.07	0.03	1.5	4.1	1.11	0.06	43.2	30.1	37	6.1	0.02	2.9	10	0.08	4.0	0.02	2.0	23	21	0.81	0.03	1.9	0.98
10412822	Primary	Blue Eye Gritstone	WINU0011	423	424	1.48	7.7	0.0002	0.22	0.19	0.6	109.5	0.99	0.45	35.8	11.8	54	4.9	0.16	2.2	9	0.14	2.2	0.15	4.8	17	20	1.04	0.03	5.5	0.19
10416593	Primary	MetaSediment 1	WINU0018	208	209	0.19	20.0	0.0001	0.02	0.15	2.8	1.4	0.18	0.16	118.5	31.7	113	16.1	0.02	5.7	29	0.18	3.8	0.07	9.6	60	49	1.38	0.06	1.3	0.29
10452568	Primary	MetaSediment 1	WINU0026	168	169	0.18	16.5	0.0001	0.02	0.10	2.4	0.8	0.14	0.28	22.4	25.7	85	23.0	0.01	7.2	24	0.15	3.9	0.07	6.8	9	64	2.19	0.06	0.2	0.13
10449653	Primary	MetaSediment 2	WINU0028	342	343	0.02	14.0	0.0001	0.00	0.11	2.6	0.4	3.05	0.00	91.2	21.7	169	20.8	0.00	4.7	19	0.20	5.9	0.05	5.8	46	55	1.84	0.09	0.5	0.69
10444672	Primary	Quartz Sandstone	WINU0032	245	246	0.28	10.5	0.0002	0.08	0.06	2.2	10.5	1.39	0.12	49.2	35.4	55	11.2	0.10	3.8	15	0.19	5.2	0.07	3.9	23	66	1.89	0.05	1.0	0.26
10450746	Primary	Quartz Sandstone	WINU0038	280	281	0.06	14.5	0.0001	0.00	0.09	2.8	0.5	0.04	0.00	49.7	14.2	71	17.5	0.00	4.5	18	0.25	7.0	0.04	6.4	22	57	1.91	0.04	0.3	0.08
10446674	Primary	MetaSediment 1	WINU0041	112	113	0.19	16.4	0.0002	0.02	0.20	2.9	8.0	0.34	0.15	56.3	12.2	85	20.4	0.02	5.4	24	0.17	4.1	0.05	7.2	24	79	2.11	0.08	0.4	0.30
10446763	Primary	MetaSediment 2	WINU0041	193	194	0.01	12.9	0.0001	0.01	0.09	2.4	0.3	1.26	0.00	70.6	13.2	53	15.9	0.01	4.2	16	0.11	3.9	0.04	5.6	35	54	1.58	0.05	0.9	1.01
10457449	Primary	MetaSediment 1	WINU0048	283	284	0.06	18.8	0.0002	0.00	0.10	3.0	0.4	0.62	0.00	122.0	18.6	88	17.6	0.00	7.0	27	0.23	3.9	0.08	6.3	62	47	2.34	0.03	0.4	0.31
10448387	Primary	Blue Eye Gritstone	WINU0056	437	438	0.06	9.4	0.0001	0.00	0.08	2.0	0.9	0.70	0.02	43.5	16.8	33	10.3	0.01	2.8	13	0.15	3.3	0.04	4.0	19	29	1.11	0.02	2.9	0.59
10373747	Primary	Post Mineral Mafic	RC17PAW0002	166	167	0.07	12.0	0.0000	0.01	0.02	1.7	2.6	0.35	0.01	33.3	40.3	50	2.6	0.02	11.2	15	2.50	1.9	0.06	3.4	16	120	13.22	0.03	1.0	0.20
10451267	Primary	Post Mineral Mafic	WINU0042	457	457.52	0.04	14.5	0.0002	0.01	0.02	1.1	0.3	6.24	0.02	24.9	46.5	44	2.2	0.01	9.7	17	0.21	2.3	0.06	0.8	13	46	8.14	0.08	0.6	2.18
10478026	Primary	Post Mineral Mafic	WINU0135	205	206	0.06	14.9	0.0000	0.01	0.06	2.4	2.3	4.21	0.06	37.5	56.0	52	3.3	0.02	15.1	17	0.07	2.6	0.06	2.1	18	39	4.63	0.21	3.6	1.24
10412085	Primary	Pre Mineral Mafic	WINU0008	282	283	0.30	10.3	0.0000	0.06	0.05	2.1	20.7	7.96	0.03	80.4	65.2	162	12.7	0.13	15.3	23	0.21	2.6	0.13	2.4	33	37	7.26	0.34	2.6	0.82
10416373	Primary	Pre Mineral Mafic	WINU0015	518	519	0.22	13.7	0.0003	0.14	0.05	2.9	12.8	2.42	0.00	64.2	52.1	96	28.8	0.05	12.2	26	0.23	3.6	0.05	6.0	27	72	6.09	0.11	2.3	0.53
10450201	Primary	Pre Mineral Mafic	WINU0036	151	152.4	0.07	10.5	0.0001	0.06	0.05	1.9	15.2	7.64	0.00	75.5	61.9	149	19.0	0.05	16.7	23	0.22	3.1	0.17	2.0	31	34	6.22	0.33	1.9	0.86
10450206	Primary	Pre Mineral Mafic	WINU0036	155	156	0.07	10.9	0.0002	0.01	0.02	1.9	1.3	5.53	0.21	83.1	50.3	169	24.8	0.02	19.7	23	0.24	4.1	0.15	2.1	33	34	4.51	0.41	2.3	0.93
10411406	Primary	MetaSediment 2	WINU0006	450	451	1.80	13.4	0.0001	0.04	0.17	1.9	10.6	1.97	0.79	64.6	18.2	78	17.3	0.26	4.4	18	0.17	3.7	0.20	5.2	31	56	1.92	0.05	4.0	1.30
10442109	Primary	Quartz Sandstone	WINU0009	131	132	0.59	4.5	0.0000	0.02	0.12	0.4	4.9	0.06	0.33	40.3	7.1	36	4.3	0.09	2.1	6	0.09	3.9	0.07	3.0	18	15	0.41	0.02	3.5	0.08
10445862	Primary	High Nb Permian Mudstone	WINU0014	368	369	0.74	1.5	0.0000	0.03	0.02	0.2	2.1	1.20	0.07	9.0	14.8	171	2.1	0.16	1.8	2	0.09	0.2	0.12	0.6	4	7	0.80	0.03	1.2	0.07
10449168	Primary	Quartz Sandstone	WINU0017	419	420	0.62	3.9	0.0000	0.09	0.05	0.5	18.5	0.38	0.04	21.1	20.2	113	4.2	0.14	2.5	6	0.13	1.5	0.08	1.9	11	15	0.66	0.02	0.7	0.27
10449662	Primary	High Nb Permian Mudstone	WINU0028	350	351	0.01	1.5	0.0000	0.00	0.01	0.3	0.3	0.60	0.05	21.3	1.3	342	1.1	0.00	0.9	2	0.06	0.4	0.01	0.5	11	8	0.33	0.02	1.8	0.06
10451261	Primary	Post Mineral Mafic	WINU0042	451	452	0.07	14.4	0.0001	0.00	0.02	0.8	0.2	7.04	0.05	24.7	46.0	41	2.0	0.02	9.7	16	0.17	2.3	0.05	1.4	13	42	8.24	0.09	0.6	1.95
10442851	Primary	Quartz Sandstone	WINU0013	144	145	1.00	4.9	0.0002	0.05	0.02	0.7	16.7	0.17	0.00	49.0	50.7	29	4.8	0.10	5.2	7	0.11	2.7	0.07	1.9	19	31	2.31	0.03	1.6	0.05
10446756	Primary	Quartz Sandstone	WINU0041	187	188	0.18	5.5	0.0001	0.05	0.02	0.9	10.3	0.14	0.00	17.3	29.1	20	9.5	0.01	3.1	8	0.05	2.5	0.01	1.9	8	27	0.85	0.07	1.2	0.04
10448249	Primary	MetaSediment 2	WINU0056	338	339	0.74	11.5	0.0013	0.06	0.09	1.1	24.6	0.20	0.02	34.1	81.3	46	12.4	0.15	5.8	17	0.18	4.7	0.18	6.6	16	54	1.87	0.05	1.5	0.16

