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**To:** Glencore

**Project Name:** Collinsville Open Cut Coal Mine

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**Content:** Spoil Geochemistry Review Assessment



## 1 Introduction

RGS Environmental Consultants Pty Ltd (RGS) is pleased to provide Collinsville Open Cut Coal Mine (COL) a review of existing static and kinetic geochemical information on spoil materials described in various technical reports completed by RGS and others since 2014. It is understood that the review information will be provided to third parties to assist with solute transport and seepage quality modelling work that is being completed at COL to provide a better understanding of water quality and potential risk of acid and metalliferous drainage (AMD).

### 1.1 Project Background

COL is located in the northern part of the Queensland Bowen Basin and produces export steaming coal and coking coal (**Figure 1-1**). Following a series of ownership changes, Collinsville Coal Company was formed in 1977 by MIM Holdings, acquiring all operations on the Collinsville/Scottville coalfields. In May 2013 Xstrata and Glencore merged and since that time, COL has been a Glencore managed operation.

There has been a long history of mining at COL with underground mining commencing in 1919 and major open pit operations commencing in the early 1980's. Management of AMD has provided ongoing challenges at the mining operation throughout the life-of-mine (LoM).

A focus of recent work programs at COL is on mine rehabilitation and closure and RGS has been requested to provide a review of available static and kinetic geochemistry information on spoil materials associated with COL to assist with solute transport and seepage quality modelling work being completed by others.

### 1.2 Objective and Scope of Work

The objective of the scope of work is to review the available static and kinetic geochemistry information on spoil materials at COL. The RGS work program will assist with the assumptions and outputs from current modelling work being completed at the mine and will assist in developing evidence to support mine closure and rehabilitation.

To achieve this objective the following scope of work was completed by RGS:

- Compile available existing static and kinetic geochemistry information on COL spoil materials and issue a request for information (RFI) detailing any additional types of information required for the review.
- Undertake a desktop review of available reports and information for COL.
- Provide summarised static and kinetic geochemistry information in the context of the specific landforms currently being modelled by others.
- Provide COL with a technical memorandum that provides information on the scope of work, methodology, and results and findings (i.e. this memorandum).



Figure 1-1: Collinsville Open Cut Coal Mine location

## 2 Methodology

### 2.1 Approach

There are several guidance documents for the assessment of AMD which are endorsed by the mining industry worldwide. In Australia, the regulatory framework covering the geochemical characterisation of mine waste material is diverse but is generally based on the following key guidance documents/ sources:

- National Environment Protection (NEPM) (Assessment of Site Contamination) Measure. National Environmental Protection Council NEPC. April 2013.
- Department of Mines and Petroleum (WA) and Environmental Protection Authority (WA). Guidelines for Preparing Mine Closure Plans. May 2015 (DMP and EPA, 2015).
- Department of Mines and Petroleum (WA). Guideline for Mining Proposals in Western Australia. April 2016 (DMP, 2016a).
- Department of Mines and Petroleum (WA). Draft Guidance. Materials Characterisation Baseline Data Requirements for Mining Proposals. March 2016 (DMP, 2016b).
- ACARP (2008). Development of ARD Assessment for Coal Process Wastes. ACARP Project C15034. Report prepared by Environmental Geochemistry International and Levay and Co. Environmental Services, ACeSSS University of South Australia, July.
- AMIRA (2002) ARD Test Handbook - Prediction and Kinetic Control of Acid Mine Drainage; AMIRA International. Project P387A Prediction & Kinetic Control of Acid Mine Drainage. Ian Wark Research Institute and Environmental Geochemistry International Pty Ltd.
- Commonwealth of Australia (2016). Leading Practice Sustainable Development Program for the Mining Industry. Preventing Acid and Metalliferous Drainage. September, Canberra ACT.
- INAP (2009). Global Acid Rock Drainage Guide (GARD Guide). Document prepared by Golder Associates on behalf of the International Network on Acid Prevention (INAP). June 2009 (<http://www.inap.com.au/>).
- MEND (2005). List of Potential Information Requirements in Metal Leaching/Acid Rock Drainage Assessment and Mitigation, MEND Report 5.10E, January.
- Price (1997). Preventing Acid and Metalliferous Drainage. Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Mine sites in British Columbia. Ministry of Employment and Investment, April.

### 2.2 Sampling Programs

RGS undertook two comprehensive geochemical sampling programs at COL in 2014 (RGS, 2016) and 2021 to support spoil and rejects AMD risk assessments and waste classification. A more recent spoil geochemical investigation was undertaken by Kohn Crippen Berger in 2025 (KCB, 2025). A summary of these geochemical programs is provided below; more detail can be gleaned from their respective reports (RGS, 2016; RGS, 2021 and KCB, 2025).

#### 2.2.1 2016 Geochemical Assessment

**RGS Environmental Consultants Pty Ltd (2016). *Geochemical Assessment of Future Mining Areas.***

In 2014 RGS completed a drilling program to characterise overburden, interburden, basement and coal-bearing strata (roof, floor and partings) for AMD risk and to inform LoM planning. A total of 1,493 samples were collected from 26 drill holes placed in virgin ground and 18 holes placed in potential extensions to the LoM pit shells (**Figure 2-1**). Of the 44 drill holes, 14 holes had drill core intervals, and 4 reverse circulation (RC) holes had continual down hole sampling every 1 meter. Another 29 samples of coarse reject and tailings were samples from the Coal Handling and Preparation Plant (CHPP), and all samples were subject to geochemical characterisation (**Table 3-1**). However, the reporting was limited to the 1,079 samples collected from the LoM pits (including rejects/ tailings).

**Table 2-1: 2014 geochemical assessment samples**

| Pit Name     | Drill Hole ID | Soil      | Overburden | Interburden | Basement   | Total        |
|--------------|---------------|-----------|------------|-------------|------------|--------------|
| Ramp 12      | C4514         | 2         | 5          | 20          | 5          | 32           |
|              | C4515         | 0         | 4          | 14          | 3          | 21           |
|              | C4516         | 2         | 7          | 18          | 1          | 28           |
|              | C4518         | 2         | 14         | 23          | 1          | 40           |
|              | RC4512        | 2         | 46         | 89          | 32         | 169          |
|              | RC4553        | 2         | 43         | 113         | 57         | 215          |
| Blake West   | C4517         | 0         | 2          | 17          | 1          | 20           |
|              | C4530         | 2         | 7          | 13          | 0          | 22           |
|              | C4531         | 0         | 0          | 14          | 1          | 15           |
| Blake        | C4520         | 0         | 4          | 15          | 2          | 21           |
|              | C4523         | 0         | 4          | 0           | 12         | 16           |
| Blake North  | C4525         | 0         | 7          | 22          | 2          | 31           |
|              | RC4527        | 2         | 20         | 93          | 13         | 128          |
|              | RC4523        | 2         | 36         | 91          | 15         | 144          |
|              | C4529         | 0         | 8          | 17          | 2          | 27           |
|              | C4535         | 0         | 16         | 17          | 1          | 34           |
|              | C4536         | 0         | 27         | 12          | 3          | 42           |
|              | C4537         | 2         | 6          | 36          | 1          | 45           |
| <b>Total</b> |               | <b>18</b> | <b>256</b> | <b>624</b>  | <b>152</b> | <b>1,050</b> |

## 2.2.2 2021 Spoil Assessment

### RGS Environmental Consultants Pty Ltd (2021). *Collinsville Spoil Assessment*

In 2021 RGS completed a geochemical and soil sampling program to classify spoil in constructed in-pit landform at COL. Test pits were excavated in transects within Pit 11 and sampled at 1.0 m intervals to a maximum of 7.0 m (some test pits were only excavated until refusal). The test pit location was selected based on four-wheel drive access and spatially representative of the spoil area (**Figure 2-1**). RGS collected 80 spoil samples across the 12 test pits.

**Table 2-2: Test pit locations and number of samples collected**

| Transect | Test Pit | GPS Coordinates | Number of samples |
|----------|----------|-----------------|-------------------|
| 1        | TP1      | 20°34'27.07" S, | 7                 |
|          | TP2      | 20°34'27.54" S, | 6                 |
|          | TP3      | 20°34'30.55" S, | 7                 |
| 2        | TP4      | 20°34'56.07" S, | 7                 |
|          | TP5      | 20°34'56.10" S, | 7                 |
|          | TP6      | 20°34'52.35" S, | 7                 |
| 3        | TP7      | 20°34'59.35" S, | 6                 |
|          | TP8      | 20°35'03.46" S, | 5                 |
|          | TP9      | 20°35'13.44" S, | 7                 |
| 4        | TP10     | 20°35'19.46" S, | 7                 |
|          | TP11     | 20°35'32.47" S, | 7                 |
|          | TP12     | 20°35'34.29" S, | 7                 |

### 2.2.3 2025 Spoil Assessment

#### Klohn Crippen Berger (2025)

In 2025, KCB completed a sampling program to geochemically classify spoil material stockpiled/ backfilled within Pit 7 and Pit 11. A total of six boreholes were sampled at Pit 11 and two boreholes from Pit 7. The boreholes were excavated at various depth, typically to the depth of the emplaced spoil. A total of 32 samples from the eight boreholes were collected (**Table 2-3**).

**Table 2-3: Drill holes locations and number of samples collected**

| Borehole ID  | Coordinates |              | Final Spoil Depth (mbGL) | Number of Samples |
|--------------|-------------|--------------|--------------------------|-------------------|
|              | Easting (m) | Northing (m) |                          |                   |
| Pit11-01     | 576,107.70  | 7,723,930.39 | 19.1                     | 3                 |
| Pit11-02     | 576,162.76  | 7,723,595.51 | 36.7                     | 4                 |
| Pit11-03     | 575,543.92  | 7,722,821.44 | 21.36                    | 6                 |
| Pit11-04     | 575,667.76  | 7,722,838.26 | 18.32                    | 8                 |
| Pit11-05     | 575,500.22  | 7,722,556.87 | 16.7                     | 5                 |
| Pit11-06     | 575,334.50  | 7,722,464.19 | 17.78                    | 1                 |
| Pit7-01      | 577,843.81  | 7,723,019.15 | 20.21                    | 3                 |
| Pit7-02      | 577,780.78  | 7,722,898.58 | 19.1                     | 2                 |
| <b>Total</b> |             |              |                          | <b>32</b>         |

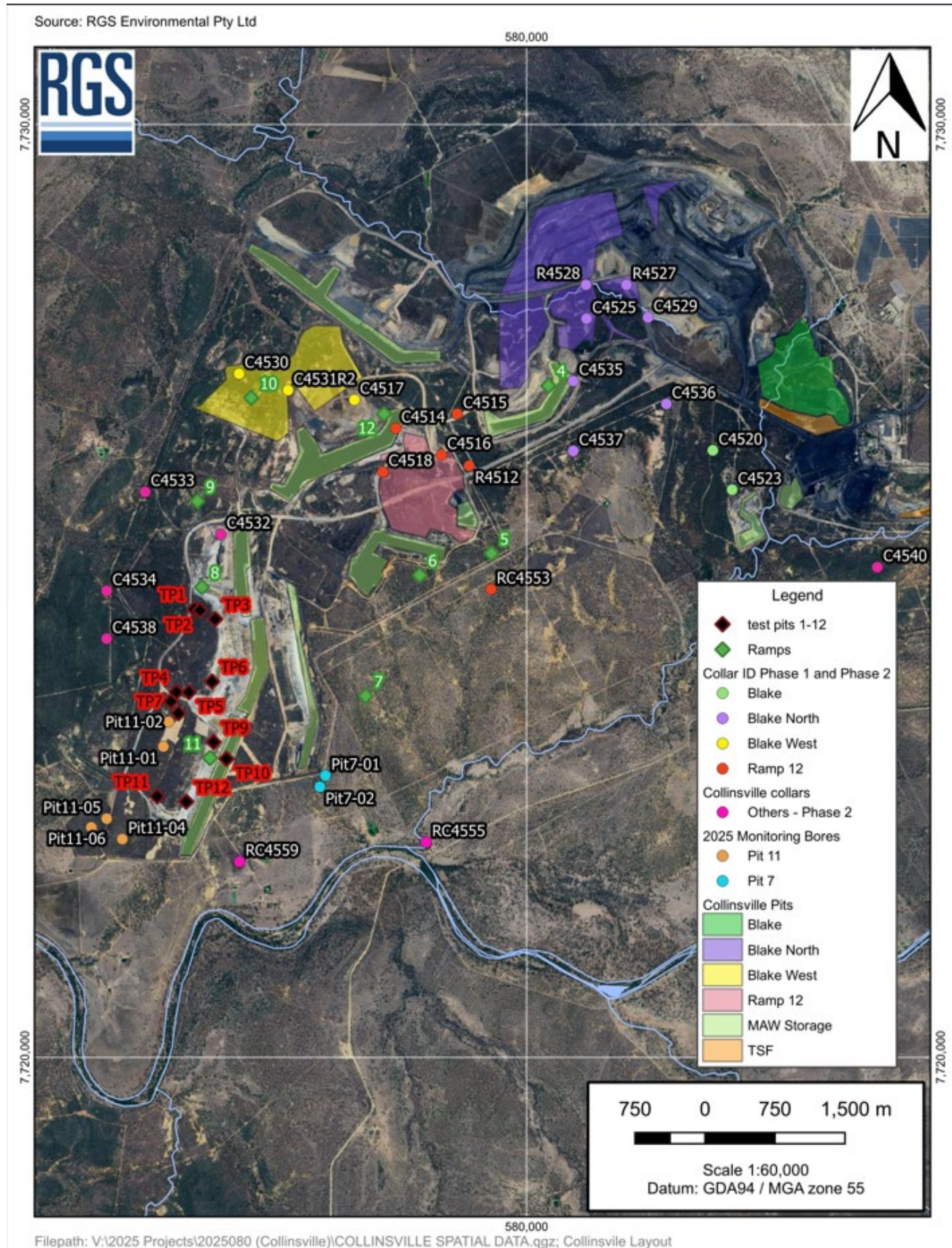


Figure 2-1: Drill holes and test pit sampling locations

## 2.3 Analytical Programs

A series of analytical methods were completed on the samples for the respective geochemical programs. The analytical programs were designed to quantify the potential for AMD from the presence of reactive sulfides, acid generation, and leaching of soluble metals/metalloids and salts in accordance with relevant mine waste geochemistry and mine closure guidelines (COA, 2016; and DMP and EPA, 2015).

The analytical programs were separated into multiple phases of work outlined in **Section 4.1** and **Section 4.2**. The analyses used in this geochemical assessment are summarised in **Section 3.1** and in **Attachment A**.

### 2.3.1 RGS Geochemical Assessment 2016

#### Phase 1 – Initial Static Tests

Static geochemical tests were completed to screen all drill core samples before selecting individual samples for more detailed static test and mineralogical tests.

Acid Base Accounting (ABA) was undertaken to quantify the pH, electrical conductivity (EC) and net acid producing potential (NAPP) of 1,050 spoil samples. The ABA screening procedure included static geochemical testing according to the following methods:

- Paste pH and EC (1:5 w:v, sample: deionised water) [USEPA 600/2 – 78 - 054];
- Total sulfur [LECO method]; and,
- Acid neutralising capacity (ANC) [AMIRA, 2002 method].

From the total sulfur and ANC results, the maximum potential acidity (MPA) and NAPP values were inferred.

- Single addition Net Acid Generation (NAG) tests (Miller, 1998) were also undertaken (n=309)
- NAG potential acidity at pH 7 (n=309);
- NAG acid neutralising capacity at pH 4 (n=179);
- Total Organic Carbon (TOC) for NAG interpretation (n=309).

Select samples were subjected to whole rock multi-element analysis. The samples were specifically tested for:

- Total Cations (Ca, Mg, Na and K) [2-acid and Aqua Regia digestion method, finished with ICP-AES/MS] (n=60);
- Multi element chemical assay (Al, As, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, Sb, Se, and Zn) [2-acid and Aqua Regia digestion method, finished with ICP-AES/MS and FIMS] (n=60);
- Cation Exchange Capacity (eCEC) including Ca:Mg ration and exchangeable sodium percentage (ESP) (n=66);
- Soluble metals/metalloids (Al, As, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, Sb, Se, and Zn) [ICP-AES/MS and FIMS (1:5 w:v water extracts)];
- Major cations (Ca, Mg, Na, K) [ICP-AES/MS (1:5 w:v water extracts)]; and,
- Major anions (F, Cl<sup>-</sup>, SO<sub>4</sub><sup>-2</sup>) [discrete analyser and PC titrator (1:5 w:v water extracts)].

Note: only the soluble metals/ metalloids are discussed in this report.

#### Phase 2 – Supplementary Tests

Based on the results of the ABA screening and whole rock multi-element tests, samples were selected for more comprehensive static testing. The selection of these samples considered material type, location and lithology type. The selected samples were specifically tested for:

- Chromium Reducible Sulfur (CRS %) [Sullivan et al., 1998] (n=295);
- Acid Buffering Characterisation Curve (ABCC) [Miller and Jeffery, 1995]; and,
- X-Ray Diffraction (XRD) (semi-quantitative).

### Phase 3 – Kinetic Tests

Following the receipt and interpretation of the static geochemical test results for mine waste material, 15 Kinetic Leach Column (KLC) tests commenced on crushed drill core samples representing material likely to report as spoil were completed (**Table 2-4**) (note: additional KLC tests were run for coal processing wastes; coarse and fine coal reject materials).

The KLC program was completed over a minimum of six-months, with some KLC's extending over 12-months until leached metal/ metalloid concentrations stabilised. The following analyses were undertaken on the KLC leachates:

- pH and EC (probes and meter);
- Acidity as  $\text{CaCO}_3$ ;
- Alkalinity: including bicarbonate, carbonate, hydroxide & total as  $\text{CaCO}_3$ ;
- Dissolved major cations (Ca, Mg, Na, K) [ICP-AE];
- Dissolved major anions ( $\text{F}^-$ ,  $\text{Cl}^-$ ,  $\text{SO}_4^{2-}$ ); and,
- Dissolved metals/metalloids (Al, As, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, Sb, Se, and Zn) [ICP-AES/MS and FIMS (1:5 w:v water extracts)].

The test method for KLC tests 1 to 11 and 15 to 17 used approximately 2 kg of each selected sample accurately weighed, with the sample weight varying according to sample bulk density. Heat lamps were used on a daily basis to simulate sunshine, increase the surface temperature, and ensure that the KLC test materials dried and were subject to oxidising conditions between leaching events (essentially an assumed 'worst case' scenario for sulfide oxidation and potential acid/salt generation).

Larger KLC tests with approximately 20 kg capacity were used for columns 12 to 14. The purpose of the large KLC tests was to leach:

- Potentially acid forming (PAF) – low risk (LR) Sandstone which is anticipated to become mildly acidic in the long term
- PAF-LR Sandstone mixed with acid consuming (AC) Igneous Rock to test whether the addition of a small proportional mass of AC waste with this material can offset acid generation
- PAF-LR Sandstone mixed with AC lime ( $\text{CaCO}_3$ ) to test whether the addition of a small proportional mass of lime with this material can offset acid generation.

The test methodology used in the larger KCL tests was similar to that used in the smaller KLC tests.

**Table 2-4: Kinetic leach column details**

| Material               | Waste Class | KLC No.                                              | Sample Type             |
|------------------------|-------------|------------------------------------------------------|-------------------------|
| Coarse                 | PAF-LR      | 1                                                    | Reject                  |
| Fine                   | PAF-MR      | 2                                                    | Tailings                |
| Sandstone              | PAF-LR      | 3                                                    | Interburden             |
| Sandstone              | PAF-MR      | 4                                                    | Interburden             |
| Sandstone              | PAF-HR      | 5                                                    |                         |
| Siltstone              | PAF-LR      | 6                                                    | Interburden             |
| Siltstone              | PAF-MR      | 7                                                    | Interburden             |
| Mudstone               | PAF-LR      | 8                                                    | Interburden             |
| Sandstone              | PAF-LR      | 9                                                    | Overburden/ Interburden |
| Sandstone              | PAF-MR      | 10                                                   | Overburden/ Interburden |
| Siltstone              | PAF-HR      | 11                                                   |                         |
| Sandstone              | AC          | 12                                                   | Interburden             |
| Sandstone + Igneous AC | NAF         | 13 (9 + 12)                                          | Overburden/ Interburden |
| Sandstone + Lime       | NAF         | 14 (9 + $\text{Ca}(\text{OH})_2$ + $\text{CaCO}_3$ ) | Overburden, Interburden |
| Sandstone              | PAF-LR      | 15                                                   | Interburden             |
| Sandstone              | PAF-MR      | 16                                                   | Interburden             |
| Sandstone              | PAF-HR      | 17                                                   | Interburden             |

### 2.3.2 RGS Pit 11 Spoil Assessment 2021

#### Phase 1 – Initial Static Tests

Static geochemical tests were completed to screen test pit samples collected from Pit 11 at COL. 80 soil samples collected from 12 test pits were analysed over two phases for the following:

- Paste pH and Electrical conductivity (EC) (1:5 w:v, sample: deionised water) [USEPA 600/2 – 78 - 054] (n=80);
- Total sulfur [LECO method]; and,
- Acid neutralising capacity (ANC) [AMIRA, 2002 method].
- Leach method (1:3 and 16 hr leach for water soluble elements)
- Acidity as  $\text{CaCO}_3$ ;
- Alkalinity: including bicarbonate, carbonate, hydroxide & total as  $\text{CaCO}_3$ ;
- Major cations (Ca, Mg, Na, K) [ICP-AES/MS (1:5 w:v water extracts)];
- Major anions (F,  $\text{Cl}^-$ , Reactive Phosphorus,  $\text{SO}_4^{2-}$ ) [discrete analyser and PC titrator (1:5 w:v water extracts)]; and,
- Dissolved metals/metalloids (filtered at  $0.045\mu\text{m}$ ) by ICP-MS Full Scan.

#### Phase 2 – Supplementary Tests

Based on the initial screening of test pit samples, 59 samples were selected for Chromium Reducible Sulfur (CRS %) [Ahern et al 2004].

### 2.3.3 KCB Geochemical Assessment 2025

Static geochemical tests were completed to screen test pit samples collected from Pit 7 and Pit 11 at COL. A total of 26 samples collected within Pit 11 underwent initial ABA screening with 17 samples selected for further analysis for leachable metals/ metalloids. RGS assumes samples from Pit 7 only underwent analysis for leachable metals /metalloids based on data provided from COL. The ABA analysis suite included the following:

- pH and EC Slurry (1:2 w:v, sample: deionised water) [USEPA 600/2 – 78 - 054] (n=26);
- Total sulfur [LECO method] (n=26); and,
- Acid neutralising capacity (ANC) [AMIRA, 2002 method] (n=26);
- Single addition Net Acid Generation (NAG) tests (Miller, 1998) were also undertaken (n=26)
- NAG potential acidity at pH 7 (n=26);
- NAG acid neutralising capacity at pH 4 (n=26);
- Acid Buffering Characterisation Curve (ABCC) [Miller and Jeffery, 1995] (n=1);
- Leach method (1:5 and 16 hr leach for water soluble elements) (n=17);
- pH and EC (probes and meter) (n=17);
- Total Dissolved Solids (at  $180^\circ\text{C}$ ) (n=17);
- Total Hardness as  $\text{CaCO}_3$  (n=17);
- Acidity as  $\text{CaCO}_3$  (n=17);
- Alkalinity: including bicarbonate, carbonate, hydroxide & total as  $\text{CaCO}_3$  (n=17);
- Dissolved major cations (Ca, Mg, Na, K) [ICP-AE] (n=17);
- Dissolved major anions (F,  $\text{Cl}^-$ ,  $\text{SO}_4^{2-}$ ) (n=17);
- Dissolved Silicon [discreet analyser] (n=17); and,
- Dissolved metals/metalloids (Ag, Al, As, B, Ba, Be, Bi, Cd, Cr, Co, Cu, Fe, Hg, Pb, Li, Mn, Mo, Ni, Sb, Se, Th, Ta, Sn, Ti, U, V and Zn) [ICP-AES/MS and FIMS (1:5 w:v water extracts)] (n=17).

### 3 Results

Results are discussed according to key sampling locations/ domains and the geochemical investigations (i.e. RGS, 2016; RGS, 2021; and, KCB, 2025).

Summary results tables for the geochemical test programs are provided in **Attachment B** and consist of:

- **Table B1:** Acid Base Account (ABA) Test Results.
- **Table B2:** Multi-Element Test Results for Water Extracts.
- **Table B3:** Multi-Element Test Results for Kinetic Leach Columns.

#### 3.1 Acid Base Account (ABA)

An explanation of the terminology used in this section, including a description of the ABA test methodology, is provided in **Attachment A** and summarised briefly below.

Potential acidity is the component of the acid base account that has the potential (but has not currently) oxidised and weathered to produce acid. Potential acidity is derived from sulfide (S) minerals such as pyrite ( $\text{FeS}_2$ ).

Total sulfur (TS) is measured by combustion of the sample in a furnace at  $1,350^\circ\text{C}$  in the presence of strong oxidants/ catalysts (**Section 7.1.3**). The TS method measures the total concentration of sulfur, including elemental sulfur, sulfur present in sulfide and sulfate minerals as well as organic sulfur. The most environmentally conservative approach to calculate maximum potential acidity (MPA) (**Section 7.1.4**) is to assume that all sulfur in a sample is potentially reactive sulfide and therefore capable of generating acid.

By convention in ABA studies, it is assumed that the sulfide sulfur is present as pyrite. Therefore, the stoichiometry of pyrite oxidation is used to calculate a theoretical maximum amount of sulfuric acid that could be generated. However, this ignores the fact that not all sulfur will contribute to the generation of acidity (e.g. sulfate sulfur in gypsum and barite). As a result, the TS concentration may overestimate the acid generation potential of a sample which is expressed in  $\text{kg H}_2\text{SO}_4 / \text{tonne (t)}$ .

Sulfur can also be present within acid producing primary minerals other than pyrite, such as, chalcopyrite ( $\text{CuFeS}_2$ ) and bornite ( $\text{Cu}_5\text{FeS}_4$ ) and non-acid producing primary minerals such as galena ( $\text{PbS}$ ) and sphalerite ( $\text{ZnS}$ ). TS can also be also present as a large number of non-acid producing secondary minerals such as alunite ( $\text{KAl}_3(\text{SO}_4)_2(\text{OH})_6$ ), gypsum ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ) through to minerals such as jarosite ( $\text{KFe}_3+3(\text{OH})_6(\text{SO}_4)_2$ ) that can store and release acid and trace, minor and major elements. Jarosite is an important mineral in COL acid spoil.

To differentiate between total sulfur and sulfide sulfur the CRS method was used (for some assessments) to measure the sulfide sulfur content. The CRS method provides a direct measure of reduced inorganic sulfur over the wide range of values encountered in acid sulfate soils and mineral waste in geological materials. The selectivity of the CRS test in samples containing residual organic sulfur makes it an ideal choice analytically to measure sulfide within primary sulfide minerals. While this method excludes sulfur present as sulfate, or organic sulfur it does not differentiate between acid producing (e.g. pyrite) and non-acid producing (e.g. sphalerite) minerals.

Acid generation is caused by the exposure of sulfide minerals, most commonly pyrite/ marcasite, to atmospheric oxygen and water. Sulfur assay results are used to calculate the maximum acid that could be generated by the sample by either directly determining the pyritic sulfur content or assuming that all sulfur not present as sulfate occurs as pyrite. Pyrite reacts under oxidising conditions to generate acid according to the following overall reaction:  $4\text{FeS}_2 + 15\text{O}_2 + 14\text{H}_2\text{O} \rightarrow 4\text{Fe}(\text{OH})_3 + 8\text{H}_2\text{SO}_4$ .

According to this reaction, the MPA of a sample containing 1% S as pyrite would be  $30.6 \text{ kg H}_2\text{SO}_4/\text{t}$ . The chemical components of the acid generation process consist of the above sulfide oxidation reaction and acid neutralisation, which is mainly provided by inherent carbonates and, to a lesser extent, silicate materials. The amount and rate of acid generation is determined by the interaction and overall balance of the acid generation and neutralisation components

The acid neutralising capacity (ANC) can be measured by the peroxide siderite correction for the Sobek method that utilises digestion of a pulp sample with 0.5 M HCl, boiling and addition of 5mL of 30%  $\text{H}_2\text{O}_2$ . The sample is then back titrated with NaOH to measure the amount of acid consumed by reaction with the sample and provides the ANC in  $\text{kg H}_2\text{SO}_4/ \text{t}$ . Acid neutralising capacity is expressed in  $\text{kg H}_2\text{SO}_4/ \text{t}$  of material

representing the capacity of the solids to neutralise acid but not necessarily implying that calcite ( $\text{CaCO}_3$ ) is present (**Section 7.1.5**).

The primary minerals in geological materials that are readily able to neutralise acidity are calcium and magnesium carbonates. Secondary neutralising minerals accounted for in the measurement of total acid neutralising capacity include basic silicates such as calcic feldspars, olivine, amphiboles, and biotite. However, due to their slower dissolution rates, their contribution to the overall ANC is generally considered to be small under ambient conditions. Felsic silicates such as sodic and potassic feldspars, muscovite, most clay minerals, and quartz do not contribute significantly to the ANC. In addition, carbonate minerals that contain iron and/or manganese do not report to the ANC measurement.

Geochemical classification is achieved using the net acid producing potential (NAPP) of a sample, which is calculated from ABA procedures (COA, 2016). The NAPP value is derived as the difference between the MPA and ANC of a sample (**Section 7.1.6**).

The ANC /MPA ratio (or Neutralising Potential Ratio (NPR)) is also used as a means of assessing the risk of acid generation from mine waste materials (**Section 7.1.7**). The purpose of the NPR is to provide an indication of the relative margin of safety within a material. As a general rule, an NPR ratio of 2 or more signifies that there is a high probability that the material will remain circum-neutral in pH (AMIRA, 2002; INAP, 2009).

The single addition NAG test involves a single addition of 250 ml of 15%  $\text{H}_2\text{O}_2$  to a 2.5 g of pulverised (less than 75  $\mu\text{m}$ ) sample. The sample is then allowed to react overnight. The entire sample is heated until gently bubbling for approximately 1-2 h to remove excess  $\text{H}_2\text{O}_2$  and encourage release of inherent neutralising capacity. Once the sample has cooled to room temperature, the pH and titrated acidity to pH 4.5 and 7.0 (in kg  $\text{H}_2\text{SO}_4$ / t of sample) of the solution are measured. A  $\text{NAG}_{\text{pH}}$  less than 4.5 generally indicates the sample is acid producing.

A  $\text{NAG}_{\text{pH}}$  value can be used in combination with NAPP values to classify the geochemical nature of samples (**Section 7.1.8**). The Australian Government Leading Practice Handbook on Acid and Metalliferous Drainage COA, 2016 now states that, “the risks of misclassifying Non-Acid Forming (NAF) material as Potentially Acid Forming (PAF) and PAF material as NAF, are substantially reduced by conducting both NAPP and NAG tests.”

ABA results for the 1,426 samples are provided in **Attachment B**.

The key ABA data trends are summarised in the following points:

### 3.1.1 $\text{pH}_{(1:5)}$

The  $\text{pH}_{(1:5)}$  of the 1,426 samples ranges from pH 3.1 (acidic) to 10 (alkaline) with a median of 7.54 (neutral) (**Figure 6-1**). The spread of  $\text{pH}_{(1:5)}$  values is not specifically influenced by sampling location (i.e. pit); however, the more acidic  $\text{pH}_{(1:5)}$  values (i.e.  $\text{pH} < 4.5$ ) are generally associated with Blake South (**Figure 6-1**). Approximately 96% of samples had a  $\text{pH}_{(1:5)} > 4.5$ , with only 3.7% of samples with a  $\text{pH}_{(1:5)} < 4.5$  (acidic). Approximately 41% of sample has a  $\text{pH}_{(1:5)} > 8$  (alkaline).

Field  $\text{pH}_{(1:5)}$  was also measured for the Pit 11 test pit samples (RS, 2021). The results were significantly lower than the values measured in the laboratory with a  $\text{pH}_{(1:5)}$  range from 2.64 (acidic) to 7.01 (neutral) with a median of 3.95 (neutral) (**Figure 6-2**) (note: the same set of 80 samples showed a laboratory measured median  $\text{pH}_{(1:5)}$  of 6.3). The difference between field and laboratory  $\text{pH}_{(1:5)}$  is attributed to the use of sieved versus pulp samples and short reaction times in the field (< 30 minutes). Pulped samples (undertaken by ALS) have higher  $\text{pH}_{(1:5)}$  than sieved samples as they may have released more alkalinity that is likely to be present as calcium carbonate minerals (e.g. calcite) within the soil matrix (dominated by clay and silt fractions) and within the spoil matrix (dominated by sand, gravel and rock).

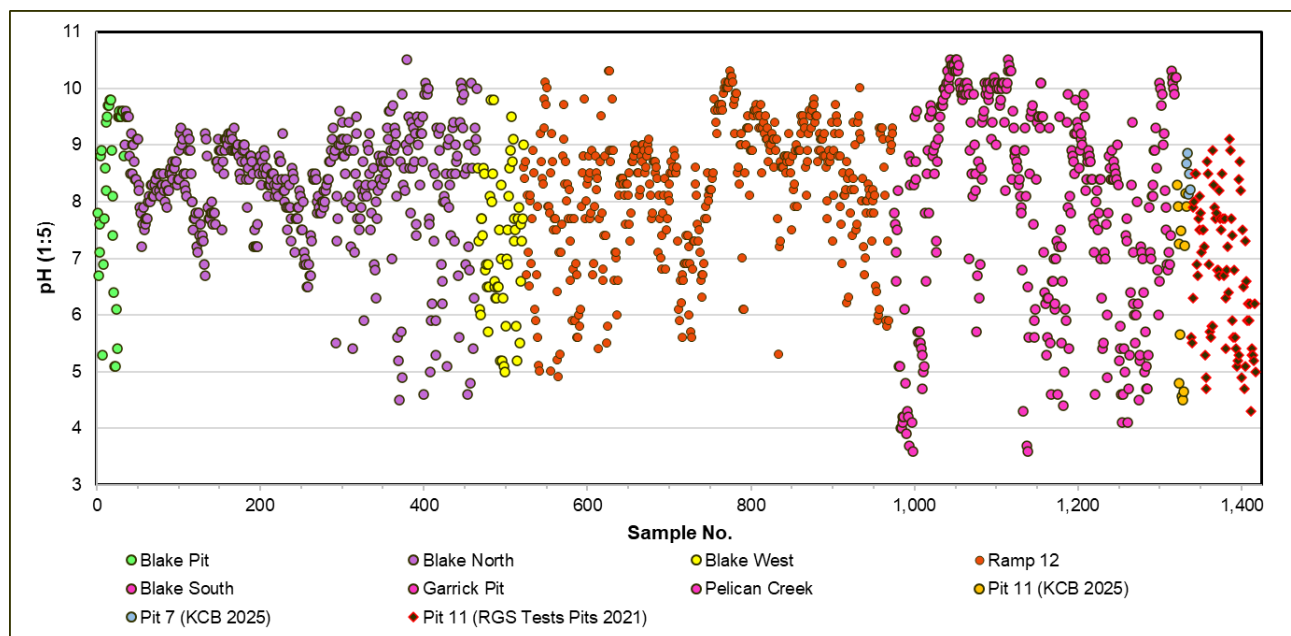


**Figure 3-1: pH<sub>1:5</sub> for Collinsville spoil samples (laboratory measurements).**

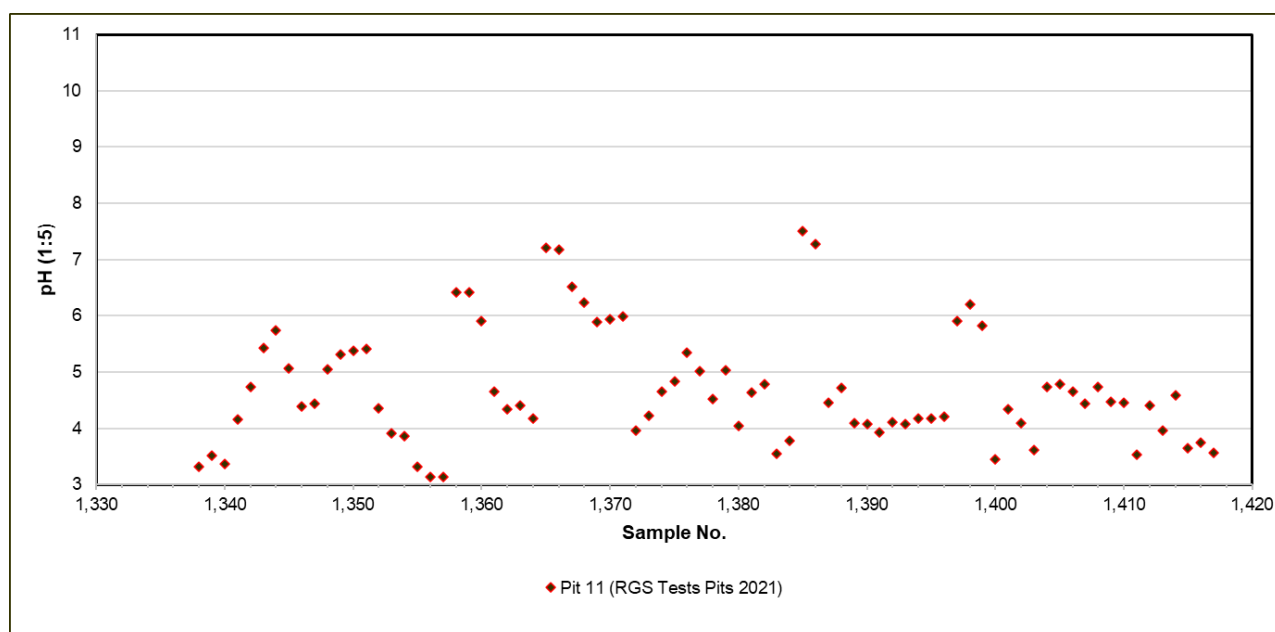


**Figure 3-2: pH<sub>1:5</sub> for Collinsville spoil samples (Pit 11 test pits) (field measurements).**

### 3.1.2 EC<sub>(1:5)</sub>

The EC<sub>(1:5)</sub> of the 1,426 samples ranges from EC 24  $\mu\text{S}/\text{cm}$  (fresh) to 4,310  $\mu\text{S}/\text{cm}$  (brakish) with a median of 423  $\mu\text{S}/\text{cm}$  (fresh) (**Figure 6-3**). The spread of EC<sub>(1:5)</sub> values is not specifically influenced by sampling location (i.e. pit); however, the higher EC<sub>(1:5)</sub> values (i.e. EC > 2,500  $\mu\text{S}/\text{cm}$ ) are generally associated with Pit 11 (**Figure 6-3**).

Unlike the field pH<sub>(1:5)</sub> values, the field EC<sub>(1:5)</sub> values, also measured for the Pit 11 test pit samples (RS, 2021), were more consistent with the laboratory measured values (e.g. median EC<sub>(1:5)</sub> of 1,430  $\mu\text{S}/\text{cm}$  for laboratory measurements compared to 974  $\mu\text{S}/\text{cm}$  for field measurement) (**Figure 6-4**).

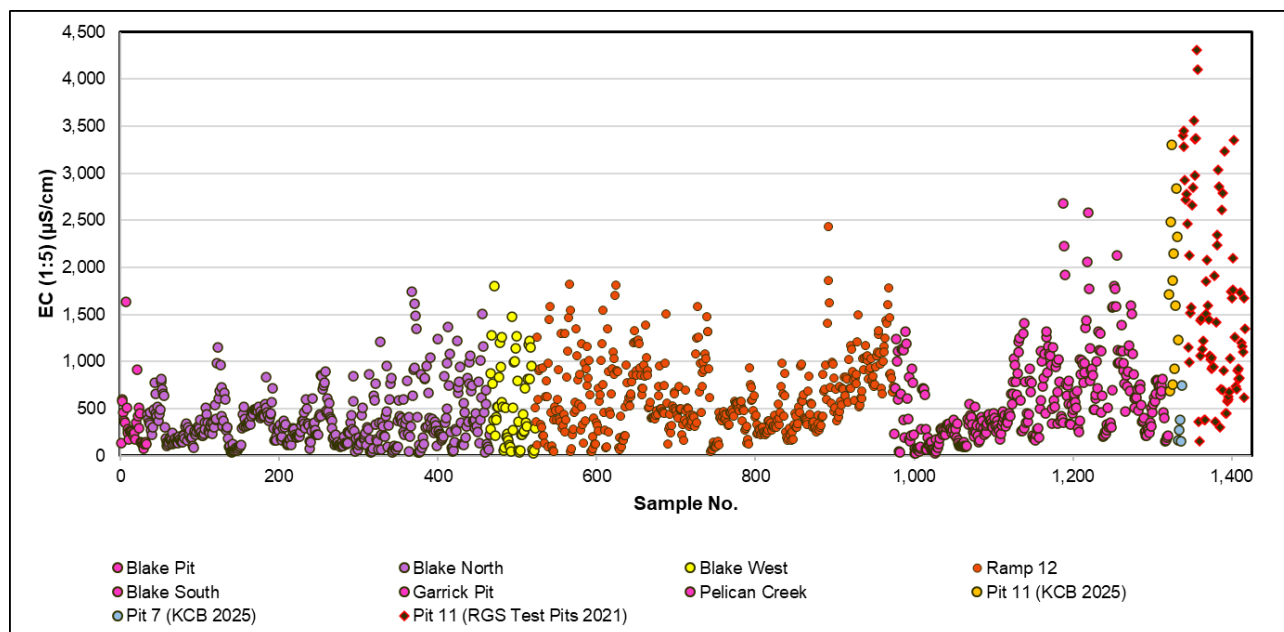


**Figure 3-3: EC<sub>1:5</sub> for Collinsville spoil samples (laboratory measurements).**

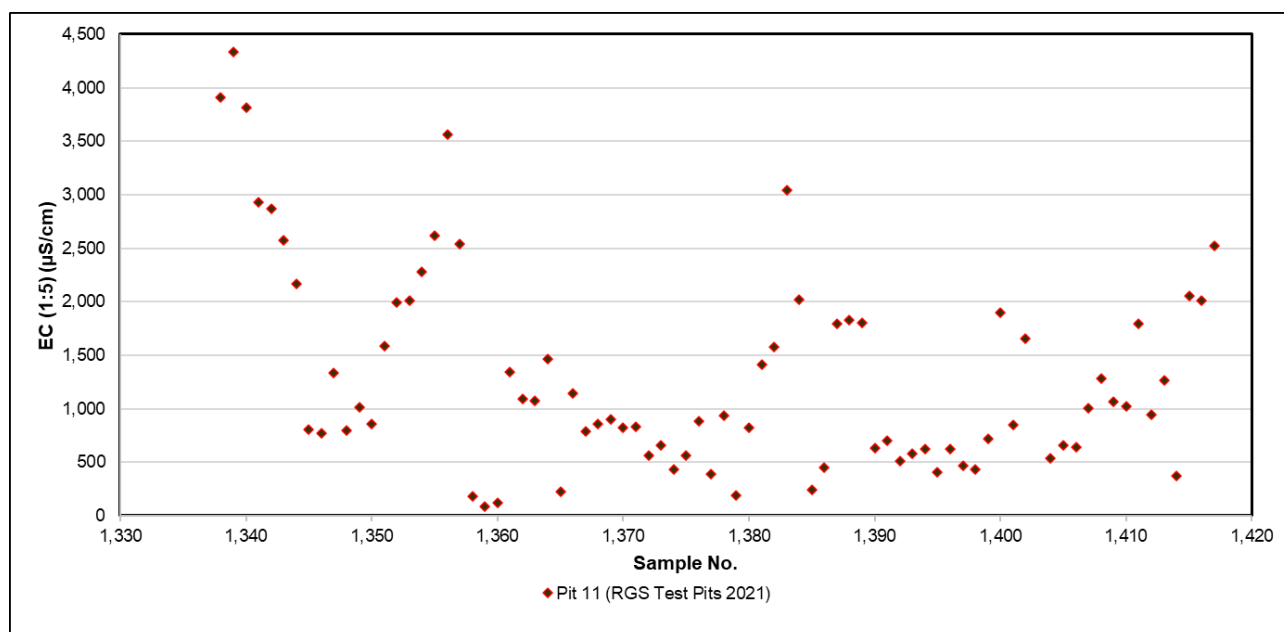


**Figure 3-4: EC<sub>1:5</sub> for Collinsville spoil samples (Pit 11 test pits) (field measurements).**

### 3.1.3 Total sulfur and sulfide sulfur

Sulfide-bearing minerals are the primary source of acidity. The total sulfur (TS) content of the 1,426 measured spoil samples ranges from <0.01 %S (below instrumental detection limits (IDL)), to 16.9 %S (**Figure 6-5**), with a median and mean values of 0.45 and 0.78 %S, respectively. There are 306 samples (~21%) which have <0.1 %S which is average crustal abundance for S (INAP, 2009). Materials with a TS content less than or equal to 0.1 %S are essentially barren of sulfur and have negligible capacity to generate additional acidity<sup>2</sup>.

<sup>2</sup> The average crustal abundance of sulfur is approximately 0.1 % (INAP, 2009).

Conversely, approximately 47% of samples contain TS > 0.5%. The higher sulfur values are generally associated with coal roof, parting and floor samples.

The chromium reducible sulfur (CRS) method measures the sulfide sulfur content or un-oxidised portion of sulfur (e.g. pyrite and marcasite). CRS was measured on 341 samples. The sulfide sulfur content of the 341 measured spoil samples ranges from <0.01 %CRS, to 14 %CRS (**Figure 6-6**), with a median and mean values of 0.45 and 0.65 %S, respectively. The results indicate that ~2 to 100% of the TS is present as sulfide sulfur in samples with a TS content >0.5 %, with a median of ~70%. A positive linear relationship (~1:0.7; TS: sulfide sulfur) is evident for the samples with a higher TS/CRS content (**Figure 6-7**) reflecting the pyrite content.

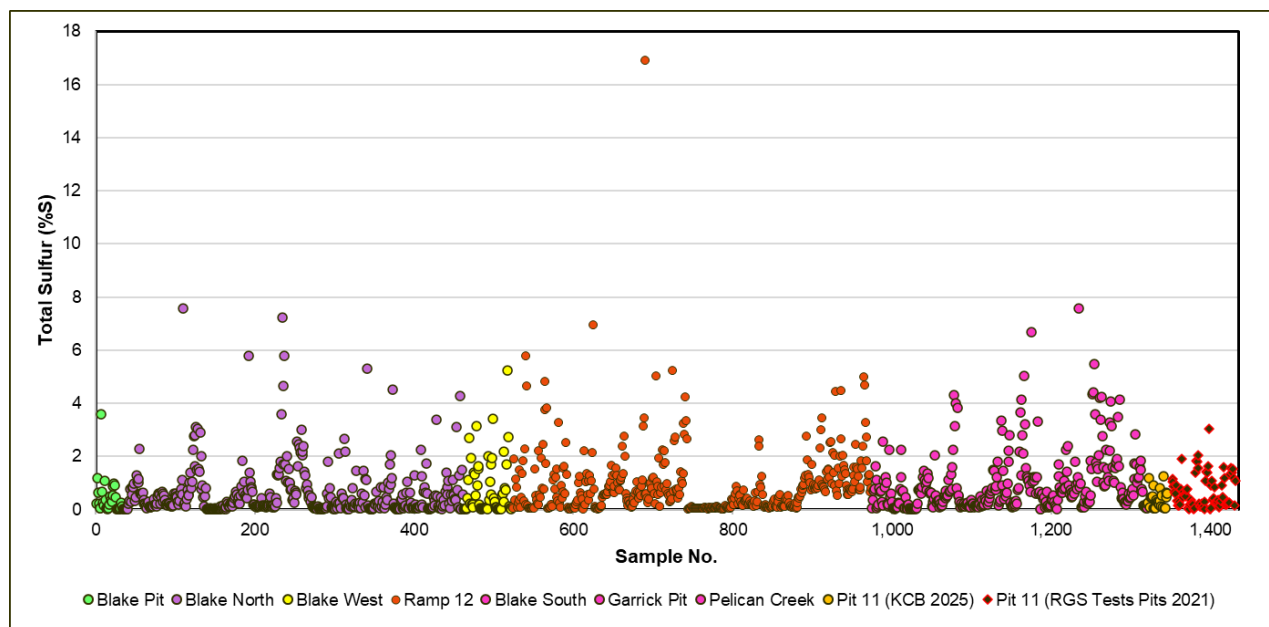


**Figure 3-5: Total sulfur (TS) measurements for Collinsville spoil samples.**

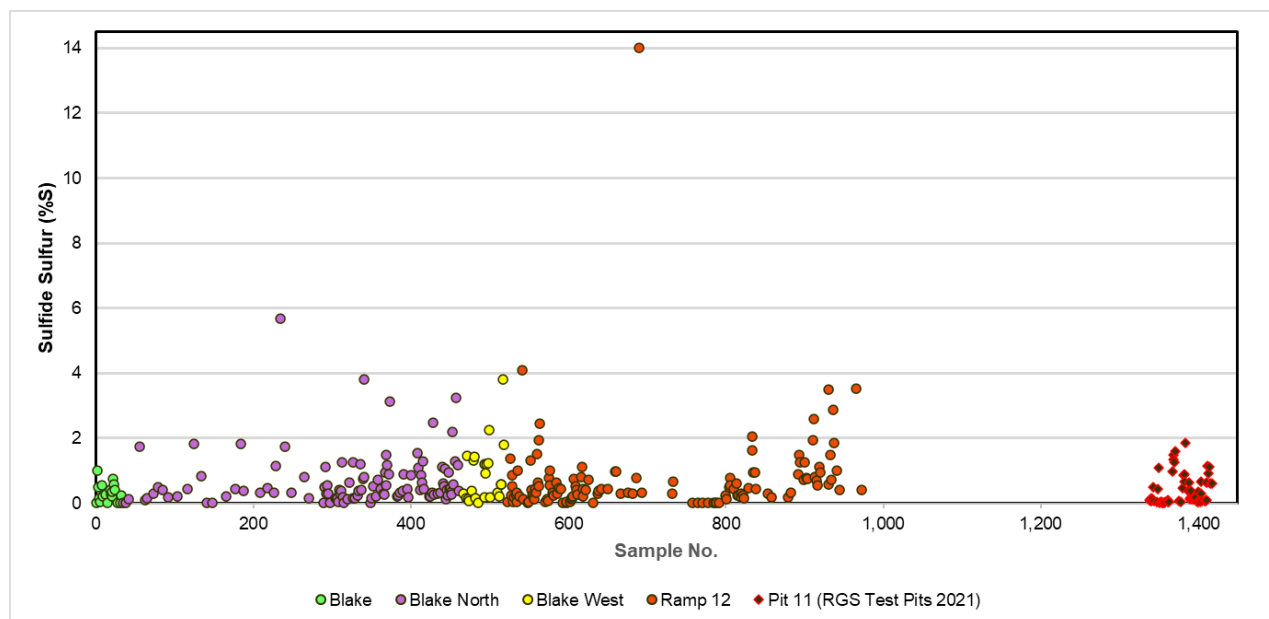


**Figure 3-6: Chromium reducible sulfur (CRS) measurements for Collinsville spoil samples.**

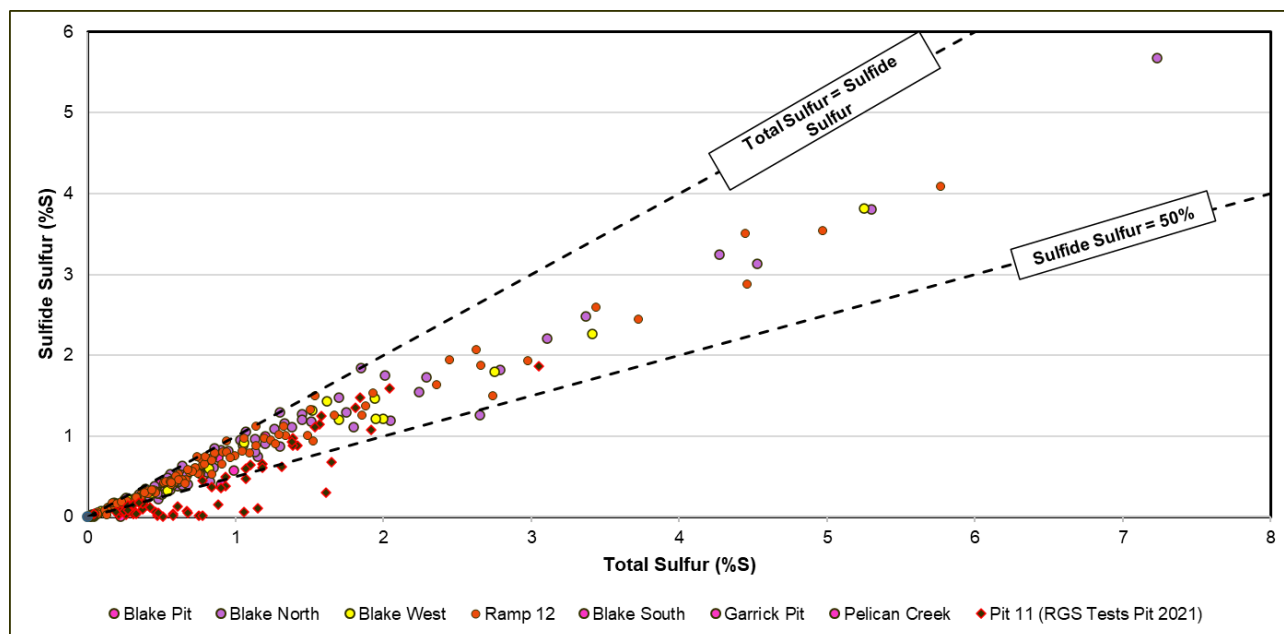


**Figure 3-7: Total sulfur (TS) versus sulfide sulfur (CRS) for Collinsville spoil samples.**

### 3.1.4 Maximum Potential Acidity

As above, the MPA is usually inferred using TS and assumes that all TS is present as pyrite and will completely oxidise to produce actual acidity. CRS was used to infer MPA for those samples where CRS was measured. The MPA ranges from 0.08 to 429 kg H<sub>2</sub>SO<sub>4</sub>/t with a median and mean value of 11 and 22 kg H<sub>2</sub>SO<sub>4</sub>/t, respectively.

### 3.1.5 Acid Neutralisation Capacity (ANC)

The ANC was measured for 1,426 spoil samples. The ANC of the 1,426 spoil samples ranges from <0.5 kg H<sub>2</sub>SO<sub>4</sub>/t to 248 kg H<sub>2</sub>SO<sub>4</sub>/t, with a median and mean values of 7.6 kg H<sub>2</sub>SO<sub>4</sub>/t and 21 kg H<sub>2</sub>SO<sub>4</sub>/t, respectively. There is no specific relationship between ANC and spoil location or spoil type.

### 3.1.6 Net Acid Production Potential (NAPP)

As discussed above, the NAPP is the balance between the capacity of a sample to generate acidity (MPA) minus its capacity to neutralise acidity (ANC). The calculated NAPP values for 1,426 spoil samples range from -228 to +428 kg H<sub>2</sub>SO<sub>4</sub>/t, with a mean and median of +0.8 kg H<sub>2</sub>SO<sub>4</sub>/t and +0.21 kg H<sub>2</sub>SO<sub>4</sub>/t, respectively (**Figure 6-7**). The high positive NAPP values (NAPP > +50 kg H<sub>2</sub>SO<sub>4</sub>/t) are more generally associated with Pelican Creek, Ramp 12 and Blake North roof and interburden spoil samples; however, there is a wide distribution of NAPP values across the site associated with different spoil types.

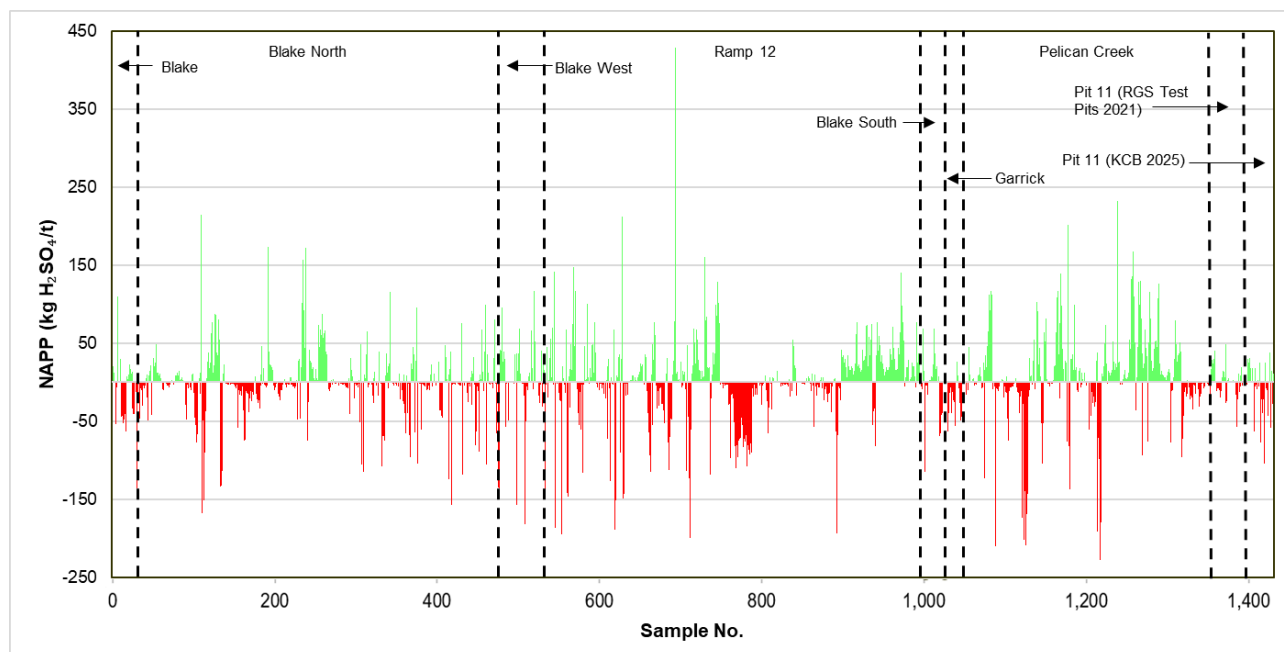


Figure 3-8: Net acid production potential (NAPP) for Collinsville spoil samples.

### 3.1.7 Net Potential Ratio (NPR)

The ANC:MPA ratio (NPR), of the spoil samples ranges from 0.0005 to 611, with a mean and median value of 7 and 0.96, respectively (**Figure 6-8**). Generally, those samples with an NPR of greater than 2 or sulfur content <0.1% are considered to represent material with a low to negligible risk of generating additional acidity and generally have a high factor of safety in terms of potential for AMD (COA, 2016; INAP, 2009). There are 582 (~41%) samples within this category, while 150 (~11%) samples fall within the 'possible risk' category with NPR between >1-2, and 689 (~48%) samples fall within the 'increased risk' category with NPR of < 1. There are no pronounced relationships between NPR and spoil samples from specific locations or specific spoil types.

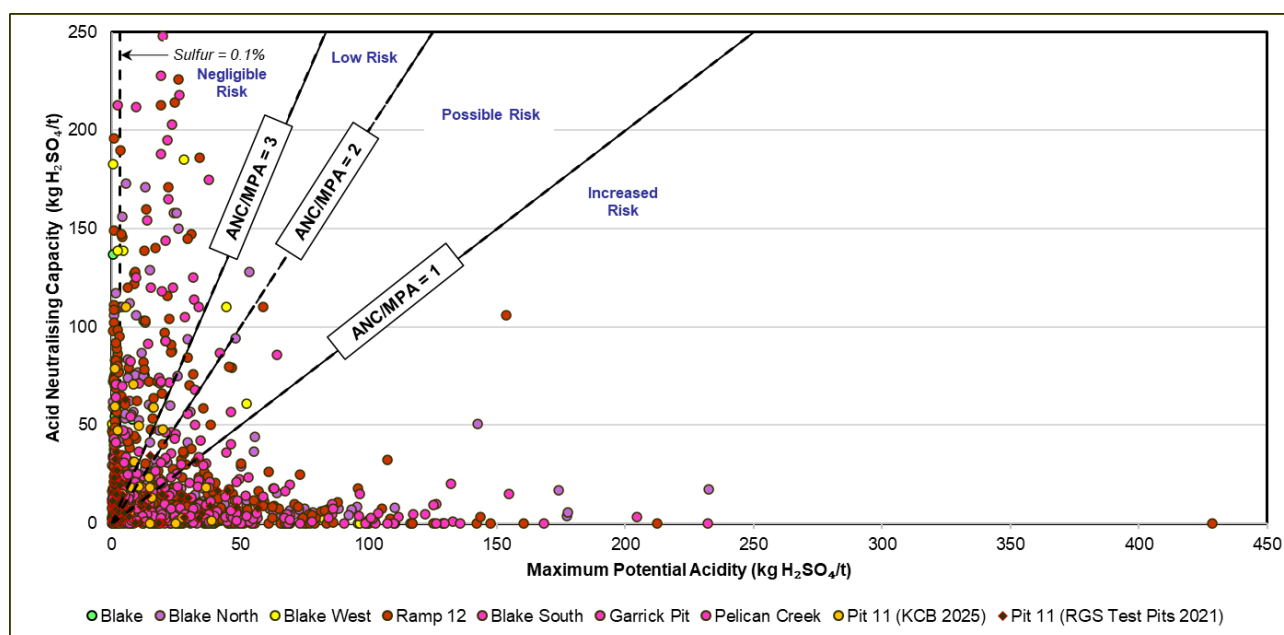


Figure 3-9: Net potential ratio (NPR) for Collinsville spoil samples.

