WWW.GEOCHEMISTRY.COM.AU

Geochemical Characterisation of Proposed Waste and Ore Materials

Lei Lithium Project

J000870 / R1689

Environmental Geochemistry International

ENVIRONMENTAL GEOCHEMISTRY INTERNATIONAL PTY LTD
ABN 48 600 298 271

9/44 CARRINGTON ROAD
CASTLE HILL, NSW 2154 AUSTRALIA
T +61 2 9810 8100
E EGI@GEOCHEMISTRY.COM.AU
W WWW.GEOCHEMISTRY.COM.AU

DOCUMENT NUMBER: J000870 / R1689

Geochemical Characterisation of Proposed Waste and Ore Materials

LEI LITHIUM

DOCUMENT STATUS AND REVIEW				
REV:	**DESCRIPTION:**	**AUTHOR:**	**AUTHORISED BY:**	**DATE:**
1	Draft for Comment	MB	RS	13/08/2024
2	Final version	MB	RS	18/11/2024

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

ABBREVIATIONS USED IN GEOCHEMICAL ASSESSMENT

ARD	Acid Rock Drainage
AMD	Acid, Metalliferous and Saline Drainage
NMD	Neutral and Metalliferous Drainage
ABA	Acid Base Account
$pH_{1:2}$	pH of a sample slurry with a solid to water ratio of 1:2 (by weight)
$EC_{1:2}$	Electrical Conductivity of a sample slurry with a solid to water ratio of 1:2 (by weight)
S	Sulphur
H_2SO_4	Sulphuric Acid
SO_4	Sulphate
$CaCO_3$	Calcium Carbonate
ANC	Acid Neutralising Capacity in kg H_2SO_4/t
MPA	Maximum Potential Acidity, calculated from total S in kg H_2SO_4/t
NAPP	Net Acid Producing Potential, calculated from ANC and total S (or MPA) in kg H_2SO_4/t.
NAG	Net Acid Generation (test)
NAGpH	pH of NAG solution before titration
$NAG_{(pH4.5)}$	NAG acidity titrated to pH 4.5 in kg H_2SO_4/t
$NAG_{(pH7.0)}$	NAG acidity titrated to pH 7.0 in kg H_2SO_4/t
GAI	Geochemical Abundance Index based on multi-elements of solids
PAF	Potentially Acid Forming
PAF-LC	Potentially Acid Forming – Low Capacity
NAF	Non Acid Forming
UC	Uncertain
METS	Metasedimentary
FR	Fresh
FR/ALT	Fresh Altered
TOX	Totally oxidised
POX	Partially oxidised

UNITS OF MEASUREMENTS

%	Percentage
dS	Deci Siemen
m	Metre
mg	Milligram
g	Gram
kg	Kilogram
t	Tonne
L	Litre
ml	Millilitre

OTHER ABBREVIATIONS

ALS	Australian Laboratory Services
EGi	Environmental Geochemistry International Pty Ltd

EXECUTIVE SUMMARY

EcOz Environmental Consulting (EcOz) engaged Environmental Geochemistry International (EGi) to undertake geochemical characterisation of waste rock and ore associated with the underground mining envelope for Lithium Plus Minerals' Exploration Tenement EL31091. EcOz is undertaking baseline studies to inform future environmental approvals. The tenement forms a part of the Bynoe Pegmatite Field located on the Cox Peninsular in the Northern Territory, approximately 2 km south of the Finniss Lithium Project BP33 deposit.

As part of the mine planning and approvals process, preliminary geochemical characterisation of pegmatite ore body and surrounding host formation is required to inform possible operational and mine closure impacts to the environment that may be associated with acid, metalliferous (or acid rock (ARD)), saline (SD) or neutral mine drainage (NMD). This report provides a preliminary assessment of acid-forming characteristics of mine rock that will be disturbed by the Lei mine project.

Lithium Plus Minerals provided EGi with 122 core samples for sample preparation and preliminary analysis:

- Sample representation included all oxide zones and key lithologies associated with the box-cut, decline and production stopes with note to ore and waste materials that are likely to report to surface.
- Analyses included Total S, Total C, and Organic C.
- Supported selection of 100 samples for further analysis:
    - pH and EC of water extracts.
    - ANC (Acid Neutralisation Capacity).
    - NAG (Net Acid Generation) testing.
    - Multi-element analyses.

Samples were most usefully grouped by oxidation state and lithology:

- 38 samples were from the overlying weathered zone (totally oxidised, partially oxidised, and soil).
- 84 samples were fresh rock (fresh and fresh/altered) comprising:
    - Main hosting lithologies, psammite and phyllite.
    - Pegmatite ore body, both barren and ore-containing.
    - Quartz vein.

Key points from preliminary analyses were summarised as follows:

- Fresh materials:
    - Comprised a range of Total S contents with 4 samples containing greater than 0.1%.
    - Generally contained higher levels of Total C compared to weathered materials.
- Weathered materials:
    - Contained very low levels of Total S with nearly 100% of samples at or just above the detection limit.
    - Large proportion containing Total C below detection.
- Fresh pegmatite:
    - Characterised by low S and C contents.
    - Total S contents of most samples were below or just above the detection limit and all samples contained ≤ 0.4% S.

- Total C contents were especially low with most below the detection limit and 95% of samples < 0.04%.
- Due to the low S and C contents, the pegmatite samples had NAPP (Net Acid Producing Potential) values close to zero, with the NAGpH (Net Acid Generation pH) values confirming them to be NAF (Non Acid Forming) materials.

- Fresh hosting lithologies:
  - Generally contained low levels of Total S, had negative NAPP values and were classified as NAF materials.
  - Phyllite contained the highest levels of Total S and, specifically, 3 phyllite samples (GS_050, GS_052, GS_076) contained Total S > 0.2% with 1 sample containing 0.89%.
  - These 3 higher S samples were classified as PAF-LC (Potentially Acid Forming – Low Capacity, 2 samples) and PAF (1 sample).
  - The 2 PAF-LC samples were classified as UC (Uncertain) on the Standard ARD Classification plot, however, the negative NAPP values appeared to be due to an overestimation of ANC (Acid Neutralising Capacity), supporting the PAF-LC classifications.
  - Fresh psammite samples contained higher levels of Total S compared to the weathered materials, however, Total S contents were insufficient to generate acidity in the NAG test resulting in the NAF classification of all samples from this lithology.

Temporary storage and final emplacement will subject waste rock and any process residues to water leaching and oxidation to various degrees depending on the design and management of mining operations. Further testing of selected samples was undertaken to determine: 1) the potential of the materials to release dissolved species to water, 2) the potential to release dissolved species under oxidising conditions, 3) the amount and type of carbonate buffering comprising the ANC of these materials, and 4) the estimated lag period of PAF(-LC) samples.

Key results from further testing were as follows:

- Multi-element analyses of solids (100 samples) – ME analyses indicated some enrichment in potentially problematic elements such as arsenic. However, potential release of these elements is dependent on the occurrence of reactions such as oxidation and acidification.
- Multi-element analyses of water extracts (20 samples) - The pH values of water extracts were circumneutral to moderately alkaline and were uncorrelated with Total S. Likewise the EC values of the water extracts were all low to moderate at approximately 0.1 dS/m. Elements present at levels >0.1 mg/L in the water extracts included Al, As, B, Ba, F, Fe, Mn, and Si. Of these only As is an element of concern, present in extracts of GS_091 (As 0.57 mg/L) and GS_115 (As 0.20 mg/L). These two materials are internal waste psammite (GS_091) and phyllite (GS_115) distal to the ore body.
- Multi-element analyses of peroxide extracts (8 samples) - Higher S materials (GS_050, GS_052, GS_076) generally released metal(loid)s at higher levels compared to the other materials. Most notably, Al, Co, Cu, Mn, Ni, Pb, and Zn were released at levels mostly 1 to 2 orders of magnitude higher than the lower S materials. GS_052 released Al and Mn >10 mg/L and Cu and Zn >1 mg/L. For the lower S material, which did not acidify, Al, As, Mn, and Zn were released at concentrations between 0.1 and 1 mg/L. Releases of all other metal(loid)s were <0.1 mg/L.
- ABCC tests (9 samples) - Materials were confirmed to contain low levels of effective ANC with carbonates mostly present as iron-bearing carbonates. For all the Lei Lithium samples, effective ANC appears to be less than 20 kg H_2SO_4/t with most having close to zero. Based on the samples tested here, effective ANC is typically lower than ANC by between 4 to 10 kg H_2SO_4/t.
- Kinetic NAG tests (3 samples + 1 composite) - Only GS_052 produced sufficient excess acidity to reach pH <4, leading to an estimated lag time of 8 years. The other PAF-LC materials were insufficiently reactive despite having NAGpH values <4.5. Based on an alternative method (time to 1 unit pH decrease), the 3 PAF(-LC) materials (GS_050, GS_052, GS_076) were estimated to have lag periods from 6 to >10 years. The composite material had very low reactivity and pH increased slightly during the test. These results indicated that even the most reactive sample is likely to have a lag period greater than 6 to 8 years. Results suggest that if the very limited amount of

PAF material likely to be mined during the Lei Project is co-disposed with typical low S material containing some effective ANC then future acidification is unlikely. All materials with total S < 0.1% (>95% of all samples) are unlikely to ever acidify.

Conclusions are as follows:

- For pegmatite lithologies, both barren and ore-bearing:
  - Low potential to release dissolved species.
    - As and Mn < 0.1 mg/L in water extracts.
  - Contained very low levels of Total S and ANC and present very low potential of acid formation.
- For hosting lithologies:
  - All weathered samples contained low levels of Total S and Total C and were classified as NAF materials.
  - Most fresh samples contained low levels of Total S and were classified as NAF materials, with the exception of 3 phyllite samples with higher S and classified as PAF(-LC).
  - Effective ANC was <20 kg H_2SO_4/t and mostly close to zero, indicating only low levels of carbonate minerals available for acid consuming reactions.
  - Water extracts of some samples contained As and Mn at concentrations >0.1 mg/L, but not correlated with Total S.
  - Higher S materials, particularly the 3 PAF(-LC) phyllite samples, oxidized to release 100 to 1000 mg/L sulphate on addition of peroxide.
    - Highest associated metal(loid) releases were >10 mg/L for Al and Mn and >1 mg/L for Cu and Zn.
  - Estimates from Kinetic NAG testing of the PAF(-LC) samples indicated lag periods of longer than 6 years. When mixed with typical low S NAF material containing some effective ANC, the mixture was estimated to remain circumneutral indefinitely.
  - The 3 phyllite samples classified as PAF-LC or PAF were internal or proximal to ore body indicating the required attention to the hosting lithologies associated with the ore body. Co-disposal with non-phyllite metasedimentary materials should prevent any future acidification.

Implications of the findings for handling/management of waste during mine operations and closure include:

- Results show that oxide and transitional waste excavated to construct the box cut will be essentially barren (classified as NAF) with a low propensity to leach metal(loid)s on contact with water and therefore surface storage of this material until backfilling of the box cut can be undertaken represents very low risk of environmental impact.
- Results show that fresh waste rock to be mined during development of the decline is, in the vast majority of cases, NAF, with a low propensity to leach significant metal(loid)s on contact with water. Surface storage of this material before it can be used to backfill stopes will represent a very low risk of environmental impact.
- There is potential for some fresh phyllite rock near to contact zones with the pegmatite to contain elevated S and on exposure to air oxidise to produce ARD. However, the lag period to acid generation is estimated to be significant (> 5 years) and co-disposal with NAF waste is likely to extend this lag period significantly. Short to medium term surface storage of fresh waste rock represents a low risk of environmental impact.
- Ore samples have been shown to be barren with respect to acid generation and neutralisation (classified as NAF) with a low propensity to leach significant metal(loid)s on contact with water. Surface stockpiling of ore prior to shipping off site therefore represents a low risk of environmental impact.
- Should paste backfilling of stopes involve addition of binder including cement to waste rock to generate the paste fill, then leach testing of the paste backfill should be undertaken, as the alkaline conditions of the cemented paste backfill can increase dissolution rates in comparison with those at neutral pH and result in mobilisation of some metal(loid)s.

1. INTRODUCTION

EcOz Environmental Consulting (EcOz) engaged Environmental Geochemistry International (EGi) to undertake geochemical characterisation of waste rock and ore associated with the underground mining envelope for Lithium Plus Minerals' Exploration Tenement EL31091. EcOz is undertaking baseline studies to inform future environmental approvals. The tenement forms a part of the Bynoe Pegmatite Field located on the Cox Peninsular in the Northern Territory, approximately 2 km south of the Finniss Lithium Project BP33 deposit (Figure 1).

Ore from the Lei deposit occurs as a rare element pegmatite that is a member of the Bynoe Pegmatite Field. Fresh pegmatite at Lei is composed of spodumene, quartz, albite, microcline and muscovite (in decreasing order of abundance). Spodumene, a lithium-bearing pyroxene ($LiAl(SiO_3)_2$), is the predominant lithium-bearing phase. The pegmatites are predominantly hosted within the early Proterozoic metasedimentary lithologies of the Burrell Creek Formation (BCF) and are usually conformable to the regional schistosity. The principal rock type of the BCF is phyllite, a low-grade metamorphic equivalent of an immature sandy siltstone. In fresh form, the phyllite is grey, finely bedded or cleaved, and is composed of quartz, feldspar, lithic fragments, micas and clay. Fresh pegmatite hosting the ore is overlain by approximately 50 m of weathered and transitional rock.

As part of the mine planning and approvals process, preliminary geochemical characterisation of pegmatite ore body and surrounding host formation is required to inform possible operational and mine closure impacts to the environment that may be associated with acid, metalliferous (or acid rock (ARD)), saline (SD) or neutral mine drainage (NMD). This report provides a preliminary assessment of acid-forming characteristics of mine rock that will be disturbed by the Lei mine project.

Sources and ultimate fate of waste rock from mining operations are expected to include[1]:

- Waste rock from the box-cut (~400,000 t) comprising oxide and transition material to be used to either cover the box-cut after an access tunnel is emplaced or during rehabilitation as part of mine closure.
- Fresh rock from decline development (~1.13 Mt) to be used to backfill (pastefill) the stopes with no permanent waste rock dump planned for closure.
- No process residues (tailings) will be generated at site since ore (~3 Mt) is proposed as Direct Shipping Ore.

Sample representation included all oxide zones and key lithologies associated with the box-cut, decline and production stopes with note to ore and waste materials that are likely to report to surface.

This report is an update of a previous report (EGi, 2024) recently provided to Lithium Plus where the results of basic analyses of 122 rock core samples and further analyses of a subset of 100 selected samples were presented. Further testing has been undertaken on smaller subsets of samples to better characterise the potential of these materials for acid, metalliferous, and/or saline drainage.

[1] Email from Bryce Healy of Noventum Group 1st July 2024.

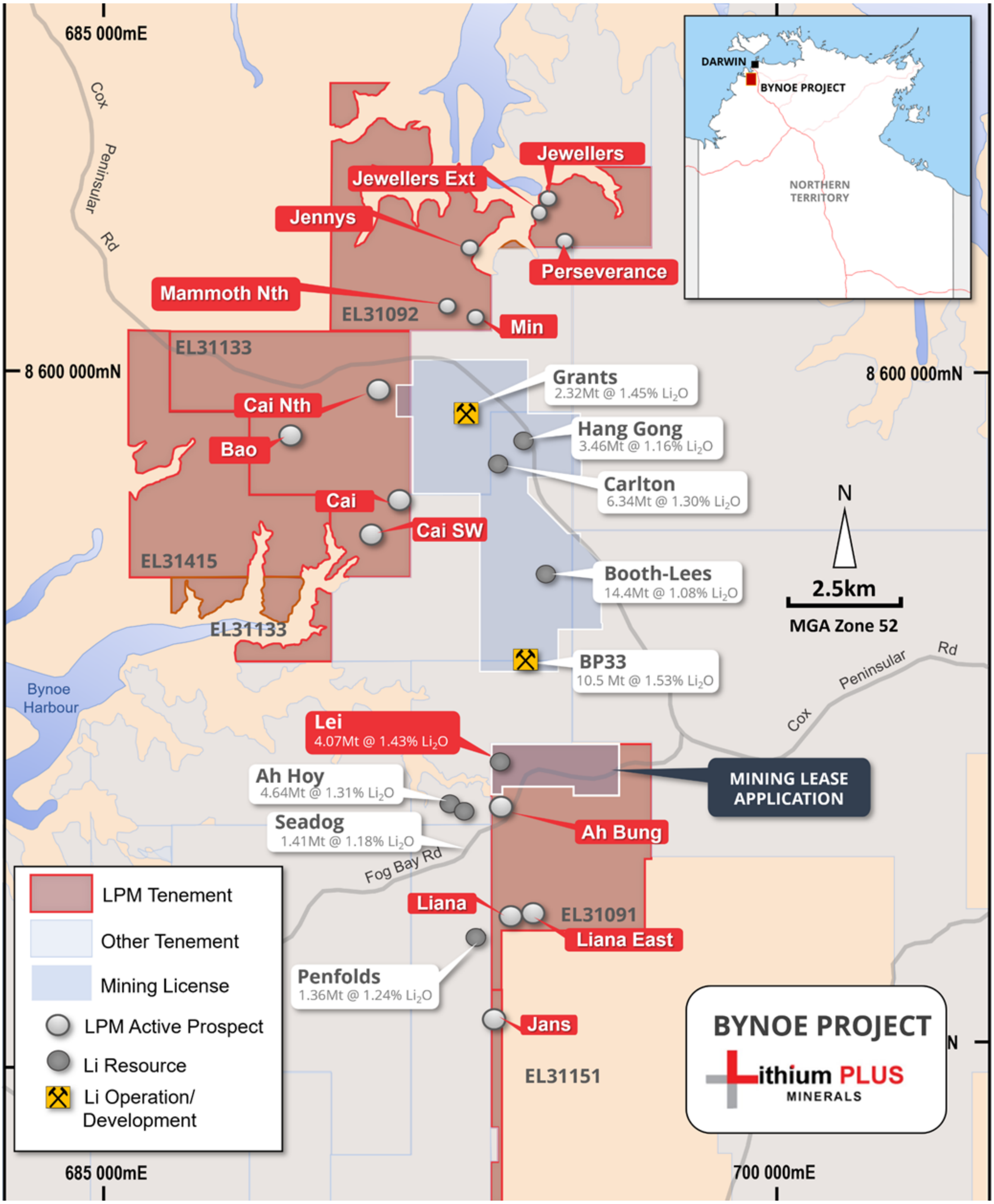


Figure 1: Location of Lei Lithium Deposit and surrounding deposits.

2. TESTING METHODOLOGY

2.1. Sample selection

Lithium Plus provided EGi with 122 rock core samples for sample preparation and preliminary analysis (Total S, Total C, and Organic C) to support selection of 100 samples for further analysis. Details of the 122 primary samples are provided in Table A1. Samples were representative of the overlying weathered and transitional rock and the fresh metasedimentary rock hosting the pegmatite ore body, as well as the pegmatite itself. Sampled lithologies included phyllite, psammite, quartz vein, pegmatite (ore), pegmatite (barren) and lateritic soil (Figure 2). Cores originated from 8 drillholes, of which 7 are depicted in Figure 3, providing samples that were distal to, proximal to, and within the ore body. Borehole BYLDD026 has not been depicted in Figure 3, however, the location of this drillhole and the associated core samples are shown in Figure A1 to Figure A3, where 3 vertical sections provide details of all drillholes and sample locations.

Total S, Total C and Organic C analysis results were used to minimise duplicate samples amongst cores from the same weathering zone and proximity to the ore body (as described in the 'Sample Type' column of Table A1) while maintaining adequate representation of all sample types, especially those containing higher levels of sulphur and carbon. The 100 samples selected for further analysis are identified in Table A1.

From the 100 samples, subsets of samples were selected for further geochemical characterisation (Table 1), including: 1) Composition of water extracts for a subset representative of the weathering zones and lithologies, 2) Composition of hydrogen peroxide extracts for samples with sufficient sulphide oxidation potential, 3) ABCC (Acid Buffering Characteristic Curve) for samples with high ANC to better define that ANC, and 4) Kinetic NAG Test for PAF samples to understand potential lag periods.

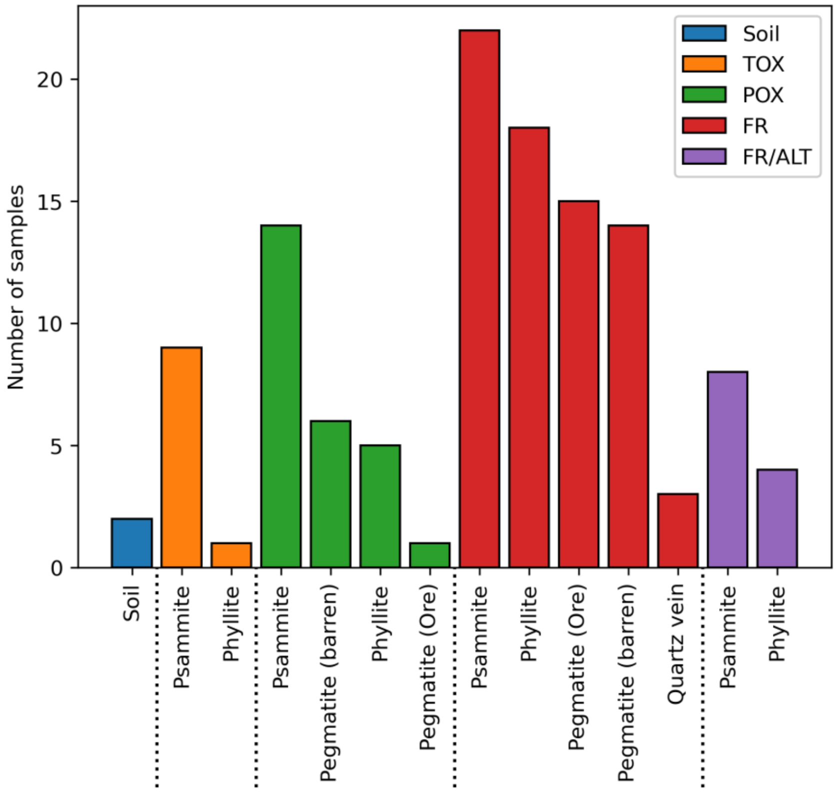


Figure 2: Number of samples of each lithology that comprise each weathering zone (TOX – totally oxidised; POX – partially oxidised; FR – fresh; FR/ALT – fresh altered).

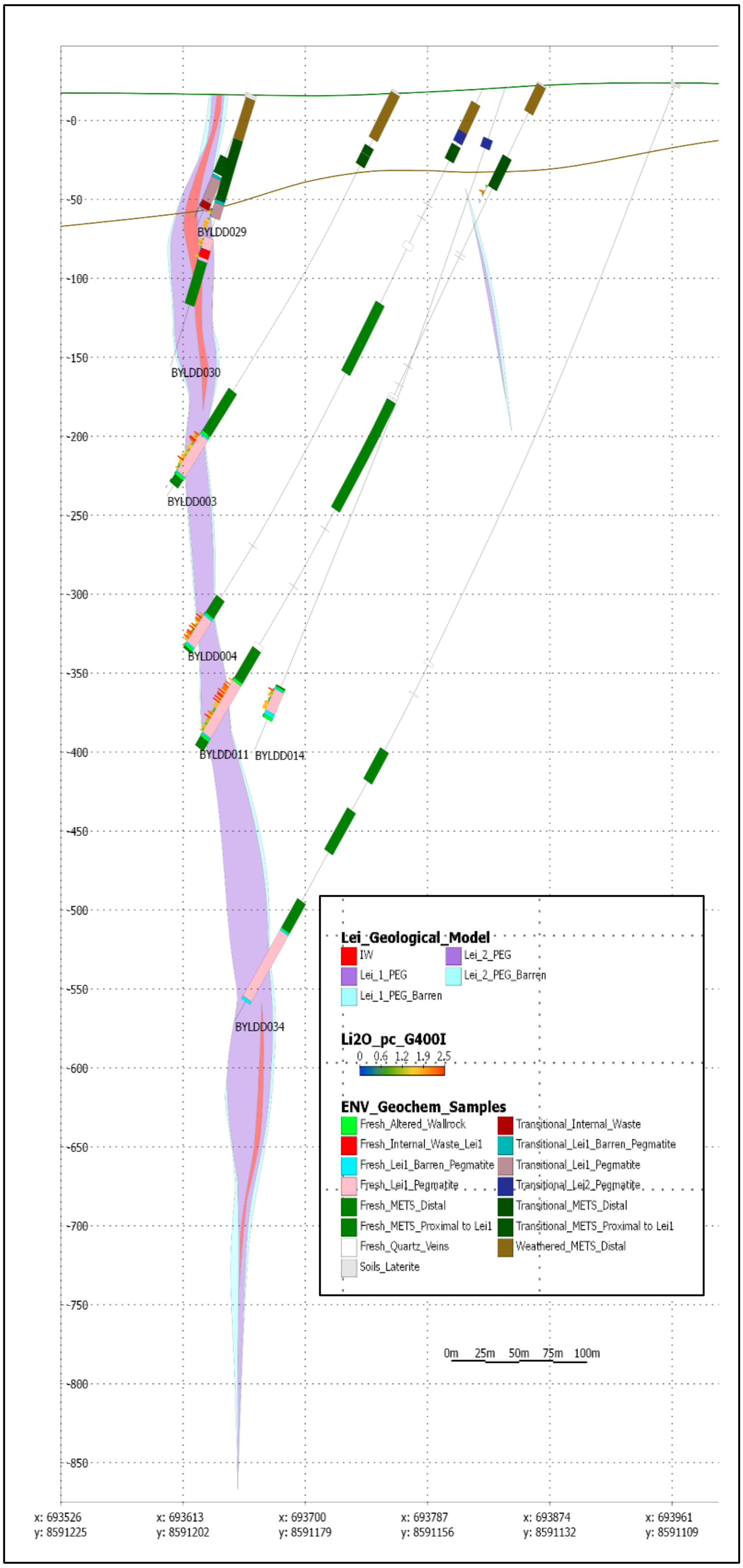


Figure 3: Drillholes and core sample locations in relation to ore body. Drillhole BYLDD026 is not depicted here. (See Figure A1 to Figure A3: Drillhole traces and sample locations in vertical section – XS3 for details of sample locations.)

Table 1: Samples selected for further testing.

Sample ID	Description	Lithology	Weathering	Water Extract ME	Peroxide Extract ME	ABCC	Kinetic NAG
GS_002	Weathered_METS_Distal	Phyllite	TOX	✓			
GS_009	Fresh_METS_Distal	Phyllite	FR			✓	
GS_015	Soils_Laterite	Soil	Soil	✓			
GS_019	Transitional_METS_Distal	Phyllite	POX	✓			
GS_021	Fresh_METS_Proximal to Lei1	Phyllite	FR		✓		
GS_032	Weathered_METS_Distal	Psammite	TOX	✓			
GS_033	Transitional_METS_Distal	Psammite	POX	✓			
GS_034	Transitional_METS_Distal	Phyllite	POX		✓		
GS_037	Fresh_Quartz_Veins	Quartz vein	FR	✓			
GS_038	Fresh_METS_Distal	Psammite	FR		✓	✓	
GS_041	Fresh_METS_Distal	Psammite	FR			✓	
GS_045	Fresh_Altered_Wallrock	Phyllite	FR/ALT	✓			
GS_046	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	✓			
GS_049	Fresh_Altered_Wallrock	Psammite	FR/ALT	✓			
GS_050	Fresh_METS_Proximal to Lei1	Phyllite	FR	✓	✓		✓
GS_052	Fresh_METS_Proximal to Lei1	Phyllite	FR	✓	✓	✓	✓
GS_057	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	✓			
GS_065	Fresh_METS_Distal	Phyllite	POX			✓	
GS_066	Fresh_METS_Distal	Psammite	FR	✓			
GS_067	Fresh_METS_Distal	Psammite	FR			✓	
GS_076	Fresh_Internal_Waste_Lei1	Phyllite	FR	✓	✓	✓	✓
GS_086	Transitional_METS_Proximal to Lei1	Psammite	POX	✓			
GS_091	Transitional_Internal_Waste	Psammite	POX	✓			
GS_092	Transitional_Lei1_Pegmatite	Pegmatite (barren)	POX	✓			
GS_103	Fresh_Internal_Waste_Lei1	Psammite	FR	✓	✓		
GS_109	Fresh_METS_Proximal to Lei1	Psammite	FR	✓			
GS_112	Fresh_METS_Distal	Psammite	FR			✓	
GS_115	Fresh_METS_Distal	Phyllite	FR	✓		✓	
GS_116	Fresh_METS_Distal	Phyllite	FR		✓		
GS_052 +GS_041	Composite	-	-				✓
				20	**8**	**9**	**4**

2.2. Geochemical characterisation

The initial 122 rock core samples were sent to Indicium Labs for crushing (<2 mm), pulverisation (< 75µm) and analysis for Total S, Total C, and Organic C (with Inorganic C calculated by difference). Additional analyses (Table 2) of the 100 selected samples were undertaken in the EGi laboratory, except for the multi-element analysis conducted by ALS. All analyses were conducted using pulverised samples (except for water extracts tests).

Table 2: Geochemical characterisation tests for Lei Lithium samples.

Test	Number of samples	Method
Total S	122	High temperature furnace
Total C	122	High temperature furnace
Organic C	122	High temperature furnace following HCl pretreatment
Inorganic C	122	By difference of Total C and Organic C
pH1:2 and EC1:2	100	pH and EC of 1:2 (wt:wt) solid: water extract
ANC	100	Sobek method – back-titration following addition of HCl
NAGpH	100	pH following oxidation with hydrogen peroxide and heat
$NAG_{4.5}$	100	Back-titration to pH 4.5 following NAGpH
$NAG_{7.0}$	100	Back-titration to pH 7.0 following NAGpH
Multi-element (ME) analysis	100	Majority of analytes via 4 acid digest and ICP.
Single Stage Batch Water Extract	20	Element concentrations of solid:water (1:2) extract
Peroxide Extractable Elements	8	Element concentrations of solid:peroxide (1:100) extract
ABCC	9	Acid buffering curve
Kinetic NAG	4	Time resolved pH and temperature response to single addition of peroxide.

3. RESULTS

All results of analyses are shown in Appendix A - 122 primary samples (Table A1) and 100 selected samples (Table A2).

3.1. Sulphur and carbon

All 122 samples received from Lei Lithium were analysed for Total S, Total C, and Organic C. Inorganic C was calculated by difference. Figure 4 shows the distributions of Total S values when grouped by oxidation state. Only fresh rock contained Total S levels greater than 0.1% (4 samples), while 95% of totally and partially oxidised samples contained Total S ≤ 0.03%. The Total S content of the soil samples was at the detection level.