Sample_ID	Zone	Lithology	Hole	From	To	Nb_ppm	Ni_pct	P2O5_pct	Pb_pct	Pd_ppm	Pt_ppm	Rb_ppm	Re_ppm	Sb_ppm	Sc_ppm	SiO2_pct	Sn_ppm	S_pct	Sr_ppm	Ta_ppm	Te_ppm	Th_ppm	TiO2_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zn_pct	Zr_ppm	Hg_ppm	Se_ppm	B_ppm	Cl_ppm	F_ppm
Average crustal abundance						20.0	0.008	0.24	0.001	0.015	0.005	90	0.001	0.20	22	60	2	0.04	370	2.0	0.001	9.6	0.94	0.9	2.7	120	1.3	33	0.01	165	0.085	0.05	1.00	15	59
10459205	Primary	Quartz Sandstone	WINU0062	263.07	264	3.4	0.001	0.03	0.001	0.001	0.002	147	0.001	0.07	3	79	5	0.27	40	0.3	0.766	6.0	0.20	1.0	1.5	21	3.0	8	0.00	81					
10467665	Primary	MetaSediment 2	WINU0101	106	107	14.3	0.005	0.09	0.001			378	0.001	0.07	15		6	0.38	61	1.3	0.080	19.4	0.73	2.1	3.6	81	24.7	31	0.01	175					
10467749	Primary	MetaSediment 2	WINU0101	182	183	15.3	0.005	0.07	0.001			411	0.002	0.13	14		12	1.07	90	1.4	1.170	20.4	0.71	2.5	4.0	75	106.0	31	0.01	174					
10464688	Primary	MetaSediment 2	WINU0102	169	170	10.5	0.002	0.06	0.001			261	0.001	0.12	11		9	0.31	79	1.0	0.510	14.3	0.48	1.5	3.3	56	14.3	24	0.01	113					
10464711	Primary	MetaSediment 2	WINU0102	189	190	13.8	0.004	0.08	0.001			332	0.002	0.37	14		9	1.71	70	1.4	0.240	21.2	0.62	1.9	3.8	70	27.4	30	0.01	175					
10468088	Primary	MetaSediment 2	WINU0103	143	144	16.4	0.006	0.08	0.001			449	0.001	0.07	17		13	0.88	151	1.4	0.230	24.5	0.74	2.5	5.7	100	22.9	36	0.01						
10468093	Primary	MetaSediment 2	WINU0103	147	148	8.3	0.009	0.06	0.001			306	0.001	0.10	9		10	1.87	65	0.8	0.310	14.2	0.44	1.7	2.9	56	77.0	21	0.01	116					
10467973	Primary	MetaSediment 2	WINU0104	128	129	11.6	0.002	0.08	0.001			250	0.001	0.14	14		6	0.50	66	1.2	0.140	22.1	0.75	2.0	4.9	83	42.4	19	0.00	191					
10468588	Primary	Quartz Sandstone	WINU0105	224	225	7.6	0.003	0.04	0.001			262	0.001	0.08	6		7	0.70	63	0.7	0.550	12.7	0.40	1.4	2.6	37	45.3	22	0.01	138					
10472480	Primary	MetaSediment 2	WINU0117	174	175	13.4	0.007	0.08	0.012			326	0.001	0.34	14		6	1.27	102	1.3	0.760	23.1	0.71	2.1	4.2	74	67.6	40	0.03	170					
10463142	Primary	MetaSediment 2	WINU0118	232	233	11.4	0.004	0.08	0.002			352	0.001	0.21	14		11	0.62	89	1.1	3.010	19.4	0.62	1.9	3.3	75	158.0	24	0.01	165					
10465149	Primary	MetaSediment 1	WINU0121	214	215	8.1	0.002	0.05	0.001			322	0.001	0.24	11		9	1.02	52	0.7	0.330	15.7	0.44	1.7	3.0	58	30.6	15	0.01	109					
10466541	Primary	MetaSediment 1	WINU0127	232	233	7.2	0.010	0.04	0.002			291	0.001	0.75	9		8	2.15	61	0.7	3.080	13.5	0.41	1.8	3.0	57	105.0	18	0.01	94					
10481427	Primary	MetaSediment 2	WINU0149	167	168	12.7	0.002	0.08	0.001			323	0.002	0.14	12		13	0.53	80	1.2	3.760	19.4	0.61	2.4	3.8	63	41.8	28	0.01	161					
10476586	Primary	MetaSediment 1	WINU0151	149	150	12.9	0.004	0.10	0.001			389	0.001	0.13	19		12	2.70	97	1.2	1.230	21.3	0.71	2.5	4.6	111	97.3	35	0.02	139					520