### 3.1.8 Net Acid Generation (NAG)

Of the 1,426 samples, 220 samples were measured for net acid generation (NAG). The NAG<sub>pH</sub> of the measured spoil samples ranges from pH 1.9 to 11.5, with a mean and median value of pH 5.89 and pH 4.8, respectively (**Figure 6-9**) (noting that the samples selected for NAG are skewed towards the higher risk samples).

The samples were also classified according to the AMIRA (2002) classification system (NAG pH versus NAPP) and are displayed in **Figure 6-9**. The classification indicates the measured spoil samples typically fall within both the 'non-acid forming' quadrant (98) samples) and the 'potentially-acid forming' quadrant (103 samples).

A total of 19 samples were classified as 'uncertain' though largely falling on the border of 'non-acid forming' and 'uncertain' quadrants. However, there were 7 samples from Blake North classified as highly uncertain. Those Blake North samples with a positive NAPP and alkaline NAG<sub>pH</sub> are likely due to an overestimation of NAPP using TS values, while the Blake North samples with a negative NAPP and acidic NAG<sub>pH</sub> are likely due to an overestimation of the NAPP due to an overestimation of the availability of ANC.

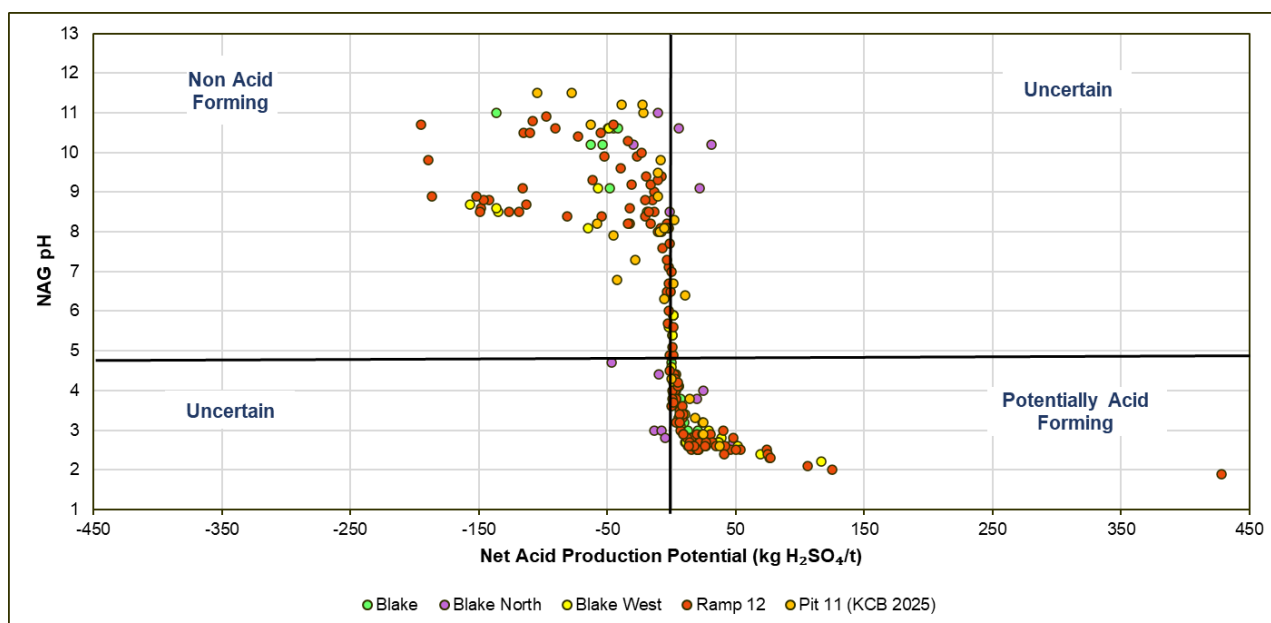


**Figure 3-10: Net acid production potential (NAPP) versus net acid generation (NAG) pH for Collinsville spoil samples.**

### 3.1.9 Geochemical Classification

#### Acidic drainage classification

The criteria used to classify the potential of the 1,426 spoil samples to generate acidic drainage and the number of samples given each classification are shown in **Table 7-1**. The classification criteria reflect Australian (COA, 2016c) and international (INAP, 2024) guidelines for the classification of mining waste materials.

Approximately 44% of spoil samples have low enough concentrations of TS and CRS to be considered effectively barren of acid generating sulfides or sufficient ANC to classify the samples as posing a low risk of acid generation (i.e. classified as non-acid forming- barren (NAF-B) or NAF). A large portion of samples (~17%) remains classified as 'Uncertain' due to the uncertainty around the availability of ANC (noting ABCC tests have indicated that ANC is likely overestimated for some spoils; RGS, 2016) or potentially overestimations of MPA (and thus NAPP) due to using TS values. Approximately 39% of samples were classified as potentially acid forming (low capacity) (PAF -LC) or PAF. The number and classification of spoil samples and the classifications of spoil materials are shown in **Figure 3-11**.

While some of the spoil samples have a negligible risk of generating additional acid over time, the pH<sub>(1:5)</sub> values suggest initial drainage may be acidic, potentially due to the previous weathering of sulfide materials (which have become depleted) or the presence of organic acids within the materials.

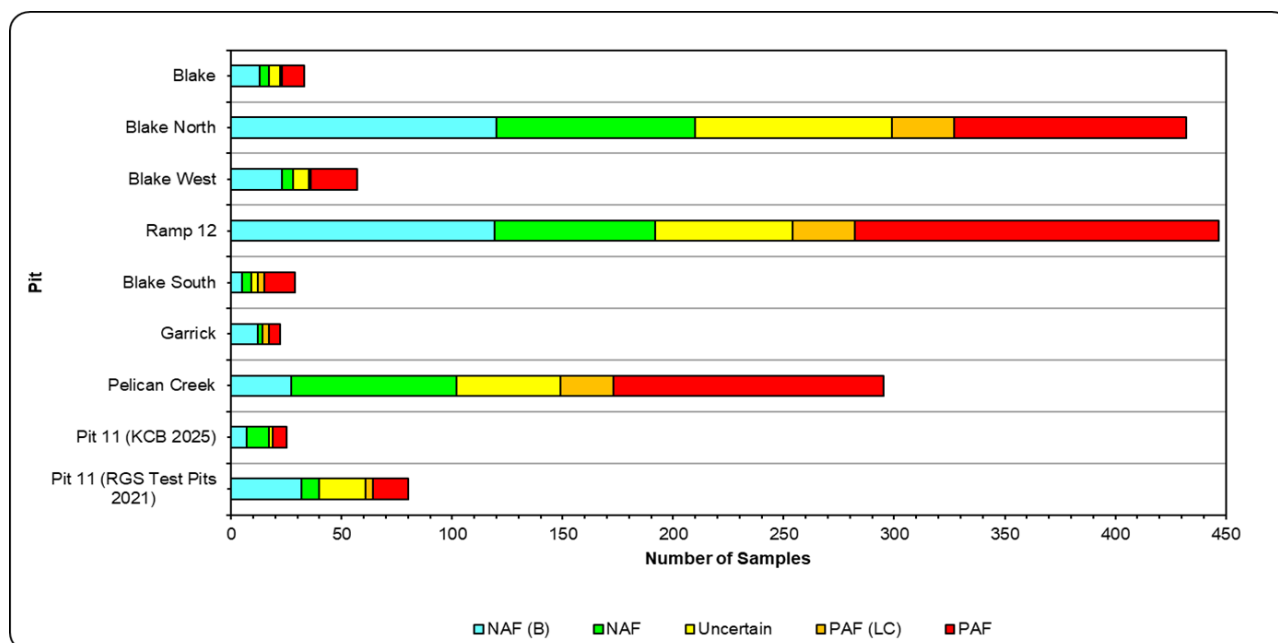
Complete results are provided in **Table B1 (Attachment B)**.

**Table 3-1: Acid classification criteria and sample classifications for Collinsville spoil samples**

| Classification                          | TS/ S <sub>CR</sub> (%) | NAPP (kg H <sub>2</sub> SO <sub>4</sub> /t) | NPR | Number of Samples (%) |
|-----------------------------------------|-------------------------|---------------------------------------------|-----|-----------------------|
| Non-acid Forming (Barren)               | <= 0.1                  | ---                                         | -   | 358 (25.1%)           |
| Non-acid Forming                        | > 0.1                   | < -5                                        | ≥ 2 | 272 (19%)             |
| Uncertain                               | > 0.1                   | > - 5 to ≤ + 5                              | < 2 | 237 (16.6%)           |
| Potentially Acid Forming (Low Capacity) | > 0.1                   | > + 5 to ≤ + 10                             | < 2 | 93 (6.5%)             |
| Potentially Acid Forming                | > 0.1                   | > 10                                        | < 2 | 466 (32.7%)           |
| <b>Total</b>                            |                         |                                             |     | <b>1,426</b>          |

Notes:

1. If total sulfur is ≤ 0.1 %, NAPP and ANC:MPA ratio are not required for material classification as sample is essentially barren of sulfur.
2. Samples that fall outside the stated classification categories based on the criteria provided are classified as Uncertain.


**Figure 3-11: Collinsville spoil acid classification criteria by sampling location.**

### Saline drainage classification

**Table 3-2** tabulates the classification of spoil samples based on the potential for generation of saline drainage. The results indicate that 1,164 spoil samples were classified as either Negligible (55.4%) or Very Low risk (26.2%) of generating saline drainage. Approximately 2.4% spoil samples were classified as Low risk of generating saline drainage, while ~16% samples were classified as having a moderate risk of generating saline drainage. There was generally no specific relationship between the potential for spoil to generate saline drainage and the sampling location (**Figure 3-12**).

**Table 3-2: Sample classification based on risk of generating saline drainage.**

| Classification | TS (%) | EC <sub>1:5</sub> (uS/cm) | Number of Samples (%) |
|----------------|--------|---------------------------|-----------------------|
| Negligible     | < 1    | < 500                     | 790 (55.4%)           |
| Very Low       | < 1    | < 2,000                   | 374 (26.2%)           |
| Low            | < 1    | < 4,000                   | 34 (2.4%)             |
| Moderate       | < 2    | < 10,000                  | 228 (15.9%)           |
| High           | ≥ 2    | ≥ 10,000                  | 0 (0%)                |

\*Note: any samples unclassified according to TS and EC<sub>1:5</sub>, were classified according to EC<sub>1:5</sub> only.

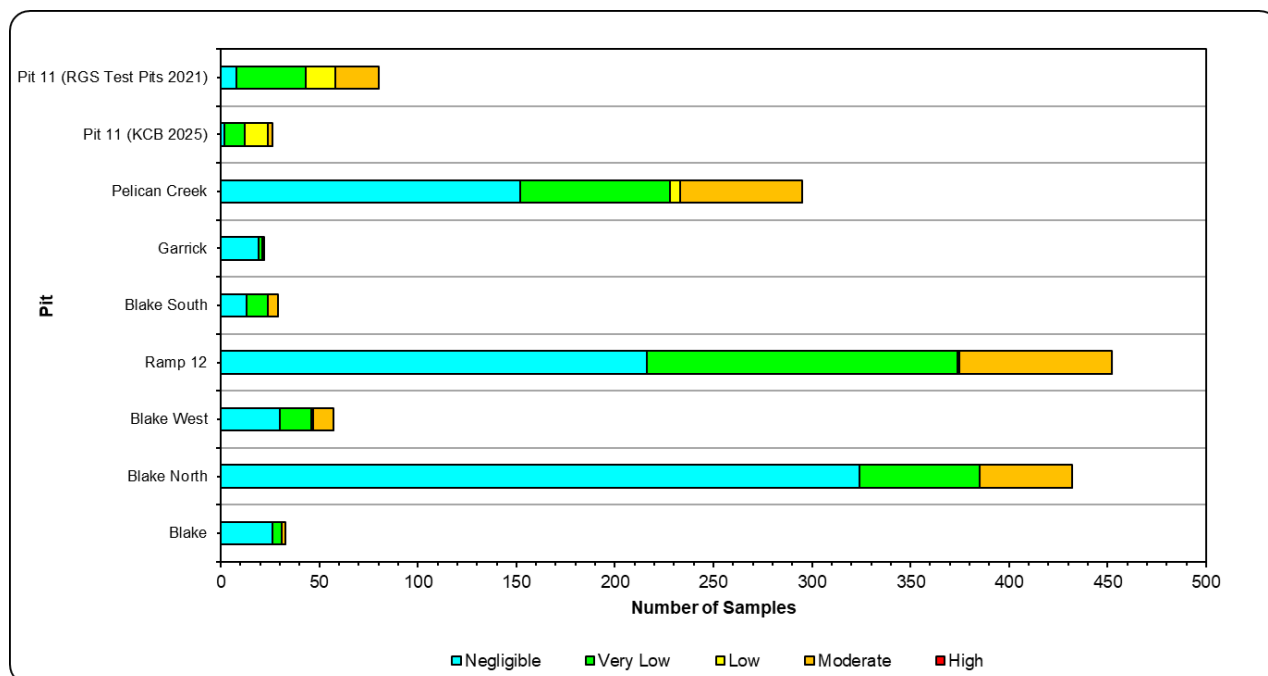


**Figure 3-12: Collinsville spoil saline classification criteria by sampling location.**

### 3.2 Water Quality of Leachates

Select samples were submitted for soluble multi-element analysis using a 1:5 (solid: liquid) water extraction. The results are tabulated and presented against the Australian guidelines for livestock drinking water (ANZG, 2018) in **Attachment B - Table B2** and summarised in **Table 7-2**.

There are no specific regulatory criteria for metal/ metalloid concentrations in leachate from waste materials on mine sites in Queensland. As such, RGS has compared the multi-element results in water extracts from 29 spoil samples (RGS, 2021; KCB, 2025) with Australian guidelines for livestock drinking water (ANZG, 2018). These guidelines are provided for context only and are not intended to be interpreted as “maximum permissible levels” for site water storage or discharge, or to indicate probable water quality likely to occur at a site.

The guideline values presented with the results are intended to be used as a point of reference and do not constitute site-specific trigger values or maximum permissible concentrations of elements. It is also important to note that multi-element solubility concentration results may be skewed by sample preparation. The crushing and/or pulping of samples increases the surface area available for dissolution of soluble elements and the dehydration of samples may lead to the concentration and precipitation of salts which are resolubilised during leach testing.

The results were generally consistent between the two geochemical programs (RGS, 2021 and KCB, 2025). The results indicate that some spoil samples exceed the sulfate (1,000 mg/L) guideline value for Livestock Drinking Water. Similarly, some of the leachate samples were also slightly elevated in aluminium (Al), cobalt (Co), cadmium (Cd), nickel (Ni) and selenium (Se) relative to Livestock Drinking Water guidelines. The higher sulfate and metal(loid) concentrations are generally associated with those spoil samples that were classified as PAF and have a water extract pH < 4.5.

**Table 3-3: Water quality exceedances relative to Livestock Drinking Water Guidelines (ANZG, 2018)**

| Spoil                        | Number of Samples | Analyte   | Water Quality Guideline Exceedances |
|------------------------------|-------------------|-----------|-------------------------------------|
|                              |                   |           | Livestock Drinking Water            |
| Pit 8, Pit 11<br>(RGS, 2021) | 12                | Sulfate   | 7                                   |
|                              |                   | Aluminium | 2                                   |
|                              |                   | Cobalt    | 1                                   |
|                              |                   | Nickel    | 2                                   |
|                              |                   | Cadmium   | 1                                   |
|                              |                   | Selenium  | 1                                   |
| Pit 7, Pit 11<br>(KCB, 2025) | 17                | Sulfate   | 5                                   |
|                              |                   | Aluminium | 3                                   |
|                              |                   | Cobalt    | 1                                   |
|                              |                   | Nickel    | 2                                   |

### 3.3 Kinetic Data

Full KLC results have been tabulated and are presented in **Table B3 – Attachment B**, while the summary plots of the kinetic leach test program are provided in **Attachment C**.

The KLC leachate data for the mine waste samples includes evaluation of acid waste classes from Ramp 12, Blake North and Blake West.

The KLC test data verify that PAF waste samples are highly reactive, produce acidity almost immediately upon exposure to oxidising conditions and continue to generate significant acidity over the 26 week test period (**Figure 3-13**). Concentrations of salinity, major, minor and trace elements are significantly elevated in leachate from the PAF spoil columns (e.g. **Figure 3-14**, **Figure 3-15** and **Figure 3-16**). The reason for the rapid rate of acid production in these spoil materials is likely to be the presence of reactive sulfur (in the form of framboidal pyrite and/or marcasite), low concentrations of ANC in the samples, and/or the fact that the alkaline minerals have a low rate of reactivity (i.e. only a small proportion of the ANC is available to neutralise acid).

PAF (LC) spoil samples produced mildly acid or neutral pH leachate over the 26 and/or 56 week test period, suggesting that whilst some of these spoil samples may also have a rapid rate of acid production, the magnitude of that acidity is significantly smaller than PAF spoil columns. The addition of a small amount of acid consuming mine waste or alkaline material to PAF (LC) spoils is likely to render these materials as NAF and this is demonstrated for overburden/ interburden material from Blake North.

The dissolved major, minor and trace elements in the leachate from the KLC tests included Al, B, Ca, Cd, Co, Cl-, Cu, Fe, F, K, Pb, Mg, Mn, Na, Ni, SO<sub>4</sub>, Se, and Zn. It is noted that the concentrations of Al, Co, Fe, Mn, Ni, SO<sub>4</sub> and Zn are significantly higher in acidic leachate from the PAF spoil samples compared to the PAF (LC) and NAF spoil samples (e.g. **Figure 3-15** and **Figure 3-16**).

The KLC tests have been used to verify the static classification system previously developed by RGS and confirm that PAF spoil samples have a rapid rate of oxidation and will produce a significant load of AMD very quickly if not managed appropriately. In contrast, PAF (LC) and NAF spoil types produce an AMD load that is, in comparison, several orders of magnitude less. Essentially the vast majority of the AMD issues associated with spoil at COL are sourced from PAF mine waste materials.

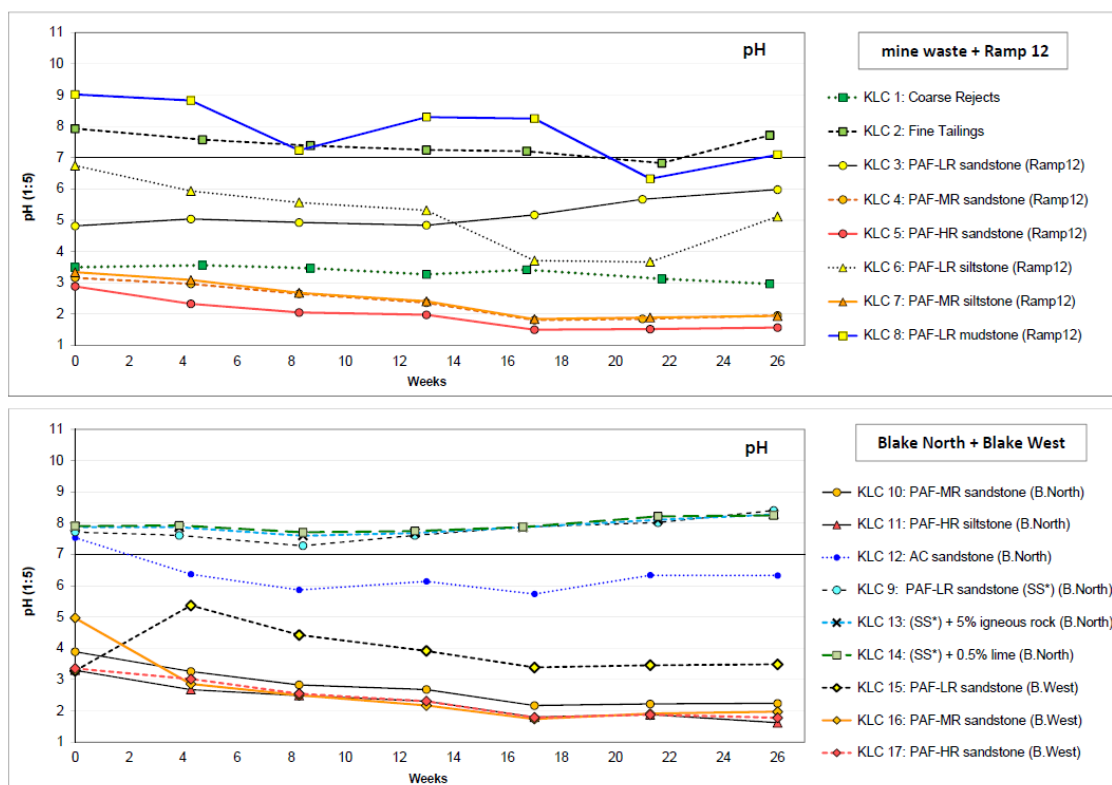


Figure 3-13: Kinetic leach testing results: pH versus time

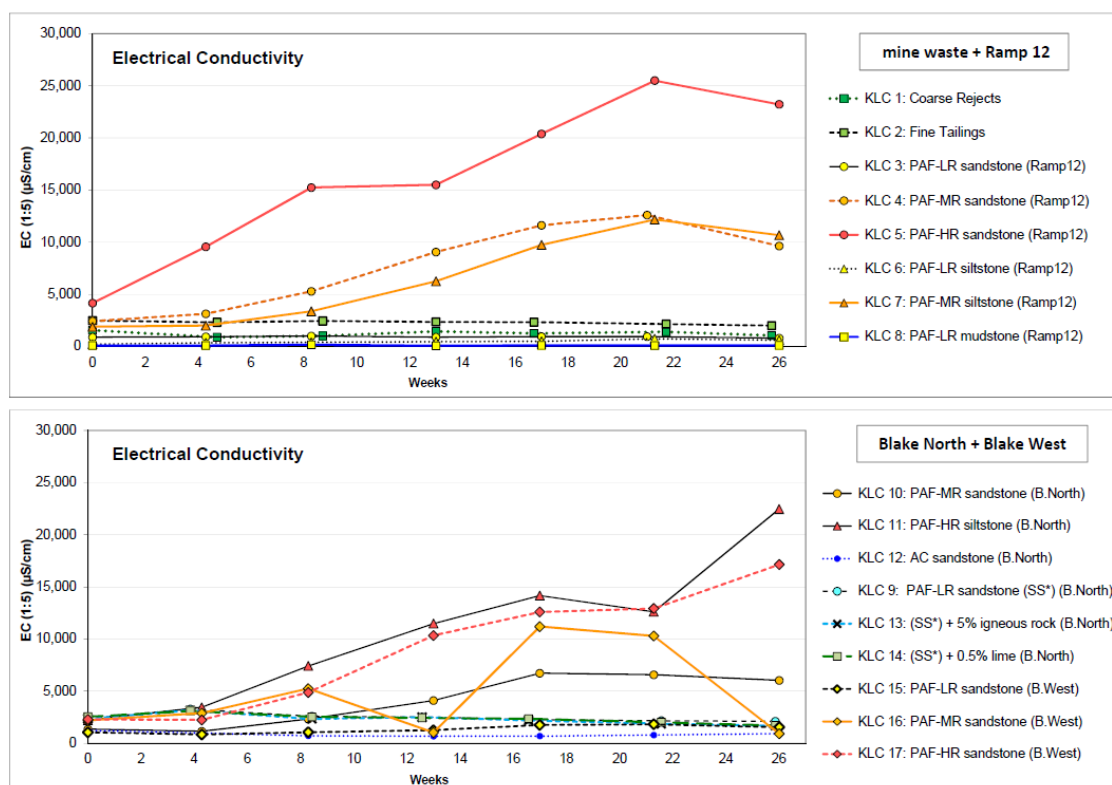


Figure 3-14: Kinetic leach testing results: EC (µS/cm) versus time

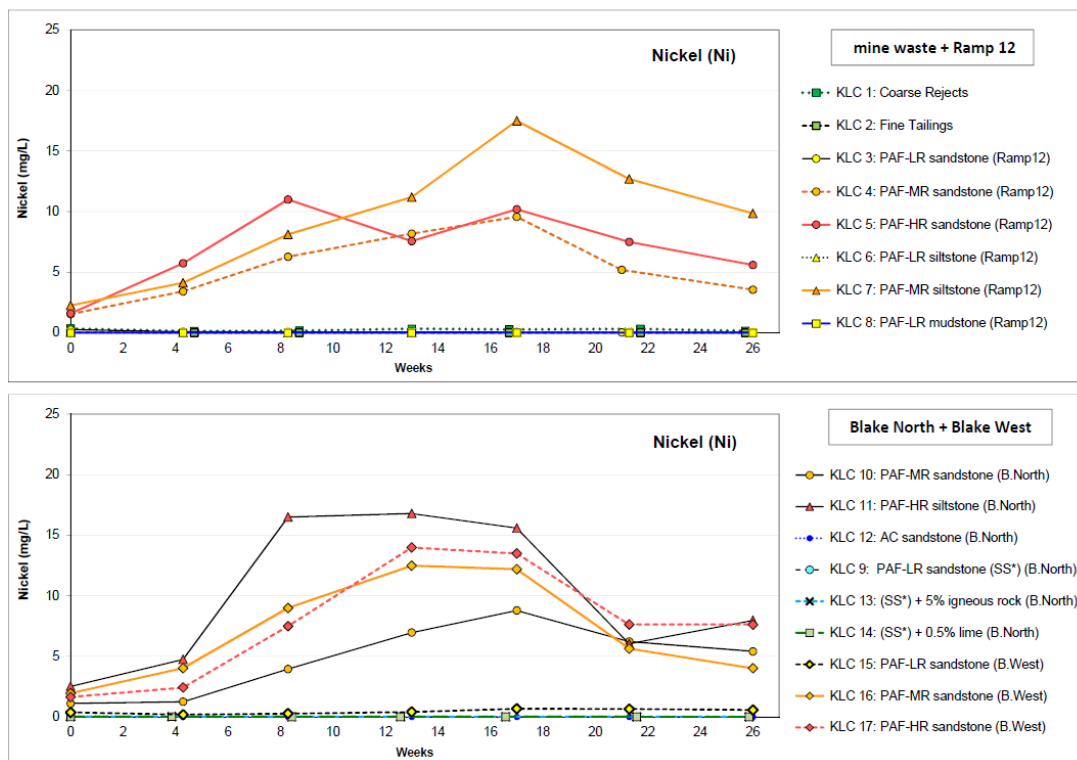


Figure 3-15: Kinetic leach testing results: Nickel versus time

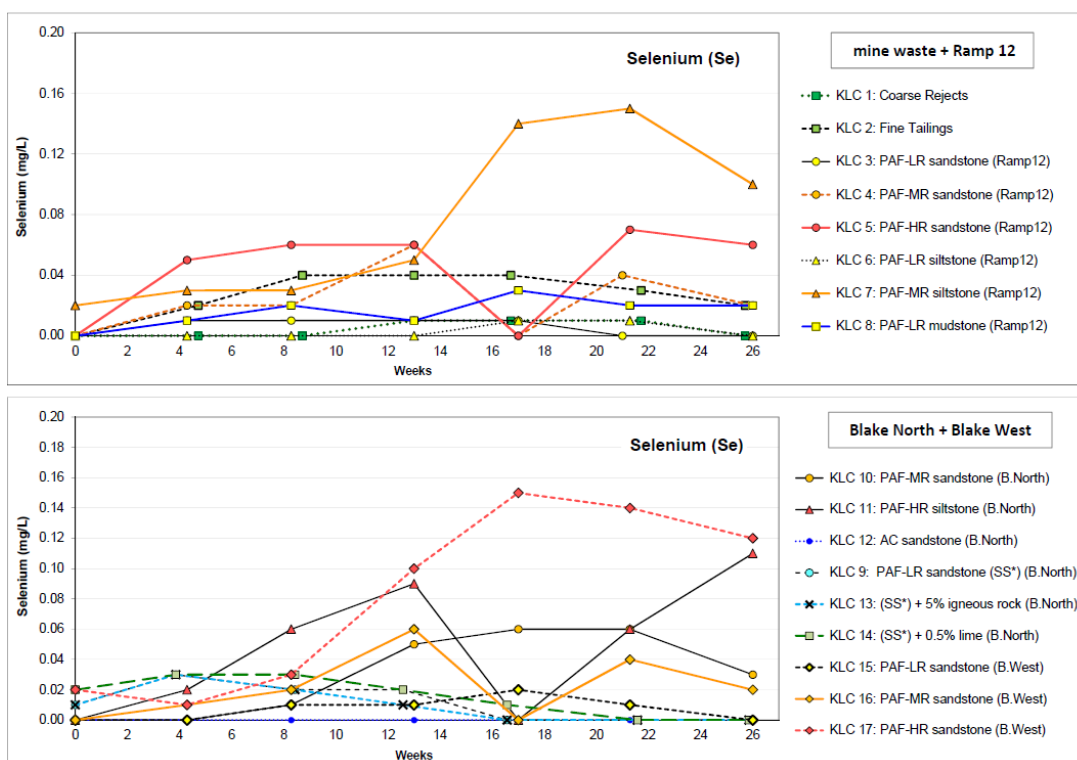


Figure 3-16: Kinetic leach testing results: Selenium versus time

## 4 Conclusions

RGS has completed a review of the available static and kinetic geochemistry information on spoil materials at COL. The objective of the geochemistry review is to identify any potential for AMD, including soluble metal(loid) and salt release from spoil materials associated with COL. The RGS work program will assist with the assumptions and outputs from current modelling work being completed at the mine.

The key conclusion from the review are summarised in the following points:

- Approximately 96% of the 1,426 spoil samples had a  $\text{pH}_{(1:5)} > 4.5$ , with only 3.7% of samples with a  $\text{pH}_{(1:5)} < 4.5$  (acidic). Approximately 41% of spoil sample has a  $\text{pH}_{(1:5)} > 8$  (alkaline).
- The TS content of the 1,426 measured spoil samples from COL ranges from  $<0.01\%$  S to  $16.9\%$  S, with a median and mean values of  $0.45$  and  $0.78\%$  S, respectively. Generally, around 70% of the TS is present as sulfide sulfur.
- The ANC of the 1,426 spoil samples ranges from  $<0.5$  kg  $\text{H}_2\text{SO}_4/\text{t}$  to  $248$  kg  $\text{H}_2\text{SO}_4/\text{t}$ , with a median and mean values of  $7.6$  kg  $\text{H}_2\text{SO}_4/\text{t}$  and  $21$  kg  $\text{H}_2\text{SO}_4/\text{t}$ , respectively.
- The calculated NAPP values for 1,426 spoil samples range from  $-228$  to  $+428$  kg  $\text{H}_2\text{SO}_4/\text{t}$ , with a mean and median of  $+0.8$  kg  $\text{H}_2\text{SO}_4/\text{t}$  and  $+0.21$  kg  $\text{H}_2\text{SO}_4/\text{t}$ , respectively.
- There were 582 (~41%) spoil samples with an NPR  $> 2$  or TS content  $<0.1\%$ , so are considered to represent material with a low to negligible risk of generating additional acidity and generally have a high factor of safety in terms of potential for AMD (COA, 2016; INAP, 2009). Conversely, 150 (~11%) samples fall within the 'possible risk' category with NPR between  $>1-2$ , and 689 (~48%) samples fall within the 'increased risk' category with NPR of  $< 1$ .
- The collective results indicate that approximately 44% of spoil samples have low enough concentrations of TS and CRS to be considered effectively barren of acid generating sulfides or sufficient ANC to classify the samples as posing a low risk of acid generation (i.e. classified as non-acid forming- barren (NAF-B) or NAF). Approximately 39% of samples were classified as potentially acid forming (low capacity) (PAF -LC) or PAF. Around 17% of spoil samples remains classified as 'Uncertain' due to the uncertainty around the availability of ANC or potentially overestimations of MPA (and thus NAPP).
- While some of the spoil samples have a negligible risk of generating additional acid over time, the  $\text{pH}_{(1:5)}$  values suggest initial drainage may be acidic, potentially due to the previous weathering of sulfide materials (which have become depleted) or the presence of organic acids within the materials.
- The metal and metalloid leaching results indicate that some spoil samples exceed Livestock Drinking Water guidelines (ANZG, 2018) for sulfate, aluminium, cobalt, cadmium, nickel and selenium. The higher sulfate and metal(loid) concentrations are generally associated with those spoil samples that were classified as PAF and have a water extract  $\text{pH} < 4.5$ .
- KLC tests verify the static classification system and confirm that PAF spoil samples have a rapid rate of oxidation and will produce a significant load of AMD very quickly if not managed appropriately. In contrast, PAF (LC) and NAF spoil types produce an AMD load that is, in comparison, several orders of magnitude less.

## 5 References

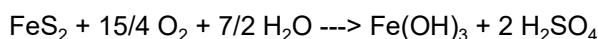
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## 6 Attachments

### Attachment A: Geochemical assessment of mine materials

#### Acid generation and prediction

Acid generation is caused by the exposure of sulfide minerals, most commonly pyrite ( $\text{FeS}_2$ ), to atmospheric oxygen and water. Sulfur assay results are used to calculate the maximum acid that could be generated by the sample by either directly determining the pyritic S content or assuming that all sulfur not present as sulfate occurs as pyrite. Pyrite reacts under oxidising conditions to generate acid according to the following overall reaction:



According to this reaction, the maximum potential acidity (MPA) of a sample containing 1 %S as pyrite would be 30.6 kg  $\text{H}_2\text{SO}_4$ /t. The chemical components of the acid generation process consist of the above sulfide oxidation reaction and acid neutralization, which is mainly provided by inherent carbonates and to a lesser extent silicate materials. The amount and rate of acid generation is determined by the interaction and overall balance of the acid generation and neutralisation components.

#### Determination of pH and Electrical Conductivity

pH and Electrical Conductivity (EC) measured at a ratio of 1:5 sample weight:deionised water volume. This gives an indication of the inherent acidity and salinity of the mine material when initially exposed in an emplacement area.

#### Total Sulfur Content and Maximum Potential Acidity (MPA)

Total sulfur content is determined by the LECO high temperature combustion method. The total sulfur content is then used to calculate the MPA, which is based on the assumption that the entire sulfur content is present as reactive pyrite. Direct determination of the pyritic sulfur content can provide a more accurate estimate of the MPA.

#### Acid Neutralising Capacity (ANC)

By addition of acid to a known weight of sample, then titration with NaOH to determine the amount of residual acid. The ANC measures the capacity of a sample to react with and neutralise acid. The ANC can be further evaluated by slow acid titration to a set endpoint in the Acid Buffering Characteristic Curve (ABCC) test through calculation of the amount of acid consumed and evaluation of the resultant titration curve.

#### Acid Buffering Characteristic Curve (ABCC)

The ABCC (AMIRA, 2002) provides an evaluation of the available ANC in a sample by slow acid titration to a set endpoint, evaluation of the resultant titration curve, and calculation of the amount of acid consumed. Essentially the ABCC results provide an indication of the proportion of the measured ANC that is likely to be readily available to buffer any acid generated through sulfide oxidation.

#### Net Acid Producing Potential (NAPP)

The net acid producing potential (NAPP) is used as an indicator of materials that may be of concern with respect to acid generation. The NAPP calculation represents the balance between the maximum potential acidity (MPA) of a sample, which is derived from the total or sulfide sulfur content, and the acid neutralising capacity (ANC) of the material, which is determined experimentally. By convention, the NAPP result is expressed in units of kg  $\text{H}_2\text{SO}_4$ /t sample. If the capacity of the solids to neutralise acid (ANC) exceeds their capacity to generate acid (MPA), then the NAPP of the material is negative. Conversely, if the MPA exceeds the ANC, the NAPP of the material is positive.

#### Total Organic Carbon/Total Inorganic Carbon/Total Carbon

Total Organic Carbon (TOC), Total Inorganic Carbon (TIC) and Total Carbon (TC) are determined by LECO high temperature combustion method. TOC represents all carbon covalently bonded in organic molecules whereas TIC represents carbonate ( $\text{CO}_3^{2-}$ ), bicarbonate ( $\text{HCO}_3^-$ ) and dissolved carbon dioxide ( $\text{CO}_2$ ) present in sample, with TC representing total carbon in both TOC and TIC forms present in samples.

### **Net Acid Generation (NAG)**

The net acid generation (NAG) test involves the addition of hydrogen peroxide to a sample of mine rock or process residue to oxidise reactive sulfide, then measurement of pH and titration of any net acidity produced by the acid generation and neutralisation reactions occurring in the sample. A significant NAG result (i.e., final  $\text{NAG}_{\text{pH}} < 4.5$ ) indicates that the sample is potentially acid forming (PAF) and the test provides a direct measure of the net amount of acid remaining in the sample after all acid generating and acid neutralising reactions have taken place. A  $\text{NAG}_{\text{pH}} > 4.5$  indicates that the sample is non-acid forming (NAF). The NAG test provides a direct assessment of the potential for a material to produce acid after a period of exposure and weathering and can be used to refine the results of the theoretical NAPP predictions, if required. The NAG test can sometimes be used as a stand-alone test at some hard rock mines, but is recommended that this only be considered after site specific calibration work is carried out. The standard NAG test is generally unsuitable for coal mine waste samples and can produce a false positive result.

### **Assessment of element enrichment and solubility**

In mineralised areas it is common to find a suite of enriched elements that have resulted from natural geological processes. Multi-element scans are carried out to identify any elements that are present in a material (or readily leachable from a material) at concentrations that may be of environmental concern with respect to surface water quality, revegetation, and public health. The samples are generally analysed for the following elements:

Major elements: Al, Ca, Fe, K, Mg, Na, Ti, and S.

Minor elements: Ag, As, B, Ba, Be, Bi, Cd, Ce, Cl, Co, Cr, Cs, Cu, F, Ga, Ge, Hf, Hg, In, La, Li, Mn, Mo, N, Nb, Nd, Ni, P, Pb, Rb, Re, Sb, Sc, Se, Si, Sn, Sr, Ta, Te, Th, Tl, U, V, W, Y, Zn, Zr

The concentration of these elements in samples can be directly compared with relevant state or national environmental and health-based concentration guideline criteria to determine the level of significance. Water extracts are used to determine the immediate element solubilities under the existing sample pH conditions of the sample. The following tests are normally carried out:

#### **Multi-Element Composition of Solids**

Multi-element composition of solid samples determined using a combination of ICP-mass spectroscopy (ICP-MS), ICP-optical emission spectroscopy (OES), and atomic absorption spectrometry (AAS).

#### **Multi-Element Composition of Water Extracts**

Multi-element composition of water extracts from solid samples determined using a combination of ICP-mass spectroscopy (ICP-MS), ICP-optical emission spectroscopy (OES), and atomic absorption spectrometry (AAS).

Under some conditions (e.g., low pH) the solubility and mobility of common environmentally important elements can increase significantly. If element mobility under initial pH conditions is deemed likely and/or subsequent low pH conditions may occur, kinetic leach column test work may be completed on representative samples.

## **Attachment B: Geochemistry results tables**

**Table B1: Acid Base Account Results for Blake Pit from the Collinsville Project**

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam           | Pit   | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5)<br>(µS/cm) | Total S<br>(%) | S <sub>Ca</sub><br>(%) | Scr Proporti<br>on<br>(%) | ANC <sup>1</sup><br>(%) | MPA <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup><br>(%) | ANC: MPA<br>Ratio | TOC<br>(% C) | NaOH <sub>eq</sub><br>(% C) | NAG Capacity (pH 4.5)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>3</sup>      | Saline Drainage Classification (Using<br>E:C (1:5)) |
|------------|------------|--------------|---------------|------------------|------------------|---------------------|-------|------------------------|-------|-------|----------|----------------|----------|---------------------|----------------|------------------------|---------------------------|-------------------------|------------------------------------------------------------|--------------------------|-------------------|--------------|-----------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------|
|            |            |              |               |                  |                  |                     |       |                        | (m)   | (M)   |          |                |          |                     |                |                        |                           |                         |                                                            |                          |                   |              |                             |                                                                 |                                                               |                                         |                                                     |
| 1          | 11/08/2014 | EB1441574056 | C4520         | 53333            | SS               | -                   | Blake | Overburden             | 7.4   | 7.7   | 0.3      | 5E-08          | 7.30     | 135                 | 0.22           | 0.006                  | 3%                        | 0.3                     | 0.2                                                        | -0.1                     | 1.4               | 1.6          | 4.7                         | <0.1                                                            | 8.5                                                           | Non-Acid Forming (Barren)               | Negligible                                          |
| 2          | 11/08/2014 | EB1441574057 | C4520         | 53334            | MS               | -                   | Blake | Overburden             | 10.1  | 10.4  | 0.3      | 6.3E-07        | 6.20     | 599                 | 1.20           | 0.999                  | 83%                       | 10.0                    | 30.6                                                       | 20.6                     | 0.3               | 4.3          | 3.0                         | 21.8                                                            | 33.2                                                          | Potentially Acid Forming                | Moderate                                            |
| 3          | 11/08/2014 | EB1441574058 | C4520         | 53335            | SS               | -                   | Blake | Overburden             | 14.1  | 14.4  | 0.3      | 2.5E-07        | 6.60     | 579                 | 0.63           | 0.489                  | 78%                       | 2.4                     | 15.0                                                       | 12.6                     | 0.2               | 0.4          | 3.0                         | 10.2                                                            | 15.1                                                          | Potentially Acid Forming                | Very Low                                            |
| 4          | 11/08/2014 | EB1441574059 | C4520         | 53336            | SS               | Reid                | Blake | Roof                   | 17.8  | 18.1  | 0.3      | 7.9E-08        | 7.10     | 463                 | 0.23           | 0.160                  | 70%                       | 2.8                     | 4.0                                                        | 2.1                      | 0.6               | 0.4          | 4.4                         | <0.1                                                            | 5.2                                                           | Uncertain                               | Negligible                                          |
| 5          | 11/08/2014 | EB1441574060 | C4520         | 53337            | SS               | Reid/Potts          | Blake | Interburden            | 22.4  | 22.6  | 0.2      | 5E-09          | 8.30     | 367                 | 0.07           | 0.052                  | 74%                       | 55.3                    | 1.6                                                        | -53.7                    | 34.7              | 0.2          | 10.2                        | <0.1                                                            | -50.0                                                         | Non-Acid Forming (Barren)               | Negligible                                          |
| 6          | 11/08/2014 | EB1441574061 | C4520         | 53338            | SS               | Reid/Potts          | Blake | Interburden            | 27.5  | 27.9  | 0.3      | 4E-09          | 8.40     | 354                 | 0.06           |                        | 0%                        | 9.0                     | 1.8                                                        | -7.2                     | 4.9               |              |                             |                                                                 |                                                               | Non-Acid Forming (Barren)               | Negligible                                          |
| 7          | 11/08/2014 | EB1441574062 | C4520         | 53339            | SS               | Potts               | Blake | Roof                   | 30.2  | 30.5  | 0.3      | 1.6E-05        | 4.80     | 1,630               | 3.60           |                        | 0%                        | 0.3                     | 110.3                                                      | 110.0                    | 0.0               |              |                             |                                                                 |                                                               | Potentially Acid Forming                | Very Low                                            |
| 8          | 11/08/2014 | EB1441574063 | C4520         | 53340            | SL, SS           | Potts               | Blake | Floor                  | 33.1  | 33.4  | 0.3      | 4E-07          | 6.40     | 512                 | 0.66           | 0.550                  | 83%                       | 1.9                     | 16.8                                                       | 14.9                     | 0.1               | 1.1          | 2.8                         | 11.3                                                            | 16.9                                                          | Potentially Acid Forming                | Very Low                                            |
| 9          | 11/08/2014 | EB1441574064 | C4520         | 53341            | SS               | Potts/Little Bowen  | Blake | Interburden            | 38.8  | 39.1  | 0.3      | 6.3E-08        | 7.20     | 283                 | 0.25           | 0.205                  | 82%                       | 4.2                     | 6.3                                                        | 2.1                      | 0.7               | 0.2          | 4.1                         | 0.6                                                             | 5.4                                                           | Uncertain                               | Negligible                                          |
| 10         | 11/08/2014 | EB1441574065 | C4520         | 53342            | SS               | Little Bowen        | Blake | Roof                   | 43.0  | 43.2  | 0.3      | 7.9E-09        | 8.10     | 245                 | 0.15           |                        | 0%                        | 2.9                     | 4.6                                                        | 1.7                      | 0.6               |              |                             |                                                                 |                                                               | Uncertain                               | Negligible                                          |
| 11         | 11/08/2014 | EB1441574066 | C4520         | 53343            | SS               | Bowen               | Blake | Roof                   | 45.1  | 45.4  | 0.2      | 2E-08          | 7.70     | 173                 | 1.10           |                        | 0%                        | 4.0                     | 33.7                                                       | 29.7                     | 0.1               |              |                             |                                                                 |                                                               | Potentially Acid Forming                | Moderate                                            |
| 12         | 11/08/2014 | EB1441574067 | C4520         | 53344            | IG               | Bowen (upper)       | Blake | Floor                  | 46.7  | 47.0  | 0.3      | 1.3E-09        | 8.90     | 262                 | 0.35           | 0.260                  | 74%                       | 52.9                    | 8.0                                                        | -44.9                    | 6.8               | 0.1          | 10.8                        | <0.1                                                            | -50.0                                                         | Non-Acid Forming                        | Negligible                                          |
| 13         | 11/08/2014 | EB1441574068 | C4520         | 53345            | IG               | (Bowen upper/lower) | Blake | Interburden            | 51.8  | 52.1  | 0.3      | 1E-09          | 9.00     | 266                 | 0.06           |                        | 0%                        | 44.8                    | 1.9                                                        | -43.0                    | 24.4              |              |                             |                                                                 |                                                               | Non-Acid Forming (Barren)               | Negligible                                          |
| 14         | 11/08/2014 | EB1441574069 | C4520         | 53346            | IG               | (Bowen upper/lower) | Blake | Interburden            | 57.4  | 57.7  | 0.3      | 6.3E-10        | 9.20     | 253                 | 0.04           |                        | 0%                        | 54.2                    | 1.2                                                        | -53.0                    | 44.2              |              |                             |                                                                 |                                                               | Non-Acid Forming (Barren)               | Negligible                                          |
| 15         | 11/08/2014 | EB1441574070 | C4520         | 53347            | IG               | (Bowen upper/lower) | Blake | Interburden            | 63.0  | 63.3  | 0.3      | 6.3E-10        | 9.20     | 229                 | 0.02           | 0.013                  | 65%                       | 48.6                    | 0.4                                                        | -48.2                    | 122.1             | <0.02        | 9.1                         | <0.1                                                            | -50                                                           | Non-Acid Forming (Barren)               | Negligible                                          |
| 16         | 11/08/2014 | EB1441574071 | C4520         | 53348            | IG               | (Bowen upper/lower) | Blake | Interburden            | 70.2  | 70.5  | 0.4      | 5E-10          | 9.30     | 234                 | 0.04           |                        | 0%                        | 41.7                    | 1.2                                                        | -40.5                    | 34.0              |              |                             |                                                                 |                                                               | Non-Acid Forming                        | Negligible                                          |
| 17         | 11/08/2014 | EB1441574072 | C4520         | 53349            | IG               | (Bowen upper/lower) | Blake | Interburden            | 79.3  | 79.6  | 0.3      | 5E-10          | 9.30     | 212                 | 0.20           |                        | 0%                        | 31.6                    | 6.1                                                        | -25.5                    | 5.2               |              |                             |                                                                 |                                                               | Non-Acid Forming                        | Negligible                                          |
| 18         | 11/08/2014 | EB1441574073 | C4520         | 53350            | IG               | Bowen (lower)       | Blake | Roof                   | 84.3  | 84.5  | 0.3      | 4E-09          | 8.40     | 245                 | 0.49           | 0.417                  | 85%                       | 75.6                    | 12.8                                                       | -62.8                    | 5.9               | <0.02        | 10.2                        | <0.1                                                            | -50.0                                                         | Non-Acid Forming                        | Negligible                                          |
| 19         | 11/08/2014 | EB1441574074 | C4520         | 53351            | SS               | Bowen (lower)       | Blake | Floor                  | 88.8  | 89.1  | 0.3      | 1.3E-07        | 6.90     | 176                 | 0.36           | 0.270                  | 75%                       | 1.4                     | 8.3                                                        | 6.8                      | 0.2               | 1.1          | 3.8                         | 2.9                                                             | 10.5                                                          | Potentially Acid Forming - Low Capacity | Negligible                                          |
| 20         | 11/08/2014 | EB1441574075 | C4520         | 53352            | SL               | - end of hole -     | Blake | Basement               | 94.4  | 94.6  | 0.2      | 2.5E-08        | 7.60     | 350                 | 0.31           | 0.226                  | 73%                       | 3.1                     | 6.9                                                        | 3.8                      | 0.4               | 1.6          | 4.0                         | 1.7                                                             | 9.5                                                           | Uncertain                               | Negligible                                          |
| 21         | 11/08/2014 | EB1441574076 | C4520         | 53353            | SS               | - end of hole -     | Blake | Basement               | 100.1 | 100.4 | 0.3      | 1.3E-06        | 5.90     | 916                 | 0.55           | 0.365                  | 86%                       | 1.0                     | 11.2                                                       | 10.2                     | 0.1               | 0.6          | 3.2                         | 6.4                                                             | 13.1                                                          | Potentially Acid Forming                | Very Low                                            |
| 22         | 23/08/2014 | EB1442953001 | C4523         | 53354            | SS               | Bowen               | Blake | Floor                  | 11.4  | 11.6  | 0.3      | 2.5E-05        | 4.60     | 424                 | 0.88           | 0.738                  | 84%                       | 0.3                     | 22.6                                                       | 22.4                     | 0.0               | 0.9          | 2.7                         | 23.8                                                            | 26.6                                                          | Potentially Acid Forming                | Very Low                                            |
| 23         | 23/08/2014 | EB1442953002 | C4523         | 53355            | SS               | - end of hole -     | Blake | Basement               | 16.0  | 16.3  | 0.3      | 2.5E-05        | 4.60     | 511                 | 0.99           | 0.574                  | 58%                       | 0.3                     | 17.6                                                       | 17.3                     | 0.0               | 1.5          | 2.6                         | 28.7                                                            | 33.4                                                          | Potentially Acid Forming                | Very Low                                            |
| 24         | 23/08/2014 | EB1442953003 | C4523         | 53356            | SS               | - end of hole -     | Blake | Basement               | 21.1  | 21.3  | 0.3      | 2.5E-06        | 5.60     | 293                 | 0.90           | 0.400                  | 44%                       | 1.3                     | 12.3                                                       | 11.0                     | 0.1               | 0.8          | 2.7                         | 25.8                                                            | 30.3                                                          | Potentially Acid Forming                | Negligible                                          |
| 25         | 23/08/2014 | EB1442953004 | C4523         | 53357            | BR               | - end of hole -     | Blake | Basement               | 25.3  | 25.6  | 0.3      | 1.3E-05        | 4.90     | 451                 | 0.47           |                        | 0%                        | 0.8                     | 14.4                                                       | 13.6                     | 0.1               |              |                             |                                                                 |                                                               | Potentially Acid Forming                | Negligible                                          |
| 26         | 23/08/2014 | EB1442953005 | C4523         | 53358            | IG               | - end of hole -     | Blake | Basement               | 29.5  | 29.8  | 0.2      | 1E-09          | 9.00     | 140                 | 0.02           |                        | 0%                        | 34.3                    | 0.6                                                        | -33.7                    | 56.6              |              |                             |                                                                 |                                                               | Non-Acid Forming (Barren)               | Negligible                                          |
| 27         | 23/08/2014 | EB1442953006 | C4523         | 53359            | IG               | - end of hole -     | Blake | Basement               | 34.0  | 34.2  | 0.2      | 1E-09          | 9.00     | 135                 | 0.03           | 0.028                  | 87%                       | 42.2                    | 0.8                                                        | -41.4                    | 53.0              | <0.02        | 10.8                        | <0.1                                                            | -50.0                                                         | Non-Acid Forming (Barren)               | Negligible                                          |
| 28         | 23/08/2014 | EB1442953007 | C4523         | 53360            | IG               | - end of hole -     | Blake | Basement               | 38.8  | 39.1  | 0.3      | 7.9E-10        | 9.10     | 116                 | 0.03           |                        | 0%                        | 42.2                    | 0.9                                                        | -41.3                    | 45.9              |              |                             |                                                                 |                                                               | Non-Acid Forming (Barren)               | Negligible                                          |
| 29         | 23/08/2014 | EB1442953008 | C4523         | 53361            | SS               | - end of hole -     | Blake | Basement               | 44.5  | 44.9  | 0.3      | 1E-09          | 9.00     | 70                  | 0.02           |                        | 0%                        | 0.7                     | 0.6                                                        | -0.1                     | 1.1               |              |                             |                                                                 |                                                               | Non-Acid Forming (Barren)               | Negligible                                          |
| 30         | 23/08/2014 | EB1442953009 | C4523         | 53362            | IG               | - end of hole -     | Blake | Basement               | 50.1  | 50.3  | 0.2      | 1E-09          | 9.00     | 123                 | 0.01           |                        | 0%                        | 12.2                    | 0.2                                                        | -12.0                    | 79.7              |              |                             |                                                                 |                                                               | Non-Acid Forming (Barren)               | Negligible                                          |
| 31         | 23/08/2014 | EB1442953010 | C4523         | 53363            | IG               | - end of hole -     | Blake | Basement               | 64.7  | 65.0  | 0.3      | 7.9E-10        | 9.10     | 121                 | 0.04           | 0.017                  | 43%                       | 137.0                   | 0.5                                                        | -136.5                   | 263.1             | <0.02        | 11.0                        | <0.1                                                            | -50.0                                                         | Non-Acid Forming (Barren)               | Negligible                                          |
| 32         | 23/08/2014 | EB1442953011 | C4523         | 53364            | IG               | - end of hole -     | Blake | Basement               | 60.4  | 60.7  | 0.3      | 7.9E-10        | 9.10     | 139                 | 0.26           | 0.235                  | 90%                       | 26.1                    | 7.2                                                        | -18.9                    | 3.6               | <0.02        | 8.5                         | <0.1                                                            | -50.0                                                         | Non-Acid Forming                        | Negligible                                          |
| 33         | 23/08/2014 | EB1442953012 | C4523         | 53365            | SS               | - end of hole -     | Blake | Basement               | 65.2  | 65.6  | 0.4      | 5E-09          | 8.30     | 128                 | 0.12           |                        | 0%                        | 1.8                     | 3.7                                                        | 1.9                      | 0.5               |              |                             |                                                                 |                                                               | Uncertain                               | Negligible                                          |

Notes:  
1. S<sub>Ca</sub> = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.  
2. Sample classification criteria detail provided in report text.  
\* Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used.

