AUSGOLD LTD
KATANNING GOLD PROJECT



PRE-FEASIBILITY STUDY
GEOCHEMICAL CHARACTERISATION OF WASTE ROCK

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PRE-FEASIBILITY STUDY

GEOCHEMICAL CHARACTERISATION OF WASTE ROCK

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DEFINITION OF TECHNICAL TERMS

Acronym or Symbol	Parameter	Brief Description	Determination / Source	Unit
ACA	Average Crustal Abundance	Average concentration of a particular element in the Earth's crust.	References	ppm
AFP	Acid Formation Potential	The potential of a material to form acid.	Calculation	N/A
ANC	Acid Neutralising Capacity	A materials ability to neutralise acid generally through mineral dissolution.	Result	kg H_2SO_4/tonne
ARD	Acid Rock Drainage	Acid metal rich leachate resulting from sulfide oxidation.		N/A
C_n	Elemental Concentration	Measure of concentration of an element in a particular sample.	Result	ppm or %
EC	Electrical Conductivity	A measure of electrical current transported by the ions in solution.	Result	mS/cm
GAI	Geochemical Abundance Index	A scale of enrichment based on C_n and ACA.	Calc.(GAI = Log_2 (C_n / (1.5 x ACA)))	None
MPA	Maximum Potential Acidity	The maximum amount of acid which can be produced by oxidization of contained sulfides.	Calc.(MPA = Sulfide-S x 30.6)	kg H_2SO_4/tonne
NAF	Non Acid Forming	Material does not produce acid either as a result of low sulfide contents or due to excess acid neutralising capacity.	Calculation	N/A
NAG	Net Acid Generation	A direct measure of acid production under extreme oxidising conditions.	Result	kg H_2SO_4/tonne
NAPP	Net Acid Producing Potential	The balance between MPA and ANC.	Calc.(NAPP = ANC – MPA)	kg H2SO4/tonne
HCl	Hydrochloric Acid	A mineral acid.		N/A
H_2O_2	Hydrogen Peroxide	A strong oxidising agent.		N/A
H_2SO_4	Sulfuric Acid	A mineral acid.		N/A
PAF	Potentially Acid Forming	Material has potential to produce acid through sulfide oxidation.	Calculation	N/A
Sulfate-S	Sulfate Sulfur	The sulfur present in the oxidised state.	Result	%
Sulfide-S	Sulfide Sulfur	The sulfur present in the reduced state.	Calc.(Sulfide-S = Total-S – Sulfate-S)	%
TDS	Total Dissolved Solids	A measure of the total amount of material dissolved in a solution.	Calc.(EC x 640)	ppm
Total-S	Total Sulfur	The total amount of sulfur present.	Test work result	%

1. INTRODUCTION

1.1 PROJECT BACKGROUND

Ausgold Limited (Ausgold) is currently undertaking a prefeasibility study of the Katanning Gold Project (KGP) located 40km north-east of the town of Katanning in southwest Western Australia. As part of the study Knight Piésold has been requested to undertaken a preliminary geochemical assessment of the waste rock which will be generated as a result of mining operation at the project.

1.2 SCOPE OF WORK

The assessment comprises the following testing:

- Selection of a suitable number and distribution of samples for the first phase assessment of waste rocks at the project.
- Acid base accounting and multi-element analysis of 34 samples.

All geochemical testing arranged by KP was conducted by Intertek Genalysis (Perth). This report presents the geochemical analysis results and the implications for waste rock management at the project. Guidance on the envisaged scope for subsequent phases of geochemical studies is also provided.

1.3 SITE GEOLOGY

The KGP is comprised of several defined resources and exploration targets within the central and southern zone. This zone is thrust fault bound block comprising of a folded sequence of granite/monzonites, granulite ranging from felsic to mafic and metasediments.

To the north of this main mineralised zone the Datatine deposit has a distinctive geology being hosted within an altered pyroxenite, which dips at ~45° towards the south. The change in orientation is accommodated by a regionally significant fault which separates the Datatine domain from the KGP to the south.

At present no estimation of the relative proportion of each lithology which will be mined is available and therefore the sample selection will target each of the major lithologies with the following lithologies recommended for testing:

- Metasediment
- Felsic Granulite
- Intermediate Granulite (Minor host rock)
- Mafic Granulite (Main host rock)
- Speckled Granulite

- Quartz Monzonite
- Granite (Footwall)

From the geological description provided by Ausgold, sulfide minerals were only noted within the mafic granulite with both pyrite and pyrrhotite noted as being associated with the gold mineralisation. Sulfide grade increases with increasing gold grade.

1.4 WASTE ROCK SAMPLE SELECTION

A sample selection study was conducted by KP to provide advice and assistance for site personnel to select representative samples for geochemical analysis (Ref. 1). For this preliminary sampling and testing phase the sample types provided in Table 1.1 are recommended for testing, the samples from Datatine deposit need only be included if this resource is currently

Table 1.1: Recommended Samples

Lithology	Number	Oxidation	Other Information
Metasediments	2	Fresh	Felsic
	2	Fresh	Intermediate
	2	Fresh	Mafic
Felsic Granulite	2	Fresh	-
Intermediate Granulite	2	Fresh	Proximal to ore with logged sulfide
	2	Fresh	Distal to ore
	2	Transitional	Proximal to ore with logged sulfide
	2	Transitional	Distal to ore
Mafic Granulite	2	Fresh	Proximal to ore with logged sulfide
	2	Fresh	Distal to ore
	2	Transitional	Proximal to ore with logged sulfide
	2	Transitional	Distal to ore
Speckled Granulite	2	Fresh	-
Quartz Monzonite	2	Fresh	-
Granite	2	Fresh	-
Pyroxenite	2	Fresh	Datatine deposit

The selected samples are presented in Table 1.2.

Table 1.2: Samples Selected for Geochemical Testing

Sample ID	Depth	Litholgy	Weathering	Source
KP_ARD_01	44 - 45	Felsic Meta Sed	Fresh	Jinkas
KP_ARD_02	77 - 78	Felsic Meta Sed	Fresh	Jinkas (ramms)
KP_ARD_03	120 - 121	Mafic Meta Sed	Fresh	Jinkas (ramms)
KP_ARD_04	62 - 63	Mafic Meta Sed	Fresh	Olympia
KP_ARD_05	215 - 216	Mafic Dyke	Fresh	Olympia
KP_ARD_06	97 - 98	Mafic Dyke	Fresh	Jinkas South
KP_ARD_07	96 - 97	Felsic Granulite	Fresh	Jackson
KP_ARD_08	45 - 46	Felsic Granulite	Fresh	Olympia
KP_ARD_09	44 - 45	Int Granulite	Trans	White Dam (Jinkas South)
KP_ARD_10	39 - 40	Int Granulite	Trans	Jinkas
KP_ARD_11	37 - 38	Int Granulite	Trans	Jinkas
KP_ARD_12	36 - 37	Int Granulite	Trans	Jackson (Tails Dam)
KP_ARD_13	53 - 54	Int Granulite	Fresh	Jinkas
KP_ARD_14	58 - 59	Int Granulite	Fresh	White Dam (Jinkas South)
KP_ARD_15	67 - 68	Int Granulite	Fresh	Jinkas
KP_ARD_16	46 - 47	Int Granulite	Fresh	White Dam (Olympia)
KP_ARD_17	44 - 45	Mafic Granulite	Trans	Jinkas
KP_ARD_18	38 - 39	Mafic Granulite	Trans	Jakcson (Jinkas South)
KP_ARD_19	20 - 21	Mafic Granulite	Trans	Jinkas
KP_ARD_20	35 - 36	Mafic Granulite	Trans	Jackson (Tails Dam)
KP_ARD_21	83 - 84	Mafic Granulite	Fresh	Jinkas
KP_ARD_22	83 - 84	Mafic Granulite	Fresh	Jackson (Jinkas South)
KP_ARD_23	44 - 45	Mafic Granulite	Fresh	Jinkas
KP_ARD_24	75 - 76	Mafic Granulite	Fresh	Jackson (Jinkas South)
KP_ARD_25	130 - 131	Speckled Mafic		Jackson
KP_ARD_26	103 - 104	Speckled Mafic	Fresh	Jackson (Jinkas South)
KP_ARD_27	71 - 72	Quartz Monzonite	Fresh	Jinkas
KP_ARD_28	150 - 151	Quartz Monzonite	Fresh	Olympia
KP_ARD_29	80 - 81	Granite	Fresh	Jackson
KP_ARD_30	53 - 54	Granite	Fresh	Jackson (Tails Dam)
KP_ARD_31	116 - 117	Pyroxenite	Fresh	Datatine
KP_ARD_32	149 - 150	Pyroxenite	Fresh	Datatine
KP_ARD_33	139 - 140	Pyroxenite	Fresh	Datatine
KP_ARD_34	151 - 152	Pyroxenite	Fresh	Datatine

2. TESTWORK METHODS

2.1 ACID BASE ACCOUNTING

Acid base accounting (ABA) assesses a sample's potential to form acid from oxidation of sulfides and the ability to neutralise acid by the dissolution of minerals, especially carbonates, contained in the sample.

The test work methods used are based on the ABA methodology defined in the Mine Environment Neutral Drainage (MEND) Acid Rock Drainage Prediction Manual (Ref. 2) and Guidelines for Metal Leaching and Acid Rock Drainage at Mine Sites in British Columbia (Ref. 3).

Total sulfur, total carbon and total inorganic carbon were determined by LECO induction furnace with infrared detection. Acid neutralising capacity (ANC) was determined by digestion in a standard solution of HCl, followed by back titration with NaOH to determine the amount of acid consumed. The technique used was based on Sobek et al (Ref. 4), with a siderite correction step added.

The results of the ABA testwork are used to calculate the maximum potential acidity (MPA), which is a measure of the maximum amount of sulfuric acid which can be produced from the total oxidation of all sulfides within the sample, assuming all sulfides are present as pyrite.

The net acid producing potential (NAPP) is the balance between the MPA and ANC. A negative NAPP indicates that there is an excess neutralising capacity and a positive NAPP indicates there is excess potential acidity.

2.2 NET ACID GENERATION (NAG)

Net acid generation (NAG) test work is a direct measure of a sample's ability to produce acid through sulfide oxidation. The addition of hydrogen peroxide to samples causes rapid oxidation of the contained sulfides to produce sulfuric acid.

The specified procedure is based on the static NAG test (Ref. 5 and 6). The static NAG test involves the addition of 250 mL of 15% hydrogen peroxide to 2.5 g of pulverised sample. The sample is allowed to react overnight prior to heating for a period of three hours. Once the sample has cooled the pH of the sample is measured prior to titration back to pH 4.5 and 7 to determine the acidity produced by the oxidization reactions.

2.3 ACID FORMING POTENTIAL

The acid formation potential of a sample is calculated based on the acid base accounting, i.e. the balance between a sample's ability to produce acid from the oxidisation of sulfide minerals (MPA) and neutralise acid by the dissolution of alkaline minerals (ANC).

Historically a safety margin was applied to the ratio between the ANC and MPA to allow for variability in the rates of acid production and neutralisation processes and the potential for geographic separation of the acid producing and acid neutralising phases. This safety margin was generally set by industry at 2 in North America and 3 in Australia.

With recent advances in the understanding and acceptance of the NAG test there has been a move away from this method of classifying materials based solely on the ANC and MPA as these calculated parameters do not take into consideration the true availability of acid producing and acid neutralising phases.

KP prefers to utilise the results of the acid base accounting in combination with the NAG testing results to classify the acid formation potential of materials. KP's classification system, as summarised in Table 2.1, is based on the Australian Government Guidelines on Managing Acidic and Metalliferous Drainage (Ref. 7) and is similar to the classification system contained within the AMIRA ARD Test Handbook (Ref. 8) and the Global Acid Rock Drainage (GARD) Guide (Ref. 9).

Table 2.1: Acid Formation Potential Classification System

Acid Formation Potential Class	NAPP (kg H_2SO_4 /t)	NAG pH
Potentially Acid Forming (PAF)	>10	<4.5
Potentially Acid Forming – Low Capacity (PAF-LC)	0 to 10	<4.5
Non Acid Forming (NAF)	Negative	≥4.5
Acid Consuming (AC)	Less than -100	≥4.5
Uncertain	Positive	≥4.5
	Negative	<4.5

2.4 MULTI-ELEMENT ANALYSIS

2.4.1 Geochemical Enrichments

Multi-element analysis was conducted to assess elemental enrichments within the samples. The specified aqua regia digestion method results in near total digestion of carbonates, oxides and sulfides which are of interest in assessing the potential leachability but results in poor digestion of refractory minerals and some silicates, which are unlikely to contribute elements to leachate.