10476696	Primary	Quartz Sandstone	WINU0151	248	249	4.8	0.002	0.05	0.001			220	0.003	0.14	6		5	0.17	46	0.5	2.000	10.8	0.31	1.1	2.3	40	151.5	11	0.00	122					
10386741	Primary	MetaSediment 1	WINU0001	420	421	10.7	0.006	0.05	0.001	0.001	0.002	278	0.001	0.17	13		8	0.77	69	1.1	1.710	18.5	0.61	2.0	4.0	74	12.1	18	0.00	137					
10414914	Primary	Quartz Sandstone	WINU0010	146	147	15.2	0.004	0.02	0.001	0.001	0.002	107	0.010	0.88	16		8	0.65	10	1.5	0.350	23.5	0.87	0.8	8.8	93	188.0	20	0.01	190					
10414923	Primary	Oxidised Permian Mudstone	WINU0010	154	155	15.0	0.007	0.03	0.004	0.001	0.002	88	0.060	0.18	14		7	0.35	17	1.4	0.390	18.3	0.76	1.4	16.8	87	340.0	21	0.04	176					
10414941	Primary	MetaSediment 1	WINU0010	170	171	15.2	0.002	0.03	0.002	0.001	0.002	253	0.007	0.12	21		7	0.19	56	1.5	0.310	27.2	0.78	1.4	5.7	103	220.0	29	0.01	198					
10414945	Primary	MetaSediment 1	WINU0010	174	175	13.1	0.003	0.02	0.001	0.001	0.002	333	0.005	0.24	26		14	0.57	87	1.3	1.260	24.5	0.64	2.0	3.9	103	240.0	28	0.02	162					
10414954	Primary	MetaSediment 1	WINU0010	182	183	15.1	0.003	0.02	0.002	0.001	0.002	376	0.004	0.16	18		9	0.53	47	1.4	0.730	24.0	0.79	2.2	4.4	102	175.0	36	0.02	173					
10415087	Primary	Quartz Sandstone	WINU0010	302	303	6.1	0.002	0.05	0.000	0.001	0.002	160	0.001	0.04	6		2	0.36	54	0.6	0.130	11.2	0.36	0.8	2.3	36	5.7	15	0.00	131					
10412822	Primary	Blue Eye Gritstone	WINU0011	423	424	6.2	0.001	0.04	0.003	0.001	0.002	250	0.001	0.76	6		10	0.39	61	0.8	3.530	11.4	0.27	1.5	2.0	32	43.3	9	0.01	72					
10416593	Primary	MetaSediment 1	WINU0018	208	209	17.2	0.004	0.11	0.002	0.001	0.002	570	0.002	0.27	24	55	9	0.55	64	1.5	0.060	31.0	0.76	2.9	4.3	132	15.3	26	0.01	139					
10452568	Primary	MetaSediment 1	WINU0026	168	169	15.2	0.005	0.10	0.004	0.001	0.002	540	0.003	0.15	19	54	6	0.38	24	1.3	0.780	18.9	0.78	2.8	3.5	101	12.1	20	0.02	125					
10449653	Primary	MetaSediment 2	WINU0028	342	343	16.8	0.003	0.07	0.001	0.001	0.002	440	0.001	0.04	16	61	7	0.06	89	1.4	0.020	21.4	0.77	2.3	3.9	85	5.0	34	0.00	209					
10444672	Primary	Quartz Sandstone	WINU0032	245	246	10.6	0.002	0.13	0.002	0.001	0.002	302	0.001	0.16	10	60	9	0.62	53	1.0	0.320	14.9	0.58	1.7	3.5	50	14.9	26	0.01	182					
10450746	Primary	Quartz Sandstone	WINU0038	280	281	14.2	0.003	0.01	0.000	0.001	0.002	324	0.004	0.11	15	62	8	0.08	26	1.2	0.020	18.8	0.72	1.8	3.0	73	6.4	23	0.00	232					
10446674	Primary	MetaSediment 1	WINU0041	112	113	14.7	0.003	0.10	0.001	0.005	0.002	442	0.001	0.13	18	52	11	0.01	105	1.5	0.150	20.6	0.70	2.8	4.0	93	48.3	20	0.01	147					
10446763	Primary	MetaSediment 2	WINU0041	193	194	10.5	0.002	0.06	0.001	0.001	0.002	353	0.001	0.02	13	65	6	0.13	67	1.0	0.020	16.7	0.59	1.9	3.1	72	4.6	20	0.00	135					
10457449	Primary	MetaSediment 1	WINU0048	283	284	16.4	0.004	0.08	0.000	0.001	0.002	288	0.001	0.18	23	52	5	0.10	22	1.4	0.020	27.7	0.72	1.6	4.7	126	12.9	21	0.00	135					