**Table B1: Acid Base Account Results for Blake North Pit from the Collinsville Project**

| Sample No. | Date       | ALS Lab ID  | Drill Hole ID | Client Sample ID | Sample Lithology | Coat Seam               | PR          | Sample Location in Pit | From (m) | To (m) | Interval (M) | H <sup>+</sup> pH (1:5) | EC (1:5) (µS/cm) | Total S (%) | S <sub>Ca</sub> (%) | Br Sop on (%) | ANCa <sup>2</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | MPPA <sup>2</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | ANC: MPA Ratio | TOC (%) | NAG <sub>µm</sub> | NAG Capacity (pH 4.5) (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7) (kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>a</sup> | Sample Classification <sup>b</sup> | Saline Drainage Classification (Using E-C (1:5)) |                           |            |            |
|------------|------------|-------------|---------------|------------------|------------------|-------------------------|-------------|------------------------|----------|--------|--------------|-------------------------|------------------|-------------|---------------------|---------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------|---------|-------------------|--------------------------------------------------------------|------------------------------------------------------------|------------------------------------|------------------------------------|--------------------------------------------------|---------------------------|------------|------------|
| 34         | 10/08/2014 | EB141157001 | R4527         | R4527 001        | SS               | -                       | Blake North | Overburden             | 0.0      | 1.0    | 1.0          | 3.2E-09                 | 8.50             | 439         | 0.02                | 0.003         | 13%                                                      | 45.8                                                     | 0.1                                                      | -46.7          | 611.3   | 0.2               | 4.7                                                          | 10.7                                                       | <0.1                               | -50.0                              | Non-Acid Forming (Barren)                        | Negligible                | Negligible |            |
| 35         | 10/08/2014 | EB141157002 | R4527         | R4527 002        | SS               | -                       | Blake North | Overburden             | 1.0      | 2.0    | 1.0          | 7.9E-10                 | 9.10             | 387         | 0.02                | 0%            | 14.0                                                     | 0.6                                                      | -13.4                                                    | 22.9           | 3.0     | 3.0               |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       | Negligible                |            |            |
| 36         | 10/08/2014 | EB141157003 | R4527         | R4527 003        | SS               | -                       | Blake North | Overburden             | 2.0      | 3.0    | 1.0          | 1E-09                   | 9.00             | 347         | 0.01                | 0%            | 7.9                                                      | 0.2                                                      | -7.7                                                     | 35.5           | 3.0     | 3.0               |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       | Negligible                |            |            |
| 37         | 10/08/2014 | EB141157004 | R4527         | R4527 004        | SS               | -                       | Blake North | Overburden             | 3.0      | 4.0    | 1.0          | 1E-09                   | 9.07             | 306         | 0.02                | 0%            | 10.7                                                     | 0.6                                                      | -10.7                                                    | 36.0           | 4.4     | 4.4               |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       | Negligible                |            |            |
| 38         | 10/08/2014 | EB141157005 | R4527         | R4527 005        | SS               | -                       | Blake North | Overburden             | 4.0      | 5.0    | 1.0          | 1E-09                   | 9.00             | 461         | 0.02                | 0.003         | 13%                                                      | 29.8                                                     | 0.1                                                      | -29.7          | 385.2   | 6.1               | 10.2                                                         | 9.2                                                        | <0.1                               | -50                                | Non-Acid Forming (Barren)                        | Negligible                | Negligible |            |
| 39         | 10/08/2014 | EB141157006 | R4527         | R4527 006        | SS               | -                       | Blake North | Overburden             | 5.0      | 6.0    | 1.0          | 1E-09                   | 9.00             | 273         | 0.02                | 0%            | 4.4                                                      | 0.6                                                      | -3.8                                                     | 7.2            | 10.2    | 10.2              |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       | Negligible                |            |            |
| 40         | 10/08/2014 | EB141157007 | R4527         | R4527 007        | SS               | -                       | Blake North | Overburden             | 6.0      | 7.0    | 1.0          | 1E-09                   | 8.30             | 221         | 0.03                | 0%            | 9.3                                                      | 0.9                                                      | -8.4                                                     | 10.1           | 10.2    | 10.2              |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       | Negligible                |            |            |
| 41         | 10/08/2014 | EB141157008 | R4527         | R4527 008        | SS               | -                       | Blake North | Overburden             | 7.0      | 8.0    | 1.0          | 1E-09                   | 8.00             | 302         | 0.21                | 0.139         | 0%                                                       | 10.8                                                     | 0.0                                                      | -10.8          | 2.1     | 0.4               | 2.1                                                          | 0.4                                                        | 2.1                                | <0.1                               | 1.1                                              | Non-Acid Forming (Barren) | Negligible | Negligible |
| 42         | 10/08/2014 | EB141157009 | R4527         | R4527 009        | SS               | -                       | Blake North | Overburden             | 8.0      | 9.0    | 1.0          | 2E-09                   | 8.70             | 485         | 0.32                | 0%            | 4.3                                                      | 9.8                                                      | 9.5                                                      | 0.4            | 4.1     | 4.1               | 4.1                                                          |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Negligible                | Negligible |            |
| 43         | 10/08/2014 | EB141157010 | R4527         | R4527 010        | SS               | -                       | Blake North | Overburden             | 9.0      | 10.0   | 1.0          | 1E-08                   | 8.00             | 779         | 0.76                | 0%            | 13.2                                                     | 23.3                                                     | 10.1                                                     | 0.6            |         |                   |                                                              |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Very Low                  | Negligible |            |
| 44         | 10/08/2014 | EB141157011 | R4527         | R4527 011        | SS               | -                       | Blake North | Overburden             | 10.0     | 11.0   | 1.0          | 3.2E-09                 | 8.50             | 453         | 0.28                | 0%            | 28.8                                                     | 8.6                                                      | -29.2                                                    | 3.4            |         |                   |                                                              |                                                            |                                    |                                    | Non-Acid Forming                                 | Negligible                | Negligible |            |
| 45         | 10/08/2014 | EB141157012 | R4527         | R4527 012        | SS               | -                       | Blake North | Overburden             | 11.0     | 12.0   | 1.0          | 3.2E-09                 | 8.60             | 459         | 0.27                | 0%            | 28.8                                                     | 8.6                                                      | -29.2                                                    | 3.4            |         |                   |                                                              |                                                            |                                    |                                    | Non-Acid Forming                                 | Negligible                | Negligible |            |
| 46         | 10/08/2014 | EB141157013 | R4527         | R4527 013        | SS               | -                       | Blake North | Overburden             | 12.0     | 13.0   | 1.0          | 6.3E-09                 | 8.20             | 423         | 0.57                | 0%            | 9.4                                                      | 17.5                                                     | 8.1                                                      | 0.5            |         |                   |                                                              |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Negligible                | Negligible |            |
| 47         | 10/08/2014 | EB141157014 | R4527         | R4527 014        | SS               | -                       | Blake North | Overburden             | 13.0     | 14.0   | 1.0          | 1.3E-08                 | 7.90             | 515         | 0.83                | 0%            | 10.7                                                     | 25.4                                                     | 14.7                                                     | 0.4            |         |                   |                                                              |                                                            |                                    |                                    | Potentially Acid Forming                         | Very Low                  | Negligible |            |
| 48         | 10/08/2014 | EB141157015 | R4527         | R4527 015        | SS               | -                       | Blake North | Overburden             | 14.0     | 15.0   | 1.0          | 1.3E-08                 | 7.90             | 368         | 0.97                | 0%            | 17.7                                                     | 26                                                       | 22.0                                                     | 0.3            | 9.1     | 9.1               | 9.1                                                          |                                                            |                                    |                                    | Potentially Acid Forming                         | Negligible                | Negligible |            |
| 49         | 10/08/2014 | EB141157016 | R4527         | R4527 016        | SS               | -                       | Blake North | Overburden             | 15.0     | 16.0   | 1.0          | 2.5E-09                 | 8.60             | 439         | 0.34                | 0%            | 52.5                                                     | 9.4                                                      | -52.5                                                    | 42.1           |         |                   |                                                              |                                                            |                                    |                                    | Non-Acid Forming                                 | Negligible                | Negligible |            |
| 50         | 10/08/2014 | EB141157017 | R4527         | R4527 017        | SS               | -                       | Blake North | Overburden             | 16.0     | 17.0   | 1.0          | 2.5E-09                 | 8.60             | 489         | 0.47                | 0%            | 15.5                                                     | 14.2                                                     | -1.1                                                     | 1.1            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 51         | 10/08/2014 | EB141157018 | R4527         | R4527 018        | SL               | -                       | Blake North | Overburden             | 17.0     | 18.0   | 1.0          | 1.6E-08                 | 7.80             | 790         | 1.30                | 0%            | 8.8                                                      | 39.9                                                     | 31.0                                                     | 0.2            | 10.2    | 10.2              | 10.2                                                         |                                                            |                                    |                                    | Potentially Acid Forming                         | Moderate                  | Negligible |            |
| 52         | 10/08/2014 | EB141157019 | R4527         | R4527 019        | SL               | -                       | Blake North | Overburden             | 18.0     | 19.0   | 1.0          | 2E-08                   | 7.70             | 814         | 1.04                | 0%            | 11.9                                                     | 31.9                                                     | 24.0                                                     | 0.4            | 3.8     | 3.8               | 3.8                                                          |                                                            |                                    |                                    | Potentially Acid Forming                         | Moderate                  | Negligible |            |
| 53         | 10/08/2014 | EB141157020 | R4527         | R4527 020        | SL               | -                       | Blake North | Overburden             | 19.0     | 20.0   | 1.0          | 4E-08                   | 7.40             | 706         | 1.03                | 0%            | 8.6                                                      | 31.5                                                     | 24.9                                                     | 0.2            | 4.0     | 4.0               | 4.0                                                          |                                                            |                                    |                                    | Potentially Acid Forming                         | Moderate                  | Negligible |            |
| 54         | 10/08/2014 | EB141157021 | R4527         | R4527 021        | SL               | -                       | Blake North | Overburden             | 20.0     | 21.0   | 1.0          | 5E-08                   | 7.30             | 658         | 1.15                | 0%            | 11.4                                                     | 35.2                                                     | 23.8                                                     | 0.3            | 3.2     | 3.2               | 3.2                                                          |                                                            |                                    |                                    | Potentially Acid Forming                         | Moderate                  | Negligible |            |
| 55         | 10/08/2014 | EB141157022 | R4527         | R4527 022        | SL               | -                       | Blake North | Overburden             | 21.0     | 22.0   | 1.0          | 2E-07                   | 6.70             | 640         | 2.29                | 1.730         | 76%                                                      | 4.6                                                      | 53.0                                                     | 48.4           | 0.1     | 5.3               | 2.7                                                          | 2.5                                                        | 48.7                               | 62.8                               |                                                  | Potentially Acid Forming  | Negligible | Negligible |
| 56         | 10/08/2014 | EB141157023 | R4527         | R4527 023        | MS               | Scott-Denison           | Blake North | Overburden             | 22.0     | 23.0   | 1.0          | 7E-08                   | 7.10             | 198         | 0.60                | 0%            | 10.7                                                     | 19.8                                                     | 10.1                                                     | 0.1            | 2.6     | 2.6               | 2.6                                                          |                                                            |                                    |                                    | Potentially Acid Forming                         | Negligible                | Negligible |            |
| 57         | 10/08/2014 | EB141157024 | R4527         | R4527 024        | MS               | Scott-Denison           | Blake North | Roof                   | 23.0     | 24.0   | 1.0          | 4E-08                   | 7.40             | 198         | 0.59                | 0%            | 15.5                                                     | 18.1                                                     | 12.6                                                     | 0.3            | 2.7     | 2.7               | 2.7                                                          |                                                            |                                    |                                    | Potentially Acid Forming                         | Negligible                | Negligible |            |
| 58         | 10/08/2014 | EB141157025 | R4527         | R4527 025        | MS CO            | Scott-Denison           | Blake North | Roof                   | 24.0     | 25.0   | 1.0          | 1E-07                   | 7.00             | 140         | 0.52                | 0%            | 7.9                                                      | 15.9                                                     | 8.0                                                      | 0.5            |         |                   |                                                              |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Negligible                | Negligible |            |
| 59         | 10/08/2014 | EB141157026 | R4527         | R4527 026        | MS CO            | Scott-Denison           | Blake North | Parting                | 25.0     | 26.0   | 1.0          | 7.9E-08                 | 7.10             | 103         | 0.63                | 0%            | 8.2                                                      | 19.3                                                     | 11.1                                                     | 0.4            |         |                   |                                                              |                                                            |                                    |                                    | Potentially Acid Forming                         | Negligible                | Negligible |            |
| 60         | 10/08/2014 | EB141157027 | R4527         | R4527 027        | CO, MS           | Scott-Denison           | Blake North | Floor                  | 26.0     | 27.0   | 1.0          | 6.3E-08                 | 7.20             | 120         | 0.51                | 0%            | 6.0                                                      | 11.3                                                     | 5.3                                                      | 0.5            | 10.6    | 10.6              | 10.6                                                         |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Negligible                | Negligible |            |
| 61         | 10/08/2014 | EB141157028 | R4527         | R4527 028        | MS               | Scott-Denison           | Blake North | MS                     | 27.0     | 28.0   | 1.0          | 6.3E-08                 | 7.20             | 100         | 0.21                | 0%            | 7.6                                                      | 8.4                                                      | 1.2                                                      | 0.2            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 62         | 10/08/2014 | EB141157029 | R4527         | R4527 029        | MS               | (Scott-Denison / Potls) | Blake North | Interburden            | 28.0     | 29.0   | 1.0          | 6.3E-08                 | 7.40             | 186         | 0.18                | 0%            | 7.1                                                      | 5.5                                                      | -1.6                                                     | 1.3            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 63         | 10/08/2014 | EB141157030 | R4527         | R4527 030        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 29.0     | 30.0   | 1.0          | 3.2E-08                 | 7.50             | 160         | 0.14                | 0.110         | 79%                                                      | 12.7                                                     | 3.4                                                      | -6.3           | 3.8     | 2.8               | 6.6                                                          | 6.6                                                        | 6.6                                | 0.6                                |                                                  | Non-Acid Forming (Barren) | Negligible | Negligible |
| 64         | 10/08/2014 | EB141157031 | R4527         | R4527 031        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 30.0     | 31.0   | 1.0          | 3.2E-08                 | 7.60             | 178         | 0.07                | 0%            | 10.1                                                     | 6.1                                                      | -10.1                                                    | 0.2            | 11.0    | 11.0              | 11.0                                                         |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                | Negligible |            |
| 65         | 10/08/2014 | EB141157032 | R4527         | R4527 032        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 31.0     | 32.0   | 1.0          | 3.2E-08                 | 7.50             | 128         | 0.22                | 0.167         | 76%                                                      | 8.3                                                      | 5.1                                                      | -1.2           | 1.2     | 2.4               | 8.5                                                          | 4.5                                                        | <0.1                               | 9.0                                |                                                  | Uncertain                 | Negligible | Negligible |
| 66         | 10/08/2014 | EB141157033 | R4527         | R4527 033        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 32.0     | 33.0   | 1.0          | 1.6E-08                 | 7.80             | 243         | 0.28                | 0%            | 8.1                                                      | 8.6                                                      | 0.5                                                      | 0.9            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 67         | 10/08/2014 | EB141157034 | R4527         | R4527 034        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 33.0     | 34.0   | 1.0          | 1.6E-08                 | 7.80             | 153         | 0.13                | 0%            | 6.4                                                      | 4.0                                                      | -2.4                                                     | 1.6            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 68         | 10/08/2014 | EB141157035 | R4527         | R4527 035        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 34.0     | 35.0   | 1.0          | 2.5E-08                 | 7.50             | 2.8         | 0.05                | 0%            | 7.5                                                      | 2.8                                                      | 7.5                                                      | 0.0            |         |                   |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                | Negligible |            |
| 69         | 10/08/2014 | EB141157036 | R4527         | R4527 036        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 35.0     | 36.0   | 1.0          | 2.5E-08                 | 7.60             | 179         | 0.08                | 0%            | 7.2                                                      | 2.5                                                      | -4.8                                                     | 2.9            |         |                   |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                | Negligible |            |
| 70         | 10/08/2014 | EB141157037 | R4527         | R4527 037        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 36.0     | 37.0   | 1.0          | 2.5E-08                 | 7.60             | 143         | 0.11                | 0%            | 9.9                                                      | 3.4                                                      | -6.5                                                     | 2.9            |         |                   |                                                              |                                                            |                                    |                                    | Non-Acid Forming                                 | Negligible                | Negligible |            |
| 71         | 10/08/2014 | EB141157038 | R4527         | R4527 038        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 37.0     | 38.0   | 1.0          | 1.6E-08                 | 7.80             | 157         | 0.15                | 0%            | 7.9                                                      | 4.6                                                      | -3.3                                                     | 1.7            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 72         | 10/08/2014 | EB141157039 | R4527         | R4527 039        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 38.0     | 39.0   | 1.0          | 1.3E-08                 | 7.90             | 134         | 0.17                | 0%            | 8.1                                                      | 4.0                                                      | -1.4                                                     | 1.9            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 73         | 10/08/2014 | EB141157040 | R4527         | R4527 040        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 39.0     | 40.0   | 1.0          | 2E-08                   | 7.70             | 190         | 0.39                | 0.295         | 76%                                                      | 8.0                                                      | 9.0                                                      | 1.0            | 0.9     | 6.9               | 4.1                                                          | 0.8                                                        | 10.2                               |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 74         | 10/08/2014 | EB141157041 | R4527         | R4527 041        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 40.0     | 41.0   | 1.0          | 1E-08                   | 8.00             | 201         | 0.20                | 0%            | 3.6                                                      | 6.1                                                      | 2.5                                                      | 0.6            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 75         | 10/08/2014 | EB141157042 | R4527         | R4527 042        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 41.0     | 42.0   | 1.0          | 1E-08                   | 8.00             | 171         | 0.17                | 0%            | 6.5                                                      | 5.2                                                      | -1.3                                                     | 1.2            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 76         | 10/08/2014 | EB141157043 | R4527         | R4527 043        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 42.0     | 43.0   | 1.0          | 1E-08                   | 7.90             | 189         | 0.14                | 0%            | 6.1                                                      | 5.9                                                      | -1.8                                                     | 1.4            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 77         | 10/08/2014 | EB141157044 | R4527         | R4527 044        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 43.0     | 44.0   | 1.0          | 2E-08                   | 7.70             | 148         | 0.24                | 0%            | 5.5                                                      | 7.4                                                      | 1.9                                                      | 0.7            |         |                   |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible                | Negligible |            |
| 78         | 10/08/2014 | EB141157045 | R4527         | R4527 045        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 44.0     | 45.0   | 1.0          | 2.5E-08                 | 7.60             | 145         | 0.50                | 0%            | 6.6                                                      | 15.3                                                     | 8.7                                                      | 0.4            |         |                   |                                                              |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Negligible                | Negligible |            |
| 79         | 10/08/2014 | EB141157046 | R4527         | R4527 046        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 45.0     | 46.0   | 1.0          | 1.6E-08                 | 7.80             | 221         | 0.61                | 0.508         | 0%                                                       | 8.5                                                      | 15.3                                                     | 6.8            | 0.4     | 9.9               | 3.3                                                          | 6.5                                                        | 17.9                               |                                    | Potentially Acid Forming - Low Capacity          | Negligible                | Negligible |            |
| 80         | 10/08/2014 | EB141157047 | R4527         | R4527 047        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 46.0     | 47.0   | 1.0          | 1.6E-08                 | 7.80             | 217         | 0.58                | 0%            | 7.0                                                      | 17.8                                                     | 11.9                                                     | 0.3            |         |                   |                                                              |                                                            |                                    |                                    | 7 Potentially Acid Forming                       | Negligible                | Negligible |            |
| 81         | 10/08/2014 | EB141157048 | R4527         | R4527 048        | SS               | (Scott-Denison / Potls) | Blake North | Interburden            | 4        |        |              |                         |                  |             |                     |               |                                                          |                                                          |                                                          |                |         |                   |                                                              |                                                            |                                    |                                    |                                                  |                           |            |            |

Table B1: Acid Base Account Results for Blake North Pit from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam       | Pit         | Sample Location in Pit | From (m) | To Interval (m) | H <sup>+</sup> (M) | pH (1-9) | EC (1:5) (µS/cm) | Total S (g) | S <sub>Ca</sub> (%) | Sr Proportion (%) | ANC <sup>1</sup> (g H <sub>2</sub> SO <sub>4</sub> /t) | MPA <sup>2</sup> (%) | NAPP <sup>3</sup> (%) | ANC: MPA Ratio | TOC (%) | NAG <sub>net</sub> (%) | NAG Capacity (pH 4.5) (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7) (kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>4</sup> | Sample Classification <sup>5</sup> | Saline Drainage Classification (Using E.C (1:5)) |            |
|------------|------------|--------------|---------------|------------------|------------------|-----------------|-------------|------------------------|----------|-----------------|--------------------|----------|------------------|-------------|---------------------|-------------------|--------------------------------------------------------|----------------------|-----------------------|----------------|---------|------------------------|--------------------------------------------------------------|------------------------------------------------------------|------------------------------------|------------------------------------|--------------------------------------------------|------------|
| 139        | 10/08/2014 | EB1441577047 | R4527         | R4527 117        | XM, CO           | Blake           | Blake North | Floor                  | 115.0    | 117.0           | 1.0                | 5E-08    | 7.30             | 44          | 0.03                |                   | 0%                                                     | 1.6                  | 0.9                   | -0.7           | 1.7     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 140        | 10/08/2014 | EB1441577048 | R4527         | R4527 118        | SL               | Blake           | Blake North | Floor                  | 117.0    | 118.0           | 1.0                | 3.2E-08  | 7.50             | 40          | 0.03                |                   | 0%                                                     | 2.5                  | 0.9                   | -1.6           | 2.7     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 141        | 10/08/2014 | EB1441577049 | R4527         | R4527 119        | SL               | - end of hole - | Blake North | Basement               | 118.0    | 119.0           | 1.0                | 5E-08    | 7.30             | 41          | 0.03                | 0.011             | 37%                                                    | 2.4                  | 0.3                   | -3.1           | 7.1     | 3.5                    |                                                              | 6.6                                                        | <0.1                               | 0.6                                | Non-Acid Forming (Barren)                        | Negligible |
| 142        | 10/08/2014 | EB1441577050 | R4527         | R4527 120        | SS               | - end of hole - | Blake North | Basement               | 119.0    | 120.0           | 1.0                | 7.6E-08  | 7.10             | 44          | 0.03                |                   | 0%                                                     | 1.4                  | 0.9                   | -0.5           | 1.6     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 143        | 10/08/2014 | EB1441577051 | R4527         | R4527 121        | SS               | - end of hole - | Blake North | Basement               | 120.0    | 121.0           | 1.0                | 5E-08    | 7.30             | 50          | 0.02                |                   | 0%                                                     | 3.6                  | 0.6                   | -3.0           | 5.9     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 144        | 10/08/2014 | EB1441577052 | R4527         | R4527 122        | SS               | - end of hole - | Blake North | Basement               | 121.0    | 122.0           | 1.0                | 5E-08    | 7.30             | 50          | 0.04                |                   | 0%                                                     | 2.6                  | 1.2                   | -1.4           | 2.1     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 145        | 10/08/2014 | EB1441577053 | R4527         | R4527 123        | CG               | - end of hole - | Blake North | Basement               | 122.0    | 123.0           | 1.0                | 7.6E-08  | 7.10             | 74          | 0.02                |                   | 0%                                                     | 3.2                  | 0.6                   | -2.6           | 5.2     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 146        | 10/08/2014 | EB1441577054 | R4527         | R4527 124        | CG               | - end of hole - | Blake North | Basement               | 123.0    | 124.0           | 1.0                | 6.3E-09  | 8.20             | 82          | 0.02                |                   | 0%                                                     | 3.7                  | 0.6                   | -3.1           | 6.0     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 147        | 10/08/2014 | EB1441577055 | R4527         | R4527 125        | CG               | - end of hole - | Blake North | Basement               | 124.0    | 125.0           | 1.0                | 6.3E-09  | 8.20             | 83          | 0.03                |                   | 0%                                                     | 3.1                  | 0.9                   | -2.2           | 3.4     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 148        | 10/08/2014 | EB1441577056 | R4527         | R4527 126        | CG               | - end of hole - | Blake North | Basement               | 125.0    | 126.0           | 1.0                | 7.9E-09  | 8.10             | 80          | 0.03                | 0.014             | 47%                                                    | 2.8                  | 0.4                   | -2.6           | 6.5     | 0.4                    |                                                              | 6.8                                                        | <0.1                               | 0.8                                | Non-Acid Forming (Barren)                        | Negligible |
| 149        | 10/08/2014 | EB1441577057 | R4527         | R4527 127        | CG               | - end of hole - | Blake North | Basement               | 126.0    | 127.0           | 1.0                | 2.5E-09  | 8.60             | 77          | 0.03                |                   | 0%                                                     | 2.5                  | 0.9                   | -1.6           | 2.7     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 150        | 10/08/2014 | EB1441577058 | R4527         | R4527 128        | CG               | - end of hole - | Blake North | Basement               | 127.0    | 128.0           | 1.0                | 4E-09    | 8.40             | 93          | 0.04                |                   | 0%                                                     | 4.5                  | 1.6                   | -3.3           | 3.7     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 151        | 10/08/2014 | EB1441577059 | R4527         | R4527 129        | CG               | - end of hole - | Blake North | Basement               | 128.0    | 129.0           | 1.0                | 4E-09    | 8.40             | 99          | 0.02                |                   | 0%                                                     | 5.6                  | 0.6                   | -5.0           | 9.1     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 152        | 10/08/2014 | EB1441577060 | R4527         | R4527 130        | CG               | - end of hole - | Blake North | Basement               | 129.0    | 130.0           | 1.0                | 4E-09    | 8.40             | 112         | 0.02                |                   | 0%                                                     | 8.6                  | 0.6                   | -8.0           | 14.0    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 153        | 10/08/2014 | EB1441577061 | R4528         | R4528 001        | SS               | -               | Blake North | Overburden             | 0.0      | 1.0             | 1.0                | 1E-07    | 7.00             | 288         | 0.02                |                   | 0%                                                     | 3.9                  | 0.6                   | -3.3           | 6.4     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 154        | 10/08/2014 | EB1441577062 | R4528         | R4528 002        | CO, SL           | -               | Blake North | Overburden             | 1.0      | 2.0             | 1.0                | 6.3E-09  | 8.20             | 439         | 0.02                |                   | 0%                                                     | 33.5                 | 0.6                   | -30.9          | 54.7    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 155        | 10/08/2014 | EB1441577063 | R4528         | R4528 003        | SS               | -               | Blake North | Overburden             | 2.0      | 3.0             | 1.0                | 1E-08    | 8.00             | 518         | 0.02                |                   | 0%                                                     | 59.0                 | 0.8                   | -58.4          | 98.9    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Very Low   |
| 156        | 10/08/2014 | EB1441577064 | R4528         | R4528 004        | SS               | -               | Blake North | Overburden             | 3.0      | 4.0             | 1.0                | 4E-09    | 8.40             | 313         | 0.02                |                   | 0%                                                     | 11.4                 | 0.6                   | -10.8          | 18.9    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 157        | 10/08/2014 | EB1441577065 | R4528         | R4528 005        | SS               | -               | Blake North | Overburden             | 4.0      | 5.0             | 1.0                | 2.5E-09  | 8.60             | 390         | 0.12                |                   | 0%                                                     | 19.7                 | 3.7                   | -16.0          | 5.4     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 158        | 10/08/2014 | EB1441577066 | R4528         | R4528 006        | SS               | -               | Blake North | Overburden             | 5.0      | 6.0             | 1.0                | 2.5E-09  | 8.60             | 399         | 0.05                |                   | 0%                                                     | 12.7                 | 1.5                   | -11.2          | 8.3     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 159        | 10/08/2014 | EB1441577067 | R4528         | R4528 007        | SS               | -               | Blake North | Overburden             | 6.0      | 7.0             | 1.0                | 2.5E-09  | 8.60             | 344         | 0.10                |                   | 0%                                                     | 20.2                 | 3.1                   | -17.1          | 6.6     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 160        | 10/08/2014 | EB1441577068 | R4528         | R4528 008        | SS               | -               | Blake North | Overburden             | 7.0      | 8.0             | 1.0                | 3.2E-09  | 8.50             | 323         | 0.15                |                   | 0%                                                     | 10.6                 | 4.6                   | -4.0           | 2.3     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 161        | 10/08/2014 | EB1441577069 | R4528         | R4528 009        | SS               | -               | Blake North | Overburden             | 8.0      | 9.0             | 1.0                | 2.5E-09  | 8.60             | 342         | 0.03                |                   | 0%                                                     | 37.6                 | 0.9                   | -36.7          | 40.3    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 162        | 10/08/2014 | EB1441577070 | R4528         | R4528 010        | SS               | -               | Blake North | Overburden             | 9.0      | 10.0            | 1.0                | 2.5E-09  | 8.60             | 367         | 0.09                |                   | 0%                                                     | 77.3                 | 2.8                   | -74.5          | 28.0    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 163        | 10/08/2014 | EB1441577071 | R4528         | R4528 011        | SS               | -               | Blake North | Overburden             | 10.0     | 11.0            | 1.0                | 2E-09    | 8.70             | 374         | 0.03                |                   | 0%                                                     | 74.7                 | 0.9                   | -73.8          | 81.3    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 164        | 10/08/2014 | EB1441577072 | R4528         | R4528 012        | SS               | -               | Blake North | Overburden             | 11.0     | 12.0            | 1.0                | 2E-09    | 8.70             | 330         | 0.08                |                   | 0%                                                     | 22.0                 | 2.5                   | -19.6          | 9.0     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 165        | 10/08/2014 | EB1441577073 | R4528         | R4528 013        | SS               | -               | Blake North | Overburden             | 12.0     | 13.0            | 1.0                | 4E-09    | 8.40             | 425         | 0.28                | 0.214             | 76%                                                    | 18.6                 | 6.6                   | -11.8          | 2.6     | 0.3                    |                                                              | 8.0                                                        | <0.1                               | -50.0                              | Non-Acid Forming (Barren)                        | Negligible |
| 166        | 10/08/2014 | EB1441577074 | R4528         | R4528 014        | SS               | -               | Blake North | Overburden             | 13.0     | 14.0            | 1.0                | 2.5E-09  | 8.60             | 460         | 0.24                |                   | 0%                                                     | 21.2                 | 7.4                   | -13.9          | 24.0    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 167        | 10/08/2014 | EB1441577075 | R4528         | R4528 015        | SS               | -               | Blake North | Overburden             | 14.0     | 15.0            | 1.0                | 4E-09    | 8.40             | 438         | 0.13                |                   | 0%                                                     | 19.0                 | 4.0                   | -15.0          | 4.8     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 168        | 10/08/2014 | EB1441577076 | R4528         | R4528 016        | SS               | -               | Blake North | Overburden             | 15.0     | 16.0            | 1.0                | 1.6E-09  | 8.80             | 487         | 0.12                |                   | 0%                                                     | 41.8                 | 3.7                   | -38.1          | 11.4    |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 169        | 10/08/2014 | EB1441577077 | R4528         | R4528 017        | SS               | -               | Blake North | Overburden             | 16.0     | 17.0            | 1.0                | 4E-09    | 8.40             | 489         | 0.24                |                   | 0%                                                     | 28.7                 | 7.4                   | -21.4          | 9.3     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 170        | 10/08/2014 | EB1441577078 | R4528         | R4528 018        | SS               | -               | Blake North | Overburden             | 17.0     | 18.0            | 1.0                | 4E-09    | 8.40             | 485         | 0.24                |                   | 0%                                                     | 18.7                 | 7.4                   | -11.4          | 2.5     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 171        | 10/08/2014 | EB1441577079 | R4528         | R4528 019        | SS               | -               | Blake North | Overburden             | 18.0     | 19.0            | 1.0                | 4E-09    | 8.40             | 489         | 0.14                |                   | 0%                                                     | 29.1                 | 4.3                   | -24.8          | 6.8     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 172        | 10/08/2014 | EB1441577080 | R4528         | R4528 020        | SS               | -               | Blake North | Overburden             | 19.0     | 20.0            | 1.0                | 3.2E-09  | 8.50             | 489         | 0.30                |                   | 0%                                                     | 21.5                 | 9.2                   | -12.3          | 2.3     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 173        | 10/08/2014 | EB1441577081 | R4528         | R4528 021        | SS               | -               | Blake North | Overburden             | 20.0     | 21.0            | 1.0                | 3.2E-09  | 8.50             | 473         | 0.10                |                   | 0%                                                     | 24.8                 | 8.3                   | -16.5          | 0.7     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 174        | 10/08/2014 | EB1441577082 | R4528         | R4528 022        | SS               | -               | Blake North | Overburden             | 21.0     | 22.0            | 1.0                | 5E-09    | 8.30             | 521         | 0.45                |                   | 0%                                                     | 21.2                 | 13.8                  | -7.4           | 1.5     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Very Low   |
| 175        | 10/08/2014 | EB1441577083 | R4528         | R4528 023        | SS               | -               | Blake North | Overburden             | 22.0     | 23.0            | 1.0                | 1E-08    | 8.00             | 414         | 0.50                |                   | 0%                                                     | 13.7                 | 15.3                  | 1.6            | 0.9     |                        |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible |
| 176        | 10/08/2014 | EB1441577084 | R4528         | R4528 024        | SS               | -               | Blake North | Overburden             | 23.0     | 24.0            | 1.0                | 1.3E-08  | 7.90             | 404         | 0.67                |                   | 0%                                                     | 12.7                 | 20.5                  | 7.8            | 0.6     |                        |                                                              |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Negligible |
| 177        | 10/08/2014 | EB1441577085 | R4528         | R4528 025        | SS               | -               | Blake North | Overburden             | 24.0     | 25.0            | 1.0                | 6.3E-09  | 8.20             | 467         | 0.17                | 0.427             | 75%                                                    | 28.4                 | 13.1                  | -15.3          | 2.3     | 0.7                    |                                                              | 7.8                                                        | <0.1                               | -50.0                              | Non-Acid Forming (Barren)                        | Negligible |
| 178        | 10/08/2014 | EB1441577086 | R4528         | R4528 026        | SS               | -               | Blake North | Overburden             | 25.0     | 26.0            | 1.0                | 4E-09    | 8.40             | 420         | 0.28                |                   | 0%                                                     | 30.6                 | 8.8                   | -22.0          | 3.6     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 179        | 10/08/2014 | EB1441577087 | R4528         | R4528 027        | SS               | -               | Blake North | Overburden             | 26.0     | 27.0            | 1.0                | 3.2E-09  | 8.50             | 439         | 0.48                |                   | 0%                                                     | 41.1                 | 14.7                  | -26.4          | 2.8     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 180        | 10/08/2014 | EB1441577088 | R4528         | R4528 028        | SS               | -               | Blake North | Overburden             | 27.0     | 28.0            | 1.0                | 4E-09    | 8.40             | 430         | 0.21                |                   | 0%                                                     | 29.6                 | 6.4                   | -23.2          | 4.6     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 181        | 10/08/2014 | EB1441577089 | R4528         | R4528 029        | SS               | -               | Blake North | Overburden             | 28.0     | 29.0            | 1.0                | 3.2E-09  | 8.50             | 424         | 0.22                |                   | 0%                                                     | 40.8                 | 4.7                   | -36.1          | 6.1     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 182        | 10/08/2014 | EB1441577090 | R4528         | R4528 030        | SS               | -               | Blake North | Overburden             | 29.0     | 30.0            | 1.0                | 6.3E-09  | 8.20             | 551         | 0.55                |                   | 0%                                                     | 21.4                 | 16.8                  | -4.6           | 1.3     |                        |                                                              |                                                            |                                    |                                    | Uncertain                                        | Very Low   |
| 183        | 10/08/2014 | EB1441577091 | R4528         | R4528 031        | SS               | -               | Blake North | Overburden             | 30.0     | 31.0            | 1.0                | 1.3E-08  | 7.90             | 633         | 0.88                |                   | 0%                                                     | 17.7                 | 27.0                  | 9.3            | 0.7     |                        |                                                              |                                                            |                                    |                                    | Potentially Acid Forming - Low Capacity          | Very Low   |
| 184        | 10/08/2014 | EB1441577092 | R4528         | R4528 032        | SL               | -               | Blake North | Overburden             | 31.0     | 32.0            | 1.0                | 4E-08    | 7.40             | 512         | 1.86                | 1.840             | 96%                                                    | 10.3                 | 56.4                  | 46.1           | 0.2     | 1.4                    |                                                              | 2.5                                                        | 49.0                               | 61.5                               | Potentially Acid Forming - Low Capacity          | Moderate   |
| 185        | 10/08/2014 | EB1441577093 | R4528         | R4528 033        | SL               | -               | Blake North | Overburden             | 32.0     | 33.0            | 1.0                | 7.9E-09  | 8.10             | 464         | 0.64                |                   | 0%                                                     | 21.3                 | 19.6                  | 1.7            | 1.1     |                        |                                                              |                                                            |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 186        | 10/08/2014 | EB1441577094 | R4528         | R4528 034        | SL               | -               | Blake North | Overburden             | 33.0     | 34.0            | 1.0                | 1.3E-08  | 7.90             | 428         | 1.06                |                   | 0%                                                     | 14.8                 | 32.5                  | 17.7           | 0.5     |                        |                                                              |                                                            |                                    |                                    | Potentially Acid Forming                         | Moderate   |
| 187        | 10/08/2014 | EB1441577095 | R4528         | R4528 035        | SL               | -               | Blake North | Overburden             | 34.0     | 35.0            | 1.0                | 5E-09    | 8.30             | 368         | 0.54                |                   | 0%                                                     | 19.2                 | 16.5                  | -2.7           | 1.6     |                        |                                                              |                                                            |                                    |                                    | Uncertain                                        | Negligible |
| 188        | 10/08/2014 | EB1441577096 | R4528         | R4528 036        |                  |                 |             |                        |          |                 |                    |          |                  |             |                     |                   |                                                        |                      |                       |                |         |                        |                                                              |                                                            |                                    |                                    |                                                  |            |

Table B1: Acid Base Account Results for Blake North Pit from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam       | Pit         | Sample Location in Pit | From (m) | To Interval (m) | H <sup>+</sup> (M) | pH (1-9) | Total S (g/ton) | S <sub>Ca</sub> (%) | S <sub>Cr</sub> Proportion (%) | ANC <sup>1</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup> (%) | ANC: MPA Ratio | TOC (%) | NAG <sub>pm</sub> (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 4.5) | NAG Capacity (pH 7) | Sample Classification <sup>3</sup> | Sample Classification <sup>4</sup> | Saline Drainage Classification (Using E.C (1:5)) |                                         |            |
|------------|------------|--------------|---------------|------------------|------------------|-----------------|-------------|------------------------|----------|-----------------|--------------------|----------|-----------------|---------------------|--------------------------------|---------------------------------------------------------|-----------------------|----------------|---------|----------------------------------------------------------|-----------------------|---------------------|------------------------------------|------------------------------------|--------------------------------------------------|-----------------------------------------|------------|
| 244        | 10/08/2014 | EB1441581027 | R4528         | R4528_097        | SL               | (Bowen / Blake) | Blake North | Interburden            | 96.0     | 97.0            | 1.0                | 6.3E-08  | 7.20            | 349                 | 1.01                           | 0%                                                      | 5.9                   | 30.9           | 25.0    | 0.2                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Moderate                                |            |
| 245        | 10/08/2014 | EB1441581028 | R4528         | R4528_098        | SL               | (Bowen / Blake) | Blake North | Interburden            | 97.0     | 98.0            | 1.0                | 6.3E-08  | 7.20            | 231                 | 0.74                           | 0%                                                      | 5.7                   | 22.7           | 17.0    | 0.3                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Negligible                              |            |
| 246        | 10/08/2014 | EB1441581029 | R4528         | R4528_099        | SL               | (Bowen / Blake) | Blake North | Interburden            | 98.0     | 99.0            | 1.0                | 4E-08    | 7.40            | 288                 | 0.79                           | 0%                                                      | 5.2                   | 24.2           | 19.0    | 0.2                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Negligible                              |            |
| 247        | 10/08/2014 | EB1441581030 | R4528         | R4528_100        | SS               | (Bowen / Blake) | Blake North | Interburden            | 99.0     | 100.0           | 1.0                | 4E-08    | 7.40            | 222                 | 0.38                           | 0%                                                      | 5.1                   | 21.8           | 16.0    | 0.2                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Negligible                              |            |
| 248        | 10/08/2014 | EB1441581031 | R4528         | R4528_101        | SS               | (Bowen / Blake) | Blake North | Interburden            | 100.0    | 101.0           | 1.0                | 2E-08    | 7.70            | 223                 | 0.43                           | 0.328                                                   | 76%                   | 4.7            | 10.0    | 5.3                                                      | 0.5                   | 2.1                 | 3.1                                | 5.7                                | 15.6                                             | Potentially Acid Forming - Low Capacity | Negligible |
| 249        | 10/08/2014 | EB1441581032 | R4528         | R4528_102        | SS               | (Bowen / Blake) | Blake North | Interburden            | 101.0    | 102.0           | 1.0                | 2.5E-08  | 7.60            | 225                 | 0.25                           | 0%                                                      | 5.4                   | 7.7            | 2.3     | 0.7                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 250        | 10/08/2014 | EB1441581033 | R4528         | R4528_103        | SS               | (Bowen / Blake) | Blake North | Interburden            | 102.0    | 103.0           | 1.0                | 1E-07    | 7.00            | 408                 | 0.72                           | 0%                                                      | 5.6                   | 22.1           | 16.5    | 0.3                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Negligible                              |            |
| 251        | 10/08/2014 | EB1441581034 | R4528         | R4528_104        | SS               | (Bowen / Blake) | Blake North | Interburden            | 103.0    | 104.0           | 1.0                | 1E-07    | 7.00            | 439                 | 0.73                           | 0%                                                      | 5.3                   | 19.3           | 14.3    | 0.3                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 252        | 10/08/2014 | EB1441581035 | R4528         | R4528_105        | SS               | Blake           | Blake North | Roof                   | 104.0    | 105.0           | 1.0                | 3.2E-08  | 7.50            | 416                 | 0.58                           | 0%                                                      | 15.5                  | 17.8           | 2.3     | 0.9                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 253        | 10/08/2014 | EB1441581036 | R4528         | R4528_106        | SS, SL, CO       | Blake           | Blake North | Roof                   | 105.0    | 106.0           | 1.0                | 2.5E-07  | 6.60            | 859                 | 2.58                           | 0%                                                      | 5.6                   | 78.4           | 72.8    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Very Low                                |            |
| 254        | 10/08/2014 | EB1441581037 | R4528         | R4528_107        | SL               | Blake           | Blake North | Parting                | 106.0    | 107.0           | 1.0                | 4E-07    | 6.40            | 840                 | 1.65                           | 0%                                                      | 5.3                   | 50.5           | 45.2    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Moderate                                |            |
| 255        | 10/08/2014 | EB1441581038 | R4528         | R4528_108        | SL               | Blake           | Blake North | Parting                | 107.0    | 108.0           | 1.0                | 3.2E-07  | 6.50            | 710                 | 2.45                           | 0%                                                      | 4.4                   | 75.0           | 67.6    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Very Low                                |            |
| 256        | 10/08/2014 | EB1441581039 | R4528         | R4528_109        | SL               | Blake           | Blake North | Parting                | 108.0    | 109.0           | 1.0                | 4E-07    | 6.40            | 750                 | 2.32                           | 0%                                                      | 4.8                   | 71.1           | 66.3    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Very Low                                |            |
| 257        | 10/08/2014 | EB1441581040 | R4528         | R4528_110        | SL               | Blake           | Blake North | Parting                | 109.0    | 110.0           | 1.0                | 1E-06    | 6.00            | 780                 | 2.15                           | 0%                                                      | 4.9                   | 65.8           | 60.9    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Very Low                                |            |
| 258        | 10/08/2014 | EB1441581041 | R4528         | R4528_111        | SL               | Blake           | Blake North | Parting                | 110.0    | 111.0           | 1.0                | 1E-06    | 6.00            | 863                 | 3.01                           | 0%                                                      | 4.2                   | 82.2           | 88.0    | 0.0                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Very Low                                |            |
| 259        | 10/08/2014 | EB1441581042 | R4528         | R4528_112        | SL               | Blake           | Blake North | Parting                | 111.0    | 112.0           | 1.0                | 4E-07    | 6.40            | 462                 | 2.05                           | 0%                                                      | 6.4                   | 62.8           | 59.4    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Negligible                              |            |
| 260        | 10/08/2014 | EB1441581043 | R4528         | R4528_113        | SL               | Blake           | Blake North | Parting                | 112.0    | 113.0           | 1.0                | 6.3E-07  | 6.20            | 484                 | 2.19                           | 0%                                                      | 4.4                   | 67.1           | 62.7    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Negligible                              |            |
| 261        | 10/08/2014 | EB1441581044 | R4528         | R4528_114        | SL               | Blake           | Blake North | Parting                | 113.0    | 114.0           | 1.0                | 6.3E-07  | 6.20            | 803                 | 2.38                           | 0%                                                      | 7.0                   | 72.9           | 66.9    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Very Low                                |            |
| 262        | 10/08/2014 | EB1441581045 | R4528         | R4528_115        | SL               | Blake           | Blake North | Parting                | 114.0    | 115.0           | 1.0                | 1.3E-07  | 6.90            | 472                 | 1.44                           | 0%                                                      | 5.4                   | 44.1           | 38.7    | 0.1                                                      |                       |                     |                                    |                                    | Potentially Acid Forming                         | Moderate                                |            |
| 263        | 10/08/2014 | EB1441581046 | R4528         | R4528_116        | SL, HC           | Blake           | Blake North | Parting                | 115.0    | 116.0           | 1.0                | 1.6E-07  | 6.80            | 961                 | 1.28                           | 0%                                                      | 4.0                   | 90.2           | 95.2    | 0.1                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 264        | 10/08/2014 | EB1441581049 | R4528         | R4528_119        | HC, IG           | Blake           | Blake North | Parting                | 118.0    | 119.0           | 1.0                | 1E-08    | 6.00            | 409                 | 0.82                           | 0%                                                      | 25.4                  | 25.1           | -0.3    | 1.0                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 265        | 10/08/2014 | EB1441581051 | R4528         | R4528_121        | HC, IG           | Blake           | Blake North | Parting                | 120.0    | 121.0           | 1.0                | 1.3E-08  | 7.90            | 389                 | 0.95                           | 0.811                                                   | 85%                   | 27.2           | 24.8    | -2.4                                                     | 1.1                   | 66.5                | 8.0                                | <0.1                               | -50.0                                            | Uncertain                               | Negligible |
| 266        | 10/08/2014 | EB1441581052 | R4528         | R4528_122        | HC, IG           | Blake           | Blake North | Parting                | 121.0    | 122.0           | 1.0                | 1.3E-08  | 7.90            | 370                 | 0.71                           | 0%                                                      | 31.1                  | 21.7           | -9.3    | 1.4                                                      |                       |                     |                                    |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 267        | 10/08/2014 | EB1441581054 | R4528         | R4528_124        | HC, IG           | Blake           | Blake North | Parting                | 123.0    | 124.0           | 1.0                | 1E-08    | 6.00            | 292                 | 0.55                           | 0%                                                      | 28.1                  | 15.8           | -11.3   | 1.7                                                      |                       |                     |                                    |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 268        | 10/08/2014 | EB1441581056 | R4528         | R4528_126        | HC, XM           | Blake           | Blake North | Parting                | 125.0    | 126.0           | 1.0                | 1.3E-08  | 7.90            | 187                 | 0.45                           | 0%                                                      | 20.4                  | 13.8           | -6.6    | 1.5                                                      |                       |                     |                                    |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 269        | 10/08/2014 | EB1441581057 | R4528         | R4528_127        | MS, XM           | Blake           | Blake North | Parting                | 126.0    | 127.0           | 1.0                | 3.2E-08  | 7.50            | 206                 | 0.53                           | 0%                                                      | 13.0                  | 16.2           | -3.2    | 0.8                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 270        | 10/08/2014 | EB1441581058 | R4528         | R4528_128        | MS               | Blake           | Blake North | Parting                | 127.0    | 128.0           | 1.0                | 5E-08    | 7.30            | 117                 | 0.29                           | 0.165                                                   | 57%                   | 8.1            | 5.1     | -3.0                                                     | 1.6                   | 17.4                | 3.5                                | 25.7                               | Uncertain                                        | Negligible                              |            |
| 271        | 10/08/2014 | EB1441581059 | R4528         | R4528_129        | CO, MS           | Blake           | Blake North | Parting                | 128.0    | 129.0           | 1.0                | 2.5E-08  | 7.60            | 220                 | 0.47                           | 0%                                                      | 10.2                  | 14.4           | -4.2    | 0.7                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 272        | 10/08/2014 | EB1441581061 | R4528         | R4528_130        | CO, CG           | Blake           | Blake North | Floor                  | 130.0    | 131.0           | 1.0                | 4E-08    | 7.40            | 125                 | 0.11                           | 0%                                                      | 3.7                   | 3.4            | -0.3    | 1.1                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 273        | 10/08/2014 | EB1441581062 | R4528         | R4528_132        | CG               | Blake           | Blake North | Floor                  | 131.0    | 132.0           | 1.0                | 5E-08    | 7.30            | 110                 | 0.08                           | 0%                                                      | 3.9                   | 2.5            | -1.5    | 1.6                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 274        | 10/08/2014 | EB1441581063 | R4528         | R4528_133        | CG               | Blake           | Blake North | Basement               | 132.0    | 133.0           | 1.0                | 5E-08    | 7.30            | 139                 | 0.09                           | 0%                                                      | 3.4                   | 1.8            | -1.6    | 2.0                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 275        | 10/08/2014 | EB1441581064 | R4528         | R4528_134        | CG               | -end of hole -  | Blake North | Basement               | 133.0    | 134.0           | 1.0                | 3.2E-08  | 7.50            | 110                 | 0.06                           | 0%                                                      | 2.6                   | 1.8            | -0.8    | 1.4                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 276        | 10/08/2014 | EB1441581065 | R4528         | R4528_135        | CG               | -end of hole -  | Blake North | Basement               | 134.0    | 135.0           | 1.0                | 3.2E-08  | 7.50            | 111                 | 0.04                           | 0%                                                      | 2.5                   | 1.2            | -1.3    | 2.0                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 277        | 10/08/2014 | EB1441581066 | R4528         | R4528_136        | CG               | -end of hole -  | Blake North | Basement               | 135.0    | 136.0           | 1.0                | 2E-08    | 7.70            | 91                  | 0.04                           | 0%                                                      | 2.2                   | 1.2            | -1.0    | 2.5                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 278        | 10/08/2014 | EB1441581067 | R4528         | R4528_137        | CG               | -end of hole -  | Blake North | Basement               | 136.0    | 137.0           | 1.0                | 4E-08    | 7.40            | 111                 | 0.04                           | 0%                                                      | 4.8                   | 0.8            | -4.0    | 1.2                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 279        | 10/08/2014 | EB1441581068 | R4528         | R4528_138        | CG               | -end of hole -  | Blake North | Basement               | 137.0    | 138.0           | 1.0                | 3.2E-08  | 7.50            | 143                 | 0.11                           | 0%                                                      | 2.1                   | 3.4            | -1.3    | 0.6                                                      |                       |                     |                                    |                                    | Uncertain                                        | Negligible                              |            |
| 280        | 10/08/2014 | EB1441581069 | R4528         | R4528_139        | CG               | -end of hole -  | Blake North | Basement               | 138.0    | 139.0           | 1.0                | 2E-08    | 7.70            | 108                 | 0.04                           | 0%                                                      | 2.8                   | 1.2            | -1.7    | 2.4                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 281        | 10/08/2014 | EB1441581070 | R4528         | R4528_140        | CG               | -end of hole -  | Blake North | Basement               | 139.0    | 140.0           | 1.0                | 1.6E-08  | 7.80            | 104                 | 0.03                           | 0%                                                      | 2.8                   | 0.9            | -1.7    | 2.6                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 282        | 10/08/2014 | EB1441581071 | R4528         | R4528_141        | CG               | -end of hole -  | Blake North | Basement               | 140.0    | 141.0           | 1.0                | 1.3E-08  | 7.80            | 200                 | 0.06                           | 0%                                                      | 5.4                   | 1.8            | -3.6    | 2.0                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 283        | 10/08/2014 | EB1441581072 | R4528         | R4528_142        | CG               | -end of hole -  | Blake North | Basement               | 141.0    | 142.0           | 1.0                | 1.3E-08  | 7.90            | 138                 | 0.04                           | 0%                                                      | 4.2                   | 1.2            | -3.0    | 3.4                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 284        | 10/08/2014 | EB1441581073 | R4528         | R4528_143        | CG               | -end of hole -  | Blake North | Basement               | 142.0    | 143.0           | 1.0                | 6.3E-09  | 8.20            | 126                 | 0.03                           | 0%                                                      | 1.8                   | 0.9            | -1.0    | 2.1                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 285        | 10/08/2014 | EB1441581074 | R4528         | R4528_144        | CG               | -end of hole -  | Blake North | Basement               | 143.0    | 144.0           | 1.0                | 6.3E-09  | 8.20            | 127                 | 0.04                           | 0%                                                      | 3.2                   | 1.2            | -2.0    | 2.6                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 286        | 10/08/2014 | EB1441581075 | R4528         | R4528_145        | CG               | -end of hole -  | Blake North | Basement               | 144.0    | 145.0           | 1.0                | 6.3E-09  | 8.20            | 132                 | 0.03                           | 0%                                                      | 4.8                   | 0.9            | -3.9    | 5.2                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 287        | 10/08/2014 | EB1441581076 | R4528         | R4528_146        | CG               | -end of hole -  | Blake North | Basement               | 145.0    | 146.0           | 1.0                | 4E-09    | 8.40            | 251                 | 0.05                           | 0%                                                      | 7.7                   | 1.5            | -6.2    | 5.0                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 288        | 27/08/2014 | EB1442953013 | C4525         | S3366            | SS               | -               | Blake North | Overburden             | 6.1      | 6.4             | 0.3                | 2.5E-09  | 8.60            | 240                 | 0.05                           | 0%                                                      | 8.6                   | 1.5            | -7.1    | 6.6                                                      |                       |                     |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 289        | 27/08/2014 | EB1442953014 | C4525         | S3367            | SS               | -               | Blake North | Overburden             | 10.2     | 10.5            | 0.3                | 1.6E-09  | 8.60            | 242                 | 0.04                           | 0.012                                                   | 22%                   | 10.2           | 0.4     | -7.6                                                     | 21.8                  | 0.1                 | 8.9                                | <0.1                               | -50.0                                            | Non-Acid Forming                        |            |
| 290        | 27/08/2014 | EB1442953015 | C4525         | S3368            | SS               | -               | Blake North | Overburden             | 15.1     | 15.4            | 0.3                | 5E-09    | 8.30            | 369                 | 0.39                           | 0.488                                                   | 83%                   | 10.0           | 14.9    | -4.9                                                     | 0.7                   | 0.8                 | 3.5                                | 2.2                                | 5.5                                              | Non-Acid Forming                        |            |
| 291        | 27/08/2014 | EB1442953016 | C4525         | S3369            | SS               | -               | Blake North | Overburden             | 20.4     | 20.7            | 0.3                | 4E-09    | 8.40            | 426                 | 0.12                           | 0%                                                      | 44.1                  | 3.7            | -40.4   | 12.0                                                     |                       |                     |                                    |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 292        | 27/08/2014 | EB1442953017 | C4525         | S3370            | SS               | -               | Blake North | Overburden             | 26.5     | 26.8            | 0.3                | 0.00001  | 5.00            | 278                 | 1.80                           | 1.110                                                   | 62%                   | 2.6            | 34.0    | 31.4                                                     | 0.1                   | 0.9                 | 2.5                                | 36.9                               | 42.0                                             | Potentially Acid Forming                | Moderate   |
| 293        | 27/08/2014 | EB1442953018 | C4525         | S3371            | SS               | -               | Blake North | Overburden             | 31.3     | 31.6            | 0.3                | 2.5E-08  | 7.60            | 575                 | 0.43                           | 0.386                                                   | 87%                   | 8.6            | 9.4     | -0.6                                                     | 0.9                   | 0.1                 | 0.8                                | <0.1                               | 0.8                                              | Non-Acid Forming (Barren)               |            |
| 294        | 27/08/2014 | EB1442953019 | C4525         | S3372            | SS               | -               | Blake North | Overburden             | 36.7     | 37.1            | 0.3                | 1.6E-07  | 6.80            | 113                 | 0.01                           | 0.550                                                   | 68%                   | 1.2            | 16.8    | -15.6                                                    | 0.7                   | 0.1                 | 2.6                                | 14.8                               | 18.9                                             | Potentially Acid Forming                |            |

Table B1: Acid Base Account Results for Blake North Pit from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam            | Pit         | Sample Location in Pit | From (m) | To Interval (m) | H <sup>+</sup> (M) | pH (1-9) | EC (1/5m) (uS/cm) | Total S (%) | S <sub>Ca</sub> (%) | S <sub>Cr</sub> Proportion (%) | ANC <sup>+</sup> (M) | (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>+</sup> (M) | ANC: MPA Ratio | TOC (%) | NAG <sub>pm</sub> | NAG Capacity (pH 4.5) (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7) (kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>2</sup> | Sample Classification <sup>3</sup> | Saline Drainage Classification (Using E.C (1:5)) |                          |            |  |
|------------|------------|--------------|---------------|------------------|------------------|----------------------|-------------|------------------------|----------|-----------------|--------------------|----------|-------------------|-------------|---------------------|--------------------------------|----------------------|----------------------------------------|-----------------------|----------------|---------|-------------------|--------------------------------------------------------------|------------------------------------------------------------|------------------------------------|------------------------------------|--------------------------------------------------|--------------------------|------------|--|
| 349        | 8/10/2014  | EB1446020601 | C4535         | S3470            | SS               | Garrick/Scott        | Blake North | Interburden            | 20.0     | 20.3            | 0.3                | 7.9E-09  | 8.10              | 98          | 0.04                | 0.020                          | 50%                  | 4.4                                    | 0.6                   | -3.8           | 7.2     | 0.9               |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 350        | 8/10/2014  | EB1446020602 | C4535         | S3471            | SS               | Garrick/Scott        | Blake North | Interburden            | 25.8     | 26.1            | 0.3                | SE-09    | 8.30              | 372         | 0.22                | 0.168                          | 75%                  | 4.1                                    | 5.1                   | 1.0            | 0.8     | 0.4               |                                                              |                                                            |                                    | Uncertain                          | Negligible                                       |                          |            |  |
| 351        | 8/10/2014  | EB1446020603 | C4535         | S3472            | SS               | Garrick/Scott        | Blake North | Interburden            | 31.5     | 31.7            | 0.3                | 6.3E-09  | 8.20              | 588         | 0.18                | 0%                             | 11.1                 | 5.5                                    | -5.6                  | 2.0            | 0.6     |                   |                                                              |                                                            | Non-Acid Forming                   | Very Low                           |                                                  |                          |            |  |
| 352        | 8/10/2014  | EB1446020604 | C4535         | S3473            | SS               | Garrick/Scott        | Blake North | Interburden            | 36.4     | 36.7            | 0.3                | 1.3E-09  | 8.20              | 404         | 0.16                | 0.516                          | 71%                  | 0.3                                    | 0.67                  | 0.3            | 0.67    | 0.1               | 15.4                                                         | 9.3                                                        |                                    | Potentially Acid Forming           | Negligible                                       |                          |            |  |
| 353        | 8/10/2014  | EB1446020605 | C4535         | S3474            | SS               | Garrick/Scott        | Blake North | Interburden            | 41.9     | 42.2            | 0.3                | 6.3E-09  | 8.20              | 376         | 0.26                | 0%                             | 29.7                 | 8.0                                    | -21.7                 | 3.7            | 0.9     |                   |                                                              |                                                            | Non-Acid Forming                   | Negligible                         |                                                  |                          |            |  |
| 354        | 8/10/2014  | EB1446020606 | C4535         | S3475            | SS               | Garrick/Scott        | Blake North | Interburden            | 46.2     | 46.5            | 0.3                | 1E-08    | 8.00              | 403         | 0.17                | 0%                             | 3.2                  | 5.2                                    | 2.0                   | 0.6            | 0.6     |                   |                                                              |                                                            | Uncertain                          | Negligible                         |                                                  |                          |            |  |
| 355        | 8/10/2014  | EB1446020607 | C4535         | S3476            | SS               | Garrick/Scott        | Blake North | Interburden            | 51.1     | 51.4            | 0.2                | 1.6E-09  | 8.80              | 350         | 0.09                | 0.210                          | 0%                   | 13.0                                   | 2.8                   | -10.2          | 4.7     |                   |                                                              |                                                            | Non-Acid Forming (Barren)          | Negligible                         |                                                  |                          |            |  |
| 356        | 8/10/2014  | EB1446020607 | C4535         | S3477            | SS               | Garrick/Scott        | Blake North | Interburden            | 55.1     | 55.4            | 0.3                | 2.4E-09  | 8.60              | 401         | 0.16                | 0%                             | 20.7                 | 6.4                                    | -20.4                 | 4.8            | 0.1     | 9.5               |                                                              |                                                            | Non-Acid Forming                   | Negligible                         |                                                  |                          |            |  |
| 357        | 8/10/2014  | EB1446020609 | C4535         | S3478            | SS               | Garrick/Scott        | Blake North | Interburden            | 60.0     | 60.3            | 0.3                | 7.9E-10  | 9.10              | 256         | 0.06                | 0%                             | 29.2                 | 1.8                                    | -27.4                 | 15.9           |         |                   |                                                              | Non-Acid Forming (Barren)                                  | Negligible                         |                                    |                                                  |                          |            |  |
| 358        | 8/10/2014  | EB1446020670 | C4535         | S3479            | SS/SL            | Garrick/Scott        | Blake North | Interburden            | 65.4     | 65.6            | 0.3                | 6.3E-09  | 8.20              | 218         | 0.84                | 0.722                          | 86%                  | 12.0                                   | 22.1                  | 10.1           | 0.5     | 3.4               | 3.2                                                          | 6.6                                                        | 16.2                               |                                    | Potentially Acid Forming                         | Negligible               |            |  |
| 359        | 8/10/2014  | EB1446020671 | C4535         | S3480            | SS               | Garrick/Scott        | Blake North | Interburden            | 70.4     | 70.7            | 0.3                | 7.9E-10  | 9.10              | 346         | 0.11                | 0%                             | 43.6                 | 3.4                                    | -40.2                 | 12.9           |         |                   |                                                              | Non-Acid Forming                                           | Negligible                         |                                    |                                                  |                          |            |  |
| 360        | 8/10/2014  | EB1446020672 | C4535         | S3481            | SS               | Garrick/Scott        | Blake North | Interburden            | 75.7     | 76.0            | 0.3                | 4E-09    | 8.40              | 389         | 0.30                | 0%                             | 75.3                 | 9.2                                    | -66.1                 | 8.2            |         |                   |                                                              | Non-Acid Forming                                           | Negligible                         |                                    |                                                  |                          |            |  |
| 361        | 8/10/2014  | EB1446020673 | C4535         | S3482            | SS               | Garrick/Scott        | Blake North | Interburden            | 80.4     | 80.6            | 0.3                | 3.2E-07  | 6.50              | 794         | 0.83                | 0.434                          | 62%                  | 4.5                                    | 13.3                  | 8.8            | 0.3     | 0.7               | 2.8                                                          | 14.7                                                       | 21.8                               |                                    | Potentially Acid Forming - Low Capacity          | Very Low                 |            |  |
| 362        | 8/10/2014  | EB1446020674 | C4535         | S3483            | SS               | Scott/Denison        | Blake North | Interburden            | 88.8     | 90.1            | 0.3                | 6.3E-10  | 9.20              | 233         | 0.10                | 0%                             | 43.2                 | 3.1                                    | -40.1                 | 14.1           |         |                   |                                                              | Non-Acid Forming (Barren)                                  | Negligible                         |                                    |                                                  |                          |            |  |
| 363        | 8/10/2014  | EB1446020675 | C4535         | S3484            | SL               | Denison              | Blake North | Floor                  | 94.6     | 95.0            | 0.4                | 4E-09    | 8.40              | 42          | 0.07                | 0%                             | 4.6                  | 2.1                                    | -2.5                  | 2.1            |         |                   |                                                              | Non-Acid Forming                                           | Negligible                         |                                    |                                                  |                          |            |  |
| 364        | 8/10/2014  | EB1446020676 | C4535         | S3485            | SS/SL            | Denison/Potts        | Blake North | Interburden            | 98.7     | 99.2            | 0.5                | 1.6E-09  | 8.80              | 407         | 0.20                | 0%                             | 73.9                 | 6.1                                    | -67.8                 | 12.7           |         |                   |                                                              | Non-Acid Forming                                           | Negligible                         |                                    |                                                  |                          |            |  |
| 365        | 8/10/2014  | EB1446020677 | C4535         | S3486            | IG               | Potts                | Blake North | Parking                | 104.2    | 104.6           | 0.4                | 2E-09    | 8.70              | 203         | 0.46                | 0.312                          | 68%                  | 106.0                                  | 9.8                   | -96.4          | 11.1    | 0.0               | 10.3                                                         | 0.0                                                        |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 366        | 8/10/2014  | EB1446020679 | C4535         | S3488            | SL               | Potts                | Blake North | Floor                  | 110.8    | 111.0           | 0.2                | 3.2E-09  | 8.50              | 316         | 0.38                | 0.278                          | 73%                  | 5.6                                    | 8.5                   | 2.9            | 0.7     | 1.5               |                                                              |                                                            | 0.6                                | Uncertain                          | Negligible                                       |                          |            |  |
| 367        | 8/10/2014  | EB1446020680 | C4535         | S3489            | SS               | Little Bowen         | Blake North | Floor                  | 114.2    | 114.5           | 0.3                | 2.5E-08  | 7.60              | 1740        | 1.03                | 0.947                          | 92%                  | 5.4                                    | 29.0                  | 23.6           | 0.2     | 1.6               |                                                              |                                                            | 20.7                               | Potentially Acid Forming           | Moderate                                         |                          |            |  |
| 368        | 8/10/2014  | EB1446020681 | C4535         | S3490            | SS               | Bowen                | Blake North | Floor                  | 123.4    | 123.7           | 0.3                | 7.9E-06  | 5.10              | 634         | 0.76                | 0.543                          | 71%                  | 0.3                                    | 0.66                  | 0.40           | 0.0     | 0.9               |                                                              |                                                            | 2.8                                | Potentially Acid Forming           | Negligible                                       |                          |            |  |
| 369        | 8/10/2014  | EB1446020682 | C4535         | S3491            | SS/MS            | Conway               | Blake North | Floor                  | 128.7    | 129.0           | 0.3                | 2E-05    | 4.70              | 911         | 1.70                | 1.480                          | 87%                  | 0.3                                    | 45.3                  | 45.1           | 0.0     | 3.1               | 2.5                                                          |                                                            |                                    | 49.8                               | Potentially Acid Forming                         | Moderate                 |            |  |
| 370        | 8/10/2014  | EB1446020683 | C4535         | S3492            | SS               | Conway/Blake         | Blake North | Interburden            | 133.7    | 133.9           | 0.2                | 0.0001   | 4.00              | 1,610       | 2.05                | 1.100                          | 58%                  | 0.3                                    | 36.4                  | 36.2           | 0.0     | 2.7               | 2.5                                                          |                                                            |                                    | 51.5                               | Potentially Acid Forming                         | Very Low                 |            |  |
| 371        | 8/10/2014  | EB1446020684 | C4535         | S3493            | SS               | Conway/Blake         | Blake North | Interburden            | 140.0    | 140.2           | 0.3                | 6.3E-09  | 8.20              | 335         | 0.96                | 0%                             | 93.7                 | 29.4                                   | -64.3                 | 3.2            |         |                   |                                                              | 29.3                                                       | Potentially Acid Forming           | Very Low                           |                                                  |                          |            |  |
| 372        | 8/10/2014  | EB1446020685 | C4535         | S3494            | SD               | Conway/Blake         | Blake North | Interburden            | 145.4    | 145.7           | 0.3                | 6.3E-06  | 5.20              | 1,490       | 1.20                | 0.901                          | 75%                  | 9.3                                    | 27.8                  | 22.0           | 0.0     | 0.5               | 2.7                                                          |                                                            |                                    | 34.6                               | Potentially Acid Forming                         | Very Low                 |            |  |
| 373        | 8/10/2014  | EB1446020686 | C4535         | S3495            | SL               | Conway/Blake         | Blake North | Interburden            | 150.4    | 150.7           | 0.3                | 4E-05    | 4.40              | 1,350       | 4.53                | 3.130                          | 69%                  | 0.3                                    | 95.9                  | 95.6           | 0.0     | 2.6               | 2.2                                                          |                                                            |                                    | 95.7                               | Potentially Acid Forming                         | Very Low                 |            |  |
| 374        | 8/10/2014  | EB1446020687 | C4535         | S3496            | IG               | Blake                | Blake North | Parking                | 153.3    | 153.6           | 0.3                | 4E-10    | 9.40              | 412         | 0.23                | 0%                             | 112.0                | 7.0                                    | -105.0                | 15.9           |         |                   |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 375        | 8/10/2014  | EB1446020688 | C4535         | S3497            | MS               | Blake                | Blake North | Parking                | 164.0    | 164.3           | 0.3                | 1.6E-08  | 7.80              | 40          | 0.08                | 0%                             | 2.8                  | 2.5                                    | -0.4                  | 1.1            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 376        | 8/10/2014  | EB1446020689 | C4535         | S3498            | BL               | Blake                | Blake North | Floor                  | 167.9    | 168.2           | 0.3                | 7.9E-08  | 8.10              | 39          | 0%                  | 0%                             | 2.0                  | 1.2                                    | 0.8                   | 1.6            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 377        | 8/10/2014  | EB1446020690 | C4535         | S3499            | CG               | Blake/Box            | Blake North | Interburden            | 171.3    | 171.6           | 0.3                | 2E-08    | 7.70              | 111         | 0.03                | 0%                             | 2.8                  | 0.9                                    | -1.9                  | 3.0            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 378        | 8/10/2014  | EB1446020691 | C4535         | S3500            | SL               | Box                  | Blake North | Floor                  | 174.8    | 175.1           | 0.3                | 3.2E-09  | 8.50              | 47          | 0.03                | 0%                             | 2.9                  | 0.9                                    | -2.0                  | 3.2            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 379        | 15/10/2014 | EB1446027001 | C4536         | C4536_001        | SS               | Little Garrick       | Blake North | Floor                  | 7.1      | 7.4             | 0.3                | 1E-10    | 10.00             | 869         | 0%                  | 0%                             | 41.9                 | 0.9                                    | -41.9                 | 15.1           | 0.0     | 9.5               |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 380        | 15/10/2014 | EB1446027002 | C4536         | C4536_002        | SS               | Garrick              | Blake North | Floor                  | 11.5     | 11.7            | 0.3                | 4E-09    | 8.40              | 86          | 0.01                | 0%                             | 2.4                  | 0.2                                    | -2.2                  | 15.7           | 0.3     | 6.2               |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 381        | 15/10/2014 | EB1446027003 | C4536         | C4536_003        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 16.2     | 16.5            | 0.3                | 1E-09    | 9.00              | 152         | 0.04                | 0%                             | 4.0                  | 1.2                                    | -2.8                  | 3.3            | 0.9     | 7.0               |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 382        | 15/10/2014 | EB1446027004 | C4536         | C4536_004        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 21.0     | 21.3            | 0.3                | 2.5E-09  | 8.60              | 126         | 0.02                | 0%                             | 4.4                  | 0.6                                    | -3.8                  | 7.2            | 0.2     | 7.4               |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 383        | 15/10/2014 | EB1446027005 | C4536         | C4536_005        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 26.1     | 26.3            | 0.3                | 7.9E-09  | 8.10              | 81          | 0.305               | 0%                             | 6.3                  | 1.0                                    | -5.6                  | 1.8            | 1.4     |                   |                                                              |                                                            |                                    |                                    | Non-Acid Forming                                 | Negligible               |            |  |
| 384        | 15/10/2014 | EB1446027006 | C4536         | C4536_006        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 32.7     | 33.0            | 0.3                | 5E-08    | 7.30              | 823         | 0.41                | 0.248                          | 60%                  | 6.2                                    | 7.6                   | 1.4            | 0.8     | 0.2               | 4.4                                                          |                                                            |                                    | 3.0                                | Uncertain                                        | Very Low                 |            |  |
| 385        | 15/10/2014 | EB1446027007 | C4536         | C4536_007        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 37.2     | 37.5            | 0.3                | 1.3E-09  | 8.90              | 304         | 0.05                | 0%                             | 6.8                  | 1.5                                    | -5.3                  | 4.4            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 386        | 15/10/2014 | EB1446027008 | C4536         | C4536_008        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 42.9     | 43.2            | 0.3                | 7.9E-09  | 8.10              | 950         | 0.56                | 0.333                          | 59%                  | 20.5                                   | 10.2                  | -10.3          | 2.0     | 0.5               | 7.7                                                          |                                                            |                                    |                                    | Non-Acid Forming                                 | Very Low                 |            |  |
| 387        | 15/10/2014 | EB1446027009 | C4536         | C4536_009        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 47.1     | 47.4            | 0.3                | 1.6E-09  | 8.80              | 314         | 0.05                | 0%                             | 10.7                 | 1.5                                    | -9.2                  | 7.0            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 388        | 15/10/2014 | EB1446027010 | C4536         | C4536_010        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 53.6     | 54.0            | 0.4                | 6.3E-09  | 8.20              | 669         | 0.12                | 0%                             | 8.2                  | 3.7                                    | -4.5                  | 2.2            |         |                   |                                                              |                                                            |                                    | Uncertain                          | Very Low                                         |                          |            |  |
| 389        | 15/10/2014 | EB1446027011 | C4536         | C4536_011        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 59.7     | 60.0            | 0.4                | 2E-09    | 8.70              | 400         | 0.15                | 0%                             | 15.1                 | 4.6                                    | -10.5                 | 3.3            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 390        | 15/10/2014 | EB1446027012 | C4536         | C4536_012        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 64.8     | 64.8            | 0.3                | 7.9E-08  | 7.10              | 1,040       | 0.64                | 0.384                          | 62%                  | 2.6                                    | 12.1                  | 9.5            | 0.2     | 0.6               | 3.0                                                          |                                                            |                                    | 6.2                                | Potentially Acid Forming - Low Capacity          | Very Low                 |            |  |
| 391        | 15/10/2014 | EB1446027013 | C4536         | C4536_013        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 70.4     | 70.7            | 0.3                | 1.3E-07  | 6.80              | 301         | 0.70                | 0.881                          | 84%                  | 4.0                                    | 27.0                  | 22.4           | 0.2     | 6.8               | 2.9                                                          |                                                            |                                    | 21.4                               | Potentially Acid Forming                         | Very Low                 |            |  |
| 392        | 15/10/2014 | EB1446027014 | C4536         | C4536_014        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 75.7     | 76.0            | 0.3                | 1E-09    | 9.00              | 286         | 0.10                | 0%                             | 8.4                  | 3.1                                    | -5.3                  | 2.7            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming                   | Negligible                                       |                          |            |  |
| 393        | 15/10/2014 | EB1446027015 | C4536         | C4536_015        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 81.4     | 81.7            | 0.3                | 1.3E-09  | 8.50              | 395         | 0.09                | 0%                             | 3.2                  | 2.8                                    | 0.4                   | 1.2            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 394        | 15/10/2014 | EB1446027016 | C4536         | C4536_016        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 86.4     | 86.7            | 0.3                | 1.3E-09  | 8.80              | 263         | 0.07                | 0%                             | 2.6                  | 2.1                                    | -0.5                  | 1.2            |         |                   |                                                              |                                                            |                                    | Non-Acid Forming (Barren)          | Negligible                                       |                          |            |  |
| 395        | 15/10/2014 | EB1446027017 | C4536         | C4536_017        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 91.9     | 92.2            | 0.3                | 1.6E-08  | 7.80              | 240         | 0.64                | 0.452                          | 71%                  | 13.8                                   | 10.7                  | 0.2            | 1.6     |                   |                                                              |                                                            | 2.9                                | 8.7                                | 14.8                                             | Potentially Acid Forming | Negligible |  |
| 396        | 15/10/2014 | EB1446027018 | C4536         | C4536_018        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 97.5     | 97.8            | 0.3                | 2E-09    | 8.70              | 364         | 0.27                | 0.162                          | 71%                  | 6.6                                    | 5.9                   | -0.7           | 1.1     | 0.1               | 5.2                                                          |                                                            |                                    | 0.0                                | Uncertain                                        | Negligible               |            |  |
| 397        | 15/10/2014 | EB1446027019 | C4536         | C4536_019        | SS               | Garrick/Little Bowen | Blake North | Interburden            | 102.5    | 102.8           | 0.3                | 2E-09    | 8.70              | 334</       |                     |                                |                      |                                        |                       |                |         |                   |                                                              |                                                            |                                    |                                    |                                                  |                          |            |  |