Figure 5 shows the distributions of Total S contents of fresh rock samples when grouped by lithology. The highest Total S contents are in phyllite samples with 3 samples containing Total S > 0.2%. One psammite fresh sample contained Total S > 0.1%. Other lithologies, especially the pegmatite samples, all contained very low levels with Total S ≤ 0.04%.

Total C contents were all less than or equal to 1% with many samples containing Total C levels below the detection limit (Figure 6). Fresh rock contained the highest levels of Total C with a few samples containing approximately 1%, while a large proportion of samples from oxidised samples contained Total C below detection level (Figure 6). However, the fresh pegmatite samples were notable for their low Total C contents with all samples containing ≤ 0.04% (Figure 7). Figure 8 shows a strong relationship between Inorganic C and Total C for fresh rock samples. Inorganic C comprised >80% of Total C in 62% of samples.

Overall, all fresh waste rock and ore lithologies had samples with negligible to very low total carbon content with the exception of quartz vein and soil samples that reported moderate total carbon content. Unsurprisingly, all or nearly all Total C in the two soil samples was present as organic C. Correlation between total carbon and inorganic carbon content was poorer for lower values (less than around 0.2%) and reasonable for higher values (around 0.2% to 1%). This can have implications for calculation of ANC based on inorganic C content particularly at low inorganic C content. This is discussed further in Section 3.4 that provides an assessment of ANC characteristics.

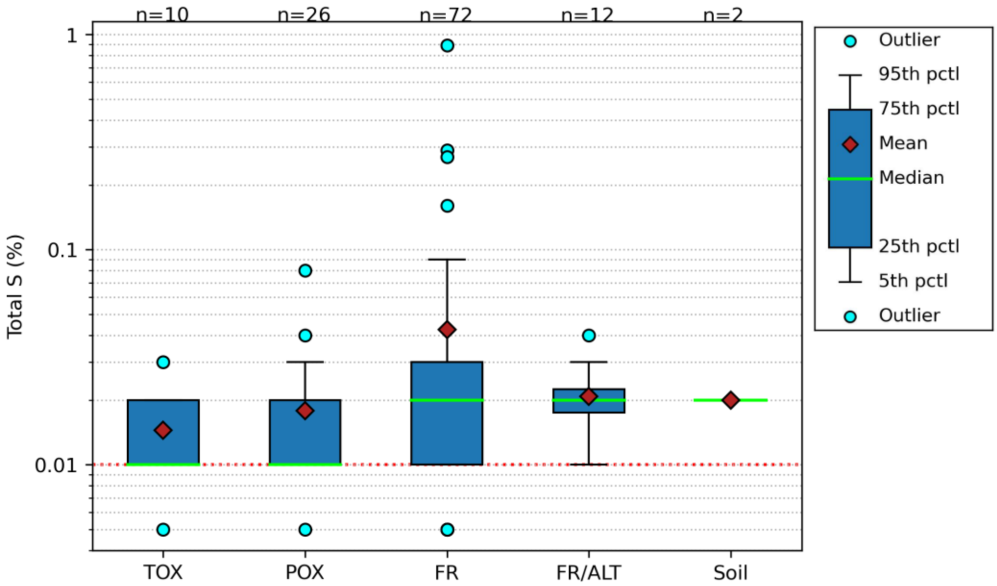


Figure 4: Distributions of Total S (%) grouped by oxidation state for Lei Lithium samples (n = 122). Detection limit (DL) shown by red dashed line (<DL = DL/2). TOX – Totally oxidised; POX – Partially Oxidised; FR – Fresh; FR/ALT – Fresh/Altered.

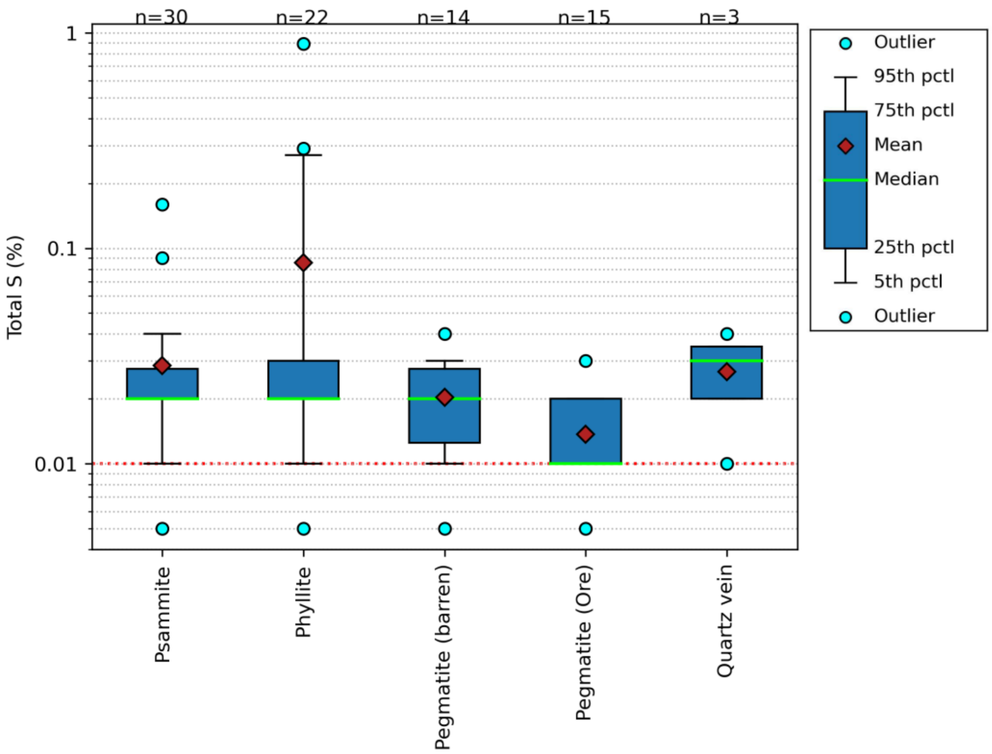


Figure 5: Distributions of Total S (%) in fresh rock grouped by lithology for Lei Lithium samples (n = 84). Detection limit (DL) shown by red dashed line (<DL = DL/2).

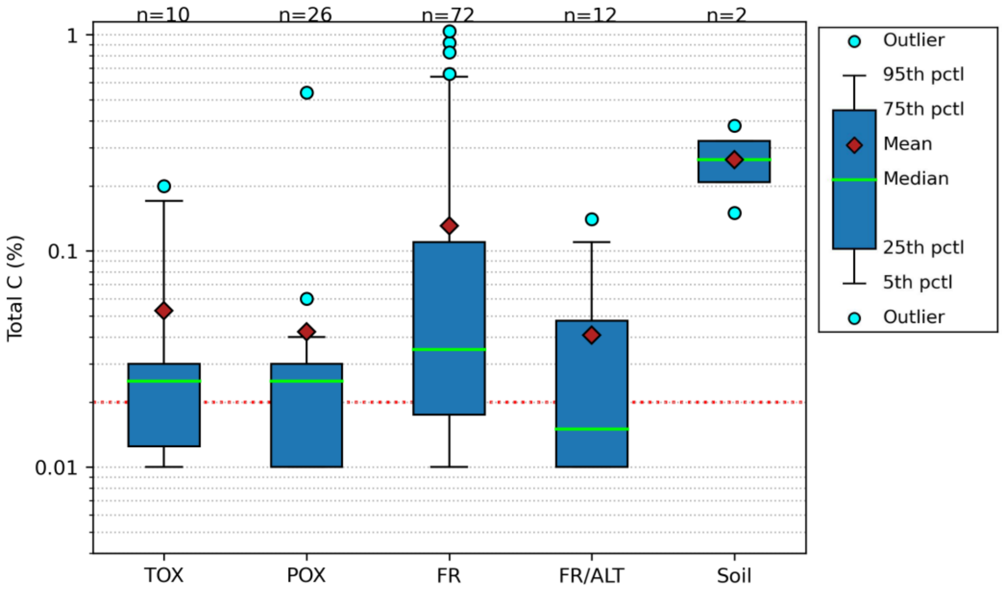


Figure 6: Distributions of Total C (%) grouped by oxidation state for Lei Lithium samples (n = 122). Detection limit shown by red dashed line (<DL = DL/2). TOX – Totally oxidised; POX – Partially Oxidised; FR – Fresh; FR/ALT – Fresh/Altered.

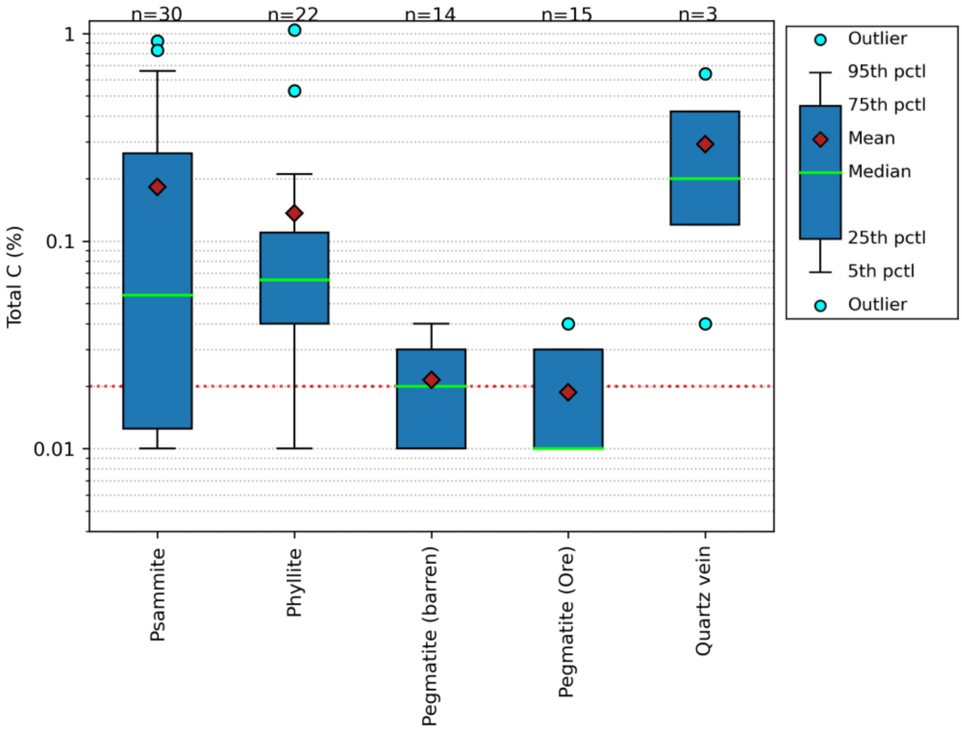


Figure 7: Distributions of Total C (%) grouped by fresh rock lithology for Lei Lithium samples (n = 84). Detection limit (DL) shown by red dashed line (<DL = DL/2).

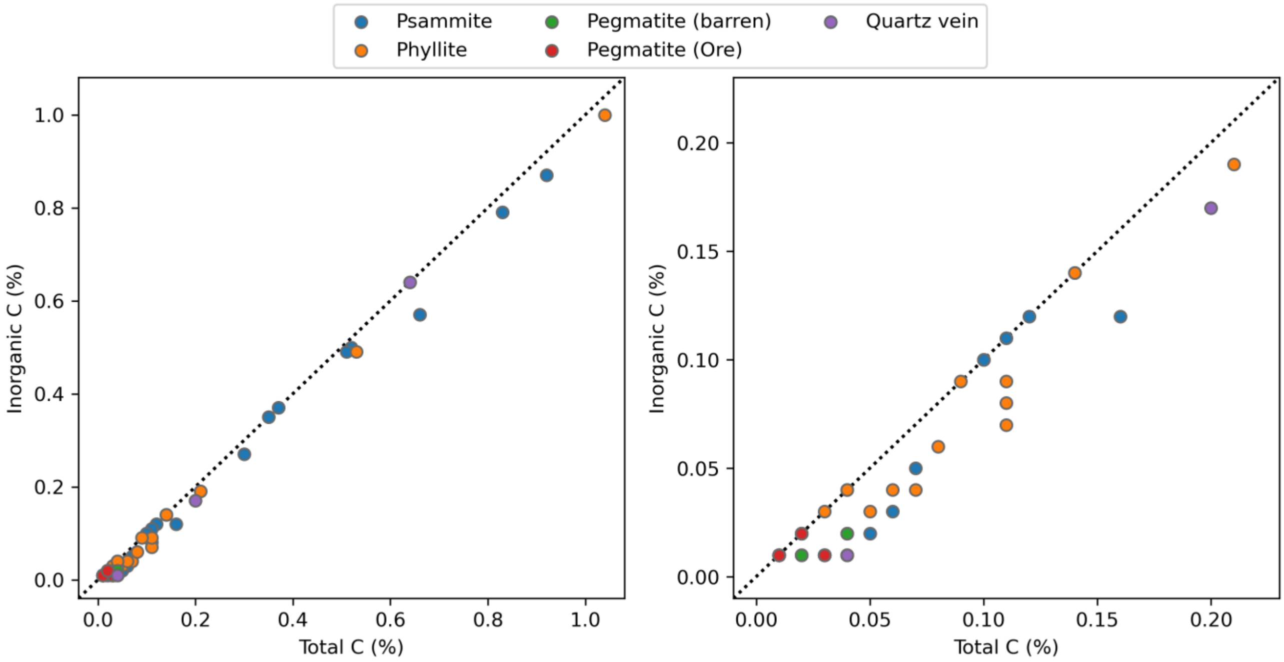


Figure 8: Relationship between Inorganic C and Total C for Lei Lithium samples (n = 84) in fresh rock grouped by lithology. Diagonal dashed line represents the 1:1 relationship. Note the right plot is zoomed in on low values.

3.2. pH1:2 and EC1:2

The pH values of 1:2 water extracts for selected Lei Lithium samples (n = 100) were all circumneutral to moderately alkaline, ranging between 7 and 8.5 with no correlation to Total S% (Figure 9). Similarly, the EC1:2 values were all low at approximately 0.1 dS/m.

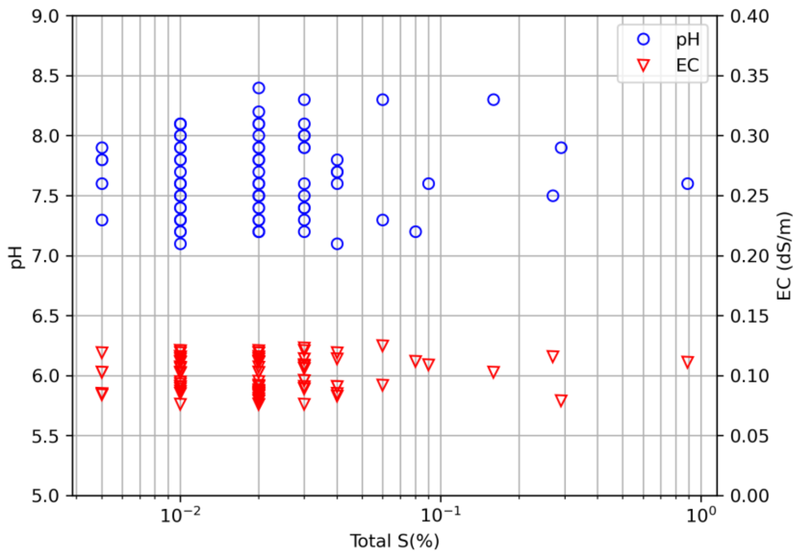


Figure 9: pH and EC of 1:2 solid:water extracts for selected Lei Lithium samples (n = 100).

3.3. Multi-element analyses

The selected Lei Lithium samples (n = 100) underwent multi-element analyses for 49 different elements. Element concentrations for all samples are shown in Table A3 (Appendix A). Elemental concentrations have been converted to Global Abundance Indices (GAI) by referencing to global median soil abundance (Bowen, 1979) (Table A4). A GAI of 3 or above is considered enriched, while 6 and above is highly enriched.

Figure 10 shows the percentage of samples for each lithology with GAI ≥ 3 and Figure 11 shows the percentage of samples for each lithology with GAI ≥ 6. The main elements of enrichment in the hosting lithologies (psammite and phyllite) are As, Be, Cs, Sn, and W. Pegmatite lithologies are additionally enriched in Bi, Nb, and Rb. 100% of pegmatite samples are enriched in Be and Cs. The quartz vein and soil samples were enriched in a smaller number of elements, however, 100% of the soil samples (n = 2) were enriched in As. A small percentage of psammite and phyllite samples were highly enriched (GAI ≥ 6) in As, Be, Cs, and Sn, while 100% of pegmatite samples were highly enriched in Be.

Table 3 provides a summary of elemental enrichment in the 3 fresh rock PAF Phyllite samples containing Total S >0.2%. These are the only samples that were classified as PAF (Section 3.8) and released the highest levels of metal(loid)s in the peroxide extracts (Figure 23).

Table 3: Global Abundance Indices (GAI) of enriched elements for PAF phyllite samples (see following sections).

Sample number	Lithology	ARD Class	Total S (%)	As	Be	Cs	Tl
GS_050	Phyllite	PAF	0.29	5	3	6	2
GS_052	Phyllite	PAF	0.89	5	3	3	2
GS_076	Phyllite	PAF	0.27	5	3	6	3

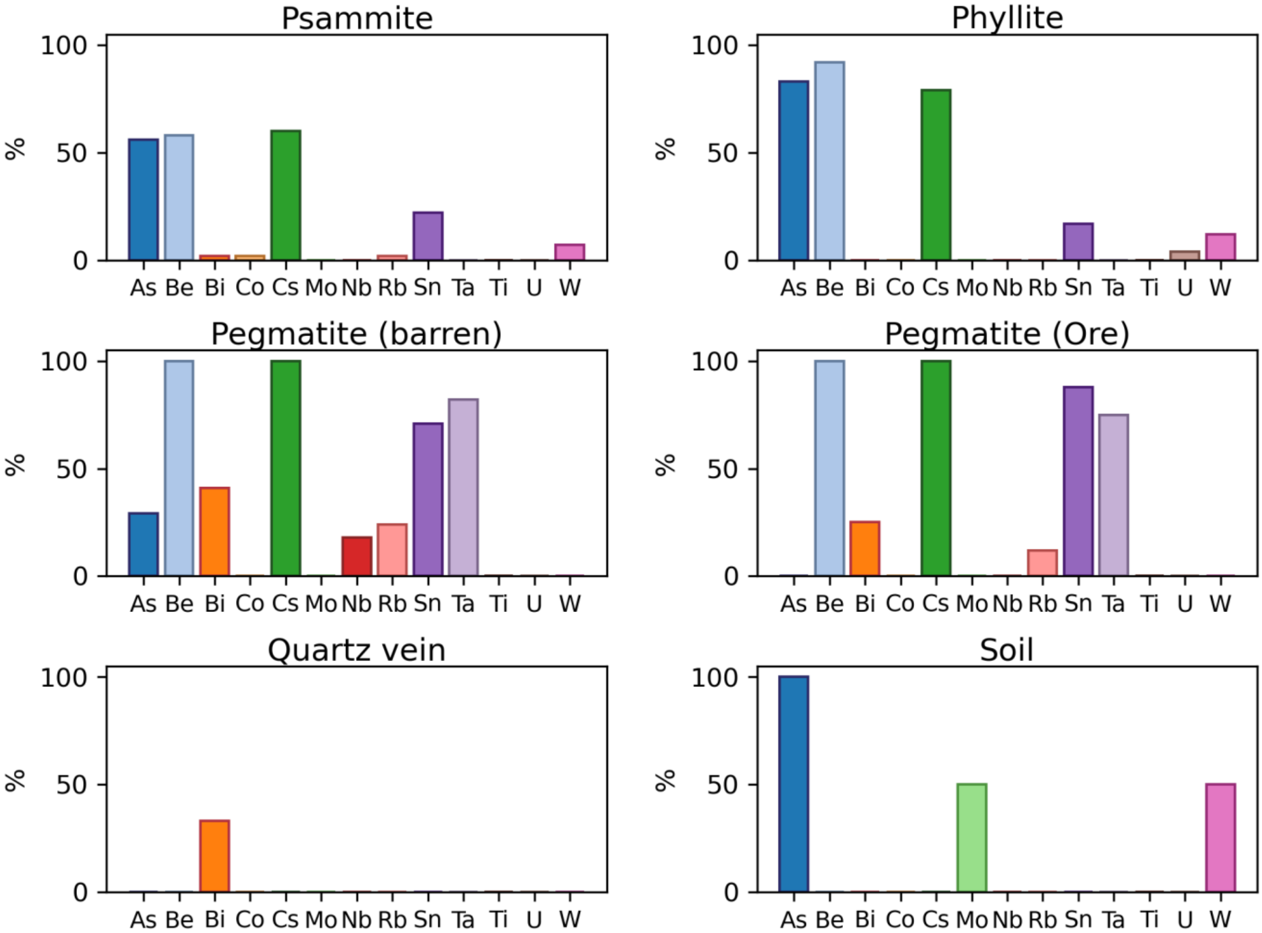


Figure 10: Percentage of samples for each lithology with GAI ≥ 3

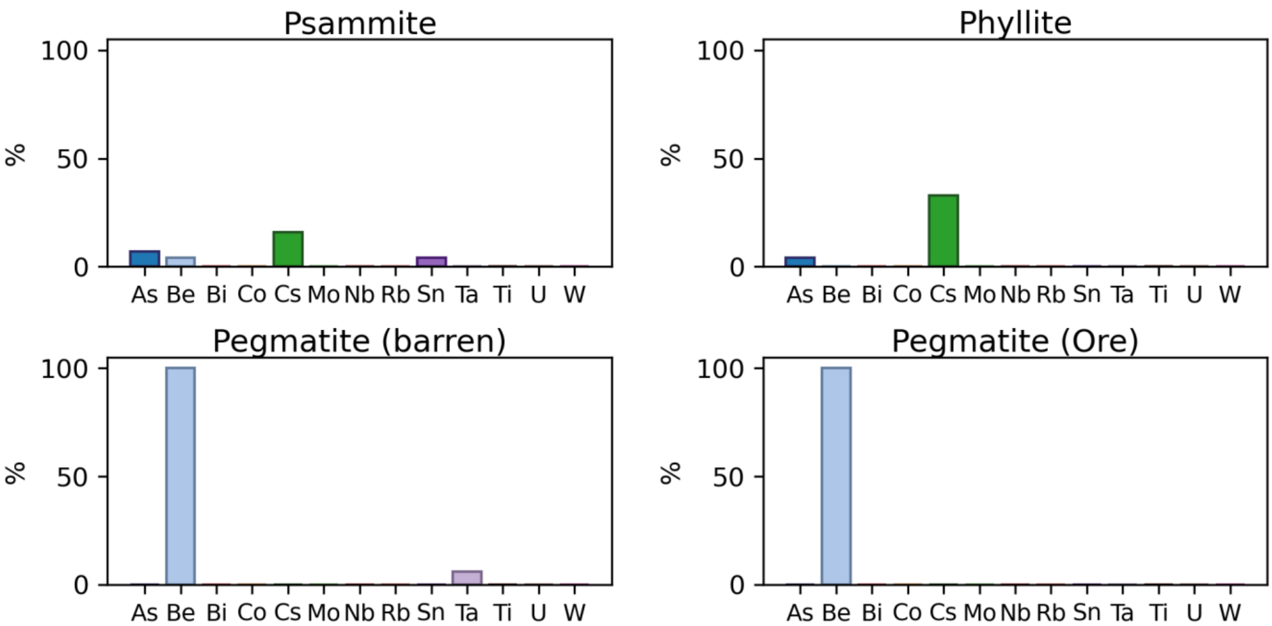


Figure 11: Percentage of samples for each lithology with GAI ≥ 6

3.4. ANC

Figure 12 shows the distributions of ANC grouped by oxidation state. Fresh rock samples contained the highest levels of ANC, however, all samples contained ≤ 31 kg H_2SO_4/t, with most samples from the oxidised zones containing < 10 kg H_2SO_4/t. The pegmatite samples were notably low in ANC with median values of 5 kg H_2SO_4/t (Figure 13). The samples from hosting lithologies, psammite and phyllite, all gave ANC ≤ 25 kg H_2SO_4/t.

Carbonate ANC (ANC_{IC}) was calculated by assuming that all inorganic C was present as calcite. ANC_{IC} can provide a better measure of 'effective' ANC. However, where non- or poorly neutralising carbonates such as siderite or ankerite are present, overestimation of effective ANC can occur. The relationship between ANC_{IC} and ANC (Figure 14) shows that for most samples the 'effective' ANC is negligible and much lower than ANC. The Sobek ANC in these samples most likely represents silicate minerals that consume acidity at low pH. The pegmatite samples all had negligible ANC_{IC}. For around 12 samples ANC_{IC} was much greater than ANC, possibly indicating the presence of substantial siderite and the non-applicability of ANC_{IC} as a measure of effective ANC for these samples. Overall, all fresh rock lithologies have very low to low ANC and, where carbonate minerals are present, they may be present as siderite or ankerite with limited effective ANC.

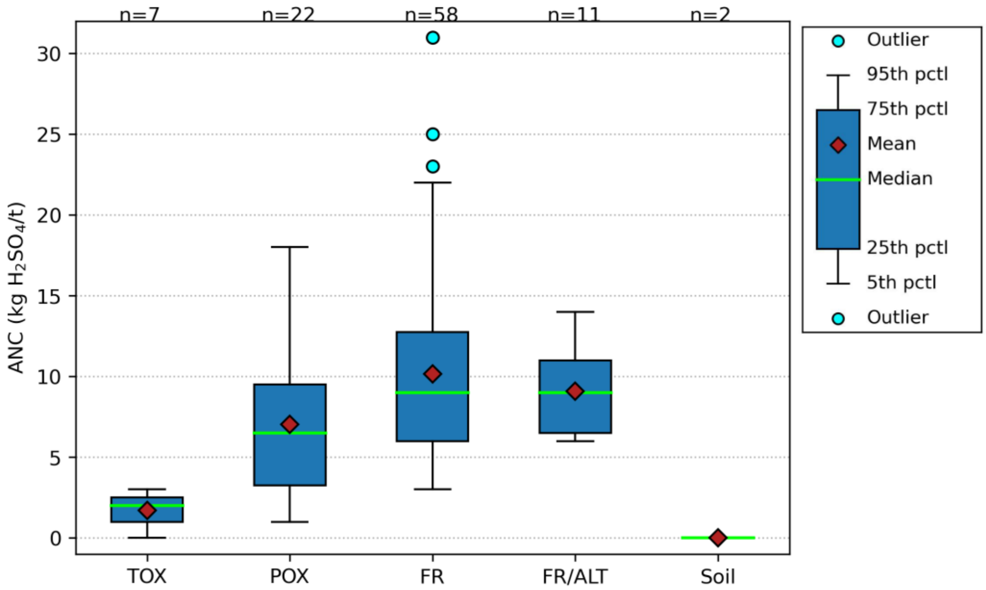


Figure 12: Distributions of ANC grouped by oxidation state for selected Lei Lithium samples (n = 100). TOX – Totally oxidised; POX – Partially Oxidised; FR – Fresh; FR/ALT – Fresh/Altered.

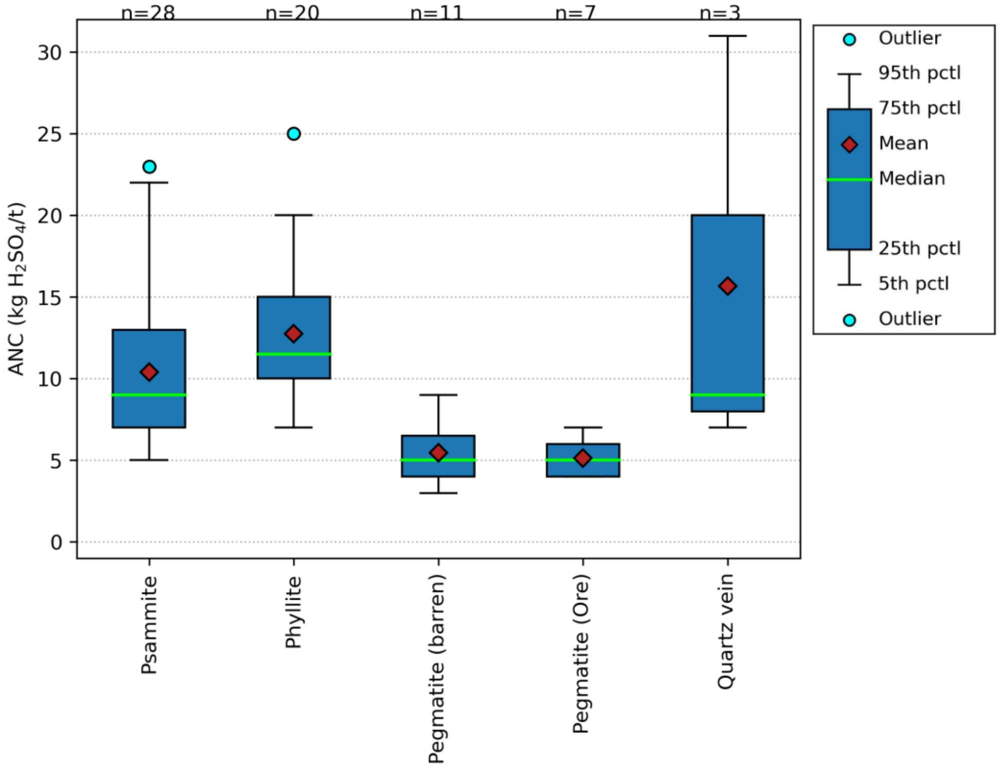


Figure 13: Distributions of ANC in fresh rock grouped by lithology for selected Lei Lithium samples (n = 69).

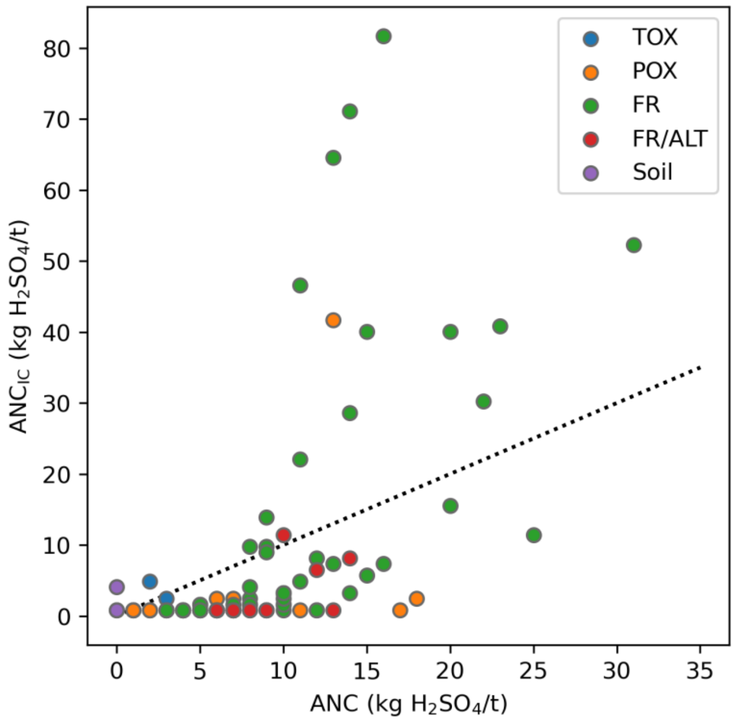


Figure 14: Relationship between carbonate ANC (ANC_{IC} calculated from inorganic C) and Sobek ANC grouped by oxidation state for selected Lei Lithium samples (n=100). TOX – Totally oxidised; POX – Partially Oxidised; FR – Fresh; FR/ALT – Fresh/Altered.