10448387	Primary	Blue Eye Gritstone	WINU0056	437	438	8.1	0.002	0.05	0.001	0.001	0.002	232	0.001	0.14	8	72	5	0.10	33	1.0	0.020	15.3	0.38	1.1	3.3	40	7.0	9	0.00	103					
10373747	Primary	Post Mineral Mafic	RC17PAW0002	166	167	3.4	0.007	0.08	0.000	0.001	0.000	77	0.001	0.12	35	47	1	0.17	34	0.2	0.150	3.6	0.63	0.3	0.7	221	23.0	22	0.00	68					
10451267	Primary	Post Mineral Mafic	WINU0042	457	457.52	3.9	0.007	0.09	0.001	0.001	0.002	53	0.001	0.45	41	42	1	0.43	184	0.3	0.060	3.8	0.77	0.3	0.7	242	2.9	19	0.00	83					
10478026	Primary	Post Mineral Mafic	WINU0135	205	206	5.9	0.008	0.11	0.001			111	0.003	0.15	39		3	0.22	151	0.5	0.100	7.7	0.76	0.8	1.9	214	19.1	21	0.01	88					
10412085	Primary	Pre Mineral Mafic	WINU0008	282	283	28.7	0.008	0.59	0.000	0.001	0.002	287	0.003	0.06	41		25	2.21	78	1.8	0.540	4.6	3.08	1.5	1.0	361	69.7	50	0.02	94					
10416373	Primary	Pre Mineral Mafic	WINU0015	518	519	32.3	0.005	0.61	0.001	0.001	0.002	470	0.002	0.12	33	43	17	1.01	57	2.1	0.080	8.8	3.10	3.5	2.1	314	51.0	23	0.01	141					
10450201	Primary	Pre Mineral Mafic	WINU0036	151	152.4	30.1	0.008	0.61	0.001	0.001	0.002	249	0.002	0.07	45	46	25	1.20	96	2.0	0.580	4.9	3.24	2.0	1.1	368	14.5	51	0.02	105					1476
10450206	Primary	Pre Mineral Mafic	WINU0036	155	156	33.8	0.009	0.63	0.003	0.001	0.002	212	0.002	0.10	46	45	7	0.32	171	2.0	0.100	4.9	3.24	1.6	1.4	380	15.9	45	0.02	142					
10411406	Primary	MetaSediment 2	WINU0006	450	451	11.8	0.002	0.06	0.001	0.001	0.002	398	0.001	0.26	13		11	0.39	128	1.2	1.440	15.2	0.58	1.9	3.3	72	11.9	20	0.02	128					0
10442109	Primary	Quartz Sandstone	WINU0009	131	132	4.3	0.000	0.02	0.000	0.001	0.002	177	0.012	0.05	3		9	0.17	37	0.4	0.140	10.4	0.26	0.7	1.7	20	1330.0	9	0.01	127					
10445862	Primary	High Nb Permian Mudstone	WINU0014	368	369	3.7	0.001	0.10	0.000	0.001	0.002	46	0.001	0.05	2	96	4	0.45	15	0.1	0.090	1.4	0.06	0.8	0.3	8	2.7	5	0.00	8					
10449168	Primary	Quartz Sandstone	WINU0017	419	420	5.0	0.001	0.03	0.000	0.004	0.002	119	0.002	0.08	3	92	6	0.53	31	0.3	0.600	6.0	0.19	0.6	1.2	20	168.5	7	0.00	49					304
10449662	Primary	High Nb Permian Mudstone	WINU0028	350	351	7.0	0.000	0.02	0.000	0.001	0.002	40	0.001	0.07	1	98	2	0.03	8	0.2	0.020	2.9	0.05	0.2	0.4	7	1.4	5	0.00	12					
10451261	Primary	Post Mineral Mafic	WINU0042	451	452	4.0	0.007	0.09	0.000	0.001	0.002	57	0.001	0.09	40	43	1	0.15	171	0.3	0.040	4.1	0.77	0.3	0.8	236	4.7	19	0.01	88					
10442851	Primary	Quartz Sandstone	WINU0013	144	145	3.5	0.003	0.04	0.001	0.001	0.002	123	0.001	0.26	3	75	7	1.23	14	0.3	0.280	7.2	0.21	0.9	1.7	24	11.9	16	0.00	96					
10446756	Primary	Quartz Sandstone	WINU0041	187	188	4.0	0.004	0.06	0.000	0.001	0.002	181	0.001	0.13	4	79	6	0.54	10	0.4	0.350	8.9	0.24	1.5	1.7	27	9.0	13	0.00	91					
10448249	Primary	MetaSediment 2	WINU0056	338	339	10.7	0.008	0.11	0.001	0.001	0.002	300	0.024	0.30	11		11	1.91	49	1.2	0.520	16.1	0.55	3.8	3.4	65	38.3	24	0.00	167					428