**Table B1: Acid Base Account Results for Blake North Pit from the Collinsville Project**

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam      | Pit         | Sample Location in Pit | From<br>(m) | To<br>(m) | Interval<br>(M) | H <sup>+</sup><br>(pH (1:5)) | EC (1:5)<br>(µS/cm) | Total S<br>(%) | S <sub>Ca</sub><br>(%) | Scr Proportion<br>(%) | ANC <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | MPA <sup>2</sup><br>(%) | NAPP <sup>2</sup><br>(%) | ANC: MPA Ratio | TOC<br>(% C) | NAG <sub>pm</sub> | NAG Capacity (pH 4.5)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>3</sup> | Sample Classification <sup>3</sup> | Saline Drainage Classification (Using E-C (1:5)) |            |
|------------|------------|--------------|---------------|------------------|------------------|----------------|-------------|------------------------|-------------|-----------|-----------------|------------------------------|---------------------|----------------|------------------------|-----------------------|------------------------------------------------------------|-------------------------|--------------------------|----------------|--------------|-------------------|-----------------------------------------------------------------|---------------------------------------------------------------|------------------------------------|------------------------------------|--------------------------------------------------|------------|
| 454        | 29/10/2014 | EB1446027076 | C4537         | C4537_028        | SS               | Bowen/Blake    | Blake North | Interburden            | 154.0       | 154.2     | 0.2             | 2E-07                        | 6.70                | 376            | 0.74                   | 0.578                 | 78%                                                        | 4.8                     | 17.7                     | -12.9          | 0.3          | 1.1               |                                                                 | 2.9                                                           | 9.1                                | 14.8                               | Potentially Acid Forming                         | Negligible |
| 455        | 29/10/2014 | EB1446027077 | C4537         | C4537_029        | SS               | Bowen/Blake    | Blake North | Interburden            | 158.9       | 159.1     | 0.2             | 3.2E-09                      | 8.50                | 614            | 0.10                   |                       | 0%                                                         | 15.0                    | 3.1                      | -11.9          | 4.9          |                   |                                                                 |                                                               |                                    |                                    | Non-Acid Forming (Barren)                        | Very Low   |
| 456        | 29/10/2014 | EB1446027078 | C4537         | C4537_030        | SS               | Bowen/Blake    | Blake North | Interburden            | 163.2       | 163.5     | 0.3             | 5E-07                        | 6.30                | 1,510          | 1.30                   | 1,290                 | 99%                                                        | 0.3                     | 39.5                     | 39.3           | 0.0          | 0.5               |                                                                 | 2.5                                                           | 43.2                               | 50.9                               | Potentially Acid Forming                         | Moderate   |
| 457        | 29/10/2014 | EB1446027079 | C4537         | C4537_031        | SL               | Blake          | Blake North | Roof                   | 167.3       | 167.6     | 0.3             | 5E-05                        | 4.30                | 1,160          | 4.27                   | 3,250                 | 76%                                                        | 0.3                     | 99.5                     | 99.3           | 0.0          | 4.1               |                                                                 | 2.1                                                           | 96.9                               | 108.8                              | Potentially Acid Forming                         | Very Low   |
| 458        | 29/10/2014 | EB1446027080 | C4537         | C4537_032        | IG               | Blake          | Blake North | Parting                | 176.4       | 176.7     | 0.3             | 2.5E-10                      | 9.60                | 460            | 0.03                   |                       | 0%                                                         | 106.0                   | 0.9                      | -105.1         | 115.4        |                   |                                                                 |                                                               |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 459        | 29/10/2014 | EB1446027081 | C4537         | C4537_033        | MS               | Blake          | Blake North | Floor                  | 182.5       | 182.8     | 0.3             | 7.9E-09                      | 8.10                | 40             | 0.03                   |                       | 0%                                                         | 1.4                     | 0.9                      | -0.5           | 1.5          |                   |                                                                 |                                                               |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 460        | 29/10/2014 | EB1446027082 | C4537         | C4537_034        | SS               | Bowen/Blake    | Blake North | Interburden            | 144.7       | 145.0     | 0.3             | 1.3E-05                      | 4.90                | 699            | 1.51                   | 1,180                 | 78%                                                        | 0.3                     | 36.1                     | 35.9           | 0.0          | 4.2               |                                                                 | 2.5                                                           | 39.1                               | 49.2                               | Potentially Acid Forming                         | Moderate   |
| 461        | 29/10/2014 | EB1446027083 | C4537         | C4537_035        | SS               | Bowen/Blake    | Blake North | Interburden            | 149.5       | 149.7     | 0.2             | 1.6E-06                      | 5.80                | 547            | 0.57                   | 0.393                 | 69%                                                        | 0.3                     | 12.0                     | 11.8           | 0.0          | 0.5               |                                                                 | 2.8                                                           | 8.7                                | 13.0                               | Potentially Acid Forming                         | Very Low   |
| 462        | 29/10/2014 | EB1446027084 | C4537         | C4537_036        | SS               | Blake/Bos      | Blake North | Interburden            | 186.9       | 187.2     | 0.3             | 4E-09                        | 8.40                | 122            | 0.02                   |                       | 0%                                                         | 2.3                     | 0.6                      | -1.7           | 3.8          |                   |                                                                 |                                                               |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 463        | 29/10/2014 | EB1446027085 | C4537         | C4537_037        | CG               | Blake/Bos      | Blake North | Interburden            | 189.1       | 189.3     | 0.2             | 1.6E-09                      | 8.60                | 90             | 0.02                   |                       | 0%                                                         | 3.6                     | 0.6                      | -3.0           | 5.9          |                   |                                                                 |                                                               |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 464        | 29/10/2014 | EB1446027086 | C4537         | C4537_038        | MS               | Blake/Bos      | Blake North | Interburden            | 189.8       | 190.1     | 0.3             | 2.5E-09                      | 8.60                | 60             | 0.04                   |                       | 0%                                                         | 2.3                     | 1.2                      | -1.1           | 1.6          |                   |                                                                 |                                                               |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 465        | 29/10/2014 | EB1446027087 | C4537         | C4537_039        | SS               | -end of hole - | Blake North | Basement               | 194.4       | 194.6     | 0.2             | 3.2E-10                      | 9.50                | 223            | 0.02                   |                       | 0%                                                         | 3.0                     | 0.8                      | -2.4           | 4.9          |                   |                                                                 |                                                               |                                    |                                    | Non-Acid Forming (Barren)                        | Negligible |

Notes:  
1. S<sub>Ca</sub> = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.  
2. Sample classification criteria detail provided in report text.  
\* Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used.

Table B1: Acid Base Account Results for Blake West Pit from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam          | Pit        | Sample Location In Pit | From (m) | To (m) | Interval (M) | H <sup>+</sup> pH (1:5) | EC (1:5) (µS/cm) | Total S (%) | Sc <sub>cr</sub> (%) | Scr Proportion (%) | ANC <sup>2</sup> | MPA <sup>2</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup> | ANC: MPA Ratio | TOC (%) | NAG <sub>pot</sub> | NAG Capacity (pH 4.5) (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7) | Sample Classification <sup>1</sup> | Saline Drainage Classification (Using E.C (1:5)) |                           |            |
|------------|------------|--------------|---------------|------------------|------------------|--------------------|------------|------------------------|----------|--------|--------------|-------------------------|------------------|-------------|----------------------|--------------------|------------------|---------------------------------------------------------|-------------------|----------------|---------|--------------------|--------------------------------------------------------------|---------------------|------------------------------------|--------------------------------------------------|---------------------------|------------|
| 466        | 10/08/2014 | EB1441574001 | C4517         | 53313            | SS               | -                  | Blake West | Overburden             | 7.3      | 7.6    | 0.3          | 7.9E-09                 | 8.10             | 282         | 0.04                 | 0%                 | 9.0              | 1.2                                                     | -7.8              | 7.3            |         |                    |                                                              |                     | Non-Acid Forming (Barren)          | Negligible                                       |                           |            |
| 467        | 10/08/2014 | EB1441574002 | C4517         | 53314            | SS               | -                  | Blake West | Overburden             | 12.7     | 13.0   | 0.3          | 1.6E-07                 | 6.80             | 876         | 0.43                 | 0.288              | 67%              | 5.1                                                     | 8.8               | 3.7            | 0.6     | 0.1                | 3.8                                                          | 1.9                 | 5.6                                | Uncertain                                        | Very Low                  |            |
| 468        | 10/08/2014 | EB1441574003 | C4517         | 53315            | SS               | Scott              | Blake West | Roof                   | 18.3     | 18.6   | 0.3          | 2.5E-06                 | 5.60             | 1,280       | 1.13                 |                    | 0%               | 3.5                                                     | 34.6              | 31.1           | 0.1     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Moderate                  |            |
| 469        | 10/08/2014 | EB1441574004 | C4517         | 53316            | SS               | Denison            | Blake West | Roof                   | 22.9     | 23.2   | 0.3          | 3.2E-06                 | 5.50             | 769         | 2.70                 |                    | 0%               | 2.2                                                     | 82.7              | 80.5           | 0.0     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Very Low                  |            |
| 470        | 10/08/2014 | EB1441574005 | C4517         | 53317            | SS               | Denison            | Blake West | Floor                  | 30.9     | 31.1   | 0.2          | 6.3E-08                 | 7.20             | 382         | 0.22                 | 0.155              | 70%              | 6.8                                                     | 4.7               | -2.1           | 1.4     | 0.6                | 5.6                                                          | <0.1                | 1.7                                | Uncertain                                        | Negligible                |            |
| 471        | 10/08/2014 | EB1441574006 | C4517         | 53318            | SS               | Potts              | Blake West | Roof                   | 34.9     | 35.2   | 0.2          | 6.3E-08                 | 7.20             | 1,800       | 1.94                 | 1,460              | 75%              | 110.0                                                   | 44.7              | -65.3          | 2.5     | 0.6                | 8.1                                                          |                     |                                    | Non-Acid Forming                                 | Moderate                  |            |
| 472        | 10/08/2014 | EB1441574007 | C4517         | 53319            | SS               | Potts              | Blake West | Floor                  | 38.5     | 38.7   | 0.3          | 1.3E-07                 | 6.90             | 208         | 0.19                 |                    | 0%               | 3.3                                                     | 5.8               | 2.5            | 0.6     |                    |                                                              |                     |                                    | Uncertain                                        | Negligible                |            |
| 473        | 10/08/2014 | EB1441574008 | C4517         | 53320            | IG               | Little Bowen       | Blake West | Roof                   | 41.4     | 41.7   | 0.3          | 7.9E-09                 | 8.10             | 414         | 0.18                 | 0.141              | 78%              | 139.0                                                   | 4.3               | -134.7         | 32.2    | 0.1                | 8.5                                                          | <0.1                |                                    | Non-Acid Forming                                 | Negligible                |            |
| 474        | 10/08/2014 | EB1441574009 | C4517         | 53321            | IG               | Bowen              | Blake West | Parting                | 47.6     | 47.9   | 0.3          | 1E-08                   | 8.00             | 381         | 0.09                 | 0.077              | 86%              | 139.0                                                   | 2.4               | -136.6         | 58.9    | 0.1                | 8.6                                                          | <0.1                |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 475        | 10/08/2014 | EB1441574010 | C4517         | 53322            | SS               | Bowen              | Blake West | Floor                  | 52.5     | 52.8   | 0.3          | 5E-07                   | 6.30             | 520         | 1.39                 |                    | 0%               | 1.5                                                     | 42.6              | 41.1           | 0.0     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Moderate                  |            |
| 476        | 10/08/2014 | EB1441574011 | C4517         | 53323            | SS               | Bowen/Conway       | Blake West | Interburden            | 58.2     | 58.5   | 0.3          | 4E-07                   | 6.40             | 518         | 1.34                 |                    | 0%               | 1.0                                                     | 41.0              | 40.0           | 0.0     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Moderate                  |            |
| 477        | 10/08/2014 | EB1441574012 | C4517         | 53324            | SS               | Bowen/Conway       | Blake West | Interburden            | 63.7     | 64.0   | 0.2          | 1E-06                   | 6.00             | 833         | 0.55                 | 0.378              | 69%              | 1.1                                                     | 11.6              | 10.5           | 0.1     | 0.6                | 3.4                                                          | 8.9                 | 16.6                               |                                                  | Potentially Acid Forming  | Very Low   |
| 478        | 10/08/2014 | EB1441574013 | C4517         | 53325            | SS               | Bowen/Conway       | Blake West | Interburden            | 69.1     | 69.4   | 0.3          | 6.3E-06                 | 5.20             | 1,200       | 3.15                 |                    | 0%               | 0.3                                                     | 96.5              | 96.2           | 0.0     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Very Low                  |            |
| 479        | 10/08/2014 | EB1441574014 | C4517         | 53326            | SS               | Conway/Blake       | Blake West | Interburden            | 74.3     | 74.6   | 0.3          | 4E-07                   | 6.40             | 945         | 0.83                 |                    | 0%               | 1.7                                                     | 28.5              | 26.6           | 0.1     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Very Low                  |            |
| 480        | 10/08/2014 | EB1441574015 | C4517         | 53327            | SS, SL           | Conway/Blake       | Blake West | Interburden            | 79.7     | 80.0   | 0.3          | 1E-06                   | 6.00             | 1,250       | 1.52                 | 1,320              | 87%              | 1.2                                                     | 40.4              | 39.2           | 0.0     | 1.3                | 2.8                                                          | 29.2                | 38                                 |                                                  | Potentially Acid Forming  | Moderate   |
| 481        | 10/08/2014 | EB1441574016 | C4517         | 53328            | SS               | Blake              | Blake West | Roof                   | 86.1     | 86.5   | 0.3          | 2.5E-08                 | 7.60             | 568         | 1.62                 | 1,430              | 88%              | 14.5                                                    | 43.8              | 29.3           | 0.3     | 0.3                | 3.0                                                          | 24.2                |                                    | Potentially Acid Forming                         | Moderate                  |            |
| 482        | 10/08/2014 | EB1441574017 | C4517         | 53329            | IG               | Blake              | Blake West | Parting                | 86.3     | 86.6   | 0.3          | 5E-10                   | 9.30             | 517         | 0.19                 | 0.169              | 89%              | 62.4                                                    | 5.2               | -57.2          | 12.1    | 0.0                | 9.1                                                          | <0.1                |                                    | Non-Acid Forming                                 | Very Low                  |            |
| 483        | 10/08/2014 | EB1441574018 | C4517         | 53330            | XM               | Blake              | Blake West | Parting                | 99.2     | 99.4   | 0.3          | 3.2E-08                 | 7.50             | 54          | 0.05                 |                    | 0%               | 3.8                                                     | 1.5               | -2.3           | 2.5     |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 484        | 10/08/2014 | EB1441574019 | C4517         | 53331            | CG               | Blake              | Blake West | Floor                  | 109.2    | 109.5  | 0.3          | 1E-08                   | 8.00             | 86          | 0.03                 |                    | 0%               | 1.9                                                     | 0.9               | -1.0           | 2.1     |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 485        | 10/08/2014 | EB1441574020 | C4517         | 53332            | IV               | - end of hole -    | Blake West | Basement               | 114.5    | 114.8  | 0.3          | 5E-10                   | 9.30             | 510         | 0.03                 | 0.022              | 73%              | 49.5                                                    | 0.7               | -49.8          | 73.5    | 0.2                | 10.6                                                         | <0.1                |                                    | Non-Acid Forming (Barren)                        | Very Low                  |            |
| 486        | 24/10/2014 | EB1446015039 | C4530         | C4530_001        | SS               | -                  | Blake West | Overburden             | 6.0      | 1.0    | 1.0          | 1E-06                   | 6.00             | 201         | 0.06                 |                    | 0%               | 0.3                                                     | 1.8               | 1.6            | 0.1     | 1.0                | 5.9                                                          | 0.0                 | 0.0                                |                                                  | Non-Acid Forming (Barren) | Negligible |
| 487        | 24/10/2014 | EB1446015040 | C4530         | C4530_002        | SS               | -                  | Blake West | Overburden             | 1.0      | 2.0    | 1.0          | 7.9E-07                 | 6.10             | 229         | 0.06                 |                    | 0%               | 0.6                                                     | 1.8               | 1.2            | 0.3     | 0.9                | 5.9                                                          | 0.0                 | 0.0                                |                                                  | Non-Acid Forming (Barren) | Negligible |
| 488        | 24/10/2014 | EB1446015041 | C4530         | C4530_003        | SS               | -                  | Blake West | Overburden             | 2.0      | 3.0    | 1.0          | 1.6E-06                 | 5.80             | 198         | 0.06                 |                    | 0%               | 0.6                                                     | 1.8               | 1.2            | 0.3     | 1.1                | 5.9                                                          | 0.0                 | 0.0                                |                                                  | Non-Acid Forming (Barren) | Negligible |
| 489        | 24/10/2014 | EB1446015042 | C4530         | C4530_004        | SS               | -                  | Blake West | Overburden             | 3.0      | 4.0    | 1.0          | 1.6E-06                 | 5.80             | 159         | 0.05                 |                    | 0%               | 0.9                                                     | 1.5               | 0.6            | 0.6     |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 490        | 24/10/2014 | EB1446015043 | C4530         | C4530_005        | SS               | -                  | Blake West | Overburden             | 4.0      | 5.0    | 1.0          | 1E-06                   | 6.00             | 116         | 0.04                 |                    | 0%               | 0.3                                                     | 1.2               | 1.0            | 0.2     | 0.8                | 5.4                                                          | 0.0                 | 0.0                                |                                                  | Non-Acid Forming (Barren) | Negligible |
| 491        | 24/10/2014 | EB1446015044 | C4530         | C4530_006        | SS               | -                  | Blake West | Overburden             | 5.0      | 6.0    | 1.0          | 1E-06                   | 6.00             | 94          | 0.04                 |                    | 0%               | 0.5                                                     | 1.2               | 0.7            | 0.4     | 0.8                | 5.4                                                          | 0.0                 | 0.0                                |                                                  | Non-Acid Forming (Barren) | Negligible |
| 492        | 10/09/2014 | EB1446015045 | C4530         | 53277            | SS               | -                  | Blake West | Overburden             | 8.3      | 8.6    | 0.3          | 1E-07                   | 7.00             | 42          | 0.02                 |                    | 0%               | 2.5                                                     | 0.6               | -1.9           | 4.1     |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 493        | 10/09/2014 | EB1446015046 | C4530         | 53278            | SL               | Blake West         | Overburden | 13.1                   | 13.4     | 0.3    | 2E-05        | 4.70                    | 1,480            | 2.00        | 1,210                | 61%                | 1.1              | 37.1                                                    | 36.0              | 0.0            | 2.1     | 2.7                | 32.9                                                         | 42.3                |                                    | Potentially Acid Forming                         | Very Low                  |            |
| 494        | 10/09/2014 | EB1446015047 | C4530         | 53279            | SL/MS            | Bowen              | Blake West | Roof                   | 17.8     | 18.1   | 0.3          | 3.2E-07                 | 6.50             | 273         | 0.37                 | 0.181              | 49%              | 4.4                                                     | 5.5               | -1.1           | 0.8     | 0.9                | 3.9                                                          | 2.2                 | 6.7                                |                                                  | Uncertain                 | Negligible |
| 495        | 10/09/2014 | EB1446015048 | C4530         | 53280            | IG               | Bowen              | Blake West | Parting                | 22.6     | 23.0   | 0.4          | 1.6E-06                 | 7.80             | 504         | 1.06                 | 0.917              | 87%              | 185.0                                                   | 28.1              | -156.9         | 6.6     | 0.1                | 8.7                                                          | 0.0                 | 0.0                                |                                                  | Non-Acid Forming          | Moderate   |
| 496        | 10/09/2014 | EB1446015049 | C4530         | 53281            | SL               | Bowen/Conway       | Blake West | Interburden            | 28.5     | 28.8   | 0.4          | 2E-05                   | 4.70             | 990         | 1.70                 | 1,200              | 71%              | 0.3                                                     | 36.8              | 36.5           | 0.0     | 1.3                | 2.7                                                          | 33.8                | 43.8                               |                                                  | Potentially Acid Forming  | Moderate   |
| 497        | 10/09/2014 | EB1446015050 | C4530         | 53282            | SS               | Bowen/Conway       | Blake West | Interburden            | 34.1     | 34.3   | 0.3          | 1.5E-06                 | 5.80             | 998         | 0.56                 |                    | 0%               | 2.2                                                     | 17.2              | 15.0           | 0.1     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Very Low                  |            |
| 498        | 10/09/2014 | EB1446015051 | C4530         | 53283            | SS               | Bowen/Conway       | Blake West | Interburden            | 40.3     | 40.7   | 0.3          | 2.5E-05                 | 4.60             | 1,140       | 1.95                 | 1,220              | 63%              | 0.3                                                     | 37.4              | 37.1           | 0.0     | 0.8                | 2.7                                                          | 34.8                | 43.9                               |                                                  | Potentially Acid Forming  | Moderate   |
| 499        | 10/09/2014 | EB1446015052 | C4530         | 53284            | SS               | Bowen/Conway       | Blake West | Interburden            | 45.1     | 45.4   | 0.3          | 3.2E-05                 | 4.50             | 1,270       | 3.41                 | 2,260              | 66%              | 0.3                                                     | 69.2              | 69.0           | 0.0     | 0.6                | 2.4                                                          | 64.4                | 73.5                               |                                                  | Potentially Acid Forming  | Low        |
| 500        | 10/09/2014 | EB1446015053 | C4530         | 53285            | SS               | Conway/Blake       | Blake West | Interburden            | 51.0     | 51.2   | 0.3          | 6E-06                   | 5.30             | 792         | 0.43                 |                    | 0%               | 2.2                                                     | 13.2              | 11.0           | 0.2     |                    |                                                              |                     |                                    | Potentially Acid Forming                         | Very Low                  |            |
| 501        | 10/09/2014 | EB1446015054 | C4530         | 53286            | SS               | Blake              | Blake West | Roof                   | 55.0     | 55.3   | 0.3          | 3.2E-07                 | 6.50             | 361         | 0.28                 | 0.178              | 64%              | 5.7                                                     | 5.5               | -0.2           | 1.0     | 0.2                | 4.6                                                          | 64.4                | 73.5                               |                                                  | Uncertain                 | Negligible |
| 502        | 10/09/2014 | EB1446015055 | C4530         | 53287            | MS               | Blake              | Blake West | Parting                | 67.9     | 68.1   | 0.3          | 4E-07                   | 6.40             | 55          | 0.08                 |                    | 0%               | 4.4                                                     | 2.5               | -2.0           | 1.8     |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 503        | 10/09/2014 | EB1446015056 | C4530         | 53288            | SL               | Bos                | Blake West | Roof                   | 76.5     | 76.7   | 0.3          | 1E-07                   | 7.00             | 39          | 0.08                 |                    | 0%               | 4.2                                                     | 2.5               | -1.8           | 1.7     |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 504        | 10/09/2014 | EB1446015057 | C4530         | 53289            | SS               | - end of hole -    | Blake West | Basement               | 83.0     | 83.3   | 0.3          | 2.5E-08                 | 7.60             | 52          | 0.03                 |                    | 0%               | 11.5                                                    | 0.9               | -10.6          | 12.5    |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 505        | 10/09/2014 | EB1446015058 | C4530         | 53290            | CG               | - end of hole -    | Blake West | Basement               | 86.1     | 86.4   | 0.3          | 7.9E-09                 | 8.10             | 226         | 0.02                 |                    | 0%               | 17.5                                                    | 0.6               | -16.9          | 28.6    |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 506        | 10/09/2014 | EB1446015059 | C4530         | 53291            | IV/XM            | - end of hole -    | Blake West | Basement               | 89.5     | 89.8   | 0.3          | 4E-09                   | 8.40             | 225         | 0.02                 |                    | 0%               | 183.0                                                   | 0.6               | -182.4         | 298.8   |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 507        | 10/09/2014 | EB1446015060 | C4530         | 53292            | IV               | - end of hole -    | Blake West | Basement               | 94.2     | 94.4   | 0.2          | 1E-09                   | 9.00             | 438         | 0.01                 |                    | 0%               | 50.6                                                    | 0.2               | -50.4          | 330.4   |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 508        | 11/10/2014 | EB1446015061 | C4531R2       | 53452            | SL               | Potts              | Blake West | Floor                  | 33.7     | 34.5   | 0.8          | 6.3E-09                 | 8.20             | 252         | 0.06                 |                    | 0%               | 6.8                                                     | 1.8               | -5.1           | 3.8     |                    |                                                              |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                |            |
| 509        | 11/10/2014 | EB1446015062 | C4531R2       | 53453            | SS               | Potts/Little Bowen | Blake West | Interburden            | 38.9     | 39.7   | 0.8          | 2.5E-09                 | 8.60             | 264         | 0.02                 |                    | 0%               | 10.4                                                    | 0.6               | -9.8           | 17.0</  |                    |                                                              |                     |                                    |                                                  |                           |            |

Table B1: Acid Base Account Results for Ramp 12 from the Collinsville Project

| Sample No. | Date      | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam       | Pit     | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup><br>(M) | pH (1:5) | EC (1:5)<br>(µS/cm) | Total S <sub>Ca</sub><br>(%) | S <sub>Ca</sub><br>(%) | Scr Proportion<br>(%) | ANC <sup>1</sup><br>(%) | MPA <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>3</sup><br>(%) | ANC: MPA Ratio | TOC<br>(% C) | NAG <sub>H+</sub> | NAG Capacity (pH 4.5)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>4</sup> | Saline Drainage Classification (Using E-C (1:5)) |            |
|------------|-----------|--------------|---------------|------------------|------------------|-----------------|---------|------------------------|-------|-------|----------|-----------------------|----------|---------------------|------------------------------|------------------------|-----------------------|-------------------------|------------------------------------------------------------|--------------------------|----------------|--------------|-------------------|-----------------------------------------------------------------|---------------------------------------------------------------|------------------------------------|--------------------------------------------------|------------|
| 523        | 6/08/2014 | EB1441569001 | C4514         | 53622            | SS               | -               | Ramp 12 | Overburden             | 3.7   | 4.0   | 0.3      | 7.9E-09               | 8.10     | 507                 | 0.08                         | 0.041                  | 51%                   | 28.2                    | 1.3                                                        | 26.9                     | 22.5           | 0.2          | 9.9               | <0.1                                                            |                                                               | Non-Acid Forming (Barren)          | Very Low                                         |            |
| 524        | 6/08/2014 | EB1441569002 | C4514         | 53623            | SS               | -               | Ramp 12 | Overburden             | 9.3   | 9.6   | 0.3      | 1.3E-08               | 7.90     | 357                 | 0.11                         | 0%                     | 0%                    | 4.0                     | 3.4                                                        | 6.6                      | 3.0            |              |                   |                                                                 |                                                               | Non-Acid Forming                   | Negligible                                       |            |
| 525        | 6/08/2014 | EB1441569003 | C4514         | 53624            | SS               | -               | Ramp 12 | Overburden             | 14.7  | 15.0  | 0.3      | 6.5E-09               | 8.20     | 111                 | 0.04                         |                        | 10                    | 1.8                     | 1.2                                                        | 3.4                      | 3.8            |              |                   |                                                                 |                                                               | Non-Acid Forming (Barren)          | Negligible                                       |            |
| 526        | 6/08/2014 | EB1441569004 | C4514         | 53625            | SS               | -               | Ramp 12 | Overburden             | 19.1  | 19.3  | 0.3      | 6.3E-07               | 6.20     | 1,250               | 1.88                         | 1,370                  | 73%                   | 1.9                     | 42.0                                                       | 40.1                     | 0.0            | 0.1          | 3.0               | 31.6                                                            | 38.9                                                          |                                    | Potentially Acid Forming                         | Very Low   |
| 527        | 6/08/2014 | EB1441569005 | C4514         | 53626            | SS               | Peace/Scott     | Ramp 12 | Interburden            | 25.3  | 25.6  | 0.4      | 2.5E-08               | 7.60     | 597                 | 0.35                         | 0.231                  | 66%                   | 38.3                    | 7.1                                                        | -31.2                    | 5.4            | 0.5          | 9.2               | <0.1                                                            |                                                               | Non-Acid Forming                   | Very Low                                         |            |
| 528        | 6/08/2014 | EB1441569006 | C4514         | 53627            | SS               | Peace/Scott     | Ramp 12 | Interburden            | 30.9  | 31.2  | 0.3      | 2.5E-07               | 6.60     | 895                 | 1.14                         | 0.877                  | 77%                   | 0.3                     | 26.9                                                       | 26.6                     | 0.0            | 0.8          | 2.6               | 20.7                                                            | 30.9                                                          |                                    | Potentially Acid Forming                         | Moderate   |
| 529        | 6/08/2014 | EB1441569007 | C4514         | 53628            | SS               | Scott           | Ramp 12 | Roof                   | 32.9  | 33.2  | 0.3      | 1E-06                 | 6.00     | 915                 | 0.84                         | 0.528                  | 63%                   | 0.3                     | 16.2                                                       | 15.9                     | 0.0            | 0.3          | 2.5               | 16.0                                                            | 20.0                                                          |                                    | Potentially Acid Forming                         | Very Low   |
| 530        | 6/08/2014 | EB1441569008 | C4514         | 53629            | SS               | Denison         | Ramp 12 | Parting                | 37.6  | 37.9  | 0.3      | 3.2E-08               | 7.50     | 323                 | 0.06                         | 0.031                  | 52%                   | 146.6                   | 1.9                                                        | -146.1                   | 196.9          | 0.3          | 8.6               | <0.1                                                            |                                                               | Non-Acid Forming (Barren)          | Negligible                                       |            |
| 531        | 6/08/2014 | EB1441569009 | C4514         | 53630            | SS               | Red             | Ramp 12 | Floor                  | 40.4  | 40.6  | 0.3      | 2.5E-08               | 7.60     | 301                 | 0.25                         | 0.192                  | 77%                   | 9.2                     | 5.9                                                        | -3.3                     | 1.6            | 0.3          | 8.4               | <0.1                                                            |                                                               | Uncertain                          | Very Low                                         |            |
| 532        | 6/08/2014 | EB1441569010 | C4514         | 53631            | MS, SS           | Potts           | Ramp 12 | Roof                   | 43.9  | 44.2  | 0.3      | 4E-07                 | 6.40     | 933                 | 1.49                         | 0%                     | 0.3                   | 45.6                    | 45.4                                                       | 0.0                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Moderate                                         |            |
| 533        | 6/08/2014 | EB1441569011 | C4514         | 53632            | SS               | Potts           | Ramp 12 | Floor                  | 47.0  | 47.4  | 0.3      | 6.3E-08               | 7.20     | 207                 | 0.36                         | 0.268                  | 74%                   | 4.9                     | 8.2                                                        | 3.3                      | 0.6            | 1.7          | 4.4               | 0.2                                                             | 7.9                                                           |                                    | Uncertain                                        | Negligible |
| 534        | 6/08/2014 | EB1441569012 | C4514         | 53633            | SS               | Potts/Bowen     | Ramp 12 | Interburden            | 51.7  | 52.0  | 0.3      | 4E-09                 | 8.40     | 212                 | 0.06                         | 0.049                  | 82%                   | 21.1                    | 1.5                                                        | -19.6                    | 14.1           | 0.1          | 9.4               | <0.1                                                            |                                                               | Non-Acid Forming (Barren)          | Negligible                                       |            |
| 535        | 6/08/2014 | EB1441569013 | C4514         | 53634            | XM               | Bowen           | Ramp 12 | Roof                   | 57.0  | 57.3  | 0.3      | 1E-08                 | 8.00     | 126                 | 0.04                         | 0.314                  | 68%                   | 6.5                     | 9.6                                                        | 3.1                      | 0.7            | 1.3          | 3.7               | 2.8                                                             |                                                               |                                    |                                                  |            |
| 536        | 6/08/2014 | EB1441569014 | C4514         | 53635            | SS               | Bowen           | Ramp 12 | Floor                  | 65.8  | 66.1  | 0.3      | 2.5E-06               | 5.60     | 618                 | 1.34                         | 1.000                  | 75%                   | 0.3                     | 30.6                                                       | 30.4                     | 0.0            | 1.7          | 2.9               | 35.6                                                            | 48.5                                                          |                                    | Potentially Acid Forming                         | Moderate   |
| 537        | 6/08/2014 | EB1441569015 | C4514         | 53636            | SS               | Bowen/Conway    | Ramp 12 | Interburden            | 70.2  | 70.4  | 0.3      | 4E-06                 | 5.40     | 787                 | 1.82                         | 0%                     | 0.3                   | 55.7                    | 55.5                                                       | 0.0                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Moderate                                         |            |
| 538        | 6/08/2014 | EB1441569016 | C4514         | 53637            | SS               | Bowen/Conway    | Ramp 12 | Interburden            | 75.5  | 75.8  | 0.3      | 6.3E-07               | 6.20     | 620                 | 0.32                         | 0.206                  | 64%                   | 0.6                     | 5.3                                                        | 5.7                      | 0.1            | 0.2          | 3.3               | 2.7                                                             | 7                                                             |                                    | Potentially Acid Forming - Low Capacity          | Very Low   |
| 539        | 6/08/2014 | EB1441569017 | C4514         | 53638            | SS               | Bowen/Conway    | Ramp 12 | Interburden            | 81.8  | 82.1  | 0.3      | 3.5E-06               | 5.10     | 915                 | 2.22                         | 0%                     | 0.3                   | 69.5                    | 69.3                                                       | 0.0                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Negligible                                       |            |
| 540        | 6/08/2014 | EB1441569018 | C4514         | 53639            | SS               | Conway          | Ramp 12 | Floor                  | 85.3  | 85.6  | 0.3      | 4E-08                 | 7.40     | 89                  | 0.16                         |                        | 8.4                   | 4.9                     | 3.3                                                        | 1.7                      |                |              |                   |                                                                 |                                                               | Uncertain                          | Negligible                                       |            |
| 541        | 6/08/2014 | EB1441569019 | C4514         | 53640            | SS               | Conway/Blake    | Ramp 12 | Interburden            | 91.7  | 92.0  | 0.3      | 2.5E-05               | 4.60     | 1,440               | 5.77                         | 4.090                  | 71%                   | 0.3                     | 125.3                                                      | 125.0                    | 0.0            | 2.5          | 2.0               | 133                                                             | 144                                                           |                                    | Potentially Acid Forming                         | Very Low   |
| 542        | 6/08/2014 | EB1441569020 | C4514         | 53641            | SS               | Blake           | Ramp 12 | Ramp                   | 97.0  | 97.3  | 0.3      | 3.2E-05               | 4.50     | 1,580               | 4.64                         | 0%                     | 0.3                   | 142.1                   | 141.9                                                      | 0.0                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Very Low                                         |            |
| 543        | 6/08/2014 | EB1441569021 | C4514         | 53642            | IG               | Blake           | Ramp 12 | Parting                | 102.4 | 102.7 | 0.3      | 2E-09                 | 8.70     | 453                 | 0.14                         | 0.114                  | 81%                   | 190.0                   | 3.5                                                        | -189.5                   | 54.4           | <-0.02       | 8.9               | <0.1                                                            |                                                               | Non-Acid Forming                   | Negligible                                       |            |
| 544        | 6/08/2014 | EB1441569022 | C4514         | 53643            | SL               | Blake/Bos       | Ramp 12 | Parting                | 109.5 | 108.7 | 0.3      | 6.3E-09               | 8.20     | 95                  | 0.04                         |                        | 2.5                   | 1.2                     | -1.3                                                       | 2.0                      |                |              |                   |                                                                 |                                                               | Non-Acid Forming (Barren)          | Negligible                                       |            |
| 545        | 6/08/2014 | EB1441569023 | C4514         | 53644            | SL               | Blake/Bos       | Ramp 12 | Interburden            | 114.8 | 115.1 | 0.3      | 1.3E-08               | 7.90     | 53                  | 0.03                         |                        | 0%                    | 2.6                     | 0.9                                                        | -1.7                     | 2.8            |              |                   |                                                                 |                                                               |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 546        | 6/08/2014 | EB1441569024 | C4514         | 53645            | SL               | Bos             | Ramp 12 | Floor                  | 120.0 | 120.3 | 0.2      | 1.6E-08               | 7.80     | 46                  | 0.03                         |                        | 0%                    | 2.0                     | 0.9                                                        | -1.1                     | 2.2            |              |                   |                                                                 |                                                               |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 547        | 6/08/2014 | EB1441569025 | C4514         | 53646            | CG               | - end of hole - | Ramp 12 | Basement               | 124.3 | 124.7 | 0.4      | 1.6E-09               | 8.80     | 372                 | 0.04                         |                        | 0%                    | 15.5                    | 1.2                                                        | -14.3                    | 12.7           |              |                   |                                                                 |                                                               |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 548        | 6/08/2014 | EB1441569026 | C4514         | 53647            | IG               | - end of hole - | Ramp 12 | Basement               | 129.6 | 128.9 | 0.3      | 5E-10                 | 9.30     | 514                 | 0.03                         | 0.023                  | 77%                   | 24.0                    | 0.7                                                        | -23.3                    | 34.1           | 0.2          | 10.0              | 0.1                                                             | 0.1                                                           |                                    | Non-Acid Forming (Barren)                        | Very Low   |
| 549        | 6/08/2014 | EB1441569027 | C4514         | 53648            | IV               | - end of hole - | Ramp 12 | Basement               | 133.8 | 134.1 | 0.3      | 2.5E-10               | 9.60     | 471                 | 0.04                         |                        | 0%                    | 25.6                    | 1.2                                                        | -24.4                    | 20.9           |              |                   |                                                                 |                                                               |                                    | Non-Acid Forming (Barren)                        | Negligible |
| 550        | 6/08/2014 | EB1441569028 | C4514         | 53649            | CG               | - end of hole - | Ramp 12 | Basement               | 139.8 | 140.2 | 0.3      | 6.3E-10               | 9.20     | 380                 | 0.06                         | 0.030                  | 50%                   | 196.0                   | 0.9                                                        | -195.1                   | 213.3          | 0.0          | 10.7              | <0.1                                                            |                                                               | Non-Acid Forming (Barren)          | Negligible                                       |            |
| 551        | 6/08/2014 | EB1441569029 | C4514         | 53650            | IV               | - end of hole - | Ramp 12 | Basement               | 143.3 | 143.6 | 0.3      | 3.2E-10               | 9.50     | 595                 | 0.03                         | 0%                     | 102.0                 | 0.9                     | -101.1                                                     | 111.0                    |                |              |                   |                                                                 |                                                               | Non-Acid Forming (Barren)          | Very Low                                         |            |
| 552        | 6/08/2014 | EB1441569030 | C4515         | 53601            | SS               | -               | Ramp 12 | Overburden             | 7.9   | 8.3   | 0.4      | 4E-08                 | 7.40     | 912                 | 1.51                         | 1,320                  | 87%                   | 20.6                    | 4.0                                                        | 19.8                     | 0.5            | 1.1          | 2.5               | 11.5                                                            | 19.6                                                          |                                    | Potentially Acid Forming                         | Moderate   |
| 553        | 6/08/2014 | EB1441569031 | C4515         | 53602            | SL, SS           | -               | Ramp 12 | Overburden             | 12.3  | 12.6  | 0.2      | 4E-08                 | 7.40     | 388                 | 0.52                         | 0.406                  | 78%                   | 6.9                     | 12.4                                                       | 5.6                      | 0.5            | 1.2          | 4.1               | 0.8                                                             | 4.2                                                           |                                    | Potentially Acid Forming - Low Capacity          | Negligible |
| 554        | 6/08/2014 | EB1441569032 | C4515         | 53603            | SS (PY)          | -               | Ramp 12 | Overburden             | 15.0  | 15.3  | 0.3      | 5E-08                 | 7.30     | 485                 | 0.35                         | 0.238                  | 68%                   | 10.4                    | 7.3                                                        | -3.1                     | 1.4            | 1.1          | 5.7               | <0.1                                                            | 1.2                                                           |                                    | Uncertain                                        | Negligible |
| 555        | 6/08/2014 | EB1441569033 | C4515         | 53604            | SS               | -               | Ramp 12 | Overburden             | 17.7  | 18.0  | 0.3      | 1E-08                 | 8.00     | 352                 | 0.22                         | 0.175                  | 80%                   | 18.9                    | 5.4                                                        | -13.5                    | 3.5            | 0.2          | 9.0               | <0.1                                                            |                                                               | Non-Acid Forming                   | Negligible                                       |            |
| 556        | 6/08/2014 | EB1441569034 | C4515         | 53605            | SS               | Scott-Denison   | Ramp 12 | Roof                   | 22.7  | 23.1  | 0.4      | 3.2E-05               | 4.50     | 1,290               | 2.20                         | 0%                     | 0.3                   | 67.4                    | 67.1                                                       | 0.0                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Very Low                                         |            |
| 557        | 6/08/2014 | EB1441569035 | C4515         | 53606            | IG               | Scott-Denison   | Ramp 12 | Parting                | 24.9  | 25.1  | 0.3      | 2E-09                 | 8.70     | 280                 | 0.17                         | 0.132                  | 78%                   | 146.0                   | 4.0                                                        | -142.0                   | 36.1           | 1.0          | 8.8               | <0.1                                                            |                                                               | Non-Acid Forming                   | Negligible                                       |            |
| 558        | 6/08/2014 | EB1441569036 | C4515         | 53607            | IG               | Scott-Denison   | Ramp 12 | Parting                | 28.1  | 28.4  | 0.3      | 6.3E-09               | 8.20     | 319                 | 0.56                         | 0.440                  | 79%                   | 160.0                   | 13.5                                                       | -146.5                   | 11.9           | 0.0          | 8.8               | <0.1                                                            |                                                               | Non-Acid Forming                   | Negligible                                       |            |
| 559        | 6/08/2014 | EB1441569037 | C4515         | 53608            | SS               | Scott-Denison   | Ramp 12 | Floor                  | 29.9  | 30.3  | 0.4      | 1E-07                 | 7.00     | 433                 | 0.45                         | 0.319                  | 71%                   | 2.8                     | 9.8                                                        | 7.0                      | 0.3            | 1.1          | 3.0               | 4.3                                                             | 9.8                                                           |                                    | Potentially Acid Forming - Low Capacity          | Negligible |
| 560        | 6/08/2014 | EB1441569038 | C4515         | 53609            | SL               | Potts           | Ramp 12 | Roof                   | 34.6  | 34.8  | 0.2      | 6.3E-08               | 7.20     | 1,290               | 1.93                         | 1,530                  | 79%                   | 79.2                    | 46.9                                                       | -32.3                    | 1.7            | 0.8          | 8.2               | <0.1                                                            | 0.1                                                           |                                    | Non-Acid Forming                                 | Moderate   |
| 561        | 6/08/2014 | EB1441569039 | C4515         | 53610            | SL               | Bowen           | Ramp 12 | Floor                  | 44.4  | 44.6  | 0.3      | 6.3E-08               | 7.20     | 252                 | 0.78                         | 0.638                  | 82%                   | 2.2                     | 19.5                                                       | 17.3                     | 0.1            | 1.0          | 2.7               | 10.5                                                            | 17.9                                                          |                                    | Potentially Acid Forming                         | Negligible |
| 562        | 6/08/2014 | EB1441569040 | C4515         | 53611            | SS               | Bowen/Conway    | Ramp 12 | Interburden            | 54.6  | 54.9  | 0.3      | 1E-07                 | 7.00     | 373                 | 2.45                         | 1.940                  | 72%                   | 11.3                    | 64.4                                                       | 48.1                     | 0.2            | 2.1          | 2.9               | 47.6                                                            | 56.6                                                          |                                    | Potentially Acid Forming                         | Very Low   |
| 563        | 6/08/2014 | EB1441569041 | C4515         | 53612            | SS               | Conway/Blake    | Ramp 12 | Interburden            | 59.7  | 59.9  | 0.3      | 1.3E-06               | 5.90     | 830                 | 0.76                         | 0.523                  | 69%                   | 0.3                     | 16.0                                                       | 15.8                     | 0.0            | 0.6          | 2.8               | 9.7                                                             | 17.3                                                          |                                    | Potentially Acid Forming                         | Very Low   |
| 564        | 6/08/2014 | EB1441569042 | C4515         | 53613            | SS               | Conway/Blake    | Ramp 12 | Interburden            | 63.4  | 63.8  | 0.3      | 2E-05                 | 4.70     | 1,110               | 3.73                         | 2,440                  | 65%                   | 0.3                     | 74.7                                                       | 74.5                     | 0.0            | 0.7          | 2.5               | 78.6                                                            | 84.3                                                          |                                    | Potentially Acid Forming                         | Very Low   |
| 565        | 6/08/2014 | EB1441569043 | C4515         | 53614            | SS               | Conway/Blake    | Ramp 12 | Interburden            | 68.0  | 68.4  | 0.3      | 4E-05                 | 4.40     | 1,460               | 4.82                         | 0%                     | 0.3                   | 147.6                   | 147.4                                                      | 0.0                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Very Low                                         |            |
| 566        | 6/08/2014 | EB1441569044 | C4515         | 53615            | SS               | Conway/Blake    | Ramp 12 | Interburden            | 73.5  | 73.8  | 0.3      | 2.5E-07               | 6.60     | 1,820               | 1.73                         | 0%                     | 0.3                   | 53.6                    | 46.0                                                       | 0.1                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Moderate                                         |            |
| 567        | 6/08/2014 | EB1441569045 | C4515         | 53616            | SS               | Blake           | Ramp 12 | Roof                   | 76.6  | 76.9  | 0.3      | 1.6E-05               | 4.80     | 1,540               | 3.82                         | 0%                     | 0.3                   | 117.0                   | 116.7                                                      | 0.0                      |                |              |                   |                                                                 |                                                               | Potentially Acid Forming           | Very Low                                         |            |
| 568        | 6/08/2014 | EB1441569046 | C4515         | 53617            | SS, SL           | Blake           | Ramp 12 | Floor                  | 90.1  | 90.4  | 0.3      | 2.5E-07               | 6.60     | 41                  | 0.05                         | 0%                     | 0.3                   | 1.5                     | 1.3                                                        | 0.2                      |                |              |                   |                                                                 |                                                               | Non-Acid Forming (Barren)          | Negligible                                       |            |
| 569        | 6/08/2014 | EB1441569047 | C4515         | 53618            | CG               | Bos             | Ramp 12 | Floor                  | 95.0  | 95.3  | 0.3      | 7.9E-08               | 7.10     | 73                  | 0.03                         | 0%                     | 0.3                   | 0.9                     | 0.7                                                        | 0.3                      |                |              |                   |                                                                 |                                                               | Non-Acid Forming (Barren)          | Negligible                                       |            |
| 570        | 6/08/2014 | EB1441569048 | C4515         | 53619            | CG               | - end of hole - | Ramp 12 | Basement               | 102.8 | 103.1 | 0.4      | 5E-09                 | 8.30     | 221                 | 0.07                         | 0%                     | 10.8                  | 2.1                     | -8.7                                                       | 5.0                      |                |              |                   |                                                                 |                                                               |                                    |                                                  |            |

|  |  |  |  | Exam | T <sub>0</sub> | Interval | $\mu^2$ |  | EQ (4:5) | Total G | S | Scr Percent | $\mu\mu^2$ | $\mu\mu^2$ | $\mu\mu\mu^2$ | ANC: | TCC |  | NAC Capacity (all 4) |
|--|--|--|--|------|----------------|----------|---------|--|----------|---------|---|-------------|------------|------------|---------------|------|-----|--|----------------------|
|--|--|--|--|------|----------------|----------|---------|--|----------|---------|---|-------------|------------|------------|---------------|------|-----|--|----------------------|