3.5. ABCC

The Acid Buffering Characteristics Curve (ABCC) provides a measure of the 'effective' carbonate ANC and an indication of the type of carbonate mineral(s) participating in acid consuming reactions. Samples were selected for testing where appreciable ANC was present. The Lei Lithium materials generally contained low levels of ANC (Figure 12). Fresh metasedimentary materials tended to have the highest ANC contents and 9 samples covering both psammite and phyllite lithologies were selected for ABCC testing (Table 1).

The results of ABCC titrations are shown in Figure B1 and Figure B2, together with titrations of standard carbonate minerals containing ANC at similar concentrations to the test materials. Effective ANC was calculated from the amount of added acid required to achieve pH 4. The carbonate minerals involved in buffering are determined by matching the titration curve of the test material to one, or a combination, of the curves for the standard materials.

The calculated values of effective ANC and type carbonate buffering are shown in Table 4. Where ANC_{IC} >> ANC (GS_009, GS_065, GS_041, GS_067), samples were shown to be buffered by siderite and/or ferroan dolomite. These iron-bearing carbonates provide little effective buffering since released Fe(II) oxidises and hydrolyses to produce acidity. The effective ANC of these materials is very low, particularly where carbonates are present as siderite. In one sample (GS_115) where ANC_{IC} ~ ANC, buffering was due to calcite and dolomite. Other samples contained variable combinations of dolomite and ferroan dolomite likely representing members of the solid solution series between dolomite and ankerite.

The ABCC tests confirmed that these materials contain low levels of effective ANC and that carbonates are mostly present as iron-bearing carbonates. For all the Lei Lithium samples, effective ANC appears to be less than 20 kg H_2SO_4/t with most having close to zero. Based on the samples tested here, effective ANC is typically lower than ANC by between 4 to 10 kg H_2SO_4/t (Figure 15).

Table 4: Effective ANC and type of carbonate buffering from ABCC tests.

Sample ID	Description	Lithology	ANC (kg H_2SO_4/t)	ANC_{IC} (kg H_2SO_4/t)	Effective ANC (kg H_2SO_4/t)	Type of carbonate buffering*
GS_009	Fresh_METS_Distal	Phyllite	15	40	5	Ferr Dol/ Siderite
GS_052	Fresh_METS_Proximal to Lei1	Phyllite	25	11	14	Dol/ Ferr Dol
GS_065	Fresh_METS_Distal	Phyllite	13	42	3	Siderite
GS_076	Fresh_Internal_Waste_Lei1	Phyllite	10	2	6	Ferr Dol
GS_115	Fresh_METS_Distal	Phyllite	20	16	16	Cal/ Dol
GS_038	Fresh_METS_Distal	Psammite	23	41	17	Cal/ Dol/ Ferr Dol
GS_041	Fresh_METS_Distal	Psammite	20	40	13	Ferr Dol
GS_067	Fresh_METS_Distal	Psammite	14	71	3	Siderite
GS_112	Fresh_METS_Distal	Psammite	11	22	9	Dol/ Ferr Dol

*Ferr Dol – Ferroan dolomite; Dol – Dolomite; Cal - Calcite

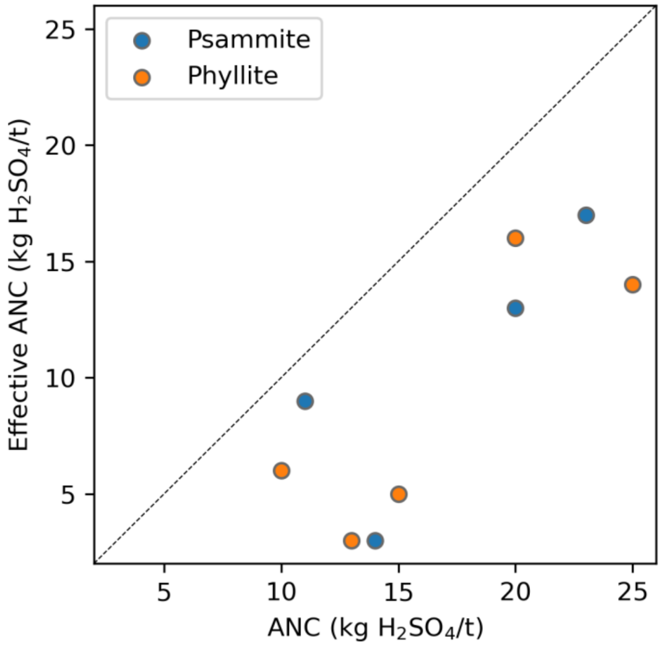


Figure 15: Plot of effective ANC (calculated from ABCC test) versus ANC.

3.6. NAPP

NAPP (Net Acid Producing Potential) has been calculated as the difference between MPA (calculated from Total S%) and ANC. As shown in Figure 16, almost all the samples have a negative NAPP and therefore unlikely to be acid-forming. The few samples with positive NAPP include: 1) 2 soil samples that contain zero ANC and Total S at detection level, 2) an oxidised psammite sample with zero ANC and below detection Total S, and 3) a fresh phyllite sample containing Total S of 0.89% and ANC of 25 kg H_2SO_4/t (Figure 17). Of these, only the phyllite sample is likely to be acid forming based on NAPP.

The ABA plot of Figure 18 shows that most of the samples are well above the safety factor of ANC/MPA = 2. The only samples below this safety factor that contained greater than negligible Total S were 3 fresh phyllite samples, one with a positive NAPP.

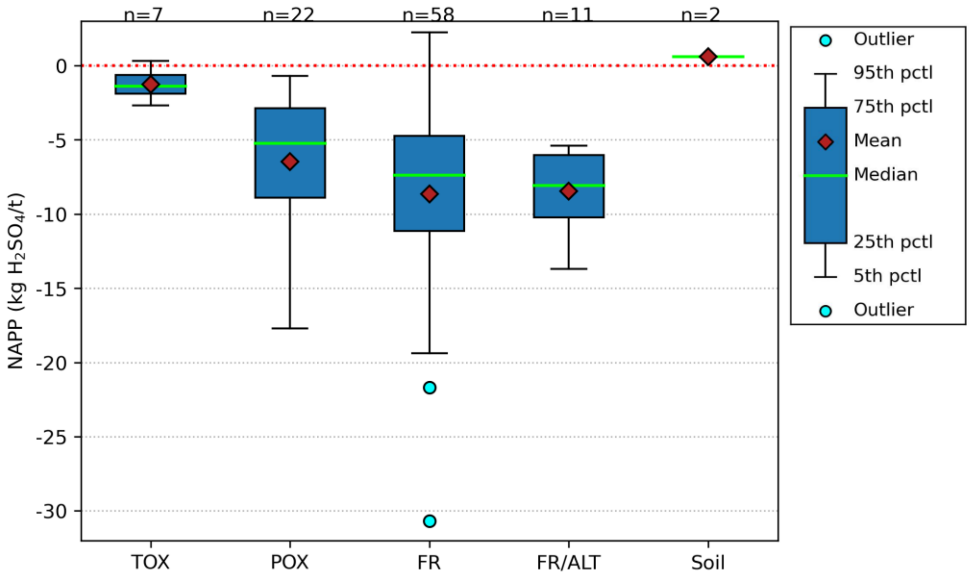


Figure 16: Distributions of NAPP grouped by oxidation state for selected Lei Lithium samples (n = 100). TOX – Totally oxidised; POX – Partially Oxidised; FR – Fresh; FR/ALT – Fresh/Altered.

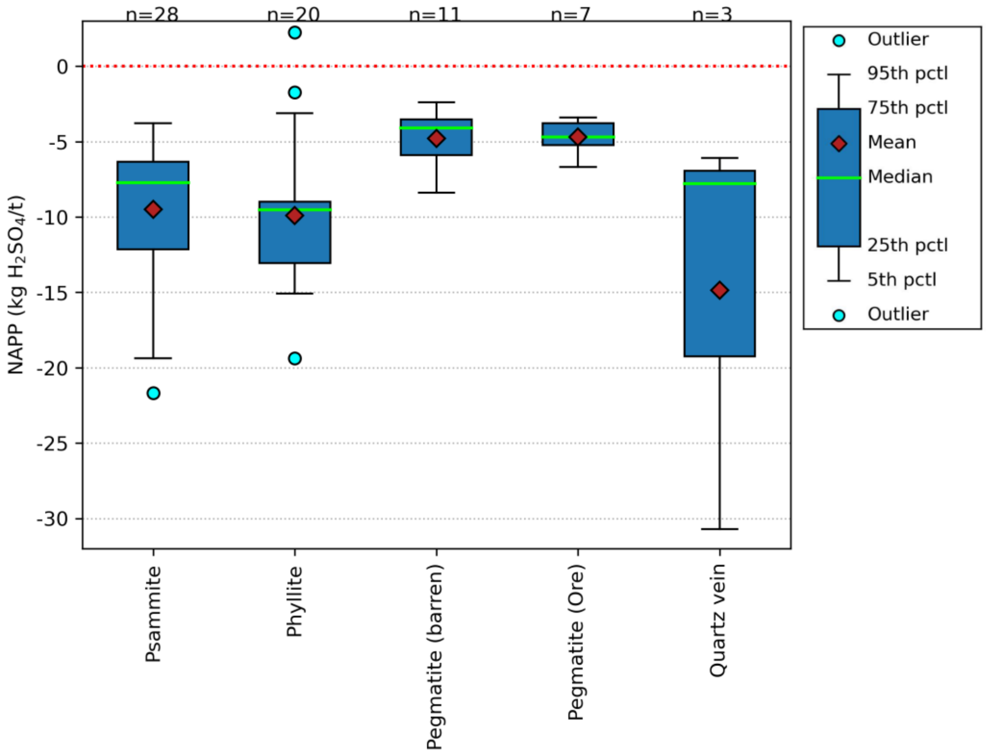


Figure 17: Distributions of NAPP in fresh rock grouped by lithology for selected Lei Lithium samples (n = 69).

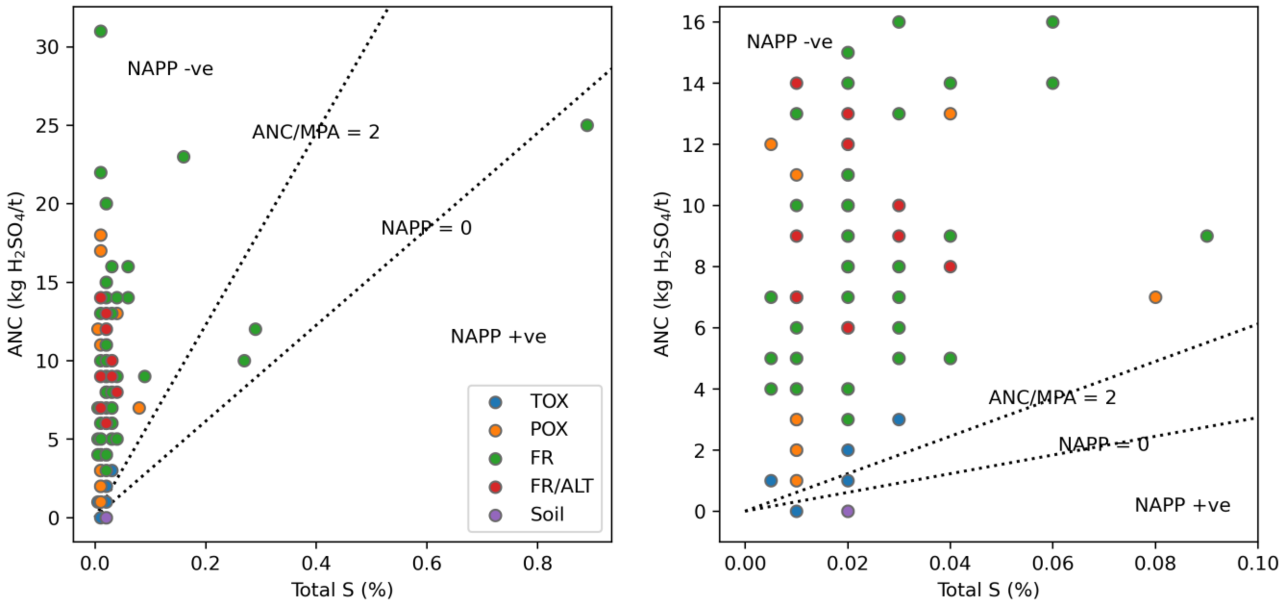


Figure 18: Acid base account (ABA) plot showing ANC vs. Total S grouped by oxidation state for selected Lei Lithium samples (n = 100). The righthand plot shows the same plot as the lefthand but with expanded axes. TOX – Totally oxidised; POX – Partially Oxidised; FR – Fresh; FR/ALT – Fresh/Altered.

3.7. NAGpH

NAGpH is the pH of the NAG solution following the rapid oxidation of the sample by hydrogen peroxide addition and boiling. Acid generating and neutralising reactions occur until all pyritic S is oxidised or peroxide is consumed. The resulting pH represents the balance of these reactions and provides an indication of the acid forming potential of a sample. In these generally low Total S samples, all pyritic S can be expected to oxidise before the peroxide is consumed and so NAGpH provides a reliable guide to the acid forming potential of the material.

All samples, except the 3 fresh phyllite samples containing higher Total S, had NAGpH > 4.5 (Figure 19). NAGpH for these 3 phyllite samples ranged between 3.8 and 4.2 (Figure 20), suggesting a PAF classification. Samples previously identified as containing no ANC also had insufficient pyritic S content to drive NAGpH below 4.5 and are essentially barren with respect to acid generating or acid neutralising capacity.

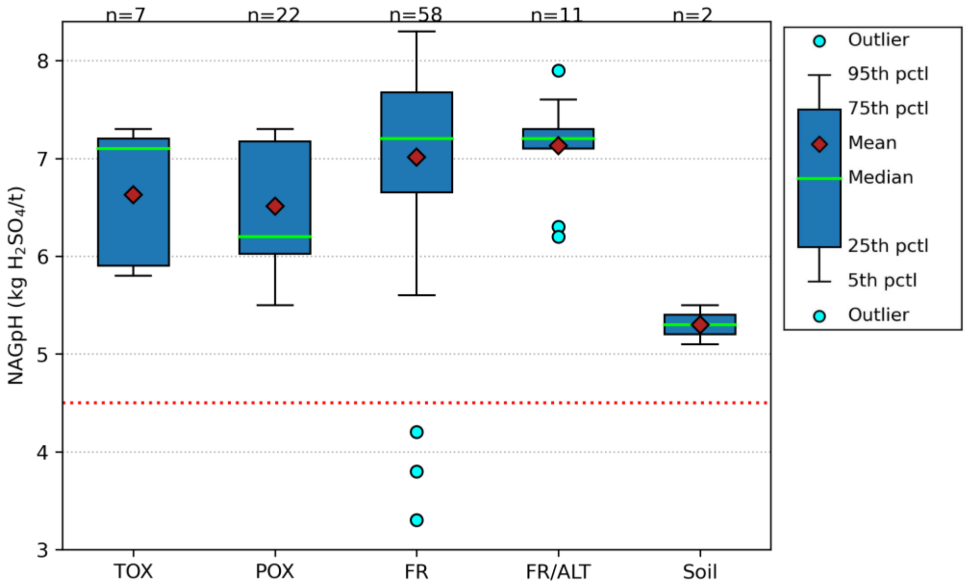


Figure 19: Distributions of NAGpH grouped by oxidation state for selected Lei Lithium samples (n = 100). TOX – Totally oxidised; POX – Partially Oxidised; FR – Fresh; FR/ALT – Fresh/Altered.

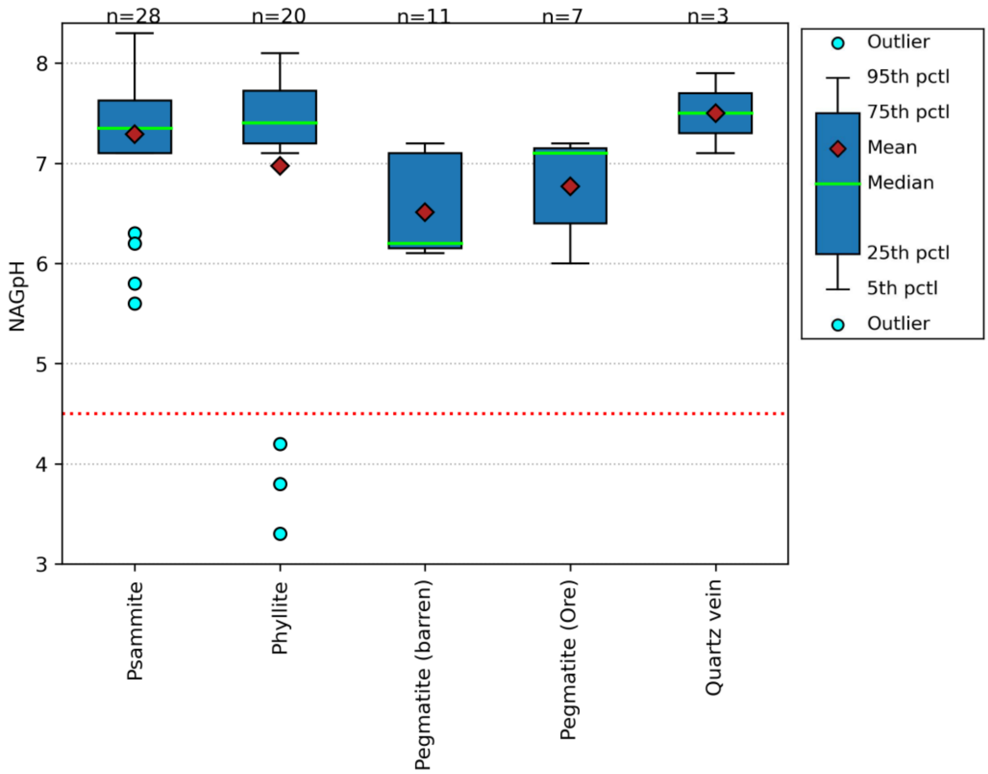


Figure 20: Distributions of NAGpH in fresh rock grouped by lithology for selected Lei Lithium samples (n = 69).

3.8. ARD classification

The standard ARD classification plot utilises the values of NAPP and NAGpH together to classify a sample as NAF (NAPP ≤ 0 and NAGpH > 4.5) or PAF (NAPP < 0 and NAGpH ≤ 4.5) (Figure 21). Samples not plotting in these two quadrants are classed as UC (Uncertain) and require consideration in further detail.

Almost all samples were classified as NAF, as expected from the above NAPP and NAGpH results. One fresh phyllite sample was classified as PAF, while 2 fresh phyllite samples were classified UC (lower left quadrant). Two soil samples and a weathered psammite sample were classified UC (upper right quadrant) but with negligible Total S (≤0.02%) these samples can be classified as NAF.

The 2 fresh phyllite samples classified UC had moderately low Total S contents, providing confidence in the NAGpH values. The negative NAPP values for these samples likely arise from overestimation of ANC. The negligible levels of ANC_{IC} and the production of $NAG_{7.0}$ acidity for these samples (Table 5) support this interpretation. As such, the samples have been classified as PAF-LC.

The details of the 3 PAF phyllite samples are shown in Table 5. (For further details of sample locations in other section orientations see Figures Figure A1 to Figure A3 in Appendix A.) Two of the samples are proximal to the ore body (GS_050 and GS_052) and one sample is internal to the ore body (GS_076). The locations of the PAF samples indicates that phyllite near the contact zone with the ore body carries a higher probability of containing Total S sufficient to result in a PAF classification. Nevertheless, only one sample out of 100 tested gave a clear PAF classification suggesting the potential for ARD from mined materials at the Lei project is low.

Table 5: Details of samples PAF and PAF-LC phyllite samples.

Sample Number	Sample Description	Lithology	Weathering	Total S (%)	ANC (kg H_2SO_4/t)	ANC_{IC} (kg H_2SO_4/t)	$NAPP_{IC}$ (kg H_2SO_4/t)	NAGpH	$NAG_{4.5}$ (kg H_2SO_4/t)	$NAG_{7.0}$ (kg H_2SO_4/t)	ARD Class
GS_050	Fresh METS Proximal to Lei1	Phyllite	Fresh	0.29	12	1	8	3.8	2	8	PAF-LC
GS_052	Fresh METS Proximal to Lei1	Phyllite	Fresh	0.89	25	11	16	3.3	6	13	PAF
GS_076	Fresh Internal Waste Lei1	Phyllite	Fresh	0.27	10	2	6	4.2	0	7	PAF-LC

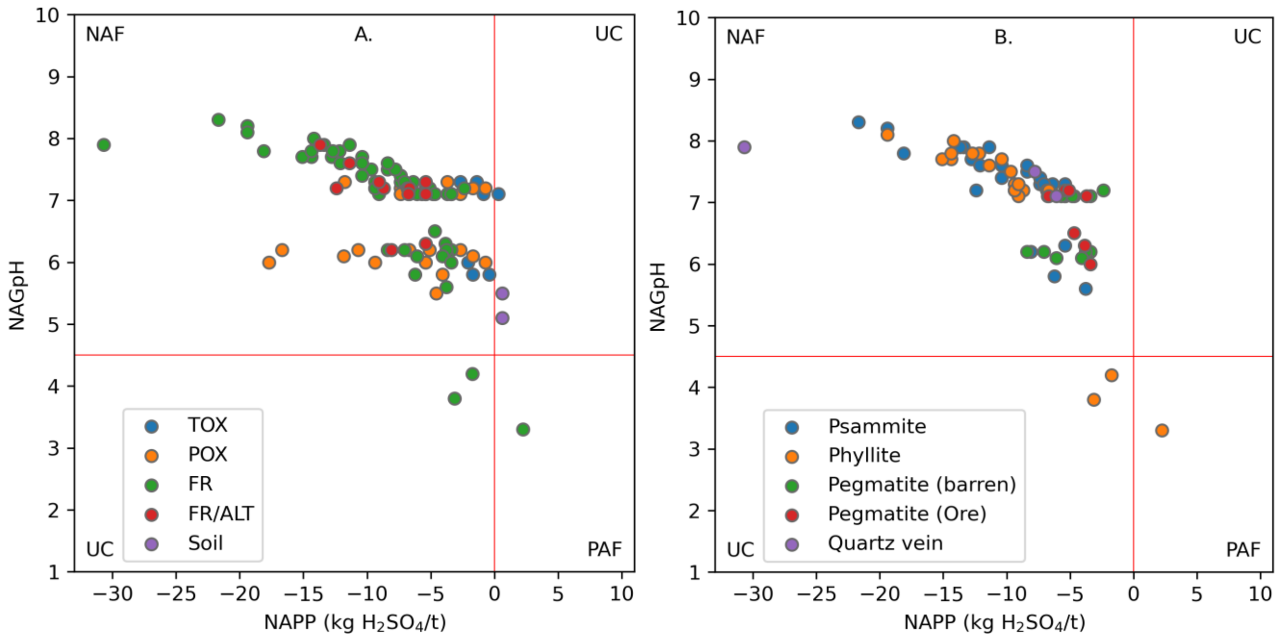


Figure 21: Standard ARD classification plot for selected Lei Lithium samples grouped by A) oxidation state (n = 100) and B) fresh rock lithology (n=69). Classes - NAF: non-acid forming; PAF: potentially acid forming; UC: Uncertain.

3.9. Water extractable elements

The Lei Lithium samples have been shown to be mostly barren (i.e. negligible S content) so for the most part oxidation will not result in acid generation. However, leaching with water could still potentially result in mobilisation of elements which are soluble at neutral pH, i.e. NMD or SD.

Samples were selected to be representative of the range of weathering, lithology, and proximity to the ore body. Water extracts contained low levels of dissolved species, with EC <0.14 dS/m (Table A5), as was shown for the 100 samples selected for initial testing (Figure 9). Elemental analyses of the extracts from 20 selected samples were all dominated by Na and Cl, present at levels of 1 to 10 mg/L (Table A5). Most extracts (85%) also contained similar levels of K. Ca was present in 40% of extracts and was always associated with sulphate, which was present in 65% of extracts, suggesting some gypsum dissolution. Other elements contained in the extracts at levels >0.1 mg/L included Al, As, B, Ba, F, Fe, Mn, and Si. Of these only As is an element of concern (Figure 22), present in extracts of GS_091 (As 0.57 mg/L) and GS_115 (As 0.20 mg/L). These two materials are internal waste psammite (GS_091) and phyllite (GS_115) distal to the ore body. Median concentrations of the elements across all 20 samples (Table 6) show that water leaching produces only low concentrations of elements of concern.

Table 6: Median concentrations of elements in water extracts (n = 20).

Median concentration (mg/L)	Elements
>1	Cl, K, Na, Si, SO_4
0.1 to 1	Al, Ba, Ca, Mg, F, Fe
0.01 to 0.1	As, B,
0.001 to 0.01	Mn, Se, Sr, Zn
<0.001	Ag, Be, Cd, Co, Cr, Cu, Hg, Mo, Ni, Pb, Sb, Sn, Th, Tl, U

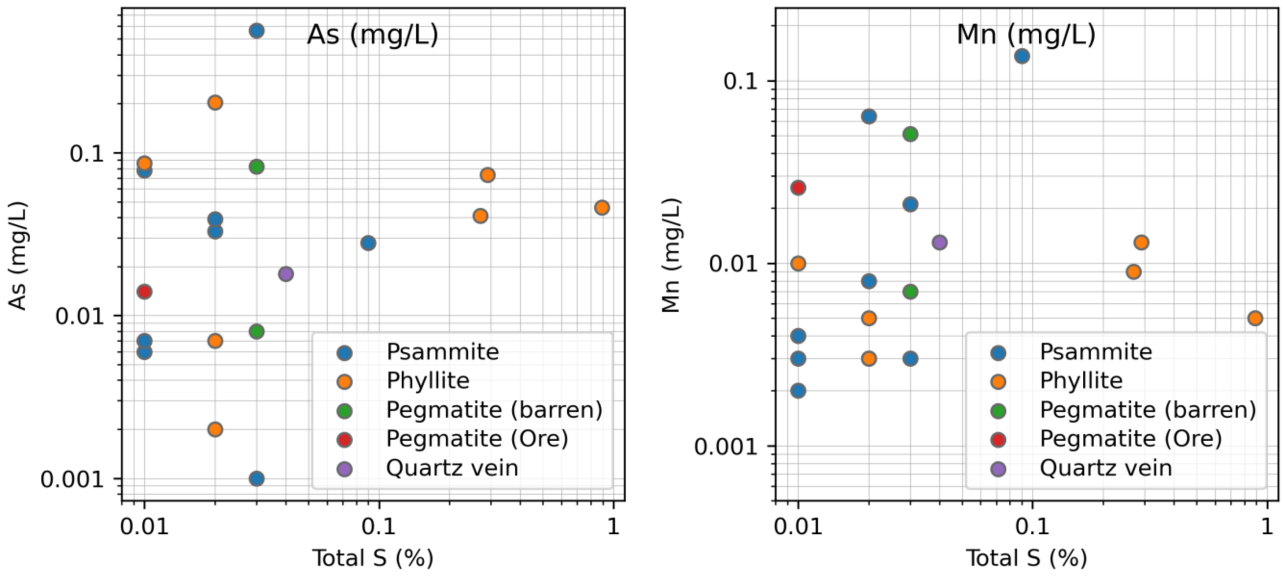


Figure 22: As and Mn concentrations in water extracts (n=20).

3.10. Peroxide extractable elements

Testing for peroxide extractable elements provides an indication of potential release levels resulting from exposure to oxidising conditions. The samples selected for testing contained the highest levels of Total S and therefore likely had the highest potential for oxidation reactions leading to acidic and metalliferous release. The Total S of these samples ranged between 0.06% and 0.89%, and of these only the 3 samples with Total S > 0.25% acidified during the test (Table A6).

Peroxide extract concentrations, shown in Figure 23 and Figure 24 for the PAF and PAF-LC materials, have been multiplied by 5 to account for dilution by the peroxide solution (1:100 solid:liquid extract), making them comparable to levels of release that might be expected from kinetic leach column over 12 months. For these samples the peroxide extracts were 1 to 2 orders of magnitude higher compared to water extracts. Concentrations of elements in extracts of the other samples that did not acidify were low (Table A6).

Sulphate release levels (Figure 23) indicate the greater levels of sulphide oxidation are evident in the higher S materials (GS_050, GS_052, GS_076). These materials generally released metal(loid)s at higher levels compared to the other materials (Figure 24). Most notably, Al, Co, Cu, Mn, Ni, Pb, and Zn were released from the higher S materials at levels mostly 1 to 2 orders of magnitude higher. GS_052 released Al and Mn >10 mg/L and Cu and Zn >1 mg/L. GS_076 release Zn >10 mg/L.

For the lower S materials, which did not acidify, Al, As, Mn, and Zn were released at concentrations between 0.1 and 1 mg/L. Releases of all other metal(loid)s were <0.1 mg/L.

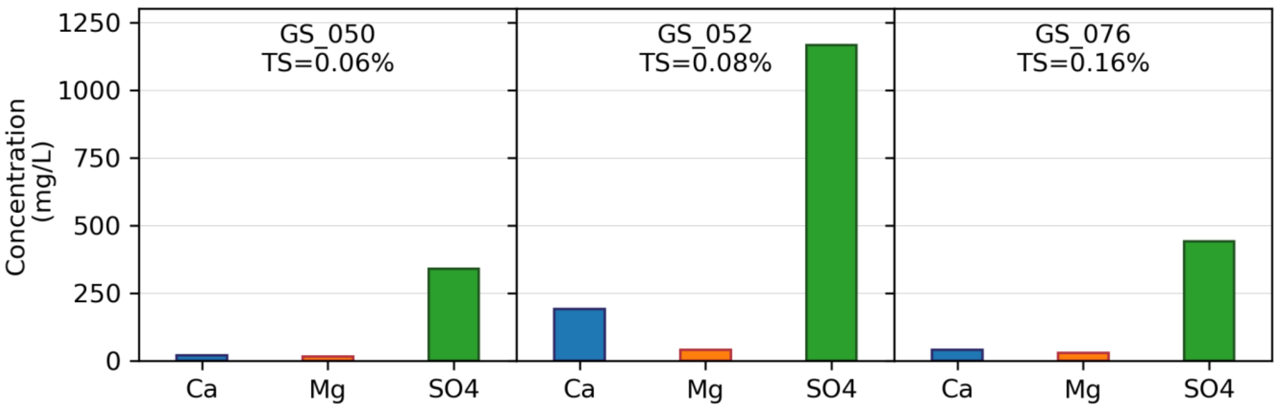


Figure 23: Concentrations of major elements in peroxide extracts of PAF and PAF-LC materials. Note that test concentrations have been multiplied by 5 to account for dilution by the peroxide solution. TS – Total S.