Multi-element analysis results are compared to the average crustal abundance to determine geochemical abundance indices. The geochemical abundance index (GAI) quantifies an assay result for a particular element in terms of average crustal abundance.

The GAI is calculated from the following formula:

$$GAI = Log_2 (C_n / (1.5 \times B_n))$$

Where:

C_n = *measured concentration of element in sample*

B_n = *average crustal abundance (Bowen, Ref. 10)*

The GAI is expressed on a scale of 0 to 6, with 0 indicating that the element concentration is less than or similar to average crustal abundance, and a GAI of 6 indicating an element concentration of more than 96 times the average crustal abundance. The enrichment ranges for GAIs are as follows:

- GAI = 0 represents <3 times crustal abundance.
- GAI = 1 represents 3 to 6 times crustal abundance.
- GAI = 2 represents 6 to 12 times crustal abundance.
- GAI = 3 represents 12 to 24 times crustal abundance.
- GAI = 4 represents 24 to 48 times crustal abundance.
- GAI = 5 represents 48 to 96 times crustal abundance.
- GAI = 6 represents more than 96 times crustal abundance.

KP has assigned an arbitrary scale to the GAI, with indices of 0 and 1 being classified as “not enriched”, indices of 2 being classed as “slightly enriched”, indices of 3 and 4 being classed as “significantly enriched” and indices of 5 and 6 being classified as “highly enriched”.

2.4.2 Soil Quality Screening

The multi-element analysis results were also compared to guideline concentrations for soil quality based on risk to human health and ecology for preliminary assessment of possible closure requirements, such as construction of engineered cover systems or limiting land use / access.

The Australian National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (Ref. 11) has been used to assess risk to human health, based on an assumed ‘recreational’ closure land use. This assumes the final landform will comprise public open space such as parks and playing fields rather than undeveloped public open space where the potential for exposure will be lower. However, these values assume that no planting of crops for human consumption will occur.

To assess ecological risk, the U.S. Environmental Protection Agency Ecological Soil Screening Levels (Eco-SSLs) (Ref. 12) have been applied. These values apply to sites where terrestrial organisms may be exposed directly or indirectly to contaminated soil.

The Eco-SSL values for mammalian wildlife have been adopted for this study. The Eco-SSLs do not provide guideline values for sulfur, sulfate or phosphorous. Therefore, the former National Environment Protection (Assessment of Site Contamination) Measure (NEPC, 1999) (Ref. 13) ecological investigation levels for these substances have been included for reference purposes in the absence of other more applicable ecological assessment criteria.

The Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM) has developed a series of soil-screening values for contaminated sites as part of the Dutch Soil Protection Act (VROM 2000) (Ref. 14). Soil quality is assessed and managed using target and intervention values which are independent of land use. Soils with contaminant concentrations below target values are considered to be at no risk and no restrictions on their use have been set. Soils with contaminant concentrations exceeding the intervention values require remediation as a matter of urgency, as the functional properties of the soil for humans, plant and animal life are seriously impaired or threatened. Therefore, for preliminary screening purposes, the intervention values have been applied in this study. For certain substances where intervention values have not been set, so-called “indicative levels for serious contamination” have been provided. These have also been included in this study, where appropriate.

The establishment of these soil quality screening values is to allow for evaluation only and it is not implied by production of these values that the project will be required to meet these reference levels or that these reference levels should be used as the regulatory framework. The regulatory requirements for the project will be determined by the relevant regulatory authorities during the environmental design phase of the project, which may take into account the baseline soil quality. As such, given that surface soils close to mineralised deposits often contain elevated background metal(loid) concentrations, it is recommended that baseline soil quality surveys are conducted to ascertain appropriate and site-specific criteria for closure rather than relying on generic soil quality guidelines.

3. GEOCHEMICAL CHARACTERISTICS

3.1 INTRODUCTION

The test results are discussed in the following sections with summary tables provided. Copies of all laboratory test reports are provided in Appendix A. Expanded data tables are also provided in various appendices as referenced in the following sections.

3.2 ACID BASE ACCOUNTING

The results of the sulfur speciation indicate that the total sulfur content of the samples varied from <0.01% to 1.35% at an average of 0.2% which is very low. With most samples (79%) having a total sulfur content less than 0.3%, which is a limit sometimes adopted for preliminary screening and identification of PAF material.

The maximum potential acidity (MPA) was calculated from the total sulfur contents and was minor for most samples with the highest being 39 kg H_2SO_4/t at an average of 5.4 kg H_2SO_4/t.

The acid neutralising capacity (ANC) of the samples was determined along with the estimated carbonate content (based on total carbon in the absence of inorganic carbon test data). The ANC was measured from 13 to 177 kg H_2SO_4/t at an average of 30 kg H_2SO_4/t with the majority of the ANC attributable to the carbonate minerals. This indicates a significant amount of ANC material which should be readily soluble is available in samples.

The ANC test method specified by KP accounts for the possible presence of siderite by adding hydrogen peroxide (H_2O_2) to the digest solution to ensure that aqueous iron is oxidised and hydrolysed to re-release any acid consumed by siderite before completion of the back titration. This ensures that the ANC is not overestimated, as the acid consumed during dissolution of siderite is re-released upon oxidation of aqueous iron and precipitation of iron oxyhydroxides. The precipitation of iron oxyhydroxides causes the digest solution to become a distinct orange colour, as was noted during the ANC tests on 79% of all samples. In all cases, the measured ANC values should be relied upon rather than the carbonate content.

The net acid producing potential (NAPP) of the samples was calculated from the MPA and the measured ANC, along with the ANC/MPA ratio. The NAPP values ranged from -90 to 30 kg H_2SO_4/t at an average of -25 kg H_2SO_4/t. The overall average is significantly negative indicating excess neutralising capacity in the majority of samples.

The ANC/MPA ratios average was 16 with 53% of samples being greater than 10. This is due to the low MPA values due to the low sulfur contents in the samples.

When the various lithologies present in the deposit were examined some lithological trends are evident namely:

- The sulfur content of all lithologies was low with only 44% samples above 0.1%.
- Sulfur content in the Pyroxenite and Mafic Dyke and Granulite material was noticeably higher than other samples.

However, due to most lithologies having 2 samples discerning any comprehensive trends, or the presence of any at all, is questionable and additional samples would be required to draw definitive conclusions.

The summarised acid base accounting results for all samples are presented in Table 3.2 with full ABA results are provided in Appendix B.

3.3 NET ACID GENERATION

The net acid generation (NAG) test aids in the interpretation of acid formation potential classifications. It also identifies whether the sulfides and neutralising minerals contained in the samples are readily available to produce or consume acid respectively.

The results of the net acid generation test indicate that under extreme oxidising conditions, acid was still not produced by 40% of samples with the maximum being 18 kg H_2SO_4. The final pH of the NAG solutions varied from pH 3.0 to 10.6 at a numerical average of 7.7 (noting that pH is based on a logarithmic scale).

The NAG results for the waste rock samples are presented in Table 3.2 with full results are provided in Appendix B.

Table 3.2: Average Acid Base Accounting Results

Grouping	Total S %	Sulfate S %	Sulfide S %	MPA Kg H_2SO_4/t	ANC Kg H_2SO_4/t	Carbonate % $CaCO_3$	NAPP Kg H_2SO_4/t	ANC/MPA -	NAG pH -	Paste pH -
All Samples	0.20	0.02	0.18	5.4	29.9	1.3	-24.5	16	7.7	8.1
Felsic Granulite	0.03	0.01	0.02	0.6	25.0	0.96	-24.4	40.8	8.8	9.0
Felsic Meta Sed	0.07	0.01	0.06	1.8	22.5	0.83	-20.7	18.0	8.5	8.7
Granite	0.04	0.02	0.02	0.6	17.5	0.58	-16.9	22.9	7.2	8.6
Int Granulite	0.13	0.02	0.11	3.4	22.6	0.75	-19.2	6.4	7.7	7.8
Mafic Dyke	0.24	0.02	0.22	6.7	45.5	2.12	-38.8	10.0	10.1	8.5
Mafic Granulite	0.30	0.04	0.27	8.2	44.4	1.87	-36.2	31.5	7.5	7.3
Mafic Meta Sed	0.07	0.01	0.06	1.7	31.5	1.21	-29.8	10.5	8.4	9.2
Pyroxenite	0.40	0.02	0.38	11.6	24.3	2.04	-12.6	4.4	5.9	8.1
Quartz Monzonite	0.08	0.01	0.07	2.1	21.0	0.58	-18.9	10.5	7.8	8.7
Speckled Mafic	0.29	0.02	0.27	8.1	29.5	1.25	-21.4	4.6	7.3	8.2
Fresh	0.25	0.02	0.23	7.1	27.4	1.29	-20.3	10.9	7.4	8.1
Transitional	0.02	0.01	0.01	0.2	38.4	1.41	-38.2	144.6	8.4	7.8

3.4 ACID FORMATION POTENTIAL

The acid formation potential is calculated based on the acid base accounting results and the NAG test. The waste rock sample classifications are summarised below and in Table 3.3 and shown graphically in Figure 3.1.

- 1 sample (3%) classified and Acid Consuming (AC)
- 30 samples (88%) classified as Non-Acid Forming (NAF)
- 1 sample (3%) classified as Potentially Acid Forming – Low Content (PAF-LC)
- 2 samples (6%) classified as Potentially Acid Forming (PAF)

3.4.1 Influence of Lithology

There was found to be no discernible correlation between the classification and lithology. The samples that weren't classed as NAF material had no similar lithology characteristics. The details are presented in Table 3.3.

3.4.2 Influence of Oxidation

It is difficult to determine the effect that oxidation has on the AFP of the material from the few PAF/PAF-LC samples obtained. The 3 samples classed as PAF/PAF-LC were all from fresh rock.

Table 3.3: Summary of Acid Forming Potential by Lithology (No. of Samples)

Lithology	AC	NAF	UC	PAF-LC	PAF
Felsic Granulite	-	2	-	-	-
Felsic Meta Sed	-	2	-	-	-
Granite	-	2	-	-	-
Int Granulite	-	7	-	-	1
Mafic Dyke	-	2	-	-	-
Mafic Granulite	1	6	-	-	1
Mafic Meta Sed	-	2	-	-	-
Pyroxenite	-	3	-	1	-
Quartz Monzonite	-	2	-	-	-
Speckeld Mafic	-	2	-	-	-
Grand Total	**1**	**30**	**-**	**1**	**2**

Table 3.4: Summary of Acid Forming Potential by Weathering (No. of Samples)

Weathering Grade	AC	NAF	UC	PAF-LC	PAF
Transitional	1	7	-	-	-
Fresh	-	22	-	1	2

3.5 MULTI-ELEMENT ANALYSIS

3.5.1 Element Enrichments

The results of the multi-element analysis and comparison to average crustal abundance indicates that the samples have low number of element enrichment. Only Sulfur was at some level of enrichment in more than 3 samples, with only 1 sample being highly enriched. Elements with some level of enrichment in 1-3 samples were Arsenic, Bismuth, Carbon, Cadmium, Cobalt, Chromium, Molybdenum and Nickel. Summarised results are provided in Table 3.5 with full results of the multi-element analyses and geochemical abundance are provided in Appendix C

The Speckled Mafic material was the only material to have levels of enrichment outside of Sulfur. This is mainly due to only having 2 samples of Speckled Mafic material with one being significantly enriched in Bismuth and Molybdenum.

3.5.2 Soil Quality Screening

The results of the multi-element analysis have also been compared to a set of soil quality screening guidelines, which indicated that most samples met the human health guidelines (non-residential).

Chromium levels exceeded the Ecological Levels in almost all of the samples leading to all samples but 1 failing against those guidelines. Significant exceedances were also seen in Sulfur and Zinc with 59% and 53% of samples respectively Further elements, Cadmium, Copper, Nickel, Antimony and Vanadium also exceeded the Ecological guidelines in the range of 2% - 41%.

Chromium, Nickel and Vanadium levels also exceeded remediation guideline levels as well as Barium. These exceedances were less significant than those against the Soil screening guidelines with exceedances in the range of 12 – 26% of samples.

Complete tabulated results compared to the assessment criteria are presented in Appendix C. The implications of this assessment are discussed in Section 4.