Full 2:1 DI Water Leach Results

Sample_ID	Description	AQ_EC_uS_cm_mg/L	AQ_pH_mg/L	AQ_Tot_Alk_mg/L	AQ_SO4_mg/L	AQ_Cl_mg/L	AQ_F_mg/L	AQ_Acid_mgCaCO3/L	AQ_NH3_mg/L	AQ_NO3_mg/L	AQ_NO2_mg/L	TKN_mg/L	AQ_Hg_mg/L	AQ_HCO3_mg/L	AQ_CO3_mg/L	AQ_Ag_mg/L	AQ_Al_mg/L	AQ_As_mg/L	AQ_Ba_mg/L	AQ_Bi_mg/L	AQ_Ca_mg/L	AQ_Cd_mg/L	AQ_Co_mg/L
10526942	Post Mineral Mafic	197	8.96	95	5	5	0.3	1	0.04	0.18	0.01	0.6	0.0001	82	13	0.001	1.33	0.001	0.002	0.001	1	0.0001	0.001
10527124	Post Mineral Mafic	528	8.89	67	66	100	1.9	1	0.01	0.01	0.01	0.8	0.0001	59	9	0.001	4.29	0.003	0.001	0.001	1	0.0001	0.005
10531112	Quartz Sandstone	751	7.62	52	286	49	0.2	3	0.06	0.26	0.01	0.6	0.0001	52	1	0.001	0.01	0.001	0.008	0.001	82	0.0001	0.008
10699820	Quartz Sandstone	1820	5.39	2	1090	28	0.1	226	0.16	0.66	0.02	1.3	0.0001	2	1	0.001	0.25	0.001	0.075	0.001	148	0.0008	31.1
10701625	Arkose 2	706	7.89	84	206	76	2.5	4	0.08	0.01	0.01	1.6	0.0001	84	1	0.001	0.08	0.001	0.035	0.001	28	0.0001	0.001
10722187	Quartz Sandstone	862	5.38	1	358	30	0.1	17	0.42	0.04	0.01	3.3	0.0001	1	1	0.001	0.09	0.001	0.098	0.001	32	0.0422	0.723
10384643	Arkose 2	189	8.16	70	22	15	1.1		0.08	0.34	0.06		0.0001	70	1	0.001	0.85	0.001	0.007	0.001	20	0.0001	0.001
10384656	Arkose 2	721	7.31	26	205	69	0.9		0.21	0.29	0.01		0.0001	26	1	0.001	0.03	0.001	0.014	0.001	22	0.0001	0.001
10384663	Arkose 2	433	7.14	21	118	42	0.9		0.12	0.22	0.01		0.0001	21	1	0.001	0.07	0.001	0.011	0.001	8	0.0001	0.001
10411941	Quartz Sandstone	445	7.24	12	116	30	1.1		0.25	0.08	0.01		0.0001	12	1	0.001	0.39	0.001	0.034	0.001	1	0.0001	0.012
10415524	Arkose 1	547	7.96	64	120	39	1.8		0.1	0.07	0.01		0.0001	64	1	0.001	4.7	0.001	0.063	0.003	4	0.0003	0.024
10442857	Quartz Sandstone	221	9.21	86	12	14	2		0.07	0.06	0.03		0.0001	73	13	0.001	18.6	0.004	0.134	0.012	6	0.0001	0.018
10445726	Quartz Sandstone	465	8.39	68	100	40	1.7		0.06	0.1	0.01		0.0001	67	1	0.001	0.18	0.001	0.021	0.001	20	0.0001	0.001
10413389	Quartz Sandstone	464	8.24	73	97	31	1.9		0.01	0.01	0.01		0.0001	73	1	0.001	0.18	0.001	0.019	0.001	15	0.0001	0.001
10446153	Arkose 1	382	7.29	13	91	29	0.5		0.48	0.17	0.01		0.0001	13	1	0.001	0.02	0.001	0.054	0.001	7	0.0004	0.062
10449499	Arkose 1								0.25				0.0001			0.001	0.07	0.001	0.016	0.001	10	0.0001	0.001
10453478	Quartz Sandstone	445	7.73	40	150	24	1		0.01	0.02	0.01		0.0001	40	1	0.001	4.41	0.001	0.052	0.001	4	0.0001	0.005
10450295	Quartz Sandstone	505	7.13	11	140	30	0.2		0.43	0.09	0.01		0.0001	11	1	0.001	0.03	0.001	0.03	0.001	13	0.0001	0.057
10450398	Oxidised Permian Mudston	506	8.37	56	77	55	1.2		0.03	0.15	0.01		0.0001	56	1	0.001	0.24	0.001	0.041	0.001	10	0.0001	0.001
10453713	Arkose 2	683	7.35	26	265	19	0.6		0.15	0.11	0.01		0.0001	26	1	0.001	0.02	0.001	0.023	0.001	30	0.0001	0.006
10386989	Arkose 1	457	8.93	151	10	40	1.9		0.19	0.06	0.04		0.0001	137	14	0.001	0.55	0.002	0.002	0.001	3	0.0001	0.001
10411942_1	Composite	460	7.5	39	119	29	1.1		0.01	0.01	0.01		0.0001	39	1	0.001	0.58	0.001	0.04	0.001	9	0.0001	0.003
10458183_1	Composite	590	7.82	65	154	21	0.9		0.4	0.15	0.01		0.0001	65	1	0.001	0.04	0.001	0.032	0.001	21	0.0001	0.005
10459657_1	Composite	333	7.06	15	67	13	0.6		0.1	0.12	0.01		0.0001	15	1	0.001	0.04	0.001	0.006	0.001	9	0.0001	0.002
10459916_1	Composite	657	8.67	93	53	90	1.8		0.01	0.09	0.01		0.0001	86	7	0.001	0.17	0.09	0.017	0.001	15	0.0001	0.002
10467749_1	Composite	770	8.13	82	147	65	2.1		0.01	0.16	0.01		0.0001	82	1	0.001	0.14	0.001	0.023	0.001	28	0.0001	0.001
10414923	Oxidised Permian Mudston	787	4.92	1	325	38	0.1		0.28	0.01	0.01		0.0001	1	1	0.001	0.62	0.005	0.045	0.001	29	0.0308	33.7
10414941	Arkose 1	452	7.22	12	101	44	0.2		0.68	0.08	0.01		0.0001	12	1	0.001	0.01	0.001	0.04	0.001	19	0.0002	0.042
10452568	Arkose 1	431	8.16	56	110	20	1.3		0.01	0.03	0.02		0.0001	56	1	0.001	7.12	0.001	0.055	0.001	4	0.0001	0.007
10416373	Pre Mineral Mafic	1250	8.51	95	173	239	2		0.12	0.1	0.01		0.0001	91	4	0.001	0.24	0.001	0.007	0.001	12	0.0001	0.002
10450201	Pre Mineral Mafic	347	8.03	56	91	16	2		0.07	0.05	0.03		0.0001	56	1	0.001	0.03	0.001	0.027	0.001	14	0.0001	0.001
10450206	Pre Mineral Mafic	366	8.47	131	39	14	1.2		0.08	0.09	0.08		0.0001	125	5	0.001	0.01	0.001	0.009	0.001	19	0.0001	0.002
10442109	Quartz Sandstone	232	7.63	25	21	38	1.5		0.03	0.04	0.01		0.0001	25	1	0.001	5.4	0.001	0.239	0.002	2	0.0001	0.002
10449168	Quartz Sandstone	553	8.22	66	42	104	1.4		0.05	0.03	0.01		0.0001	66	1	0.001	0.3	0.001	0.026	0.001	13	0.0001	0.001
10449662	High Nb Permian Mudstone	320	8.74	59	9	46	0.6		0.03	0.04	0.01		0.0001	53	6	0.001	0.01	0.001	0.017	0.001	13	0.0001	0.001
10442851	Quartz Sandstone	586	7.95	44	146	46	2.4		0.49	0.19	0.01		0.0001	44	1	0.001	0.06	0.001	0.004	0.001	20	0.0001	0.002
10446756	Quartz Sandstone	416	7.75	37	97	28	1.1		0.14	0.09	0.01		0.0001	37	1	0.001	0.06	0.001	0.006	0.001	13	0.0001	0.002