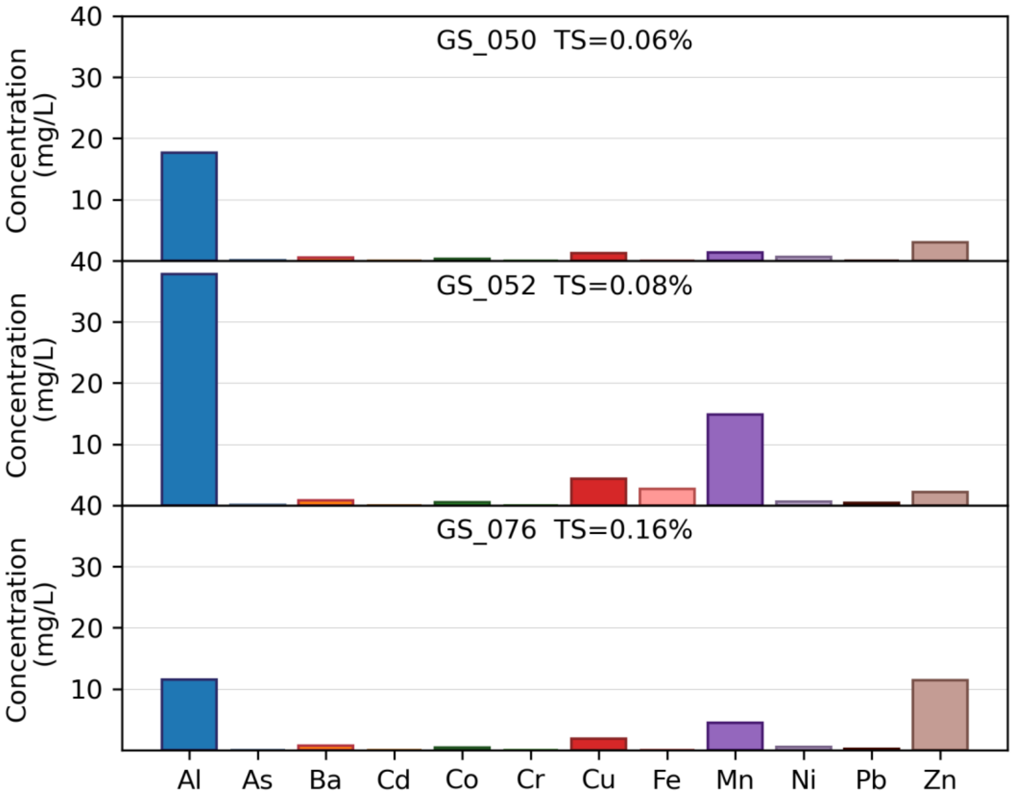


Figure 24: Concentrations of minor elements above detection limit in peroxide extracts of PAF and PAF-LC materials. Note that test concentrations have been multiplied by 5 to account for dilution by the peroxide solution. TS – Total S.

3.11. Kinetic NAG

The Kinetic NAG test provides an indication of the reactivity of a material and the potential lag period under oxidising conditions till acidification. Only the 3 high S samples were selected for this test since all other samples were insufficiently reactive and had NAGpH values >4.5 (Table 2). A composite sample (1:1 GS_052 and GS_041) was included to investigate the effect of material containing some ANC on the highest S material in the sample set

(GS_052). GS_041 was shown to contain carbonate ANC[2] of 40 kg H_2SO_4/t along with 0.02% Total S resulting in a NAPP of -19 kg H_2SO_4/t, a NAGpH of 8.2 (Table A2), and a NAF classification. A 1:1 mixture should generate a sample with a Total S of 0.46% and ANC of 26 kg H_2SO_4/t, or a NAPP of -12 kg H_2SO_4/t, i.e. an excess of ANC.

Only GS_052 produced sufficient excess acidity to reach pH <4 (Figure 25), leading to an estimated lag time of 8 years (Table 7). The other PAF-LC materials were insufficiently reactive despite having NAGpH values <4.5[3]. Based on an alternative method (time to 1 unit pH decrease), the 3 PAF(-LC) materials (GS_050, GS_052, GS_076) were estimated to have lag periods from 6 to >10 years. The composite material had very low reactivity and pH increased slightly during the test as a result of excess carbonate.

The results of the Kinetic NAG tests indicated that even the most reactive sample is likely to have a lag period greater than 6 to 8 years. Results suggest that if the very limited amount of PAF material likely to be mined during the Lei Project is co-disposed with typical low S material containing some effective ANC, then future acidification is unlikely. All the materials with total S < 0.1% (>95% of all samples) are unlikely to ever acidify.

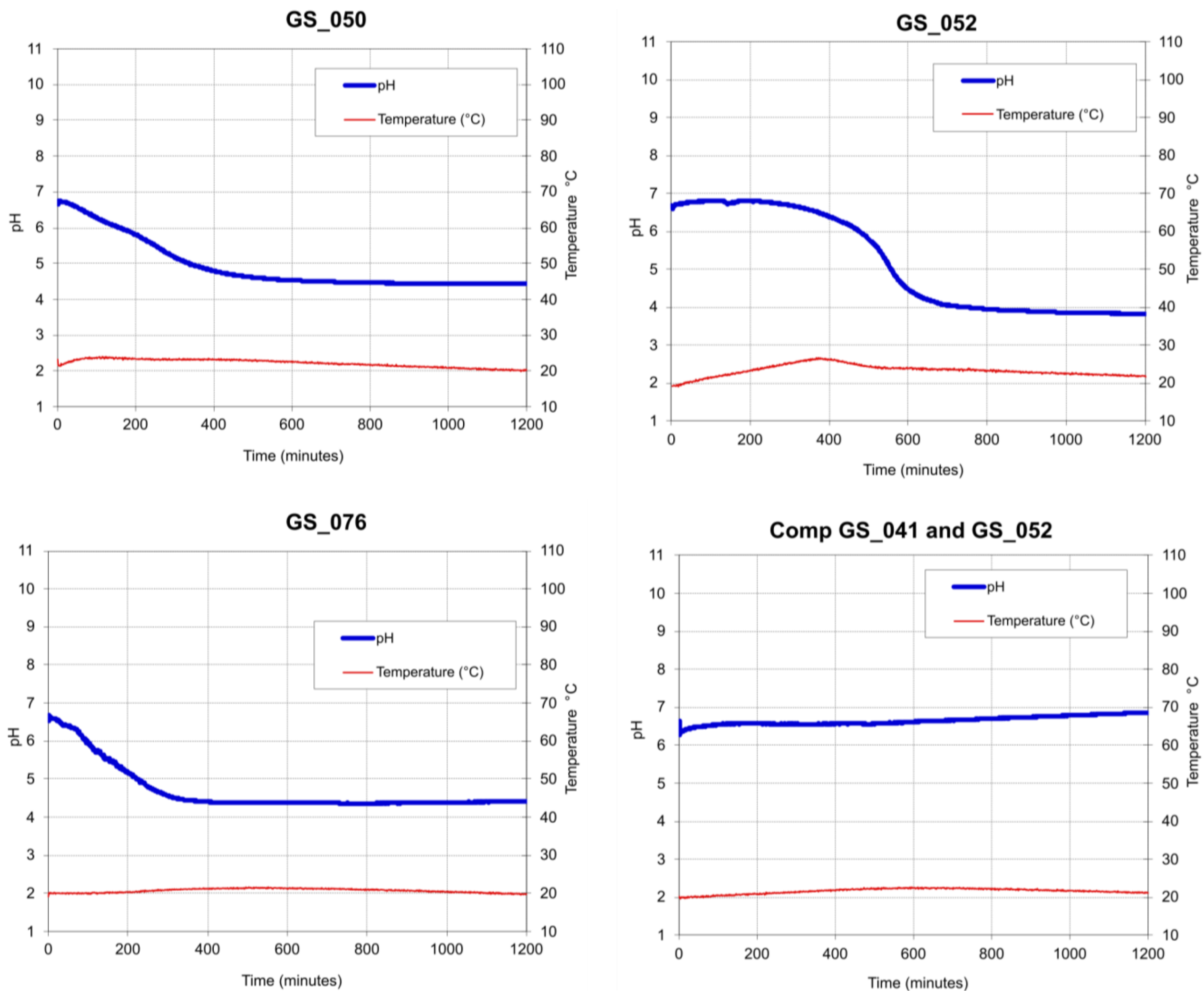


Figure 25: Kinetic NAG plots

[2] Calculated from inorganic carbon content and equal to ANC (Sobek titrated).

[3] The standard single addition NAG test includes a final boiling step, to ensure completion of reactions, that is not part of the Kinetic NAG test.

Table 7: Estimates of lag period from Kinetic NAG tests.

Sample ID	Description	Lithology	NAGpH	Time to pH <4 (mins)	Estimated lag time (wks)	Time to 1 pH unit decrease (mins)	Estimated lag time (wks)
GS_050	Fresh_METS_Proximal to Lei1	Phyllite	3.8	-	-	210	504
GS_052	Fresh_METS_Proximal to Lei1	Phyllite	3.3	742	401	512	1229
GS_076	Fresh_Internal_Waste_Lei1	Phyllite	4.2	-	-	131	314
GS_052 + GS_041	Fresh_METS_Proximal to Lei1 + Fresh_METS_Distal	Phyllite + Psammite	-	-	-	-	-

4. SUMMARY AND CONCLUSIONS

Lithium Plus Minerals provided EGi with 122 core samples for sample preparation and preliminary analysis:

- Sample representation included all oxide zones and key lithologies associated with the box-cut, decline and production stopes with note to ore and waste materials that are likely to report to surface.
- Analyses included Total S, Total C, and Organic C.
- Supported selection of 100 samples for further analysis:
  - pH and EC of water extracts
  - ANC (Acid Neutralisation Capacity)
  - NAG (Net Acid Generation) testing
  - Multi-element analyses

Samples were most usefully grouped by oxidation state and lithology:

- 38 samples were from the overlying weathered zone (totally oxidised, partially oxidised, and soil).
- 84 samples were fresh rock (fresh and fresh/altered) comprising:
  - Main hosting lithologies, psammite and phyllite
  - Pegmatite ore body, both barren and ore-containing
  - Quartz vein

Key points from preliminary analyses were summarised as follows:

- Fresh materials:
  - Comprised a range of Total S contents with 4 samples containing greater than 0.1%.
  - Generally contained higher levels of Total C compared to weathered materials.
- Weathered materials:
  - Contained very low levels of Total S with nearly 100% of samples at or just above the detection limit.
  - Large proportion containing Total C below detection.
- Fresh pegmatite:
  - Characterised by low S and C contents.
  - Total S contents of most samples were below or just above the detection limit and all samples contained ≤ 0.4% S.
  - Total C contents were especially low with most below the detection limit and 95% of samples < 0.04%.
  - Due to the low S and C contents, the pegmatite samples had NAPP values close to zero, with the NAGpH values confirming them to be NAF materials.
- Fresh hosting lithologies:
  - Generally contained low levels of Total S, had negative NAPP values and were classified as NAF materials.
  - Phyllite contained the highest levels of Total S and, specifically, 3 phyllite samples (GS_050, GS_052, GS_076) contained Total S > 0.2% with 1 sample containing 0.89%.
  - These 3 higher S samples were classified as PAF-LC (Potentially Acid Forming – Low Capacity, 2 samples) and PAF (1 sample).

    - The 2 PAF-LC samples were classified as UC (Uncertain) on the Standard ARD Classification plot, however, the negative NAPP values appeared to be due to an overestimation of ANC, supporting the PAF-LC classifications.
    - Fresh psammite samples contained higher levels of Total S compared to the weathered materials, however, Total S contents were insufficient to generate acidity in the NAG test resulting in the NAF classification of all samples from this lithology.

Temporary storage and final emplacement will subject waste rock and any process residues to water leaching and oxidation to various degrees depending on the design and management of mining operations. Further testing of selected samples was undertaken to determine 1) the potential of the materials to release dissolved species to water, 2) the potential to release dissolved species under oxidising conditions, 3) the amount and type of carbonate buffering comprising the ANC of these materials, and 4) the estimated lag period of PAF(-LC) samples.

Key results from further testing were as follows:

- Multi-element analyses of solids (100 samples) – ME analyses indicated some enrichment in potentially problematic elements such as arsenic. However, potential release of these elements is dependent on the occurrence of reactions such as oxidation and acidification.
- Multi-element analyses of water extracts (20 samples) - The pH values of water extracts (Figure 9) were circumneutral to moderately alkaline and were uncorrelated with Total S. Likewise the EC values of the water extracts were all low to moderate at approximately 0.1 dS/m. Elements present at levels >0.1 mg/L in the water extracts included Al, As, B, Ba, F, Fe, Mn, and Si. Of these only As is an element of concern, present in extracts of GS_091 (As 0.57 mg/L) and GS_115 (As 0.20 mg/L). These two materials are internal waste psammite (GS_091) and phyllite (GS_115) distal to the ore body.
- Multi-element analyses of peroxide extracts (8 samples) - Higher S materials (GS_050, GS_052, GS_076) generally released metal(loid)s at higher levels compared to the other materials. Most notably, Al, Co, Cu, Mn, Ni, Pb, and Zn were released at levels mostly 1 to 2 orders of magnitude higher than the lower S materials. GS_052 released Al and Mn >10 mg/L and Cu and Zn >1 mg/L. For the lower S material, which did not acidify, Al, As, Mn, and Zn were released at concentrations between 0.1 and 1 mg/L. Releases of all other metal(loid)s were <0.1 mg/L.
- ABCC tests (9 samples) - Materials were confirmed to contain low levels of effective ANC with carbonates mostly present as iron-bearing carbonates. For all the Lei Lithium samples, effective ANC appears to be less than 20 kg H_2SO_4/t with most having close to zero. Based on the samples tested here, effective ANC is typically lower than ANC by between 4 to 10 kg H_2SO_4/t.
- Kinetic NAG tests (3 samples + 1 composite) - Only GS_052 produced sufficient excess acidity to reach pH <4, leading to an estimated lag time of 8 years. The other PAF-LC materials were insufficiently reactive despite having NAGpH values <4.5. Based on an alternative method (time to 1 unit pH decrease), the 3 PAF(-LC) materials (GS_050, GS_052, GS_076) were estimated to have lag periods from 6 to >10 years. The composite material had very low reactivity and pH increased slightly during the test. These results indicated that even the most reactive sample is likely to have a lag period greater than 6 to 8 years. Results suggest that if the very limited amount of PAF material likely to be mined during the Lei Project is co-disposed with typical low S material containing some effective ANC, then future acidification is unlikely. All materials with total S < 0.1% (>95% of all samples) are unlikely to ever acidify.

Conclusions are as follows:

- For pegmatite lithologies, both barren and ore-bearing:
    - Low potential to release dissolved species.
        - As and Mn < 0.1 mg/L in water extracts.
    - Contained very low levels of Total S and ANC and present very low potential of acid formation.
- For hosting lithologies:

- All weathered samples contained low levels of Total S and Total C and were classified as NAF materials.
- Most fresh samples contained low levels of Total S and were classified as NAF materials with the exception of 3 phyllite samples with higher S and classified as PAF(-LC).
- Effective ANC was <20 kg H_2SO_4/t and mostly close to zero, indicating only low levels of carbonate minerals available for acid consuming reactions.
- Water extracts of some samples contained As and Mn at concentrations >0.1 mg/L, but not correlated with Total S.
- Higher S materials, particularly the 3 PAF(-LC) phyllite samples, oxidized to release 100 to 1000 mg/L sulphate on addition of peroxide.
  - Highest associated metal(loid) releases were >10 mg/L for Al and Mn and >1 mg/L for Cu and Zn.
- Estimates from Kinetic NAG testing of the PAF(-LC) samples indicated lag periods of longer than 6 years. When mixed with typical low S NAF material containing some effective ANC, the mixture was estimated to remain circumneutral indefinitely.
- The 3 phyllite samples classified as PAF-LC or PAF were internal or proximal to ore body indicating the required attention to the hosting lithologies associated with the ore body. Co-disposal with non-phyllite metasedimentary materials should prevent any future acidification.

Implications of the findings for handling/management of waste during mine operations and closure include:

- Results show that oxide and transitional waste excavated to construct the box cut will be essentially barren (classified as NAF) with a low propensity to leach metal(loid)s on contact with water and therefore surface storage of this material until backfilling of the box cut can be undertaken represents very low risk of environmental impact.
- Results show that fresh waste rock to be mined during development of the decline is, in the vast majority of cases, NAF, with a low propensity to leach significant metal(loid)s on contact with water. Surface storage of this material before it can be used to backfill stopes will represent a very low risk of environmental impact.
- There is potential for some fresh phyllite rock near to contact zones with the pegmatite to contain elevated S and on exposure to air oxidise to produce ARD. However, the lag period to acid generation is estimated to be significant (> 5 years) and co-disposal with NAF waste is likely to extend this lag period significantly. Short to medium term surface storage of fresh waste rock represents a low risk of environmental impact.
- Ore samples have been shown to be barren with respect to acid generation and neutralisation (classified as NAF) with a low propensity to leach significant metal(loid)s on contact with water. Surface stockpiling of ore prior to shipping off site therefore represents a low risk of environmental impact.
- Should paste backfilling of stopes involve addition of binder including cement to waste rock to generate the paste fill, then leach testing of the paste backfill should be undertaken, as the alkaline conditions of the cemented paste backfill can increase dissolution rates in comparison with those at neutral pH and result in mobilisation of some metal(loid)s.

5. REFERENCES

Bowen H.J.M. (1979) Environmental Chemistry of the Elements. Academic Press, New York.

APPENDIX A

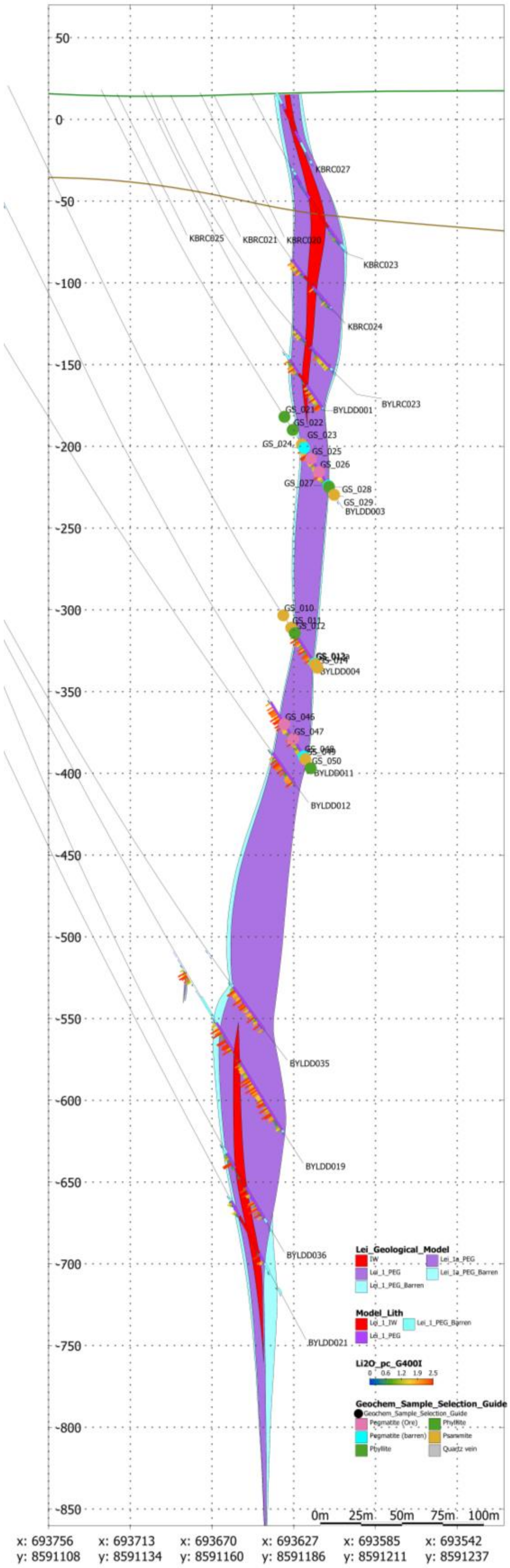


Figure A1: Drillhole traces and sample locations in vertical section – XS1.

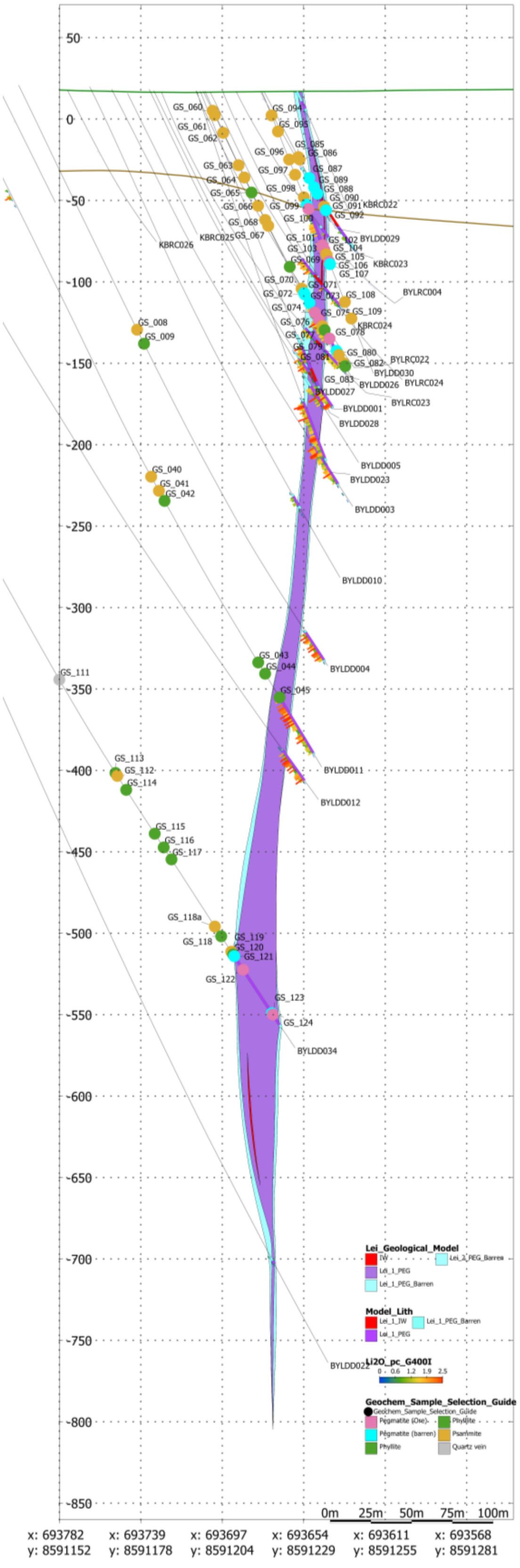


Figure A2: Drillhole traces and sample locations in vertical section – XS2

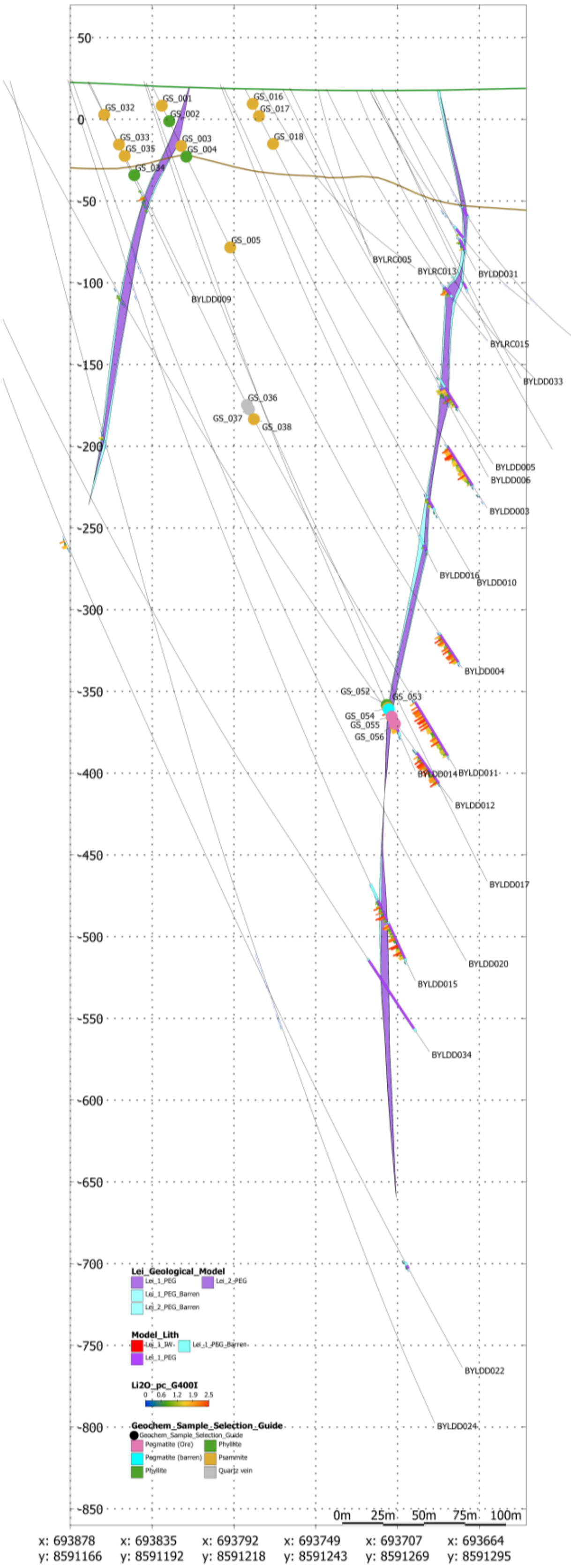


Figure A3: Drillhole traces and sample locations in vertical section – XS3

Table A1: Primary samples provided by Lithium Plus to EGi.