| Row No. | Date      | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam      | Pit     | Sample Location in Pit | From  | Interval | H <sub>2</sub> O<br>pH (1-5) | EC (1-5)<br>(µS/cm) | Total S<br>(%) | S <sub>OC</sub><br>(%) | S <sub>OP</sub> Proporti on<br>(%) | ANC <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | MPA <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | ANC: MPA Ratio | TOC<br>(% C) | NAG <sub>pit</sub> | NAG Capacity (pH 4.5)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>3</sup> | Saline Drainage Classification (Using E-C (1-5)) |                                         |                                         |                                         |                                         |                          |          |
|---------|-----------|--------------|---------------|------------------|------------------|----------------|---------|------------------------|-------|----------|------------------------------|---------------------|----------------|------------------------|------------------------------------|------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|----------------|--------------|--------------------|-----------------------------------------------------------------|---------------------------------------------------------------|------------------------------------|--------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|--------------------------|----------|
|         |           |              |               |                  |                  |                |         |                        | To    | (m)      |                              |                     |                |                        |                                    |                                                            |                                                            |                                                             |                |              |                    |                                                                 |                                                               |                                    |                                                  | (M)                                     |                                         |                                         |                                         |                          |          |
| 608     | 8/08/2014 | EB1441574031 | C4518         | 53661            | SS               | -              | Ramp 12 | Overburden             | 62.1  | 62.4     | 0.3                          | 4E-07               | 6.40           | 1.540                  | 1.23                               | 0%                                                         | 7.5                                                        | 37.7                                                        | 30.2           | 0.2          |                    |                                                                 |                                                               | Potentially Acid Forming           | Moderate                                         |                                         |                                         |                                         |                                         |                          |          |
| 609     | 8/08/2014 | EB1441574032 | C4518         | 53662            | SS               | -              | Ramp 12 | Overburden             | 67.5  | 67.9     | 0.3                          | 4E-08               | 7.40           | 1.480                  | 0.82                               | 0.523                                                      | 23.7                                                       | 77.5                                                        | 7.8            | 0.1          | 8.0                | 44%                                                             | -0.1                                                          | -50.0                              |                                                  |                                         |                                         |                                         |                                         |                          |          |
| 610     | 8/08/2014 | EB1441574033 | C4518         | 53663            | IG               | Scott          | Ramp 12 | Parting                | 71.1  | 71.8     | 0.3                          | 5E-09               | 8.30           | 1.582                  | 0.52                               | 0.417                                                      | 80%                                                        | 130.0                                                       | 12.8           | -126.2       | 10.9               | 0.0                                                             | 8.5                                                           | -0.1                               | -50.0                                            |                                         |                                         |                                         |                                         |                          |          |
| 611     | 8/08/2014 | EB1441574034 | C4518         | 53664            | SS               | Scott/Denison  | Ramp 12 | Parting                | 72.7  | 72.9     | 0.3                          | 1E-08               | 8.00           | 270                    | 0.38                               | 0.272                                                      | 72%                                                        | 1.9                                                         | 8.3            | 6.4          | 0.2                | 0.7                                                             | 3.2                                                           | 4.1                                |                                                  | Potentially Acid Forming - Low Capacity | Negligible                              |                                         |                                         |                          |          |
| 612     | 8/08/2014 | EB1441574035 | C4518         | 53665            | SL, SS           | Denison        | Ramp 12 | Floor                  | 76.5  | 76.9     | 0.3                          | 2E-08               | 7.70           | 81                     | 0.04                               | 0%                                                         | 3.2                                                        | 1.2                                                         | 2.0            | 2.6          |                    |                                                                 |                                                               |                                    |                                                  | Non-Acid Forming (Barren)               | Negligible                              |                                         |                                         |                          |          |
| 613     | 8/08/2014 | EB1441574036 | C4518         | 53666            | SS               | Denison/Potts  | Ramp 12 | Interburden            | 79.3  | 79.6     | 0.3                          | 1.3E-08             | 7.90           | 88                     | 0.02                               | 0%                                                         | 4.0                                                        | 0.6                                                         | 3.4            | 6.5          |                    |                                                                 |                                                               |                                    |                                                  | Non-Acid Forming (Barren)               | Negligible                              |                                         |                                         |                          |          |
| 614     | 8/08/2014 | EB1441574037 | C4518         | 53667            | SL               | Potts          | Ramp 12 | Floor                  | 84.6  | 84.9     | 0.3                          | 1.3E-07             | 8.40           | 284                    | 0.10                               | 0%                                                         | 4.9                                                        | 1.7                                                         | 3.6            | 1.8          |                    |                                                                 |                                                               |                                    |                                                  | Potentially Acid Forming                | Negligible                              |                                         |                                         |                          |          |
| 615     | 8/08/2014 | EB1441574038 | C4518         | 53668            | SL               | Potts          | Ramp 12 | Floor                  | 85.5  | 86.7     | 0.3                          | 6.3E-08             | 7.20           | 245                    | 0.17                               | 0%                                                         | 5.4                                                        | 5.2                                                         | -0.2           | 1.0          |                    |                                                                 |                                                               |                                    |                                                  | Uncertain                               | Negligible                              |                                         |                                         |                          |          |
| 616     | 8/08/2014 | EB1441574039 | C4518         | 53669            | SS               | Little Bowen   | Ramp 12 | Roof                   | 93.3  | 93.6     | 0.3                          | 6.3E-09             | 8.20           | 884                    | 1.05                               | 0.806                                                      | 77%                                                        | 214.0                                                       | -189.3         | 8.7          | 0.6                | 9.8                                                             | -0.1                                                          |                                    | -50.0                                            |                                         | Non-Acid Forming                        | Moderate                                |                                         |                          |          |
| 617     | 8/08/2014 | EB1441574040 | C4518         | 53670            | IG               | Bowen          | Ramp 12 | Parting                | 100.6 | 100.9    | 0.3                          | 1E-09               | 9.00           | 463                    | 3.13                               | 1.120                                                      | 84%                                                        | 186.0                                                       | 34.7           | -151.7       | 5.4                | 1.8                                                             | 8.9                                                           | -0.1                               |                                                  | -50.0                                   |                                         | Non-Acid Forming                        | Moderate                                |                          |          |
| 618     | 8/08/2014 | EB1441574041 | C4518         | 53671            | SS               | Bowen/Blaire   | Ramp 12 | Interburden            | 104.1 | 104.7    | 0.3                          | 1.5E-07             | 8.30           | 438                    | 0.56                               | 0.443                                                      | 75%                                                        | 9.3                                                         | 13.6           | 1.8          | 1.0                | 3.4                                                             | 1.1                                                           |                                    |                                                  |                                         | Potentially Acid Forming - Low Capacity | Negligible                              |                                         |                          |          |
| 619     | 8/08/2014 | EB1441574042 | C4518         | 53672            | SS               | Bowen/Blaire   | Ramp 12 | Interburden            | 108.8 | 109.1    | 0.2                          | 7.9E-07             | 6.10           | 654                    | 0.36                               | 0.224                                                      | 62%                                                        | 0.3                                                         | 6.9            | 6.6          | 0.0                | 0.4                                                             | 3.5                                                           | 3.4                                |                                                  |                                         | 8.4                                     |                                         | Potentially Acid Forming - Low Capacity | Very Low                 |          |
| 620     | 8/08/2014 | EB1441574043 | C4518         | 53673            | SS               | Bowen/Blaire   | Ramp 12 | Interburden            | 114.4 | 114.6    | 0.3                          | 5E-07               | 6.30           | 914                    | 1.07                               | 0%                                                         | 1.2                                                        | 32.8                                                        | 31.6           | 0.0          |                    |                                                                 |                                                               |                                    |                                                  |                                         | Potentially Acid Forming                | Moderate                                |                                         |                          |          |
| 621     | 8/08/2014 | EB1441574044 | C4518         | 53674            | SS               | Bowen/Blaire   | Ramp 12 | Interburden            | 120.1 | 120.3    | 0.2                          | 1.3E-07             | 6.90           | 1,100                  | 1.27                               | 0%                                                         | 3.4                                                        | 38.9                                                        | 35.5           | 0.1          |                    |                                                                 |                                                               |                                    |                                                  |                                         | Potentially Acid Forming                | Moderate                                |                                         |                          |          |
| 622     | 8/08/2014 | EB1441574045 | C4518         | 53675            | SS               | Bowen/Blaire   | Ramp 12 | Interburden            | 124.9 | 125.2    | 0.3                          | 9E-09               | 8.30           | 1,030                  | 0.59                               | 0.422                                                      | 72%                                                        | 103.0                                                       | 12.9           | -90.1        | 8.0                | 0.4                                                             | 10.6                                                          | -0.1                               |                                                  | -50.0                                   |                                         | Non-Acid Forming                        | Very Low                                |                          |          |
| 623     | 8/08/2014 | EB1441574046 | C4518         | 53676            | SS               | Bowen/Blaire   | Ramp 12 | Interburden            | 130.1 | 130.3    | 0.3                          | 1.2E-07             | 8.60           | 864                    | 1.08                               | 0%                                                         | 3.2                                                        | 31.0                                                        | 29.0           | 0.1          |                    |                                                                 |                                                               |                                    |                                                  |                                         | Uncertain                               | Moderate                                |                                         |                          |          |
| 624     | 8/08/2014 | EB1441574047 | C4518         | 53677            | SS               | Bowen/Blaire   | Ramp 12 | Interburden            | 136.0 | 136.3    | 0.3                          | 0.00001             | 5.00           | 1,700                  | 2.15                               | 0%                                                         | 0.3                                                        | 65.6                                                        | 65.6           | 0.0          |                    |                                                                 |                                                               |                                    |                                                  |                                         | Potentially Acid Forming                | Very Low                                |                                         |                          |          |
| 625     | 8/08/2014 | EB1441574048 | C4518         | 53678            | SS               | Blaire         | Ramp 12 | Roof                   | 139.3 | 139.6    | 0.2                          | 5E-06               | 5.30           | 1,810                  | 6.93                               | 0%                                                         | 0.3                                                        | 212.2                                                       | 212.0          | 0.0          |                    |                                                                 |                                                               |                                    |                                                  |                                         | Potentially Acid Forming                | Very Low                                |                                         |                          |          |
| 626     | 8/08/2014 | EB1441574049 | C4518         | 53679            | IG               | Blaire         | Ramp 12 | Parting                | 141.9 | 142.2    | 0.3                          | 1.6E-10             | 8.80           | 901                    | 0.77                               | 0.723                                                      | 94%                                                        | 171.0                                                       | 22.1           | -148.9       | 17.0               | 0.0                                                             | 8.5                                                           | -0.1                               |                                                  | -50.0                                   |                                         | Non-Acid Forming                        | Very Low                                |                          |          |
| 627     | 8/08/2014 | EB1441574050 | C4518         | 53680            | IG               | Blaire         | Ramp 12 | Parting                | 147.4 | 147.7    | 0.3                          | 1.5E-10             | 9.80           | 891                    | 0.12                               | 0.723                                                      | 94%                                                        | 171.0                                                       | 22.1           | -148.9       | 17.0               | 0.0                                                             | 8.5                                                           | -0.1                               |                                                  | -50.0                                   |                                         | Non-Acid Forming                        | Very Low                                |                          |          |
| 628     | 8/08/2014 | EB1441574051 | C4518         | 53681            | MS               | Blaire         | Ramp 12 | Parting                | 152.1 | 152.4    | 0.3                          | 4E-09               | 8.40           | 82                     | 0.04                               | 0%                                                         | 3.3                                                        | 1.2                                                         | -2.1           | 2.7          |                    |                                                                 |                                                               |                                    |                                                  |                                         | Non-Acid Forming (Barren)               | Negligible                              |                                         |                          |          |
| 629     | 8/08/2014 | EB1441574052 | C4518         | 53682            | SS               | Blaire         | Ramp 12 | Parting                | 157.5 | 157.7    | 0.3                          | 6.3E-09             | 8.20           | 185                    | 0.05                               | 0%                                                         | 18.3                                                       | 1.5                                                         | -16.8          | 12.0         |                    |                                                                 |                                                               |                                    |                                                  |                                         | Non-Acid Forming (Barren)               | Negligible                              |                                         |                          |          |
| 630     | 8/08/2014 | EB1441574053 | C4518         | 53683            | IV, MS           | Blaire         | Ramp 12 | Floor                  | 161.6 | 161.9    | 0.3                          | 4E-09               | 8.40           | 63                     | 0.03                               | 0%                                                         | 2.6                                                        | 0.9                                                         | -1.7           | 2.8          |                    |                                                                 |                                                               |                                    |                                                  |                                         | Non-Acid Forming (Barren)               | Negligible                              |                                         |                          |          |
| 631     | 8/08/2014 | EB1441574054 | C4518         | 53684            | CG               | -end of hole - | Ramp 12 | Interburden            | 163.3 | 167.6    | 0.3                          | 5E-05               | 8.30           | 455                    | 0.02                               | 0.012                                                      | 60%                                                        | 16.9                                                        | 0.4            | -16.5        | 48.0               | 0.1                                                             | 9.2                                                           | -0.1                               |                                                  | -50.0                                   |                                         | Non-Acid Forming (Barren)               | Negligible                              |                          |          |
| 632     | 8/08/2014 | EB1441574055 | C4518         | 53685            | Blaire           | -              | Parting | 160.1                  | 160.4 | 0.3      | 4E-09                        | 8.40                | 90             | 0.04                   | 0%                                 | 8.1                                                        | 12.2                                                       | 12.9                                                        | 0.1            |              |                    |                                                                 |                                                               |                                    |                                                  |                                         | Uncertain                               | Negligible                              |                                         |                          |          |
| 633     | 10/7/2014 | EB1441583001 | R4512         | R4512 001        | CL, SS           | -              | Ramp 12 | Overburden             | 0.0   | 1.0      | 1.0                          | 7.9E-07             | 6.10           | 157                    | 0.03                               | 0%                                                         | 0.8                                                        | 0.9                                                         | 0.1            | 0.9          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Non-Acid Forming (Barren)               | Negligible                              |                          |          |
| 634     | 10/7/2014 | EB1441583002 | R4512         | R4512 002        | SS               | -              | Ramp 12 | Overburden             | 1.0   | 2.0      | 1.0                          | 2.5E-07             | 6.60           | 161                    | 0.09                               | 0%                                                         | 1.2                                                        | 2.8                                                         | 1.6            | 0.4          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Non-Acid Forming (Barren)               | Negligible                              |                          |          |
| 635     | 10/7/2014 | EB1441583003 | R4512         | R4512 003        | SS               | -              | Ramp 12 | Overburden             | 2.0   | 3.0      | 1.0                          | 3.2E-07             | 6.50           | 204                    | 0.11                               | 0%                                                         | 0.9                                                        | 3.4                                                         | 2.5            | 0.3          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Uncertain                               | Negligible                              |                          |          |
| 636     | 10/7/2014 | EB1441583004 | R4512         | R4512 004        | SS               | -              | Ramp 12 | Overburden             | 3.0   | 4.0      | 1.0                          | 2.1E-07             | 6.20           | 212                    | 0.14                               | 0%                                                         | 1.2                                                        | 4.6                                                         | 3.2            | 0.4          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Uncertain                               | Negligible                              |                          |          |
| 637     | 10/7/2014 | EB1441583005 | R4512         | R4512 005        | SS               | -              | Ramp 12 | Overburden             | 4.0   | 5.0      | 1.0                          | 3.2E-06             | 5.50           | 517                    | 0.46                               | 0.302                                                      | 66%                                                        | 0.5                                                         | 9.2            | 8.7          | 0.1                | 0.1                                                             | 3.3                                                           | 6.6                                |                                                  |                                         |                                         | Potentially Acid Forming - Low Capacity | Very Low                                |                          |          |
| 638     | 10/7/2014 | EB1441583006 | R4512         | R4512 006        | SS               | -              | Ramp 12 | Overburden             | 5.0   | 6.0      | 1.0                          | 7.9E-07             | 6.10           | 959                    | 0.57                               | 0.395                                                      | 69%                                                        | 3.9                                                         | 12.1           | 8.2          | 0.3                | 0.1                                                             | 3.6                                                           | 3.3                                | 8.4                                              |                                         |                                         | Potentially Acid Forming - Low Capacity | Very Low                                |                          |          |
| 639     | 10/7/2014 | EB1441583007 | R4512         | R4512 007        | SS               | -              | Ramp 12 | Overburden             | 6.0   | 7.0      | 1.0                          | 2.5E-08             | 7.60           | 770                    | 0.54                               | 0%                                                         | 14.9                                                       | 16.5                                                        | 1.6            | 0.9          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Uncertain                               | Very Low                                |                          |          |
| 640     | 10/7/2014 | EB1441583008 | R4512         | R4512 008        | SS               | -              | Ramp 12 | Overburden             | 7.0   | 8.0      | 1.0                          | 1.6E-07             | 7.80           | 561                    | 0.59                               | 0%                                                         | 16.1                                                       | 16.8                                                        | 2.8            | 0.9          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Potentially Acid Forming - Low Capacity | Very Low                                |                          |          |
| 641     | 10/7/2014 | EB1441583009 | R4512         | R4512 009        | SS               | -              | Ramp 12 | Overburden             | 8.0   | 9.0      | 1.0                          | 1.3E-08             | 7.90           | 610                    | 0.55                               | 0%                                                         | 14.2                                                       | 16.6                                                        | 2.6            | 0.8          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Uncertain                               | Very Low                 |          |
| 642     | 10/7/2014 | EB1441583010 | R4512         | R4512 010        | SS               | -              | Ramp 12 | Overburden             | 9.0   | 10.0     | 1.0                          | 1.3E-08             | 7.90           | 520                    | 0.57                               | 0.431                                                      | 76%                                                        | 12.8                                                        | 13.2           | 0.4          | 1.0                | 0.3                                                             | 4.0                                                           | 1.0                                | 5.8                                              |                                         |                                         | Uncertain                               | Very Low                                |                          |          |
| 643     | 10/7/2014 | EB1441583011 | R4512         | R4512 011        | SS               | -              | Ramp 12 | Overburden             | 10.0  | 11.0     | 1.0                          | 1.3E-08             | 7.90           | 622                    | 0.64                               | 0%                                                         | 13.4                                                       | 19.6                                                        | 0.2            | 0.7          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Potentially Acid Forming - Low Capacity | Very Low                                |                          |          |
| 644     | 10/7/2014 | EB1441583012 | R4512         | R4512 012        | SS               | -              | Ramp 12 | Overburden             | 11.0  | 12.0     | 1.0                          | 1.3E-08             | 7.90           | 695                    | 0.64                               | 0%                                                         | 14.6                                                       | 18.6                                                        | 5.0            | 0.7          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         | Uncertain                               | Very Low                                |                          |          |
| 645     | 10/7/2014 | EB1441583013 | R4512         | R4512 013        | SS               | -              | Ramp 12 | Overburden             | 12.0  | 13.0     | 1.0                          | 1.3E-08             | 7.80           | 783                    | 0.85                               | 0%                                                         | 15.8                                                       | 19.8                                                        | 1.8            | 0.8          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Potentially Acid Forming                | Very Low                 |          |
| 646     | 10/7/2014 | EB1441583014 | R4512         | R4512 014        | SS               | -              | Ramp 12 | Overburden             | 13.0  | 14.0     | 1.0                          | 2.5E-08             | 7.60           | 855                    | 0.89                               | 0%                                                         | 13.4                                                       | 27.3                                                        | 13.9           | 0.5          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Potentially Acid Forming                | Very Low                 |          |
| 647     | 10/7/2014 | EB1441583015 | R4512         | R4512 015        | SS               | -              | Ramp 12 | Overburden             | 14.0  | 15.0     | 1.0                          | 7.9E-08             | 7.10           | 1,190                  | 1.04                               | 0%                                                         | 8.3                                                        | 31.9                                                        | 23.6           | 0.3          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Potentially Acid Forming                | Moderate                 |          |
| 648     | 10/7/2014 | EB1441583016 | R4512         | R4512 016        | SS               | -              | Ramp 12 | Overburden             | 15.0  | 16.0     | 1.0                          | 1.6E-08             | 7.90           | 1,320                  | 1.65                               | 0%                                                         | 30.4                                                       | 50.5                                                        | 20.1           | 0.6          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Potentially Acid Forming                | Moderate                 |          |
| 649     | 10/7/2014 | EB1441583017 | R4512         | R4512 017        | SS               | -              | Ramp 12 | Overburden             | 16.0  | 17.0     | 1.0                          | 2.8E-08             | 7.80           | 1,200                  | 1.28                               | 0%                                                         | 16.8                                                       | 47.7                                                        | 27.8           | 0.4          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Potentially Acid Forming                | Moderate                 |          |
| 650     | 10/7/2014 | EB1441583018 | R4512         | R4512 018        | SS               | -              | Ramp 12 | Overburden             | 17.0  | 18.0     | 1.0                          | 2.5E-08             | 7.60           | 900                    | 0.64                               | 0.450                                                      | 70%                                                        | 13.2                                                        | 13.8           | 0.6          | 1.0                | 0.1                                                             | 3.8                                                           | 2.2                                | 6.7                                              |                                         |                                         | Uncertain                               | Very Low                                |                          |          |
| 651     | 10/7/2014 | EB1441583019 | R4512         | R4512 019        | SS               | -              | Ramp 12 | Overburden             | 18.0  | 19.0     | 1.0                          | 1E-08               | 8.00           | 854                    | 0.63                               | 0%                                                         | 22.3                                                       | 19.3                                                        | -3.0           | 1.2          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Uncertain                               | Very Low                 |          |
| 652     | 10/7/2014 | EB1441583020 | R4512         | R4512 020        | SS               | -              | Ramp 12 | Overburden             | 19.0  | 20.0     | 1.0                          | 7.9E-08             | 7.10           | 1,210                  | 0.85                               | 0%                                                         | 13.2                                                       | 26.0                                                        | 12.8           | 0.5          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Potentially Acid Forming                | Very Low                 |          |
| 653     | 10/7/2014 | EB1441583021 | R4512         | R4512 021        | SS               | -              | Ramp 12 | Overburden             | 20.0  | 21.0     | 1.0                          | 1.2E-08             | 7.90           | 1,220                  | 0.93                               | 0%                                                         | 6.3                                                        | 41.7                                                        | 35.8           | 0.5          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Potentially Acid Forming                | Moderate                 |          |
| 654     | 10/7/2014 | EB1441583022 | R4512         | R4512 022        | SS               | -              | Ramp 12 | Overburden             | 21.0  | 22.0     | 1.0                          | 5E-09               | 7.30           | 1,180                  | 1.54                               | 0%                                                         | 15.0                                                       | 47.2                                                        | 32.2           | 0.5          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         |                                         | Potentially Acid Forming | Moderate |
| 655     | 10/7/2014 | EB1441583023 | R4512         | R4512 023        | SS               | -              | Ramp 12 | Overburden             | 22.0  | 23.0     | 1.0                          | 6.3E-09             | 8.20           | 925                    | 1.26                               | 0%                                                         | 50.0                                                       | 38.6                                                        | -11.4          | 1.3          |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         | Non-Acid Forming                        | Moderate                 |          |
| 656     | 10/7/2014 | EB1441583024 | R4512         | R4512 024        |                  |                |         |                        |       |          |                              |                     |                |                        |                                    |                                                            |                                                            |                                                             |                |              |                    |                                                                 |                                                               |                                    |                                                  |                                         |                                         |                                         |                                         |                          |          |

Table B1: Acid Base Account Results for Ramp 12 from the Collinsville Project

| Sample No. | Date      | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam              | Pit     | Sample Location in Pit | From (m) | To (m) | Interval (m) | H <sup>+</sup> (pH (1:5)) | EC (1:5) (µS/cm) | Total S (%) | S <sub>CL</sub> (%) | Scr Proportion (%) | ANC <sup>2</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | MPA <sup>2</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup> (kg H <sub>2</sub> SO <sub>4</sub> /t) | ANC:MPA Ratio | TOC (%) | NAG <sub>HI</sub> (%) | NAG Capacity (pH 4.5) (kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7) (kg H <sub>2</sub> SO <sub>4</sub> /t) | Sample Classification <sup>1</sup> | Saline Drainage Classification (Using E-C (1:5)) |            |
|------------|-----------|--------------|---------------|------------------|------------------|------------------------|---------|------------------------|----------|--------|--------------|---------------------------|------------------|-------------|---------------------|--------------------|---------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|---------------|---------|-----------------------|--------------------------------------------------------------|------------------------------------------------------------|------------------------------------|--------------------------------------------------|------------|
| 691        | 10/7/2014 | EB1441583064 | R4512         | R4512 054        | SL               | Potts                  | Ramp 12 | Floor                  | 83.0     | 84.0   | 1.0          | 1.3E-07                   | 6.90             | 273         | 0.57                |                    | 0%                                                      | 6.2                                                     | 117.5                                                    | 11.3          | 0.4     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 692        | 10/7/2014 | EB1441583065 | R4512         | R4512 065        | SL               | (Potts / Little Bowen) | Ramp 12 | Interburden            | 64.0     | 65.0   | 1.0          | 5E-07                     | 6.30             | 430         | 0.58                |                    | 0%                                                      | 4.0                                                     | 17.8                                                     | 13.8          | 0.2     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 693        | 10/7/2014 | EB1441583066 | R4512         | R4512 066        | CG               | (Potts / Little Bowen) | Ramp 12 | Interburden            | 65.0     | 66.0   | 1.0          | 5E-08                     | 7.30             | 304         | 0.41                | 0.313              | 76%                                                     | 6.9                                                     | 9.6                                                      | 2.7           | 0.7     | 1.3                   | 4.3                                                          | 0.8                                                        | 12.4                               | Uncertain                                        | Negligible |
| 694        | 10/7/2014 | EB1441583067 | R4512         | R4512 067        | CG               | (Potts / Little Bowen) | Ramp 12 | Interburden            | 66.0     | 67.0   | 1.0          | 2.5E-08                   | 7.60             | 233         | 0.26                |                    | 0%                                                      | 4.2                                                     | 8.0                                                      | 3.8           | 0.5     |                       |                                                              |                                                            |                                    | Uncertain                                        | Negligible |
| 695        | 10/7/2014 | EB1441583068 | R4512         | R4512 068        | SS               | (Potts / Little Bowen) | Ramp 12 | Interburden            | 67.0     | 68.0   | 1.0          | 1.3E-08                   | 7.90             | 319         | 0.37                |                    | 0%                                                      | 9.7                                                     | 11.3                                                     | 1.6           | 0.9     |                       |                                                              |                                                            |                                    | Uncertain                                        | Negligible |
| 696        | 10/7/2014 | EB1441583069 | R4512         | R4512 069        | SS               | (Potts / Little Bowen) | Ramp 12 | Interburden            | 68.0     | 69.0   | 1.0          | 5E-07                     | 6.30             | 522         | 0.96                |                    | 0%                                                      | 3.0                                                     | 28.4                                                     | 26.4          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 697        | 10/7/2014 | EB1441583070 | R4512         | R4512 070        | SS               | (Potts / Little Bowen) | Ramp 12 | Interburden            | 69.0     | 70.0   | 1.0          | 1E-07                     | 7.00             | 493         | 1.01                |                    | 0%                                                      | 38.0                                                    | 30.9                                                     | 7.1           | 1.2     |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Moderate   |
| 698        | 10/7/2014 | EB1441583071 | R4512         | R4512 071        | SS               | (Potts / Little Bowen) | Ramp 12 | Interburden            | 70.0     | 71.0   | 1.0          | 6.3E-08                   | 7.20             | 672         | 0.76                |                    | 0%                                                      | 9.3                                                     | 23.3                                                     | 14.0          | 0.4     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 699        | 10/7/2014 | EB1441583072 | R4512         | R4512 072        | SS               | Little Bowen           | Ramp 12 | Roof                   | 71.0     | 72.0   | 1.0          | 2.5E-08                   | 7.60             | 652         | 0.78                |                    | 0%                                                      | 27.7                                                    | 23.9                                                     | -3.8          | 1.2     |                       |                                                              |                                                            |                                    | Uncertain                                        | Very Low   |
| 700        | 10/7/2014 | EB1441583073 | R4512         | R4512 073        | SS, HC           | Little Bowen           | Ramp 12 | Parting                | 72.0     | 73.0   | 1.0          | 1.6E-08                   | 7.80             | 490         | 1.16                |                    | 0%                                                      | 26.5                                                    | 36.1                                                     | 9.6           | 0.7     |                       |                                                              |                                                            |                                    | Potentially Acid Forming - Low Capacity          | Moderate   |
| 701        | 10/7/2014 | EB1441583074 | R4512         | R4512 074        | SS               | Little Bowen           | Ramp 12 | Floor                  | 73.0     | 74.0   | 1.0          | 3.2E-08                   | 7.50             | 472         | 1.22                |                    | 0%                                                      | 24.1                                                    | 37.4                                                     | 13.3          | 0.6     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Moderate   |
| 702        | 10/7/2014 | EB1441583075 | R4512         | R4512 075        | SS               | Bowen                  | Ramp 12 | Roof                   | 74.0     | 75.0   | 1.0          | 1E-08                     | 8.00             | 423         | 0.99                |                    | 0%                                                      | 26.8                                                    | 18.1                                                     | -8.7          | 1.5     |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Negligible |
| 703        | 10/7/2014 | EB1441583076 | R4512         | R4512 076        | HC, IG           | Bowen                  | Ramp 12 | Parting                | 75.0     | 76.0   | 1.0          | 6.3E-09                   | 8.20             | 398         | 0.21                |                    | 0%                                                      | 120.0                                                   | 6.4                                                      | -113.6        | 18.7    |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Negligible |
| 704        | 10/7/2014 | EB1441583077 | R4512         | R4512 077        | HC, IG           | Bowen                  | Ramp 12 | Parting                | 76.0     | 77.0   | 1.0          | 1E-08                     | 8.00             | 727         | 0.52                |                    | 0%                                                      | 106.0                                                   | 153.7                                                    | 47.7          | 0.7     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 705        | 10/7/2014 | EB1441583078 | R4512         | R4512 078        | IG, XM, HC       | Bowen                  | Ramp 12 | Parting                | 77.0     | 78.0   | 1.0          | 7.9E-09                   | 8.10             | 489         | 1.03                |                    | 0%                                                      | 76.1                                                    | 31.5                                                     | -44.6         | 2.4     |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Moderate   |
| 706        | 10/7/2014 | EB1441583079 | R4512         | R4512 079        | IG, XM, HC       | Bowen                  | Ramp 12 | Parting                | 78.0     | 79.0   | 1.0          | 4E-09                     | 8.40             | 493         | 0.86                |                    | 0%                                                      | 140.0                                                   | 17.2                                                     | -122.9        | 8.2     |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Negligible |
| 707        | 10/7/2014 | EB1441583080 | R4512         | R4512 080        | HC, XM           | Bowen                  | Ramp 12 | Parting                | 79.0     | 80.0   | 1.0          | 5E-09                     | 8.30             | 492         | 0.85                |                    | 0%                                                      | 226.0                                                   | 26.0                                                     | -200.0        | 9.7     |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Negligible |
| 708        | 10/7/2014 | EB1441584001 | R4512         | R4512 081        | IG, HC           | Bowen                  | Ramp 12 | Parting                | 80.0     | 81.0   | 1.0          | 1E-08                     | 8.00             | 214         | 1.93                |                    | 0%                                                      | 110.0                                                   | 59.1                                                     | -50.9         | 1.9     |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Moderate   |
| 709        | 10/7/2014 | EB1441584002 | R4512         | R4512 082        | HC, IG           | Bowen                  | Ramp 12 | Parting                | 81.0     | 82.0   | 1.0          | 1E-08                     | 8.00             | 309         | 0.12                |                    | 0%                                                      | 54.8                                                    | 3.7                                                      | -61.1         | 17.6    |                       |                                                              |                                                            |                                    | Non-Acid Forming                                 | Negligible |
| 710        | 10/7/2014 | EB1441584003 | R4512         | R4512 083        | XM, HC           | Bowen                  | Ramp 12 | Parting                | 82.0     | 83.0   | 1.0          | 7.9E-09                   | 8.10             | 155         | 0.63                |                    | 0%                                                      | 8.6                                                     | 19.3                                                     | 10.7          | 0.4     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 711        | 10/7/2014 | EB1441584004 | R4512         | R4512 084        | SS, HC           | Bowen                  | Ramp 12 | Floor                  | 83.0     | 84.0   | 1.0          | 1.6E-07                   | 6.80             | 377         | 0.84                |                    | 0%                                                      | 3.6                                                     | 25.7                                                     | 22.1          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 712        | 10/7/2014 | EB1441584005 | R4512         | R4512 085        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 84.0     | 85.0   | 1.0          | 2.5E-06                   | 5.60             | 472         | 2.25                |                    | 0%                                                      | 0.7                                                     | 68.9                                                     | 68.2          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 713        | 10/7/2014 | EB1441584006 | R4512         | R4512 086        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 85.0     | 86.0   | 1.0          | 4E-06                     | 5.40             | 695         | 1.68                |                    | 0%                                                      | 0.3                                                     | 51.5                                                     | 51.2          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Moderate   |
| 714        | 10/7/2014 | EB1441584007 | R4512         | R4512 087        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 86.0     | 87.0   | 1.0          | 7.6E-07                   | 6.10             | 346         | 0.86                |                    | 0%                                                      | 2.2                                                     | 26.3                                                     | 24.1          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 715        | 10/7/2014 | EB1441584008 | R4512         | R4512 088        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 87.0     | 88.0   | 1.0          | 2E-06                     | 5.70             | 504         | 2.21                |                    | 0%                                                      | 0.3                                                     | 67.7                                                     | 67.4          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 716        | 10/7/2014 | EB1441584009 | R4512         | R4512 089        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 88.0     | 89.0   | 1.0          | 7.9E-06                   | 5.10             | 491         | 1.77                |                    | 0%                                                      | 0.3                                                     | 54.2                                                     | 54.0          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Moderate   |
| 717        | 10/7/2014 | EB1441584010 | R4512         | R4512 090        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 89.0     | 90.0   | 1.0          | 6.3E-07                   | 6.20             | 310         | 0.71                |                    | 0%                                                      | 2.7                                                     | 21.7                                                     | 19.0          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 718        | 10/7/2014 | EB1441584011 | R4512         | R4512 091        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 90.0     | 91.0   | 1.0          | 7.9E-07                   | 6.10             | 428         | 0.97                |                    | 0%                                                      | 1.2                                                     | 29.7                                                     | 28.5          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 719        | 10/7/2014 | EB1441584012 | R4512         | R4512 092        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 91.0     | 92.0   | 1.0          | 4E-07                     | 6.40             | 379         | 0.58                |                    | 0%                                                      | 1.9                                                     | 17.6                                                     | 15.9          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 720        | 10/7/2014 | EB1441584013 | R4512         | R4512 093        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 92.0     | 93.0   | 1.0          | 4E-07                     | 6.40             | 330         | 0.52                |                    | 0%                                                      | 0.9                                                     | 15.9                                                     | 15.0          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 721        | 10/7/2014 | EB1441584014 | R4512         | R4512 094        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 93.0     | 94.0   | 1.0          | 1.3E-07                   | 6.90             | 359         | 0.27                |                    | 0%                                                      | 4.4                                                     | 8.3                                                      | 3.9           | 0.5     |                       |                                                              |                                                            |                                    | Uncertain                                        | Negligible |
| 722        | 10/7/2014 | EB1441584015 | R4512         | R4512 095        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 94.0     | 95.0   | 1.0          | 4E-07                     | 6.40             | 421         | 0.55                |                    | 0%                                                      | 2.1                                                     | 16.6                                                     | 14.7          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 723        | 10/7/2014 | EB1441584016 | R4512         | R4512 096        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 95.0     | 96.0   | 1.0          | 1.3E-07                   | 6.80             | 408         | 0.51                |                    | 0%                                                      | 3.1                                                     | 9.5                                                      | 6.4           | 0.3     |                       |                                                              |                                                            |                                    | Potentially Acid Forming - Low Capacity          | Negligible |
| 724        | 10/7/2014 | EB1441584017 | R4512         | R4512 097        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 96.0     | 97.0   | 1.0          | 2E-07                     | 6.70             | 311         | 0.37                |                    | 0%                                                      | 4.3                                                     | 11.3                                                     | 7.0           | 0.4     |                       |                                                              |                                                            |                                    | Potentially Acid Forming - Low Capacity          | Negligible |
| 725        | 10/7/2014 | EB1441584018 | R4512         | R4512 098        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 97.0     | 98.0   | 1.0          | 3.2E-06                   | 5.50             | 1080        | 5.24                |                    | 0%                                                      | 0.3                                                     | 160.5                                                    | 160.2         | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 726        | 10/7/2014 | EB1441584019 | R4512         | R4512 099        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 98.0     | 99.0   | 1.0          | 4E-07                     | 6.40             | 342         | 0.68                |                    | 0%                                                      | 1.9                                                     | 20.8                                                     | 18.9          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Negligible |
| 727        | 10/7/2014 | EB1441584020 | R4512         | R4512 100        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 99.0     | 100.0  | 1.0          | 6.3E-06                   | 5.20             | 1240        | 2.58                |                    | 0%                                                      | 0.3                                                     | 79.0                                                     | 76.8          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 728        | 10/7/2014 | EB1441584021 | R4512         | R4512 101        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 100.0    | 101.0  | 1.0          | 7.9E-06                   | 5.10             | 1580        | 2.73                |                    | 0%                                                      | 0.3                                                     | 83.6                                                     | 83.4          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 729        | 10/7/2014 | EB1441584022 | R4512         | R4512 102        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 101.0    | 102.0  | 1.0          | 5E-07                     | 6.30             | 1250        | 0.75                |                    | 0%                                                      | 3.3                                                     | 23.0                                                     | 19.7          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 730        | 10/7/2014 | EB1441584023 | R4512         | R4512 103        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 102.0    | 103.0  | 1.0          | 1.6E-07                   | 6.80             | 673         | 0.65                |                    | 0%                                                      | 2.0                                                     | 19.9                                                     | 17.9          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 731        | 10/7/2014 | EB1441584024 | R4512         | R4512 104        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 103.0    | 104.0  | 1.0          | 1.6E-07                   | 6.80             | 977         | 0.74                |                    | 0%                                                      | 3.8                                                     | 22.7                                                     | 18.9          | 0.2     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 732        | 10/7/2014 | EB1441584025 | R4512         | R4512 105        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 104.0    | 105.0  | 1.0          | 7.9E-06                   | 8.10             | 454         | 0.43                | 0.302              | 32%                                                     | 12.8                                                    | 9.2                                                      | -118.8        | 0.3     | 4.5                   | 8.5                                                          | <0.1                                                       | -50.0                              | Non-Acid Forming                                 | Very Low   |
| 733        | 10/7/2014 | EB1441584026 | R4512         | R4512 106        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 105.0    | 106.0  | 1.0          | 1.6E-08                   | 7.80             | 876         | 0.79                | 0.654              | 83%                                                     | 40.5                                                    | 20.0                                                     | -20.5         | 2.0     | 2.2                   | 8.4                                                          | <0.1                                                       | -50.0                              | Non-Acid Forming                                 | Very Low   |
| 734        | 10/7/2014 | EB1441584027 | R4512         | R4512 107        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 106.0    | 107.0  | 1.0          | 2.5E-08                   | 7.60             | 733         | 0.55                |                    | 0%                                                      | 7.4                                                     | 16.8                                                     | 9.4           | 0.4     |                       |                                                              |                                                            |                                    | Potentially Acid Forming - Low Capacity          | Very Low   |
| 735        | 10/7/2014 | EB1441584028 | R4512         | R4512 108        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 107.0    | 108.0  | 1.0          | 7.9E-08                   | 7.10             | 992         | 1.42                |                    | 0%                                                      | 6.0                                                     | 43.5                                                     | 37.5          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Moderate   |
| 736        | 10/7/2014 | EB1441584029 | R4512         | R4512 109        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 108.0    | 109.0  | 1.0          | 1.6E-08                   | 6.80             | 912         | 1.07                |                    | 0%                                                      | 3.4                                                     | 32.8                                                     | 29.4          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 737        | 10/7/2014 | EB1441584030 | R4512         | R4512 110        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 109.0    | 110.0  | 1.0          | 1E-07                     | 7.00             | 1080        | 0.98                |                    | 0%                                                      | 6.8                                                     | 30.0                                                     | 23.2          | 0.2     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 738        | 10/7/2014 | EB1441584031 | R4512         | R4512 111        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 110.0    | 111.0  | 1.0          | 2.5E-07                   | 6.60             | 1030        | 1.34                |                    | 0%                                                      | 4.7                                                     | 41.0                                                     | 36.3          | 0.1     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Moderate   |
| 739        | 10/7/2014 | EB1441584032 | R4512         | R4512 112        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 111.0    | 112.0  | 1.0          | 7.9E-07                   | 6.10             | 1470        | 3.24                |                    | 0%                                                      | 0.3                                                     | 99.2                                                     | 99.0          | 0.0     |                       |                                                              |                                                            |                                    | Potentially Acid Forming                         | Very Low   |
| 740        | 10/7/2014 | EB1441584033 | R4512         | R4512 113        | SS               | (Bowen / Blake)        | Ramp 12 | Interburden            | 112.0    | 113.0  | 1.0          | 6.3E-07                   | 6.20             | 1310        | 2.81                |                    | 0                                                       |                                                         |                                                          |               |         |                       |                                                              |                                                            |                                    |                                                  |            |

Table B1: Acid Base Account Results for Ramp 12 from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam     | Pit     | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup><br>(pH) | EC (1:5)<br>(µS/cm) | Total S<br>(%) | S <sub>Ca</sub><br>(%) | S <sub>Cr</sub><br>Proportion<br>(%) | ANC <sup>1</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup><br>(%) | ANC: MPA Ratio | TOC<br>(% C) | NAG <sub>HI</sub> | NAG Capacity (pH 4.5)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7) | Sample Classification <sup>3</sup> | Saline Drainage Classification (Using E-C (1:5)) |                                         |            |
|------------|------------|--------------|---------------|------------------|------------------|---------------|---------|------------------------|-------|-------|----------|------------------------|---------------------|----------------|------------------------|--------------------------------------|------------------------------------------------------------|--------------------------|----------------|--------------|-------------------|-----------------------------------------------------------------|---------------------|------------------------------------|--------------------------------------------------|-----------------------------------------|------------|
| 777        | 10/27/2014 | EB1441584063 | R4512         | R4512_163        | IV               | - end of hole | Ramp 12 | Basement               | 162.0 | 162.0 | 1.0      | 2E-10                  | 9.70                | 549            | 0.04                   | 0.026                                | 65%                                                        | 109.0                    | 0.8            | 109.2        | 136.9             | 0.1                                                             | 10.8                | <0.1                               | -50.0                                            | Non-Acid Forming (Barren)               | Very Low   |
| 778        | 10/27/2014 | EB1441584064 | R4512         | R4512_164        | IV               | - end of hole | Ramp 12 | Basement               | 163.0 | 164.0 | 1.0      | 2E-10                  | 9.60                | 557            | 0.05                   | 0.0                                  | 62%                                                        | 82.8                     | 1.5            | 81.3         | 54.1              |                                                                 |                     |                                    |                                                  | Non-Acid Forming (Barren)               | Very Low   |
| 779        | 10/27/2014 | EB1441584065 | R4512         | R4512_165        | IV, XM           | - end of hole | Ramp 12 | Basement               | 164.0 | 165.0 | 1.0      | 6.3E-10                | 9.20                | 497            | 0.06                   | 0.0                                  | 89.0                                                       | 1.8                      | 87.2           | 48.4         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 780        | 10/27/2014 | EB1441584066 | R4512         | R4512_166        | IG, XM           | - end of hole | Ramp 12 | Basement               | 165.0 | 166.0 | 1.0      | 2E-09                  | 8.70                | 474            | 0.10                   | 0.0                                  | 95.2                                                       | 3.1                      | 92.1           | 31.1         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 781        | 10/27/2014 | EB1441584067 | R4512         | R4512_167        | IG               | - end of hole | Ramp 12 | Basement               | 166.0 | 167.0 | 1.0      | 5E-10                  | 9.30                | 574            | 0.09                   | 0.0                                  | 77.1                                                       | 2.8                      | 74.3           | 26.0         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 782        | 10/27/2014 | EB1441584068 | R4512         | R4512_168        | IG               | - end of hole | Ramp 12 | Basement               | 167.0 | 168.0 | 1.0      | 4E-10                  | 9.40                | 519            | 0.07                   | 0.0                                  | 80.4                                                       | 2.1                      | 78.3           | 37.5         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 783        | 10/27/2014 | EB1441584069 | R4512         | R4512_169        | IG               | - end of hole | Ramp 12 | Basement               | 168.0 | 169.0 | 1.0      | 4E-10                  | 9.40                | 570            | 0.05                   | 0.0                                  | 92.0                                                       | 1.5                      | 90.5           | 60.1         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 784        | 23/10/2014 | EB1446015001 | C4514         | C4514_001        | CL/SS            | -             | Ramp 12 | Overburden             | 0.0   | 1.0   | 1.0      | 1E-08                  | 8.00                | 364            | 0.04                   | 0.019                                | 48%                                                        | 8.0                      | 0.6            | -7.4         | 13.7              | 0.1                                                             | 9.4                 |                                    |                                                  | Non-Acid Forming (Barren)               | Negligible |
| 785        | 23/10/2014 | EB1446015002 | C4514         | C4514_002        | SS               | -             | Ramp 12 | Overburden             | 1.0   | 2.0   | 1.0      | 7.9E-09                | 8.10                | 482            | 0.04                   | 0.0                                  | 19.8                                                       | 1.2                      | -18.6          | 16.2         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 786        | 23/10/2014 | EB1446015003 | C4514         | C4514_003        | SS               | -             | Ramp 12 | Overburden             | 2.0   | 3.0   | 1.0      | 1.6E-08                | 7.80                | 478            | 0.04                   | 0.0                                  | 4.5                                                        | 1.2                      | -3.3           | 3.7          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 787        | 23/10/2014 | EB1446015004 | C4516         | C4516_001        | SO/SS            | -             | Ramp 12 | Overburden             | 0.0   | 1.0   | 1.0      | 3.2E-09                | 8.50                | 267            | 0.02                   | 0.007                                | 35%                                                        | 16.3                     | 0.2            | -16.1        | 75.0              | 0.1                                                             | 8.2                 |                                    |                                                  | Non-Acid Forming (Barren)               | Negligible |
| 788        | 23/10/2014 | EB1446015005 | C4516         | C4516_002        | SS               | -             | Ramp 12 | Overburden             | 1.0   | 2.0   | 1.0      | 3.2E-09                | 8.50                | 290            | 0.02                   | 0.007                                | 35%                                                        | 7.6                      | 0.2            | -7.4         | 35.5              | 0.1                                                             | 7.6                 |                                    |                                                  | Non-Acid Forming (Barren)               | Negligible |
| 789        | 23/10/2014 | EB1446015006 | C4516         | C4516_003        | SS               | -             | Ramp 12 | Overburden             | 2.0   | 3.0   | 1.0      | 2E-09                  | 8.70                | 306            | 0.02                   | 0.0                                  | 16.9                                                       | 0.6                      | -16.3          | 27.6         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 790        | 23/10/2014 | EB1446015007 | C4518         | C4518_001        | SL               | -             | Ramp 12 | Overburden             | 0.0   | 1.0   | 1.0      | 3.2E-07                | 8.50                | 130            | 0.03                   | 0.0                                  | 0.3                                                        | 0.9                      | 0.7            | 0.3          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 791        | 23/10/2014 | EB1446015010 | C4518         | C4518_004        | SL               | -             | Ramp 12 | Overburden             | 3.0   | 4.0   | 1.0      | 2.5E-08                | 5.60                | 186            | 0.13                   | 0.017                                | 13%                                                        | 0.3                      | 0.5            | -0.3         | 0.5               | 6.6                                                             | 3.6                 | 6.5                                | 28.3                                             | Non-Acid Forming (Barren)               | Negligible |
| 792        | 23/10/2014 | EB1446015011 | C4518         | C4518_005        | SL               | -             | Ramp 12 | Overburden             | 4.0   | 5.0   | 1.0      | 2.5E-06                | 5.60                | 117            | 0.06                   | 0.0                                  | 0.3                                                        | 1.8                      | 1.8            | 0.1          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 793        | 27/10/2014 | EB1446028001 | R4553         | R4553_001        | SS               | -             | Ramp 12 |                        | 0.0   | 1.0   | 1.0      | 1E-08                  | 8.00                | 928            | 0.07                   | 0.0                                  | 6.4                                                        | 2.1                      | -4.3           | 3.0          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 794        | 27/10/2014 | EB1446028002 | R4553         | R4553_002        | SS               | -             | Ramp 12 |                        | 1.0   | 2.0   | 1.0      | 3.2E-09                | 8.50                | 748            | 0.10                   | 0.0                                  | 4.7                                                        | 3.1                      | -1.6           | 1.5          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 795        | 27/10/2014 | EB1446028003 | R4553         | R4553_003        | SS               | -             | Ramp 12 |                        | 2.0   | 3.0   | 1.0      | 1.6E-09                | 8.80                | 724            | 0.06                   | 0.0                                  | 31.3                                                       | 1.8                      | -29.5          | 17.0         |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 796        | 27/10/2014 | EB1446028004 | R4553         | R4553_004        | SS               | -             | Ramp 12 |                        | 3.0   | 4.0   | 1.0      | 1E-09                  | 9.00                | 585            | 0.04                   | 0.0                                  | 5.2                                                        | 1.2                      | -4.0           | 4.2          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 797        | 27/10/2014 | EB1446028005 | R4553         | R4553_005        | SS               | -             | Ramp 12 |                        | 4.0   | 5.0   | 1.0      | 1.6E-09                | 8.80                | 588            | 0.05                   | 0.0                                  | 3.4                                                        | 1.5                      | -1.9           | 2.2          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Very Low                                |            |
| 798        | 27/10/2014 | EB1446028006 | R4553         | R4553_006        | SS               | -             | Ramp 12 |                        | 5.0   | 6.0   | 1.0      | 1.6E-09                | 8.80                | 473            | 0.07                   | 0.0                                  | 2.9                                                        | 2.1                      | -0.8           | 1.4          |                   |                                                                 |                     |                                    | Non-Acid Forming (Barren)                        | Negligible                              |            |
| 799        | 27/10/2014 | EB1446028007 | R4553         | R4553_007        | SS               | -             | Ramp 12 |                        | 6.0   | 7.0   | 1.0      | 2.5E-08                | 7.60                | 628            | 0.37                   | 0.0                                  | 2.2                                                        | 11.3                     | 9.1            | 0.2          |                   |                                                                 |                     |                                    | Potentially Acid Forming - Low Capacity          | Very Low                                |            |
| 800        | 27/10/2014 | EB1446028008 | R4553         | R4553_008        | SS               | -             | Ramp 12 |                        | 7.0   | 8.0   | 1.0      | 4E-09                  | 8.40                | 404            | 0.36                   | 0.238                                | 65%                                                        | 5.7                      | 7.3            | 1.8          | 0.8               | 0.6                                                             | 3.7                 | 1.6                                | 4.1                                              | Non-Acid Forming                        | Negligible |
| 801        | 27/10/2014 | EB1446028009 | R4553         | R4553_009        | SS               | -             | Ramp 12 |                        | 8.0   | 9.0   | 1.0      | 4E-09                  | 8.40                | 421            | 0.18                   | 0.139                                | 77%                                                        | 15.0                     | 4.3            | -10.7        | 3.5               | 0.5                                                             | 9.3                 |                                    |                                                  | Non-Acid Forming                        | Negligible |
| 802        | 27/10/2014 | EB1446028010 | R4553         | R4553_010        | SS               | -             | Ramp 12 |                        | 9.0   | 10.0  | 1.0      | 4E-09                  | 8.40                | 326            | 0.16                   | 0.0                                  | 29.1                                                       | 4.9                      | -24.2          | 5.9          |                   |                                                                 |                     |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 803        | 27/10/2014 | EB1446028011 | R4553         | R4553_011        | SS               | -             | Ramp 12 |                        | 10.0  | 11.0  | 1.0      | 1E-09                  | 9.00                | 232            | 0.42                   | 0.0                                  | 78.3                                                       | 12.9                     | -65.4          | 6.1          |                   |                                                                 |                     |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 804        | 27/10/2014 | EB1446028012 | R4553         | R4553_012        | SS               | -             | Ramp 12 |                        | 11.0  | 12.0  | 1.0      | 7.9E-10                | 9.10                | 238            | 0.60                   | 0.500                                | 83%                                                        | 47.7                     | 15.3           | -32.4        | 3.1               | 0.7                                                             | 8.6                 |                                    |                                                  | Non-Acid Forming                        | Negligible |
| 805        | 27/10/2014 | EB1446028013 | R4553         | R4553_013        | SS               | -             | Ramp 12 |                        | 12.0  | 13.0  | 1.0      | 7.9E-10                | 9.10                | 280            | 0.86                   | 0.790                                | 92%                                                        | 17.9                     | 24.2           | 6.3          | 0.7               | 0.9                                                             | 3.4                 | 3.1                                | 6.5                                              | Potentially Acid Forming - Low Capacity | Negligible |
| 806        | 27/10/2014 | EB1446028014 | R4553         | R4553_014        | SS               | -             | Ramp 12 |                        | 13.0  | 14.0  | 1.0      | 7.9E-10                | 9.10                | 266            | 0.69                   | 0.543                                | 79%                                                        | 18.1                     | 16.6           | -1.5         | 1.1               | 0.9                                                             | 4.5                 | 0.0                                | 2.0                                              | Uncertain                               | Negligible |
| 807        | 27/10/2014 | EB1446028015 | R4553         | R4553_015        | SS               | -             | Ramp 12 |                        | 14.0  | 15.0  | 1.0      | 6.3E-10                | 9.20                | 218            | 0.21                   | 0.0                                  | 41.8                                                       | 6.4                      | -35.4          | 6.5          |                   |                                                                 |                     |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 808        | 27/10/2014 | EB1446028016 | R4553         | R4553_016        | SS               | -             | Ramp 12 |                        | 15.0  | 16.0  | 1.0      | 7.9E-10                | 9.10                | 234            | 0.40                   | 0.0                                  | 9.7                                                        | 12.3                     | 2.6            | 0.8          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 809        | 27/10/2014 | EB1446028017 | R4553         | R4553_017        | SS               | -             | Ramp 12 |                        | 16.0  | 17.0  | 1.0      | 1E-09                  | 9.00                | 266            | 0.57                   | 0.0                                  | 11.0                                                       | 17.5                     | 6.5            | 0.8          |                   |                                                                 |                     |                                    | Potentially Acid Forming - Low Capacity          | Negligible                              |            |
| 810        | 27/10/2014 | EB1446028018 | R4553         | R4553_018        | SS               | -             | Ramp 12 |                        | 17.0  | 18.0  | 1.0      | 1.6E-09                | 8.80                | 297            | 0.53                   | 0.427                                | 81%                                                        | 8.4                      | 13.1           | 4.7          | 0.6               | 2.5                                                             | 4.1                 | 0.6                                | 3.1                                              | Uncertain                               | Negligible |
| 811        | 27/10/2014 | EB1446028019 | R4553         | R4553_019        | SS               | -             | Ramp 12 |                        | 18.0  | 19.0  | 1.0      | 1E-09                  | 9.00                | 247            | 0.28                   | 0.0                                  | 7.9                                                        | 8.6                      | 0.7            | 0.9          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 812        | 27/10/2014 | EB1446028020 | R4553         | R4553_020        | SS               | -             | Ramp 12 |                        | 19.0  | 20.0  | 1.0      | 6.3E-10                | 9.20                | 240            | 0.17                   | 0.0                                  | 3.9                                                        | 5.2                      | 1.3            | 0.7          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 813        | 27/10/2014 | EB1446028021 | R4553         | R4553_021        | SS               | -             | Ramp 12 |                        | 20.0  | 21.0  | 1.0      | 1.6E-09                | 8.80                | 220            | 0.16                   | 0.0                                  | 4.3                                                        | 4.8                      | -0.4           | 0.8          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 814        | 27/10/2014 | EB1446028022 | R4553         | R4553_022        | XM               | -             | Ramp 12 |                        | 22.0  | 23.0  | 1.0      | 1E-08                  | 8.00                | 241            | 0.73                   | 0.600                                | 82%                                                        | 39                       | 18.4           | 14.5         | 0.2               | 6.8                                                             | 2.7                 | 12.7                               | 18.7                                             | Potentially Acid Forming                | Negligible |
| 815        | 27/10/2014 | EB1446028024 | R4553         | R4553_024        | XM               | -             | Ramp 12 |                        | 23.0  | 24.0  | 1.0      | 1.6E-09                | 8.80                | 233            | 0.33                   | 0.236                                | 72%                                                        | 5.9                      | 7.2            | 1.3          | 0.8               | 1.6                                                             | 5.8                 | 0.0                                | 0.0                                              | Uncertain                               | Negligible |
| 816        | 27/10/2014 | EB1446028025 | R4553         | R4553_025        | SL               | -             | Ramp 12 |                        | 24.0  | 25.0  | 1.0      | 1.3E-09                | 8.90                | 268            | 0.34                   | 0.235                                | 69%                                                        | 6.5                      | 7.2            | 0.7          | 0.9               | 2.1                                                             | 5.1                 | 0.0                                | 0.0                                              | Uncertain                               | Negligible |
| 817        | 27/10/2014 | EB1446028026 | R4553         | R4553_026        | SL               | -             | Ramp 12 |                        | 25.0  | 26.0  | 1.0      | 2E-09                  | 8.70                | 363            | 0.27                   | 0.0                                  | 8.4                                                        | 8.3                      | -0.1           | 1.0          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 818        | 27/10/2014 | EB1446028027 | R4553         | R4553_027        | SL               | -             | Ramp 12 |                        | 26.0  | 27.0  | 1.0      | 1E-09                  | 9.00                | 364            | 0.37                   | 0.0                                  | 16.4                                                       | 11.3                     | -5.1           | 1.4          |                   |                                                                 |                     |                                    | Non-Acid Forming                                 | Negligible                              |            |
| 819        | 27/10/2014 | EB1446028028 | R4553         | R4553_028        | SL               | -             | Ramp 12 |                        | 27.0  | 28.0  | 1.0      | 2.5E-09                | 8.60                | 317            | 0.41                   | 0.288                                | 70%                                                        | 9.3                      | 8.8            | -0.5         | 1.1               | 1.6                                                             | 6.5                 |                                    |                                                  | Non-Acid Forming                        | Negligible |
| 820        | 27/10/2014 | EB1446028029 | R4553         | R4553_029        | SL               | -             | Ramp 12 |                        | 28.0  | 29.0  | 1.0      | 2.5E-09                | 8.60                | 345            | 0.17                   | 0.172                                | 101%                                                       | 7.4                      | 5.3            | -2.1         | 1.4               | 3.4                                                             | 7.1                 |                                    |                                                  | Uncertain                               | Negligible |
| 821        | 27/10/2014 | EB1446028030 | R4553         | R4553_030        | SL               | -             | Ramp 12 |                        | 29.0  | 30.0  | 1.0      | 1.6E-09                | 8.80                | 269            | 0.20                   | 0.0                                  | 10.1                                                       | 6.1                      | -4.0           | 1.6          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 822        | 27/10/2014 | EB1446028031 | R4553         | R4553_031        | SL               | -             | Ramp 12 |                        | 30.0  | 31.0  | 1.0      | 6.3E-09                | 8.20                | 309            | 0.33                   | 0.236                                | 72%                                                        | 9.3                      | 7.2            | -2.1         | 1.3               | 3.2                                                             | 6.7                 |                                    |                                                  | Uncertain                               | Negligible |
| 823        | 27/10/2014 | EB1446028032 | R4553         | R4553_032        | SL               | -             | Ramp 12 |                        | 31.0  | 32.0  | 1.0      | 2E-09                  | 8.50                | 301            | 0.20                   | 0.153                                | 77%                                                        | 8.3                      | 4.7            | -3.6         | 1.8               | 1.9                                                             | 7.3                 |                                    |                                                  | Uncertain                               | Negligible |
| 824        | 27/10/2014 | EB1446028033 | R4553         | R4553_033        | SS               | -             | Ramp 12 |                        | 32.0  | 33.0  | 1.0      | 4E-09                  | 8.40                | 315            | 0.16                   | 0.0                                  | 7.6                                                        | 4.9                      | -2.7           | 1.6          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 825        | 27/10/2014 | EB1446028034 | R4553         | R4553_034        | SS               | -             | Ramp 12 |                        | 33.0  | 34.0  | 1.0      | 3.2E-09                | 8.50                | 421            | 0.17                   | 0.0                                  | 7.7                                                        | 5.2                      | -2.5           | 1.5          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 826        | 27/10/2014 | EB1446028035 | R4553         | R4553_035        | SS               | -             | Ramp 12 |                        | 34.0  | 35.0  | 1.0      | 2E-09                  | 8.70                | 315            | 0.16                   | 0.0                                  | 7.9                                                        | 4.9                      | -3.0           | 1.6          |                   |                                                                 |                     |                                    | Uncertain                                        | Negligible                              |            |
| 827        | 27/10/2014 | EB1446028036 | R4553         | R4553_036        | SS               | -             | Ramp    |                        |       |       |          |                        |                     |                |                        |                                      |                                                            |                          |                |              |                   |                                                                 |                     |                                    |                                                  |                                         |            |