Table 3.5: Summary of Element Enrichment Results

Element	Percentage of Samples (%)			
	Non-Enriched	Slightly Enriched	Significantly Enriched	Highly Enriched
Ag	100	0	0	0
Al	100	0	0	0
As	94	6	0	0
B	100	0	0	0
Ba	100	0	0	0
Bi	97	0	3	0
C	91	3	6	0
Ca	100	0	0	0
Cd	97	3	0	0
Co	94	6	0	0
Cr	91	3	6	0
Cu	100	0	0	0
Fe	100	0	0	0
K	100	0	0	0
Mg	100	0	0	0
Mn	100	0	0	0
Mo	94	0	6	0
Na	100	0	0	0
Ni	91	6	3	0
P	100	0	0	0
Pb	100	0	0	0
S	65	15	18	3
Sb	100	0	0	0
Sr	100	0	0	0
V	100	0	0	0
Zn	100	0	0	0

Table 3.4: Summary of Soil Quality Screening Results

Element	Reference Guidelines (ppm)			Percentage of Samples Exceeding Reference Guidelines (%)		
	Human Health-Based Investigation Levels [1]	Ecological Soil Screening Levels [2,3]	Soil Remediation Intervention Values [4]	Human Health-Based Investigation Levels [1]	Ecological Soil Screening Levels [2,3]	Soil Remediation Intervention Values [4]
Ag	N/G	14	15	0	0	0
As	300	46	55	0	0	0
B	20000	N/G	N/G	0	0	0
Ba	N/G	2000	625	0	0	24
Cd	90	0.36	12	0	3	0
Co	300	230	240	0	0	0
Cr	N/G	34	380	0	97	12
Cu	17000	49	190	0	41	0
Mn	19000	4000	N/G	0	0	0
Mo	N/G	N/G	200	0	0	0
Ni	1200	130	210	0	26	12
P	N/G	2000	N/G	0	0	0
Pb	600	56	530	0	0	0
S	N/G	600	N/G	0	59	0
Sb	N/G	0.27	15	0	15	0
V	N/G	280	250	0	24	26
Zn	30000	79	720	0	53	0

Notes:

1. National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1). Health Investigation Levels for Soil Contaminants, Generic Land Use HIL C – Recreational.
2. United States Environmental Protection Agency (U.S. EPA) Ecological Soil Screening Levels (Eco-SSLs), http://www.epa.gov/ecotox/ecossl/ (mammalian wildlife).
3. Ecological guideline values for phosphorous and sulfur are based on National Environment Protection (Assessment of Site Contamination) Measure (NEPC, 1999). These former Australian ecological investigation levels for urban areas have been included for reference purposes in the absence of other more applicable ecological assessment criteria.
4. Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM) 2000. Circular on Target Values and Intervention Values for Soil Remediation, Reference DBO/1999226863. Soil remediation intervention values. In the absence of intervention values for beryllium, selenium, silver, tin and vanadium, “indicative levels for serious soil contamination” have been applied.
5. Detection limits higher than exceedance levels leading to all samples exceeding limits.

4. IMPLICATIONS FOR MANAGEMENT OF WASTE ROCK

4.1 ACID FORMING POTENTIAL

Of the waste rock samples analysed, 88% of samples were classified as Non Acid Forming (NAF). The average sulfur content was found to be low at 0.2%. The maximum potentially acidity average was low, and the acid neutralising capacity moderate to high. The ANC/MPA ratios were typically moderately high, with 53% of samples recording ratios greater than 10 at an average of 16 indicating a significant factor of safety against acid generation in most samples.

Due to most lithologies having 2 samples discerning any comprehensive trends, or the presence of any at all, is questionable and additional samples would be required to draw definitive conclusions. However, based on the result of this initial set of samples it is considered that the risk of major acid generation from the deposit is low and specific measures required to selectively handle or manage potential acid generation at the project will be limited to a small percentage of the waste, if required at all.

4.2 MULTI-ELEMENT ENRICHMENT

The results of the multi-element analysis and comparison to average crustal abundance indicates that the samples have a low number of elemental enrichments.

All samples met Human Health guidelines with most samples also meeting Remediation levels. Chromium levels exceeded the Ecological Levels in almost all of the samples leading to all samples but 1 failing against those guidelines. Significant exceedances were also seen in Sulfur and Zinc with 59% and 53% of samples respectively. Other lesser exceedances were also present.

As a result, dust control measures will be required along with monitoring of seepage levels from stockpiles and waste dumps to limit the impact of the materials. A soil cover will also be required to ensure appropriate ground conditions are met upon closure.

4.3 ADDITIONAL TESTING

The results of the testing indicate that the deposit has a low geochemical risk and at present the risk profile appear to be low, however the number of samples will need to be increased to meet project permitting requirements. Additionally, if exploration work defines additional resources or the pit geometry changes to incorporate additional materials then additional testing should be conducted on these materials.

5. REFERENCES

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17. Australian and New Zealand Environmental and Conservation Council (2000). Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

18. IFC (2007). IFC Environmental, Health and Safety Guidelines for Mining.

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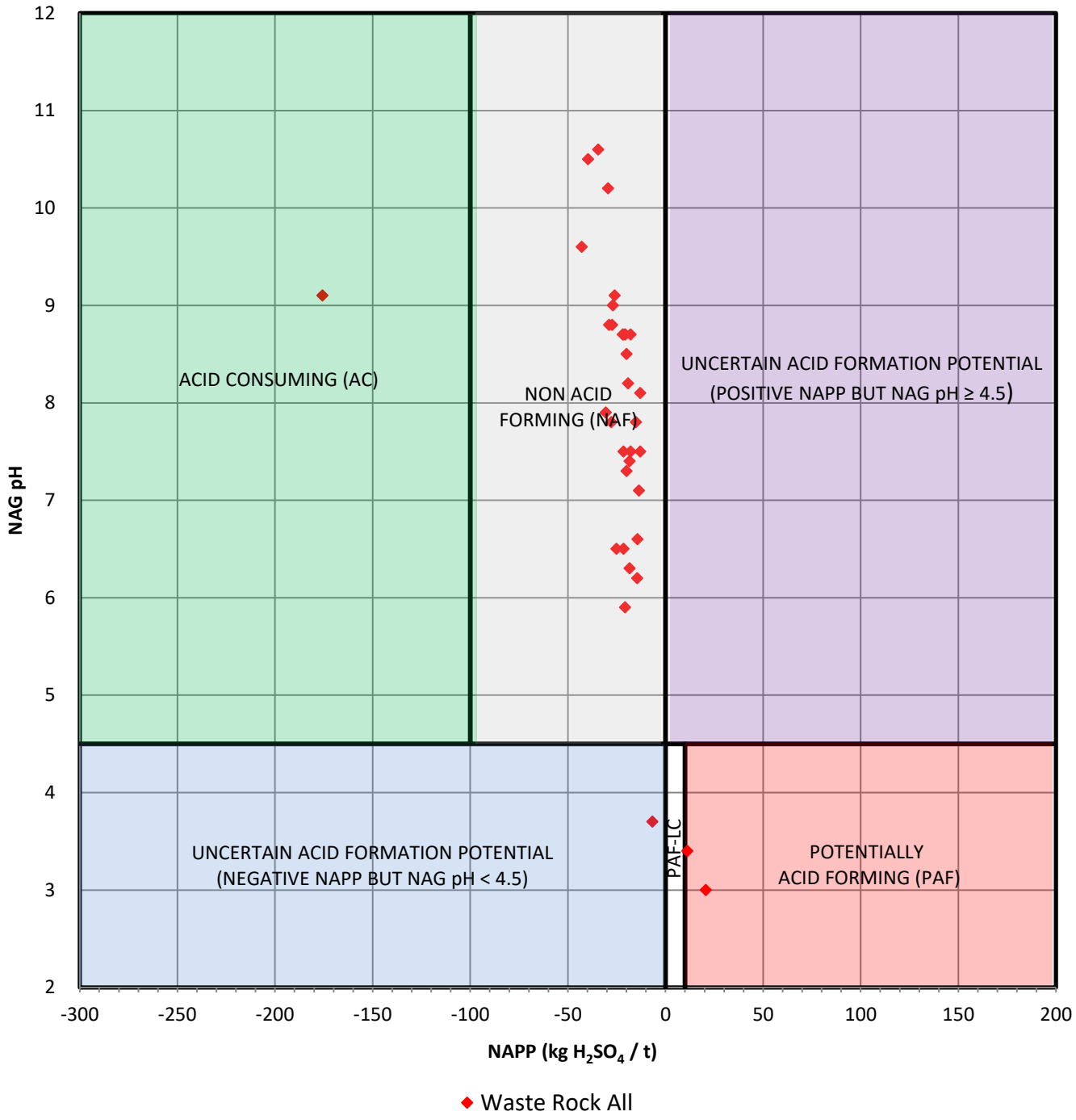
FIGURES

Acid Formation Potential



Acid Formation Potential	NAPP (kg H_2SO_4 / t)	NAG pH
Potentially Acid Forming (PAF)	>10	<4.5
Potentially Acid Forming - Low Capacity (PAF - LC)	0 to 10	<4.5
Non Acid Forming (NAF)	Negative	≥4.5
Acid Consuming (AC)	Less than - 100	≥4.5
Uncertain	Positive	≥4.5
	Negative	<4.5

APPENDIX A

Intertek Genalysis Laboratory Reports

Knight Piésold CONSULTING

MINERALS
TEST REPORT

CLIENT

KNIGHT PIESOLD PTY LIMITED
PO Box 6837
EAST PERTH, W.A. 6892
AUSTRALIA

JOB INFORMATION

JOB CODE	: 752.0/2218847
NO. SAMPLES	: 34
NO. ELEMENTS	: 47
CLIENT ORDER NO.	: BR-20143 (Job 1 of 1)
SAMPLE SUBMISSION NO.	: BR801-000318 SS22001
PROJECT	: KATANNING GOLD PROJECT
SAMPLE TYPE	: Various
DATE RECEIVED	: 29/08/2022
DATE TESTED	: 08/09/2022 - 23/09/2022
DATE REPORTED	: 11/10/2022
DATE PRINTED	: 11/10/2022

REPORT NOTES

TESTED BY

Intertek
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Email: min.aus.per@intertek.com

APPROVED SIGNATURE FOR

Craig RITCHIE
Operations Manager - Perth

SIGNIFICANT FIGURES

It is common practice to report data derived from analytical instrumentation to a maximum of two or three significant figures. Some data reported herein may show more figures than this. The reporting of more than two or three figures in no way implies that figures beyond the least significant digit have significance.

For more information on the uncertainty on individual reported values, please contact the laboratory.

MEASUREMENT OF UNCERTAINTY

Measurement of uncertainty estimates are available for most tests upon request.

SAMPLE STORAGE

All solid samples (assay pulps, bulk pulps and residues) will be stored for 60 days without charge. Following this samples will be stored at a daily rate until clients written advice regarding return, collection or disposal is received. If storage information is not supplied on the submission, or arranged with the laboratory in writing the default will be to store the samples with the applicable charges. Storage is charged at $4.00 per m3 per day, expenses related to the return or disposal of samples will also be charged. Current disposal costs including packaging in a Class2 waste disposal facility is charged at $175.00 per m3.

Samples received as liquids, waters or solutions will be held for 60 days free of charge then disposed of, unless written advice fo return or collection is received.

LEGEND	X	= Less than Detection Limit		NA	= Not Analysed
	SNR	= Sample Not Received		UA	= Unable to Assay
	LNR	= Lab Not Received		>	= Value beyond Limit of Method
	DTF	= Result still to come		+	= Extra Sample Received Not Listed
	I/S	= Insufficient Sample for Analysis			

UNITS	ppm for Solid Samples	= mg/Kg
	ppb for Solid Samples	= µg/Kg
	ppm for Liquid Samples	= mg/L
	ppb for Liquid Samples	= µg/L