EGi ID	Hole ID	Sample ID	Depth (From) (m)	Depth (To) (m)	Sample Type	Lithology	Weathering	Total C (%)	Organic C (%)	Inorganic C (%)	Total S (%)	Selected
26459	BYLDD004	GS_001	14.1	14.5	Weathered_METS_Distal	Psammite	TOX	0.03	0.03	<0.02	0.02	Y
26460	BYLDD004	GS_002	25	25.42	Weathered_METS_Distal	Phyllite	TOX	0.03	0.03	<0.02	0.02	Y
26461	BYLDD004	GS_003	42.5	42.85	Transitional_METS_Distal	Psammite	POX	0.03	0.02	<0.02	0.02	Y
26462	BYLDD004	GS_004	50	50.44	Transitional_METS_Distal	Phyllite	POX	0.03	0.03	<0.02	0.02	Y
26463	BYLDD004	GS_005	114.5	114.89	Fresh_Quartz_Veins	Psammite	FR	0.06	0.03	0.03	0.02	Y
26464	BYLDD004	GS_006	151.5	151.9	Fresh_METS_Distal	Psammite	FR	0.16	0.04	0.12	0.02	Y
26465	BYLDD004	GS_007	163.01	163.45	Fresh_METS_Distal	Phyllite	FR	0.05	0.02	0.03	0.02	N
26466	BYLDD004	GS_008	174	174.44	Fresh_METS_Distal	Psammite	FR	0.12	<0.02	0.12	0.02	Y
26467	BYLDD004	GS_009	184.1	184.51	Fresh_METS_Distal	Phyllite	FR	0.53	0.04	0.49	0.02	Y
26468	BYLDD004	GS_010	383.56	384	Fresh_METS_Proximal to Lei1	Psammite	FR	0.05	0.03	0.02	0.02	Y
26469	BYLDD004	GS_011	393	393.6	Fresh_METS_Proximal to Lei1	Psammite	FR	0.03	0.03	<0.02	0.02	Y
26470	BYLDD004	GS_012	397	398	Fresh_Altered_Wallrock	Phyllite	FR/ALT	0.11	0.03	0.08	0.02	Y
26471	BYLDD004	GS_012a	420.58	421.15	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.04	0.02	0.02	<0.01	Y
26472	BYLDD004	GS_013	421.15	422	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.03	0.02	<0.02	0.02	Y
26473	BYLDD004	GS_014	424	424.5	Fresh_METS_Proximal to Lei1	Psammite	FR	0.07	0.02	0.05	0.03	Y
26474	BYLDD003	GS_015	0	1.7	Soils_Laterite			0.15	0.14	<0.02	0.02	Y
26475	BYLDD003	GS_016	10	10.5	Weathered_METS_Distal	Psammite	TOX	<0.02	<0.02	<0.02	0.01	Y
26476	BYLDD003	GS_017	18.7	19.15	Weathered_METS_Distal	Psammite	TOX	0.03	0.03	<0.02	0.02	N
26477	BYLDD003	GS_018	38.37	38.92	Transitional_METS_Distal	Psammite	POX	<0.02	<0.02	<0.02	0.01	Y
26478	BYLDD003	GS_019	48.88	49.33	Transitional_METS_Distal	Phyllite	POX	0.03	<0.02	0.03	0.02	N
26479	BYLDD003	GS_020	47.02	47.53	Transitional_METS_Distal	Phyllite	POX	0.03	0.03	<0.02	0.02	Y
26480	BYLDD003	GS_021	241.03	241.47	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.07	0.03	0.04	0.06	Y
26481	BYLDD003	GS_022	251.13	251.55	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.04	0.04	<0.02	0.02	Y
26482	BYLDD003	GS_023	262	263	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.02	0.02	<0.02	0.02	Y

26483	BYLDD003	GS_024	264.7	265.7	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.03	0.03	<0.02	0.02	Y
26484	BYLDD003	GS_025	273	274	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.03	0.03	<0.02	0.01	Y
26485	BYLDD003	GS_026	283	284	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.03	0.02	<0.02	0.02	Y
26486	BYLDD003	GS_027	294	294.7	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.03	0.03	<0.02	0.01	Y
26487	BYLDD003	GS_028	294.7	295.7	Fresh_Altered_Wallrock	Phyllite	FR/ALT	<0.02	<0.02	<0.02	0.01	Y
26488	BYLDD003	GS_029	301	301.65	Fresh_METS_Proximal to Lei1	Psammite	FR/ALT	<0.02	<0.02	<0.02	0.02	Y
26489	BYLDD011	GS_030	0	0.5	Soils_Laterite			0.38	0.33	0.05	0.02	Y
26490	BYLDD011	GS_031	12	12.5	Weathered_METS_Distal	Psammite	TOX	0.17	0.11	0.06	0.01	Y
26491	BYLDD011	GS_032	23	23.55	Weathered_METS_Distal	Psammite	TOX	0.20	0.17	0.03	0.03	Y
26492	BYLDD011	GS_033	44	44.47	Transitional_METS_Distal	Psammite	POX	0.04	0.04	<0.02	0.01	Y
26493	BYLDD011	GS_034	65.6	66	Transitional_METS_Distal	Phyllite	POX	0.03	<0.02	0.03	0.08	Y
26494	BYLDD011	GS_035	52	52.54	Transitional_METS_Distal	Psammite	POX	0.03	0.03	<0.02	0.01	Y
26495	BYLDD011	GS_036	227.52	228	Fresh_Quartz_Veins	Quartz vein	FR	0.64	<0.02	0.64	0.01	Y
26496	BYLDD011	GS_037	230.5	230.95	Fresh_Quartz_Veins	Quartz vein	FR	0.20	0.03	0.17	0.04	Y
26497	BYLDD011	GS_038	237.49	238	Fresh_METS_Distal	Psammite	FR	0.52	0.02	0.50	0.16	Y
26498	BYLDD011	GS_039	257.44	257.92	Fresh_METS_Distal	Psammite	FR	0.11	<0.02	0.11	0.02	Y
26499	BYLDD011	GS_040	280.05	280.42	Fresh_METS_Distal	Psammite	FR	0.35	<0.02	0.35	0.02	Y
26500	BYLDD011	GS_041	290.23	290.8	Fresh_METS_Distal	Psammite	FR	0.51	0.02	0.49	0.02	Y
26501	BYLDD011	GS_042	297.62	298.12	Fresh_METS_Distal	Phyllite	FR	0.06	0.02	0.04	0.02	Y
26502	BYLDD011	GS_043	417	417.54	Fresh_Quartz_Veins	Phyllite	FR	0.04	<0.02	0.04	0.01	Y
26503	BYLDD011	GS_044	425.47	426	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.04	0.02	0.02	0.03	Y
26504	BYLDD011	GS_045	443	444	Fresh_Altered_Wallrock	Phyllite	FR/ALT	0.03	0.03	<0.02	0.01	Y
26505	BYLDD011	GS_046	461	462	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.02	<0.02	0.02	0.01	Y
26506	BYLDD011	GS_047	472	473	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	0.01	Y

26507	BYLDD011	GS_048	485	485.8	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	<0.02	<0.02	<0.02	0.02	Y
26508	BYLDD011	GS_049	487	488	Fresh_Altered_Wallrock	Psammite	FR/ALT	<0.02	<0.02	<0.02	0.02	Y
26509	BYLDD011	GS_050	494	494.55	Fresh_METS_Proximal to Lei1	Phyllite	FR	<0.02	<0.02	<0.02	0.29	Y
26510	BYLDD014	GS_052	417.29	417.79	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.14	<0.02	0.14	0.89	Y
26511	BYLDD014	GS_053	419	420	Fresh_Altered_Wallrock	Psammite	FR/ALT	<0.02	<0.02	<0.02	0.04	Y
26512	BYLDD014	GS_054	420.15	421	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	<0.02	<0.02	<0.02	0.01	Y
26513	BYLDD014	GS_055	425	426	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	<0.01	Y
26514	BYLDD014	GS_056	430	431	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	0.01	N
26515	BYLDD014	GS_057	436	437	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.04	0.03	<0.02	0.03	Y
26516	BYLDD014	GS_058	437	438	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.03	0.03	<0.02	0.02	N
26517	BYLDD014	GS_059	440	441	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.10	<0.02	0.10	0.01	Y
26518	BYLDD026	GS_060	13.54	14	Weathered_METS_Distal	Psammite	TOX	0.02	0.02	<0.02	<0.01	Y
26519	BYLDD026	GS_061	16.6	17.1	Weathered_METS_Distal	Psammite	TOX	0.02	0.02	<0.02	0.01	Y
26520	BYLDD026	GS_062	28.9	29.33	Weathered_METS_Distal	Psammite	POX	0.02	0.02	<0.02	0.01	Y
26521	BYLDD026	GS_063	51.41	51.91	Transitional_METS_Distal	Psammite	POX	0.03	0.03	<0.02	0.02	N
26522	BYLDD026	GS_064	60	60.45	Transitional_METS_Distal	Psammite	POX	0.03	0.03	<0.02	0.01	N
26523	BYLDD026	GS_065	70.52	70.95	Fresh_METS_Distal	Phyllite	POX	0.54	0.03	0.51	0.04	Y
26524	BYLDD026	GS_066	79.81	80.27	Fresh_METS_Distal	Psammite	FR	0.66	0.09	0.57	0.02	Y
26525	BYLDD026	GS_067	94	94.45	Fresh_METS_Distal	Psammite	FR	0.92	0.05	0.87	0.04	Y
26526	BYLDD026	GS_068	89.8	90.4	Fresh_METS_Distal	Psammite	FR	0.83	0.04	0.79	0.03	Y
26527	BYLDD026	GS_069	123.22	123.74	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.08	0.02	0.06	0.02	Y
26528	BYLDD026	GS_070	139.01	139.57	Fresh_METS_Proximal to Lei1	Psammite	FR	0.10	<0.02	0.10	0.02	Y
26529	BYLDD026	GS_071	142	143	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.02	<0.02	0.02	0.04	Y
26530	BYLDD026	GS_072	143	144	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	<0.02	<0.02	<0.02	0.03	Y

26531	BYLDD026	GS_073	149.18	150	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.02	<0.02	0.02	0.03	Y
26532	BYLDD026	GS_074	156	157	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	0.01	N
26533	BYLDD026	GS_075	161	162	Fresh_Internal_Waste_Lei1	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	0.01	N
26534	BYLDD026	GS_076	169.07	169.54	Fresh_Internal_Waste_Lei1	Phyllite	FR	0.03	<0.02	0.03	0.27	Y
26535	BYLDD026	GS_077	166	167	Fresh_Internal_Waste_Lei1	Psammite	FR/ALT	<0.02	<0.02	<0.02	0.03	Y
26536	BYLDD026	GS_078	175	176	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	0.01	N
26537	BYLDD026	GS_079	184	185	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.02	0.02	<0.02	0.02	Y
26538	BYLDD026	GS_080	185	186	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.02	0.02	<0.02	0.02	N
26539	BYLDD026	GS_081	187	188	Fresh_Altered_Wallrock	Psammite	FR/ALT	<0.02	<0.02	<0.02	0.02	N
26540	BYLDD026	GS_082	193.22	193.7	Fresh_METS_Proximal to Lei1	Psammite	FR	0.03	0.03	<0.02	0.02	N
26541	BYLDD026	GS_083	195.45	196	Fresh_METS_Proximal to Lei1	Phyllite	FR	<0.02	<0.02	<0.02	<0.01	N
26542	BYLDD029	GS_085	44.8	45.37	Transitional_METS_Proximal to Lei1	Psammite	POX	<0.02	<0.02	<0.02	0.01	Y
26543	BYLDD029	GS_086	46.42	47	Transitional_METS_Proximal to Lei1	Psammite	POX	<0.02	<0.02	<0.02	0.01	Y
26544	BYLDD029	GS_087	59.2	60.2	Transitional_Lei1_Barren_Pegmatite	Pegmatite (barren)	POX	<0.02	<0.02	<0.02	0.01	Y
26545	BYLDD029	GS_088	70	71	Transitional_Lei1_Pegmatite	Pegmatite (barren)	POX	0.03	<0.02	0.03	0.01	Y
26546	BYLDD029	GS_089	65.7	66.5	Transitional_Lei1_Pegmatite	Pegmatite (barren)	POX	0.03	0.03	<0.02	0.01	Y
26547	BYLDD029	GS_090	79	79.9	Transitional_Internal_Waste	Psammite	POX	0.02	<0.02	0.02	0.02	Y
26548	BYLDD029	GS_091	80	81	Transitional_Internal_Waste	Psammite	POX	<0.02	<0.02	<0.02	0.03	Y
26549	BYLDD029	GS_092	81.7	82.5	Transitional_Lei1_Pegmatite	Pegmatite (barren)	POX	<0.02	<0.02	<0.02	0.03	Y
26550	BYLDD030	GS_094	15	15.7	Weathered_METS_Distal	Psammite	TOX	<0.02	<0.02	<0.02	0.01	N
26551	BYLDD030	GS_095	25.8	26.2	Weathered_METS_Distal	Psammite	TOX	<0.02	<0.02	<0.02	0.01	N
26552	BYLDD030	GS_096	44.4	45	Transitional_METS_Distal	Psammite	POX	<0.02	<0.02	<0.02	0.01	N
26553	BYLDD030	GS_097	54.56	55	Transitional_METS_Distal	Psammite	POX	0.02	0.02	<0.02	0.01	Y

26554	BYLDD030	GS_098	69.5	70	Transitional_METS_Proximal to Lei1	Psammite	POX	<0.02	<0.02	<0.02	0.01	Y
26555	BYLDD030	GS_099	74	75	Transitional_Lei1_Barren_Pegmatite	Pegmatite (barren)	POX	<0.02	<0.02	<0.02	<0.01	Y
26556	BYLDD030	GS_100	77	78	Transitional_Lei1_Pegmatite	Pegmatite (Ore)	POX	<0.02	<0.02	<0.02	0.01	Y
26557	BYLDD030	GS_101	101	102	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	0.02	Y
26558	BYLDD030	GS_102	104	105	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.03	0.02	<0.02	0.01	N
26559	BYLDD030	GS_103	107	108	Fresh_Internal_Waste_Lei1	Psammite	FR	0.02	0.02	<0.02	0.09	Y
26560	BYLDD030	GS_104	108	109	Fresh_Internal_Waste_Lei1	Psammite	FR	<0.02	<0.02	<0.02	0.04	Y
26561	BYLDD030	GS_105	112	113	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.03	0.03	<0.02	0.02	N
26562	BYLDD030	GS_106	113	113.78	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.04	0.04	<0.02	0.03	Y
26563	BYLDD030	GS_107	113.78	114.41	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	POX	0.06	0.04	0.02	0.02	Y
26564	BYLDD030	GS_108	139	139.4	Fresh_METS_Proximal to Lei1	Psammite	FR	0.03	0.03	<0.02	<0.01	Y
26565	BYLDD030	GS_109	150	150.42	Fresh_METS_Proximal to Lei1	Psammite	FR	<0.02	<0.02	<0.02	0.01	Y
26566	BYLDD034	GS_111	411	411.52	Fresh_Quartz_Veins	Quartz vein	FR	0.04	0.03	<0.02	0.03	Y
26567	BYLDD034	GS_112	480.14	480.66	Fresh_METS_Distal	Psammite	FR	0.30	0.03	0.27	0.02	Y
26568	BYLDD034	GS_113	478.06	478.52	Fresh_METS_Distal	Phyllite	FR	1.04	0.04	1.00	0.03	Y
26569	BYLDD034	GS_114	490.36	490.79	Fresh_METS_Distal	Phyllite	FR	0.11	0.04	0.07	0.02	Y
26570	BYLDD034	GS_115	522.46	523	Fresh_METS_Distal	Phyllite	FR	0.21	0.02	0.19	0.02	Y
26571	BYLDD034	GS_116	532.63	533	Fresh_METS_Distal	Phyllite	FR	0.11	0.02	0.09	0.06	Y
26572	BYLDD034	GS_117	541.37	541.81	Fresh_METS_Distal	Phyllite	FR	0.04	<0.02	0.04	0.02	Y
26573	BYLDD034	GS_118	597.65	598.12	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.09	<0.02	0.09	0.01	Y
26574	BYLDD034	GS_118a	590.5	591	Fresh_METS_Proximal to Lei1	Psammite	FR	0.37	<0.02	0.37	0.01	Y
26575	BYLDD034	GS_119	609	609.4	Fresh_METS_Proximal to Lei1	Psammite	FR	<0.02	<0.02	<0.02	0.02	Y
26576	BYLDD034	GS_120	611	611.5	Fresh_Altered_Wallrock	Phyllite	FR/ALT	0.14	<0.02	0.14	0.03	Y
26577	BYLDD034	GS_121	612	613	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	<0.02	<0.02	<0.02	0.01	N

26578	BYLDD034	GS_122	622	623	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	<0.02	<0.02	<0.02	0.02	N
26579	BYLDD034	GS_123	655	656	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.02	<0.02	0.02	0.01	N
26580	BYLDD034	GS_124	654	655	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	<0.02	<0.02	<0.02	0.02	Y

Table A2: Analyses of selected Lei Lithium samples (n = 100)

Sample ID	Hole ID	Sample Description	Lithology	Weathering	Total C (%)	Organic C (%)	Inorganic C (%)	Total S (%)	MPA (kg H_2SO_4/t)	ANC (kg H2SO4/t)	NAPP (kg H2SO4/t)	ANC/MPA	NAGpH	NAG4.5 (kg H2SO4/t)	NAG7.0 (kg H2SO4/t)	pH1:2	EC1:2 (dS/m)
GS_001	BYLDD004	Weathered_METS_Distal	Psammite	TOX	0.03	0.03	0.01	0.02	0.6	1	-0.4	1.6	5.8	0.0	9.2	7.5	0.12
GS_002	BYLDD004	Weathered_METS_Distal	Phyllite	TOX	0.03	0.03	0.01	0.02	0.6	2	-1.4	3.3	7.3	0.0	0.0	7.2	0.09
GS_003	BYLDD004	Transitional_METS_Distal	Psammite	POX	0.03	0.02	0.01	0.02	0.6	4	-3.4	6.5	7.1	0.0	0.0	7.3	0.10
GS_004	BYLDD004	Transitional_METS_Distal	Phyllite	POX	0.03	0.03	0.01	0.02	0.6	8	-7.4	13.1	7.2	0.0	0.0	7.2	0.09
GS_005	BYLDD004	Fresh_Quartz_Veins	Psammite	FR	0.06	0.03	0.03	0.02	0.6	8	-7.4	13.1	7.3	0.0	0.0	7.4	0.11
GS_006	BYLDD004	Fresh_METS_Distal	Psammite	FR	0.16	0.04	0.12	0.02	0.6	8	-7.4	13.1	7.4	0.0	0.0	7.5	0.11
GS_008	BYLDD004	Fresh_METS_Distal	Psammite	FR	0.12	0.01	0.12	0.02	0.6	9	-8.4	14.7	7.5	0.0	0.0	7.3	0.08
GS_009	BYLDD004	Fresh_METS_Distal	Phyllite	FR	0.53	0.04	0.49	0.02	0.6	15	-14.4	24.5	7.7	0.0	0.0	7.2	0.11
GS_010	BYLDD004	Fresh_METS_Proximal to Lei1	Psammite	FR	0.05	0.03	0.02	0.02	0.6	8	-7.4	13.1	7.4	0.0	0.0	7.6	0.08
GS_011	BYLDD004	Fresh_METS_Proximal to Lei1	Psammite	FR	0.03	0.03	0.01	0.02	0.6	7	-6.4	11.4	7.3	0.0	0.0	7.5	0.12
GS_012	BYLDD004	Fresh_Altered_Wallrock	Phyllite	FR/ALT	0.11	0.03	0.08	0.02	0.6	12	-11.4	19.6	7.6	0.0	0.0	7.4	0.08
GS_012a	BYLDD004	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.04	0.02	0.02	0.005	0.2	5	-4.8	32.7	7.1	0.0	0.0	7.3	0.12
GS_013	BYLDD004	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.03	0.02	0.01	0.02	0.6	13	-12.4	21.2	7.2	0.0	0.0	7.2	0.08
GS_014	BYLDD004	Fresh_METS_Proximal to Lei1	Psammite	FR	0.07	0.02	0.05	0.03	0.9	8	-7.1	8.7	7.3	0.0	0.0	7.4	0.12
GS_015	BYLDD003	Soils_Laterite	Soil		0.15	0.14	0.01	0.02	0.6	0	0.6	0.0	5.5	0.0	7.6	7.5	0.14
GS_016	BYLDD003	Weathered_METS_Distal	Psammite	TOX	0.01	0.01	0.01	0.01	0.3	0	0.3	0.0	7.1	0.0	0.0	7.2	0.12
GS_018	BYLDD003	Transitional_METS_Distal	Psammite	POX	0.01	0.01	0.01	0.01	0.3	2	-1.7	6.5	7.2	0.0	0.0	7.4	0.11
GS_019	BYLDD003	Transitional_METS_Distal	Phyllite	POX	0.03	0.01	0.03	0.02	0.6	6	-5.4	9.8	6	0.0	6.2	7.8	0.11
GS_021	BYLDD003	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.07	0.03	0.04	0.06	1.8	14	-12.2	7.6	7.8	0.0	0.0	7.3	0.13
GS_022	BYLDD003	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.04	0.04	0.01	0.02	0.6	10	-9.4	16.3	7.2	0.0	0.0	7.2	0.08
GS_023	BYLDD003	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.02	0.02	0.01	0.02	0.6	6	-5.4	9.8	7.1	0.0	0.0	7.6	0.08
GS_024	BYLDD003	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.03	0.03	0.01	0.02	0.6	3	-2.4	4.9	7.2	0.0	0.0	7.7	0.08
GS_025	BYLDD003	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.03	0.03	0.01	0.01	0.3	4	-3.7	13.1	7.1	0.0	0.0	7.6	0.10
GS_026	BYLDD003	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.03	0.02	0.01	0.02	0.6	6	-5.4	9.8	7.2	0.0	0.0	7.5	0.12
GS_027	BYLDD003	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.03	0.03	0.01	0.01	0.3	6	-5.7	19.6	7.1	0.0	0.0	7.7	0.12
GS_028	BYLDD003	Fresh_Altered_Wallrock	Phyllite	FR/ALT	0.01	0.01	0.01	0.01	0.3	9	-8.7	29.4	7.2	0.0	0.0	7.8	0.12
GS_029	BYLDD003	Fresh_METS_Proximal to Lei1	Psammite	FR/ALT	0.01	0.01	0.01	0.02	0.6	6	-5.4	9.8	7.3	0.0	0.0	7.5	0.10
GS_030	BYLDD011	Soils_Laterite	Soil		0.38	0.33	0.05	0.02	0.6	0	0.6	0.0	5.1	0.0	7.1	7.4	0.11
GS_031	BYLDD011	Weathered_METS_Distal	Psammite	TOX	0.17	0.11	0.06	0.01	0.3	2	-1.7	6.5	5.8	0.0	5.8	7.3	0.12
GS_032	BYLDD011	Weathered_METS_Distal	Psammite	TOX	0.20	0.17	0.03	0.03	0.9	3	-2.1	3.3	6	0.0	5.6	7.6	0.11
GS_033	BYLDD011	Transitional_METS_Distal	Psammite	POX	0.04	0.04	0.01	0.01	0.3	7	-6.7	22.9	7.2	0.0	0.0	7.3	0.12
GS_034	BYLDD011	Transitional_METS_Distal	Phyllite	POX	0.03	0.01	0.03	0.08	2.4	7	-4.6	2.9	5.5	0.0	2.5	7.2	0.11
GS_035	BYLDD011	Transitional_METS_Distal	Psammite	POX	0.03	0.03	0.01	0.01	0.3	4	-3.7	13.1	7.3	0.0	0.0	7.3	0.09
GS_036	BYLDD011	Fresh_Quartz_Veins	Quartz vein	FR	0.64	0.01	0.64	0.01	0.3	31	-30.7	101.3	7.9	0.0	0.0	7.2	0.10
GS_037	BYLDD011	Fresh_Quartz_Veins	Quartz vein	FR	0.20	0.03	0.17	0.04	1.2	9	-7.8	7.4	7.5	0.0	0.0	7.1	0.09
GS_038	BYLDD011	Fresh_METS_Distal	Psammite	FR	0.52	0.02	0.50	0.16	4.9	23	-18.1	4.7	7.8	0.0	0.0	8.3	0.10
GS_039	BYLDD011	Fresh_METS_Distal	Psammite	FR	0.11	0.01	0.11	0.02	0.6	9	-8.4	14.7	7.6	0.0	0.0	7.2	0.08
GS_040	BYLDD011	Fresh_METS_Distal	Psammite	FR	0.35	0.01	0.35	0.02	0.6	14	-13.4	22.9	7.9	0.0	0.0	7.3	0.11
GS_041	BYLDD011	Fresh_METS_Distal	Psammite	FR	0.51	0.02	0.49	0.02	0.6	20	-19.4	32.7	8.2	0.0	0.0	7.9	0.09
GS_042	BYLDD011	Fresh_METS_Distal	Phyllite	FR	0.06	0.02	0.04	0.02	0.6	10	-9.4	16.3	7.3	0.0	0.0	7.8	0.12
GS_043	BYLDD011	Fresh_Quartz_Veins	Phyllite	FR	0.04	0.01	0.04	0.01	0.3	10	-9.7	32.7	7.5	0.0	0.0	8.1	0.11
GS_044	BYLDD011	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.04	0.02	0.02	0.03	0.9	10	-9.1	10.9	7.1	0.0	0.0	7.5	0.11
GS_045	BYLDD011	Fresh_Altered_Wallrock	Phyllite	FR/ALT	0.03	0.03	0.01	0.01	0.3	7	-6.7	22.9	7.2	0.0	0.0	7.4	0.08
GS_046	BYLDD011	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.02	0.01	0.02	0.01	0.3	7	-6.7	22.9	7.1	0.0	0.0	8	0.12
GS_047	BYLDD011	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.01	0.01	0.01	0.01	0.3	5	-4.7	16.3	6.5	0.0	4.1	7.6	0.09
GS_048	BYLDD011	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.01	0.01	0.01	0.02	0.6	4	-3.4	6.5	6.2	0.0	4.0	7.5	0.11
GS_049	BYLDD011	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.01	0.01	0.01	0.02	0.6	6	-5.4	9.8	6.3	0.0	3.9	7.8	0.11
GS_050	BYLDD011	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.01	0.01	0.01	0.29	8.9	12	-3.1	1.4	3.8	1.9	5.6	7.9	0.08

GS_052	BYLDD014	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.14	0.01	0.14	0.89	27.2	25	2.2	0.9	3.3	6.3	13.0	7.6	0.11
GS_053	BYLDD014	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.01	0.01	0.01	0.04	1.2	8	-6.8	6.5	7.1	0.0	0.0	7.7	0.08
GS_054	BYLDD014	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.01	0.01	0.01	0.01	0.3	4	-3.7	13.1	6.1	0.0	6.0	7.5	0.11
GS_055	BYLDD014	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.01	0.01	0.01	0.005	0.2	4	-3.8	26.1	6.3	0.0	5.1	7.6	0.08
GS_057	BYLDD014	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.04	0.03	0.01	0.03	0.9	7	-6.1	7.6	6.1	0.0	4.4	8	0.10
GS_059	BYLDD014	Fresh_Altered_Wallrock	Psammite	FR/ALT	0.10	0.01	0.10	0.01	0.3	14	-13.7	45.8	7.9	0.0	0.0	8.1	0.09
GS_060	BYLDD026	Weathered_METS_Distal	Psammite	TOX	0.02	0.02	0.01	0.005	0.2	1	-0.8	6.5	7.1	0.0	0.0	7.8	0.10
GS_061	BYLDD026	Weathered_METS_Distal	Psammite	TOX	0.02	0.02	0.01	0.01	0.3	3	-2.7	9.8	7.3	0.0	0.0	7.9	0.11
GS_062	BYLDD026	Weathered_METS_Distal	Psammite	POX	0.02	0.02	0.01	0.01	0.3	1	-0.7	3.3	7.2	0.0	0.0	7.5	0.12
GS_065	BYLDD026	Fresh_METS_Distal	Phyllite	POX	0.54	0.03	0.51	0.04	1.2	13	-11.8	10.6	7.3	0.0	0.0	7.6	0.12
GS_066	BYLDD026	Fresh_METS_Distal	Psammite	FR	0.66	0.09	0.57	0.02	0.6	11	-10.4	18.0	7.4	0.0	0.0	8.1	0.10
GS_067	BYLDD026	Fresh_METS_Distal	Psammite	FR	0.92	0.05	0.87	0.04	1.2	14	-12.8	11.4	7.7	0.0	0.0	7.8	0.09
GS_068	BYLDD026	Fresh_METS_Distal	Psammite	FR	0.83	0.04	0.79	0.03	0.9	13	-12.1	14.2	7.6	0.0	0.0	7.9	0.12
GS_069	BYLDD026	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.08	0.02	0.06	0.02	0.6	11	-10.4	18.0	7.7	0.0	0.0	7.6	0.10
GS_070	BYLDD026	Fresh_METS_Proximal to Lei1	Psammite	FR	0.10	0.01	0.10	0.02	0.6	12	-11.4	19.6	7.9	0.0	0.0	7.5	0.12
GS_071	BYLDD026	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.02	0.01	0.02	0.04	1.2	5	-3.8	4.1	6.2	0.0	5.3	7.7	0.09
GS_072	BYLDD026	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.01	0.01	0.01	0.03	0.9	5	-4.1	5.4	6.1	0.0	5.7	7.3	0.11
GS_073	BYLDD026	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.02	0.01	0.02	0.03	0.9	8	-7.1	8.7	6.2	0.0	5.0	7.4	0.09
GS_076	BYLDD026	Fresh_Internal_Waste_Lei1	Phyllite	FR	0.03	0.01	0.03	0.27	8.3	10	-1.7	1.2	4.2	0.7	4.0	7.5	0.12
GS_077	BYLDD026	Fresh_Internal_Waste_Lei1	Psammite	FR/ALT	0.01	0.01	0.01	0.03	0.9	9	-8.1	9.8	6.2	0.0	4.6	8	0.08
GS_079	BYLDD026	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.02	0.02	0.01	0.02	0.6	9	-8.4	14.7	6.2	0.0	4.8	8.1	0.12
GS_085	BYLDD029	Transitional_METS_Proximal to Lei1	Psammite	POX	0.01	0.01	0.01	0.01	0.3	2	-1.7	6.5	6.1	0.0	5.2	7.9	0.09
GS_086	BYLDD029	Transitional_METS_Proximal to Lei1	Psammite	POX	0.01	0.01	0.01	0.01	0.3	1	-0.7	3.3	6	0.0	5.5	7.8	0.12
GS_087	BYLDD029	Transitional_Lei1_Barren_Pegmatit	Pegmatite (barren)	POX	0.01	0.01	0.01	0.01	0.3	7	-6.7	22.9	6.2	0.0	5.2	7.6	0.09
GS_088	BYLDD029	Transitional_Lei1_Pegmatite	Pegmatite (barren)	POX	0.03	0.01	0.03	0.01	0.3	18	-17.7	58.8	6	0.0	7.4	7.5	0.11
GS_089	BYLDD029	Transitional_Lei1_Pegmatite	Pegmatite (barren)	POX	0.03	0.03	0.01	0.01	0.3	17	-16.7	55.6	6.2	0.0	5.6	7.1	0.09
GS_090	BYLDD029	Transitional_Internal_Waste	Psammite	POX	0.02	0.01	0.02	0.02	0.6	10	-9.4	16.3	6	0.0	4.0	7.5	0.11
GS_091	BYLDD029	Transitional_Internal_Waste	Psammite	POX	0.01	0.01	0.01	0.03	0.9	6	-5.1	6.5	6.2	0.0	3.4	7.2	0.10
GS_092	BYLDD029	Transitional_Lei1_Pegmatite	Pegmatite (barren)	POX	0.01	0.01	0.01	0.03	0.9	5	-4.1	5.4	5.8	0.0	5.0	7.4	0.11
GS_097	BYLDD030	Transitional_METS_Distal	Psammite	POX	0.02	0.02	0.01	0.01	0.3	3	-2.7	9.8	7.1	0.0	0.0	7.3	0.10
GS_098	BYLDD030	Transitional_METS_Proximal to Lei1	Psammite	POX	0.01	0.01	0.01	0.01	0.3	11	-10.7	35.9	6.2	0.0	4.8	7.6	0.09
GS_099	BYLDD030	Transitional_Lei1_Barren_Pegmatit	Pegmatite (barren)	POX	0.01	0.01	0.01	0.005	0.2	12	-11.8	78.4	6.1	0.0	4.7	7.9	0.10
GS_100	BYLDD030	Transitional_Lei1_Pegmatite	Pegmatite (Ore)	POX	0.01	0.01	0.01	0.01	0.3	3	-2.7	9.8	6.2	0.0	5.3	8.1	0.12
GS_101	BYLDD030	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.01	0.01	0.01	0.02	0.6	4	-3.4	6.5	6	0.0	4.9	8	0.11
GS_103	BYLDD030	Fresh_Internal_Waste_Lei1	Psammite	FR	0.02	0.02	0.01	0.09	2.8	9	-6.2	3.3	5.8	0.0	1.9	7.6	0.11
GS_104	BYLDD030	Fresh_Internal_Waste_Lei1	Psammite	FR	0.01	0.01	0.01	0.04	1.2	5	-3.8	4.1	5.6	0.0	2.7	7.7	0.11
GS_106	BYLDD030	Fresh_Lei1_Pegmatite	Pegmatite (Ore)	FR	0.04	0.04	0.01	0.03	0.9	6	-5.1	6.5	7.2	0.0	0.0	8.1	0.09
GS_107	BYLDD030	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	POX	0.06	0.04	0.02	0.02	0.6	8	-7.4	13.1	7.1	0.0	0.0	7.9	0.08
GS_108	BYLDD030	Fresh_METS_Proximal to Lei1	Psammite	FR	0.03	0.03	0.01	0.005	0.2	7	-6.8	45.8	7.2	0.0	0.0	7.8	0.09
GS_109	BYLDD030	Fresh_METS_Proximal to Lei1	Psammite	FR	0.01	0.01	0.01	0.01	0.3	5	-4.7	16.3	7.1	0.0	0.0	8.1	0.11
GS_111	BYLDD034	Fresh_Quartz_Veins	Quartz vein	FR	0.04	0.03	0.01	0.03	0.9	7	-6.1	7.6	7.1	0.0	0.0	8	0.11
GS_112	BYLDD034	Fresh_METS_Distal	Psammite	FR	0.30	0.03	0.27	0.02	0.6	11	-10.4	18.0	7.6	0.0	0.0	8.4	0.09
GS_113	BYLDD034	Fresh_METS_Distal	Phyllite	FR	1.04	0.04	1.00	0.03	0.9	16	-15.1	17.4	7.7	0.0	0.0	8.3	0.09
GS_114	BYLDD034	Fresh_METS_Distal	Phyllite	FR	0.11	0.04	0.07	0.02	0.6	15	-14.4	24.5	7.8	0.0	0.0	7.9	0.08
GS_115	BYLDD034	Fresh_METS_Distal	Phyllite	FR	0.21	0.02	0.19	0.02	0.6	20	-19.4	32.7	8.1	0.0	0.0	7.8	0.09
GS_116	BYLDD034	Fresh_METS_Distal	Phyllite	FR	0.11	0.02	0.09	0.06	1.8	16	-14.2	8.7	8	0.0	0.0	8.3	0.09
GS_117	BYLDD034	Fresh_METS_Distal	Phyllite	FR	0.04	0.01	0.04	0.02	0.6	10	-9.4	16.3	7.2	0.0	0.0	8.2	0.09
GS_118	BYLDD034	Fresh_METS_Proximal to Lei1	Phyllite	FR	0.09	0.01	0.09	0.01	0.3	13	-12.7	42.5	7.8	0.0	0.0	8.1	0.11
GS_118a	BYLDD034	Fresh_METS_Proximal to Lei1	Psammite	FR	0.37	0.01	0.37	0.01	0.3	22	-21.7	71.9	8.3	0.0	0.0	8	0.12
GS_119	BYLDD034	Fresh_METS_Proximal to Lei1	Psammite	FR	0.01	0.01	0.01	0.02	0.6	6	-5.4	9.8	7.1	0.0	0.0	7.6	0.11
GS_120	BYLDD034	Fresh_Altered_Wallrock	Phyllite	FR/ALT	0.14	0.01	0.14	0.03	0.9	10	-9.1	10.9	7.3	0.0	0.0	7.9	0.11
GS_124	BYLDD034	Fresh_Lei1_Barren_Pegmatite	Pegmatite (barren)	FR	0.01	0.01	0.01	0.02	0.6	4	-3.4	6.5	7.1	0.0	0.0	8.1	0.09

Table A3: Multi-element (ME) composition of Lei Lithium sample solids (n = 100) (mg/kg except where shown).