Table B1: Acid Base Account Results for Ramp 12 from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam | Pit     | Sample Location in Pit | From | To      | Interval | H <sup>+</sup><br>(pH) | pH (1:5) | EC (1:5)<br>(µS/cm) | Total S<br>(%) | S <sub>CL</sub><br>(%) | Scr<br>Proportion<br>(%) | ANC <sup>1</sup><br>(%) | MPA <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | ANP <sup>3</sup><br>(%) | ANC:<br>MPA<br>Ratio | TOC<br>(% C) | NAG <sub>HL</sub> | NAG Capacity (pH 4.5)<br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAG Capacity (pH 7) | Sample Classification <sup>4</sup>      | Saline Drainage Classification (Using<br>E-C (1:5)) |            |
|------------|------------|--------------|---------------|------------------|------------------|-----------|---------|------------------------|------|---------|----------|------------------------|----------|---------------------|----------------|------------------------|--------------------------|-------------------------|------------------------------------------------------------|-------------------------|----------------------|--------------|-------------------|-----------------------------------------------------------------|---------------------|-----------------------------------------|-----------------------------------------------------|------------|
| 859        | 27/10/2014 | EB1446029002 | R4553         | R4553_072        | SS               |           | Ramp 12 | 71.0 72.0              | 1.0  | 4E-09   | 8.40     | 964                    | 0.47     | 0%                  | 72.2           | 14.4                   | 57.5                     | 5.0                     |                                                            |                         |                      |              |                   |                                                                 |                     | Non-Acid Forming                        | Very Low                                            |            |
| 860        | 27/10/2014 | EB1446029003 | R4553         | R4553_073        | SS               |           | Ramp 12 | 72.0 73.0              | 1.0  | 4E-09   | 8.40     | 569                    | 0.55     | 0%                  | 6.9            | 16.8                   | 9.9                      | 0.4                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming - Low Capacity             | Very Low   |
| 861        | 27/10/2014 | EB1446029004 | R4553         | R4553_074        | SS               |           | Ramp 12 | 73.0 74.0              | 1.0  | 2E-09   | 8.70     | 638                    | 0.08     | 0%                  | 7.9            | 2.5                    | 5.5                      | 3.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Very Low   |
| 862        | 27/10/2014 | EB1446029005 | R4553         | R4553_075        | SS               |           | Ramp 12 | 74.0 75.0              | 1.0  | 1E-09   | 9.00     | 399                    | 0.13     | 0%                  | 21.6           | 4.0                    | -17.6                    | 5.4                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Negligible |
| 863        | 27/10/2014 | EB1446029006 | R4553         | R4553_076        | SS               |           | Ramp 12 | 75.0 76.0              | 1.0  | 1.3E-09 | 8.90     | 388                    | 0.09     | 0%                  | 5.7            | 2.8                    | -2.9                     | 2.1                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 864        | 27/10/2014 | EB1446029007 | R4553         | R4553_077        | SS               |           | Ramp 12 | 76.0 77.0              | 1.0  | 1E-09   | 9.00     | 371                    | 0.09     | 0%                  | 9.0            | 2.8                    | -0.0                     | 3.3                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Negligible |
| 865        | 27/10/2014 | EB1446029008 | R4553         | R4553_078        | SS               |           | Ramp 12 | 77.0 78.0              | 1.0  | 1.3E-09 | 8.90     | 356                    | 0.11     | 0%                  | 8.4            | 3.4                    | -5.0                     | 2.5                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Negligible |
| 866        | 27/10/2014 | EB1446029009 | R4553         | R4553_079        | SS               |           | Ramp 12 | 78.0 79.0              | 1.0  | 1.6E-09 | 8.80     | 323                    | 0.10     | 0%                  | 9.4            | 3.1                    | -6.3                     | 3.1                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 867        | 27/10/2014 | EB1446029010 | R4553         | R4553_080        | SS               |           | Ramp 12 | 79.0 80.0              | 1.0  | 7.9E-09 | 8.10     | 685                    | 0.37     | 0%                  | 9.1            | 11.3                   | 2.2                      | 0.8                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Uncertain                                           | Very Low   |
| 868        | 27/10/2014 | EB1446029011 | R4553         | R4553_081        | SS               |           | Ramp 12 | 80.0 81.0              | 1.0  | 2.5E-08 | 7.60     | 841                    | 0.46     | 0%                  | 9.3            | 14.1                   | 5.8                      | 0.6                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming - Low Capacity             | Very Low   |
| 869        | 27/10/2014 | EB1446029012 | R4553         | R4553_082        | SS               |           | Ramp 12 | 81.0 82.0              | 1.0  | 4E-09   | 8.40     | 436                    | 0.36     | 0%                  | 19.4           | 11.0                   | -8.4                     | 1.8                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Negligible |
| 870        | 27/10/2014 | EB1446029013 | R4553         | R4553_083        | SS               |           | Ramp 12 | 82.0 83.0              | 1.0  | 6.3E-09 | 8.20     | 552                    | 0.53     | 0%                  | 10.2           | 16.2                   | 6.0                      | 0.6                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming - Low Capacity             | Very Low   |
| 871        | 27/10/2014 | EB1446029014 | R4553         | R4553_084        | SS               |           | Ramp 12 | 83.0 84.0              | 1.0  | 2E-09   | 8.70     | 547                    | 0.26     | 0%                  | 31.3           | 8.0                    | -23.3                    | 3.9                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Very Low   |
| 872        | 27/10/2014 | EB1446029015 | R4553         | R4553_085        | SS               |           | Ramp 12 | 84.0 85.0              | 1.0  | 7.9E-10 | 9.10     | 297                    | 0.10     | 0%                  | 11.8           | 3.1                    | -8.7                     | 3.9                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 873        | 27/10/2014 | EB1446029016 | R4553         | R4553_086        | SS               |           | Ramp 12 | 85.0 86.0              | 1.0  | 1E-09   | 9.00     | 347                    | 0.09     | 0%                  | 8.1            | 2.8                    | -5.3                     | 2.9                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 874        | 27/10/2014 | EB1446029017 | R4553         | R4553_087        | SS               |           | Ramp 12 | 86.0 87.0              | 1.0  | 1.6E-09 | 8.80     | 358                    | 0.15     | 0%                  | 6.2            | 4.6                    | -1.5                     | 1.3                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Uncertain                                           | Negligible |
| 875        | 27/10/2014 | EB1446029018 | R4553         | R4553_088        | SS               |           | Ramp 12 | 87.0 88.0              | 1.0  | 7.9E-10 | 9.10     | 286                    | 0.08     | 0%                  | 17.9           | 2.5                    | -15.5                    | 7.3                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 876        | 27/10/2014 | EB1446029019 | R4553         | R4553_089        | SS               |           | Ramp 12 | 88.0 89.0              | 1.0  | 6.3E-10 | 9.20     | 293                    | 0.09     | 0%                  | 26.5           | 2.8                    | -25.7                    | 10.3                    |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Negligible |
| 877        | 27/10/2014 | EB1446029020 | R4553         | R4553_090        | SS               |           | Ramp 12 | 89.0 90.0              | 1.0  | 7.9E-10 | 9.20     | 292                    | 0.07     | 0%                  | 17.8           | 2.4                    | -15.4                    | 8.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 878        | 27/10/2014 | EB1446029021 | R4553         | R4553_091        | SS               |           | Ramp 12 | 90.0 91.0              | 1.0  | 6.3E-10 | 9.20     | 279                    | 0.09     | 0%                  | 16.0           | 2.8                    | -13.2                    | 5.8                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 879        | 27/10/2014 | EB1446029022 | R4553         | R4553_092        | SS               |           | Ramp 12 | 91.0 92.0              | 1.0  | 1.3E-09 | 8.90     | 341                    | 0.23     | 0.179               | 78%            | 7.6                    | 5.5                      | -2.1                    | 1.4                                                        | 0.3                     | 8.1                  |              |                   |                                                                 |                     | Uncertain                               | Negligible                                          |            |
| 880        | 27/10/2014 | EB1446029023 | R4553         | R4553_093        | SS               |           | Ramp 12 | 92.0 93.0              | 1.0  | 1E-09   | 9.00     | 423                    | 0.03     | 0%                  | 39.7           | 0.9                    | -38.8                    | 43.2                    |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 881        | 27/10/2014 | EB1446029024 | R4553         | R4553_094        | SS               |           | Ramp 12 | 93.0 94.0              | 1.0  | 1E-09   | 9.00     | 272                    | 0.08     | 0%                  | 8.1            | 2.5                    | -5.7                     | 3.3                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming (Barren)                           | Negligible |
| 882        | 27/10/2014 | EB1446029025 | R4553         | R4553_095        | SS               |           | Ramp 12 | 94.0 95.0              | 1.0  | 6.3E-09 | 8.20     | 301                    | 0.24     | 0%                  | 7.2            | 7.4                    | 0.1                      | 1.0                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Negligible |
| 883        | 27/10/2014 | EB1446029026 | R4553         | R4553_096        | SS               |           | Ramp 12 | 95.0 96.0              | 1.0  | 4E-09   | 8.40     | 321                    | 0.44     | 0.327               | 74%            | 9.8                    | 10.0                     | 0.2                     | 1.0                                                        | 0.6                     | 7.0                  |              |                   |                                                                 |                     | Uncertain                               | Negligible                                          |            |
| 884        | 27/10/2014 | EB1446029027 | R4553         | R4553_097        | SS               |           | Ramp 12 | 96.0 97.0              | 1.0  | 2E-09   | 8.70     | 402                    | 0.40     | 0%                  | 8.4            | 12.3                   | 3.9                      | 0.7                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Negligible |
| 885        | 27/10/2014 | EB1446029028 | R4553         | R4553_098        | SS               |           | Ramp 12 | 97.0 98.0              | 1.0  | 2.5E-09 | 8.60     | 419                    | 0.49     | 0%                  | 10.4           | 15.0                   | 4.6                      | 0.7                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Uncertain                                           | Negligible |
| 886        | 27/10/2014 | EB1446029029 | R4553         | R4553_099        | SS               |           | Ramp 12 | 98.0 99.0              | 1.0  | 4E-09   | 8.40     | 655                    | 0.76     | 0%                  | 87.0           | 23.3                   | -63.7                    | 3.7                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Very Low   |
| 887        | 27/10/2014 | EB1446029030 | R4553         | R4553_100        | SS               |           | Ramp 12 | 99.0 100.0             | 1.0  | 2.5E-09 | 8.60     | 684                    | 0.63     | 0%                  | 215.0          | 19.3                   | -193.7                   | 11.0                    |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Very Low   |
| 888        | 27/10/2014 | EB1446029031 | R4553         | R4553_101        | SS               |           | Ramp 12 | 100.0 101.0            | 1.0  | 2.5E-09 | 8.60     | 706                    | 0.76     | 0%                  | 91.0           | 23.3                   | -67.7                    | 3.9                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Very Low   |
| 889        | 27/10/2014 | EB1446029032 | R4553         | R4553_102        | SS               |           | Ramp 12 | 101.0 102.0            | 1.0  | 5E-09   | 8.30     | 958                    | 0.88     | 0%                  | 32.2           | 27.0                   | -5.3                     | 1.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Very Low   |
| 890        | 27/10/2014 | EB1446029033 | R4553         | R4553_103        | SS               |           | Ramp 12 | 102.0 103.0            | 1.0  | 2E-09   | 8.70     | 595                    | 0.92     | 0%                  | 35.5           | 28.2                   | -7.3                     | 1.3                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Very Low   |
| 891        | 27/10/2014 | EB1446029034 | R4553         | R4553_104        | SS               |           | Ramp 12 | 103.0 104.0            | 1.0  | 5E-09   | 8.30     | 1400                   | 1.16     | 0%                  | 58.6           | 36.5                   | -23.1                    | 1.6                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Non-Acid Forming                                    | Moderate   |
| 892        | 27/10/2014 | EB1446029035 | R4553         | R4553_105        | SS               |           | Ramp 12 | 104.0 105.0            | 1.0  | 7.9E-09 | 8.10     | 1860                   | 1.27     | 0.906               | 71%            | 36.4                   | 27.7                     | -8.7                    | 1.3                                                        | 0.6                     | 8.1                  |              |                   | 0.0                                                             | 0.0                 | Non-Acid Forming                        | Moderate                                            |            |
| 893        | 27/10/2014 | EB1446029036 | R4553         | R4553_106        | SS               |           | Ramp 12 | 105.0 106.0            | 1.0  | 6.3E-08 | 7.20     | 2430                   | 2.74     | 1.490               | 54%            | 41                     | 45.6                     | 41.5                    | 0.1                                                        | 0.1                     | 2.6                  |              |                   | 42.7                                                            | 42.7                | Potentially Acid Forming                | Low                                                 |            |
| 894        | 27/10/2014 | EB1446029037 | R4553         | R4553_107        | SS               |           | Ramp 12 | 106.0 107.0            | 1.0  | 3.2E-08 | 7.50     | 1620                   | 1.86     | 1.250               | 67%            | 64                     | 38.3                     | 31.9                    | 0.2                                                        | 0.2                     | 2.7                  |              |                   | 28.8                                                            | 33.2                | Potentially Acid Forming                | Moderate                                            |            |
| 895        | 27/10/2014 | EB1446029038 | R4553         | R4553_108        | SS               |           | Ramp 12 | 107.0 108.0            | 1.0  | 6.3E-09 | 8.20     | 718                    | 1.81     | 0%                  | 6.1            | 40.1                   | 34.0                     | 0.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Moderate   |
| 896        | 27/10/2014 | EB1446029039 | R4553         | R4553_109        | SS               |           | Ramp 12 | 108.0 109.0            | 1.0  | 4E-09   | 8.40     | 556                    | 1.06     | 0%                  | 7.2            | 32.5                   | 25.3                     | 0.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Moderate   |
| 897        | 27/10/2014 | EB1446029040 | R4553         | R4553_110        | SS               |           | Ramp 12 | 109.0 110.0            | 1.0  | 6.3E-09 | 8.20     | 990                    | 1.22     | 0%                  | 7.5            | 37.4                   | 29.9                     | 0.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Moderate   |
| 898        | 27/10/2014 | EB1446029041 | R4553         | R4553_111        | SS               |           | Ramp 12 | 110.0 111.0            | 1.0  | 5E-09   | 8.30     | 963                    | 0.99     | 0%                  | 11.7           | 30.3                   | 18.6                     | 0.4                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Very Low   |
| 899        | 27/10/2014 | EB1446029042 | R4553         | R4553_112        | SS               |           | Ramp 12 | 111.0 112.0            | 1.0  | 1.3E-09 | 8.90     | 461                    | 0.74     | 0.736               | 99%            | 15.9                   | 22.5                     | 6.6                     | 0.7                                                        | 0.5                     | 3.2                  |              |                   | 4.6                                                             | 8.3                 | Potentially Acid Forming - Low Capacity | Negligible                                          |            |
| 900        | 27/10/2014 | EB1446029043 | R4553         | R4553_113        | SS               |           | Ramp 12 | 112.0 113.0            | 1.0  | 1.6E-07 | 8.80     | 818                    | 1.67     | 1.290               | 73%            | 3.5                    | 38.5                     | 34.9                    | 0.1                                                        | 0.8                     | 2.6                  |              |                   | 34.8                                                            | 39.4                | Potentially Acid Forming                | Very Low                                            |            |
| 901        | 27/10/2014 | EB1446029044 | R4553         | R4553_114        | SS               |           | Ramp 12 | 113.0 114.0            | 1.0  | 4E-09   | 8.40     | 501                    | 0.79     | 0%                  | 5.4            | 24.2                   | 18.8                     | 0.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Very Low   |
| 902        | 27/10/2014 | EB1446029045 | R4553         | R4553_115        | SS               |           | Ramp 12 | 114.0 115.0            | 1.0  | 2.5E-08 | 7.60     | 706                    | 0.92     | 0.793               | 86%            | 34                     | 24.3                     | 20.9                    | 0.1                                                        | 0.5                     | 2.5                  |              |                   | 16.4                                                            | 21.6                | Potentially Acid Forming                | Very Low                                            |            |
| 903        | 27/10/2014 | EB1446029046 | R4553         | R4553_124        | SL               |           | Ramp 12 | 123.0 124.0            | 1.0  | 2E-09   | 8.70     | 367                    | 0.80     | 0.741               | 93%            | 6.7                    | 22.7                     | 16.0                    | 0.3                                                        | 3.7                     | 2.6                  |              |                   | 15.1                                                            | 18.4                | Potentially Acid Forming                | Negligible                                          |            |
| 904        | 27/10/2014 | EB1446029055 | R4553         | R4553_125        | SL               |           | Ramp 12 | 124.0 125.0            | 1.0  | 6.3E-10 | 9.20     | 431                    | 0.77     | 0%                  | 8.1            | 23.6                   | 15.5                     | 0.3                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Negligible |
| 905        | 27/10/2014 | EB1446029056 | R4553         | R4553_126        | SL               |           | Ramp 12 | 125.0 126.0            | 1.0  | 1E-09   | 9.00     | 403                    | 0.88     | 0%                  | 6.5            | 27.0                   | 20.5                     | 0.2                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Negligible |
| 906        | 27/10/2014 | EB1446029057 | R4553         | R4553_127        | SL               |           | Ramp 12 | 126.0 127.0            | 1.0  | 1.3E-09 | 8.90     | 463                    | 0.83     | 0%                  | 7.0            | 25.4                   | 18.4                     | 0.3                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Negligible |
| 907        | 27/10/2014 | EB1446029058 | R4553         | R4553_128        | SL               |           | Ramp 12 | 127.0 128.0            | 1.0  | 5E-09   | 8.30     | 733                    | 0.79     | 0%                  | 14.1           | 24.2                   | 10.1                     | 0.6                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Very Low   |
| 908        | 27/10/2014 | EB1446029059 | R4553         | R4553_129        | SL               |           | Ramp 12 | 128.0 129.0            | 1.0  | 2E-09   | 8.70     | 576                    | 0.91     | 0%                  | 13.8           | 27.8                   | 14.1                     | 0.5                     |                                                            |                         |                      |              |                   |                                                                 |                     |                                         | Potentially Acid Forming                            | Very Low   |
| 909        | 27/10/2014 | EB1446029060 | R             |                  |                  |           |         |                        |      |         |          |                        |          |                     |                |                        |                          |                         |                                                            |                         |                      |              |                   |                                                                 |                     |                                         |                                                     |            |

Table B1: Acid Base Account Results for Ramp 12 from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Coal Seam | Pit     | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup> | pH (1-5) | EC (1-5) | Total S | S <sub>CL</sub> | Scr Proporti on | ANC <sup>2</sup> | MPA <sup>2</sup>                       | NAPP <sup>2</sup> | ANC: MPA Ratio | TOC   | NAG <sub>PH</sub> | NAG Capacity (pH 4.5)                  | NAG Capacity (pH 7)      | Sample Classification <sup>1</sup>      | Saline Drainage Classification (Using E-C (1:5)) |  |
|------------|------------|--------------|---------------|------------------|------------------|-----------|---------|------------------------|-------|-------|----------|----------------|----------|----------|---------|-----------------|-----------------|------------------|----------------------------------------|-------------------|----------------|-------|-------------------|----------------------------------------|--------------------------|-----------------------------------------|--------------------------------------------------|--|
|            |            |              |               |                  |                  |           |         |                        | (m)   | (m)   | (M)      | (M)            |          | (µS/cm)  | (%)     | (%)             | (%)             |                  | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                   |                | (% C) |                   | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                          |                                         |                                                  |  |
| 944        | 27/10/2014 | EB1446030028 | R4553         | R4553_168        | SS               |           | Ramp 12 |                        | 167.0 | 168.0 | 1.0      | 1.6E-08        | 7.80     | 899      | 0.72    |                 | 0%              | 5.8              | 22.1                                   | 16.3              | 0.3            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 945        | 27/10/2014 | EB1446030029 | R4553         | R4553_169        | SS               |           | Ramp 12 |                        | 168.0 | 169.0 | 1.0      | 2E-08          | 7.70     | 925      | 0.57    | 0.425           | 75%             | 4.1              | 13.0                                   | 9.9               | 0.3            | 0.7   | 2.9               | 7.6                                    | 10.9                     | Potentially Acid Forming - Low Capacity | Very Low                                         |  |
| 946        | 27/10/2014 | EB1446030030 | R4553         | R4553_170        | SS               |           | Ramp 12 |                        | 169.0 | 170.0 | 1.0      | 2.5E-08        | 7.60     | 1,030    | 0.56    |                 | 0%              | 3.7              | 17.2                                   | 13.5              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 947        | 27/10/2014 | EB1446030031 | R4553         | R4553_171        | SS               |           | Ramp 12 |                        | 170.0 | 171.0 | 1.0      | 5E-08          | 7.30     | 801      | 0.75    |                 | 0%              | 3.6              | 23.0                                   | 19.4              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 948        | 27/10/2014 | EB1446030032 | R4553         | R4553_172        | SS               |           | Ramp 12 |                        | 171.0 | 172.0 | 1.0      | 1.6E-07        | 6.80     | 842      | 0.74    |                 | 0%              | 3.3              | 22.7                                   | 19.4              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 949        | 27/10/2014 | EB1446030033 | R4553         | R4553_173        | SS               |           | Ramp 12 |                        | 172.0 | 173.0 | 1.0      | 2E-08          | 7.70     | 746      | 0.68    |                 | 0%              | 5.0              | 20.8                                   | 15.8              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 950        | 27/10/2014 | EB1446030034 | R4553         | R4553_174        | SS               |           | Ramp 12 |                        | 173.0 | 174.0 | 1.0      | 3.2E-08        | 7.50     | 726      | 0.64    |                 | 0%              | 4.5              | 19.6                                   | 15.1              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 951        | 27/10/2014 | EB1446030035 | R4553         | R4553_175        | SS               |           | Ramp 12 |                        | 174.0 | 175.0 | 1.0      | 5E-08          | 7.30     | 752      | 0.76    |                 | 0%              | 4.6              | 23.3                                   | 18.7              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 952        | 27/10/2014 | EB1446030036 | R4553         | R4553_176        | SS               |           | Ramp 12 |                        | 175.0 | 176.0 | 1.0      | 2.5E-08        | 7.60     | 942      | 1.57    |                 | 0%              | 4.9              | 48.1                                   | 43.2              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 953        | 27/10/2014 | EB1446030037 | R4553         | R4553_177        | SS               |           | Ramp 12 |                        | 176.0 | 177.0 | 1.0      | 1E-06          | 6.00     | 1,060    | 1.28    |                 | 0%              | 3.3              | 39.2                                   | 35.9              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 954        | 27/10/2014 | EB1446030038 | R4553         | R4553_178        | SS               |           | Ramp 12 |                        | 177.0 | 178.0 | 1.0      | 1.3E-06        | 5.90     | 1,100    | 1.04    |                 | 0%              | 3.4              | 31.9                                   | 28.5              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 955        | 27/10/2014 | EB1446030039 | R4553         | R4553_179        | SS               |           | Ramp 12 |                        | 178.0 | 179.0 | 1.0      | 4E-06          | 5.40     | 1,280    | 2.43    |                 | 0%              | 3.0              | 74.4                                   | 71.4              | 0.0            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 956        | 27/10/2014 | EB1446030040 | R4553         | R4553_180        | SS               |           | Ramp 12 |                        | 179.0 | 180.0 | 1.0      | 3.2E-06        | 5.50     | 1,320    | 1.58    |                 | 0%              | 4.8              | 48.4                                   | 43.6              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 957        | 27/10/2014 | EB1446030041 | R4553         | R4553_181        | SS               |           | Ramp 12 |                        | 180.0 | 181.0 | 1.0      | 2.5E-06        | 5.60     | 1,090    | 1.52    |                 | 0%              | 3.4              | 46.6                                   | 43.2              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 958        | 27/10/2014 | EB1446030042 | R4553         | R4553_182        | SS               |           | Ramp 12 |                        | 181.0 | 182.0 | 1.0      | 1.6E-09        | 8.80     | 972      | 1.25    |                 | 0%              | 9.0              | 38.3                                   | 35.3              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 959        | 27/10/2014 | EB1446030043 | R4553         | R4553_183        | SS               |           | Ramp 12 |                        | 182.0 | 183.0 | 1.0      | 2E-09          | 8.70     | 711      | 0.74    |                 | 0%              | 7.5              | 22.7                                   | 15.2              | 0.3            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 960        | 27/10/2014 | EB1446030044 | R4553         | R4553_184        | SS               |           | Ramp 12 |                        | 183.0 | 184.0 | 1.0      | 1.6E-09        | 8.80     | 648      | 0.74    |                 | 0%              | 6.7              | 22.7                                   | 16.0              | 0.3            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 961        | 27/10/2014 | EB1446030045 | R4553         | R4553_185        | SS               |           | Ramp 12 |                        | 184.0 | 185.0 | 1.0      | 1.6E-09        | 8.80     | 994      | 0.83    |                 | 0%              | 8.9              | 25.4                                   | 18.5              | 0.4            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 962        | 27/10/2014 | EB1446030046 | R4553         | R4553_186        | SS               |           | Ramp 12 |                        | 185.0 | 186.0 | 1.0      | 2.5E-09        | 8.60     | 1,160    | 1.81    |                 | 0%              | 11.8             | 55.4                                   | 43.6              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 963        | 27/10/2014 | EB1446030047 | R4553         | R4553_187        | SS               |           | Ramp 12 |                        | 186.0 | 187.0 | 1.0      | 2.5E-09        | 8.10     | 1,100    | 1.56    |                 | 0%              | 11.8             | 47.6                                   | 38.0              | 0.2            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 964        | 27/10/2014 | EB1446030048 | R4553         | R4553_188        | SS               |           | Ramp 12 |                        | 187.0 | 188.0 | 1.0      | 2.5E-08        | 7.60     | 1,240    | 2.37    |                 | 0%              | 8.6              | 72.6                                   | 64.0              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 965        | 27/10/2014 | EB1446030049 | R4553         | R4553_189        | SS               |           | Ramp 12 |                        | 188.0 | 189.0 | 1.0      | 4E-06          | 5.40     | 1,430    | 4.97    | 3,540           | 71%             | 2.4              | 108.4                                  | 106.0             | 0.0            | 1.5   | 2.1               | 109.7                                  | 118.0                    | Potentially Acid Forming                | Very Low                                         |  |
| 966        | 27/10/2014 | EB1446030050 | R4553         | R4553_190        | SS               |           | Ramp 12 |                        | 189.0 | 190.0 | 1.0      | 4E-06          | 5.40     | 1,450    | 4.69    |                 | 0%              | 3.2              | 143.8                                  | 140.4             | 0.0            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 967        | 27/10/2014 | EB1446030051 | R4553         | R4553_191        | SS               |           | Ramp 12 |                        | 190.0 | 191.0 | 1.0      | 5E-06          | 5.30     | 1,600    | 3.26    |                 | 0%              | 1.7              | 99.8                                   | 98.1              | 0.0            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 968        | 27/10/2014 | EB1446030052 | R4553         | R4553_192        | SS               |           | Ramp 12 |                        | 191.0 | 192.0 | 1.0      | 1.6E-07        | 6.80     | 1,780    | 2.71    |                 | 0%              | 6.5              | 83.0                                   | 78.5              | 0.1            |       |                   |                                        |                          | Potentially Acid Forming                | Very Low                                         |  |
| 969        | 27/10/2014 | EB1446030053 | R4553         | R4553_193        | SS               |           | Ramp 12 |                        | 192.0 | 193.0 | 1.0      | 4E-06          | 5.40     | 1,460    | 1.83    |                 | 0%              | 2.3              | 66.0                                   | 63.7              | 0.0            |       |                   |                                        |                          | Potentially Acid Forming                | Moderate                                         |  |
| 970        | 27/10/2014 | EB1446030054 | R4553         | R4553_194        | SS               |           | Ramp 12 |                        | 193.0 | 194.0 | 1.0      | 2.5E-09        | 8.60     | 862      | 1.03    |                 | 132.0           | 31.5             | -100.5                                 | 4.2               |                |       |                   |                                        | Non-Acid Forming         | Moderate                                |                                                  |  |
| 971        | 27/10/2014 | EB1446030055 | R4553         | R4553_195        | SL               |           | Ramp 12 |                        | 194.0 | 195.0 | 1.0      | 4E-09          | 8.40     | 872      | 1.26    |                 | 19.1            | 38.6             | 19.5                                   | 0.5               |                |       |                   |                                        | Potentially Acid Forming | Moderate                                |                                                  |  |
| 972        | 27/10/2014 | EB1446030056 | R4553         | R4553_196        | SL               |           | Ramp 12 |                        | 195.0 | 196.0 | 1.0      | 3.2E-09        | 8.50     | 824      | 1.31    |                 | 9.3             | 40.1             | 30.8                                   | 0.2               |                |       |                   |                                        | Potentially Acid Forming | Moderate                                |                                                  |  |
| 973        | 27/10/2014 | EB1446030057 | R4553         | R4553_197        | SL               |           | Ramp 12 |                        | 196.0 | 197.0 | 1.0      | 1.6E-09        | 8.80     | 668      | 0.66    | 0.407           |                 | 7.0              | 12.5                                   | 5.5               | 0.6            | 11.4  | 2.9               | 8.6                                    | 17.6                     | Potentially Acid Forming - Low Capacity | Very Low                                         |  |
| 974        | 27/10/2014 | EB1446030058 | R4553         | R4553_198        | SL               |           | Ramp 12 |                        | 197.0 | 198.0 | 1.0      | 2E-09          | 8.70     | 730      | 0.78    |                 |                 | 15.0             | 23.9                                   | 6.9               | 0.6            |       |                   |                                        |                          | Potentially Acid Forming - Low Capacity | Very Low                                         |  |

Notes:  
1. S<sub>CL</sub> = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.  
2. Sample classification criteria detail provided in report text.

\* Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used.

**Table B1: Acid Base Account Results for Blake South Pit from the Collinsville Project**

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Pit         | From | To   | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | Total S | S <sub>CR</sub> | Scr Proportion | ANC <sup>2</sup> | MPA <sup>2</sup>                       | NAPP <sup>2</sup> | ANC: MPA Ratio | Sample Classification <sup>1</sup>      | Saline Drainage Classification (Using E:C (1:5)) |
|------------|------------|--------------|---------------|------------------|------------------|-------------|------|------|----------|----------------|----------|----------|---------|-----------------|----------------|------------------|----------------------------------------|-------------------|----------------|-----------------------------------------|--------------------------------------------------|
|            |            |              |               |                  |                  |             |      |      |          |                |          |          |         |                 |                |                  |                                        |                   |                |                                         |                                                  |
|            |            |              |               |                  |                  |             | (m)  |      |          | (M)            |          |          | (μS/cm) | (%)             | (%)            | (%)              | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                   |                |                                         |                                                  |
| 975        | 22/09/2014 |              | C4532         | 053426           | SS               | Blake South | 10.3 | 10.6 | 0.3      | 5E-08          | 7.30     | 231      | 0.06    |                 | 0%             | 7.1              | 1.8                                    | -5.3              | 3.9            | Non-Acid Forming (Barren)               | Negligible                                       |
| 976        | 22/09/2014 |              | C4532         | 053427           | SS               | Blake South | 15.7 | 16.1 | 0.3      | 7.9E-08        | 7.10     | 714      | 0.36    |                 | 0%             | 4.3              | 11.0                                   | 6.7               | 0.4            | Potentially Acid Forming - Low Capacity | Very Low                                         |
| 977        | 22/09/2014 |              | C4532         | 053428           | SS               | Blake South | 22.3 | 22.6 | 0.3      | 7.9E-07        | 6.10     | 1,240    | 0.70    |                 | 0%             | 2.1              | 21.4                                   | 19.3              | 0.1            | Potentially Acid Forming                | Very Low                                         |
| 978        | 22/09/2014 |              | C4532         | 053429           | SS               | Blake South | 27.2 | 27.5 | 0.3      | 2.5E-07        | 6.60     | 1,000    | 0.78    |                 | 0%             | 5.2              | 23.9                                   | 18.7              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 979        | 22/09/2014 |              | C4532         | 053430           | SS               | Blake South | 32.7 | 33.0 | 0.3      | 1E-07          | 7.00     | 1,110    | 1.62    |                 | 0%             | 22.8             | 49.6                                   | 26.8              | 0.5            | Potentially Acid Forming                | Moderate                                         |
| 980        | 22/09/2014 |              | C4532         | 053431           | SS               | Blake South | 34.7 | 35.1 | 0.3      | 2E-08          | 7.70     | 602      | 1.13    |                 | 0%             | 6.3              | 34.6                                   | 28.3              | 0.2            | Potentially Acid Forming                | Moderate                                         |
| 981        | 24/10/2014 | EB1446033071 | C4538         | C4538_001_chip   | SS               | Blake South | 0.0  | 1.0  | 1.0      | 2.5E-05        | 4.60     | 48       | 0.04    |                 | 0%             | 0.3              | 1.2                                    | 1.0               | 0.2            | Non-Acid Forming (Barren)               | Negligible                                       |
| 982        | 24/10/2014 | EB1446033072 | C4538         | C4538_002_chip   | SS               | Blake South | 1.0  | 2.0  | 1.0      | 2.5E-05        | 4.60     | 39       | 0.12    |                 | 0%             | 0.3              | 3.7                                    | 3.4               | 0.1            | Uncertain                               | Negligible                                       |
| 983        | 24/10/2014 | EB1446033073 | C4538         | C4538_003_chip   | SS               | Blake South | 2.0  | 3.0  | 1.0      | 0.00032        | 3.50     | 661      | 0.20    |                 | 0%             | 0.3              | 6.1                                    | 5.9               | 0.0            | Potentially Acid Forming - Low Capacity | Very Low                                         |
| 984        | 24/10/2014 | EB1446033074 | C4538         | C4538_004_chip   | SL               | Blake South | 3.0  | 4.0  | 1.0      | 0.00032        | 3.50     | 1,130    | 0.82    |                 | 0%             | 0.3              | 25.1                                   | 24.9              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 985        | 24/10/2014 | EB1446033075 | C4538         | C4538_005_chip   | SL               | Blake South | 4.0  | 5.0  | 1.0      | 0.00025        | 3.60     | 1,140    | 0.67    |                 | 0%             | 0.3              | 20.5                                   | 20.3              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 986        | 24/10/2014 | EB1446033076 | C4538         | C4538_006_chip   | SL               | Blake South | 5.0  | 6.0  | 1.0      | 0.0002         | 3.70     | 1,120    | 0.71    |                 | 0%             | 1.4              | 21.7                                   | 20.3              | 0.1            | Potentially Acid Forming                | Very Low                                         |
| 987        | 5/11/2014  | EB1446033077 | C4538         | C4538_001        | SS               | Blake South | 11.8 | 12.1 | 0.3      | 0.0002         | 3.70     | 382      | 0.28    |                 | 0%             | 0.9              | 8.6                                    | 7.7               | 0.1            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 988        | 5/11/2014  | EB1446033078 | C4538         | C4538_002        | SS               | Blake South | 16.2 | 16.4 | 0.3      | 2.5E-06        | 5.60     | 197      | 0.15    |                 | 0%             | 11.1             | 4.6                                    | -6.5              | 2.4            | Non-Acid Forming                        | Negligible                                       |
| 989        | 5/11/2014  | EB1446033079 | C4538         | C4538_003        | SS               | Blake South | 20.9 | 21.2 | 0.3      | 5E-05          | 4.30     | 1,320    | 2.55    |                 | 0%             | 1.2              | 78.1                                   | 76.9              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 990        | 5/11/2014  | EB1446033080 | C4538         | C4538_004        | SS               | Blake South | 26.6 | 26.8 | 0.2      | 0.0004         | 3.40     | 1,190    | 1.08    |                 | 0%             | 0.3              | 33.1                                   | 32.8              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 991        | 5/11/2014  | EB1446033081 | C4538         | C4538_005        | SS               | Blake South | 32.4 | 32.6 | 0.2      | 0.00016        | 3.80     | 604      | 0.83    |                 | 0%             | 0.3              | 25.4                                   | 25.2              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 992        | 5/11/2014  | EB1446033082 | C4538         | C4538_006        | SS               | Blake South | 34.2 | 34.5 | 0.3      | 0.0002         | 3.70     | 392      | 1.21    |                 | 0%             | 0.3              | 37.1                                   | 36.8              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 993        | 5/11/2014  | EB1446033083 | C4538         | C4538_007        | SS               | Blake South | 35.4 | 35.7 | 0.3      | 0.00063        | 3.20     | 835      | 1.03    |                 | 0%             | 0.6              | 31.5                                   | 30.9              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 994        | 5/11/2014  | EB1446033084 | C4538         | C4538_008        | SS               | Blake South | 41.9 | 42.2 | 0.3      | 5E-09          | 8.30     | 171      | 0.22    |                 | 0%             | 5.7              | 6.7                                    | 1.0               | 0.8            | Uncertain                               | Negligible                                       |
| 995        | 5/11/2014  | EB1446033085 | C4538         | C4538_009        | SS               | Blake South | 46.7 | 46.9 | 0.3      | 1.6E-08        | 7.80     | 149      | 0.11    |                 | 0%             | 8.6              | 3.4                                    | -5.2              | 2.6            | Non-Acid Forming                        | Negligible                                       |
| 996        | 5/11/2014  | EB1446033086 | C4538         | C4538_010        | SS               | Blake South | 50.5 | 50.7 | 0.2      | 6.3E-09        | 8.20     | 216      | 0.18    |                 | 0%             | 15.0             | 5.5                                    | -9.5              | 2.7            | Non-Acid Forming                        | Negligible                                       |
| 997        | 5/11/2014  | EB1446033087 | C4538         | C4538_011        | SS               | Blake South | 56.9 | 57.1 | 0.3      | 0.00025        | 3.60     | 923      | 2.24    |                 | 0%             | 0.3              | 68.6                                   | 68.4              | 0.0            | Potentially Acid Forming                | very Low                                         |
| 998        | 5/11/2014  | EB1446033088 | C4538         | C4538_012        | SS               | Blake South | 8.7  | 9.0  | 0.3      | 0.00079        | 3.10     | 771      | 0.49    |                 | 0%             | 0.3              | 15.0                                   | 14.8              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 999        | 5/11/2014  | EB1446033089 | C4538         | C4538_013        | SL               | Blake South | 66.2 | 66.4 | 0.3      | 1.6E-08        | 7.80     | 219      | 0.62    |                 | 0%             | 17.8             | 19.0                                   | 1.2               | 0.9            | Uncertain                               | Negligible                                       |
| 1000       | 5/11/2014  | EB1446033090 | C4538         | C4538_014        | SL               | Blake South | 69.2 | 69.5 | 0.3      | 1E-09          | 9.00     | 78       | 0.31    |                 | 0%             | 125.0            | 9.5                                    | -115.5            | 13.2           | Non-Acid Forming                        | Negligible                                       |
| 1001       | 5/11/2014  | EB1446033091 | C4538         | C4538_015        | IG               | Blake South | 73.2 | 73.5 | 0.3      | 1.3E-08        | 7.90     | 30       | 0.05    |                 | 0%             | 6.1              | 1.5                                    | -4.6              | 4.0            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1002       | 5/11/2014  | EB1446033092 | C4538         | C4538_016        | MS               | Blake South | 79.1 | 79.4 | 0.3      | 6.3E-09        | 8.20     | 28       | 0.04    |                 | 0%             | 6.1              | 1.2                                    | -4.9              | 5.0            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1003       | 5/11/2014  | EB1446033093 | C4538         | C4538_017        | MS               | Blake South | 83.9 | 84.2 | 0.3      | 7.9E-10        | 9.10     | 72       | 0.03    |                 | 0%             | 17.6             | 0.9                                    | -16.7             | 19.2           | Non-Acid Forming (Barren)               | Negligible                                       |

Notes:

1. SCR = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.

2. Sample classification criteria detail provided in report text.

\* Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used.

**Table B1: Acid Base Account Results for Garrick Pit from the Collinsville Project**

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Pit     | Sample Location In Pit | From | To   | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | Total S | S <sub>CR</sub> | Scr Proporti on | ANC <sup>2</sup>                       | MPA <sup>2</sup> | NAPP <sup>2</sup> | ANC: MPA Ratio | Sample Classification <sup>1</sup>      | Saline Drainage Classification (Using E.C (1:5)) |
|------------|------------|--------------|---------------|------------------|------------------|---------|------------------------|------|------|----------|----------------|----------|----------|---------|-----------------|-----------------|----------------------------------------|------------------|-------------------|----------------|-----------------------------------------|--------------------------------------------------|
|            |            |              |               |                  |                  |         |                        | (m)  |      |          | (M)            |          | (µS/cm)  | (%)     | (%)             | (%)             | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                  |                   |                |                                         |                                                  |
| 1004       | 24/10/2014 | EB1446034001 | C4540         | C4540_001_chip   | SS               | Garrick | Soil                   | 0.0  | 1.0  | 1.0      | 6.3E-06        | 5.20     | 61       | 0.06    |                 | 0%              | 0.3                                    | 1.8              | 1.6               | 0.1            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1005       | 24/10/2014 | EB1446034002 | C4540         | C4540_002_chip   | SS               | Garrick | Soil                   | 1.0  | 2.0  | 1.0      | 0.00001        | 5.00     | 73       | 0.08    |                 | 0%              | 0.3                                    | 2.5              | 2.2               | 0.1            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1006       | 24/10/2014 | EB1446034003 | C4540         | C4540_003_chip   | SS               | Garrick | Overburden             | 2.0  | 3.0  | 1.0      | 6.3E-06        | 5.20     | 47       | 0.08    |                 | 0%              | 0.3                                    | 2.5              | 2.2               | 0.1            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1007       | 24/10/2014 | EB1446034004 | C4540         | C4540_004_chip   | SS               | Garrick | Overburden             | 3.0  | 4.0  | 1.0      | 0.00001        | 5.00     | 73       | 0.09    |                 | 0%              | 0.3                                    | 2.8              | 2.5               | 0.1            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1008       | 5/11/2014  | EB1446034005 | C4540         | C4540_001        | SS               | Garrick | Overburden             | 5.2  | 5.5  | 0.3      | 1.3E-05        | 4.90     | 90       | 0.25    |                 | 0%              | 0.3                                    | 7.7              | 7.4               | 0.0            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1009       | 5/11/2014  | EB1446034006 | C4540         | C4540_002        | SS               | Garrick | Interburden            | 13.8 | 14.1 | 0.3      | 1.6E-05        | 4.80     | 280      | 0.23    |                 | 0%              | 0.3                                    | 7.0              | 6.8               | 0.0            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1010       | 5/11/2014  | EB1446034007 | C4540         | C4540_003        | SS               | Garrick | Interburden            | 19.0 | 19.2 | 0.2      | 6.3E-05        | 4.20     | 704      | 0.76    |                 | 0%              | 0.3                                    | 23.3             | 23.0              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1011       | 5/11/2014  | EB1446034008 | C4540         | C4540_004        | XM               | Garrick | Interburden            | 22.6 | 22.8 | 0.3      | 3.2E-05        | 4.50     | 716      | 2.24    |                 | 0%              | 0.3                                    | 68.6             | 68.4              | 0.0            | Potentially Acid Forming                | Negligible                                       |
| 1012       | 5/11/2014  | EB1446034009 | C4540         | C4540_005        | SS               | Garrick | Interburden            | 24.9 | 25.1 | 0.2      | 2.5E-05        | 4.60     | 711      | 1.21    |                 | 0%              | 0.6                                    | 37.1             | 36.5              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1013       | 5/11/2014  | EB1446034010 | C4540         | C4540_006        | SS               | Garrick | Interburden            | 31.0 | 31.3 | 0.3      | 5E-08          | 7.30     | 649      | 0.68    |                 | 0%              | 4.2                                    | 20.8             | 16.6              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 1014       | 5/11/2014  | EB1446034011 | C4540         | C4540_007        | XM               | Garrick | Interburden            | 34.1 | 34.4 | 0.3      | 7.9E-07        | 6.10     | 285      | 0.72    |                 | 0%              | 1.5                                    | 22.1             | 20.6              | 0.1            | Potentially Acid Forming                | Negligible                                       |
| 1015       | 5/11/2014  | EB1446034012 | C4540         | C4540_008        | SS               | Garrick | Interburden            | 39.0 | 39.3 | 0.3      | 1E-08          | 8.00     | 76       | 0.06    |                 | 0%              | 0.9                                    | 1.8              | 0.9               | 0.5            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1016       | 5/11/2014  | EB1446034013 | C4540         | C4540_009        | SS               | Garrick | Interburden            | 43.2 | 43.5 | 0.3      | 4E-09          | 8.40     | 64       | 0.06    |                 | 0%              | 1.4                                    | 1.8              | 0.4               | 0.8            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1017       | 5/11/2014  | EB1446034014 | C4540         | C4540_010        | SS               | Garrick | Interburden            | 48.5 | 48.8 | 0.3      | 5E-08          | 7.30     | 197      | 0.46    |                 | 0%              | 6.4                                    | 14.1             | 7.7               | 0.5            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1018       | 5/11/2014  | EB1446034015 | C4540         | C4540_011        | IG               | Garrick | Interburden            | 50.8 | 51.1 | 0.3      | 1E-09          | 9.00     | 112      | 0.05    |                 | 0%              | 71.0                                   | 1.5              | -69.5             | 46.4           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1019       | 5/11/2014  | EB1446034016 | C4540         | C4540_012        | IG               | Garrick | Interburden            | 55.3 | 55.5 | 0.3      | 1E-09          | 9.00     | 125      | 0.13    |                 | 0%              | 70.1                                   | 4.0              | -66.1             | 17.6           | Non-Acid Forming                        | Negligible                                       |
| 1020       | 5/11/2014  | EB1446034017 | C4540         | C4540_013        | IG               | Garrick | Interburden            | 59.8 | 60.1 | 0.3      | 6.3E-10        | 9.20     | 141      | 0.03    |                 | 0%              | 43.4                                   | 0.9              | -42.5             | 47.2           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1021       | 5/11/2014  | EB1446034018 | C4540         | C4540_014        | IG               | Garrick | Interburden            | 64.4 | 64.7 | 0.3      | 7.9E-10        | 9.10     | 142      | 0.20    |                 | 0%              | 45.8                                   | 6.1              | -39.7             | 7.5            | Non-Acid Forming                        | Negligible                                       |
| 1022       | 5/11/2014  | EB1446034019 | C4540         | C4540_015        | SL               | Garrick | Interburden            | 72.6 | 72.8 | 0.3      | 5E-09          | 8.30     | 60       | 0.04    |                 | 0%              | 2.1                                    | 1.2              | -0.9              | 1.7            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1023       | 5/11/2014  | EB1446034020 | C4540         | C4540_016        | SL               | Garrick | Interburden            | 77.0 | 77.7 | 0.7      | 4E-09          | 8.40     | 63       | 0.02    |                 | 0%              | 1.2                                    | 0.6              | -0.6              | 2.0            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1024       | 5/11/2014  | EB1446034021 | C4540         | C4540_017        | SL               | Garrick | Interburden            | 79.4 | 79.7 | 0.3      | 1E-08          | 8.00     | 68       | 0.02    |                 | 0%              | 2.1                                    | 0.6              | -1.5              | 3.4            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1025       | 5/11/2014  | EB1446034022 | C4540         | C4540_018        | SL               | Garrick | Basement               | 83.0 | 83.4 | 0.3      | 3.2E-09        | 8.50     | 46       | 0.06    |                 | 0%              | 2.5                                    | 1.8              | -0.7              | 1.4            | Non-Acid Forming (Barren)               | Negligible                                       |

Notes:  
1. S<sub>CR</sub> = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.  
2. Sample classification criteria detail provided in report text.  
\* Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used.

Table B1: Acid Base Account Results for Pelican Creek Pit from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Pit           | Sample Location in Pit | From | To   | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | Total S | S <sub>CR</sub> | Scr Proportion | ANC <sup>2</sup>                       | MPA <sup>2</sup> | NAPP <sup>2</sup> | ANC: MPA Ratio | Sample Classification <sup>1</sup>      | Saline Drainage Classification (Using E.C (1:5)) |
|------------|------------|--------------|---------------|------------------|------------------|---------------|------------------------|------|------|----------|----------------|----------|----------|---------|-----------------|----------------|----------------------------------------|------------------|-------------------|----------------|-----------------------------------------|--------------------------------------------------|
|            |            |              |               |                  |                  |               |                        | (m)  |      |          | (M)            |          | (µS/cm)  | (%)     | (%)             | (%)            | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                  |                   |                |                                         |                                                  |
| 1026       | 28/10/2014 | EB1446032001 | R4555         | R4555_001        | SS               | Pelican Creek | Overburden             | 0.0  | 1.0  | 1.0      | 2.5E-07        | 6.60     | 24       | 0.02    |                 | 0%             | 1.2                                    | 0.6              | -0.6              | 2.0            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1027       | 28/10/2014 | EB1446032002 | R4555         | R4555_002        | SS               | Pelican Creek | Overburden             | 1.0  | 2.0  | 1.0      | 1.6E-07        | 6.80     | 41       | 0.03    |                 | 0%             | 2.0                                    | 0.9              | -1.1              | 2.2            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1028       | 28/10/2014 | EB1446032003 | R4555         | R4555_003        | SS               | Pelican Creek | Overburden             | 2.0  | 3.0  | 1.0      | 6.3E-09        | 8.20     | 170      | 0.05    |                 | 0%             | 64.2                                   | 1.5              | -62.7             | 41.9           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1029       | 28/10/2014 | EB1446032004 | R4555         | R4555_004        | SS               | Pelican Creek | Overburden             | 3.0  | 4.0  | 1.0      | 2.5E-09        | 8.60     | 97       | 0.05    |                 | 0%             | 41.5                                   | 1.5              | -40.0             | 27.1           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1030       | 28/10/2014 | EB1446032005 | R4555         | R4555_005        | SS               | Pelican Creek | Overburden             | 4.0  | 5.0  | 1.0      | 1.6E-09        | 8.80     | 89       | 0.02    |                 | 0%             | 13.8                                   | 0.6              | -13.2             | 22.5           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1031       | 28/10/2014 | EB1446032006 | R4555         | R4555_006        | SS               | Pelican Creek | Overburden             | 5.0  | 6.0  | 1.0      | 1E-09          | 9.00     | 124      | 0.05    |                 | 0%             | 8.4                                    | 1.5              | -6.9              | 5.5            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1032       | 28/10/2014 | EB1446032007 | R4555         | R4555_007        | SS               | Pelican Creek | Overburden             | 6.0  | 7.0  | 1.0      | 6.3E-10        | 9.20     | 187      | 0.21    |                 | 0%             | 46.4                                   | 6.4              | -40.0             | 7.2            | Non-Acid Forming                        | Negligible                                       |
| 1033       | 28/10/2014 | EB1446032008 | R4555         | R4555_008        | SS               | Pelican Creek | Overburden             | 7.0  | 8.0  | 1.0      | 6.3E-10        | 9.20     | 286      | 0.75    |                 | 0%             | 35.9                                   | 23.0             | -12.9             | 1.6            | Non-Acid Forming                        | Negligible                                       |
| 1034       | 28/10/2014 | EB1446032009 | R4555         | R4555_009        | SS               | Pelican Creek | Overburden             | 8.0  | 9.0  | 1.0      | 6.3E-10        | 9.20     | 289      | 0.75    |                 | 0%             | 46.3                                   | 23.0             | -23.3             | 2.0            | Non-Acid Forming                        | Negligible                                       |
| 1035       | 28/10/2014 | EB1446032010 | R4555         | R4555_010        | SS               | Pelican Creek | Overburden             | 9.0  | 10.0 | 1.0      | 5E-10          | 9.30     | 275      | 0.81    |                 | 0%             | 45.3                                   | 24.8             | -20.5             | 1.8            | Non-Acid Forming                        | Negligible                                       |
| 1036       | 28/10/2014 | EB1446032011 | R4555         | R4555_011        | SS               | Pelican Creek | Overburden             | 10.0 | 11.0 | 1.0      | 3.2E-10        | 9.50     | 227      | 0.68    |                 | 0%             | 46.4                                   | 20.8             | -25.6             | 2.2            | Non-Acid Forming                        | Negligible                                       |
| 1037       | 28/10/2014 | EB1446032012 | R4555         | R4555_012        | SS               | Pelican Creek | Overburden             | 11.0 | 12.0 | 1.0      | 3.2E-10        | 9.50     | 265      | 0.60    |                 | 0%             | 74.0                                   | 18.4             | -55.6             | 4.0            | Non-Acid Forming                        | Negligible                                       |
| 1038       | 28/10/2014 | EB1446032013 | R4555         | R4555_013        | SS               | Pelican Creek | Overburden             | 12.0 | 13.0 | 1.0      | 4E-10          | 9.40     | 233      | 0.83    |                 | 0%             | 25.2                                   | 25.4             | 0.2               | 1.0            | Uncertain                               | Negligible                                       |
| 1039       | 28/10/2014 | EB1446032014 | R4555         | R4555_014        | SS               | Pelican Creek | Overburden             | 13.0 | 14.0 | 1.0      | 2.5E-10        | 9.60     | 223      | 1.21    |                 | 0%             | 10.3                                   | 37.1             | 26.8              | 0.3            | Potentially Acid Forming                | Moderate                                         |
| 1040       | 28/10/2014 | EB1446032015 | R4555         | R4555_015        | SS               | Pelican Creek | Overburden             | 14.0 | 15.0 | 1.0      | 1.6E-10        | 9.80     | 306      | 1.46    |                 | 0%             | 36.0                                   | 44.7             | 8.7               | 0.8            | Potentially Acid Forming - Low Capacity | Moderate                                         |
| 1041       | 28/10/2014 | EB1446032016 | R4555         | R4555_016        | SS               | Pelican Creek | Overburden             | 15.0 | 16.0 | 1.0      | 2.5E-10        | 9.60     | 327      | 1.13    |                 | 0%             | 42.4                                   | 34.6             | -7.8              | 1.2            | Non-Acid Forming                        | Moderate                                         |
| 1042       | 28/10/2014 | EB1446032017 | R4555         | R4555_017        | SS               | Pelican Creek | Overburden             | 16.0 | 17.0 | 1.0      | 2E-10          | 9.70     | 332      | 0.96    |                 | 0%             | 56.0                                   | 29.4             | -26.6             | 1.9            | Non-Acid Forming                        | Negligible                                       |
| 1043       | 28/10/2014 | EB1446032018 | R4555         | R4555_018        | SS               | Pelican Creek | Overburden             | 17.0 | 18.0 | 1.0      | 3.2E-10        | 9.50     | 321      | 0.73    |                 | 0%             | 71.7                                   | 22.4             | -49.3             | 3.2            | Non-Acid Forming                        | Negligible                                       |
| 1044       | 28/10/2014 | EB1446032019 | R4555         | R4555_019        | SS               | Pelican Creek | Overburden             | 18.0 | 19.0 | 1.0      | 1E-10          | 10.00    | 340      | 1.06    |                 | 0%             | 50.1                                   | 32.5             | -17.6             | 1.5            | Non-Acid Forming                        | Moderate                                         |
| 1045       | 28/10/2014 | EB1446032020 | R4555         | R4555_020        | SS               | Pelican Creek | Overburden             | 19.0 | 20.0 | 1.0      | 1.3E-10        | 9.90     | 282      | 1.37    |                 | 0%             | 86.9                                   | 42.0             | -44.9             | 2.1            | Non-Acid Forming                        | Moderate                                         |
| 1046       | 28/10/2014 | EB1446032021 | R4555         | R4555_021        | SS               | Pelican Creek | Overburden             | 20.0 | 21.0 | 1.0      | 1.3E-10        | 9.90     | 294      | 1.20    |                 | 0%             | 30.5                                   | 36.8             | 6.3               | 0.8            | Potentially Acid Forming - Low Capacity | Moderate                                         |
| 1047       | 28/10/2014 | EB1446032022 | R4555         | R4555_022        | SS               | Pelican Creek | Overburden             | 21.0 | 22.0 | 1.0      | 1.6E-10        | 9.80     | 238      | 0.67    |                 | 0%             | 18.3                                   | 20.5             | 2.2               | 0.9            | Uncertain                               | Negligible                                       |
| 1048       | 28/10/2014 | EB1446032023 | R4555         | R4555_023        | SS               | Pelican Creek | Overburden             | 22.0 | 23.0 | 1.0      | 1.3E-10        | 9.90     | 285      | 0.62    |                 | 0%             | 20.0                                   | 19.0             | -1.0              | 1.1            | Uncertain                               | Negligible                                       |
| 1049       | 28/10/2014 | EB1446032024 | R4555         | R4555_024        | SS               | Pelican Creek | Overburden             | 23.0 | 24.0 | 1.0      | 1.6E-10        | 9.80     | 271      | 0.65    |                 | 0%             | 20.6                                   | 19.9             | -0.7              | 1.0            | Uncertain                               | Negligible                                       |
| 1050       | 28/10/2014 | EB1446032025 | R4555         | R4555_025        | SS               | Pelican Creek | Overburden             | 24.0 | 25.0 | 1.0      | 1E-10          | 10.00    | 385      | 0.13    |                 | 0%             | 20.0                                   | 4.0              | -16.0             | 5.0            | Non-Acid Forming                        | Negligible                                       |
| 1051       | 28/10/2014 | EB1446032026 | R4555         | R4555_026        | SS               | Pelican Creek | Overburden             | 25.0 | 26.0 | 1.0      | 1.6E-10        | 9.80     | 223      | 0.30    |                 | 0%             | 9.6                                    | 9.2              | -0.4              | 1.0            | Uncertain                               | Negligible                                       |
| 1052       | 28/10/2014 | EB1446032027 | R4555         | R4555_027        | SS               | Pelican Creek | Overburden             | 26.0 | 27.0 | 1.0      | 1E-10          | 10.00    | 284      | 0.08    |                 | 0%             | 12.7                                   | 2.5              | -10.3             | 5.2            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1053       | 28/10/2014 | EB1446032028 | R4555         | R4555_028        | SS               | Pelican Creek | Overburden             | 27.0 | 28.0 | 1.0      | 1.6E-10        | 9.80     | 194      | 0.39    |                 | 0%             | 6.8                                    | 11.9             | 5.1               | 0.6            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1054       | 28/10/2014 | EB1446032029 | R4555         | R4555_029        | SS               | Pelican Creek | Overburden             | 28.0 | 29.0 | 1.0      | 1.3E-10        | 9.90     | 344      | 2.05    |                 | 0%             | 17.7                                   | 62.8             | 45.1              | 0.3            | Potentially Acid Forming                | Negligible                                       |
| 1055       | 28/10/2014 | EB1446032030 | R4555         | R4555_030        | SL               | Pelican Creek | Overburden             | 29.0 | 30.0 | 1.0      | 2.5E-10        | 9.60     | 160      | 0.53    |                 | 0%             | 6.1                                    | 16.2             | 10.1              | 0.4            | Potentially Acid Forming                | Negligible                                       |
| 1056       | 28/10/2014 | EB1446032031 | R4555         | R4555_031        | SL               | Pelican Creek | Overburden             | 30.0 | 31.0 | 1.0      | 3.2E-10        | 9.50     | 130      | 0.25    |                 | 0%             | 6.7                                    | 7.7              | 1.0               | 0.9            | Uncertain                               | Negligible                                       |
| 1057       | 28/10/2014 | EB1446032032 | R4555         | R4555_032        | SL               | Pelican Creek | Overburden             | 31.0 | 32.0 | 1.0      | 4E-10          | 9.40     | 103      | 0.32    |                 | 0%             | 9.0                                    | 9.8              | 0.8               | 0.9            | Uncertain                               | Negligible                                       |
| 1058       | 28/10/2014 | EB1446032033 | R4555         | R4555_033        | SL               | Pelican Creek | Overburden             | 32.0 | 33.0 | 1.0      | 4E-10          | 9.40     | 117      | 0.34    |                 | 0%             | 7.1                                    | 10.4             | 3.3               | 0.7            | Uncertain                               | Negligible                                       |
| 1059       | 28/10/2014 | EB1446032034 | R4555         | R4555_034        | SS               | Pelican Creek | Overburden             | 33.0 | 34.0 | 1.0      | 5E-10          | 9.30     | 102      | 0.37    |                 | 0%             | 6.4                                    | 11.3             | 4.9               | 0.6            | Uncertain                               | Negligible                                       |
| 1060       | 28/10/2014 | EB1446032035 | R4555         | R4555_035        | SS               | Pelican Creek | Overburden             | 34.0 | 35.0 | 1.0      | 3.2E-10        | 9.50     | 105      | 0.10    |                 | 0%             | 7.0                                    | 3.1              | -3.9              | 2.3            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1061       | 28/10/2014 | EB1446032036 | R4555         | R4555_036        | SS               | Pelican Creek | Overburden             | 35.0 | 36.0 | 1.0      | 4E-10          | 9.40     | 98       | 0.23    |                 | 0%             | 8.7                                    | 7.0              | -1.7              | 1.2            | Uncertain                               | Negligible                                       |
| 1062       | 28/10/2014 | EB1446032037 | R4555         | R4555_037        | SS               | Pelican Creek | Overburden             | 36.0 | 37.0 | 1.0      | 2.5E-10        | 9.60     | 139      | 0.14    |                 | 0%             | 6.5                                    | 4.3              | -2.2              | 1.5            | Uncertain                               | Negligible                                       |
| 1063       | 28/10/2014 | EB1446032038 | R4555         | R4555_038        | SS               | Pelican Creek | Overburden             | 37.0 | 38.0 | 1.0      | 4E-10          | 9.40     | 106      | 0.16    |                 | 0%             | 8.1                                    | 4.9              | -3.2              | 1.7            | Uncertain                               | Negligible                                       |
| 1064       | 28/10/2014 | EB1446032039 | R4555         | R4555_039        | SS               | Pelican Creek | Overburden             | 38.0 | 39.0 | 1.0      | 2.5E-10        | 9.60     | 99       | 0.29    |                 | 0%             | 7.7                                    | 8.9              | 1.2               | 0.9            | Uncertain                               | Negligible                                       |
| 1065       | 28/10/2014 | EB1446032040 | R4555         | R4555_040        | SS               | Pelican Creek | Overburden             | 39.0 | 40.0 | 1.0      | 3.2E-10        | 9.50     | 96       | 0.49    |                 | 0%             | 6.9                                    | 15.0             | 8.1               | 0.5            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1066       | 28/10/2014 | EB1446032041 | R4555         | R4555_041        | SS               | Pelican Creek | Overburden             | 40.0 | 41.0 | 1.0      | 4E-10          | 9.40     | 108      | 0.51    |                 | 0%             | 5.5                                    | 15.6             | 10.1              | 0.4            | Potentially Acid Forming                | Negligible                                       |
| 1067       | 28/10/2014 | EB1446032042 | R4555         | R4555_042        | SS               | Pelican Creek | Overburden             | 41.0 | 42.0 | 1.0      | 3.2E-07        | 6.50     | 393      | 0.72    |                 | 0%             | 3.2                                    | 22.1             | 18.9              | 0.1            | Potentially Acid Forming                | Negligible                                       |
| 1068       | 28/10/2014 | EB1446032043 | R4555         | R4555_043        | SS               | Pelican Creek | Overburden             | 42.0 | 43.0 | 1.0      | 4E-09          | 8.40     | 331      | 0.44    |                 | 0%             | 6.5                                    | 13.5             | 7.0               | 0.5            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1069       | 28/10/2014 | EB1446032044 | R4555         | R4555_044        | SS               | Pelican Creek | Overburden             | 43.0 | 44.0 | 1.0      | 1.3E-09        | 8.90     | 375      | 0.51    |                 | 0%             | 23.0                                   | 15.6             | -7.4              | 1.5            | Non-Acid Forming                        | Negligible                                       |
| 1070       | 28/10/2014 | EB1446032045 | R4555         | R4555_045        | SS               | Pelican Creek | Overburden             | 44.0 | 45.0 | 1.0      | 1E-08          | 8.00     | 553      | 0.55    |                 | 0%             | 23.9                                   | 16.8             | -7.1              | 1.4            | Non-Acid Forming                        | Very Low                                         |
| 1071       | 28/10/2014 | EB1446032046 | R4555         | R4555_046        | SS               | Pelican Creek | Overburden             | 45.0 | 46.0 | 1.0      | 2.5E-08        | 7.60     | 433      | 1.12    |                 | 0%             | 9.8                                    | 34.3             | 24.5              | 0.3            | Potentially Acid Forming                | Moderate                                         |
| 1072       | 28/10/2014 | EB1446032047 | R4555         | R4555_047        | SS               | Pelican Creek | Overburden             | 46.0 | 47.0 | 1.0      | 4E-10          | 9.40     | 409      | 0.69    |                 | 0%             | 144.0                                  | 21.1             | -122.9            | 6.8            | Non-Acid Forming                        | Negligible                                       |
| 1073       | 28/10/2014 | EB1446032048 | R4555         | R4555_048        | SS               | Pelican Creek | Overburden             | 47.0 | 48.0 | 1.0      | 3.2E-09        | 8.50     | 335      | 0.72    |                 | 0%             | 6.6                                    | 22.1             | 15.5              | 0.3            | Potentially Acid Forming                | Negligible                                       |
| 1074       | 28/10/2014 | EB1446032049 | R4555         | R4555_049        | SS               | Pelican Creek | Overburden             | 48.0 | 49.0 | 1.0      | 2E-08          | 7.70     | 257      | 1.34    |                 | 0%             | 6.2                                    | 41.0             | 34.8              | 0.2            | Potentially Acid Forming                | Moderate                                         |
| 1075       | 28/10/2014 | EB1446032050 | R4555         | R4555_050        | SS               | Pelican Creek | Overburden             | 49.0 | 50.0 | 1.0      | 1E-08          | 8.00     | 205      | 0.79    |                 | 0%             | 5.0                                    | 24.2             | 19.2              | 0.2            | Potentially Acid Forming                | Negligible                                       |
| 1076       | 28/10/2014 | EB1446032051 | R4555         | R4555_051        | SS               | Pelican Creek | Overburden             | 50.0 | 51.0 | 1.0      | 6.3E-06        | 5.20     | 518      | 1.60    |                 | 0%             | 2.6                                    | 49.0             | 46.4              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1077       | 28/10/2014 | EB1446032052 | R4555         | R4555_052        | SS               | Pelican Creek | Overburden             | 51.0 | 52.0 | 1.0      | 6.3E-07        | 6.20     | 262      | 2.27    |                 | 0%             | 4.1                                    | 69.5             | 65.4              | 0.1            | Potentially Acid Forming                | Negligible                                       |
| 1078       | 28/10/2014 | EB1446032053 | R4555         | R4555_053        | SS               | Pelican Creek | Overburden             | 52.0 | 53.0 | 1.0      | 6.3E-09        | 8.20     | 246      | 4.31    |                 | 0%             | 20.2                                   | 132.0            | 111.8             | 0.2            | Potentially Acid Forming                | Negligible                                       |
| 1079       | 28/10/2014 | EB1446032054 | R4555         | R4555_054        | SS               | Pelican Creek | Overburden             | 53.0 | 54.0 | 1.0      | 1.6E-06        | 5.80     | 320      | 3.14    |                 | 0%             | 4.0                                    | 96.2             | 92.2              | 0.0            | Potentially Acid Forming                | Negligible                                       |
| 1080       | 28/10/2014 | EB1446032055 | R4555         | R4555_055        | SS               | Pelican Creek | Overburden             | 54.0 | 55.0 | 1.0      | 4E-07          | 6.40     | 217      | 3.99    |                 | 0%             | 5.0                                    | 122.2            | 117.2             | 0.0            | Potentially Acid Forming                | Negligible                                       |
| 1081       | 28/10/2014 | EB1446032056 | R4555         | R4555_056        | SS               | Pelican Creek | Overburden             | 55.0 | 56.0 | 1.0      | 7.9E-09        | 8.10     | 145      | 0.8     |                 |                |                                        |                  |                   |                |                                         |                                                  |