Sample_ID	Description	AQ_Cr_mg/L	AQ_Cu_mg/L	AQ_Fe_mg/L	AQ_K_mg/L	AQ_Mg_mg/L	AQ_Mn_mg/L	AQ_Mo_mg/L	AQ_Na_mg/L	AQ_Ni_mg/L	AQ_P_mg/L	AQ_Pb_mg/L	AQ_Sb_mg/L	AQ_Si_mg/L	AQ_Sr_mg/L	AQ_Te_mg/L	AQ_Th_mg/L	AQ_V_mg/L	AQ_W_mg/L	AQ_B_mg/L	AQ_Se_mg/L	AQ_Zn_mg/L	AQ_Tl_mg/L	AQ_U_mg/L
10526942	Post Mineral Mafic	0.002	0.001	2.31	2	2	0.017	0.008	53	0.002	0.05	0.001	0.001	14.3	0.01	0.005	0.001	0.12	0.002	0.05	0.01	0.005	0.001	0.001
10527124	Post Mineral Mafic	0.011	0.021	5.84	1	5	0.013	0.015	116	0.012	0.01	0.001	0.002	14.9	0.005	0.005	0.001	0.36	0.048	0.24	0.01	0.008	0.001	0.001
10531112	Quartz Sandstone	0.001	0.002	0.05	12	29	0.407	0.075	37	0.024	0.01	0.001	0.002	1.68	0.11	0.005	0.001	0.01	0.001	0.05	0.01	0.005	0.001	0.001
10699820	Quartz Sandstone	0.001	0.115	5.67	34	70	6.09	0.001	90	17.1	0.01	0.007	0.001	11.4	1.95	0.005	0.001	0.01	0.001	0.05	0.02	119	0.004	0.002
10701625	Arkose 2	0.001	0.004	0.05	64	12	0.026	0.029	58	0.001	0.01	0.001	0.001	3.82	0.128	0.005	0.001	0.01	0.048	0.07	0.01	0.005	0.001	0.001
10722187	Quartz Sandstone	0.001	3.13	0.05	68	30	1.07	0.001	46	0.256	0.01	0.001	0.001	20.2	0.389	0.005	0.001	0.01	0.001	0.1	0.01	2.8	0.004	0.001
10384643	Arkose 2	0.001	0.008	0.4	98	62	0.003	0.017	33	0.001	0.04	0.001	0.001	167		0.005		0.01	0.011	0.1	0.01	0.005	0.001	0.001
10384656	Arkose 2	0.001	0.004	0.05	60	16	0.046	0.034	69	0.002	0.01	0.001	0.001	9.92		0.005		0.01	0.004	0.16	0.01	0.005	0.001	0.001
10384663	Arkose 2	0.001	0.001	0.05	40	5	0.015	0.026	56	0.001	0.01	0.001	0.001	16.2		0.005		0.01	0.003	0.16	0.01	0.005	0.001	0.001
10411941	Quartz Sandstone	0.001	0.022	0.06	97	1	0.019	0.007	19	0.015	0.01	0.001	0.002	11.7		0.005		0.01	0.004	0.11	0.01	0.005	0.001	0.001
10415524	Arkose 1	0.005	0.155	1.12	107	4	0.044	0.005	21	0.034	0.01	0.001	0.002	13.6		0.005		0.01	0.011		0.01	0.007		
10442857	Quartz Sandstone	0.027	0.029	17.5	77	17	0.181	0.005	16	0.007	0.1	0.003	0.001	70.4		0.005		0.06	0.044	0.08	0.01	0.023	0.001	0.003
10445726	Quartz Sandstone	0.001	0.001	0.05	55	8	0.016	0.007	28	0.001	0.01	0.001	0.001	4.07		0.005		0.01	0.006		0.01	0.005		
10413389	Quartz Sandstone	0.001	0.001	0.05	63	5	0.021	0.018	25	0.001	0.01	0.001	0.001	3.68		0.005		0.01	0.01		0.01	0.005		
10446153	Arkose 1	0.001	0.074	0.05	48	3	0.225	0.002	26	0.006	0.01	0.001	0.001	10.2		0.005		0.01	0.003		0.01	0.007		
10449499	Arkose 1	0.001	0.006	0.05	111	18	0.036	0.008	47	0.001		0.001	0.001	4.26		0.005		0.01	0.059	0.22	0.01	0.005	0.001	0.001
10453478	Quartz Sandstone	0.004	0.023	1.2	95	9	0.108	0.023	14	0.008	0.01	0.006	0.002	43.2		0.005		0.01	0.009		0.01	0.009		