Site Sample Number	EGi Sample Number	Hole ID	Element																								
			Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo
GS_001	26459	BYLDD004	0.05	6.50%	40.7	590	2.3	0.4	0.01%	0.04	81.6	4.1	63	52.6	8.6	2.76%	18.3	0.12	5.4	<0.005	0.059	2.43%	44.1	105.5	0.25%	95	0.74
GS_002	26460	BYLDD004	0.04	9.30%	133	1020	4.92	0.7	0.02%	0.07	103.5	39.1	65	373	5	3.73%	26.6	0.16	4.2	<0.005	0.088	4.13%	56.9	403	0.58%	787	1
GS_003	26461	BYLDD004	0.04	6.78%	52.7	610	6.62	0.2	0.11%	0.05	80.7	6	60	177.5	2	2.79%	19	0.13	4.5	<0.005	0.057	2.88%	41.9	178	0.54%	201	0.45
GS_004	26462	BYLDD004	0.01	8.67%	28.6	740	2.75	0.37	0.08%	<0.02	95.8	9.1	72	57.1	1.3	3.55%	24.1	0.19	4.1	<0.005	0.075	4.02%	46.6	141	0.88%	266	0.5
GS_005	26463	BYLDD004	0.05	5.98%	33.7	460	3.34	0.3	0.96%	0.02	76	7	124	8.26	2.9	2.43%	12.9	0.13	4.7	<0.005	0.03	1.78%	39.5	46	0.48%	429	1.42
GS_006	26464	BYLDD004	0.03	4.92%	11.9	430	1.53	0.2	0.27%	0.03	81.8	6.2	87	8.44	5.2	2.33%	12.65	0.13	5.1	<0.005	0.036	2.08%	41.7	35.3	0.43%	294	0.81
GS_008	26466	BYLDD004	0.03	4.61%	17.3	430	1.47	0.22	0.21%	<0.02	77.2	6.6	72	8.21	1.7	2.24%	12.1	0.12	4.6	<0.005	0.034	2.09%	40.1	35.6	0.39%	360	0.69
GS_009	26467	BYLDD004	0.02	8.01%	24.8	770	2.16	0.47	0.23%	<0.02	97.5	10.1	74	21.2	1.7	2.90%	21.4	0.16	5.2	<0.005	0.067	3.66%	51.2	33.1	0.65%	322	0.37
GS_010	26468	BYLDD004	0.04	5.85%	67.2	810	1.59	0.38	0.39%	<0.02	92.1	7.3	67	203	3	2.01%	16.1	0.14	5.9	<0.005	0.042	2.34%	47	422	0.47%	480	0.75
GS_011	26469	BYLDD004	0.01	8.84%	198	990	3.53	0.38	0.26%	<0.02	91.3	11	70	580	1	3.27%	27.2	0.18	4.1	<0.005	0.086	4.35%	47.1	968	0.79%	351	0.3
GS_012	26470	BYLDD004	0.02	8.35%	128	1010	6.07	0.23	0.59%	0.02	101.5	8.8	71	414	3.8	3.17%	23.1	0.15	4.6	<0.005	0.062	3.49%	53	1125	0.75%	593	0.24
GS_012a	26471	BYLDD004	0.08	7.42%	58.6	60	51.4	1.27	0.25%	0.1	4.05	0.6	69	145	1.7	0.25%	15.15	0.08	1	<0.005	<0.005	4.23%	2	143	0.03%	163	0.85
GS_013	26472	BYLDD004	0.03	8.74%	274	780	9.63	0.24	0.59%	0.14	90.8	14.5	60	422	0.5	3.81%	20.3	0.15	4.9	<0.005	0.054	4.70%	46.7	1645	0.86%	401	0.21
GS_014	26473	BYLDD004	0.02	7.49%	491	760	17.35	0.34	0.50%	0.09	87.9	10.4	62	207	0.4	3.16%	18.35	0.17	3.8	<0.005	0.052	3.06%	45.3	1110	0.64%	391	0.28
GS_015	26474	BYLDD003	0.42	6.30%	51.1	490	2.15	0.47	0.01%	<0.02	63.5	5.9	65	27.3	9.8	3.19%	14.95	0.1	3.6	0.005	0.048	2.05%	31.4	44.2	0.16%	100	0.4
GS_016	26475	BYLDD003	0.06	5.55%	21.4	450	2.12	0.23	0.01%	0.03	79.7	10.3	57	17.55	7.3	2.48%	12.75	0.1	5.7	<0.005	0.036	2.05%	42.8	23	0.37%	369	0.31
GS_018	26477	BYLDD003	0.07	6.52%	46	640	2.03	0.39	0.03%	0.03	86.6	8	65	12.15	3.2	2.54%	16.55	0.11	5.4	<0.005	0.054	3.15%	44.5	28.3	0.42%	253	0.3
GS_020	26479	BYLDD003	0.06	9.88%	52.8	870	2.94	0.31	0.12%	<0.02	100.5	8.5	67	27.6	21.1	5.05%	25.4	0.21	4.1	<0.005	0.075	4.76%	51.9	57.7	0.86%	225	0.1
GS_021	26480	BYLDD003	0.09	8.73%	108	680	2.95	0.57	0.41%	<0.02	75.8	12.6	67	94.7	24.9	5.78%	21.4	0.24	3.6	<0.005	0.065	4.12%	40.1	390	1.18%	952	0.22
GS_022	26481	BYLDD003	0.02	8.68%	127.5	910	2.14	0.61	0.16%	<0.02	69.1	11	66	174	0.9	3.93%	25.9	0.18	3.8	<0.005	0.086	4.85%	35.2	562	0.90%	384	0.39
GS_023	26482	BYLDD003	0.04	6.06%	65.3	510	4.85	0.26	0.45%	0.14	82.8	6.1	68	256	16.9	2.75%	13.3	0.12	4.9	<0.005	0.039	2.54%	43.8	628	0.61%	390	0.93
GS_024	26483	BYLDD003	0.02	7.84%	9.7	10	105	0.78	0.08%	0.78	0.45	0.4	90	210	1.4	0.22%	12.35	0.07	0.6	<0.005	<0.005	4.21%	<0.5	5840	0.01%	257	0.85
GS_025	26484	BYLDD003	0.03	7.00%	4.3	10	123.5	1.08	0.14%	0.8	0.38	0.4	84	115	1.6	0.26%	16.3	0.05	2.1	<0.005	<0.005	1.87%	<0.5	4170	0.01%	609	1
GS_026	26485	BYLDD003	0.01	4.71%	3.8	<10	113.5	1.18	0.12%	1.62	0.21	0.4	84	110	1.5	0.22%	11.85	0.24	1.6	<0.005	<0.005	2.25%	<0.5	3870	0.01%	568	1.02
GS_027	26486	BYLDD003	0.01	5.33%	109	20	181	2.38	0.26%	0.14	0.46	0.3	65	49.3	2	0.17%	18.15	0.43	1.4	<0.005	<0.005	0.92%	<0.5	77.3	0.01%	183	0.84
GS_028	26487	BYLDD003	<0.01	9.26%	316	820	10.65	0.3	0.23%	0.1	82.4	9.6	63	445	0.5	3.44%	23.1	0.16	3.7	<0.005	0.059	5.17%	43.1	1600	0.89%	294	0.72
GS_029	26488	BYLDD003	0.01	8.56%	400	740	16.25	0.45	0.25%	0.16	69.1	9.8	55	566	0.6	3.33%	21.2	0.21	4.1	<0.005	<0.005	5.11%	34.7	2620	0.78%	288	1.44
GS_030	26489	BYLDD011	37.9	6.98%	55.7	450	1.67	0.52	0.01%	<0.02	75	3.7	81	8.31	38.8	6.04%	16.65	0.12	4.9	0.028	0.061	1.74%	25.5	30.9	0.11%	46	16.15
GS_031	26490	BYLDD011	0.5	7.36%	32.3	660	2.6	0.37	0.01%	0.03	94.7	5.7	62	34.5	5.6	2.96%	17.85	0.14	4.5	<0.005	0.073	2.89%	52.2	31.7	0.29%	157	0.54
GS_032	26491	BYLDD011	0.41	7.55%	72.3	860	2.87	0.8	0.03%	0.09	75.1	6.4	67	22.9	72.4	5.08%	19.65	0.15	4.6	<0.005	0.064	3.69%	36.1	71.3	0.63%	304	0.48
GS_033	26492	BYLDD011	0.06	4.25%	3.8	200	2.04	0.18	0.65%	0.02	70.5	5.5	109	8.61	10.8	1.92%	9.06	0.1	6.2	<0.005	0.014	1.00%	37.5	74.4	0.40%	289	0.7
GS_034	26493	BYLDD011	0.06	9.37%	179.5	760	2.68	0.34	0.08%	<0.02	96.5	14.4	66	302	16	5.34%	23.1	0.21	3.8	<0.005	0.072	4.36%	51.2	634	1.12%	409	0.15
GS_035	26494	BYLDD011	0.09	5.15%	6.4	460	1.59	0.25	0.06%	<0.02	80.3	5.3	67	7.45	1.3	2.26%	11.15	0.11	6	<0.005	0.032	1.96%	42.3	85.9	0.44%	165	0.46
GS_036	26495	BYLDD011	0.01	1.11%	16.9	80	0.54	0.12	0.91%	<0.02	14.5	2.2	155	2.31	2.6	0.92%	1.66	0.06	1	<0.005	0.012	0.70%	7.3	6.5	0.27%	559	1.54
GS_037	26496	BYLDD011	0.06	1.69%	39.9	120	0.56	1.84	0.23%	<0.02	7.2	5	145	2.54	28.3	2.04%	4.6	<0.05	0.3	<0.005	0.015	0.87%	3.9	28.3	0.36%	418	1.33
GS_038	26497	BYLDD011	0.08	6.96%	43.6	610	2.36	0.31	0.71%	<0.02	89.2	8.2	85	14.35	64.9	3.42%	16.5	0.12	5.1	<0.005	0.053	3.25%	46	54.2	0.59%	595	0.63
GS_039	26498	BYLDD011	0.03	6.42%	57	610	1.88	0.64	0.29%	0.02	84	7.6	69	5.89	4.9	2.58%	15.6	0.12	4.9	0.005	0.05	2.88%	42.5	54.4	0.57%	260	0.42
GS_040	26499	BYLDD011	0.02	7.16%	40.6	710	1.77	0.48	0.22%	<0.02	92.8	8.6	77	13.7	1.5	3.02%	16.75	0.13	5.9	<0.005	0.055	3.34%	47.6	44.7	0.62%	330	0.5
GS_041	26500	BYLDD011	0.02	5.10%	29.9	470	1.43	0.18	0.34%	<0.02	73.2	6.1	101	10.6	1.8	2.31%	11.7	0.11	4.6	<0.005	0.037	2.56%	36.9	22.5	0.42%	551	1.2
GS_042	26501	BYLDD011	0.05	9.20%	72.7	850	2.93	0.7	0.25%	0.04	87.7	9.5	64	14.8	0.6	3.56%	23.6	0.2	4.4	<0.005	0.081	4.30%	45.4	75	0.81%	289	0.21
GS_043	26502	BYLDD011	0.02	10.65%	14.4	1010	3.13	1.18	0.39%	<0.02	89	5.8	28	69.3	0.4	2.88%	27.2	0.19	5.4	<0.005	0.113	5.28%	39.5	413	0.82%	298	5.02
GS_044	26503	BYLDD011	0.05	9.68%	137.5	790	2.64	0.8	0.28%	<0.02	96.8	14.2	65	141.5	14.2	4.41%	23.2	0.2	3.9	<0.005	0.076	4.62%	50.7	518	1.00%	633	0.24
GS_045	26504	BYLDD011	0.04	8.86%	514	1070	12.6	0.5	0.22%	0.11	85.4	11.8	59	444	2.7	4.01%	23.5	0.24	3.6	<0.005	0.063	4.45%	43.4	1470	0.83%	518	0.28
GS_046	26505	BYLDD011	0.04	7.04%	2.6	10	148	1.56	0.08%	1.03	1.17	0.5	99	64.9	3	0.37%	11.15	0.08	0.4	<0.005	<0.005	0.91%	0.6	6220	0.01%	937	1.06
GS_047	26506	BYLDD011	0.18	5.78%	1.5	10	94.3	0.41	0.11%	1.22	0.29	0.6	109	98.7	2.9	0.29%	10.4	0.05	0.5	<0.005	<0.005	1.93%	<0.5	8720	0.01%	692	1.21
GS_048	26507	BYLDD011	0.06	7.33%	11.7	10	115	0.08	0.18%	0.86	0.61	0.3	79	73.1	1.1	0.18%	14.45	0.06	0.5	<0.005	<0.005	1.43%	<0.5	117	<0.01%	206	0.62
GS_049	26508	BYLDD011	0.02	4.87%	82.1	440	7.42	0.3	0.18%	0.14	77.6	5.1	70	234	0.9	1.95%	10.95	0.11	4.7	<0.005	0.02	2.46%	40.6	624	0.39%	309	0.59
GS_050	26509	BYLDD011	0.13	9.12%	291	760	4.71	0.88	0.38%	0.03	94.7	13.5	66	292	54.9	5.77%	24.7	0.21	3.5	<0.005	0.074	4.37%	48.7	666	1.13%	654	1.18
GS_052	26510	BYLDD014	0.14	6.70%	306	530	3.13	0.41	0.53%	0.06	64.1	13.6	66	42.2	84.1	5.78%	19.1	0.3	4	<0.005	0.059	3.12%	31.8	309	0.97%	655	0.68
GS_053	26511	BYLDD014	0.04	6.87%	167	520	10.1	0.58	0.37%	<0.02	74.5	8.7	80	138	8.1	3.17%	16.1	0.1	3.3	<0.005	0.042	2.91%	40.2	466	0.72%	617	1.46
GS_054	26512	BYLDD014	0.08	6.23%	20.4	10	48.2	3.8	0.14%	0.08	0.87	0.4	64	51.6	1.8	0.20%	11.5	<0.05	0.8	<0.005	<0.005	1.72%	0.5	60.9	0.01%	150	0.77
Median Soil Abundance*			0.05	7.10%	6	500	0.3	0.2	1.50%	0.4	50.0	8.0	70	4	30	4.00%	20	1	6	0.06	1	1.40%	40	25	0.50%	1000	1.2
Detection Limit			0.01	0.002%	0.2	10	0.05	0.01	0.001%	0.01	0.1	0.1	2.0	0.05	1.0	0.01%	0.1	0.05	0.02	0.01	0.005	0.002%	0.2	0.1	0.002%	5	0.1

Site Sample Number	EGi Sample Number	Hole ID	Element																							
			Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo
GS_055	26513	BYLDD014	0.03	6.42%	1.4	40	118	0.48	0.17%	0.75	0.39	0.5	107	67.7	1.7	0.32%	10.3	<0.05	0.3	<0.005	<0.005	1.26%	<0.5	8110	0.01%	560	1.4
GS_057	26515	BYLDD014	0.05	7.13%	32.4	10	110.5	0.99	0.26%	0.16	1.7	0.9	86	68.6	3.9	0.34%	12.65	0.06	0.3	<0.005	<0.005	1.70%	0.9	2180	0.02%	453	1.76
GS_059	26517	BYLDD014	0.01	9.00%	156	660	12.35	2.23	0.54%	0.13	97.2	13.6	66	169.5	0.5	4.19%	22	0.19	3.7	<0.005	0.044	4.35%	50.6	1260	0.93%	817	0.24
GS_060	26518	BYLDD026	0.25	5.85%	35.6	410	2.66	0.28	0.01%	0.02	89.8	5.2	68	13	5	2.62%	13.45	0.11	5.8	<0.005	0.042	1.67%	47.5	21.6	0.16%	275	0.75
GS_061	26519	BYLDD026	0.24	9.14%	174	1260	5.51	0.3	0.03%	0.15	88	96.3	65	48.4	148	10.60%	21.6	0.3	3.3	<0.005	0.072	3.40%	42.2	73.9	0.60%	3370	0.59
GS_062	26520	BYLDD026	0.13	5.35%	19.6	490	2.13	0.32	0.01%	0.02	91.4	21.1	73	15.45	3.3	2.03%	12.45	0.11	5.5	<0.005	0.04	2.00%	45.8	21	0.22%	304	0.47
GS_065	26523	BYLDD026	0.04	9.87%	85.4	850	2.56	0.4	0.08%	<0.02	97.3	11.4	65	19.65	1.1	4.30%	24.8	0.16	4	<0.005	0.083	4.73%	48.8	73.7	0.88%	468	0.1
GS_066	26524	BYLDD026	0.01	6.28%	24.8	510	2	0.25	0.08%	<0.02	83	7.5	101	15.4	1.5	2.83%	14.95	0.11	5	<0.005	0.05	2.83%	42.4	57.7	0.49%	645	1.06
GS_067	26525	BYLDD026	0.02	8.30%	40.4	690	2.39	0.21	0.14%	<0.02	92.8	9.2	95	22.2	0.8	4.20%	18.65	0.15	4.2	<0.005	0.059	3.88%	48.2	56	0.77%	783	0.56
GS_068	26526	BYLDD026	0.02	6.75%	37	560	2.17	0.13	0.10%	<0.02	87.5	6.1	101	15.9	1.8	3.38%	16.05	0.12	5.1	<0.005	0.052	3.13%	44.5	31.7	0.51%	1105	0.58
GS_069	26527	BYLDD026	0.02	10.30%	47.2	940	2.82	0.48	0.23%	<0.02	101.5	10.6	75	23.6	0.2	4.15%	26.1	0.16	3.9	<0.005	0.087	4.78%	52.9	246	1.00%	388	0.34
GS_070	26528	BYLDD026	0.01	5.33%	41.5	570	3.71	0.21	0.38%	<0.02	81	5.8	79	83	1.2	2.18%	11.9	0.1	5.5	<0.005	0.038	2.34%	40.9	281	0.43%	285	0.51
GS_071	26529	BYLDD026	0.43	7.71%	44.9	10	219	3.9	0.22%	0.84	1.88	0.4	72	57.7	3.4	0.25%	20	0.07	2.6	<0.005	<0.005	1.23%	1	45.2	0.01%	176	0.59
GS_072	26530	BYLDD026	0.4	6.31%	47.8	10	208	3.66	0.20%	1.05	1.32	0.4	73	104.5	1.6	0.25%	22.1	0.06	2.4	<0.005	<0.005	1.97%	1	62.8	0.01%	218	0.86
GS_073	26531	BYLDD026	0.13	6.55%	28.7	30	122	3.4	0.33%	0.06	2.8	0.5	79	75	1.3	0.22%	15.25	0.05	1.4	<0.005	<0.005	1.68%	1.8	135.5	0.02%	144	0.52
GS_076	26534	BYLDD026	0.2	8.79%	231	630	4.62	0.45	0.37%	0.42	84.2	19.2	73	534	61.6	6.51%	21	0.19	3.7	<0.005	0.076	4.19%	40.4	713	1.24%	1345	0.1
GS_077	26535	BYLDD026	0.01	7.30%	1375	640	25.4	0.23	0.37%	0.18	68.3	10.2	57	422	1.2	3.55%	19.15	0.13	3.4	<0.005	<0.005	4.18%	34.5	2500	0.64%	756	0.15
GS_079	26537	BYLDD026	<0.01	6.94%	109	20	198.5	0.89	0.45%	0.04	4.93	0.7	95	113.5	1.4	0.24%	13.25	0.06	1.1	<0.005	<0.005	2.75%	3.6	195	0.02%	167	1.29
GS_085	26542	BYLDD029	0.01	8.93%	210	760	12.8	0.98	0.02%	0.17	84.3	6.1	77	149	9.2	3.95%	20.6	0.15	4	<0.005	0.041	4.22%	44.3	301	0.45%	147	0.9
GS_086	26543	BYLDD029	0.03	5.90%	168.5	460	10.45	0.35	0.05%	<0.02	87.1	5	72	152	0.9	3.25%	12.9	0.11	5.5	<0.005	0.039	2.49%	46.2	243	0.40%	157	1.14
GS_087	26544	BYLDD029	0.06	7.60%	5.1	30	219	0.93	0.55%	0.07	1.7	1.7	84	142.5	2.4	0.28%	14.8	0.07	1.8	<0.005	<0.005	2.71%	0.9	98	0.02%	90	0.45
GS_088	26545	BYLDD029	0.39	7.20%	2.3	30	135.5	0.93	1.34%	1.19	0.32	0.6	58	117.5	1.1	0.28%	13.1	0.07	1.6	<0.005	<0.005	2.16%	<0.5	359	0.07%	188	0.61
GS_089	26546	BYLDD029	0.36	7.96%	2.5	30	77.2	2.09	1.16%	0.72	0.33	0.6	47	100	1.4	0.35%	12.9	0.05	1.3	<0.005	<0.005	1.78%	<0.5	411	0.16%	127	0.48
GS_090	26547	BYLDD029	0.1	5.21%	86.7	400	16.25	0.39	0.45%	0.35	73.5	2.8	76	658	0.7	1.97%	12.7	0.09	4.9	<0.005	<0.005	2.82%	37	1500	0.42%	153	0.39
GS_091	26548	BYLDD029	0.04	6.98%	408	640	27.1	0.27	0.23%	0.14	86.6	8.3	55	910	0.8	2.68%	17.15	0.12	4.2	<0.005	0.01	3.58%	42.5	1775	0.56%	183	0.12
GS_092	26549	BYLDD029	0.04	8.08%	123	40	124.5	0.41	0.26%	0.05	2.01	1.1	60	57.1	2.1	0.22%	15.45	<0.05	1.1	<0.005	<0.005	1.55%	1	83.1	0.03%	68	0.42
GS_097	26553	BYLDD030	0.06	9.23%	226	900	3.77	0.65	0.08%	<0.02	88.1	9.3	67	59.5	13.4	4.59%	23.4	0.14	3.7	<0.005	0.074	3.92%	45	145.5	0.55%	379	0.41
GS_098	26554	BYLDD030	0.02	7.53%	39	690	14.15	0.81	0.58%	0.3	50.8	2.9	64	577	0.3	2.82%	21.8	0.11	3.6	<0.005	<0.005	4.67%	23.7	2660	0.59%	160	0.08
GS_099	26555	BYLDD030	<0.01	8.28%	5.7	150	26.4	1.32	0.63%	0.24	14.25	1.4	51	263	0.6	0.55%	37.1	0.08	3.2	<0.005	<0.005	3.07%	6.4	357	0.10%	87	0.24
GS_100	26556	BYLDD030	<0.01	7.90%	9.6	20	75.2	0.58	0.19%	<0.02	3.06	0.7	77	216	0.9	0.23%	13.85	0.06	0.9	<0.005	<0.005	3.70%	1.8	213	0.02%	94	0.57
GS_101	26557	BYLDD030	0.03	7.49%	1.5	20	130.5	1.73	0.17%	0.6	0.51	0.6	119	93.4	1.6	0.33%	13.35	0.05	1.6	<0.005	<0.005	1.60%	<0.5	7610	0.02%	435	1.58
GS_103	26559	BYLDD030	0.05	4.64%	51.5	230	3.54	0.41	0.42%	0.02	77.8	6.6	121	80.2	2.3	2.28%	8.57	0.1	5.4	<0.005	0.018	1.04%	39.6	348	0.45%	352	0.93
GS_104	26560	BYLDD030	0.03	4.78%	58.3	500	2.29	0.28	0.22%	<0.02	77.8	5.6	100	71.9	3.8	2.13%	11.7	0.09	6.7	<0.005	0.034	1.79%	39.3	407	0.43%	209	0.83
GS_106	26562	BYLDD030	0.09	6.88%	41.3	40	121	1.77	0.23%	0.43	0.89	0.8	100	95.4	1.8	0.28%	14.35	0.05	2.3	<0.005	<0.005	2.74%	0.5	2130	0.07%	349	1.12
GS_107	26563	BYLDD030	0.02	7.58%	82.2	10	164.5	1.72	0.41%	0.09	3.76	0.5	89	51.8	1.6	0.28%	17.1	0.05	2.3	<0.005	<0.005	1.60%	2.4	120	0.03%	231	1.28
GS_108	26564	BYLDD030	0.01	5.08%	42.6	500	2.79	0.34	0.23%	<0.02	87.9	6.3	75	103	1.7	2.23%	12.65	0.13	9.1	<0.005	0.039	2.27%	42	271	0.47%	244	0.56
GS_109	26565	BYLDD030	<0.01	6.63%	77.5	680	2.51	0.55	0.11%	<0.02	92.9	8.6	63	158.5	0.6	2.78%	16.5	0.13	5.7	<0.005	0.056	3.09%	46.7	335	0.62%	253	0.37
GS_111	26566	BYLDD034	0.11	1.12%	16.7	40	0.39	0.6	0.08%	0.02	1.8	4.5	132	6.05	3.5	1.95%	3.25	<0.05	0.1	<0.005	0.006	0.53%	0.9	38	0.37%	249	0.94
GS_112	26567	BYLDD034	0.02	5.47%	64.4	420	2.24	0.25	0.23%	<0.02	86.4	7.5	99	18.45	2.2	2.32%	13.2	0.11	6.4	<0.005	0.041	2.53%	46.2	52.9	0.45%	267	0.7
GS_113	26568	BYLDD034	0.01	9.20%	77.2	810	2.88	0.33	0.13%	<0.02	99.8	11.8	75	36.2	4.6	3.95%	27.5	0.18	4.2	<0.005	0.092	4.86%	52.2	54.6	0.86%	328	1.08
GS_114	26569	BYLDD034	0.02	9.03%	54.5	850	3.33	0.96	0.41%	<0.02	104.5	13	70	19.15	1.4	4.37%	25.7	0.16	4.3	<0.005	0.081	4.28%	55.2	154	0.93%	400	0.23
GS_115	26570	BYLDD034	0.01	7.45%	197	590	12.55	0.32	0.80%	0.13	87.5	8.1	65	146.5	1.3	2.65%	18.95	0.15	4.9	<0.005	0.056	3.76%	45.1	561	0.61%	375	0.26
GS_116	26571	BYLDD034	0.05	9.36%	172	770	3.14	0.55	0.60%	0.06	100.5	12.8	71	100	26.4	5.57%	24.9	0.18	4.1	<0.005	0.077	4.26%	54.3	464	1.15%	801	0.36
GS_117	26572	BYLDD034	0.01	8.36%	67.7	780	2.67	0.44	0.36%	<0.02	102.5	11.4	68	42.9	0.8	3.63%	22.9	0.18	4.6	<0.005	0.067	4.06%	53.9	308	0.87%	342	0.42
GS_118	26573	BYLDD034	0.05	9.18%	181	930	7.59	1.06	0.47%	<0.02	86.9	14.6	71	106	0.3	4.61%	27.4	0.26	4.5	<0.005	0.084	4.85%	43.3	566	0.95%	583	0.6
GS_118a	26574	BYLDD034	0.04	4.97%	54.1	350	2.72	0.25	0.67%	0.02	80	6.3	93	37.8	1.2	2.08%	10.5	0.14	5.6	<0.005	0.029	2.36%	41.6	182.5	0.48%	468	1.41
GS_119	26575	BYLDD034	<0.01	4.84%	104	410	11.9	0.2	0.21%	0.16	79.7	6.1	65	117.5	0.5	1.97%	11.15	0.15	6.1	<0.005	0.026	2.31%	41	915	0.39%	149	0.4
GS_120	26576	BYLDD034	0.01	8.54%	176.5	880	9.84	0.15	0.23%	0.16	91.1	11	65	376	1.8	3.52%	26	0.21	4.2	<0.005	0.088	4.85%	45.2	1715	0.79%	395	0.22
GS_124	26580	BYLDD034	0.1	6.78%	2.2	10	137.5	0.85	0.09%	1.46	0.22	0.3	58	147	1	0.15%	24.1	0.08	3.3	<0.005	<0.005	1.74%	<0.5	522	<0.01%	394	0.62
Median Soil Abundance*			0.05	7.10%	6	500	0.3	0.2	1.50%	0.4	50.0	8.0	70	4	30	4.00%	20	1	6	0.06	1	1.40%	40	25	0.50%	1000	1.2
Detection Limit			*0.01*	*0.002%*	*0.2*	*10*	*0.05*	*0.01*	*0.001%*	*0.01*	*0.1*	*0.1*	*2.0*	*0.05*	*1.0*	*0.01%*	*0.1*	*0.05*	*0.02*	*0.01*	*0.005*	*0.002%*	*0.2*	*0.1*	*0.002%*	*5*	*0.1*