Table B1: Acid Base Account Results for Pelican Creek Pit from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Pit           | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | Total S | S <sub>CR</sub> | Scr Proportion | ANC <sup>2</sup> | MPA <sup>2</sup> | NAPP <sup>2</sup>                      | ANC: MPA Ratio                          | Sample Classification <sup>1</sup> | Saline Drainage Classification (Using E.C (1:5)) |  |
|------------|------------|--------------|---------------|------------------|------------------|---------------|------------------------|-------|-------|----------|----------------|----------|----------|---------|-----------------|----------------|------------------|------------------|----------------------------------------|-----------------------------------------|------------------------------------|--------------------------------------------------|--|
|            |            |              |               |                  |                  |               |                        | (m)   |       |          | (M)            |          |          | (μS/cm) | (%)             | (%)            | (%)              | (%)              | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                                         |                                    |                                                  |  |
| 1095       | 28/10/2014 | EB1446032077 | R4555         | R4555_077        | SS               | Pelican Creek | Interburden            | 76.0  | 77.0  | 1.0      | 1.3E-09        | 8.90     | 371      | 0.27    | 0%              | 5.2            | 8.3              | 3.1              | 0.6                                    | Uncertain                               | Negligible                         |                                                  |  |
| 1096       | 28/10/2014 | EB1446032078 | R4555         | R4555_078        | SS               | Pelican Creek | Interburden            | 77.0  | 78.0  | 1.0      | 2.5E-10        | 9.60     | 377      | 0.13    | 0%              | 23.4           | 4.0              | -19.4            | 5.9                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1097       | 28/10/2014 | EB1446032079 | R4555         | R4555_079        | SS               | Pelican Creek | Interburden            | 78.0  | 79.0  | 1.0      | 2E-10          | 9.70     | 347      | 0.09    | 0%              | 7.9            | 2.8              | -5.1             | 2.9                                    | Non-Acid Forming (Barren)               | Negligible                         |                                                  |  |
| 1098       | 28/10/2014 | EB1446032080 | R4555         | R4555_080        | SS               | Pelican Creek | Interburden            | 79.0  | 80.0  | 1.0      | 2.5E-10        | 9.60     | 309      | 0.09    | 0%              | 14.8           | 2.8              | -12.0            | 5.4                                    | Non-Acid Forming (Barren)               | Negligible                         |                                                  |  |
| 1099       | 28/10/2014 | EB1446032081 | R4555         | R4555_081        | SS               | Pelican Creek | Interburden            | 80.0  | 81.0  | 1.0      | 2.5E-10        | 9.60     | 302      | 0.10    | 0%              | 16.7           | 3.1              | -13.6            | 5.5                                    | Non-Acid Forming (Barren)               | Negligible                         |                                                  |  |
| 1100       | 28/10/2014 | EB1446032082 | R4555         | R4555_082        | SS               | Pelican Creek | Interburden            | 81.0  | 82.0  | 1.0      | 3.2E-09        | 8.50     | 454      | 0.38    | 0%              | 4.7            | 11.6             | 6.9              | 0.4                                    | Potentially Acid Forming - Low Capacity | Negligible                         |                                                  |  |
| 1101       | 28/10/2014 | EB1446032083 | R4555         | R4555_083        | SS               | Pelican Creek | Interburden            | 82.0  | 83.0  | 1.0      | 3.2E-10        | 9.50     | 401      | 0.24    | 0%              | 54.6           | 7.4              | -47.3            | 7.4                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1102       | 28/10/2014 | EB1446032084 | R4555         | R4555_084        | SS               | Pelican Creek | Interburden            | 83.0  | 84.0  | 1.0      | 2.5E-10        | 9.60     | 318      | 0.24    | 0%              | 82.4           | 7.4              | -75.1            | 11.2                                   | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1103       | 28/10/2014 | EB1446032085 | R4555         | R4555_085        | SS               | Pelican Creek | Interburden            | 84.0  | 85.0  | 1.0      | 3.2E-10        | 9.50     | 254      | 0.09    | 0%              | 14.4           | 2.8              | -11.6            | 5.2                                    | Non-Acid Forming (Barren)               | Negligible                         |                                                  |  |
| 1104       | 28/10/2014 | EB1446032086 | R4555         | R4555_086        | SS               | Pelican Creek | Interburden            | 85.0  | 86.0  | 1.0      | 6.3E-10        | 9.20     | 375      | 0.16    | 0%              | 11.4           | 4.9              | -6.5             | 2.3                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1105       | 28/10/2014 | EB1446032087 | R4555         | R4555_087        | SS               | Pelican Creek | Interburden            | 86.0  | 87.0  | 1.0      | 5E-10          | 9.30     | 323      | 0.12    | 0%              | 10.2           | 3.7              | -6.5             | 2.8                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1106       | 28/10/2014 | EB1446032088 | R4555         | R4555_088        | SS               | Pelican Creek | Interburden            | 87.0  | 88.0  | 1.0      | 3.2E-10        | 9.50     | 280      | 0.15    | 0%              | 10.6           | 4.6              | -6.0             | 2.3                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1107       | 28/10/2014 | EB1446032089 | R4555         | R4555_089        | SS               | Pelican Creek | Interburden            | 88.0  | 89.0  | 1.0      | 2.5E-10        | 9.60     | 260      | 0.14    | 0%              | 9.7            | 4.3              | -5.4             | 2.3                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1108       | 28/10/2014 | EB1446032090 | R4555         | R4555_090        | SS               | Pelican Creek | Interburden            | 89.0  | 90.0  | 1.0      | 2.5E-10        | 9.60     | 176      | 0.12    | 0%              | 5.8            | 3.7              | -2.1             | 1.6                                    | Uncertain                               | Negligible                         |                                                  |  |
| 1109       | 28/10/2014 | EB1446032091 | R4555         | R4555_091        | SS               | Pelican Creek | Interburden            | 90.0  | 91.0  | 1.0      | 2.5E-10        | 9.60     | 228      | 0.09    | 0%              | 4.6            | 2.8              | -1.8             | 1.7                                    | Non-Acid Forming (Barren)               | Negligible                         |                                                  |  |
| 1110       | 28/10/2014 | EB1446032092 | R4555         | R4555_092        | SS               | Pelican Creek | Interburden            | 91.0  | 92.0  | 1.0      | 1.3E-09        | 8.90     | 325      | 0.18    | 0%              | 5.3            | 5.5              | 0.2              | 1.0                                    | Uncertain                               | Negligible                         |                                                  |  |
| 1111       | 28/10/2014 | EB1446032093 | R4555         | R4555_093        | SS               | Pelican Creek | Interburden            | 92.0  | 93.0  | 1.0      | 2E-08          | 7.70     | 471      | 0.49    | 0%              | 10.4           | 15.0             | 4.6              | 0.7                                    | Uncertain                               | Negligible                         |                                                  |  |
| 1112       | 28/10/2014 | EB1446032094 | R4555         | R4555_094        | SS               | Pelican Creek | Interburden            | 93.0  | 94.0  | 1.0      | 3.2E-10        | 9.50     | 363      | 0.12    | 0%              | 10.2           | 3.7              | -6.5             | 2.8                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1113       | 28/10/2014 | EB1446032095 | R4555         | R4555_095        | SS               | Pelican Creek | Interburden            | 94.0  | 95.0  | 1.0      | 2.5E-10        | 9.60     | 400      | 0.35    | 0%              | 23.2           | 10.7             | -12.5            | 2.2                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1114       | 28/10/2014 | EB1446032096 | R4555         | R4555_096        | SS               | Pelican Creek | Interburden            | 95.0  | 96.0  | 1.0      | 1.6E-10        | 9.80     | 431      | 0.16    | 0%              | 18.7           | 4.9              | -13.8            | 3.8                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1115       | 28/10/2014 | EB1446032097 | R4555         | R4555_097        | SS               | Pelican Creek | Interburden            | 96.0  | 97.0  | 1.0      | 1E-10          | 10.00    | 313      | 0.17    | 0%              | 45.0           | 5.2              | -39.8            | 8.6                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1116       | 28/10/2014 | EB1446032098 | R4555         | R4555_098        | SS               | Pelican Creek | Interburden            | 97.0  | 98.0  | 1.0      | 1.3E-10        | 9.90     | 365      | 0.20    | 0%              | 25.1           | 6.1              | -19.0            | 4.1                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1117       | 28/10/2014 | EB1446032099 | R4555         | R4555_099        | SS               | Pelican Creek | Interburden            | 98.0  | 99.0  | 1.0      | 1.6E-10        | 9.80     | 387      | 0.40    | 0%              | 24.1           | 12.3             | -11.9            | 2.0                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1118       | 28/10/2014 | EB1446032100 | R4555         | R4555_100        | SS               | Pelican Creek | Interburden            | 99.0  | 100.0 | 1.0      | 1.6E-10        | 9.80     | 347      | 0.32    | 0%              | 25.2           | 9.8              | -15.4            | 2.6                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1119       | 28/10/2014 | EB1446033001 | R4555         | R4555_101        | SS               | Pelican Creek | Interburden            | 100.0 | 101.0 | 1.0      | 1.3E-08        | 7.90     | 426      | 0.71    | 0%              | 195.0          | 21.7             | -173.3           | 9.0                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1120       | 28/10/2014 | EB1446033002 | R4555         | R4555_102        | SS               | Pelican Creek | Interburden            | 101.0 | 102.0 | 1.0      | 7.9E-10        | 9.10     | 445      | 0.18    | 0%              | 33.8           | 5.5              | -28.3            | 6.1                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1121       | 28/10/2014 | EB1446033003 | R4555         | R4555_103        | SS               | Pelican Creek | Interburden            | 102.0 | 103.0 | 1.0      | 1.6E-09        | 8.80     | 417      | 0.31    | 0%              | 212.0          | 9.5              | -202.5           | 22.3                                   | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1122       | 28/10/2014 | EB1446033004 | R4555         | R4555_104        | SS               | Pelican Creek | Interburden            | 103.0 | 104.0 | 1.0      | 5E-09          | 8.30     | 658      | 0.45    | 0%              | 154.0          | 13.8             | -140.2           | 11.2                                   | Non-Acid Forming                        | Very Low                           |                                                  |  |
| 1123       | 28/10/2014 | EB1446033005 | R4555         | R4555_105        | SS               | Pelican Creek | Interburden            | 104.0 | 105.0 | 1.0      | 4E-09          | 8.40     | 552      | 0.62    | 0%              | 228.0          | 19.0             | -209.0           | 12.0                                   | Non-Acid Forming                        | Very Low                           |                                                  |  |
| 1124       | 28/10/2014 | EB1446033006 | R4555         | R4555_106        | SS               | Pelican Creek | Interburden            | 105.0 | 106.0 | 1.0      | 4E-09          | 8.40     | 658      | 0.62    | 0%              | 188.0          | 19.0             | -169.0           | 9.9                                    | Non-Acid Forming                        | Very Low                           |                                                  |  |
| 1125       | 28/10/2014 | EB1446033007 | R4555         | R4555_107        | SS               | Pelican Creek | Interburden            | 106.0 | 107.0 | 1.0      | 6.3E-09        | 8.20     | 786      | 0.72    | 0%              | 165.0          | 22.1             | -143.0           | 7.5                                    | Non-Acid Forming                        | Very Low                           |                                                  |  |
| 1126       | 28/10/2014 | EB1446033008 | R4555         | R4555_108        | SS               | Pelican Creek | Interburden            | 107.0 | 108.0 | 1.0      | 7.9E-09        | 8.10     | 1,030    | 0.80    | 0%              | 43.2           | 24.5             | -18.7            | 1.8                                    | Non-Acid Forming                        | Very Low                           |                                                  |  |
| 1127       | 28/10/2014 | EB1446033009 | R4555         | R4555_109        | SS               | Pelican Creek | Interburden            | 108.0 | 109.0 | 1.0      | 1.6E-08        | 7.80     | 967      | 1.51    | 0%              | 57.0           | 46.2             | -10.8            | 1.2                                    | Non-Acid Forming                        | Moderate                           |                                                  |  |
| 1128       | 28/10/2014 | EB1446033010 | R4555         | R4555_110        | SS               | Pelican Creek | Interburden            | 109.0 | 110.0 | 1.0      | 1.3E-08        | 7.90     | 783      | 1.45    | 0%              | 13.7           | 44.4             | 30.7             | 0.3                                    | Potentially Acid Forming                | Moderate                           |                                                  |  |
| 1129       | 28/10/2014 | EB1446033011 | R4555         | R4555_111        | SS               | Pelican Creek | Interburden            | 110.0 | 111.0 | 1.0      | 2.5E-08        | 7.60     | 646      | 0.77    | 0%              | 15.6           | 23.6             | 8.0              | 0.7                                    | Potentially Acid Forming - Low Capacity | Very Low                           |                                                  |  |
| 1130       | 28/10/2014 | EB1446033012 | R4555         | R4555_112        | SS               | Pelican Creek | Interburden            | 111.0 | 112.0 | 1.0      | 4E-08          | 7.40     | 871      | 0.73    | 0%              | 14.2           | 22.4             | 8.2              | 0.6                                    | Potentially Acid Forming - Low Capacity | Very Low                           |                                                  |  |
| 1131       | 28/10/2014 | EB1446033013 | R4555         | R4555_113        | SS               | Pelican Creek | Interburden            | 112.0 | 113.0 | 1.0      | 5E-08          | 7.30     | 1,100    | 0.88    | 0%              | 30.0           | 27.0             | -3.1             | 1.1                                    | Uncertain                               | Very Low                           |                                                  |  |
| 1132       | 28/10/2014 | EB1446033014 | R4555         | R4555_114        | SS               | Pelican Creek | Interburden            | 113.0 | 114.0 | 1.0      | 5E-07          | 6.30     | 1,210    | 1.23    | 0%              | 10.6           | 37.7             | 27.1             | 0.3                                    | Potentially Acid Forming                | Moderate                           |                                                  |  |
| 1133       | 28/10/2014 | EB1446033015 | R4555         | R4555_115        | SS               | Pelican Creek | Interburden            | 114.0 | 115.0 | 1.0      | 0.00016        | 3.80     | 1,250    | 1.79    | 0%              | 0.3            | 54.8             | 54.6             | 0.0                                    | Potentially Acid Forming                | Moderate                           |                                                  |  |
| 1134       | 28/10/2014 | EB1446033019 | R4555         | R4555_119        | SS               | Pelican Creek | Interburden            | 118.0 | 119.0 | 1.0      | 4E-09          | 8.40     | 590      | 0.17    | 0%              | 14.2           | 5.2              | -9.0             | 2.7                                    | Non-Acid Forming                        | Very Low                           |                                                  |  |
| 1135       | 28/10/2014 | EB1446033020 | R4555         | R4555_120        | SS               | Pelican Creek | Interburden            | 119.0 | 120.0 | 1.0      | 1.6E-09        | 8.80     | 259      | 0.28    | 0%              | 7.4            | 8.6              | 1.2              | 0.9                                    | Uncertain                               | Negligible                         |                                                  |  |
| 1136       | 28/10/2014 | EB1446033021 | R4555         | R4555_121        | SS               | Pelican Creek | Interburden            | 120.0 | 121.0 | 1.0      | 2.5E-08        | 7.60     | 264      | 0.36    | 0%              | 3.6            | 11.0             | 7.4              | 0.3                                    | Potentially Acid Forming - Low Capacity | Negligible                         |                                                  |  |
| 1137       | 28/10/2014 | EB1446033022 | R4555         | R4555_122        | SS               | Pelican Creek | Interburden            | 121.0 | 122.0 | 1.0      | 0.00063        | 3.20     | 1,300    | 3.35    | 0%              | 0.3            | 102.6            | 102.3            | 0.0                                    | Potentially Acid Forming                | Very Low                           |                                                  |  |
| 1138       | 28/10/2014 | EB1446033023 | R4555         | R4555_123        | SS               | Pelican Creek | Interburden            | 122.0 | 123.0 | 1.0      | 0.00079        | 3.10     | 1,410    | 2.96    | 0%              | 0.3            | 90.7             | 90.4             | 0.0                                    | Potentially Acid Forming                | Negligible                         |                                                  |  |
| 1139       | 28/10/2014 | EB1446033024 | R4555         | R4555_124        | MS               | Pelican Creek | Interburden            | 123.0 | 124.0 | 1.0      | 1E-06          | 6.00     | 296      | 0.90    | 0%              | 5.3            | 27.6             | 22.3             | 0.2                                    | Potentially Acid Forming                | Negligible                         |                                                  |  |
| 1140       | 28/10/2014 | EB1446033025 | R4555         | R4555_125        | SS               | Pelican Creek | Interburden            | 124.0 | 125.0 | 1.0      | 7.9E-06        | 5.10     | 784      | 1.47    | 0%              | 0.8            | 45.0             | 44.2             | 0.0                                    | Potentially Acid Forming                | Moderate                           |                                                  |  |
| 1141       | 28/10/2014 | EB1446033026 | R4555         | R4555_126        | SS               | Pelican Creek | Interburden            | 125.0 | 126.0 | 1.0      | 1E-08          | 8.00     | 347      | 0.41    | 0%              | 4.9            | 12.6             | 7.7              | 0.4                                    | Potentially Acid Forming - Low Capacity | Negligible                         |                                                  |  |
| 1142       | 28/10/2014 | EB1446033027 | R4555         | R4555_127        | SS               | Pelican Creek | Interburden            | 126.0 | 127.0 | 1.0      | 1E-09          | 9.00     | 452      | 0.61    | 0%              | 71.2           | 18.7             | -52.5            | 3.8                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1143       | 28/10/2014 | EB1446033028 | R4555         | R4555_128        | SS               | Pelican Creek | Interburden            | 127.0 | 128.0 | 1.0      | 7.9E-10        | 9.10     | 357      | 0.50    | 0%              | 120.0          | 15.3             | -104.7           | 7.8                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1144       | 28/10/2014 | EB1446033029 | R4555         | R4555_129        | SS               | Pelican Creek | Interburden            | 128.0 | 129.0 | 1.0      | 6.3E-10        | 9.20     | 439      | 0.63    | 0%              | 72.2           | 19.3             | -52.9            | 3.7                                    | Non-Acid Forming                        | Negligible                         |                                                  |  |
| 1145       | 28/10/2014 | EB1446033030 | R4555         | R4555_130        | SS               | Pelican Creek | Interburden            | 129.0 | 130.0 | 1.0      | 7.9E-08        | 7.10     | 793      | 0.99    | 0%              | 20.6           | 30.3             | 9.7              | 0.7                                    | Potentially Acid Forming - Low Capacity | Very Low                           |                                                  |  |
| 1146       | 28/10/2014 | EB1446033031 | R4555         | R4555_131        | SS               | Pelican Creek | Interburden            | 130.0 | 131.0 | 1.0      | 4E-06          | 5.40     | 925      | 2.23    | 0%              | 4.7            | 68.3             | 63.6             | 0.1                                    | Potentially Acid Forming                | Very Low                           |                                                  |  |
| 1147       | 28/10/2014 | EB1446033032 | R4555         | R4555_132        | SL               | Pelican Creek | Interburden            | 131.0 | 132.0 | 1.0      | 7.9E-06        | 5.10     | 681      | 1.90    | 0%              | 2.5            | 55.1             | 52.6             | 0.0                                    | Potentially Acid Forming                | Moderate                           |                                                  |  |
| 1148       | 28/10/2014 | EB1446033033 | R4555         | R4555_133        | SL               | Pelican Creek | Interburden            | 132.0 | 133.0 | 1.0      | 2.5E-06        | 6.80     | 772      | 2.80    | 0%              | 4.7            | 85.8             | 81.1             | 0.1                                    | Potentially Acid Forming                | Very Low                           |                                                  |  |
| 1149       | 28/10/2014 | EB1446033034 | R4555         | R4555_134        | SS               | Pelican Creek | Interburden            | 133.0 | 134.0 | 1.0      | 1.3E-08        | 7.90     | 217      | 0.26    | 0%              | 4.0            | 8.0              | 4.0              | 0.5                                    | Uncertain                               | Negligible                         |                                                  |  |
| 1150       | 28/10/2014 | EB1446033035 | R4555         | R4555_135        | SS               | Pelican Creek | Interburden            | 134.0 | 135.0 | 1.0      | 1.3E-09        | 8.90     | 183      | 0.13    | 0%              |                |                  |                  |                                        |                                         |                                    |                                                  |  |

Table B1: Acid Base Account Results for Pelican Creek Pit from the Collinsville Project

| Sample No. | Date       | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Pit           | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | Total S | S <sub>CR</sub> | Scr Proportion | ANC <sup>2</sup>                       | MPA <sup>2</sup> | NAPP <sup>2</sup> | ANC: MPA Ratio                          | Sample Classification <sup>1</sup> | Saline Drainage Classification (Using E.C (1:5)) |
|------------|------------|--------------|---------------|------------------|------------------|---------------|------------------------|-------|-------|----------|----------------|----------|----------|---------|-----------------|----------------|----------------------------------------|------------------|-------------------|-----------------------------------------|------------------------------------|--------------------------------------------------|
|            |            |              |               |                  |                  |               |                        | (m)   |       | (M)      |                |          | (µS/cm)  | (%)     | (%)             | (%)            | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                  |                   |                                         |                                    |                                                  |
| 1164       | 28/10/2014 | EB1446033049 | R4555         | R4555_149        | SL               | Pelican Creek | Interburden            | 148.0 | 149.0 | 1.0      | 1.6E-06        | 5.80     | 1,080    | 2.80    | 0%              | 9.8            | 85.8                                   | 76.0             | 0.1               | Potentially Acid Forming                | Very Low                           |                                                  |
| 1165       | 28/10/2014 | EB1446033050 | R4555         | R4555_150        | SL               | Pelican Creek | Interburden            | 149.0 | 150.0 | 1.0      | 1.6E-06        | 8.80     | 445      | 2.10    | 0%              | 85.6           | 84.3                                   | -21.3            | 1.3               | Non-Acid Forming                        | Negligible                         |                                                  |
| 1166       | 28/10/2014 | EB1446033051 | R4555         | R4555_151        | XM               | Pelican Creek | Interburden            | 150.0 | 151.0 | 1.0      | 0.00001        | 5.00     | 1,260    | 5.05    | 0%              | 15.0           | 154.7                                  | 139.7            | 0.1               | Potentially Acid Forming                | Very Low                           |                                                  |
| 1167       | 28/10/2014 | EB1446033052 | R4555         | R4555_152        | SS               | Pelican Creek | Interburden            | 151.0 | 152.0 | 1.0      | 7.9E-05        | 4.10     | 1,320    | 3.22    | 0%              | 0.3            | 98.6                                   | 98.4             | 0.0               | Potentially Acid Forming                | Very Low                           |                                                  |
| 1168       | 28/10/2014 | EB1446033053 | R4555         | R4555_153        | SS               | Pelican Creek | Interburden            | 152.0 | 153.0 | 1.0      | 7.9E-07        | 6.10     | 886      | 1.58    | 0%              | 5.2            | 48.4                                   | 43.2             | 0.1               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1169       | 28/10/2014 | EB1446033054 | R4555         | R4555_154        | SS               | Pelican Creek | Interburden            | 153.0 | 154.0 | 1.0      | 7.9E-07        | 6.10     | 1,160    | 1.25    | 0%              | 21.0           | 38.3                                   | 17.3             | 0.5               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1170       | 28/10/2014 | EB1446033055 | R4555         | R4555_155        | SS               | Pelican Creek | Interburden            | 154.0 | 155.0 | 1.0      | 3.2E-07        | 6.50     | 1,080    | 1.11    | 0%              | 33.8           | 34.0                                   | 0.2              | 1.0               | Uncertain                               | Moderate                           |                                                  |
| 1171       | 28/10/2014 | EB1446033056 | R4555         | R4555_156        | SS               | Pelican Creek | Interburden            | 155.0 | 156.0 | 1.0      | 2.5E-06        | 5.60     | 1,060    | 1.20    | 0%              | 9.6            | 36.8                                   | 27.2             | 0.3               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1172       | 28/10/2014 | EB1446033057 | R4555         | R4555_157        | SS               | Pelican Creek | Interburden            | 156.0 | 157.0 | 1.0      | 2E-06          | 5.70     | 958      | 1.07    | 0%              | 7.9            | 32.8                                   | 24.9             | 0.2               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1173       | 28/10/2014 | EB1446033058 | R4555         | R4555_158        | SS               | Pelican Creek | Interburden            | 157.0 | 158.0 | 1.0      | 3.2E-07        | 6.50     | 498      | 0.93    | 0%              | 105.0          | 28.5                                   | -76.5            | 3.7               | Non-Acid Forming                        | Negligible                         |                                                  |
| 1174       | 28/10/2014 | EB1446033059 | R4555         | R4555_159        | SS               | Pelican Creek | Interburden            | 158.0 | 159.0 | 1.0      | 1.6E-07        | 6.80     | 338      | 0.68    | 0%              | 33.4           | 20.8                                   | -12.6            | 1.6               | Non-Acid Forming                        | Negligible                         |                                                  |
| 1175       | 28/10/2014 | EB1446033060 | R4555         | R4555_160        | SS               | Pelican Creek | Interburden            | 159.0 | 160.0 | 1.0      | 7.9E-05        | 4.10     | 1,150    | 6.68    | 0%              | 3.3            | 204.6                                  | 201.3            | 0.0               | Potentially Acid Forming                | Very Low                           |                                                  |
| 1176       | 28/10/2014 | EB1446033061 | R4555         | R4555_161        | SL               | Pelican Creek | Interburden            | 160.0 | 161.0 | 1.0      | 2E-07          | 6.70     | 589      | 1.05    | 0%              | 114.0          | 32.2                                   | -81.8            | 3.5               | Non-Acid Forming                        | Moderate                           |                                                  |
| 1177       | 28/10/2014 | EB1446033062 | R4555         | R4555_162        | SL               | Pelican Creek | Interburden            | 161.0 | 162.0 | 1.0      | 1E-09          | 9.00     | 519      | 1.24    | 0%              | 175.0          | 38.0                                   | -137.0           | 4.6               | Non-Acid Forming                        | Moderate                           |                                                  |
| 1178       | 28/10/2014 | EB1446033063 | R4555         | R4555_163        | SL               | Pelican Creek | Interburden            | 162.0 | 163.0 | 1.0      | 1E-07          | 7.00     | 942      | 1.15    | 0%              | 5.0            | 35.2                                   | 30.2             | 0.1               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1179       | 28/10/2014 | EB1446033064 | R4555         | R4555_164        | SL               | Pelican Creek | Interburden            | 163.0 | 164.0 | 1.0      | 2E-07          | 6.70     | 997      | 1.10    | 0%              | 3.4            | 33.7                                   | 30.3             | 0.1               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1180       | 28/10/2014 | EB1446033065 | R4555         | R4555_165        | SL               | Pelican Creek | Interburden            | 164.0 | 165.0 | 1.0      | 0.00001        | 5.00     | 679      | 1.24    | 0%              | 2.6            | 38.0                                   | 35.4             | 0.1               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1181       | 28/10/2014 | EB1446033066 | R4555         | R4555_166        | SL               | Pelican Creek | Interburden            | 165.0 | 166.0 | 1.0      | 7.9E-07        | 6.10     | 340      | 0.60    | 0%              | 2.6            | 18.4                                   | 15.8             | 0.1               | Potentially Acid Forming                | Negligible                         |                                                  |
| 1182       | 28/10/2014 | EB1446033067 | R4555         | R4555_167        | SL               | Pelican Creek | Interburden            | 166.0 | 167.0 | 1.0      | 0.00013        | 3.90     | 1,020    | 1.24    | 0%              | 0.3            | 38.0                                   | 37.7             | 0.0               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1183       | 28/10/2014 | EB1446033068 | R4555         | R4555_168        | SL               | Pelican Creek | Interburden            | 167.0 | 168.0 | 1.0      | 3.2E-05        | 4.50     | 789      | 3.32    | 0%              | 2.5            | 101.7                                  | 99.2             | 0.0               | Potentially Acid Forming                | Very Low                           |                                                  |
| 1184       | 28/10/2014 | EB1446033069 | R4555         | R4555_169        | SS               | Pelican Creek | Interburden            | 168.0 | 169.0 | 1.0      | 2.5E-06        | 5.60     | 367      | 0.60    | 0%              | 2.3            | 18.4                                   | 16.1             | 0.1               | Potentially Acid Forming                | Negligible                         |                                                  |
| 1185       | 28/10/2014 | EB1446033070 | R4555         | R4555_170        | SS               | Pelican Creek | Basement               | 169.0 | 170.0 | 1.0      | 4E-06          | 5.40     | 419      | 0.68    | 0%              | 2.2            | 20.8                                   | 18.6             | 0.1               | Potentially Acid Forming                | Negligible                         |                                                  |
| 1186       | 4/11/2014  | EB1446034023 | R4559         | R4559_001        | SS               | Pelican Creek | Overburden             | 0.0   | 1.0   | 1.0      | 1.3E-09        | 8.90     | 387      | 0.02    | 0%              | 10.5           | 0.6                                    | -9.9             | 17.1              | Non-Acid Forming (Barren)               | Negligible                         |                                                  |
| 1187       | 4/11/2014  | EB1446034024 | R4559         | R4559_002        | SS               | Pelican Creek | Overburden             | 1.0   | 2.0   | 1.0      | 4E-10          | 9.40     | 349      | 0.02    | 0%              | 12.7           | 0.6                                    | -12.1            | 20.7              | Non-Acid Forming (Barren)               | Negligible                         |                                                  |
| 1188       | 4/11/2014  | EB1446034025 | R4559         | R4559_003        | SS               | Pelican Creek | Overburden             | 2.0   | 3.0   | 1.0      | 4E-08          | 7.40     | 2,680    | 0.52    | 0%              | 1.7            | 15.9                                   | 14.2             | 0.1               | Potentially Acid Forming                | Low                                |                                                  |
| 1189       | 4/11/2014  | EB1446034026 | R4559         | R4559_004        | SS               | Pelican Creek | Overburden             | 3.0   | 4.0   | 1.0      | 1.3E-05        | 4.90     | 2,230    | 0.61    | 0%              | 0.3            | 18.7                                   | 18.4             | 0.0               | Potentially Acid Forming                | Low                                |                                                  |
| 1190       | 4/11/2014  | EB1446034027 | R4559         | R4559_005        | SS               | Pelican Creek | Overburden             | 4.0   | 5.0   | 1.0      | 2.5E-08        | 7.60     | 1,920    | 0.39    | 0%              | 18.2           | 11.9                                   | -6.3             | 1.5               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1191       | 4/11/2014  | EB1446034028 | R4559         | R4559_006        | SS               | Pelican Creek | Overburden             | 5.0   | 6.0   | 1.0      | 5E-08          | 7.30     | 760      | 0.47    | 0%              | 2.6            | 14.4                                   | 11.8             | 0.2               | Potentially Acid Forming                | Very Low                           |                                                  |
| 1192       | 4/11/2014  | EB1446034029 | R4559         | R4559_007        | SS               | Pelican Creek | Overburden             | 6.0   | 7.0   | 1.0      | 4E-09          | 8.40     | 638      | 0.10    | 0%              | 6.7            | 3.1                                    | -3.6             | 2.2               | Non-Acid Forming (Barren)               | Very Low                           |                                                  |
| 1193       | 4/11/2014  | EB1446034030 | R4559         | R4559_008        | SS               | Pelican Creek | Overburden             | 7.0   | 8.0   | 1.0      | 5E-09          | 8.30     | 746      | 0.29    | 0%              | 5.2            | 8.9                                    | 3.7              | 0.6               | Uncertain                               | Very Low                           |                                                  |
| 1194       | 4/11/2014  | EB1446034031 | R4559         | R4559_009        | SS               | Pelican Creek | Overburden             | 8.0   | 9.0   | 1.0      | 6.3E-09        | 8.20     | 797      | 0.12    | 0%              | 4.3            | 3.7                                    | -0.6             | 1.2               | Uncertain                               | Very Low                           |                                                  |
| 1195       | 4/11/2014  | EB1446034032 | R4559         | R4559_010        | SS               | Pelican Creek | Overburden             | 9.0   | 10.0  | 1.0      | 1E-08          | 8.00     | 544      | 0.67    | 0%              | 7.9            | 20.5                                   | 12.6             | 0.4               | Potentially Acid Forming                | Very Low                           |                                                  |
| 1196       | 4/11/2014  | EB1446034033 | R4559         | R4559_011        | SS               | Pelican Creek | Overburden             | 10.0  | 11.0  | 1.0      | 2E-09          | 8.70     | 340      | 0.17    | 0%              | 5.0            | 5.2                                    | 0.2              | 1.0               | Uncertain                               | Negligible                         |                                                  |
| 1197       | 4/11/2014  | EB1446034034 | R4559         | R4559_012        | SS               | Pelican Creek | Overburden             | 11.0  | 12.0  | 1.0      | 5E-10          | 9.30     | 333      | 0.10    | 0%              | 7.9            | 3.1                                    | -4.8             | 2.6               | Non-Acid Forming (Barren)               | Negligible                         |                                                  |
| 1198       | 4/11/2014  | EB1446034035 | R4559         | R4559_013        | SS               | Pelican Creek | Overburden             | 12.0  | 13.0  | 1.0      | 2E-09          | 8.70     | 543      | 0.14    | 0%              | 5.0            | 4.3                                    | -0.7             | 1.2               | Uncertain                               | Very Low                           |                                                  |
| 1199       | 4/11/2014  | EB1446034036 | R4559         | R4559_014        | SS               | Pelican Creek | Overburden             | 13.0  | 14.0  | 1.0      | 1.3E-09        | 8.90     | 450      | 0.16    | 0%              | 6.1            | 4.9                                    | -1.2             | 1.2               | Uncertain                               | Negligible                         |                                                  |
| 1200       | 4/11/2014  | EB1446034037 | R4559         | R4559_015        | SS               | Pelican Creek | Overburden             | 14.0  | 15.0  | 1.0      | 1.6E-09        | 8.80     | 485      | 0.35    | 0%              | 71.4           | 10.7                                   | -60.7            | 6.7               | Non-Acid Forming                        | Negligible                         |                                                  |
| 1201       | 4/11/2014  | EB1446034038 | R4559         | R4559_016        | SS               | Pelican Creek | Overburden             | 15.0  | 16.0  | 1.0      | 7.9E-09        | 8.10     | 628      | 0.47    | 0%              | 12.4           | 14.4                                   | 2.0              | 0.9               | Uncertain                               | Very Low                           |                                                  |
| 1202       | 4/11/2014  | EB1446034039 | R4559         | R4559_017        | SS               | Pelican Creek | Overburden             | 16.0  | 17.0  | 1.0      | 4E-09          | 8.40     | 660      | 0.36    | 0%              | 10.8           | 11.0                                   | 0.2              | 1.0               | Uncertain                               | Very Low                           |                                                  |
| 1203       | 4/11/2014  | EB1446034040 | R4559         | R4559_018        | SS               | Pelican Creek | Overburden             | 17.0  | 18.0  | 1.0      | 2.5E-09        | 8.60     | 564      | 0.52    | 0%              | 58.9           | 15.9                                   | -43.0            | 3.7               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1204       | 4/11/2014  | EB1446034041 | R4559         | R4559_019        | SS               | Pelican Creek | Overburden             | 18.0  | 19.0  | 1.0      | 2E-09          | 8.70     | 508      | 0.30    | 0%              | 21.2           | 9.2                                    | -12.0            | 2.3               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1205       | 4/11/2014  | EB1446034042 | R4559         | R4559_020        | SS               | Pelican Creek | Overburden             | 19.0  | 20.0  | 1.0      | 3.2E-09        | 8.50     | 685      | 0.16    | 0%              | 31.2           | 4.9                                    | -26.3            | 6.4               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1206       | 4/11/2014  | EB1446034043 | R4559         | R4559_021        | SS               | Pelican Creek | Overburden             | 20.0  | 21.0  | 1.0      | 6.3E-10        | 9.20     | 296      | 0.08    | 0%              | 20.4           | 2.5                                    | -18.0            | 8.3               | Non-Acid Forming (Barren)               | Negligible                         |                                                  |
| 1207       | 4/11/2014  | EB1446034044 | R4559         | R4559_022        | SS               | Pelican Creek | Overburden             | 21.0  | 22.0  | 1.0      | 4E-10          | 9.40     | 253      | 0.03    | 0%              | 32.7           | 0.9                                    | -31.8            | 35.6              | Non-Acid Forming                        | Negligible                         |                                                  |
| 1208       | 4/11/2014  | EB1446034045 | R4559         | R4559_023        | SS               | Pelican Creek | Overburden             | 22.0  | 23.0  | 1.0      | 1E-09          | 9.00     | 368      | 0.35    | 0%              | 36.4           | 10.7                                   | -25.7            | 3.4               | Non-Acid Forming                        | Negligible                         |                                                  |
| 1209       | 4/11/2014  | EB1446034046 | R4559         | R4559_024        | SS               | Pelican Creek | Overburden             | 23.0  | 24.0  | 1.0      | 2E-08          | 7.70     | 1,020    | 1.26    | 0%              | 11.1           | 38.6                                   | 27.5             | 0.3               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1210       | 4/11/2014  | EB1446034047 | R4559         | R4559_025        | SS               | Pelican Creek | Overburden             | 24.0  | 25.0  | 1.0      | 1.3E-08        | 7.90     | 865      | 1.70    | 0%              | 14.0           | 52.1                                   | 38.1             | 0.3               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1211       | 4/11/2014  | EB1446034048 | R4559         | R4559_026        | SS               | Pelican Creek | Overburden             | 25.0  | 26.0  | 1.0      | 6.3E-09        | 8.20     | 1,010    | 0.86    | 0%              | 218.0          | 26.3                                   | -191.7           | 8.3               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1212       | 4/11/2014  | EB1446034049 | R4559         | R4559_027        | SS               | Pelican Creek | Overburden             | 26.0  | 27.0  | 1.0      | 5E-09          | 8.30     | 971      | 0.69    | 0%              | 93.0           | 21.1                                   | -71.9            | 4.4               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1213       | 4/11/2014  | EB1446034050 | R4559         | R4559_028        | SS               | Pelican Creek | Overburden             | 27.0  | 28.0  | 1.0      | 4E-09          | 8.40     | 778      | 0.64    | 0%              | 118.0          | 19.6                                   | -98.4            | 6.0               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1214       | 4/11/2014  | EB1446034051 | R4559         | R4559_029        | SS               | Pelican Creek | Overburden             | 28.0  | 29.0  | 1.0      | 5E-09          | 8.30     | 886      | 0.65    | 0%              | 248.0          | 19.9                                   | -228.1           | 12.5              | Non-Acid Forming                        | Very Low                           |                                                  |
| 1215       | 4/11/2014  | EB1446034052 | R4559         | R4559_030        | SS               | Pelican Creek | Overburden             | 29.0  | 30.0  | 1.0      | 6.3E-09        | 8.20     | 981      | 0.77    | 0%              | 203.0          | 23.6                                   | -179.4           | 8.5               | Non-Acid Forming                        | Very Low                           |                                                  |
| 1216       | 4/11/2014  | EB1446034053 | R4559         | R4559_031        | SS               | Pelican Creek | Overburden             | 30.0  | 31.0  | 1.0      | 1.3E-08        | 7.90     | 1,360    | 1.10    | 0%              | 22.2           | 33.7                                   | 11.5             | 0.7               | Potentially Acid Forming                | Moderate                           |                                                  |
| 1217       | 4/11/2014  | EB1446034054 | R4559         | R4559_032        | SS               | Pelican Creek | Overburden             | 31.0  | 32.0  | 1.0      | 1.3E-08        | 7.90     | 1,440    | 0.84    | 0%              | 18.7           | 25.7                                   | 7.0              | 0.7               | Potentially Acid Forming - Low Capacity | Very Low                           |                                                  |
| 1218       | 4/11/2014  | EB1446034055 | R4559         | R4559_033        | SS               | Pelican Creek | Overburden             | 32.0  | 33.0  | 1.0      | 6.3E-08        | 7.20     | 2,060    | 0.80    | 0%              | 3.8            | 24.5                                   | 20.7             | 0.2               | Potentially Acid Forming                | Low                                |                                                  |
| 1219       | 4/11/2014  | EB1446034056 | R4559         | R4559_034        | SS               | Pelican Creek | Overburden             | 33.0  | 34.0  | 1.0      | 7.9E-08        | 7.10     | 2,580    | 2.27    | 0%              | 19.6           | 69.5                                   | 49.9             | 0.3               | Potentially Acid Forming                | Low                                |                                                  |
| 1220       | 4/11/2014  | EB1446034057 | R4559         | R4559_035        | SS               | P             |                        |       |       |          |                |          |          |         |                 |                |                                        |                  |                   |                                         |                                    |                                                  |

Table B1: Acid Base Account Results for Pelican Creek Pit from the Collinsville Project

| Sample No. | Date      | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Pit           | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | Total S | S <sub>CR</sub> | Scr Proporti on | ANC <sup>2</sup> | MPA <sup>2</sup>                       | NAPP <sup>2</sup> | ANC: MPA Ratio | Sample Classification <sup>1</sup>      | Saline Drainage Classification (Using E.C (1:5)) |
|------------|-----------|--------------|---------------|------------------|------------------|---------------|------------------------|-------|-------|----------|----------------|----------|----------|---------|-----------------|-----------------|------------------|----------------------------------------|-------------------|----------------|-----------------------------------------|--------------------------------------------------|
|            |           |              |               |                  |                  |               |                        | (m)   |       | (M)      |                |          | (µS/cm)  | (%)     | (%)             | (%)             |                  | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                   |                |                                         |                                                  |
| 1233       | 4/11/2014 | EB1446034080 | R4559         | R4559_058        | SL               | Pelican Creek | Interburden            | 57.0  | 58.0  | 1.0      | 3.2E-07        | 6.50     | 1,120    | 1.03    |                 | 0%              | 7.6              | 31.5                                   | 23.9              | 0.2            | Potentially Acid Forming                | Moderate                                         |
| 1234       | 4/11/2014 | EB1446034081 | R4559         | R4559_059        | SL               | Pelican Creek | Interburden            | 58.0  | 59.0  | 1.0      | 7.9E-08        | 7.10     | 1,300    | 1.23    |                 | 0%              | 18.2             | 37.7                                   | 19.5              | 0.5            | Potentially Acid Forming                | Moderate                                         |
| 1235       | 4/11/2014 | EB1446034082 | R4559         | R4559_060        | SL               | Pelican Creek | Interburden            | 59.0  | 60.0  | 1.0      | 4E-05          | 4.40     | 1,110    | 7.58    |                 | 0%              | 0.3              | 232.1                                  | 231.9             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1236       | 4/11/2014 | EB1446034083 | R4559         | R4559_061        | SL               | Pelican Creek | Interburden            | 60.0  | 61.0  | 1.0      | 3.2E-06        | 5.50     | 461      | 0.84    |                 | 0%              | 0.3              | 25.7                                   | 25.5              | 0.0            | Potentially Acid Forming                | Negligible                                       |
| 1237       | 4/11/2014 | EB1446034084 | R4559         | R4559_062        | CG               | Pelican Creek | Interburden            | 61.0  | 62.0  | 1.0      | 5E-08          | 7.30     | 640      | 0.97    |                 | 0%              | 3.0              | 29.7                                   | 28.7              | 0.1            | Potentially Acid Forming                | Very Low                                         |
| 1238       | 4/11/2014 | EB1446034085 | R4559         | R4559_063        | SS               | Pelican Creek | Interburden            | 62.0  | 63.0  | 1.0      | 5E-09          | 8.30     | 204      | 0.10    |                 | 0%              | 4.0              | 3.1                                    | -0.9              | 1.3            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1239       | 4/11/2014 | EB1446034086 | R4559         | R4559_064        | SS               | Pelican Creek | Interburden            | 63.0  | 64.0  | 1.0      | 7.9E-09        | 8.10     | 212      | 0.08    |                 | 0%              | 5.9              | 2.5                                    | -3.5              | 2.4            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1240       | 4/11/2014 | EB1446034087 | R4559         | R4559_065        | SS               | Pelican Creek | Interburden            | 64.0  | 65.0  | 1.0      | 1.3E-08        | 7.90     | 256      | 0.18    |                 | 0%              | 5.0              | 5.5                                    | 0.5               | 0.9            | Uncertain                               | Negligible                                       |
| 1241       | 4/11/2014 | EB1446034088 | R4559         | R4559_066        | SS               | Pelican Creek | Interburden            | 65.0  | 66.0  | 1.0      | 4E-09          | 8.40     | 237      | 0.09    |                 | 0%              | 6.0              | 2.8                                    | -3.2              | 2.2            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1242       | 4/11/2014 | EB1446034089 | R4559         | R4559_067        | SS               | Pelican Creek | Interburden            | 66.0  | 67.0  | 1.0      | 1.3E-08        | 7.90     | 272      | 0.30    |                 | 0%              | 4.9              | 9.2                                    | 4.3               | 0.5            | Uncertain                               | Negligible                                       |
| 1243       | 4/11/2014 | EB1446034090 | R4559         | R4559_068        | SS               | Pelican Creek | Interburden            | 67.0  | 68.0  | 1.0      | 6.3E-09        | 8.20     | 331      | 0.51    |                 | 0%              | 5.7              | 15.6                                   | 9.9               | 0.4            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1244       | 4/11/2014 | EB1446034091 | R4559         | R4559_069        | SS               | Pelican Creek | Interburden            | 68.0  | 69.0  | 1.0      | 1.3E-08        | 7.90     | 512      | 0.67    |                 | 0%              | 4.5              | 20.5                                   | 16.0              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 1245       | 4/11/2014 | EB1446034092 | R4559         | R4559_070        | SS               | Pelican Creek | Interburden            | 69.0  | 70.0  | 1.0      | 7.9E-09        | 8.10     | 306      | 0.30    |                 | 0%              | 4.0              | 9.2                                    | 5.2               | 0.4            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1246       | 4/11/2014 | EB1446034093 | R4559         | R4559_071        | SS               | Pelican Creek | Interburden            | 70.0  | 71.0  | 1.0      | 1E-08          | 8.00     | 320      | 0.23    |                 | 0%              | 3.2              | 7.0                                    | 3.8               | 0.5            | Uncertain                               | Negligible                                       |
| 1247       | 4/11/2014 | EB1446034094 | R4559         | R4559_072        | SS               | Pelican Creek | Interburden            | 71.0  | 72.0  | 1.0      | 1.3E-08        | 7.90     | 347      | 0.31    |                 | 0%              | 3.2              | 9.5                                    | 6.3               | 0.3            | Potentially Acid Forming - Low Capacity | Negligible                                       |
| 1248       | 4/11/2014 | EB1446034095 | R4559         | R4559_073        | SS               | Pelican Creek | Interburden            | 72.0  | 73.0  | 1.0      | 3.2E-09        | 8.50     | 299      | 0.28    |                 | 0%              | 4.8              | 8.6                                    | 3.8               | 0.6            | Uncertain                               | Negligible                                       |
| 1249       | 4/11/2014 | EB1446034096 | R4559         | R4559_074        | SS               | Pelican Creek | Interburden            | 73.0  | 74.0  | 1.0      | 1.6E-08        | 7.80     | 693      | 0.53    |                 | 0%              | 3.9              | 16.2                                   | 12.3              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 1250       | 4/11/2014 | EB1446034097 | R4559         | R4559_075        | SL               | Pelican Creek | Interburden            | 74.0  | 75.0  | 1.0      | 2E-05          | 4.70     | 1,570    | 1.85    |                 | 0%              | 2.7              | 56.7                                   | 54.0              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1251       | 4/11/2014 | EB1446034098 | R4559         | R4559_076        | SL               | Pelican Creek | Interburden            | 75.0  | 76.0  | 1.0      | 5E-06          | 5.30     | 1,580    | 1.52    |                 | 0%              | 4.0              | 46.6                                   | 42.6              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1252       | 4/11/2014 | EB1446034099 | R4559         | R4559_077        | SL               | Pelican Creek | Interburden            | 76.0  | 77.0  | 1.0      | 1.3E-05        | 4.90     | 1,800    | 4.34    |                 | 0%              | 1.2              | 132.9                                  | 131.7             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1253       | 4/11/2014 | EB1446034100 | R4559         | R4559_078        | SL               | Pelican Creek | Interburden            | 77.0  | 78.0  | 1.0      | 7.9E-05        | 4.10     | 1,770    | 4.43    |                 | 0%              | 0.3              | 135.7                                  | 135.4             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1254       | 4/11/2014 | EB1446035001 | R4559         | R4559_079        | SL               | Pelican Creek | Interburden            | 78.0  | 79.0  | 1.0      | 0.00025        | 3.60     | 1,580    | 5.49    |                 | 0%              | 0.3              | 168.1                                  | 167.9             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1255       | 4/11/2014 | EB1446035003 | R4559         | R4559_081        | SL               | Pelican Creek | Interburden            | 80.0  | 81.0  | 1.0      | 7.9E-05        | 4.10     | 2,130    | 3.59    |                 | 0%              | 0.3              | 109.9                                  | 109.7             | 0.0            | Potentially Acid Forming                | Low                                              |
| 1256       | 4/11/2014 | EB1446035004 | R4559         | R4559_082        | SS               | Pelican Creek | Interburden            | 81.0  | 82.0  | 1.0      | 1.3E-05        | 4.90     | 1,120    | 1.76    |                 | 0%              | 2.9              | 53.9                                   | 51.0              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1257       | 4/11/2014 | EB1446035005 | R4559         | R4559_083        | SS               | Pelican Creek | Interburden            | 82.0  | 83.0  | 1.0      | 3.2E-05        | 4.50     | 978      | 1.62    |                 | 0%              | 2.6              | 49.6                                   | 47.0              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1258       | 4/11/2014 | EB1446035006 | R4559         | R4559_084        | SS               | Pelican Creek | Interburden            | 83.0  | 84.0  | 1.0      | 1.3E-07        | 6.90     | 987      | 1.06    |                 | 0%              | 68.0             | 32.5                                   | -35.5             | 2.1            | Non-Acid Forming                        | Moderate                                         |
| 1259       | 4/11/2014 | EB1446035007 | R4559         | R4559_085        | SS               | Pelican Creek | Interburden            | 84.0  | 85.0  | 1.0      | 6.3E-08        | 7.20     | 996      | 1.52    |                 | 0%              | 40.2             | 46.6                                   | 6.3               | 0.9            | Potentially Acid Forming - Low Capacity | Moderate                                         |
| 1260       | 4/11/2014 | EB1446035008 | R4559         | R4559_086        | SS               | Pelican Creek | Interburden            | 85.0  | 86.0  | 1.0      | 1.6E-07        | 6.80     | 1,110    | 2.06    |                 | 0%              | 17.9             | 63.1                                   | 45.2              | 0.3            | Potentially Acid Forming                | Very Low                                         |
| 1261       | 4/11/2014 | EB1446035009 | R4559         | R4559_087        | SS               | Pelican Creek | Interburden            | 86.0  | 87.0  | 1.0      | 0.00025        | 3.60     | 1,390    | 4.21    |                 | 0%              | 0.3              | 128.9                                  | 128.7             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1262       | 4/11/2014 | EB1446035010 | R4559         | R4559_088        | SS               | Pelican Creek | Interburden            | 87.0  | 88.0  | 1.0      | 6.3E-05        | 4.20     | 1,110    | 3.39    |                 | 0%              | 5.2              | 103.8                                  | 98.6              | 0.1            | Potentially Acid Forming                | Very Low                                         |
| 1263       | 4/11/2014 | EB1446035011 | R4559         | R4559_089        | SS               | Pelican Creek | Interburden            | 88.0  | 89.0  | 1.0      | 1.6E-05        | 4.80     | 908      | 4.23    |                 | 0%              | 0.3              | 129.5                                  | 129.3             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1264       | 4/11/2014 | EB1446035012 | R4559         | R4559_090        | SL               | Pelican Creek | Interburden            | 89.0  | 90.0  | 1.0      | 1.3E-06        | 5.90     | 982      | 2.76    |                 | 0%              | 3.0              | 84.5                                   | 81.5              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1265       | 4/11/2014 | EB1446035013 | R4559         | R4559_091        | SL               | Pelican Creek | Interburden            | 90.0  | 91.0  | 1.0      | 1.6E-08        | 7.80     | 767      | 1.60    |                 | 0%              | 12.0             | 49.0                                   | 37.0              | 0.2            | Potentially Acid Forming                | Moderate                                         |
| 1266       | 4/11/2014 | EB1446035014 | R4559         | R4559_092        | SL               | Pelican Creek | Interburden            | 91.0  | 92.0  | 1.0      | 1.3E-09        | 8.90     | 468      | 1.03    |                 | 0%              | 125.0            | 31.5                                   | -93.5             | 4.0            | Non-Acid Forming                        | Moderate                                         |
| 1267       | 4/11/2014 | EB1446035015 | R4559         | R4559_093        | SL               | Pelican Creek | Interburden            | 92.0  | 93.0  | 1.0      | 2.5E-07        | 6.60     | 857      | 0.87    |                 | 0%              | 8.2              | 26.6                                   | 18.4              | 0.3            | Potentially Acid Forming                | Very Low                                         |
| 1268       | 4/11/2014 | EB1446035016 | R4559         | R4559_094        | SL               | Pelican Creek | Interburden            | 93.0  | 94.0  | 1.0      | 2E-06          | 5.70     | 731      | 0.93    |                 | 0%              | 5.0              | 28.5                                   | 23.5              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 1269       | 4/11/2014 | EB1446035017 | R4559         | R4559_095        | SL               | Pelican Creek | Interburden            | 94.0  | 95.0  | 1.0      | 3.2E-06        | 5.50     | 897      | 2.27    |                 | 0%              | 1.9              | 69.5                                   | 67.6              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1270       | 4/11/2014 | EB1446035018 | R4559         | R4559_096        | SL               | Pelican Creek | Interburden            | 95.0  | 96.0  | 1.0      | 0.00001        | 5.00     | 1,110    | 1.54    |                 | 0%              | 2.8              | 47.2                                   | 44.4              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1271       | 4/11/2014 | EB1446035019 | R4559         | R4559_097        | SL               | Pelican Creek | Interburden            | 96.0  | 97.0  | 1.0      | 3.2E-06        | 5.50     | 1,170    | 1.24    |                 | 0%              | 4.6              | 38.0                                   | 33.4              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1272       | 4/11/2014 | EB1446035020 | R4559         | R4559_098        | SL               | Pelican Creek | Interburden            | 97.0  | 98.0  | 1.0      | 3.2E-08        | 7.50     | 684      | 1.10    |                 | 0%              | 110.0            | 33.7                                   | -76.3             | 3.3            | Non-Acid Forming                        | Moderate                                         |
| 1273       | 4/11/2014 | EB1446035021 | R4559         | R4559_099        | SL               | Pelican Creek | Interburden            | 98.0  | 99.0  | 1.0      | 2E-06          | 5.70     | 1,590    | 2.21    |                 | 0%              | 16.7             | 67.7                                   | 51.0              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 1274       | 4/11/2014 | EB1446035022 | R4559         | R4559_100        | SL               | Pelican Creek | Interburden            | 99.0  | 100.0 | 1.0      | 0.0001         | 4.00     | 1,510    | 3.29    |                 | 0%              | 3.1              | 100.8                                  | 97.7              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1275       | 4/11/2014 | EB1446035023 | R4559         | R4559_101        | XM               | Pelican Creek | Interburden            | 100.0 | 101.0 | 1.0      | 2E-05          | 4.70     | 1,080    | 4.09    |                 | 0%              | 9.4              | 125.3                                  | 115.9             | 0.1            | Potentially Acid Forming                | Very Low                                         |
| 1276       | 4/11/2014 | EB1446035024 | R4559         | R4559_102        | XM               | Pelican Creek | Interburden            | 101.0 | 102.0 | 1.0      | 1.6E-05        | 4.80     | 861      | 3.15    |                 | 0%              | 15.0             | 96.5                                   | 81.5              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 1277       | 4/11/2014 | EB1446035025 | R4559         | R4559_103        | XM               | Pelican Creek | Interburden            | 102.0 | 103.0 | 1.0      | 2E-07          | 6.70     | 511      | 1.59    |                 | 0%              | 21.1             | 48.7                                   | 27.6              | 0.4            | Potentially Acid Forming                | Moderate                                         |
| 1278       | 4/11/2014 | EB1446035028 | R4559         | R4559_106        | SL               | Pelican Creek | Interburden            | 105.0 | 106.0 | 1.0      | 2.5E-07        | 6.60     | 603      | 1.09    |                 | 0%              | 18.7             | 33.4                                   | 14.7              | 0.6            | Potentially Acid Forming                | Moderate                                         |
| 1279       | 4/11/2014 | EB1446035029 | R4559         | R4559_107        | SL               | Pelican Creek | Interburden            | 106.0 | 107.0 | 1.0      | 3.2E-07        | 6.50     | 628      | 1.01    |                 | 0%              | 13.4             | 30.9                                   | 17.5              | 0.4            | Potentially Acid Forming                | Moderate                                         |
| 1280       | 4/11/2014 | EB1446035030 | R4559         | R4559_108        | SL               | Pelican Creek | Interburden            | 107.0 | 108.0 | 1.0      | 1.3E-06        | 5.90     | 617      | 1.58    |                 | 0%              | 5.2              | 48.4                                   | 43.2              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1281       | 4/11/2014 | EB1446035031 | R4559         | R4559_109        | SL               | Pelican Creek | Interburden            | 108.0 | 109.0 | 1.0      | 3.2E-05        | 4.50     | 709      | 1.75    |                 | 0%              | 1.0              | 53.6                                   | 52.6              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1282       | 4/11/2014 | EB1446035032 | R4559         | R4559_110        | SL               | Pelican Creek | Interburden            | 109.0 | 110.0 | 1.0      | 6.3E-06        | 5.20     | 478      | 1.80    |                 | 0%              | 2.4              | 55.1                                   | 52.7              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1283       | 4/11/2014 | EB1446035033 | R4559         | R4559_111        | SL               | Pelican Creek | Interburden            | 110.0 | 111.0 | 1.0      | 2.5E-05        | 4.60     | 724      | 1.92    |                 | 0%              | 13.9             | 58.8                                   | 44.9              | 0.2            | Potentially Acid Forming                | Moderate                                         |
| 1284       | 4/11/2014 | EB1446035035 | R4559         | R4559_113        | SL               | Pelican Creek | Interburden            | 112.0 | 113.0 | 1.0      | 6.3E-05        | 4.20     | 756      | 3.50    |                 | 0%              | 0.3              | 107.2                                  | 106.9             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1285       | 4/11/2014 | EB1446035036 | R4559         | R4559_114        | SL               | Pelican Creek | Interburden            | 113.0 | 114.0 | 1.0      | 6.3E-05        | 4.20     | 705      | 1.64    |                 | 0%              | 0.3              | 50.2                                   | 50.0              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1286       | 4/11/2014 | EB1446035037 | R4559         | R4559_115        | SL               | Pelican Creek | Interburden            | 114.0 | 115.0 | 1.0      | 1.6E-05        | 4.80     | 543      | 4.13    |                 | 0%              | 0.3              | 126.5                                  | 126.2             | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1287       | 4/11/2014 | EB1446035038 | R4559         | R4559_116        | SS               | Pelican Creek | Interburden            | 115.0 | 116.0 | 1.0      | 4E-08          | 7.40     | 358      | 0.84    |                 | 0%              | 1.6              | 25.7                                   | 24.1              | 0.1            | Potentially Acid Forming                | Negligible                                       |
| 128        |           |              |               |                  |                  |               |                        |       |       |          |                |          |          |         |                 |                 |                  |                                        |                   |                |                                         |                                                  |

**Table B1: Acid Base Account Results for Pelican Creek Pit from the Collinsville Project**

| Sample No. | Date      | ALS Lab ID   | Drill Hole ID | Client Sample ID | Sample Lithology | Pit           | Sample Location in Pit | From  | To    | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | Total S | S <sub>CR</sub> | Scr Proportion | ANC <sup>2</sup> | MPA <sup>2</sup>                       | NAPP <sup>2</sup> | ANC: MPA Ratio | Sample Classification <sup>1</sup>      | Saline Drainage Classification (Using E.C (1:5)) |
|------------|-----------|--------------|---------------|------------------|------------------|---------------|------------------------|-------|-------|----------|----------------|----------|----------|---------|-----------------|----------------|------------------|----------------------------------------|-------------------|----------------|-----------------------------------------|--------------------------------------------------|
|            |           |              |               |                  |                  |               |                        | (m)   |       |          | (M)            |          | (µS/cm)  | (%)     | (%)             | (%)            |                  | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                   |                |                                         |                                                  |
| 1299       | 4/11/2014 | EB1446035050 | R4559         | R4559_128        | SS               | Pelican Creek | Interburden            | 127.0 | 128.0 | 1.0      | 7.9E-07        | 6.10     | 314      | 0.43    |                 | 0%             | 0.9              | 13.2                                   | 12.3              | 0.1            | Potentially Acid Forming                | Negligible                                       |
| 1300       | 4/11/2014 | EB1446035051 | R4559         | R4559_129        | SS               | Pelican Creek | Interburden            | 128.0 | 129.0 | 1.0      | 2.5E-10        | 9.60     | 456      | 0.46    |                 | 0%             | 91.4             | 14.1                                   | -77.3             | 6.5            | Non-Acid Forming                        | Negligible                                       |
| 1301       | 4/11/2014 | EB1446035052 | R4559         | R4559_130        | SS               | Pelican Creek | Interburden            | 129.0 | 130.0 | 1.0      | 3.2E-10        | 9.50     | 549      | 0.63    |                 | 0%             | 30.9             | 19.3                                   | -11.0             | 1.6            | Non-Acid Forming                        | Very Low                                         |
| 1302       | 4/11/2014 | EB1446035053 | R4559         | R4559_131        | SS               | Pelican Creek | Interburden            | 130.0 | 131.0 | 1.0      | 6.3E-10        | 9.20     | 616      | 0.76    |                 | 0%             | 23.3             | 23.3                                   | 0.0               | 1.0            | Uncertain                               | Very Low                                         |
| 1303       | 4/11/2014 | EB1446035054 | R4559         | R4559_132        | SS               | Pelican Creek | Interburden            | 131.0 | 132.0 | 1.0      | 4E-10          | 9.40     | 575      | 0.55    |                 | 0%             | 26.7             | 16.8                                   | -9.9              | 1.6            | Non-Acid Forming                        | Very Low                                         |
| 1304       | 4/11/2014 | EB1446035055 | R4559         | R4559_133        | SS               | Pelican Creek | Interburden            | 132.0 | 133.0 | 1.0      | 3.2E-09        | 8.50     | 795      | 1.17    |                 | 0%             | 29.5             | 35.8                                   | 6.3               | 0.8            | Potentially Acid Forming - Low Capacity | Moderate                                         |
| 1305       | 4/11/2014 | EB1446035056 | R4559         | R4559_134        | SS               | Pelican Creek | Interburden            | 133.0 | 134.0 | 1.0      | 2E-09          | 8.70     | 661      | 1.74    |                 | 0%             | 23.4             | 53.3                                   | 29.9              | 0.4            | Potentially Acid Forming                | Moderate                                         |
| 1306       | 4/11/2014 | EB1446035057 | R4559         | R4559_135        | SS               | Pelican Creek | Interburden            | 134.0 | 135.0 | 1.0      | 2E-08          | 7.70     | 802      | 2.82    |                 | 0%             | 7.6              | 86.4                                   | 78.8              | 0.1            | Potentially Acid Forming                | Very Low                                         |
| 1307       | 4/11/2014 | EB1446035058 | R4559         | R4559_136        | SS               | Pelican Creek | Interburden            | 135.0 | 136.0 | 1.0      | 4E-08          | 7.40     | 799      | 1.71    |                 | 0%             | 3.8              | 52.4                                   | 48.6              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1308       | 4/11/2014 | EB1446035059 | R4559         | R4559_137        | SS               | Pelican Creek | Interburden            | 136.0 | 137.0 | 1.0      | 1E-07          | 7.00     | 732      | 1.00    |                 | 0%             | 4.0              | 30.6                                   | 26.6              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1309       | 4/11/2014 | EB1446035060 | R4559         | R4559_138        | SS               | Pelican Creek | Interburden            | 137.0 | 138.0 | 1.0      | 4E-07          | 6.40     | 744      | 1.20    |                 | 0%             | 2.6              | 36.8                                   | 34.2              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1310       | 4/11/2014 | EB1446035061 | R4559         | R4559_139        | SS               | Pelican Creek | Interburden            | 138.0 | 139.0 | 1.0      | 5E-07          | 6.30     | 651      | 1.24    |                 | 0%             | 0.8              | 38.0                                   | 37.2              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1311       | 4/11/2014 | EB1446035062 | R4559         | R4559_140        | SS               | Pelican Creek | Interburden            | 139.0 | 140.0 | 1.0      | 2.5E-07        | 6.60     | 745      | 1.59    |                 | 0%             | 1.3              | 48.7                                   | 47.4              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1312       | 4/11/2014 | EB1446035063 | R4559         | R4559_141        | SS               | Pelican Creek | Interburden            | 140.0 | 141.0 | 1.0      | 4E-07          | 6.40     | 686      | 1.84    |                 | 0%             | 5.1              | 56.4                                   | 51.3              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1313       | 4/11/2014 | EB1446035064 | R4559         | R4559_142        | SS               | Pelican Creek | Interburden            | 141.0 | 142.0 | 1.0      | 1.3E-07        | 6.90     | 813      | 1.51    |                 | 0%             | 6.8              | 46.2                                   | 39.4              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1314       | 4/11/2014 | EB1446035069 | R4559         | R4559_147        | IG               | Pelican Creek | Interburden            | 146.0 | 147.0 | 1.0      | 1.6E-10        | 9.80     | 455      | 0.78    |                 | 0%             | 120.0            | 23.9                                   | -96.1             | 5.0            | Non-Acid Forming                        | Negligible                                       |
| 1315       | 4/11/2014 | EB1446035070 | R4559         | R4559_148        | IG               | Pelican Creek | Interburden            | 147.0 | 148.0 | 1.0      | 2E-10          | 9.70     | 404      | 0.68    |                 | 0%             | 93.0             | 20.8                                   | -72.2             | 4.5            | Non-Acid Forming                        | Negligible                                       |
| 1316       | 4/11/2014 | EB1446035080 | R4559         | R4559_158        | XM               | Pelican Creek | Interburden            | 157.0 | 158.0 | 1.0      | 2.5E-10        | 9.60     | 150      | 0.15    |                 | 0%             | 47.5             | 4.6                                    | -42.9             | 10.3           | Non-Acid Forming                        | Negligible                                       |
| 1317       | 4/11/2014 | EB1446035081 | R4559         | R4559_159        | XM               | Pelican Creek | Interburden            | 158.0 | 159.0 | 1.0      | 3.2E-10        | 9.50     | 165      | 0.11    |                 | 0%             | 15.6             | 3.4                                    | -12.2             | 4.6            | Non-Acid Forming                        | Negligible                                       |
| 1318       | 4/11/2014 | EB1446035082 | R4559         | R4559_160        | XM               | Pelican Creek | Interburden            | 159.0 | 160.0 | 1.0      | 4E-10          | 9.40     | 204      | 0.09    |                 | 0%             | 9.7              | 2.8                                    | -6.9              | 3.5            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1319       | 4/11/2014 | EB1446035086 | R4559         | R4559_164        | MS               | Pelican Creek | Basement               | 163.0 | 164.0 | 1.0      | 2E-10          | 9.70     | 198      | 0.07    |                 | 0%             | 20.2             | 2.1                                    | -18.1             | 9.4            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1320       | 4/11/2014 | EB1446035087 | R4559         | R4559_165        | MS               | Pelican Creek | Basement               | 164.0 | 165.0 | 1.0      | 2E-10          | 9.70     | 208      | 0.05    |                 | 0%             | 16.0             | 1.5                                    | -14.5             | 10.4           | Non-Acid Forming (Barren)               | Negligible                                       |

Notes:

1. S<sub>CR</sub> = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.

2. Sample classification criteria detail provided in report text.

\*Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used.