ELEMENTS	Ag	Al	ANC	As	B	Ba
UNITS	ppm	ppm	kgH2SO4/t	ppm	ppm	ppm
DETECTION LIMIT	0.1	50	1	1	50	0.1
DIGEST	4AB/	4AB/	ANCx/	4AB/	FP1/	4AB/
ANALYTICAL FINISH	MS	OE	VOL	MS	OE	MS
SAMPLE NUMBERS						
0001 KP_ARD_01	<0.1	8.12%	27	2	<50	471.8
0002 KP_ARD_02	<0.1	8.91%	18	2	<50	287.8
0003 KP_ARD_03	<0.1	7.95%	32	2	<50	329.7
0004 KP_ARD_04	<0.1	8.91%	31	2	<50	38.8
0005 KP_ARD_05	<0.1	7.75%	37	2	<50	35.7
0006 KP_ARD_06	<0.1	7.28%	54	3	<50	115.6
0007 KP_ARD_07	<0.1	8.56%	28	2	<50	731.6
0008 KP_ARD_08	<0.1	7.64%	22	2	<50	323.3
0009 KP_ARD_09	<0.1	8.25%	13	1	<50	708.8
0010 KP_ARD_10	<0.1	7.33%	18	3	<50	366.6
0011 KP_ARD_11	0.1	7.96%	21	11	<50	509.7
0012 KP_ARD_12	0.2	8.10%	13	2	<50	266.1
0013 KP_ARD_13	0.2	7.44%	48	7	<50	687.8
0014 KP_ARD_14	<0.1	8.60%	19	1	<50	472.6
0015 KP_ARD_15	<0.1	8.82%	30	5	<50	455.6
0016 KP_ARD_16	0.1	7.68%	19	2	<50	434.9
0017 KP_ARD_17	<0.1	1.42%	177	5	<50	107.1
0018 KP_ARD_18	<0.1	8.03%	20	3	<50	168.8
0019 KP_ARD_19	<0.1	1.92%	27	12	<50	147.9
0020 KP_ARD_20	<0.1	8.08%	18	1	<50	197.3
0021 KP_ARD_21	0.1	7.70%	35	6	<50	836.0
0022 KP_ARD_22	<0.1	7.58%	25	3	<50	63.5
0023 KP_ARD_23	<0.1	8.44%	35	4	<50	203.7
0024 KP_ARD_24	0.3	6.10%	18	2	<50	190.5
0025 KP_ARD_25	<0.1	8.02%	26	2	<50	570.6
0026 KP_ARD_26	0.1	7.57%	33	3	<50	211.8
0027 KP_ARD_27	<0.1	8.40%	20	2	<50	711.8
0028 KP_ARD_28	<0.1	7.75%	22	2	<50	781.7
0029 KP_ARD_29	<0.1	8.14%	14	1	<50	700.4
0030 KP_ARD_30	<0.1	8.14%	21	2	<50	938.0
0031 KP_ARD_31	0.1	8.34%	28	2	<50	398.1
0032 KP_ARD_32	0.2	6.81%	21	2	<50	339.6
0033 KP_ARD_33	<0.1	7.38%	23	1	<50	147.6
0034 KP_ARD_34	<0.1	9.45%	25	1	<50	240.7
CHECKS						
0001 KP_ARD_12	0.2	8.05%	14	2	<50	262.8

ELEMENTS	Be	Bi	C	C-Acinsol	C-CO3	Ca
UNITS	ppm	ppm	%	%	%	ppm
DETECTION LIMIT	0.1	0.01	0.01	0.01	0.01	50
DIGEST	4AB/	4AB/		C71/		4AB/
ANALYTICAL FINISH	MS	MS	/CSA	CSA	/CALC	OE
SAMPLE NUMBERS						
0001 KP_ARD_01	1.2	<0.01	0.14	0.03	0.12	3.09%
0002 KP_ARD_02	0.9	<0.01	0.06	0.02	0.04	3.56%
0003 KP_ARD_03	1.1	0.02	0.09	0.02	0.07	5.39%
0004 KP_ARD_04	0.2	0.06	0.20	0.17	0.03	7.24%
0005 KP_ARD_05	0.3	0.02	0.20	0.03	0.17	8.31%
0006 KP_ARD_06	0.8	0.03	0.31	0.10	0.21	6.76%
0007 KP_ARD_07	1.2	0.01	0.12	0.04	0.09	3.08%
0008 KP_ARD_08	1.4	<0.01	0.11	0.02	0.09	3.31%
0009 KP_ARD_09	0.6	<0.01	0.04	0.04	<0.01	2.46%
0010 KP_ARD_10	1.0	0.01	<0.01	<0.01	<0.01	1.50%
0011 KP_ARD_11	1.6	0.07	0.03	0.02	<0.01	5.55%
0012 KP_ARD_12	1.5	0.04	0.02	0.02	<0.01	3.80%
0013 KP_ARD_13	1.5	0.05	0.28	0.02	0.26	7.59%
0014 KP_ARD_14	1.0	<0.01	0.04	0.03	0.02	2.94%
0015 KP_ARD_15	0.9	0.03	0.16	0.04	0.12	3.51%
0016 KP_ARD_16	1.5	0.02	0.14	0.02	0.12	3.58%
0017 KP_ARD_17	0.6	0.28	1.12	0.03	1.09	5.01%
0018 KP_ARD_18	1.2	0.19	0.02	0.02	<0.01	5.86%
0019 KP_ARD_19	1.2	0.16	0.02	0.02	<0.01	6.30%
0020 KP_ARD_20	1.2	0.03	0.09	0.08	<0.01	5.56%
0021 KP_ARD_21	1.1	0.06	0.16	0.02	0.14	6.02%
0022 KP_ARD_22	0.9	0.12	0.19	0.04	0.15	6.77%
0023 KP_ARD_23	0.9	0.16	0.09	0.02	0.08	5.18%
0024 KP_ARD_24	1.3	0.12	0.11	0.04	0.07	6.49%
0025 KP_ARD_25	1.4	0.03	0.08	0.03	0.06	3.72%
0026 KP_ARD_26	1.0	0.62	0.22	0.12	0.10	8.03%
0027 KP_ARD_27	1.9	0.02	0.03	0.02	0.02	2.89%
0028 KP_ARD_28	1.4	0.07	0.11	0.06	0.05	1.66%
0029 KP_ARD_29	1.9	0.01	0.10	0.03	0.07	2.11%
0030 KP_ARD_30	1.7	0.02	0.04	0.02	0.02	2.39%
0031 KP_ARD_31	1.3	0.07	0.71	0.67	0.05	4.08%
0032 KP_ARD_32	1.0	0.22	0.12	0.04	0.07	3.48%
0033 KP_ARD_33	1.1	0.11	0.05	0.03	0.02	5.45%
0034 KP_ARD_34	3.1	0.21	0.10	0.04	0.06	6.28%
CHECKS						
0001 KP_ARD_12	1.7	0.04	0.03	0.03	<0.01	3.77%

ELEMENTS	Cd	Cl	Co	ColourChange	Cr	Cu
UNITS	ppm	%	ppm	NONE	ppm	ppm
DETECTION LIMIT	0.1	0.02	0.1	0	5	1
DIGEST	4AB/	CL1/	4AB/	ANCx/	4AB/	4AB/
ANALYTICAL FINISH	MS	COL	MS	QUAL	OE	OE
SAMPLE NUMBERS						
0001 KP_ARD_01	<0.1	0.06	15.1	Yes	55	19
0002 KP_ARD_02	0.2	0.03	18.5	Yes	67	31
0003 KP_ARD_03	0.2	<0.02	52.1	Yes	210	36
0004 KP_ARD_04	<0.1	<0.02	71.3	No	632	33
0005 KP_ARD_05	<0.1	0.06	52.7	Yes	225	151
0006 KP_ARD_06	<0.1	0.03	48.8	Yes	40	21
0007 KP_ARD_07	<0.1	0.07	11.9	Yes	43	8
0008 KP_ARD_08	<0.1	0.04	13.7	Yes	39	10
0009 KP_ARD_09	<0.1	0.09	13.5	Yes	29	19
0010 KP_ARD_10	<0.1	0.04	16.0	No	46	4
0011 KP_ARD_11	0.3	0.04	21.5	No	36	34
0012 KP_ARD_12	0.2	0.04	49.8	No	86	77
0013 KP_ARD_13	0.1	0.06	14.2	Yes	39	105
0014 KP_ARD_14	<0.1	0.03	17.0	Yes	37	41
0015 KP_ARD_15	<0.1	0.04	33.2	Yes	199	40
0016 KP_ARD_16	<0.1	0.04	14.4	Yes	45	45
0017 KP_ARD_17	<0.1	0.04	142.1	Yes	1732	156
0018 KP_ARD_18	0.2	0.03	55.4	No	210	151
0019 KP_ARD_19	0.2	0.03	126.9	No	1766	134
0020 KP_ARD_20	0.2	0.04	59.7	No	185	141
0021 KP_ARD_21	0.1	0.07	39.5	Yes	36	84
0022 KP_ARD_22	<0.1	0.08	55.9	Yes	182	90
0023 KP_ARD_23	<0.1	0.06	50.9	Yes	331	54
0024 KP_ARD_24	0.2	0.07	45.3	Yes	220	63
0025 KP_ARD_25	<0.1	0.12	17.0	Yes	52	27
0026 KP_ARD_26	0.2	0.04	57.1	Yes	519	67
0027 KP_ARD_27	<0.1	0.04	10.8	Yes	55	19
0028 KP_ARD_28	<0.1	0.05	6.4	Yes	38	16
0029 KP_ARD_29	<0.1	0.04	7.9	Yes	45	11
0030 KP_ARD_30	<0.1	0.08	9.7	Yes	37	9
0031 KP_ARD_31	0.2	<0.02	41.7	Yes	41	41
0032 KP_ARD_32	0.9	0.22	50.9	Yes	45	137
0033 KP_ARD_33	0.2	0.11	60.0	Yes	52	87
0034 KP_ARD_34	0.1	0.06	28.9	Yes	35	36
CHECKS						
0001 KP_ARD_12	0.3	0.04	49.4	No	89	77

ELEMENTS	EC	F	Fe	Final-pH	Fizz-Rate	Hg
UNITS	mS/cm	ppm	%	NONE	NONE	ppb
DETECTION LIMIT	0.01	50	0.01	0.1	1	1
DIGEST	Paste/	FC7/	4AB/	ANCx/	ANCx/	AR005/
ANALYTICAL FINISH	MTR	SIE	OE	MTR	QUAL	MSHg
SAMPLE NUMBERS						
0001 KP_ARD_01	0.74	375	4.25	2.0	1	3
0002 KP_ARD_02	0.24	100	5.60	1.9	<1	2
0003 KP_ARD_03	0.18	476	11.15	2.1	<1	2
0004 KP_ARD_04	0.14	173	6.54	3.3	<1	2
0005 KP_ARD_05	0.98	123	9.41	3.1	1	2
0006 KP_ARD_06	0.34	326	10.69	1.6	2	1
0007 KP_ARD_07	0.71	346	2.86	2.1	1	2
0008 KP_ARD_08	0.40	134	3.94	1.9	1	5
0009 KP_ARD_09	0.25	860	3.08	1.6	<1	2
0010 KP_ARD_10	0.26	580	4.29	1.7	<1	6
0011 KP_ARD_11	0.31	324	6.60	1.7	<1	9
0012 KP_ARD_12	0.33	384	7.90	1.6	<1	3
0013 KP_ARD_13	1.00	212	4.09	1.2	2	2
0014 KP_ARD_14	0.31	919	4.94	1.8	<1	<1
0015 KP_ARD_15	0.50	1441	5.29	2.3	<1	<1
0016 KP_ARD_16	0.83	496	5.01	2.3	<1	1
0017 KP_ARD_17	1.20	831	13.02	1.8	2	2
0018 KP_ARD_18	0.11	365	9.70	1.8	<1	5
0019 KP_ARD_19	0.36	1425	14.13	1.6	<1	1
0020 KP_ARD_20	0.42	427	11.35	1.7	<1	1
0021 KP_ARD_21	0.92	846	6.95	2.5	1	2
0022 KP_ARD_22	1.25	496	10.03	2.8	<1	1
0023 KP_ARD_23	1.76	1309	7.94	2.7	<1	2
0024 KP_ARD_24	1.61	306	12.82	2.7	<1	<1
0025 KP_ARD_25	1.24	328	4.31	2.3	1	<1
0026 KP_ARD_26	0.62	304	7.36	2.3	<1	2
0027 KP_ARD_27	0.49	477	2.86	1.7	<1	1
0028 KP_ARD_28	0.57	1116	1.66	1.7	1	3
0029 KP_ARD_29	0.42	767	2.16	1.6	<1	<1
0030 KP_ARD_30	1.16	565	2.40	1.8	<1	1
0031 KP_ARD_31	0.37	586	7.37	2.9	<1	<1
0032 KP_ARD_32	5.09	334	10.25	3.0	<1	2
0033 KP_ARD_33	0.99	501	13.12	2.2	<1	1
0034 KP_ARD_34	0.74	333	5.74	2.5	<1	1
CHECKS						
0001 KP_ARD_12	0.34	427	7.85	1.7	<1	2