Site Sample Number	EGi Sample Number	Hole ID	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
GS_001	26459	BYLDD004	0.17%	9.5	11.8	190	13	177.5	<0.002	<0.01%	0.08	10.6	<1	3.6	21.1	0.85	<0.05	17.05	0.25%	0.72	4.1	49	6.7	15.5	60	189.5
GS_002	26460	BYLDD004	0.21%	12.2	36.3	230	15.4	337	<0.002	<0.01%	0.08	16.1	<1	16	26.3	1.07	<0.05	20.8	0.29%	1.57	5	75	10.8	14.6	116	141.5
GS_003	26461	BYLDD004	0.15%	10.4	16.3	300	13.4	287	<0.002	<0.01%	0.05	10.6	<1	16.2	29.1	0.9	<0.05	16.8	0.24%	1.27	3.8	46	7.1	13	64	163
GS_004	26462	BYLDD004	0.25%	12.2	24.4	250	17	241	<0.002	<0.01%	0.07	14	<1	7.7	29.2	1	<0.05	18.4	0.28%	1.08	3.7	60	8.1	10	68	139.5
GS_005	26463	BYLDD004	1.49%	8.7	14.5	270	31	137.5	<0.002	<0.01%	0.09	7	<1	1.8	109.5	0.74	<0.05	14.4	0.22%	0.66	3.4	37	2	12	26	178.5
GS_006	26464	BYLDD004	0.66%	9.5	13	250	16.3	137.5	<0.002	<0.01%	0.05	6.9	<1	2.4	53.5	0.74	<0.05	17.05	0.24%	0.65	3.7	32	3.2	11.5	45	190
GS_008	26466	BYLDD004	0.41%	7	12.8	340	12	127.5	<0.002	<0.01%	<0.05	6.2	<1	2.3	37.3	0.66	<0.05	16.3	0.22%	0.56	3.7	30	3.2	10.9	24	165.5
GS_009	26467	BYLDD004	0.59%	11.4	20.8	280	16.4	233	<0.002	0.01%	0.05	11.6	<1	4	52.4	0.93	<0.05	19.55	0.28%	0.92	4.7	56	5.7	11.9	33	184.5
GS_010	26468	BYLDD004	0.63%	9.3	12.4	320	16.4	276	<0.002	<0.01%	<0.05	6.9	<1	4.1	53.2	0.81	<0.05	17.95	0.25%	1.5	4.2	32	6.3	12.1	35	219
GS_011	26469	BYLDD004	0.59%	12.8	27.6	320	16.8	464	<0.002	<0.01%	<0.05	14.4	<1	8.2	52.7	1.08	<0.05	18.25	0.29%	2.48	4.9	76	12.6	13.7	68	136.5
GS_012	26470	BYLDD004	1.07%	12.2	20	310	19.6	518	<0.002	0.01%	0.05	12.5	<1	21.6	74.8	0.96	<0.05	19.55	0.28%	3.28	4.3	59	8.9	14.7	49	161
GS_012a	26471	BYLDD004	4.04%	52.7	2.1	2410	33	1645	<0.002	0.01%	0.07	0.3	<1	22.1	73.6	64.8	<0.05	1.34	0.01%	11.4	3.7	3	1.7	1.4	15	21
GS_013	26472	BYLDD004	0.20%	12.8	29.1	2730	14.6	621	<0.002	0.01%	0.09	12.2	<1	57.4	50.2	2.22	<0.05	19.8	0.28%	3.26	6.4	54	15	17	74	162
GS_014	26473	BYLDD004	1.05%	11.8	24.8	280	15	369	<0.002	0.01%	0.06	12.7	<1	30.5	67.2	0.98	<0.05	18	0.24%	2.02	3.8	52	9	15	58	128
GS_015	26474	BYLDD003	0.13%	15.6	13.4	110	13.9	122.5	<0.002	<0.01%	0.2	9.3	<1	5.6	21.5	14.95	<0.05	14.6	0.22%	0.59	3.7	46	6.4	13.3	35	120
GS_016	26475	BYLDD003	0.10%	9.4	19.4	130	22.5	237	<0.002	<0.01%	0.05	7.1	<1	2.4	14.6	0.8	<0.05	16.4	0.25%	0.93	3.2	33	3.5	13.8	89	204
GS_018	26477	BYLDD003	0.14%	9.6	18.8	120	13.4	183	<0.002	<0.01%	0.08	9	<1	3.2	18.4	0.81	<0.05	19.2	0.26%	0.7	3.5	42	5.9	12.4	56	189.5
GS_020	26479	BYLDD003	0.27%	14.2	25.2	330	20.8	285	<0.002	<0.01%	0.07	15.8	<1	4.7	31.7	1.08	<0.05	20.4	0.30%	1.32	3.1	67	7.6	11.9	95	139.5
GS_021	26480	BYLDD003	0.61%	11.4	30.4	410	17.3	237	<0.002	0.07%	<0.05	14.1	<1	4.3	63.2	0.91	0.05	15.45	0.27%	1.27	3.8	68	6.3	12.9	81	126
GS_022	26481	BYLDD003	0.32%	12.4	31.6	300	15.2	239	<0.002	<0.01%	<0.05	13.4	<1	5.7	36.7	1.04	0.05	14.4	0.30%	1.26	4.4	81	9.9	11.4	96	132.5
GS_023	26482	BYLDD003	0.84%	9.8	15	430	25	425	<0.002	0.02%	<0.05	7.6	<1	9.8	96.5	0.76	<0.05	17.45	0.24%	3.06	4	39	4.6	13.3	56	179
GS_024	26483	BYLDD003	2.31%	58.4	1.8	2110	26.1	2090	<0.002	0.01%	0.06	0.1	<1	45.5	12	40.8	<0.05	0.7	<0.01%	17	3.8	1	1	0.2	71	6
GS_025	26484	BYLDD003	3.83%	77.5	1.9	4990	16.6	1025	<0.002	0.01%	0.06	<0.1	<1	51.1	27.3	65.5	0.05	0.36	<0.01%	7.07	9.7	1	1.1	0.6	95	24
GS_026	26485	BYLDD003	3.59%	38.9	1.9	2420	18.6	954	<0.002	0.01%	0.06	<0.1	<1	39.5	25.4	28	<0.05	0.28	<0.01%	6.97	10.6	1	0.8	0.5	132	19.6
GS_027	26486	BYLDD003	5.57%	65.9	1.6	1990	10.8	335	<0.002	0.01%	0.05	<0.1	<1	30.8	106	120.5	<0.05	0.59	<0.01%	1.76	6.2	1	1.2	0.4	25	12.4
GS_028	26487	BYLDD003	0.18%	12.6	26.5	1160	11.8	856	<0.002	<0.01%	0.05	13.6	<1	82.7	23.9	1.56	<0.05	18.7	0.29%	5.13	4.1	78	13.5	13.4	68	125
GS_029	26488	BYLDD003	0.13%	13.1	26.6	1270	11.5	1155	<0.002	<0.01%	<0.05	12.4	<1	261	54.3	1.36	<0.05	15.45	0.27%	7.23	3.9	65	15.7	14	79	144
GS_030	26489	BYLDD011	0.09%	9.4	16.2	190	15.3	90.8	<0.002	0.01%	0.31	10.6	2	4.1	16.8	0.83	0.09	20.6	0.25%	0.42	6.7	62	41.1	16.4	25	174.5
GS_031	26490	BYLDD011	0.15%	10.6	17	230	13.8	226	<0.002	<0.01%	0.05	11	<1	4.6	22.6	0.87	<0.05	17.65	0.27%	1.04	4.1	51	5.7	17.6	68	160.5
GS_032	26491	BYLDD011	0.14%	11.6	32.5	540	20.1	218	<0.002	0.01%	0.08	11.2	<1	4	118	0.94	0.05	15.7	0.29%	1.14	4.7	60	5.7	10.7	100	161
GS_033	26492	BYLDD011	1.44%	9.3	11.8	240	30.5	88.2	<0.002	<0.01%	<0.05	5.4	<1	1.5	122	0.83	<0.05	15.1	0.25%	0.47	4	29	0.9	11.4	43	226
GS_034	26493	BYLDD011	0.17%	12.8	31.4	340	15.6	316	<0.002	0.07%	0.09	15.4	<1	5.3	31	1.04	<0.05	19.7	0.30%	1.4	3.7	69	8.9	11.8	89	134.5
GS_035	26494	BYLDD011	0.11%	9.5	12.4	90	12.5	120	<0.002	0.01%	0.05	6.5	<1	2.1	18.2	0.78	<0.05	19.75	0.26%	0.48	2.7	35	3.9	13.6	44	227
GS_036	26495	BYLDD011	0.27%	1.4	4.9	160	1.7	53.5	<0.002	0.01%	0.06	1.2	<1	0.5	23.6	0.14	<0.05	3.09	0.04%	0.32	0.6	5	0.8	3.3	2	38.3
GS_037	26496	BYLDD011	0.07%	3.8	12.6	60	2.8	58.5	<0.002	0.05%	0.09	2.1	<1	1.1	11.4	0.35	0.11	1.78	0.11%	0.32	0.4	15	1.6	1.9	22	11.7
GS_038	26497	BYLDD011	0.60%	11.4	19	430	15.4	222	<0.002	0.17%	0.11	9.9	1	3.9	52.9	0.87	<0.05	21.1	0.28%	0.97	4.4	47	4.7	14.8	24	182.5
GS_039	26498	BYLDD011	0.53%	11	17.5	240	15.7	145.5	<0.002	0.01%	<0.05	8.8	<1	3.2	42.2	0.83	<0.05	18.2	0.26%	0.61	4.1	45	5.3	11.6	31	174.5
GS_040	26499	BYLDD011	0.47%	11.4	19.8	310	12	199.5	<0.002	0.01%	<0.05	10	<1	3.5	32.9	0.89	<0.05	19.45	0.30%	0.81	4.1	48	5.7	12.1	30	220
GS_041	26500	BYLDD011	0.33%	8.7	15	230	8.2	161	<0.002	0.01%	0.06	6.5	<1	2.4	24.6	0.68	<0.05	16.3	0.23%	0.7	3.3	34	4.1	10.8	17	168
GS_042	26501	BYLDD011	0.61%	12.4	25.2	260	18.7	215	<0.002	0.01%	<0.05	13.4	<1	4.8	59.6	1.09	0.05	22.6	0.27%	0.91	6	70	8.1	10.8	77	143.5
GS_043	26502	BYLDD011	0.57%	15.4	12.4	510	30.1	264	0.002	0.01%	<0.05	8	<1	7.4	66	2.06	<0.05	29.8	0.20%	1.22	18.3	33	11.2	21.5	64	165
GS_044	26503	BYLDD011	0.50%	12	28.8	350	21.7	302	<0.002	0.03%	<0.05	14.7	<1	4.9	50.7	0.97	0.05	19.5	0.29%	1.54	4.7	70	8.9	11.1	92	133
GS_045	26504	BYLDD011	0.51%	12.2	26	330	13	735	<0.002	0.01%	<0.05	14.4	<1	47.7	47.5	0.97	<0.05	17.55	0.26%	4.91	4.5	67	12.9	16.8	79	126.5
GS_046	26505	BYLDD011	3.42%	9.2	2	2010	10.2	336	<0.002	<0.01%	<0.05	0.1	<1	43.9	5.1	3.14	<0.05	0.55	0.01%	1.81	5.2	1	0.9	1	76	6
GS_047	26506	BYLDD011	2.22%	27.3	2.4	1350	16	762	<0.002	<0.01%	0.07	<0.1	<1	58.8	37.1	24.6	<0.05	0.31	<0.01%	5.55	7.5	1	1	0.3	75	4.8
GS_048	26507	BYLDD011	5.00%	60.1	1.5	1630	12.8	662	<0.002	0.01%	<0.05	<0.1	<1	32.4	13.4	43.5	<0.05	0.3	0.01%	4.18	3.6	<1	1.3	0.5	88	5.1
GS_049	26508	BYLDD011	0.17%	10	11.2	730	11.2	329	<0.002	<0.01%	<0.05	6	<1	47.3	35	1.42	<0.05	17	0.25%	2	3.5	30	8	11.2	41	179.5
GS_050	26509	BYLDD011	0.44%	13.9	27.9	680	20.6	303	<0.002	0.25%	0.09	13.8	1	13.7	65.7	1.11	<0.05	17.55	0.28%	1.68	4.5	69	11.3	14.6	98	123.5
GS_052	26510	BYLDD014	0.24%	12.3	24.8	960	23	168	<0.002	0.95%	0.3	8.9	2	7.9	26.7	0.93	<0.05	12.3	0.26%	1.2	4.1	58	7.1	11.6	54	142.5
GS_053	26511	BYLDD014	0.76%	10.1	21.9	650	16.8	356	<0.002	0.02%	0.06	9.4	<1	31	69.7	0.96	<0.05	14.5	0.22%	2.13	3.9	47	6.2	11.2	51	121
GS_054	26512	BYLDD014	4.10%	59.9	1.5	1170	17.5	500	<0.002	0.01%	0.06	0.1	<1	37.4	42.8	67.7	0.06	0.58	0.01%	3.15	3.9	1	1	0.4	25	8
Median Soil Abundance*			0.50%	10	50	800	35	150	-	0.07%	1	7	0.40	4.0	250.0	2	-	9.0	0.50%	0.20	2	90	1.5	40	90	400
Detection Limit			*0.002%*	*0.1*	*1*	*20*	*2*	*0.1*	*0.001*	*0.001%*	*0.05*	*0.1*	*0.2*	*0.2*	*0.1*	*0.01*	*0.01*	*0.2*	*0.005%*	*0.02*	*0.05*	*1*	*0.05*	*0.01*	*2*	*0.5*

Site Sample Number	EGi Sample Number	Hole ID	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
GS_055	26513	BYLDD014	2.57%	27.3	2.6	1400	9.8	385	<0.002	<0.01%	0.06	<0.1	<1	30.9	37.6	29.8	<0.05	0.22	<0.01%	2.35	4.9	1	0.8	0.7	57	3.3
GS_057	26515	BYLDD014	4.19%	12.3	3.2	1720	12.8	557	<0.002	0.02%	0.1	0.1	<1	43.2	39.4	4.44	<0.05	1.67	<0.01%	3.27	5.5	1	0.9	1.4	37	6.2
GS_059	26517	BYLDD014	0.17%	12.8	28.6	1300	9.5	578	<0.002	0.01%	0.13	13.9	<1	103	30	1.06	0.07	17.85	0.27%	3.31	3.9	69	8	16.6	53	134
GS_060	26518	BYLDD026	0.09%	10.2	18.2	190	13	126.5	<0.002	<0.01%	0.1	6.9	<1	2.7	12	0.78	<0.05	18	0.25%	0.55	4	35	2.9	15.3	45	226
GS_061	26519	BYLDD026	0.19%	11.1	65.3	460	258	351	<0.002	<0.01%	0.14	13.8	<1	4.6	20.9	0.87	<0.05	17	0.27%	2.34	4.5	68	4.2	18.8	452	117.5
GS_062	26520	BYLDD026	0.11%	9.7	17.2	150	16	163	<0.002	<0.01%	0.08	6.8	<1	2.6	15.5	0.77	<0.05	17.65	0.26%	0.74	3.7	36	2.6	12.3	74	212
GS_065	26523	BYLDD026	0.26%	12	28.4	330	15.2	251	<0.002	0.03%	0.09	14	<1	4.7	24.3	0.95	<0.05	18.95	0.30%	1.16	4.4	74	6.1	10.4	66	138.5
GS_066	26524	BYLDD026	0.21%	9.6	18.8	270	8.6	170	<0.002	0.01%	0.08	7.9	<1	3	16.4	0.79	<0.05	18.35	0.26%	0.71	3.7	42	4	12	11	182.5
GS_067	26525	BYLDD026	0.27%	10.1	23.5	490	8.4	231	<0.002	0.04%	0.08	10.1	<1	3.5	22.4	0.84	<0.05	17.2	0.27%	1.1	4.4	55	4.9	14.4	27	152.5
GS_068	26526	BYLDD026	0.21%	10.9	14.2	310	8	184.5	<0.002	0.02%	0.07	8.6	<1	3.1	18.5	0.84	<0.05	21.9	0.28%	0.76	3.9	45	5	13	10	193
GS_069	26527	BYLDD026	0.51%	12.8	28.4	300	13.1	235	<0.002	0.01%	<0.05	15.1	<1	4.7	42.5	1.03	<0.05	19.85	0.31%	1.03	4.6	77	8.4	12.7	56	137
GS_070	26528	BYLDD026	0.49%	9.7	13.3	260	8	296	<0.002	0.01%	0.09	6.5	<1	9.3	36.3	0.74	<0.05	16.9	0.26%	1.96	3.7	35	5.3	14.7	22	213
GS_071	26529	BYLDD026	5.00%	84.2	1.4	1490	15.1	590	<0.002	0.03%	0.05	0.1	<1	31.5	38.5	58.9	0.06	2.29	0.01%	3.01	14.2	1	1.7	1.7	204	33.7
GS_072	26530	BYLDD026	3.74%	130.5	2.1	1440	15.7	932	<0.002	0.02%	0.12	<0.1	<1	52.5	45.4	90.1	0.08	2.48	0.01%	5.43	16.6	1	2.2	1	185	29.2
GS_073	26531	BYLDD026	4.09%	71.8	1.5	2010	13.3	668	<0.002	0.02%	0.05	0.2	<1	54.5	70.3	71.5	0.1	1.04	0.01%	4.8	8.1	2	1.3	1.1	26	16.6
GS_076	26534	BYLDD026	0.53%	12.4	28.3	570	37.7	388	<0.002	0.27%	0.06	12.7	1	5.5	67.7	1.04	<0.05	15.3	0.28%	2.48	3.8	66	5.8	20.7	308	134
GS_077	26535	BYLDD026	0.21%	14.7	26.3	1760	12.4	674	0.002	0.02%	0.06	10.5	<1	272	37.6	3.32	<0.05	13.9	0.22%	4.82	4.9	58	10.9	14.2	68	119
GS_079	26537	BYLDD026	3.60%	59.1	4	3340	15.6	1305	<0.002	0.02%	0.06	<0.1	<1	29.4	166	36.2	<0.05	2.53	<0.01%	10.45	14	1	1	2.2	21	14.2
GS_085	26542	BYLDD029	0.20%	11.9	21.4	180	10.8	446	<0.002	<0.01%	0.13	12.7	<1	65.3	23.2	0.97	<0.05	17.55	0.27%	2.38	4.2	64	11.7	13.1	26	149
GS_086	26543	BYLDD029	0.11%	9.7	16.5	190	9.7	326	<0.002	<0.01%	0.07	6.8	<1	20.8	20.8	0.75	<0.05	16.75	0.23%	1.76	4.1	34	6	13.9	34	211
GS_087	26544	BYLDD029	3.86%	76	2.1	3270	18.8	1180	<0.002	<0.01%	0.08	0.2	<1	35.9	90.7	81.1	<0.05	0.99	0.01%	9.56	5.4	1	1.1	0.6	51	38.1
GS_088	26545	BYLDD029	3.01%	85.1	1.8	6760	17.4	1115	<0.002	<0.01%	0.08	<0.1	<1	54.7	107.5	79	<0.05	0.33	<0.01%	9.09	8.2	1	2.2	0.4	98	14.8
GS_089	26546	BYLDD029	2.17%	70.6	2.5	5540	15.4	906	<0.002	<0.01%	0.09	<0.1	<1	75.1	79.4	64	<0.05	0.34	<0.01%	7.72	6.7	1	1.8	0.3	105	11.2
GS_090	26547	BYLDD029	0.10%	11.9	9.6	2110	6.8	1180	<0.002	0.02%	0.09	6	<1	151	66.6	1.79	0.06	15.15	0.22%	8.12	4.7	32	8.4	14.5	91	185.5
GS_091	26548	BYLDD029	0.16%	12.2	14.9	1090	10.4	1320	<0.002	0.02%	0.11	10.1	<1	145.5	29.2	0.99	<0.05	17.95	0.24%	9.83	4.4	46	9.4	11.8	54	157
GS_092	26549	BYLDD029	4.36%	21	1.3	1370	10.2	462	<0.002	0.02%	0.06	0.1	<1	58.4	32.1	10.7	<0.05	1.62	0.01%	2.72	6.5	1	1.2	1.6	29	15.4
GS_097	26553	BYLDD030	0.18%	11.8	24.8	250	11.6	290	<0.002	<0.01%	0.07	13.6	<1	7.3	29.9	0.92	0.05	17.8	0.26%	1.07	3.6	69	8.6	12.2	52	134.5
GS_098	26554	BYLDD030	0.20%	21.8	10.3	2780	13	1130	<0.002	<0.01%	0.09	8.5	<1	358	58.9	4.99	0.07	11.8	0.24%	8.07	3.2	50	14.1	11.5	82	134.5
GS_099	26555	BYLDD030	3.57%	62.1	4.3	3560	7.8	1700	<0.002	<0.01%	<0.05	1.6	<1	183	100	56.4	<0.05	20.3	0.08%	12	11.7	12	3.4	6.1	87	71.4
GS_100	26556	BYLDD030	3.62%	82.2	1.9	2110	26.1	1750	<0.002	<0.01%	0.05	<0.1	<1	34.8	60.7	66.1	<0.05	7.7	<0.01%	16	4.2	1	1.2	0.8	23	8.5
GS_101	26557	BYLDD030	2.82%	64.1	2.3	1380	14.3	687	<0.002	0.01%	0.07	0.1	<1	64.3	21.3	36.4	<0.05	0.45	0.01%	5.19	12	1	1	0.6	103	18.6
GS_103	26559	BYLDD030	1.72%	10.3	13.6	770	11.4	174.5	<0.002	0.07%	0.07	5.1	<1	5.3	86	1.6	<0.05	42.5	0.25%	1.22	3.5	30	2.9	13.2	20	212
GS_104	26560	BYLDD030	0.77%	10.3	11.1	700	7.7	282	<0.002	0.04%	0.06	5.9	<1	9	59.4	1.71	<0.05	43.4	0.25%	1.5	3.4	31	4.7	10.9	19	250
GS_106	26562	BYLDD030	3.29%	21.5	1.6	1580	18	926	<0.002	0.02%	0.07	0.1	<1	69.6	62.2	12.55	<0.05	17	<0.01%	6.63	16.4	<1	0.7	1.5	49	28.6
GS_107	26563	BYLDD030	4.65%	20.2	1.5	1950	13.8	621	<0.002	0.01%	0.05	0.2	<1	61.6	103	10.25	<0.05	25	0.01%	3.82	16.4	1	0.9	3.7	39	29.2
GS_108	26564	BYLDD030	0.44%	11.4	12.4	280	12	164	<0.002	<0.01%	<0.05	7.5	<1	5.1	43.9	1	<0.05	19.3	0.32%	0.73	4.6	36	4.4	12.8	41	327
GS_109	26565	BYLDD030	0.34%	10.8	16.7	260	11.8	252	<0.002	<0.01%	<0.05	9.2	<1	4.1	29.6	1	<0.05	18.9	0.28%	1.27	4.1	44	6.2	12.5	54	193
GS_111	26566	BYLDD034	0.03%	3.2	11.1	10	4.2	44.7	<0.002	0.03%	0.09	1	<1	0.7	3.1	0.28	<0.05	1.12	0.07%	0.27	0.2	10	0.6	0.6	32	5.5
GS_112	26567	BYLDD034	0.36%	10.2	14.6	290	8.4	164.5	<0.002	0.01%	0.07	6.9	<1	3.4	23.2	0.84	<0.05	18.5	0.26%	0.79	4.3	37	4.4	12.8	15	229
GS_113	26568	BYLDD034	0.39%	13	27.5	300	14.8	306	<0.002	0.02%	0.06	15.3	<1	5.2	30.4	1.16	<0.05	17.9	0.30%	1.42	4.9	75	8.6	11.2	38	145
GS_114	26569	BYLDD034	0.80%	12.8	27.4	370	17	252	<0.002	0.01%	<0.05	14.6	<1	4.5	58.2	1.12	<0.05	19.6	0.29%	1.26	5	73	7.5	11.6	52	142.5
GS_115	26570	BYLDD034	0.16%	12.9	16.4	1230	12.1	575	<0.002	0.01%	0.08	10.4	<1	62.6	28.1	1.06	<0.05	18.35	0.27%	3.39	4.8	49	7.9	14.6	50	164.5
GS_116	26571	BYLDD034	0.57%	12.6	27.8	530	33.3	308	<0.002	0.06%	0.1	15.1	<1	5.7	72.8	1.1	<0.05	19.75	0.29%	1.63	4.6	71	6.6	17.8	119	138
GS_117	26572	BYLDD034	0.58%	12.3	24.6	330	16.2	250	<0.002	0.01%	0.05	13.1	<1	4.4	68.6	1.08	<0.05	17.55	0.29%	1.16	4.3	70	6.6	12.3	65	158
GS_118	26573	BYLDD034	0.84%	13	28.2	390	28.2	315	<0.002	0.01%	0.05	15.6	<1	12.7	93.2	1.19	<0.05	17.15	0.31%	1.69	5.9	79	10.4	9.8	94	145.5
GS_118a	26574	BYLDD034	0.94%	8.8	12.2	270	17	217	<0.002	<0.01%	<0.05	6.2	<1	2.2	62.3	0.74	<0.05	17.35	0.23%	1.26	3.9	30	3.1	11.2	33	196
GS_119	26575	BYLDD034	0.14%	9.6	11.8	950	10.4	374	<0.002	0.01%	<0.05	6.2	<1	37.4	24.8	0.82	<0.05	17	0.25%	2.17	3.8	31	6.5	12.6	39	216
GS_120	26576	BYLDD034	0.25%	13.8	24.6	1170	13.4	1055	<0.002	0.02%	<0.05	14	<1	199.5	40.6	1.22	<0.05	17.75	0.28%	8.16	4.7	73	15.4	13.5	60	138.5
GS_124	26580	BYLDD034	4.87%	141.5	1	1910	13.8	992	<0.002	0.01%	0.05	0.1	<1	42.9	17.9	242	<0.05	0.47	0.01%	6.52	10.6	<1	2.1	0.2	163	25.7
		Median Soil Abundance*	0.50%	10	50	800	35	150	-	0.07%	1	7	0.40	4.0	250.0	2	-	9.0	0.50%	0.20	2	90	1.5	40	90	400
		Detection Limit	*0.002%*	*0.1*	*1*	*20*	*2*	*0.1*	*0.001*	*0.001%*	*0.05*	*0.1*	*0.2*	*0.2*	*0.1*	*0.01*	*0.01*	*0.2*	*0.005%*	*0.02*	*0.05*	*1*	*0.05*	*0.01*	*2*	*0.5*

Table A4: Geochemical abundance indices (GAI) of Lei Lithium sample solids (n = 100).