10450295	Quartz Sandstone	0.001	0.055	0.1	53	11	0.649	0.004	26	0.067	0.01	0.002	0.001	15.2		0.005		0.01	0.001		0.01	0.018		
10450398	Oxidised Permian Mudstor	0.001	0.001	0.05	72	6	0.006	0.024	24	0.001	0.01	0.001	0.001	7.1		0.005		0.01	0.003		0.01	0.005		
10453713	Arkose 2	0.001	0.002	0.05	52	17	0.18	0.014	62	0.009	0.01	0.001	0.001	7.88		0.005		0.01	0.001	0.12	0.01	0.008	0.002	0.001
10386989	Arkose 1	0.001	0.001	0.06	35	1	0.002	0.002	68	0.001	0.01	0.001	0.002	4.6		0.005		0.03	0.018		0.01	0.005		
10411942_1	Composite	0.001	0.003	0.26	80	20	0.288	0.037	24	0.005	0.01	0.001	0.001	52.8		0.005		0.01	0.068		0.01	0.005		
10458183_1	Composite	0.001	0.022	0.05	59	17	0.061	0.015	33	0.007	0.01	0.001	0.001	9.67		0.005		0.01	0.011		0.01	0.006		
10459657_1	Composite	0.001	0.03	0.05	20	6	0.027	0.003	29	0.001	0.01	0.001	0.001	7.52		0.005		0.01	0.002		0.02	0.005		
10459916_1	Composite	0.001	0.001	0.05	92	11	0.004	0.019	21	0.01	0.01	0.001	0.007	3.66		0.005		0.01	0.012		0.01	0.005		
10467749_1	Composite	0.001	0.004	0.05	75	10	0.014	0.06	56	0.001	0.01	0.001	0.001	6.01		0.005		0.01	0.092		0.01	0.005		
10414923	Oxidised Permian Mudstor	0.001	0.047	21.8	21	12	2.19	0.001	64	13.9	0.01	0.002	0.001	21.7		0.005		0.01	0.001	0.1	0.01	5.48	0.013	0.017
10414941	Arkose 1	0.001	0.054	0.05	38	4	0.274	0.002	34	0.056	0.01	0.001	0.001	7.8		0.005		0.01	0.004		0.01	0.031		
10452568	Arkose 1	0.009	0.01	5.6	112	41	0.056	0.002	16	0.012	0.01	0.017	0.001	104		0.005		0.01	0.017		0.01	0.015		
10416373	Pre Mineral Mafic	0.001	0.012	0.05	90	8	0.002	0.112	156	0.01	0.01	0.001	0.012	3.53		0.005		0.01	0.01		0.01	0.005		
10450201	Pre Mineral Mafic	0.001	0.002	0.05	36	8	0.003	0.004	35	0.001	0.04	0.001	0.001	23		0.005		0.02	0.014	0.05	0.01	0.005	0.001	0.001
10450206	Pre Mineral Mafic	0.001	0.002	0.05	33	7	0.002	0.015	44	0.01	0.06	0.001	0.001	50.3		0.005		0.09	0.004	0.05	0.01	0.006	0.001	0.001
10442109	Quartz Sandstone	0.005	0.027	2.78	58	5	0.061	0.011	14	0.001	0.01	0.001	0.001	43.3		0.005		0.01	1.3	0.08	0.01	0.016	0.001	0.002
10449168	Quartz Sandstone	0.001	0.001	0.12	48	8	0.011	0.007	56	0.001	0.01	0.001	0.001	29.5		0.005		0.01	0.197		0.01	0.005		
10449662	High Nb Permian Mudstone	0.001	0.001	0.05	22	5	0.002	0.006	31	0.001	0.01	0.001	0.001	19.2		0.005		0.01	0.009		0.01	0.005		
10442851	Quartz Sandstone	0.001	0.019	0.05	34	16	0.035	0.015	61	0.007	0.01	0.001	0.001	8.72		0.005		0.01	0.004		0.01	0.005		
10446756	Quartz Sandstone	0.001	0.002	0.05	55	10	0.093	0.039	24	0.005	0.01	0.001	0.001	22.7		0.005		0.01	0.002		0.01	0.005		