ELEMENTS	K	Mg	Mn	Mo	Na	NAG
UNITS	ppm	ppm	ppm	ppm	ppm	kgH2SO4/t
DETECTION LIMIT	20	20	1	0.1	20	1
DIGEST	4AB/	4AB/	4AB/	4AB/	4AB/	NAGx/
ANALYTICAL FINISH	OE	OE	OE	MS	OE	VOL
SAMPLE NUMBERS						
0001 KP_ARD_01	1.31%	6255	554	3.6	2.28%	0
0002 KP_ARD_02	3857	7113	2077	3.5	1.89%	0
0003 KP_ARD_03	5337	4.09%	1989	3.4	1.75%	0
0004 KP_ARD_04	1087	9.35%	928	2.1	7686	0
0005 KP_ARD_05	902	4.59%	1521	4.0	1.43%	0
0006 KP_ARD_06	1970	3.53%	1727	2.8	2.50%	0
0007 KP_ARD_07	1.53%	7334	873	3.3	2.78%	0
0008 KP_ARD_08	4924	3229	699	2.8	2.30%	0
0009 KP_ARD_09	1.64%	5018	721	2.8	2.19%	0
0010 KP_ARD_10	1.03%	9080	609	1.6	2.66%	0
0011 KP_ARD_11	1.57%	7145	2557	4.1	2.11%	0
0012 KP_ARD_12	5992	1.01%	1209	1.5	2.32%	0
0013 KP_ARD_13	1.51%	1.29%	2013	4.1	1.96%	0
0014 KP_ARD_14	1.18%	9007	1097	3.7	2.23%	0
0015 KP_ARD_15	1.46%	2.97%	1002	2.8	2.92%	0
0016 KP_ARD_16	1.84%	8017	1403	3.2	1.55%	5
0017 KP_ARD_17	4698	10.33%	1971	2.1	3139	0
0018 KP_ARD_18	3723	2.73%	1732	3.0	2.53%	0
0019 KP_ARD_19	5668	7.80%	2824	2.1	5399	0
0020 KP_ARD_20	4680	2.57%	2070	2.5	1.90%	0
0021 KP_ARD_21	1.79%	2.42%	1574	3.8	2.74%	0
0022 KP_ARD_22	1808	3.93%	2050	2.8	2.64%	0
0023 KP_ARD_23	1.08%	5.59%	1367	4.4	2.25%	0
0024 KP_ARD_24	2414	2.90%	3173	24.7	2.00%	18
0025 KP_ARD_25	1.46%	1.08%	1001	4.3	2.78%	0
0026 KP_ARD_26	8791	5.90%	1348	36.2	1.77%	0
0027 KP_ARD_27	1.63%	1.01%	431	7.4	3.49%	0
0028 KP_ARD_28	1.97%	5451	194	5.0	3.40%	0
0029 KP_ARD_29	1.91%	7229	328	8.0	3.63%	0
0030 KP_ARD_30	1.76%	8321	286	3.2	3.47%	0
0031 KP_ARD_31	8928	1.83%	1072	4.8	1.82%	0
0032 KP_ARD_32	6556	1.81%	2390	2.9	1.04%	14
0033 KP_ARD_33	3609	3.49%	1628	3.3	1.61%	0
0034 KP_ARD_34	5089	1.10%	954	3.7	1.96%	0
CHECKS						
0001 KP_ARD_12	5940	1.01%	1200	1.5	2.30%	0

ELEMENTS	NAGpH	NAG(4.5)	Ni	P	Pb	pH
UNITS	NONE	kgH2SO4/t	ppm	ppm	ppm	NONE
DETECTION LIMIT	0.1	1	1	50	2	0.1
DIGEST	NAGx/	NAGx/	4AB/	4AB/	4AB/	Paste/
ANALYTICAL FINISH	MTR	VOL	OE	OE	MS	MTR
SAMPLE NUMBERS						
0001 KP_ARD_01	9.1	0	31	988	9	8.5
0002 KP_ARD_02	7.8	0	35	96	10	8.8
0003 KP_ARD_03	8.8	0	133	1322	7	9.0
0004 KP_ARD_04	7.9	0	632	139	2	9.3
0005 KP_ARD_05	10.6	0	111	414	<2	8.4
0006 KP_ARD_06	9.6	0	43	835	4	8.5
0007 KP_ARD_07	8.8	0	22	933	9	8.8
0008 KP_ARD_08	8.7	0	21	651	10	9.2
0009 KP_ARD_09	7.5	0	25	894	20	7.6
0010 KP_ARD_10	8.7	0	39	981	2	7.9
0011 KP_ARD_11	8.7	0	75	864	9	8.1
0012 KP_ARD_12	8.1	0	108	455	6	7.2
0013 KP_ARD_13	10.5	0	24	831	25	8.3
0014 KP_ARD_14	6.6	0	26	973	16	8.6
0015 KP_ARD_15	7.8	0	144	480	10	8.7
0016 KP_ARD_16	3.7	1	30	741	10	5.6
0017 KP_ARD_17	9.1	0	1157	347	2	8.6
0018 KP_ARD_18	8.5	0	169	488	3	8.3
0019 KP_ARD_19	9.0	0	948	445	<2	8.1
0020 KP_ARD_20	7.5	0	126	685	5	6.9
0021 KP_ARD_21	10.2	0	57	642	12	8.4
0022 KP_ARD_22	6.2	0	136	741	3	7.3
0023 KP_ARD_23	6.5	0	200	231	6	5.0
0024 KP_ARD_24	3.0	7	102	731	6	5.9
0025 KP_ARD_25	8.7	0	31	627	9	8.3
0026 KP_ARD_26	5.9	0	351	199	7	8.1
0027 KP_ARD_27	7.4	0	32	809	18	8.6
0028 KP_ARD_28	8.2	0	16	329	20	8.7
0029 KP_ARD_29	7.1	0	20	604	23	8.8
0030 KP_ARD_30	7.3	0	22	682	18	8.4
0031 KP_ARD_31	6.5	0	39	677	16	9.0
0032 KP_ARD_32	3.4	4	43	558	19	7.9
0033 KP_ARD_33	6.3	0	53	819	6	7.0
0034 KP_ARD_34	7.5	0	33	791	13	8.4
CHECKS						
0001 KP_ARD_12	8.1	0	108	458	5	7.2

ELEMENTS	pH Drop	S	S-SO4	Sb	Se	Sn
UNITS	NONE	%	%	ppm	ppm	ppm
DETECTION LIMIT	0.1	0.01	0.01	0.05	0.01	0.1
DIGEST	ANCx/		S71/	4AB/	SE1/	4AB/
ANALYTICAL FINISH	MTR	/CSA	OE	MS	MS	MS
SAMPLE NUMBERS						
0001 KP_ARD_01	3.1	0.04	<0.01	0.08	0.02	0.6
0002 KP_ARD_02	3.4	0.10	<0.01	0.05	0.02	0.3
0003 KP_ARD_03	3.3	0.11	<0.01	<0.05	0.13	1.3
0004 KP_ARD_04	4.2	0.02	<0.01	0.41	0.06	0.5
0005 KP_ARD_05	3.0	0.09	0.01	0.05	0.18	0.7
0006 KP_ARD_06	2.9	0.39	0.03	0.11	0.16	1.3
0007 KP_ARD_07	3.2	0.03	<0.01	0.11	0.02	0.4
0008 KP_ARD_08	3.3	0.03	<0.01	0.06	0.01	0.7
0009 KP_ARD_09	3.7	<0.01	<0.01	<0.05	0.03	0.3
0010 KP_ARD_10	4.3	<0.01	<0.01	<0.05	0.01	0.4
0011 KP_ARD_11	4.6	0.02	<0.01	0.17	0.09	1.0
0012 KP_ARD_12	4.7	<0.01	<0.01	0.15	0.07	1.4
0013 KP_ARD_13	3.6	0.29	0.02	0.28	0.06	1.2
0014 KP_ARD_14	3.3	0.16	<0.01	<0.05	0.03	0.4
0015 KP_ARD_15	3.0	0.08	<0.01	0.15	0.04	0.6
0016 KP_ARD_16	3.2	0.44	0.04	<0.05	0.12	0.8
0017 KP_ARD_17	3.3	0.07	0.03	0.08	0.24	0.8
0018 KP_ARD_18	4.4	<0.01	<0.01	0.38	0.11	1.1
0019 KP_ARD_19	4.8	<0.01	<0.01	0.16	0.04	1.0
0020 KP_ARD_20	4.8	<0.01	<0.01	0.05	0.12	1.5
0021 KP_ARD_21	3.0	0.19	0.01	0.29	0.17	1.3
0022 KP_ARD_22	2.9	0.37	0.03	0.17	0.17	1.0
0023 KP_ARD_23	3.0	0.42	0.10	0.22	0.15	1.0
0024 KP_ARD_24	2.9	1.35	0.09	0.15	0.70	1.8
0025 KP_ARD_25	3.1	0.14	0.01	0.06	0.10	0.9
0026 KP_ARD_26	3.2	0.43	0.03	0.44	0.25	0.6
0027 KP_ARD_27	3.5	0.06	<0.01	<0.05	0.02	0.9
0028 KP_ARD_28	3.4	0.10	<0.01	0.08	0.09	0.6
0029 KP_ARD_29	3.5	0.02	<0.01	<0.05	<0.01	0.9
0030 KP_ARD_30	3.3	0.05	0.02	<0.05	0.03	0.8
0031 KP_ARD_31	3.1	0.22	0.01	0.16	0.17	1.3
0032 KP_ARD_32	3.2	1.08	0.03	0.12	0.37	1.1
0033 KP_ARD_33	3.2	0.18	0.03	0.05	0.35	2.1
0034 KP_ARD_34	3.5	0.12	0.01	0.14	0.20	1.4
CHECKS						
0001 KP_ARD_12	4.7	<0.01	<0.01	0.17	0.14	1.5

ELEMENTS	Sr	Th	U	V	Zn
UNITS	ppm	ppm	ppm	ppm	ppm
DETECTION LIMIT	0.05	0.01	0.01	2	1
DIGEST	4AB/	4AB/	4AB/	4AB/	4AB/
ANALYTICAL FINISH	MS	MS	MS	OE	OE
SAMPLE NUMBERS					
0001 KP_ARD_01	271.72	1.05	0.44	97	83
0002 KP_ARD_02	252.27	2.11	0.46	87	50
0003 KP_ARD_03	167.09	1.37	0.37	290	149
0004 KP_ARD_04	149.64	0.96	0.24	94	42
0005 KP_ARD_05	131.45	0.54	0.14	317	90
0006 KP_ARD_06	302.31	3.04	0.74	364	64
0007 KP_ARD_07	341.81	1.71	0.50	61	92
0008 KP_ARD_08	222.78	5.91	0.93	72	38
0009 KP_ARD_09	329.77	2.15	0.48	64	58
0010 KP_ARD_10	165.63	1.01	0.64	71	26
0011 KP_ARD_11	155.50	6.60	1.81	75	89
0012 KP_ARD_12	347.44	4.28	0.43	218	149
0013 KP_ARD_13	310.98	6.36	2.35	60	84
0014 KP_ARD_14	346.40	8.64	0.88	88	73
0015 KP_ARD_15	237.82	6.99	0.60	108	53
0016 KP_ARD_16	130.78	3.24	0.37	71	67
0017 KP_ARD_17	137.73	1.10	0.36	107	121
0018 KP_ARD_18	462.26	0.78	0.22	268	101
0019 KP_ARD_19	97.74	1.15	0.29	160	121
0020 KP_ARD_20	186.91	0.81	0.18	335	160
0021 KP_ARD_21	397.58	3.81	0.90	166	79
0022 KP_ARD_22	362.72	2.51	0.61	300	86
0023 KP_ARD_23	215.93	3.29	1.55	140	68
0024 KP_ARD_24	224.94	2.52	0.64	281	154
0025 KP_ARD_25	339.11	3.41	0.71	75	47
0026 KP_ARD_26	158.57	1.68	0.51	130	91
0027 KP_ARD_27	657.64	2.81	0.41	47	51
0028 KP_ARD_28	519.89	2.61	0.80	25	42
0029 KP_ARD_29	614.55	4.76	0.36	40	62
0030 KP_ARD_30	612.09	3.26	0.60	44	45
0031 KP_ARD_31	195.13	19.95	1.72	207	123
0032 KP_ARD_32	93.47	6.40	0.57	316	380
0033 KP_ARD_33	186.23	0.59	0.39	369	150
0034 KP_ARD_34	214.91	2.63	0.87	174	89
CHECKS					
0001 KP_ARD_12	343.81	4.12	0.42	219	148

ELEMENTS	Ag	Al	ANC	As	B	Ba
UNITS	ppm	ppm	kgH2SO4/t	ppm	ppm	ppm
DETECTION LIMIT	0.1	50	1	1	50	0.1
DIGEST	4AB/	4AB/	ANCx/	4AB/	FP1/	4AB/
ANALYTICAL FINISH	MS	OE	VOL	MS	OE	MS
STANDARDS						
0001 OREAS 97.01						
0002 Se 1.0 ppm						
0003 SARM48	0.3	5.97%		9		300.3
0004 OREAS 933	28.5	4.72%		10		216.1
0005 OREAS 97.01						
0006 OREAS 97.01						
0007 OREAS 921						
0008 OREAS 922						
0009 AMIS0372					<50	
0010 OREAS 293					<50	
0011 AMIS0343						
0012 AMIS0341						
0013 OREAS 45f						
0014 AMIS0558						
0015 ANC-5			100			
0016 ANC-5			92			
0017 NAG Std 3						
0018 NAG Std 3						
0019 GWS-5						
0020 GWS-5						
0021 0.5%NaCl-1						
0022 0.5%NaCl-1						
0023 OREAS 279						
0024 OREAS 278						
0025 OREAS 279						
0026 TOC-3						
BLANKS						
0001 Control Blank	<0.1	<50	0	<1	<50	<0.1
0002 Control Blank	<0.1	<50	0	<1	<50	0.2