Sample Number	EGi Sample Number	Hole ID	Element																								
			Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo
GS_001	26459	BYLDD004	0	0	2	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_002	26460	BYLDD004	0	0	4	0	3	1	0	0	0	2	0	6	0	0	0	0	0	0	0	1	0	3	0	0	0
GS_003	26461	BYLDD004	0	0	3	0	4	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	2	0	0	0
GS_004	26462	BYLDD004	0	0	2	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	2	0	0	0
GS_005	26463	BYLDD004	0	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_006	26464	BYLDD004	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_008	26466	BYLDD004	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_009	26467	BYLDD004	0	0	1	0	2	1	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
GS_010	26468	BYLDD004	0	0	3	0	2	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_011	26469	BYLDD004	0	0	4	0	3	0	0	0	0	0	0	7	0	0	0	0	0	0	0	1	0	5	0	0	0
GS_012	26470	BYLDD004	0	0	4	0	4	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	5	0	0	0
GS_012a	26471	BYLDD004	0	0	3	0	7	2	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	2	0	0	0
GS_013	26472	BYLDD004	0	0	5	0	4	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	5	0	0	0
GS_014	26473	BYLDD004	0	0	6	0	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	5	0	0	0
GS_015	26474	BYLDD003	2	0	3	0	2	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_016	26475	BYLDD003	0	0	1	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_018	26477	BYLDD003	0	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
GS_020	26479	BYLDD003	0	0	3	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0
GS_021	26480	BYLDD003	0	0	4	0	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	3	1	0	0
GS_022	26481	BYLDD003	0	0	4	0	2	1	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	4	0	0	0
GS_023	26482	BYLDD003	0	0	3	0	3	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	4	0	0	0
GS_024	26483	BYLDD003	0	0	0	0	8	1	0	1	0	0	0	5	0	0	0	0	0	0	0	1	0	7	0	0	0
GS_025	26484	BYLDD003	0	0	0	0	8	2	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	7	0	0	0
GS_026	26485	BYLDD003	0	0	0	0	8	2	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	7	0	0	0
GS_027	26486	BYLDD003	0	0	4	0	9	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_028	26487	BYLDD003	0	0	5	0	5	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	5	0	0	0
GS_029	26488	BYLDD003	0	0	5	0	5	1	0	0	0	0	0	7	0	0	0	0	0	0	0	1	0	6	0	0	0
GS_030	26489	BYLDD011	9	0	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
GS_031	26490	BYLDD011	3	0	2	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_032	26491	BYLDD011	2	0	3	0	3	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0	1	0	0	0
GS_033	26492	BYLDD011	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_034	26493	BYLDD011	0	0	4	0	3	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	4	1	0	0
GS_035	26494	BYLDD011	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_036	26495	BYLDD011	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_037	26496	BYLDD011	0	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_038	26497	BYLDD011	0	0	2	0	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0
GS_039	26498	BYLDD011	0	0	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_040	26499	BYLDD011	0	0	2	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
GS_041	26500	BYLDD011	0	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_042	26501	BYLDD011	0	0	3	0	3	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0
GS_043	26502	BYLDD011	0	0	1	0	3	2	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	3	0	0	1
GS_044	26503	BYLDD011	0	0	4	0	3	1	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	4	0	0	0
GS_045	26504	BYLDD011	0	0	6	1	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	5	0	0	0
GS_046	26505	BYLDD011	0	0	0	0	8	2	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	7	0	0	0
GS_047	26506	BYLDD011	1	0	0	0	8	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	8	0	0	0
GS_048	26507	BYLDD011	0	0	0	0	8	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0
GS_049	26508	BYLDD011	0	0	3	0	4	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	4	0	0	0
GS_050	26509	BYLDD011	1	0	5	0	3	2	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	4	1	0	0
GS_052	26510	BYLDD014	1	0	5	0	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	0	3	0	0	0
GS_053	26511	BYLDD014	0	0	4	0	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	4	0	0	0
GS_054	26512	BYLDD014	0	0	1	0	7	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0

Sample Number	EGi Sample Number	Hole ID	Element																								
			Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo
GS_055	26513	BYLDD014	0	0	0	0	8	1	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	8	0	0	0
GS_057	26515	BYLDD014	0	0	2	0	8	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0	0	0
GS_059	26517	BYLDD014	0	0	4	0	5	3	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	5	0	0	0
GS_060	26518	BYLDD026	2	0	2	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_061	26519	BYLDD026	2	0	4	1	4	0	0	0	0	3	0	3	2	1	0	0	0	0	0	1	0	1	0	1	0
GS_062	26520	BYLDD026	1	0	1	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_065	26523	BYLDD026	0	0	3	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0
GS_066	26524	BYLDD026	0	0	1	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_067	26525	BYLDD026	0	0	2	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0
GS_068	26526	BYLDD026	0	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
GS_069	26527	BYLDD026	0	0	2	0	3	1	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	3	0	0	0
GS_070	26528	BYLDD026	0	0	2	0	3	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_071	26529	BYLDD026	3	0	2	0	9	4	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_072	26530	BYLDD026	2	0	2	0	9	4	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_073	26531	BYLDD026	1	0	2	0	8	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0
GS_076	26534	BYLDD026	1	0	5	0	3	1	0	0	0	1	0	6	0	0	0	0	0	0	0	1	0	4	1	0	0
GS_077	26535	BYLDD026	0	0	7	0	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	6	0	0	0
GS_079	26537	BYLDD026	0	0	4	0	9	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0
GS_085	26542	BYLDD029	0	0	5	0	5	2	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	3	0	0	0
GS_086	26543	BYLDD029	0	0	4	0	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_087	26544	BYLDD029	0	0	0	0	9	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_088	26545	BYLDD029	2	0	0	0	8	2	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_089	26546	BYLDD029	2	0	0	0	7	3	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_090	26547	BYLDD029	0	0	3	0	5	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	5	0	0	0
GS_091	26548	BYLDD029	0	0	6	0	6	0	0	0	0	0	0	7	0	0	0	0	0	0	0	1	0	6	0	0	0
GS_092	26549	BYLDD029	0	0	4	0	8	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0
GS_097	26553	BYLDD030	0	0	5	0	3	1	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	2	0	0	0
GS_098	26554	BYLDD030	0	0	2	0	5	1	0	0	0	0	0	7	0	0	0	0	0	0	0	1	0	6	0	0	0
GS_099	26555	BYLDD030	0	0	0	0	6	2	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	3	0	0	0
GS_100	26556	BYLDD030	0	0	0	0	7	1	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	3	0	0	0
GS_101	26557	BYLDD030	0	0	0	0	8	3	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	8	0	0	0
GS_103	26559	BYLDD030	0	0	3	0	3	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_104	26560	BYLDD030	0	0	3	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_106	26562	BYLDD030	0	0	2	0	8	3	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0	0	0
GS_107	26563	BYLDD030	0	0	3	0	9	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0
GS_108	26564	BYLDD030	0	0	2	0	3	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0	0
GS_109	26565	BYLDD030	0	0	3	0	2	1	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	3	0	0	0
GS_111	26566	BYLDD034	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_112	26567	BYLDD034	0	0	3	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
GS_113	26568	BYLDD034	0	0	3	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0
GS_114	26569	BYLDD034	0	0	3	0	3	2	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	2	0	0	0
GS_115	26570	BYLDD034	0	0	4	0	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	4	0	0	0
GS_116	26571	BYLDD034	0	0	4	0	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	4	1	0	0
GS_117	26572	BYLDD034	0	0	3	0	3	1	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	3	0	0	0
GS_118	26573	BYLDD034	0	0	4	0	4	2	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	4	0	0	0
GS_118a	26574	BYLDD034	0	0	3	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0
GS_119	26575	BYLDD034	0	0	4	0	5	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	5	0	0	0
GS_120	26576	BYLDD034	0	0	4	0	4	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	6	0	0	0
GS_124	26580	BYLDD034	0	0	0	0	8	2	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	4	0	0	0

Sample Number	EGi Sample Number	Hole ID	Element																					
			Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Se	Sn	Sr	Ta	Th	Ti	Tl	U	V	W	Y	Zn	Zr
GS_001	26459	BYLDD004	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0
GS_002	26460	BYLDD004	0	0	0	0	0	1	0	0	1	1	1	0	0	1	0	2	1	0	2	0	0	0
GS_003	26461	BYLDD004	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	2	0	0	0
GS_004	26462	BYLDD004	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	2	0	0	0
GS_005	26463	BYLDD004	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
GS_006	26464	BYLDD004	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0
GS_008	26466	BYLDD004	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0
GS_009	26467	BYLDD004	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	1	0	1	0	0	0
GS_010	26468	BYLDD004	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0	0
GS_011	26469	BYLDD004	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3	1	0	2	0	0	0
GS_012	26470	BYLDD004	1	0	0	0	0	1	0	0	0	1	2	0	0	1	0	3	1	0	2	0	0	0
GS_012a	26471	BYLDD004	2	2	0	1	0	3	0	0	0	1	2	0	4	0	0	5	0	0	0	0	0	0
GS_013	26472	BYLDD004	0	0	0	1	0	1	0	0	0	1	3	0	0	1	0	3	1	0	3	0	0	0
GS_014	26473	BYLDD004	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	3	0	0	2	0	0	0
GS_015	26474	BYLDD003	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	1	0	0	2	0	0	0
GS_016	26475	BYLDD003	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0	0
GS_018	26477	BYLDD003	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0
GS_020	26479	BYLDD003	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	2	0	0	2	0	0	0
GS_021	26480	BYLDD003	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0	0
GS_022	26481	BYLDD003	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0	2	0	0	0
GS_023	26482	BYLDD003	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	3	0	0	1	0	0	0
GS_024	26483	BYLDD003	2	2	0	1	0	3	0	0	0	1	3	0	4	0	0	6	0	0	0	0	0	0
GS_025	26484	BYLDD003	2	2	0	2	0	2	0	0	0	1	3	0	4	0	0	5	2	0	0	0	0	0
GS_026	26485	BYLDD003	2	1	0	1	0	2	0	0	0	1	3	0	3	0	0	5	2	0	0	0	0	0
GS_027	26486	BYLDD003	3	2	0	1	0	1	0	0	0	1	2	0	5	0	0	3	1	0	0	0	0	0
GS_028	26487	BYLDD003	0	0	0	0	0	2	0	0	0	1	4	0	0	0	0	4	0	0	3	0	0	0
GS_029	26488	BYLDD003	0	0	0	0	0	2	0	0	0	1	5	0	0	0	0	5	0	0	3	0	0	0
GS_030	26489	BYLDD011	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	1	0	4	0	0	0
GS_031	26490	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0	0
GS_032	26491	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0	1	0	0	0
GS_033	26492	BYLDD011	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
GS_034	26493	BYLDD011	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	2	0	0	2	0	0	0
GS_035	26494	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0
GS_036	26495	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
GS_037	26496	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
GS_038	26497	BYLDD011	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	2	1	0	1	0	0	0
GS_039	26498	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0
GS_040	26499	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0
GS_041	26500	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0
GS_042	26501	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	1	0	2	0	0	0
GS_043	26502	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	3	0	2	0	0	0
GS_044	26503	BYLDD011	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	1	0	2	0	0	0
GS_045	26504	BYLDD011	0	0	0	0	0	2	0	0	0	1	3	0	0	0	0	4	1	0	3	0	0	0
GS_046	26505	BYLDD011	2	0	0	1	0	1	0	0	0	1	3	0	0	0	0	3	1	0	0	0	0	0
GS_047	26506	BYLDD011	2	1	0	0	0	2	0	0	0	1	3	0	3	0	0	4	1	0	0	0	0	0
GS_048	26507	BYLDD011	3	2	0	0	0	2	0	0	0	1	2	0	4	0	0	4	0	0	0	0	0	0
GS_049	26508	BYLDD011	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	3	0	0	2	0	0	0
GS_050	26509	BYLDD011	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	2	1	0	2	0	0	0
GS_052	26510	BYLDD014	0	0	0	0	0	0	3	0	0	2	0	0	0	0	0	2	0	0	2	0	0	0
GS_053	26511	BYLDD014	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	3	0	0	1	0	0	0
GS_054	26512	BYLDD014	2	2	0	0	0	1	0	0	0	1	3	0	4	0	0	3	0	0	0	0	0	0

Sample Number	EGi Sample Number	Hole ID	Element																					
			Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Se	Sn	Sr	Ta	Th	Ti	Tl	U	V	W	Y	Zn	Zr
GS_059	26517	BYLDD014	0	0	0	0	0	1	0	0	0	1	4	0	0	0	0	3	0	0	2	0	0	0
GS_060	26518	BYLDD026	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
GS_061	26519	BYLDD026	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	3	1	0	1	0	2	0
GS_062	26520	BYLDD026	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
GS_065	26523	BYLDD026	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0	1	0	0	0
GS_066	26524	BYLDD026	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0
GS_067	26525	BYLDD026	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0	1	0	0	0
GS_068	26526	BYLDD026	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0
GS_069	26527	BYLDD026	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	2	1	0	2	0	0	0
GS_070	26528	BYLDD026	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	3	0	0	1	0	0	0
GS_071	26529	BYLDD026	3	2	0	0	0	1	0	0	0	1	2	0	4	0	0	3	2	0	0	0	1	0
GS_072	26530	BYLDD026	2	3	0	0	0	2	0	0	0	1	3	0	5	0	0	4	2	0	0	0	0	0
GS_073	26531	BYLDD026	2	2	0	1	0	2	0	0	0	1	3	0	5	0	0	4	1	0	0	0	0	0
GS_076	26534	BYLDD026	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3	0	0	1	0	1	0
GS_077	26535	BYLDD026	0	0	0	1	0	2	0	0	0	1	6	0	0	0	0	4	1	0	2	0	0	0
GS_079	26537	BYLDD026	2	2	0	1	0	3	0	0	0	1	2	0	4	0	0	5	2	0	0	0	0	0
GS_085	26542	BYLDD029	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	3	0	0	2	0	0	0
GS_086	26543	BYLDD029	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	3	0	0	1	0	0	0
GS_087	26544	BYLDD029	2	2	0	1	0	2	0	0	0	1	3	0	5	0	0	5	1	0	0	0	0	0
GS_088	26545	BYLDD029	2	3	0	2	0	2	0	0	0	1	3	0	5	0	0	5	1	0	0	0	0	0
GS_089	26546	BYLDD029	2	2	0	2	0	2	0	0	0	1	4	0	4	0	0	5	1	0	0	0	0	0
GS_090	26547	BYLDD029	0	0	0	1	0	2	0	0	0	1	5	0	0	0	0	5	1	0	2	0	0	0
GS_091	26548	BYLDD029	0	0	0	0	0	3	0	0	0	1	5	0	0	0	0	5	1	0	2	0	0	0
GS_092	26549	BYLDD029	3	0	0	0	0	1	0	0	0	1	3	0	2	0	0	3	1	0	0	0	0	0
GS_097	26553	BYLDD030	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	2	0	0	0
GS_098	26554	BYLDD030	0	1	0	1	0	2	0	0	0	1	6	0	1	0	0	5	0	0	3	0	0	0
GS_099	26555	BYLDD030	2	2	0	2	0	3	0	0	0	1	5	0	4	1	0	5	2	0	1	0	0	0
GS_100	26556	BYLDD030	2	2	0	1	0	3	0	0	0	1	3	0	4	0	0	6	0	0	0	0	0	0
GS_101	26557	BYLDD030	2	2	0	0	0	2	0	0	0	1	3	0	4	0	0	4	2	0	0	0	0	0
GS_103	26559	BYLDD030	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	2	0	0	0	0	0	0
GS_104	26560	BYLDD030	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	0	0	1	0	0	0
GS_106	26562	BYLDD030	2	1	0	0	0	2	0	0	0	1	4	0	2	0	0	4	2	0	0	0	0	0
GS_107	26563	BYLDD030	3	0	0	1	0	1	0	0	0	1	3	0	2	1	0	4	2	0	0	0	0	0
GS_108	26564	BYLDD030	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	1	0	0	0
GS_109	26565	BYLDD030	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0	0
GS_111	26566	BYLDD034	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
GS_112	26567	BYLDD034	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0
GS_113	26568	BYLDD034	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	1	0	2	0	0	0
GS_114	26569	BYLDD034	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	1	0	2	0	0	0
GS_115	26570	BYLDD034	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	3	1	0	2	0	0	0
GS_116	26571	BYLDD034	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	2	1	0	2	0	0	0
GS_117	26572	BYLDD034	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0	2	0	0	0
GS_118	26573	BYLDD034	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	1	0	2	0	0	0
GS_118a	26574	BYLDD034	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
GS_119	26575	BYLDD034	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	3	0	0	2	0	0	0
GS_120	26576	BYLDD034	0	0	0	0	0	2	0	0	0	1	5	0	0	0	0	5	1	0	3	0	0	0
GS_124	26580	BYLDD034	3	3	0	1	0	2	0	0	0	1	3	0	6	0	0	4	2	0	0	0	0	0

Table A5: Multi-element analyses of water extracts.

Parameter		Sample ID																			
		GS_002	GS_015	GS_020	GS_032	GS_033	GS_037	GS_045	GS_046	GS_049	GS_050	GS_052	GS_057	GS_066	GS_076	GS_086	GS_091	GS_092	GS_103	GS_109	GS_115
		26460	26474	26479	26491	26492	26496	26504	26505	26508	26509	26510	26515	26524	26534	26543	26548	26549	26559	26565	26570
pH		8.2	7.9	8.2	7.8	8.4	8.5	8.8	9.3	9.0	9.1	8.9	8.8	8.4	8.5	8.3	7.7	8.2	8.3	8.7	8.4
EC	dS/m	0.103	0.139	0.122	0.124	0.119	0.089	0.082	0.121	0.116	0.092	0.124	0.107	0.117	0.135	0.139	0.104	0.112	0.107	0.111	0.089
Alkalinity	mg/l	15	13	14	15	27	27	34	58	16	22	39	19	23	37	21	18	14	30	22	48
Ag	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Al	mg/l	0.03	<0.01	0.20	0.09	0.27	0.04	0.98	0.72	0.52	1.16	0.47	0.29	0.1	0.57	0.08	0.13	0.09	0.08	0.28	0.54
As	mg/l	0.002	<0.001	0.007	0.001	0.006	0.018	0.086	0.014	0.033	0.073	0.046	0.008	0.039	0.041	0.007	0.565	0.082	0.028	0.078	0.204
B	mg/l	0.17	0.06	0.08	0.13	0.11	<0.05	0.15	0.07	0.15	<0.05	0.13	0.06	<0.05	0.05	0.1	0.08	0.06	0.05	0.1	<0.05
Ba	mg/l	0.528	0.054	0.200	0.418	0.183	0.307	0.438	0.054	0.085	0.092	0.876	0.032	0.164	0.241	0.179	0.456	0.496	0.369	0.537	0.238
Be	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Ca	mg/l	<1	<1	<1	<1	<1	4	<1	<1	<1	<1	2	<1	3	1	<1	2	2	6	<1	2
Cd	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cl	mg/l	8	9	4	7	4	5	4	5	4	2	5	3	3	3	5	5	6	3	6	2
Co	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.009	0.001	<0.001	<0.001	<0.001
Cr	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Cu	mg/l	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.002	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.005	0.002	<0.001	<0.001	<0.001
F	mg/l	0.5	<0.1	0.3	0.4	0.6	<0.1	2.1	0.3	0.8	1.0	0.7	0.4	0.2	0.4	0.4	0.6	0.4	0.3	0.5	0.9
Fe	mg/l	<0.05	<0.05	0.24	0.22	0.18	<0.05	0.49	0.15	0.23	0.71	0.24	0.05	<0.05	0.38	0.09	0.1	<0.05	<0.05	0.11	0.2
Hg	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
K	mg/l	<1	1	2	<1	<1	2	10	2	1	10	10	3	4	7	1	7	4	3	4	16
Mg	mg/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	1	1	2	<1	<1
Mn	mg/l	0.003	0.001	0.003	0.003	0.003	0.013	0.010	0.026	0.008	0.013	0.005	0.007	0.064	0.009	0.002	0.021	0.051	0.136	0.004	0.005
Mo	mg/l	<0.001	<0.001	<0.001	<0.001	0.001	0.004	<0.001	0.011	0.001	<0.001	0.001	0.009	0.003	<0.001	<0.001	0.005	0.006	0.004	<0.001	<0.001
Na	mg/l	10	8	7	8	8	5	11	9	9	5	16	8	6	9	6	9	10	10	10	6
Ni	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	0.026	0.003	0.002	0.001	0.009
P	mg/l	<1	<1	<1	<1	<1	<1	<1	10	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pb	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sb	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.009	0.002	<0.001	<0.001	0.001
Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Si	mg/l	1.4	1.4	2.9	1.7	3.4	2.6	4.5	4.3	4.4	4.0	3.1	2.0	1.8	2.1	1.8	1.1	1.8	2.1	2.6	4.3
Sn	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SO4	mg/l	<1	<1	1	1	<1	3	<1	<1	<1	3	12	3	7	4	<1	16	16	26	1	2
Sr	mg/l	0.010	0.001	0.006	0.008	0.004	0.022	0.009	<0.001	0.002	0.003	0.019	0.001	0.018	0.013	0.005	0.021	0.025	0.05	0.008	0.01
Th	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.007	<0.001	0.004	0.006	0.003	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.002	0.002
Tl	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
U	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.006	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	<0.001	<0.001	<0.001
Zn	mg/l	<0.005	0.005	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005	0.027	0.01	0.005	<0.005	<0.005

Table A6: Multi-element analyses of peroxide extracts

Parameter		Detection Limit	Sample ID								
			GS_021	GS_034	GS_038	GS_050	GS_052	GS_076	GS_103	GS_116	15% H_2O_2 Blank
			26480	26493	26497	26509	26510	26534	26559	23571	
NAGpH		0.1	7.9	5.6	8.0	3.9	3.3	4.1	5.9	7.9	5.3
Ag	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Al	mg/l	0.01	0.23	0.02	0.73	3.52	7.57	2.31	0.03	0.73	<0.01
As	mg/l	0.001	0.076	0.045	0.029	0.008	0.007	0.003	0.006	0.11	<0.001
B	mg/l	0.05	<0.05	<0.05	<0.05	0.16	0.05	<0.05	0.05	<0.05	<0.05
Ba	mg/l	0.001	0.861	0.114	0.075	0.105	0.17	0.138	0.78	0.111	<0.001
Be	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.002	<0.001	<0.001	<0.001
Ca	mg/l	1	12	3	12	4	38	8	4	24	<1
Cd	mg/l	0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0007	0.0041	0.0001	<0.0001	<0.0001
Cl	mg/l	1	<1	8	<1	<1	<1	<1	10	<1	3
Co	mg/l	0.001	<0.001	<0.001	0.002	0.065	0.102	0.09	0.004	<0.001	<0.001
Cr	mg/l	0.001	0.007	0.005	0.009	0.004	0.006	0.003	0.01	0.007	<0.001
Cu	mg/l	0.001	0.003	0.003	0.001	0.247	0.878	0.369	0.006	0.002	<0.001
F	mg/l	0.1	0.3	0.1	0.2	1.2	0.4	0.2	0.3	0.2	0.1
Fe	mg/l	0.05	<0.05	<0.05	<0.05	<0.05	0.53	<0.05	<0.05	<0.05	<0.05
Hg	mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
K	mg/l	1	8	10	6	14	10	13	2	8	<1
Mg	mg/l	1	2	1	1	3	8	6	2	<1	<1
Mn	mg/l	0.001	0.016	0.05	0.042	0.272	2.97	0.884	0.276	0.06	<0.001
Mo	mg/l	0.001	<0.001	<0.001	<0.001	0.008	<0.001	<0.001	0.001	<0.001	<0.001
Na	mg/l	1	8	4	2	8	3	2	8	2	<1
Ni	mg/l	0.001	<0.001	0.004	0.008	0.117	0.117	0.098	0.009	0.002	<0.001
P	mg/l	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pb	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	0.086	0.037	<0.001	<0.001	<0.001
Sb	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Se	mg/l	0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01	<0.01	<0.01	<0.01
Si	mg/l	0.1	4.1	6.1	4.2	8.3	9.9	8.9	4.4	3.6	<0.05
Sn	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SO4	mg/l	1	14	17	14	68	233	88	23	11	<1
Sr	mg/l	0.001	0.029	0.013	0.016	0.029	0.045	0.037	0.028	0.036	<0.001
Th	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Tl	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
U	mg/l	0.001	<0.001	<0.001	<0.001	0.002	0.007	<0.001	<0.001	<0.001	<0.001
Zn	mg/l	0.005	0.118	0.164	0.02	0.606	0.441	2.28	0.352	0.015	<0.005

WWW.GEOCHEMISTRY.COM.AU

APPENDIX B

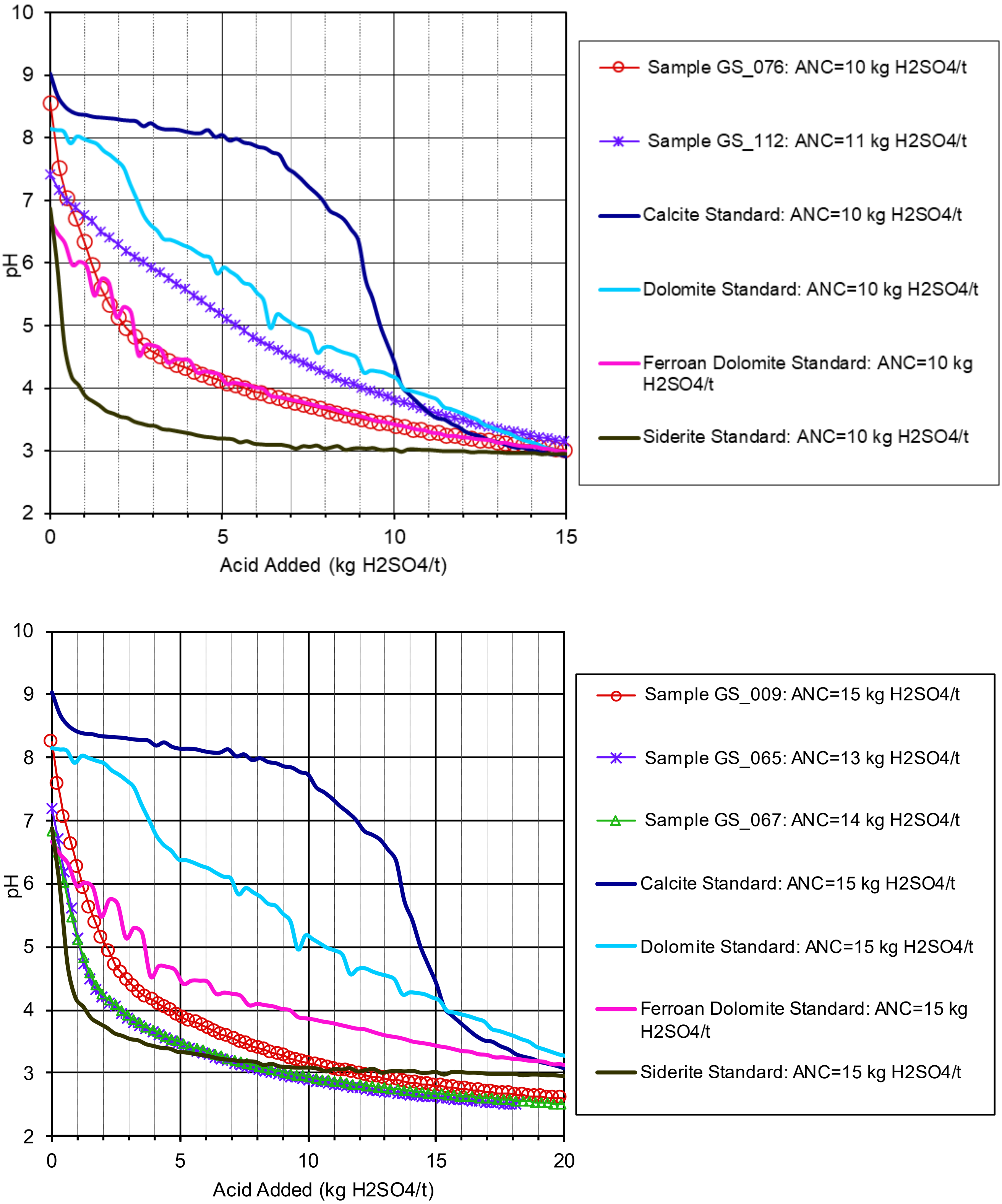
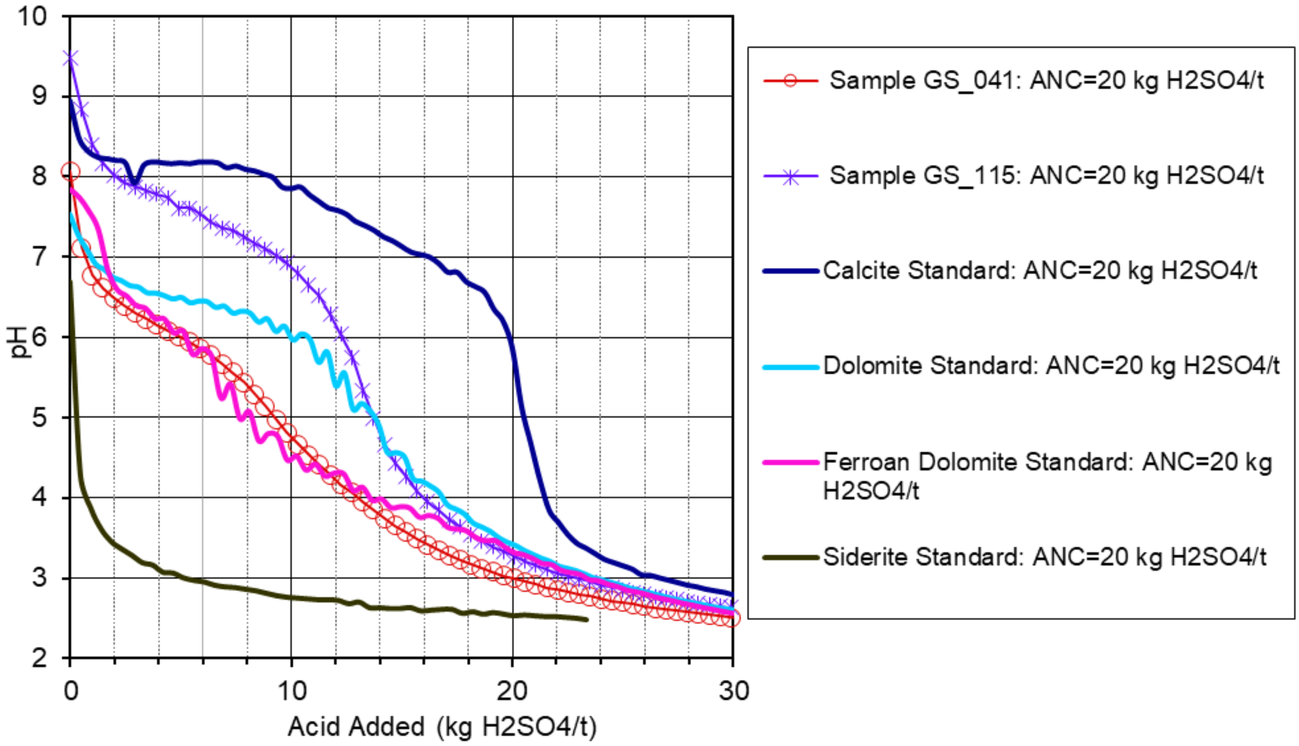


Figure B1: ABCC plots for samples with ANC ≤ 15 kg H_2SO_4/t (GS_076, GS_112, GS_009, GS_065, GS_067).



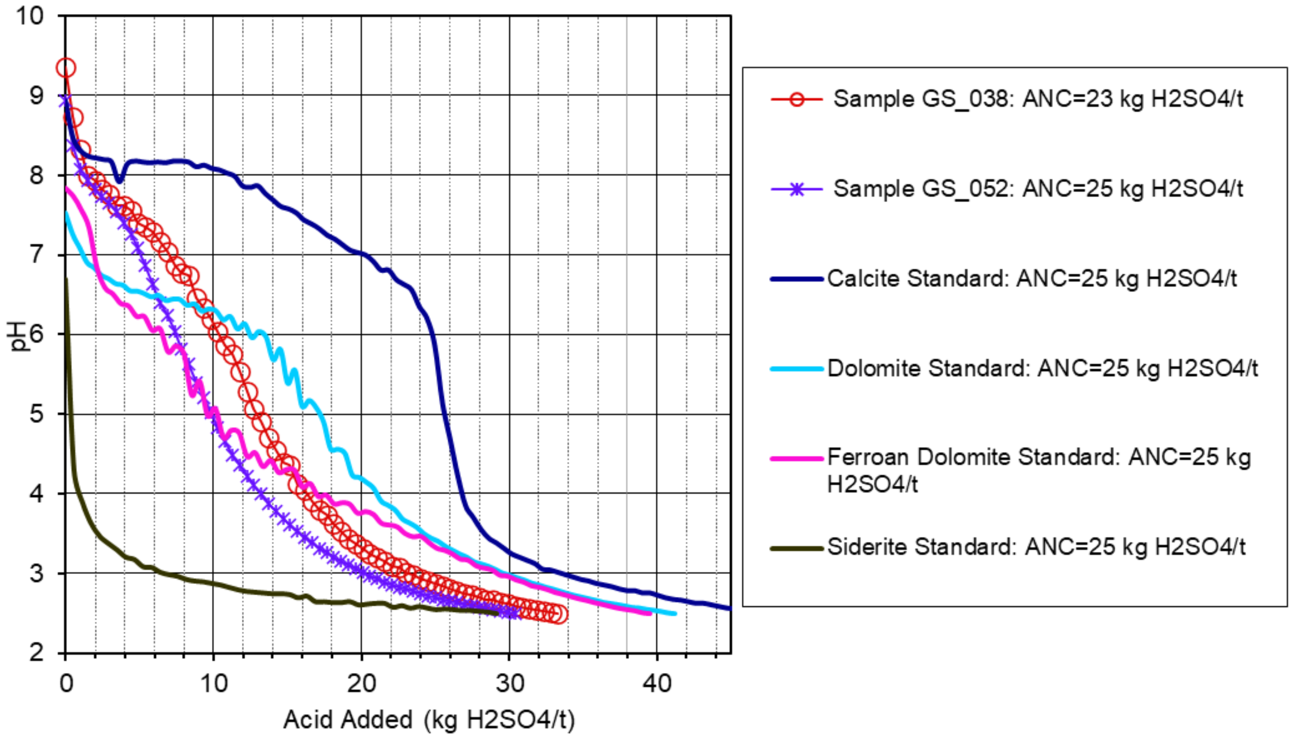


Figure B2: ABCC plots for samples ANC ≥ 20 kg H_2SO_4/t (GS_041, GS_115, GS_038, GS_052).

Environmental Geochemistry International

ENVIRONMENTAL GEOCHEMISTRY INTERNATIONAL PTY LTD

ABN 48 600 298 271

9/44 CARRINGTON ROAD
CASTLE HILL, NSW 2154 AUSTRALIA

T +61 2 9810 8100
E EGI@GEOCHEMISTRY.COM.AU
W WWW.GEOCHEMISTRY.COM.AU