Full Free Draining Column Leach Results

Primary%20Sulfide%20Kinetic%20Data.xlsx

Free Draining Column Surface Images

Quartz sandstone – 10689910 (21-04-2021)

Quartz sandstone – 10689915 (21-04-2021)

Quartz sandstone – 10689919 (21-04-2021)

Metasediment 1 – 10689923 (21-04-2021)

Metasediment 2 – 10689925 (21-04-2021)

Metasediment mineral resource composite – W331 PAR (21-04-2021)

Siderite rich mineral resource composite – W332 PSS (21-04-2021)

High Nb permian S– 10689911 (21-04-2021)

Metasediment 2 – 10689914 (21-04-2021)

Oxidised permian mudstone - 10689918 (not available)

Metasediment 2 – 10689926 (21-04-2021)

Pre-mineral mafic – 10689917 (21-04-2021)

Pre-mineral mafic – 10689920 **(21-04-2021)**

Post-mineral mafic – 10689921 **(21-04-2021)**

Lower mafic mineral resource composite – W81 LM **(21-04-2021)**

APPENDIX 2 – ANALYTICAL AND SUPPORTING REPORTS

ABA_CoA_1.pdf

ABA_CoA_2.pdf

ABA_CoA_3.pdf

Tailings_ABA_CoA.pdf

NAG&ANC_CoA_1.PDF

NAG&ANC_CoA_2.PDF

NAG&ANC_CoA_3.PDF

Tailings_Leach&NAG&ANC_CoA.PDF

KNAG_Results.PDF

ABCC_Results.PDF

EP2008643 ABCC PDF.pdf

EP2008936 K-NAG PDF.pdf

2020_analysis_1.pdf

2020_analysis_2.pdf

2020-10-8 ANC measurements - singl

LCG_Winu WR Kinetic Testing_2024

RTS198_Winu Waste Rock - Oxygen Consu