ELEMENTS	Be	Bi	C	C-Acinsol	C-CO3	Ca
UNITS	ppm	ppm	%	%	%	ppm
DETECTION LIMIT	0.1	0.01	0.01	0.01	0.01	50
DIGEST	4AB/	4AB/		C71/		4AB/
ANALYTICAL FINISH	MS	MS	/CSA	CSA	/CALC	OE
STANDARDS						
0001 OREAS 97.01						
0002 Se 1.0 ppm						
0003 SARM48	5.6	0.17				6.34%
0004 OREAS 933	1.5	470.30				3690
0005 OREAS 97.01						
0006 OREAS 97.01						
0007 OREAS 921						
0008 OREAS 922						
0009 AMIS0372						
0010 OREAS 293						
0011 AMIS0343						
0012 AMIS0341						
0013 OREAS 45f			0.32			
0014 AMIS0558			1.81			
0015 ANC-5						
0016 ANC-5						
0017 NAG Std 3						
0018 NAG Std 3						
0019 GWS-5						
0020 GWS-5						
0021 0.5%NaCl-1						
0022 0.5%NaCl-1						
0023 OREAS 279						
0024 OREAS 278						
0025 OREAS 279				0.21		
0026 TOC-3				0.20		
BLANKS						
0001 Control Blank	<0.1	<0.01	<0.01	<0.01	<0.01	<50
0002 Control Blank	<0.1	<0.01	<0.01	<0.01	<0.01	<50

ELEMENTS	Cd	Cl	Co	ColourChange	Cr	Cu
UNITS	ppm	%	ppm	NONE	ppm	ppm
DETECTION LIMIT	0.1	0.02	0.1	0	5	1
DIGEST	4AB/	CL1/	4AB/	ANCx/	4AB/	4AB/
ANALYTICAL FINISH	MS	COL	MS	QUAL	OE	OE
STANDARDS						
0001 OREAS 97.01						
0002 Se 1.0 ppm						
0003 SARM48	0.2		0.5		7	10
0004 OREAS 933	1.2		62.6		47	7.81%
0005 OREAS 97.01						
0006 OREAS 97.01						
0007 OREAS 921						
0008 OREAS 922						
0009 AMIS0372						
0010 OREAS 293						
0011 AMIS0343						
0012 AMIS0341						
0013 OREAS 45f						
0014 AMIS0558						
0015 ANC-5						
0016 ANC-5						
0017 NAG Std 3						
0018 NAG Std 3						
0019 GWS-5						
0020 GWS-5						
0021 0.5%NaCl-1		0.32				
0022 0.5%NaCl-1		0.32				
0023 OREAS 279						
0024 OREAS 278						
0025 OREAS 279						
0026 TOC-3						
BLANKS						
0001 Control Blank	<0.1	<0.02	<0.1		<5	<1
0002 Control Blank	<0.1	<0.02	<0.1		<5	<1

ELEMENTS	EC	F	Fe	Final-pH	Fizz-Rate	Hg
UNITS	mS/cm	ppm	%	NONE	NONE	ppb
DETECTION LIMIT	0.01	50	0.01	0.1	1	1
DIGEST	Paste/	FC7/	4AB/	ANCx/	ANCx/	AR005/
ANALYTICAL FINISH	MTR	SIE	OE	MTR	QUAL	MSHg
STANDARDS						
0001 OREAS 97.01						
0002 Se 1.0 ppm						
0003 SARM48			0.41			
0004 OREAS 933			17.48			
0005 OREAS 97.01						
0006 OREAS 97.01						
0007 OREAS 921						5
0008 OREAS 922						23
0009 AMIS0372						
0010 OREAS 293						
0011 AMIS0343		2359				
0012 AMIS0341		3722				
0013 OREAS 45f						
0014 AMIS0558						
0015 ANC-5				1.5		
0016 ANC-5				1.6		
0017 NAG Std 3						
0018 NAG Std 3						
0019 GWS-5	0.32					
0020 GWS-5	0.32					
0021 0.5%NaCl-1						
0022 0.5%NaCl-1						
0023 OREAS 279						
0024 OREAS 278						
0025 OREAS 279						
0026 TOC-3						
BLANKS						
0001 Control Blank	<0.01	<50	<0.01	1.3		<1
0002 Control Blank	<0.01	52	<0.01	1.3		<1

ELEMENTS	K	Mg	Mn	Mo	Na	NAG
UNITS	ppm	ppm	ppm	ppm	ppm	kgH2SO4/t
DETECTION LIMIT	20	20	1	0.1	20	1
DIGEST	4AB/	4AB/	4AB/	4AB/	4AB/	NAGx/
ANALYTICAL FINISH	OE	OE	OE	MS	OE	VOL
STANDARDS						
0001 OREAS 97.01						
0002 Se 1.0 ppm						
0003 SARM48	3.55%	454	104	0.5	2.34%	
0004 OREAS 933	1.41%	1.15%	813	1.4	1564	
0005 OREAS 97.01						
0006 OREAS 97.01						
0007 OREAS 921						
0008 OREAS 922						
0009 AMIS0372						
0010 OREAS 293						
0011 AMIS0343						
0012 AMIS0341						
0013 OREAS 45f						
0014 AMIS0558						
0015 ANC-5						
0016 ANC-5						
0017 NAG Std 3						24
0018 NAG Std 3						24
0019 GWS-5						
0020 GWS-5						
0021 0.5%NaCl-1						
0022 0.5%NaCl-1						
0023 OREAS 279						
0024 OREAS 278						
0025 OREAS 279						
0026 TOC-3						
BLANKS						
0001 Control Blank	<20	<20	<1	<0.1	36	7
0002 Control Blank	<20	<20	<1	<0.1	61	7

ELEMENTS	NAGpH	NAG(4.5)	Ni	P	Pb	pH
UNITS	NONE	kgH2SO4/t	ppm	ppm	ppm	NONE
DETECTION LIMIT	0.1	1	1	50	2	0.1
DIGEST	NAGx/	NAGx/	4AB/	4AB/	4AB/	Paste/
ANALYTICAL FINISH	MTR	VOL	OE	OE	MS	MTR
STANDARDS						
0001 OREAS 97.01						
0002 Se 1.0 ppm						
0003 SARM48			2	370	173	
0004 OREAS 933			28	440	185	
0005 OREAS 97.01						
0006 OREAS 97.01						
0007 OREAS 921						
0008 OREAS 922						
0009 AMIS0372						
0010 OREAS 293						
0011 AMIS0343						
0012 AMIS0341						
0013 OREAS 45f						
0014 AMIS0558						
0015 ANC-5						
0016 ANC-5						
0017 NAG Std 3	2.5	20				
0018 NAG Std 3	2.5	20				
0019 GWS-5						9.2
0020 GWS-5						9.1
0021 0.5%NaCl-1						
0022 0.5%NaCl-1						
0023 OREAS 279						
0024 OREAS 278						
0025 OREAS 279						
0026 TOC-3						
BLANKS						
0001 Control Blank	4.8	0	<1	<50	<2	5.6
0002 Control Blank	4.9	0	<1	<50	<2	5.5

ELEMENTS	pH Drop	S	S-SO4	Sb	Se	Sn
UNITS	NONE	%	%	ppm	ppm	ppm
DETECTION LIMIT	0.1	0.01	0.01	0.05	0.01	0.1
DIGEST	ANCx/		S71/	4AB/	SE1/	4AB/
ANALYTICAL FINISH	MTR	/CSA	OE	MS	MS	MS
STANDARDS						
0001 OREAS 97.01					9.56	
0002 Se 1.0 ppm					8.06	
0003 SARM48				1.72		4.1
0004 OREAS 933				2.21		76.4
0005 OREAS 97.01					0.58	
0006 OREAS 97.01					0.62	
0007 OREAS 921						
0008 OREAS 922						
0009 AMIS0372						
0010 OREAS 293						
0011 AMIS0343						
0012 AMIS0341						
0013 OREAS 45f		0.02				
0014 AMIS0558		1.29				
0015 ANC-5						
0016 ANC-5						
0017 NAG Std 3						
0018 NAG Std 3						
0019 GWS-5						
0020 GWS-5						
0021 0.5%NaCl-1						
0022 0.5%NaCl-1						
0023 OREAS 279			0.31			
0024 OREAS 278			0.22			
0025 OREAS 279						
0026 TOC-3						
BLANKS						
0001 Control Blank		<0.01	<0.01	<0.05	<0.01	<0.1
0002 Control Blank		<0.01	<0.01	<0.05	<0.01	<0.1

ELEMENTS	Sr	Th	U	V	Zn
UNITS	ppm	ppm	ppm	ppm	ppm
DETECTION LIMIT	0.05	0.01	0.01	2	1
DIGEST	4AB/	4AB/	4AB/	4AB/	4AB/
ANALYTICAL FINISH	MS	MS	MS	OE	OE
STANDARDS					
0001 OREAS 97.01					
0002 Se 1.0 ppm					
0003 SARM48	29.46	121.75	26.88	<2	59
0004 OREAS 933	26.27	9.53	1.97	64	587
0005 OREAS 97.01					
0006 OREAS 97.01					
0007 OREAS 921					
0008 OREAS 922					
0009 AMIS0372					
0010 OREAS 293					
0011 AMIS0343					
0012 AMIS0341					
0013 OREAS 45f					
0014 AMIS0558					
0015 ANC-5					
0016 ANC-5					
0017 NAG Std 3					
0018 NAG Std 3					
0019 GWS-5					
0020 GWS-5					
0021 0.5%NaCl-1					
0022 0.5%NaCl-1					
0023 OREAS 279					
0024 OREAS 278					
0025 OREAS 279					
0026 TOC-3					

BLANKS					
0001 Control Blank	<0.05	<0.01	<0.01	<2	3
0002 Control Blank	0.18	<0.01	<0.01	<2	2

METHOD CODE DESCRIPTION

Method Code Date Tested	Analysing Laboratory NATA Laboratory Accreditation	NATA Scope of Accreditation
/CALC **20/09/22 16:43**	Intertek Genalysis Perth **3244 3237** No digestion or other pre-treatment undertaken. Results Determined by calculation from other reported data.	*
/CSA **23/09/22 12:28**	Intertek Genalysis Perth **3244 3237** Induction Furnace Analysed by Infrared Spectrometry	**ENV_W061(Per), MPL_W161(Adl)**
4AB/MS **09/09/22 07:35**	Intertek Genalysis Perth **3244 3237** Multi-acid digest including Hydrofluoric, Nitric, Perchloric and Hydrochloric acids in Teflon Beakers. Analysed by Inductively Coupled Plasma Mass Spectrometry.	**MPL_W001, MS_IM_001**
4AB/OE **09/09/22 07:35**	Intertek Genalysis Perth **3244 3237** Multi-acid digest including Hydrofluoric, Nitric, Perchloric and Hydrochloric acids in Teflon Beakers. Analysed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry.	**MPL_W001, ICP_IM_001**
ANCx/MTR **12/09/22 13:32**	Intertek Genalysis Perth **3244 3237** Acid Neutralizing Capacity Digestion Procedure. Analysed with Electronic Meter Measurement	**ENV_W035**
ANCx/QUAL **12/09/22 13:32**	Intertek Genalysis Perth **3244 3237** Acid Neutralizing Capacity Digestion Procedure. Analysed by Qualitative Inspection	**ENV_W035**
ANCx/VOL **12/09/22 13:32**	Intertek Genalysis Perth **3244 3237** Acid Neutralizing Capacity Digestion Procedure. Analysed by Volumetric Technique.	**ENV_W035**
AR005/MSHg **13/09/22 09:02**	Intertek Genalysis Perth **3244 3237** 0.5 gram mini Aqua-Regia digest. Analysed by Inductively Coupled Plasma Mass Spectrometry.	*

METHOD CODE DESCRIPTION

Method Code Date Tested	Analysing Laboratory NATA Laboratory Accreditation	NATA Scope of Accreditation
C71/CSA **08/09/22 14:52**	Intertek Genalysis Perth **3244 3237** Digestion by hot acid(s) and Induction Furnace Analysed by Infrared Spectrometry	**ENV_W063**
CL1/COL **12/09/22 14:37**	Intertek Genalysis Perth **3244 3237** Carbonate leach specific for Chlorine. Analysed by UV-Visible Spectrometry.	**ENV_W014**
FC7/SIE **09/09/22 18:24**	Intertek Genalysis Perth **3244 3237** Alkaline fusion (Nickel crucible) specific for Fluorine. Analysed by Specific Ion Electrode.	**ENV_W012**
FP1/OE **11/09/22 23:28**	Intertek Genalysis Perth **3244 3237** Sodium peroxide fusion (Zirconia crucibles) and Hydrochloric acid to dissolve the melt. Analysed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry.	**MPL_W011, MS_IM_001**
NAGx/MTR **12/09/22 10:56**	Intertek Genalysis Perth **3244 3237** Net Acid Generation Extraction of samples with H2O2 Analysed with Electronic Meter Measurement	**ENV_W036**
NAGx/VOL **12/09/22 10:56**	Intertek Genalysis Perth **3244 3237** Net Acid Generation Extraction of samples with H2O2 Analysed by Volumetric Technique.	**ENV_W036**
Paste/MTR **23/09/22 12:28**	Intertek Genalysis Perth **3244 3237** Water Extraction using a specific sample:water ratio. Analysed with Electronic Meter Measurement	****
S71/OE **09/09/22 07:36**	Intertek Genalysis Perth **3244 3237** Digestion to eliminate sulphides. Analysed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry.	**ENV_W062, ICP_IM_001**

METHOD CODE DESCRIPTION

Method Code Date Tested	Analysing Laboratory NATA Laboratory Accreditation	NATA Scope of Accreditation
SE1/MS **12/09/22 14:14**	Intertek Genalysis Perth **3244 3237** Aqua-Regia digest followed by Precipitation and Concentration. Specific for Selenium. Analysed by Inductively Coupled Plasma Mass Spectrometry.	**MPL_W005, MS_IM_001**

* Denotes not on Scope of Accreditation

APPENDIX B

Acid Base Accounting Results

Knight Piésold CONSULTING

WASTE ROCK GEOCHEMISTRY
APPENDIX B

Acid Base Account, Net Acid Generation and Acid Formation Potential

Sample ID	Type	Weathering	Sulfur Species			ANC	Carbon Species			Calculations					NAG			Paste pH	AFP (Initial)	AFP (Updated)
			S	S-SO4	Sulfide S (By Diff)		C	Calcite equivalent	$CaCO_3$-ANC	MPA	ANC/MPA	$CaCO_3$-ANC/MPA	NAPP	NAPP-CaCO3	NAG (7.0)	NAG (4.5)	NAGpH			
			%	%	%	kgH2SO4/t	%	% $CaCO_3$	kgH2SO4/t	kgH2SO4/t			kgH2SO4/t	kgH2SO4/t	kgH2SO4/t	kgH2SO4/t	NONE			
KP_ARD_01	Felsic Meta Sed	Fresh	0.04	0.01	0.03	27	0.14	1.17	11	1	29.4	12.5	-26	-11	0	0	9.1	8.5	NAF	NAF
KP_ARD_02	Felsic Meta Sed	Fresh	0.10	0.01	0.09	18	0.06	0.50	5	3	6.5	1.8	-15	-2	0	0	7.8	8.8	NAF	NAF
KP_ARD_03	Mafic Meta Sed	Fresh	0.11	0.01	0.10	32	0.09	0.75	7	3	10.5	2.4	-29	-4	0	0	8.8	9.0	NAF	NAF
KP_ARD_04	Mafic Meta Sed	Fresh	0.02	0.01	0.01	31	0.20	1.67	16	0			-31	-16	0	0	7.9	9.3	NAF	NAF
KP_ARD_05	Mafic Dyke	Fresh	0.09	0.01	0.08	37	0.20	1.67	16	2	15.1	6.7	-35	-14	0	0	10.6	8.4	NAF	NAF
KP_ARD_06	Mafic Dyke	Fresh	0.39	0.03	0.36	54	0.31	2.58	25	11	4.9	2.3	-43	-14	0	0	9.6	8.5	NAF	NAF
KP_ARD_07	Felsic Granulite	Fresh	0.03	0.01	0.02	28	0.12	1.00	10	1	45.8	16.0	-27	-9	0	0	8.8	8.8	NAF	NAF
KP_ARD_08	Felsic Granulite	Fresh	0.03	0.01	0.02	22	0.11	0.92	9	1	35.9	14.7	-21	-8	0	0	8.7	9.2	NAF	NAF
KP_ARD_09	Int Granulite	Trans	0.01	0.01	0.00	13	0.04	0.33	3	0			-13	-3	0	0	7.5	7.6	NAF	NAF
KP_ARD_10	Int Granulite	Trans	0.01	0.01	0.00	18	0.01	0.08	1	0			-18	-1	0	0	8.7	7.9	NAF	NAF
KP_ARD_11	Int Granulite	Trans	0.02	0.01	0.01	21	0.03	0.25	2	0			-21	-2	0	0	8.7	8.1	NAF	NAF
KP_ARD_12	Int Granulite	Trans	0.01	0.01	0.00	13	0.02	0.17	2	0			-13	-2	0	0	8.1	7.2	NAF	NAF
KP_ARD_13	Int Granulite	Fresh	0.29	0.02	0.27	48	0.28	2.33	23	8	5.8	2.8	-40	-15	0	0	10.5	8.3	NAF	NAF
KP_ARD_14	Int Granulite	Fresh	0.16	0.01	0.15	19	0.04	0.33	3	5	4.1	0.7	-14	1	0	0	6.6	8.6	NAF	NAF
KP_ARD_15	Int Granulite	Fresh	0.08	0.01	0.07	30	0.16	1.33	13	2	14.0	6.1	-28	-11	0	0	7.8	8.7	NAF	NAF
KP_ARD_16	Int Granulite	Fresh	0.44	0.04	0.40	19	0.14	1.17	11	12	1.6	0.9	-7	1	5	1	3.7	5.6	UC	PAF-LC
KP_ARD_17	Mafic Granulite	Trans	0.07	0.03	0.04	177	1.12	9.33	91	1	144.6	74.7	-176	-90	0	0	9.1	8.6	AC	AC
KP_ARD_18	Mafic Granulite	Trans	0.01	0.01	0.00	20	0.02	0.17	2	0			-20	-2	0	0	8.5	8.3	NAF	NAF
KP_ARD_19	Mafic Granulite	Trans	0.01	0.01	0.00	27	0.02	0.17	2	0			-27	-2	0	0	9	8.1	NAF	NAF
KP_ARD_20	Mafic Granulite	Trans	0.01	0.01	0.00	18	0.09	0.75	7	0			-18	-7	0	0	7.5	6.9	NAF	NAF
KP_ARD_21	Mafic Granulite	Fresh	0.19	0.01	0.18	35	0.16	1.33	13	6	6.4	2.4	-29	-8	0	0	10.2	8.4	NAF	NAF
KP_ARD_22	Mafic Granulite	Fresh	0.37	0.03	0.34	25	0.19	1.58	16	10	2.4	1.5	-15	-5	0	0	6.2	7.3	NAF	NAF
KP_ARD_23	Mafic Granulite	Fresh	0.42	0.10	0.32	35	0.09	0.75	7	10	3.6	0.8	-25	2	0	0	6.5	5.0	NAF	NAF
KP_ARD_24	Mafic Granulite	Fresh	1.35	0.09	1.26	18	0.11	0.92	9	39	0.5	0.2	21	30	18	7	3	5.9	PAF	PAF
KP_ARD_25	Speckeld Mafic		0.14	0.01	0.13	26	0.08	0.67	7	4	6.5	1.6	-22	-3	0	0	8.7	8.3	NAF	NAF
KP_ARD_26	Speckeld Mafic	Fresh	0.43	0.03	0.40	33	0.22	1.83	18	12	2.7	1.5	-21	-6	0	0	5.9	8.1	NAF	NAF
KP_ARD_27	Quartz Monzonite	Fresh	0.06	0.01	0.05	20	0.03	0.25	2	2	13.1	1.6	-18	-1	0	0	7.4	8.6	NAF	NAF
KP_ARD_28	Quartz Monzonite	Fresh	0.10	0.01	0.09	22	0.11	0.92	9	3	8.0	3.3	-19	-6	0	0	8.2	8.7	NAF	NAF
KP_ARD_29	Granite	Fresh	0.02	0.01	0.01	14	0.10	0.83	8	0			-14	-8	0	0	7.1	8.8	NAF	NAF
KP_ARD_30	Granite	Fresh	0.05	0.02	0.03	21	0.04	0.33	3	1	22.9	3.6	-20	-2	0	0	7.3	8.4	NAF	NAF
KP_ARD_31	Pyroxenite	Fresh	0.22	0.01	0.21	28	0.71	5.92	58	6	4.4	9.0	-22	-52	0	0	6.5	9.0	NAF	NAF
KP_ARD_32	Pyroxenite	Fresh	1.08	0.03	1.05	21	0.12	1.00	10	32	0.7	0.3	11	22	14	4	3.4	7.9	PAF	PAF
KP_ARD_33	Pyroxenite	Fresh	0.18	0.03	0.15	23	0.05	0.42	4	5	5.0	0.9	-18	1	0	0	6.3	7.0	NAF	NAF
KP_ARD_34	Pyroxenite	Fresh	0.12	0.01	0.11	25	0.10	0.83	8	3	7.4	2.4	-22	-5	0	0	7.5	8.4	NAF	NAF

APPENDIX C

Multi-element Results and Geochemical Abundance Indices

Knight Piésold CONSULTING

KATANNING GOLD PROJECT
WASTE ROCK GEOCHEMISTRY
APPENDIX C

MULTI-ELEMENT ANALYSIS RESULTS (AQUA REGIA DIGEST)

Sample	Lithology	Ag	Al	As	B	Ba	Bi	C	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	V	Zn
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
KP_ARD_01	Felsic Meta Sed	0.1	81227	2	50	471.8	0.01	1400	30900	0.1	15.1	55	19	42500	13116	6255	554	3.6	22796	31	988	9	400	0.08	271.72	97	83
KP_ARD_02	Felsic Meta Sed	0.1	89078	2	50	287.8	0.01	600	35612	0.2	18.5	67	31	56000	3857	7113	2077	3.5	18896	35	96	10	1000	0.05	252.27	87	50
KP_ARD_03	Mafic Meta Sed	0.1	79550	2	50	329.7	0.02	900	53898	0.2	52.1	210	36	111500	5337	40926	1989	3.4	17480	133	1322	7	1100	0.05	167.09	290	149
KP_ARD_04	Mafic Meta Sed	0.1	89078	2	50	38.8	0.06	2000	72364	0.1	71.3	632	33	65400	1087	93485	928	2.1	7686	632	139	2	200	0.41	149.64	94	42
KP_ARD_05	Mafic Dyke	0.1	77468	2	50	35.7	0.02	2000	83099	0.1	52.7	225	151	94100	902	45865	1521	4	14251	111	414	2	900	0.05	131.45	317	90
KP_ARD_06	Mafic Dyke	0.1	72821	3	50	115.6	0.03	3100	67611	0.1	48.8	40	21	106900	1970	35310	1727	2.8	25017	43	835	4	3900	0.11	302.31	364	64
KP_ARD_07	Felsic Granulite	0.1	85649	2	50	731.6	0.01	1200	30766	0.1	11.9	43	8	28600	15344	7334	873	3.3	27767	22	933	9	300	0.11	341.81	61	92
KP_ARD_08	Felsic Granulite	0.1	76413	2	50	323.3	0.01	1100	33111	0.1	13.7	39	10	39400	4924	3229	699	2.8	23040	21	651	10	300	0.06	222.78	72	38
KP_ARD_09	Int Granulite	0.1	82512	1	50	708.8	0.01	400	24553	0.1	13.5	29	19	30800	16419	5018	721	2.8	21940	25	894	20	100	0.05	329.77	64	58
KP_ARD_10	Int Granulite	0.1	73315	3	50	366.6	0.01	100	15050	0.1	16	46	4	42900	10348	9080	609	1.6	26635	39	981	2	100	0.05	165.63	71	26
KP_ARD_11	Int Granulite	0.1	79560	11	50	509.7	0.07	300	55535	0.3	21.5	36	34	66000	15713	7145	2557	4.1	21081	75	864	9	200	0.17	155.5	75	89
KP_ARD_12	Int Granulite	0.2	80953	2	50	266.1	0.04	200	37963	0.2	49.8	86	77	79000	5992	10063	1209	1.5	23200	108	455	6	100	0.15	347.44	218	149
KP_ARD_13	Int Granulite	0.2	74394	7	50	687.8	0.05	2800	75854	0.1	14.2	39	105	40900	15107	12907	2013	4.1	19576	24	831	25	2900	0.28	310.98	60	84
KP_ARD_14	Int Granulite	0.1	86021	1	50	472.6	0.01	400	29418	0.1	17	37	41	49400	11850	9007	1097	3.7	22268	26	973	16	1600	0.05	346.4	88	73
KP_ARD_15	Int Granulite	0.1	88167	5	50	455.6	0.03	1600	35070	0.1	33.2	199	40	52900	14562	29722	1002	2.8	29226	144	480	10	800	0.15	237.82	108	53
KP_ARD_16	Int Granulite	0.1	76815	2	50	434.9	0.02	1400	35762	0.1	14.4	45	45	50100	18411	8017	1403	3.2	15463	30	741	10	4400	0.05	130.78	71	67
KP_ARD_17	Mafic Granulite	0.1	14192	5	50	107.1	0.28	11200	50119	0.1	142.1	1732	156	130200	4698	103265	1971	2.1	3139	1157	347	2	700	0.08	137.73	107	121
KP_ARD_18	Mafic Granulite	0.1	80299	3	50	168.8	0.19	200	58594	0.2	55.4	210	151	97000	3723	27294	1732	3	25286	169	488	3	100	0.38	462.26	268	101
KP_ARD_19	Mafic Granulite	0.1	19171	12	50	147.9	0.16	200	62960	0.2	126.9	1766	134	141300	5668	77982	2824	2.1	5399	948	445	2	100	0.16	97.74	160	121
KP_ARD_20	Mafic Granulite	0.1	80754	1	50	197.3	0.03	900	55570	0.2	59.7	185	141	113500	4680	25707	2070	2.5	18966	126	685	5	100	0.05	186.91	335	160
KP_ARD_21	Mafic Granulite	0.1	76968	6	50	836	0.06	1600	60242	0.1	39.5	36	84	69500	17883	24228	1574	3.8	27369	57	642	12	1900	0.29	397.58	166	79
KP_ARD_22	Mafic Granulite	0.1	75757	3	50	63.5	0.12	1900	67691	0.1	55.9	182	90	100300	1808	39307	2050	2.8	26414	136	741	3	3700	0.17	362.72	300	86
KP_ARD_23	Mafic Granulite	0.1	84431	4	50	203.7	0.16	900	51813	0.1	50.9	331	54	79400	10813	55852	1367	4.4	22476	200	231	6	4200	0.22	215.93	140	68
KP_ARD_24	Mafic Granulite	0.3	60954	2	50	190.5	0.12	1100	64949	0.2	45.3	220	63	128200	2414	28973	3173	24.7	20033	102	731	6	13500	0.15	224.94	281	154
KP_ARD_25	Speckeld Mafic	0.1	80197	2	50	570.6	0.03	800	37184	0.1	17	52	27	43100	14590	10753	1001	4.3	27769	31	627	9	1400	0.06	339.11	75	47
KP_ARD_26	Speckeld Mafic	0.1	75724	3	50	211.8	0.62	2200	80270	0.2	57.1	519	67	73600	8791	58999	1348	36.2	17705	351	199	7	4300	0.44	158.57	130	91
KP_ARD_27	Quartz Monzoni	0.1	83969	2	50	711.8	0.02	300	28852	0.1	10.8	55	19	28600	16340	10067	431	7.4	34906	32	809	18	600	0.05	657.64	47	51
KP_ARD_28	Quartz Monzoni	0.1	77486	2	50	781.7	0.07	1100	16627	0.1	6.4	38	16	16600	19701	5451	194	5	34041	16	329	20	1000	0.08	519.89	25	42
KP_ARD_29	Granite	0.1	81401	1	50	700.4	0.01	1000	21116	0.1	7.9	45	11	21600	19140	7229	328	8	36280	20	604	23	200	0.05	614.55	40	62
KP_ARD_30	Granite	0.1	81441	2	50	938	0.02	400	23917	0.1	9.7	37	9	24000	17645	8321	286	3.2	34662	22	682	18	500	0.05	612.09	44	45
KP_ARD_31	Pyroxenite	0.1	83366	2	50	398.1	0.07	7100	40754	0.2	41.7	41	41	73700	8928	18255	1072	4.8	18180	39	677	16	2200	0.16	195.13	207	123
KP_ARD_32	Pyroxenite	0.2	68120	2	50	339.6	0.22	1200	34838	0.9	50.9	45	137	102500	6556	18094	2390	2.9	10380	43	558	19	10800	0.12	93.47	316	380
KP_ARD_33	Pyroxenite	0.1	73815	1	50	147.6	0.11	500	54546	0.2	60	52	87	131200	3609	34857	1628	3.3	16077	53	819	6	1800	0.05	186.23	369	150
KP_ARD_34	Pyroxenite	0.1	94507	1	50	240.7	0.21	1000	62774	0.1	28.9	35	36	57400	5089	11017	954	3.7	19636	33	791	13	1200	0.14	214.91	174	89

	Ag	Al	As	B	Ba	Bi	C	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	V	Zn
Average Crustal	**0.07**	**82000**	**1.5**	**10**	**500**	**0.048**	**480**	**41000**	**0.11**	**20**	**100**	**50**	**41000**	**21000**	**23000**	**950**	**1.5**	**23000**	**80**	**1000**	**14**	**260**	**0.20**	**370**	**160**	**75**

Knight Piésold CONSULTING

KATANNING GOLD PROJECT
WASTE ROCK GEOCHEMISTRY
APPENDIX C

]

GEOCHEMICAL ABUNDANCE INDICES

Sample	Lithology	Ag	Al	As	B	Ba	Bi	C	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sr	V	Zn
KP_ARD_01	Felsic Meta Sed	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_02	Felsic Meta Sed	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
KP_ARD_03	Mafic Meta Sed	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
KP_ARD_04	Mafic Meta Sed	0	0	0	1	0	0	1	0	0	1	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0
KP_ARD_05	Mafic Dyke	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
KP_ARD_06	Mafic Dyke	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
KP_ARD_07	Felsic Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_08	Felsic Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_09	Int Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_10	Int Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_11	Int Granulite	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_12	Int Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_13	Int Granulite	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
KP_ARD_14	Int Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
KP_ARD_15	Int Granulite	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
KP_ARD_16	Int Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
KP_ARD_17	Mafic Granulite	0	0	1	1	0	1	3	0	0	2	3	1	1	0	1	0	0	0	3	0	0	0	0	0	0	0
KP_ARD_18	Mafic Granulite	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_19	Mafic Granulite	0	0	2	1	0	1	0	0	0	2	3	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0
KP_ARD_20	Mafic Granulite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_21	Mafic Granulite	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
KP_ARD_22	Mafic Granulite	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
KP_ARD_23	Mafic Granulite	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
KP_ARD_24	Mafic Granulite	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	3	0	0	0	0	5	0	0	0	0
KP_ARD_25	Speckeld Mafic	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
KP_ARD_26	Speckeld Mafic	0	0	0	1	0	3	1	0	0	0	1	0	0	0	0	0	4	0	1	0	0	3	0	0	0	0
KP_ARD_27	Quartz Monzoni	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
KP_ARD_28	Quartz Monzoni	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
KP_ARD_29	Granite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
KP_ARD_30	Granite	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KP_ARD_31	Pyroxenite	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0
KP_ARD_32	Pyroxenite	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1
KP_ARD_33	Pyroxenite	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0
KP_ARD_34	Pyroxenite	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

APPENDIX D

Soil Quality Screening Results

Knight Piésold CONSULTING

KATANNING GOLD PROJECT
WASTE ROCK GEOCHEMISTRY
APPENDIX D

Reference Values (ppm)

Criteria	Ag	As	B	Ba	Cd	Co	Cr	Cu	Mn	Mo	Ni	P	Pb	S	Sb	V	Zn
Human Health	N/G	300	20000	N/G	90	300	N/G	17000	19000	N/G	1200	N/G	600	N/G	N/G	N/G	30000
Ecological	14	46	N/G	2000	0.36	230	34	49	4000	N/G	130	2000	56	600	0.27	280	79
Soil Remediation	15	55	N/G	625	12	240	380	190	N/G	200	210	N/G	530	N/G	15	250	720

Multi-Element Analysis Results (ppm)

SAMPLE ID	Element Concentrations (ppm)																
	Ag	As	B	Ba	Cd	Co	Cr	Cu	Mn	Mo	Ni	P	Pb	S	Sb	V	Zn
KP_ARD_01	0.1	2	50	471.8	0.1	15.1	55	19	554	3.6	31	988	9	400	0.08	97	83
KP_ARD_02	0.1	2	50	287.8	0.2	18.5	67	31	2077	3.5	35	96	10	1000	0.05	87	50
KP_ARD_03	0.1	2	50	329.7	0.2	52.1	210	36	1989	3.4	133	1322	7	1100	0.05	290	149
KP_ARD_04	0.1	2	50	38.8	0.1	71.3	632	33	928	2.1	632	139	2	200	0.41	94	42
KP_ARD_05	0.1	2	50	35.7	0.1	52.7	225	151	1521	4	111	414	2	900	0.05	317	90
KP_ARD_06	0.1	3	50	115.6	0.1	48.8	40	21	1727	2.8	43	835	4	3900	0.11	364	64
KP_ARD_07	0.1	2	50	731.6	0.1	11.9	43	8	873	3.3	22	933	9	300	0.11	61	92
KP_ARD_08	0.1	2	50	323.3	0.1	13.7	39	10	699	2.8	21	651	10	300	0.06	72	38
KP_ARD_09	0.1	1	50	708.8	0.1	13.5	29	19	721	2.8	25	894	20	100	0.05	64	58
KP_ARD_10	0.1	3	50	366.6	0.1	16	46	4	609	1.6	39	981	2	100	0.05	71	26
KP_ARD_11	0.1	11	50	509.7	0.3	21.5	36	34	2557	4.1	75	864	9	200	0.17	75	89
KP_ARD_12	0.2	2	50	266.1	0.2	49.8	86	77	1209	1.5	108	455	6	100	0.15	218	149
KP_ARD_13	0.2	7	50	687.8	0.1	14.2	39	105	2013	4.1	24	831	25	2900	0.28	60	84
KP_ARD_14	0.1	1	50	472.6	0.1	17	37	41	1097	3.7	26	973	16	1600	0.05	88	73
KP_ARD_15	0.1	5	50	455.6	0.1	33.2	199	40	1002	2.8	144	480	10	800	0.15	108	53
KP_ARD_16	0.1	2	50	434.9	0.1	14.4	45	45	1403	3.2	30	741	10	4400	0.05	71	67
KP_ARD_17	0.1	5	50	107.1	0.1	142.1	1732	156	1971	2.1	1157	347	2	700	0.08	107	121
KP_ARD_18	0.1	3	50	168.8	0.2	55.4	210	151	1732	3	169	488	3	100	0.38	268	101
KP_ARD_19	0.1	12	50	147.9	0.2	126.9	1766	134	2824	2.1	948	445	2	100	0.16	160	121
KP_ARD_20	0.1	1	50	197.3	0.2	59.7	185	141	2070	2.5	126	685	5	100	0.05	335	160
KP_ARD_21	0.1	6	50	836	0.1	39.5	36	84	1574	3.8	57	642	12	1900	0.29	166	79
KP_ARD_22	0.1	3	50	63.5	0.1	55.9	182	90	2050	2.8	136	741	3	3700	0.17	300	86
KP_ARD_23	0.1	4	50	203.7	0.1	50.9	331	54	1367	4.4	200	231	6	4200	0.22	140	68
KP_ARD_24	0.3	2	50	190.5	0.2	45.3	220	63	3173	24.7	102	731	6	13500	0.15	281	154
KP_ARD_25	0.1	2	50	570.6	0.1	17	52	27	1001	4.3	31	627	9	1400	0.06	75	47
KP_ARD_26	0.1	3	50	211.8	0.2	57.1	519	67	1348	36.2	351	199	7	4300	0.44	130	91
KP_ARD_27	0.1	2	50	711.8	0.1	10.8	55	19	431	7.4	32	809	18	600	0.05	47	51
KP_ARD_28	0.1	2	50	781.7	0.1	6.4	38	16	194	5	16	329	20	1000	0.08	25	42
KP_ARD_29	0.1	1	50	700.4	0.1	7.9	45	11	328	8	20	604	23	200	0.05	40	62
KP_ARD_30	0.1	2	50	938	0.1	9.7	37	9	286	3.2	22	682	18	500	0.05	44	45
KP_ARD_31	0.1	2	50	398.1	0.2	41.7	41	41	1072	4.8	39	677	16	2200	0.16	207	123
KP_ARD_32	0.2	2	50	339.6	0.9	50.9	45	137	2390	2.9	43	558	19	10800	0.12	316	380
KP_ARD_33	0.1	1	50	147.6	0.2	60	52	87	1628	3.3	53	819	6	1800	0.05	369	150
KP_ARD_34	0.1	1	50	240.7	0.1	28.9	35	36	954	3.7	33	791	13	1200	0.14	174	89

1234	Exceeds or potentially exceeds - Human Health-Based Investigation Levels
1234	Exceeds or potentially exceeds - Ecological Soil Screening Levels
1234	Exceeds or potentially exceeds -Soil Remediation Intervention Values