**Table B1: Acid Base Account Results for KCB Boreholes from the Collinsville Project**

| Sample No. | Date       | ALS Lab ID   | Client Sample ID | Pit    | H <sup>+</sup>                         | pH (1:2) | EC (1:2)<br>(µS/cm) | Total S<br>(%) | Ser<br>Proporti<br>on<br>(%) | ANC <sup>2</sup> | MPA <sup>2</sup><br>(kg H <sub>2</sub> SO <sub>4</sub> /t) | NAPP <sup>2</sup> | ANC:<br>MPA<br>Ratio | NAG <sub>ph</sub> | NAG Capacity (pH 4.5) | NAG Capacity (pH 7) | Sample Classification <sup>2</sup> | Geochemical Classification <sup>2</sup>       | Saline Drainage Classification (Using<br>E:C (1:5)) |  |  |  |  |
|------------|------------|--------------|------------------|--------|----------------------------------------|----------|---------------------|----------------|------------------------------|------------------|------------------------------------------------------------|-------------------|----------------------|-------------------|-----------------------|---------------------|------------------------------------|-----------------------------------------------|-----------------------------------------------------|--|--|--|--|
|            |            |              |                  |        | (M)                                    |          |                     |                |                              |                  |                                                            |                   |                      |                   |                       |                     |                                    |                                               |                                                     |  |  |  |  |
|            |            |              |                  |        | (kg H <sub>2</sub> SO <sub>4</sub> /t) |          |                     |                |                              |                  |                                                            |                   |                      |                   |                       |                     |                                    |                                               |                                                     |  |  |  |  |
| 1321       | 24/05/2025 | EB2518674001 | Pit11-01_0-1m    | Pit 11 | 1.6E-07                                | 6.80     | 1,950               | 0.23           | 0%                           | 5.6              | 7.0                                                        | 1.4               | 0.8                  | 6.7               | 0.1                   | 1.9                 | Uncertain                          | Potentially Acid Forming (PAF) (Low Capacity) | Very Low                                            |  |  |  |  |
| 1322       | 24/05/2025 | EB2518674002 | Pit11-01_1-2m    | Pit 11 | 3.2E-08                                | 7.50     | 2,190               | 0.27           | 0%                           | 71.0             | 8.3                                                        | -62.7             | 8.6                  | 10.7              | 0.1                   | 0.1                 | Non-Acid Forming                   | Non-Acid Forming (NAF)                        | Low                                                 |  |  |  |  |
| 1323       | 24/05/2025 | EB2518674003 | Pit11-01_2-3m    | Pit 11 | 1E-07                                  | 7.00     | 2,130               | 1.20           | 0%                           | 18.4             | 36.8                                                       | 18.4              | 0.5                  | 3.3               | 10.0                  | 16.2                | Potentially Acid Forming           | PAF (High Risk)                               | Moderate                                            |  |  |  |  |
| 1324       | 24/05/2025 | EB2518674004 | Pit11-02_0-1m    | Pit 11 | 4E-08                                  | 7.40     | 744                 | 0.09           | 0%                           | 8.5              | 2.8                                                        | -5.7              | 3.1                  | 6.3               | 0.1                   | 3                   | Non-Acid Forming (Barren)          | Non-Acid Forming (Barren)                     | Very Low                                            |  |  |  |  |
| 1325       | 24/05/2025 | EB2518674005 | Pit11-02_1-5m    | Pit 11 | 2.5E-07                                | 6.60     | 2,900               | 0.48           | 0%                           | 18.2             | 14.7                                                       | -3.5              | 1.2                  | 8.1               | 0.1                   | 0.1                 | Uncertain                          | NAF (Low Capacity)                            | Low                                                 |  |  |  |  |
| 1326       | 24/05/2025 | EB2518674006 | Pit11-02_5-9m    | Pit 11 | 1.3E-07                                | 6.90     | 2,650               | 0.47           | 0%                           | 23.5             | 14.4                                                       | -9.1              | 1.6                  | 8.0               | 0.1                   | 0.1                 | Non-Acid Forming                   | NAF (Low Capacity)                            | Low                                                 |  |  |  |  |
| 1327       | 24/05/2025 | EB2518674007 | Pit11-02_9-14m   | Pit 11 | 2E-06                                  | 5.70     | 3,440               | 0.51           | 0%                           | 13.4             | 15.6                                                       | 2.2               | 0.9                  | 8.3               | 0.1                   | 0.1                 | Uncertain                          | PAF                                           | Low                                                 |  |  |  |  |
| 1328       | 24/05/2025 | EB2518674008 | Pit11-03_0-1m    | Pit 11 | 1.6E-08                                | 7.80     | 619                 | 0.04           | 0%                           | 7.2              | 1.2                                                        | -6.0              | 5.9                  | 6.1               | 0.1                   | 0.1                 | Non-Acid Forming (Barren)          | Non-Acid Forming (Barren)                     | Very Low                                            |  |  |  |  |
| 1329       | 24/05/2025 | EB2518674009 | Pit11-03_2-3m    | Pit 11 | 2E-06                                  | 5.70     | 1,230               | 0.90           | 0%                           | 2.8              | 27.6                                                       | 24.8              | 0.1                  | 2.9               | 16.1                  | 22.4                | Potentially Acid Forming           | PAF                                           | Very Low                                            |  |  |  |  |
| 1330       | 24/05/2025 | EB2518674010 | Pit11-03_3-5m    | Pit 11 | 6.3E-09                                | 8.20     | 370                 | 0.04           | 0%                           | 78.9             | 1.2                                                        | -77.7             | 64.4                 | 11.5              | 0.1                   | 0.1                 | Non-Acid Forming (Barren)          | Non-Acid Forming (Barren)                     | Negligible                                          |  |  |  |  |
| 1331       | 24/05/2025 | EB2518674011 | Pit11-03_5-6m    | Pit 11 | 1E-08                                  | 8.00     | 511                 | 0.05           | 0%                           | 23.2             | 1.5                                                        | -21.7             | 15.2                 | 11.0              | 0.1                   | 0.1                 | Non-Acid Forming (Barren)          | Non-Acid Forming (Barren)                     | Very Low                                            |  |  |  |  |
| 1332       | 24/05/2025 | EB2518674012 | Pit11-03_6-12m   | Pit 11 | 1.3E-07                                | 6.90     | 2,510               | 0.35           | 0%                           | 49.8             | 10.7                                                       | -39.1             | 4.6                  | 11.2              | 0.1                   | 0.1                 | Non-Acid Forming                   | Non-Acid Forming (NAF)                        | Low                                                 |  |  |  |  |
| 1333       | 24/05/2025 | EB2518674013 | Pit11-03_15-21m  | Pit 11 | 1E-07                                  | 7.00     | 2,400               | 0.29           | 0%                           | 31.3             | 8.9                                                        | -22.4             | 3.5                  | 11.2              | 0.1                   | 0.1                 | Non-Acid Forming                   | Non-Acid Forming (NAF)                        | Low                                                 |  |  |  |  |
| 1334       | 24/05/2025 | EB2518674014 | Pit11-04_0-1m    | Pit 11 | 6.3E-08                                | 7.20     | 1,770               | 0.25           | 0%                           | 18.3             | 7.7                                                        | -10.6             | 2.4                  | 8.9               | 0.1                   | 0.1                 | Non-Acid Forming                   | Non-Acid Forming (NAF)                        | Very Low                                            |  |  |  |  |
| 1335       | 24/05/2025 | EB2518674015 | Pit11-04_1-5m    | Pit 11 | 7.9E-08                                | 7.10     | 2,220               | 0.18           | 0%                           | 110.0            | 5.5                                                        | -104.5            | 20.0                 | 11.5              | 0.1                   | 0.1                 | Non-Acid Forming                   | Acid Consuming                                | Low                                                 |  |  |  |  |
| 1336       | 24/05/2025 | EB2518674016 | Pit11-04_5-11m   | Pit 11 | 1.3E-05                                | 4.90     | 2,300               | 0.81           | 0%                           | 0.3              | 24.8                                                       | 24.6              | 0.0                  | 3.2               | 7.6                   | 16.6                | Potentially Acid Forming           | PAF                                           | Low                                                 |  |  |  |  |
| 1337       | 24/05/2025 | EB2518674017 | Pit11-04_11-15m  | Pit 11 | 7.9E-08                                | 7.10     | 2,050               | 0.34           | 0%                           | 18.6             | 10.4                                                       | -8.2              | 1.8                  | 9.8               | 0.1                   | 0.1                 | Non-Acid Forming                   | NAF (Low Capacity)                            | Low                                                 |  |  |  |  |
| 1338       | 24/05/2025 | EB2518674018 | Pit11-04_15-18m  | Pit 11 | 4E-08                                  | 7.40     | 764                 | 0.14           | 0%                           | 15.0             | 4.3                                                        | -10.7             | 3.5                  | 9.5               | 0.1                   | 0.1                 | Non-Acid Forming                   | Non-Acid Forming (Barren)                     | Very Low                                            |  |  |  |  |
| 1339       | 24/05/2025 | EB2518674019 | Pit11-04_18-19m  | Pit 11 | 1E-07                                  | 7.00     | 1,940               | 0.53           | 0%                           | 58.9             | 16.2                                                       | -42.7             | 3.6                  | 6.8               | 0.1                   | 4.5                 | Non-Acid Forming                   | PAF                                           | Very Low                                            |  |  |  |  |
| 1340       | 24/05/2025 | EB2518674020 | Pit11-04_19-24m  | Pit 11 | 3.2E-06                                | 5.50     | 555                 | 0.08           | 0%                           | 2.2              | 2.5                                                        | 0.3               | 0.9                  | 4.3               | 0.9                   | 23.4                | Non-Acid Forming (Barren)          | Non-Acid Forming (Barren)                     | Very Low                                            |  |  |  |  |
| 1341       | 24/05/2025 | EB2518674021 | Pit11-04_24-26m  | Pit 11 | 4E-05                                  | 4.40     | 291                 | 1.27           | 0%                           | 1.4              | 38.9                                                       | 37.5              | 0.0                  | 2.6               | 42.2                  | 70.3                | Potentially Acid Forming           | PAF (High Risk)                               | Moderate                                            |  |  |  |  |
| 1342       | 24/05/2025 | EB2518674022 | Pit11-05_0-1m    | Pit 11 | 1E-08                                  | 8.00     | 392                 | 0.07           | 0%                           | 47.6             | 2.1                                                        | -45.5             | 22.2                 | 7.9               | 0.1                   | 0.1                 | Non-Acid Forming (Barren)          | Non-Acid Forming (Barren)                     | Negligible                                          |  |  |  |  |
| 1343       | 24/05/2025 | EB2518674023 | Pit11-05_1-2m    | Pit 11 | 7.9E-09                                | 8.10     | 609                 | 0.04           | 0%                           | 59.4             | 1.2                                                        | -58.2             | 48.5                 | 8.2               | 0.1                   | 0.1                 | Non-Acid Forming (Barren)          | Non-Acid Forming (Barren)                     | Very Low                                            |  |  |  |  |
| 1344       | 24/05/2025 | EB2518674024 | Pit11-05_2-4m    | Pit 11 | 5E-05                                  | 4.30     | 2,410               | 0.48           | 0%                           | 0.3              | 14.7                                                       | 14.5              | 0.0                  | 3.8               | 3.2                   | 10.9                | Potentially Acid Forming           | Acid Consuming                                | Low                                                 |  |  |  |  |
| 1345       | 24/05/2025 | EB2518674025 | Pit11-05_4-6m    | Pit 11 | 1E-07                                  | 7.00     | 2,820               | 0.65           | 0%                           | 48.0             | 19.9                                                       | -28.1             | 2.4                  | 7.3               | 0.1                   | 0.1                 | Non-Acid Forming                   | PAF                                           | Low                                                 |  |  |  |  |
| 1346       | 24/05/2025 | EB2518674026 | Pit11-05_6-7m    | Pit 11 | 3.2E-07                                | 6.50     | 2,720               | 0.61           | 0%                           | 7.8              | 18.7                                                       | 10.9              | 0.4                  | 6.4               | 0.1                   | 8.4                 | Potentially Acid Forming           | PAF                                           | Low                                                 |  |  |  |  |

Notes:  
1. S<sub>CR</sub> = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.  
2. Sample classification criteria detail provided in report text.  
\* Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used .

**Table B1: Acid Base Account Results for RGS Test Pits from the Collinsville Project**

| Sample No. | RGS Sample ID | Test Pit No. | From | To  | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | pH Field (1:5) | EC Field (1:5) | Total S | S <sub>CR</sub> | Scr Proportion | ANC <sup>2</sup> | MPA <sup>2</sup>                       | NAPP <sup>2</sup> | ANC: MPA Ratio | Sample Classification <sup>3</sup>      | Saline Drainage Classification (Using E:C (1:5)) |
|------------|---------------|--------------|------|-----|----------|----------------|----------|----------|----------------|----------------|---------|-----------------|----------------|------------------|----------------------------------------|-------------------|----------------|-----------------------------------------|--------------------------------------------------|
|            |               |              | (m)  |     |          | (M)            |          | (µS/cm)  |                | (µS/cm)        | (%)     | (%)             | (%)            |                  | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                   |                |                                         |                                                  |
| 1352       | 2021010_001   | 1            | 0.0  | 1.0 | 1.0      | 7.9E-06        | 5.10     | 3,400    | 2.82           | 3,910          | 1.15    | 0.105           | 9%             | 0.3              | 3.2                                    | 3.0               | 0.1            | Uncertain                               | Moderate                                         |
| 1353       | 2021010_002   | 1            | 1.0  | 2.0 | 1.0      | 0.00001        | 5.00     | 3,280    | 3.01           | 4,330          | 1.06    | 0.058           | 5%             | 0.6              | 1.8                                    | 1.2               | 0.3            | Non-Acid Forming (Barren)               | Moderate                                         |
| 1354       | 2021010_003   | 1            | 2.0  | 3.0 | 1.0      | 1.6E-06        | 5.80     | 3,450    | 2.87           | 3,810          | 0.88    | 0.156           | 18%            | 11.1             | 4.8                                    | -6.3              | 2.3            | Non-Acid Forming                        | Low                                              |
| 1355       | 2021010_004   | 1            | 3.0  | 4.0 | 1.0      | 4E-08          | 7.40     | 2,930    | 3.65           | 2,930          | 0.67    | 0.074           | 11%            | 23.9             | 2.3                                    | -21.6             | 10.5           | Non-Acid Forming (Barren)               | Low                                              |
| 1356       | 2021010_005   | 1            | 4.0  | 5.0 | 1.0      | 3.2E-08        | 7.50     | 2,720    | 4.23           | 2,870          | 0.61    | 0.133           | 22%            | 21.0             | 4.1                                    | -16.9             | 5.2            | Non-Acid Forming                        | Low                                              |
| 1357       | 2021010_006   | 1            | 5.0  | 6.0 | 1.0      | 1E-08          | 8.00     | 2,780    | 4.93           | 2,570          | 0.93    | 0.497           | 53%            | 34.5             | 15.2                                   | -19.3             | 2.3            | Non-Acid Forming                        | Low                                              |
| 1358       | 2021010_007   | 1            | 6.0  | 7.0 | 1.0      | 1E-08          | 8.00     | 2,460    | 5.24           | 2,170          | 0.32    | 0.058           | 18%            | 36.3             | 1.8                                    | -34.5             | 20.4           | Non-Acid Forming (Barren)               | Low                                              |
| 1359       | 2021010_008   | 2            | 0.0  | 1.0 | 1.0      | 4E-07          | 6.40     | 1,150    | 4.57           | 803            | 0.16    |                 | 0%             | 8.3              | 4.9                                    | -3.4              | 1.7            | Uncertain                               | Very Low                                         |
| 1360       | 2021010_009   | 2            | 1.0  | 2.0 | 1.0      | 6.3E-07        | 6.20     | 996      | 3.88           | 769            | 0.15    |                 | 0%             | 9.4              | 4.6                                    | -4.8              | 2.0            | Uncertain                               | Very Low                                         |
| 1361       | 2021010_010   | 2            | 2.0  | 3.0 | 1.0      | 6.3E-08        | 7.20     | 2,130    | 3.94           | 1,330          | 0.31    | 0.043           | 14%            | 16.2             | 1.3                                    | -14.9             | 12.3           | Non-Acid Forming (Barren)               | Low                                              |
| 1362       | 2021010_011   | 2            | 3.0  | 4.0 | 1.0      | 2.5E-08        | 7.60     | 1,520    | 4.55           | 800            | 0.19    |                 | 0%             | 19.9             | 5.8                                    | -14.1             | 3.4            | Non-Acid Forming                        | Very Low                                         |
| 1363       | 2021010_012   | 2            | 4.0  | 5.0 | 1.0      | 1E-07          | 7.00     | 1,570    | 4.81           | 1,009          | 0.78    | 0.452           | 58%            | 14.5             | 13.8                                   | -0.7              | 1.0            | Uncertain                               | Very Low                                         |
| 1364       | 2021010_013   | 2            | 5.0  | 6.0 | 1.0      | 5E-08          | 7.30     | 2,660    | 4.88           | 855            | 1.92    | 1.080           | 56%            | 31.6             | 33.1                                   | 1.5               | 1.0            | Uncertain                               | Moderate                                         |
| 1365       | 2021010_014   | 3            | 0.0  | 1.0 | 1.0      | 2.5E-07        | 6.60     | 2,850    | 4.91           | 1,583          | 0.47    | 0.011           | 2%             | 9.3              | 0.3                                    | -9.0              | 27.6           | Non-Acid Forming (Barren)               | Low                                              |
| 1366       | 2021010_015   | 3            | 1.0  | 2.0 | 1.0      | 1E-07          | 7.00     | 3,560    | 3.85           | 1,994          | 0.68    | 0.051           | 8%             | 32.8             | 1.6                                    | -31.2             | 21.0           | Non-Acid Forming (Barren)               | Low                                              |
| 1367       | 2021010_016   | 3            | 2.0  | 3.0 | 1.0      | 1E-07          | 7.00     | 2,980    | 3.41           | 2,010          | 0.58    | 0.043           | 7%             | 20.2             | 1.3                                    | -18.9             | 15.3           | Non-Acid Forming (Barren)               | Low                                              |
| 1368       | 2021010_017   | 3            | 3.0  | 4.0 | 1.0      | 2E-07          | 6.70     | 3,360    | 3.36           | 2,280          | 0.58    | 0.014           | 2%             | 15.9             | 0.4                                    | -15.5             | 37.1           | Non-Acid Forming (Barren)               | Low                                              |
| 1369       | 2021010_018   | 3            | 4.0  | 5.0 | 1.0      | 1.6E-05        | 4.80     | 3,370    | 2.82           | 2,620          | 0.51    | 0.008           | 2%             | 1.8              | 0.2                                    | -1.6              | 7.3            | Non-Acid Forming (Barren)               | Low                                              |
| 1370       | 2021010_019   | 3            | 5.0  | 6.0 | 1.0      | 4E-05          | 4.40     | 4,310    | 2.64           | 3,560          | 0.75    | 0.016           | 2%             | 1.0              | 0.5                                    | -0.5              | 2.0            | Non-Acid Forming (Barren)               | Moderate                                         |
| 1371       | 2021010_020   | 3            | 6.0  | 6.8 | 0.8      | 6.3E-05        | 4.20     | 4,100    | 2.64           | 2,540          | 0.78    | 0.011           | 1%             | 0.3              | 0.3                                    | 0.1               | 0.7            | Non-Acid Forming (Barren)               | Moderate                                         |
| 1372       | 2021010_028   | 4            | 0.0  | 1.0 | 1.0      | 6.3E-09        | 8.20     | 358      | 5.91           | 184            | 0.04    | 0.034           | 85%            | 8.4              | 1.0                                    | -7.4              | 8.1            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1373       | 2021010_029   | 4            | 1.0  | 2.0 | 1.0      | 1E-08          | 8.00     | 150      | 5.92           | 89             | 0.02    |                 | 0%             | 6.3              | 0.6                                    | -5.7              | 10.3           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1374       | 2021010_030   | 4            | 2.0  | 3.0 | 1.0      | 4E-07          | 6.40     | 1,060    | 5.41           | 120            | 0.20    |                 | 0%             | 6.5              | 6.1                                    | -0.4              | 1.1            | Uncertain                               | Very Low                                         |
| 1375       | 2021010_031   | 4            | 3.0  | 4.0 | 1.0      | 6.3E-06        | 5.20     | 1,440    | 4.15           | 1,345          | 0.37    | 0.092           | 25%            | 1.9              | 2.8                                    | 0.9               | 0.7            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1376       | 2021010_032   | 4            | 4.0  | 5.0 | 1.0      | 7.9E-06        | 5.10     | 1,460    | 3.84           | 1,088          | 0.26    | 0.030           | 12%            | 2.8              | 0.9                                    | -1.9              | 3.0            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1377       | 2021010_033   | 4            | 5.0  | 6.0 | 1.0      | 5E-06          | 5.30     | 1,130    | 3.91           | 1,072          | 0.21    | 0.029           | 14%            | 5.8              | 0.9                                    | -4.9              | 6.5            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1378       | 2021010_034   | 4            | 6.0  | 7.0 | 1.0      | 5E-06          | 5.30     | 1,220    | 3.68           | 1,463          | 0.19    |                 | 0%             | 5.5              | 5.8                                    | 0.3               | 0.9            | Uncertain                               | Very Low                                         |
| 1379       | 2021010_035   | 5            | 0.0  | 1.0 | 1.0      | 4E-09          | 8.40     | 385      | 6.71           | 220            | 0.03    |                 | 0%             | 18.7             | 0.9                                    | -17.8             | 20.4           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1380       | 2021010_036   | 5            | 1.0  | 2.0 | 1.0      | 1.6E-08        | 7.80     | 383      | 6.68           | 1,143          | 0.04    |                 | 0%             | 9.6              | 1.2                                    | -8.4              | 7.8            | Non-Acid Forming (Barren)               | Negligible                                       |
| 1381       | 2021010_037   | 5            | 2.0  | 3.0 | 1.0      | 4E-08          | 7.40     | 1,850    | 6.02           | 791            | 1.39    | 0.976           | 70%            | 13.2             | 29.9                                   | 16.7              | 0.4            | Potentially Acid Forming                | Moderate                                         |
| 1382       | 2021010_038   | 5            | 3.0  | 4.0 | 1.0      | 6.3E-08        | 7.20     | 1,510    | 5.73           | 857            | 1.84    | 1.480           | 80%            | 16.5             | 45.3                                   | 28.8              | 0.4            | Potentially Acid Forming                | Moderate                                         |
| 1383       | 2021010_039   | 5            | 4.0  | 5.0 | 1.0      | 5E-08          | 7.30     | 2,080    | 5.39           | 900            | 1.81    | 1.350           | 75%            | 16.9             | 41.3                                   | 24.4              | 0.4            | Potentially Acid Forming                | Moderate                                         |
| 1384       | 2021010_040   | 5            | 5.0  | 6.0 | 1.0      | 5E-07          | 6.30     | 1,590    | 5.43           | 820            | 1.58    | 1.250           | 79%            | 8.6              | 38.3                                   | 29.7              | 0.2            | Potentially Acid Forming                | Moderate                                         |
| 1385       | 2021010_041   | 5            | 6.0  | 7.0 | 1.0      | 5E-07          | 6.30     | 1,450    | 5.48           | 828            | 2.04    | 1.590           | 78%            | 8.2              | 48.7                                   | 40.5              | 0.2            | Potentially Acid Forming                | Very Low                                         |
| 1386       | 2021010_021   | 6            | 0.0  | 1.0 | 1.0      | 6.3E-07        | 6.20     | 1,060    | 3.46           | 563            | 0.24    |                 | 0%             | 7.3              | 7.4                                    | 0.0               | 1.0            | Uncertain                               | Very Low                                         |
| 1387       | 2021010_022   | 6            | 1.0  | 2.0 | 1.0      | 2E-08          | 7.70     | 1,020    | 3.72           | 654            | 0.12    |                 | 0%             | 14.6             | 3.7                                    | -10.9             | 4.0            | Non-Acid Forming                        | Very Low                                         |
| 1388       | 2021010_023   | 6            | 2.0  | 3.0 | 1.0      | 6.3E-08        | 7.20     | 1,040    | 4.15           | 437            | 0.12    |                 | 0%             | 11.3             | 3.7                                    | -7.6              | 3.1            | Non-Acid Forming                        | Very Low                                         |
| 1389       | 2021010_024   | 6            | 3.0  | 4.0 | 1.0      | 1E-07          | 7.00     | 923      | 4.34           | 562            | 0.22    | 0.078           | 35%            | 8.7              | 2.4                                    | -6.3              | 3.6            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1390       | 2021010_025   | 6            | 4.0  | 5.0 | 1.0      | 1E-08          | 8.00     | 940      | 4.84           | 887            | 0.08    |                 | 0%             | 10.2             | 2.5                                    | -7.8              | 4.2            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1391       | 2021010_026   | 6            | 5.0  | 6.0 | 1.0      | 6.3E-08        | 7.20     | 948      | 4.52           | 388            | 0.14    |                 | 0%             | 14.6             | 4.3                                    | -10.3             | 3.4            | Non-Acid Forming                        | Very Low                                         |
| 1392       | 2021010_027   | 6            | 6.0  | 7.0 | 1.0      | 6.3E-07        | 6.20     | 1,910    | 4.02           | 935            | 0.31    | 0.034           | 11%            | 20.7             | 1.0                                    | -19.7             | 19.9           | Non-Acid Forming (Barren)               | Very Low                                         |
| 1393       | 2021010_075   | 7            | 0.0  | 1.0 | 1.0      | 6.3E-08        | 7.20     | 364      | 4.53           | 192            | 0.01    |                 | 0%             | 11.4             | 0.3                                    | -11.1             | 37.2           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1394       | 2021010_076   | 7            | 1.0  | 2.0 | 1.0      | 1.3E-05        | 4.90     | 1,420    | 3.54           | 822            | 1.07    | 0.470           | 44%            | 8.2              | 14.4                                   | 6.2               | 0.6            | Potentially Acid Forming - Low Capacity | Moderate                                         |
| 1395       | 2021010_077   | 7            | 2.0  | 3.0 | 1.0      | 1.6E-06        | 5.80     | 2,240    | 4.13           | 1,409          | 1.42    | 0.878           | 62%            | 12.0             | 26.9                                   | 14.9              | 0.4            | Potentially Acid Forming                | Moderate                                         |
| 1396       | 2021010_078   | 7            | 3.0  | 4.0 | 1.0      | 5E-07          | 6.30     | 2,340    | 4.28           | 1,581          | 1.39    | 0.888           | 64%            | 14.4             | 27.2                                   | 12.8              | 0.5            | Potentially Acid Forming                | Moderate                                         |
| 1397       | 2021010_079   | 7            | 4.0  | 5.0 | 1.0      | 2E-07          | 6.70     | 3,040    | 3.04           | 3,040          | 1.65    | 0.676           | 41%            | 14.0             | 20.7                                   | 6.7               | 0.7            | Potentially Acid Forming - Low Capacity | Moderate                                         |
| 1398       | 2021010_080   | 7            | 5.0  | 6.0 | 1.0      | 1.3E-06        | 5.90     | 2,860    | 3.28           | 2,020          | 3.05    | 1.860           | 61%            | 7.8              | 57.0                                   | 49.2              | 0.1            | Potentially Acid Forming                | Low                                              |
| 1399       | 2021010_042   | 8            | 0.0  | 1.0 | 1.0      | 2.5E-09        | 8.60     | 300      | 7.01           | 242            | 0.03    |                 | 0%             | 27.1             | 0.9                                    | -26.2             | 29.5           | Non-Acid Forming (Barren)               | Negligible                                       |
| 1400       | 2021010_043   | 8            | 1.0  | 2.0 | 1.0      | 4E-09          | 8.40     | 709      | 6.78           | 450            | 0.07    |                 | 0%             | 28.9             | 2.1                                    | -24.8             | 12.5           | Non-Acid Forming (Barren)               | Very Low                                         |
| 1401       | 2021010_044   | 8            | 2.0  | 3.0 | 1.0      | 6.3E-08        | 7.20     | 2,610    | 3.95           | 1,790          | 0.93    | 0.376           | 40%            | 8.7              | 11.5                                   | 2.8               | 0.8            | Uncertain                               | Low                                              |
| 1402       | 2021010_045   | 8            | 3.0  | 4.0 | 1.0      | 1.3E-07        | 6.90     | 2,790    | 4.21           | 1,830          | 1.10    | 0.642           | 58%            | 14.8             | 19.7                                   | 4.9               | 0.8            | Uncertain                               | Moderate                                         |
| 1403       | 2021010_046   | 8            | 4.0  | 5.0 | 1.0      | 4E-06          | 5.40     | 697      | 3.59           | 1,800          | 0.37    | 0.170           | 46%            | 5.3              | 5.2                                    | -0.1              | 1.0            | Uncertain                               | Very Low                                         |
| 1404       | 2021010_047   | 9            | 0.0  | 1.0 | 1.0      | 7.9E-06        | 5.10     | 906      | 3.58           | 628            | 0.42    | 0.123           | 29%            | 3.0              | 3.8                                    | 0.8               | 0.8            | Uncertain                               | Very Low                                         |
| 1405       | 2021010_048   | 9            | 1.0  | 2.0 | 1.0      | 5E-07          | 6.30     | 3,230    | 3.42           | 700            | 0.84    | 0.372           | 44%            | 11.3             | 11.4                                   | 0.1               | 1.0            | Uncertain                               | Low                                              |
| 1406       | 2021010_049   | 9            | 2.0  | 3.0 | 1.0      | 7.9E-06        | 5.10     | 453      | 3.61           | 511            | 0.29    | 0.139           | 48%            | 3.2              | 4.3                                    | 1.1               | 0.8            | Uncertain                               | Negligible                                       |
| 1407       | 2021010_050   | 9            | 3.0  | 4.0 | 1.0      | 1.3E-05        | 4.90     | 447      | 3.57           | 578            | 0.28    | 0.120           | 43%            | 2.6              | 3.7                                    | 1.1               | 0.7            | Uncertain                               | Negligible                                       |
| 1408       | 2021010_051   | 9            | 4.0  | 5.0 | 1.0      | 2.5E-05        | 4.60     | 577      | 3.67           | 620            | 0.27    | 0.142           | 53%            | 1.6              | 4.3                                    | 2.7               | 0.4            | Uncertain                               | Very Low                                         |
| 1409       | 2021010_052   | 9            | 5.0  | 6.0 | 1.0      | 2E-05          | 4.70     | 595      | 3.67           | 408            | 0.31    | 0.148           | 48%            | 2.8              | 4.5                                    | 1.7               | 0.6            | Uncertain                               | Very Low                                         |
| 1410       | 2021010_053   | 9            | 6.0  | 7.0 | 1.0      | 1.6E-05        | 4.80     | 624      | 3.71           | 627            | 0.35    | 0.179           | 51%            | 3.8              | 5.5                                    | 1.7               | 0.7            | Uncertain                               | Very Low                                         |

**Table B1: Acid Base Account Results for RGS Test Pits from the Collinsville Project**

| Sample No. | RGS Sample ID | Test Pit No. | From | To  | Interval | H <sup>+</sup> | pH (1:5) | EC (1:5) | pH Field (1:5) | EC Field (1:5) | Total S | S <sub>CR</sub>                        | Scr Proportion | ANC <sup>2</sup> | MPA <sup>2</sup> | NAPP <sup>2</sup> | ANC: MPA Ratio | Sample Classification <sup>3</sup>      | Saline Drainage Classification (Using E:C (1:5)) |
|------------|---------------|--------------|------|-----|----------|----------------|----------|----------|----------------|----------------|---------|----------------------------------------|----------------|------------------|------------------|-------------------|----------------|-----------------------------------------|--------------------------------------------------|
|            |               |              | (m)  |     |          | (M)            | (µS/cm)  | (µS/cm)  | (%)            | (%)            | (%)     | (kg H <sub>2</sub> SO <sub>4</sub> /t) |                |                  |                  |                   |                |                                         |                                                  |
| 1411       | 2021010_068   | 10           | 0.0  | 1.0 | 1.0      | 1.3E-08        | 7.90     | 675      | 5.41           | 465            | 0.10    |                                        | 0%             | 19.5             | 3.1              | -16.4             | 6.4            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1412       | 2021010_069   | 10           | 1.0  | 2.0 | 1.0      | 6.3E-09        | 8.20     | 1,030    | 5.71           | 435            | 0.17    |                                        | 0%             | 63.1             | 5.2              | -57.9             | 12.1           | Non-Acid Forming                        | Very Low                                         |
| 1413       | 2021010_070   | 10           | 2.0  | 3.0 | 1.0      | 2E-08          | 7.70     | 1,740    | 5.33           | 715            | 0.33    | 0.034                                  | 10%            | 23.5             | 1.0              | -22.5             | 22.6           | Non-Acid Forming (Barren)               | Very Low                                         |
| 1414       | 2021010_071   | 10           | 3.0  | 4.0 | 1.0      | 4E-05          | 4.40     | 1,670    | 2.95           | 1,900          | 0.90    | 0.360                                  | 40%            | 0.3              | 11.0             | 10.8              | 0.0            | Potentially Acid Forming                | Very Low                                         |
| 1415       | 2021010_072   | 10           | 4.0  | 5.0 | 1.0      | 1E-07          | 7.00     | 2,100    | 3.84           | 846            | 0.46    | 0.058                                  | 13%            | 14.7             | 1.8              | -12.9             | 8.3            | Non-Acid Forming (Barren)               | Low                                              |
| 1416       | 2021010_073   | 10           | 5.0  | 6.0 | 1.0      | 1E-06          | 6.00     | 1,760    | 3.59           | 1,653          | 0.48    | 0.054                                  | 11%            | 6.8              | 1.7              | -5.1              | 4.1            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1417       | 2021010_074   | 10           | 6.0  | 7.0 | 1.0      | 6.3E-05        | 4.20     | 3,350    | 3.11           | 4,680          | 1.61    | 0.303                                  | 19%            | 0.3              | 9.3              | 9.0               | 0.0            | Potentially Acid Forming - Low Capacity | Moderate                                         |
| 1418       | 2021010_061   | 11           | 0.0  | 1.0 | 1.0      | 2.5E-05        | 4.60     | 1,260    | 4.24           | 538            | 1.18    | 0.653                                  | 55%            | 0.3              | 20.0             | 19.7              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1419       | 2021010_062   | 11           | 1.0  | 2.0 | 1.0      | 1.6E-07        | 6.80     | 738      | 4.29           | 657            | 0.19    | 0.058                                  | 31%            | 6.7              | 1.8              | -4.9              | 3.8            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1420       | 2021010_063   | 11           | 2.0  | 3.0 | 1.0      | 7.9E-07        | 6.10     | 702      | 4.15           | 640            | 0.19    |                                        | 0%             | 4.8              | 5.8              | 1.0               | 0.8            | Uncertain                               | Very Low                                         |
| 1421       | 2021010_064   | 11           | 3.0  | 4.0 | 1.0      | 4E-06          | 5.40     | 908      | 3.94           | 1,008          | 0.22    |                                        | 0%             | 3.7              | 6.7              | 3.0               | 0.5            | Uncertain                               | Very Low                                         |
| 1422       | 2021010_065   | 11           | 4.0  | 5.0 | 1.0      | 2E-06          | 5.70     | 919      | 4.24           | 1,280          | 0.25    | 0.069                                  | 28%            | 4.5              | 2.1              | -2.4              | 2.1            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1423       | 2021010_066   | 11           | 5.0  | 6.0 | 1.0      | 4E-06          | 5.40     | 812      | 3.97           | 1,061          | 0.25    | 0.068                                  | 27%            | 4.6              | 2.1              | -2.5              | 2.2            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1424       | 2021010_067   | 11           | 6.0  | 7.0 | 1.0      | 2E-06          | 5.70     | 820      | 3.95           | 1,023          | 0.27    | 0.089                                  | 33%            | 5.9              | 2.7              | -3.2              | 2.2            | Non-Acid Forming (Barren)               | Very Low                                         |
| 1425       | 2021010_054   | 12           | 0.0  | 1.0 | 1.0      | 0.00016        | 3.80     | 1,730    | 3.03           | 1,790          | 1.31    | 0.624                                  | 48%            | 0.3              | 19.1             | 18.9              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1426       | 2021010_055   | 12           | 1.0  | 2.0 | 1.0      | 1.3E-05        | 4.90     | 1,200    | 3.91           | 941            | 1.57    | 1.150                                  | 73%            | 5.2              | 35.2             | 30.0              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1427       | 2021010_056   | 12           | 2.0  | 3.0 | 1.0      | 1.6E-05        | 4.80     | 1,160    | 3.46           | 1,268          | 1.38    | 0.927                                  | 67%            | 2.9              | 28.4             | 25.5              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1428       | 2021010_057   | 12           | 3.0  | 4.0 | 1.0      | 1.6E-05        | 4.80     | 1,100    | 4.08           | 375            | 1.54    | 1.110                                  | 72%            | 2.6              | 34.0             | 31.4              | 0.1            | Potentially Acid Forming                | Moderate                                         |
| 1429       | 2021010_058   | 12           | 4.0  | 5.0 | 1.0      | 2E-05          | 4.70     | 1,670    | 3.14           | 2,050          | 1.18    | 0.604                                  | 51%            | 0.3              | 18.5             | 18.2              | 0.0            | Potentially Acid Forming                | Moderate                                         |
| 1430       | 2021010_059   | 12           | 5.0  | 6.0 | 1.0      | 2E-06          | 5.70     | 614      | 3.25           | 2,010          | 0.16    |                                        | 0%             | 5.3              | 4.9              | -0.4              | 1.1            | Uncertain                               | Very Low                                         |
| 1431       | 2021010_060   | 12           | 6.0  | 7.0 | 1.0      | 3.2E-05        | 4.50     | 1,350    | 3.07           | 2,520          | 1.07    | 0.597                                  | 56%            | 0.3              | 18.3             | 18.0              | 0.0            | Potentially Acid Forming                | Moderate                                         |

Notes:

1. S<sub>CR</sub> = Chromium Reducible Sulfur; MPA = Maximum Potential Acidity; ANC = Acid Neutralising Capacity; NAPP = Net Acid Producing Potential; NAG = Net Acid Generation.

2. Sample classification criteria detail provided in report text.

\* Where total sulfur or ANC results are less than the laboratory LoR a value of half of the LoR is used .

Table B2: Multi-Element Test Results for Water Extracts from Samples from the Collinsville Project

|                                                  |                    | RGS Sample Number →                   | 2021010_054               | 2021010_009   | 2021010_001   | 2021010_076   | 2021010_073   | 2021010_032   | 2021010_051   | 2021010_019   | 2021010_046   | 2021010_023   |
|--------------------------------------------------|--------------------|---------------------------------------|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                                  |                    | Sample Date →                         | 10/05/2021                | 10/05/2021    | 10/05/2021    | 10/05/2021    | 10/05/2021    | 10/05/2021    | 10/05/2021    | 10/05/2021    | 10/05/2021    | 10/05/2021    |
|                                                  |                    | ALS Laboratory ID →                   | EB2112893-054             | EB2112893-009 | EB2112893-001 | EB2112893-076 | EB2112893-073 | EB2112893-032 | EB2112893-051 | EB2112893-019 | EB2112893-046 | EB2112893-023 |
|                                                  |                    | Client Sample ID →                    | TP12_0-1                  | TP2_1-2       | TP1_0-1       | TP7_1-2       | TP10_5-6      | TP4_4-5       | TP9_4-5       | TP3_5-6       | TP8_4-5       | TP6_2-3       |
| Parameters                                       | Limit of Reporting | Livestock Drinking Water <sup>2</sup> | RGS 2021 Spoil Assessment |               |               |               |               |               |               |               |               |               |
|                                                  |                    |                                       |                           |               |               |               |               |               |               |               |               |               |
| pH                                               | 0.01 pH unit       | -                                     | 3.87                      | 4.24          | 4.54          | 4.71          | 4.95          | 4.96          | 5.06          | 5.20          | 6.09          | 7.17          |
| Electrical Conductivity                          | 1 µS/cm            | -                                     | 2,710                     | 5,240         | 4,710         | 2,470         | 2,880         | 2,410         | 898           | 1,710         | 1,090         | 1,600         |
| Carbonate Alkalinity (mg CaCO <sub>3</sub> /L)   | 1 mg/L             | -                                     | <1                        | <1            | <1            | <1            | <1            | <1            | <1            | <1            | <1            | <1            |
| Bicarbonate Alkalinity (mg CaCO <sub>3</sub> /L) | 1 mg/L             | -                                     | 134                       | <1            | <1            | <1            | <1            | <1            | <1            | <1            | <1            | <1            |
| Total Alkalinity (mg CaCO <sub>3</sub> /L)       | 1 mg/L             | -                                     | 1                         | 1             | 1             | 1             | 2             | 1             | 1             | 4             | 3             | 32            |
| Acidity (mg CaCO <sub>3</sub> /L)                | 1 mg/L             | -                                     | 862                       | 780           | 494           | 465           | 303           | 311           | 26            | 157           | 18            | 5             |
| Net Alkalinity (mg CaCO <sub>3</sub> /L)         | 1 mg/L             | -                                     | <1                        | <1            | <1            | <1            | <1            | <1            | <1            | <1            | <1            | <1            |
| Major Ions                                       |                    | All units mg/L                        | All units mg/L            |               |               |               |               |               |               |               |               |               |
| Calcium (Ca)                                     | 1                  | 1000                                  | 301                       | 420           | 477           | 320           | 429           | 317           | 90            | 84            | 103           | 178           |
| Magnesium (Mg)                                   | 1                  | -                                     | 100                       | 288           | 414           | 39            | 96            | 37            | 30            | 60            | 21            | 76            |
| Potassium (K)                                    | 1                  | -                                     | 2                         | 350           | 103           | 86            | 126           | 133           | 56            | 153           | 104           | 88            |
| Sodium (Na)                                      | 1                  | -                                     | 10                        | 70            | 18            | 19            | 16            | 25            | 13            | 55            | 18            | 25            |
| Chloride (Cl)                                    | 1                  | -                                     | 6                         | 38            | 5             | 32            | 6             | 10            | 8             | 4             | 12            | 8             |
| Fluoride (F)                                     | 0.1                | 2                                     | 0.1                       | 1.7           | <0.1          | <0.1          | 0.1           | 0.2           | 0.5           | 0.4           | 0.2           | 0.5           |
| Sulfate (SO <sub>4</sub> <sup>2-</sup> )         | 1                  | 1000                                  | 1,930                     | 821           | 3,550         | 1,410         | 1,800         | 1,370         | 448           | 3,720         | 519           | 846           |
| Trace Metals/Metalloids                          |                    | All units mg/L                        | All units mg/L            |               |               |               |               |               |               |               |               |               |
| Aluminium (Al)                                   | 0.01               | 5                                     | 91.6                      | 34.8          | 0.03          | 0.04          | 0.08          | 0.02          | 0.96          | 0.07          | 0.06          | 0.05          |
| Antimony (Sb)                                    | 0.001              | -                                     | ----                      | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          |
| Arsenic (As)                                     | 0.001              | 0.5                                   | 0.003                     | 0.004         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | 0.002         | <0.001        | <0.001        |
| Barium (Ba)                                      | 0.001              | -                                     | 0.16                      | 1             | 0.387         | 0.403         | 0.162         | 0.176         | 0.267         | 0.396         | 0.258         | 0.147         |
| Beryllium (Be)                                   | 0.001              | -                                     | 0.033                     | 0.007         | <0.001        | <0.001        | <0.001        | <0.001        | 0.002         | <0.001        | <0.001        | <0.001        |
| Bismuth (Bi)                                     | 0.001              | -                                     | 0.0005                    | 0.0005        | 0.0005        | 0.0005        | 0.0005        | 0.0005        | 0.0005        | 0.0005        | 0.0005        | 0.0005        |
| Boron (B)                                        | 0.05               | 5                                     | 0.86                      | 0.85          | 0.52          | 0.21          | 0.4           | 0.28          | 0.71          | 0.3           | 0.47          | 0.28          |
| Cadmium (Cd)                                     | 0.0001             | 0.01                                  | 0.0128                    | 0.0066        | 0.0006        | 0.0004        | 0.0003        | 0.0004        | 0.0021        | 0.0004        | 0.0009        | 0.0005        |
| Caesium (Cs)                                     | 0.001              | -                                     | <0.001                    | 0.004         | <0.001        | <0.001        | 0.001         | <0.001        | <0.001        | 0.001         | <0.001        | <0.001        |
| Cerium (Ce)                                      | 0.001              | -                                     | 0.053                     | 0.391         | 0.039         | <0.001        | 0.001         | 0.002         | 0.003         | <0.001        | <0.001        | <0.001        |
| Chromium (Cr)                                    | 0.001              | 1                                     | 0.037                     | 0.012         | <0.001        | <0.001        | <0.001        | <0.001        | 0.001         | <0.001        | <0.001        | <0.001        |
| Cobalt (Co)                                      | 0.001              | 1                                     | 1.71                      | 0.991         | 0.134         | <0.001        | 0.003         | <0.001        | 0.519         | 0.005         | 0.017         | 0.004         |
| Copper (Cu)                                      | 0.001              | 1                                     | 0.644                     | 0.045         | 0.004         | <0.001        | 0.005         | 0.089         | 0.084         | 0.004         | 0.007         | 0.002         |
| Dysprosium (Dy)                                  | 0.001              | -                                     | 0.03                      | 0.056         | 0.002         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Erbium (Er)                                      | 0.001              | -                                     | 0.012                     | 0.023         | 0.001         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Europium (Eu)                                    | 0.001              | -                                     | 0.006                     | 0.013         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Gadolinium (Gd)                                  | 0.001              | -                                     | 0.029                     | 0.066         | 0.003         | <0.001        | <0.001        | <0.001        | 0.001         | <0.001        | <0.001        | <0.001        |
| Gallium (Ga)                                     | 0.001              | -                                     | 0.001                     | 0.007         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Holmium (Ho)                                     | 0.001              | -                                     | 0.005                     | 0.009         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Indium (In)                                      | 0.001              | -                                     | <0.001                    | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Iron (Fe)                                        | 0.05               | -                                     | 136                       | 284           | 292           | 279           | 195           | 182           | 5.96          | 84.4          | 6.8           | 5.8           |
| Lanthanum (La)                                   | 0.001              | -                                     | 0.013                     | 0.141         | 0.023         | <0.001        | <0.001        | 0.001         | 0.001         | <0.001        | <0.001        | <0.001        |
| Lead (Pb)                                        | 0.001              | 0.1                                   | 0.451                     | 2.97          | 0.157         | 0.023         | 0.029         | 0.064         | 0.225         | 0.05          | 0.019         | 0.039         |
| Lithium (Li)                                     | 0.001              | -                                     | 0.001                     | 0.002         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Lutetium (Lu)                                    | 0.001              | -                                     | 16.6                      | 19.1          | 32.7          | 9.96          | 13.5          | 6.96          | 3.19          | 4             | 1.92          | 2.1           |
| Manganese (Mn)                                   | 0.001              | -                                     | ----                      | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          |
| Mercury (Hg)                                     | 0.0001             | 0.002                                 | <0.001                    | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Molybdenum (Mo)                                  | 0.001              | 0.15                                  | 0.039                     | 0.174         | 0.012         | <0.001        | <0.001        | <0.001        | 0.002         | <0.001        | <0.001        | <0.001        |
| Neodymium (Nd)                                   | 0.001              | -                                     | 3.16                      | 2.01          | 0.132         | <0.001        | 0.006         | 0.002         | 0.807         | 0.003         | 0.083         | 0.004         |
| Nickel (Ni)                                      | 0.001              | 1                                     | 0.008                     | 0.045         | 0.003         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Praseodymium (Pr)                                | 0.001              | -                                     | 0.009                     | 0.478         | 0.123         | 0.115         | 0.15          | 0.113         | 0.043         | 0.218         | 0.125         | 0.071         |
| Rubidium (Rb)                                    | 0.001              | -                                     | 0.016                     | 0.05          | 0.002         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Samarium (Sm)                                    | 0.001              | -                                     | <0.01                     | 0.03          | <0.01         | <0.01         | <0.01         | <0.01         | <0.01         | <0.01         | <0.01         | <0.01         |
| Selenium (Se)                                    | 0.01               | 0.02                                  | ----                      | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          |
| Silver (Ag)                                      | 0.001              | -                                     | 0.263                     | 2.58          | 1.64          | 0.353         | 0.855         | 0.519         | 0.468         | 0.31          | 0.273         | 0.508         |
| Strontium (Sr)                                   | 0.001              | -                                     | 0.263                     | 2.58          | 1.64          | 0.353         | 0.855         | 0.519         | 0.468         | 0.31          | 0.273         | 0.508         |
| Terbium (Tb)                                     | 0.001              | -                                     | 0.006                     | 0.011         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Thallium (Tl)                                    | 0.001              | -                                     | <0.001                    | 0.002         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Thorium (Th)                                     | 0.001              | -                                     | 0.002                     | 0.001         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Thulium (Tm)                                     | 0.001              | -                                     | 0.002                     | 0.003         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Tin (Sn)                                         | 0.001              | -                                     | ----                      | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          |
| Titanium (Ti)                                    | 0.01               | -                                     | ----                      | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          |
| Uranium (U)                                      | 0.001              | 0.1                                   | 0.023                     | 0.01          | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Vanadium (V)                                     | 0.001              | -                                     | ----                      | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          | ----          |
| Ytterbium (Yb)                                   | 0.001              | -                                     | 0.009                     | 0.016         | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        | <0.001        |
| Yttrium (Y)                                      | 0.001              | -                                     | 0.124                     | 0.282         | 0.021         | <0.001        | <0.001        | <0.001        | 0.004         | <0.001        | <0.001        | <0.001        |
| Zinc (Zn)                                        | 0.005              | 20                                    | 8.29                      | 7.2           | 1.28          | 0.691         | 1.07          | 0.968         | 2.43          | 0.773         | 0.894         | 0.618         |

Notes: < indicates concentration less than the detection limit. Shaded cells exceed applied guideline values.

1. ---- indicates sample wasn't tested for that metal/ metalloid

2. ANZG (2018). Recommended guideline limits for Livestock Drinking Water.

Table B2: Multi-Element Test Results for Water Extracts from Samples from the Collinsville Project

|                                                  |                    | RGS Sample Number →                   | 2021010_063               | 2021010_038   | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
|--------------------------------------------------|--------------------|---------------------------------------|---------------------------|---------------|---------------------------------|---------------|---------------|----------------|---------------|----------------|----------------|-----------------|
|                                                  |                    | Sample Date →                         | 10/05/2021                | 10/05/2021    | 24/05/2025                      | 23/05/2025    | 23/05/2025    | 23/05/2025     | 25/05/2025    | 25/05/2025     | 26/05/2025     | 26/05/2025      |
|                                                  |                    | ALS Laboratory ID →                   | EB2112893-063             | EB2112893-038 | EB2527449001                    | EB2527449002  | EB2527449003  | EB2527449004   | EB2527449005  | EB2527449006   | EB2527449007   | EB2527449008    |
|                                                  |                    | Client Sample ID →                    | TP11_2-3                  | TP5_3-4       | Pit11-01_2-3m                   | Pit11-02_0-1m | Pit11-02_1-5m | Pit11-02_9-14m | Pit11-03_2-3m | Pit11-03_6-12m | Pit11-04_5-11m | Pit11-04_24-26m |
| Parameters                                       | Limit of Reporting | Livestock Drinking Water <sup>2</sup> | RGS 2021 Spoil Assessment |               | KCB 2025 Geochemical Assessment |               |               |                |               |                |                |                 |
| pH                                               | 0.01 pH unit       | -                                     | 7.18                      | 7.86          | 7.80                            | 7.42          | 6.76          | 4.29           | 5.15          | 6.99           | 4.06           | 4.00            |
| Electrical Conductivity                          | 1 µS/cm            | -                                     | 1,220                     | 2,240         | 1,710                           | 688           | 2,480         | 3,300          | 752           | 1,860          | 2,150          | 927             |
| Carbonate Alkalinity (mg CaCO <sub>3</sub> /L)   | 1 mg/L             | -                                     | <1                        | <1            | <1                              | <1            | <1            | <1             | <1            | <1             | <1             | <1              |
| Bicarbonate Alkalinity (mg CaCO <sub>3</sub> /L) | 1 mg/L             | -                                     | <1                        | <1            | <1                              | <1            | <1            | <1             | <1            | <1             | <1             | <1              |
| Total Alkalinity (mg CaCO <sub>3</sub> /L)       | 1 mg/L             | -                                     | 43                        | 113           | 76                              | 45            | 76            | <1             | <1            | 82             | <1             | <1              |
| Acidity (mg CaCO <sub>3</sub> /L)                | 1 mg/L             | -                                     | 8                         | 6             | 12                              | 2             | 16            | 190            | 11            | 9              | 234            | 81              |
| Net Alkalinity (mg CaCO <sub>3</sub> /L)         | 1 mg/L             | -                                     | <1                        | <1            | <1                              | <1            | <1            | <1             | <1            | <1             | <1             | <1              |
| Major Ions                                       |                    | All units mg/L                        | All units mg/L            |               |                                 |               |               |                |               |                |                |                 |
| Calcium (Ca)                                     | 1                  | 1000                                  | 153                       | 376           | 297                             | 131           | 471           | 509            | 62            | 396            | 423            | 127             |
| Magnesium (Mg)                                   | 1                  | -                                     | 65                        | 85            | 64                              | 15            | 109           | 213            | 34            | 19             | 28             | 8               |
| Potassium (K)                                    | 1                  | -                                     | 19                        | 71            | 10                              | 4             | 4             | 3              | 23            | 8              | 5              | 12              |
| Sodium (Na)                                      | 1                  | -                                     | 16                        | 32            | 12                              | 3             | 5             | 4              | 9             | 5              | 4              | 3               |
| Chloride (Cl)                                    | 1                  | -                                     | 9                         | 27            | 29                              | <1            | 3             | 1              | 4             | 5              | <1             | 12              |
| Fluoride (F)                                     | 0.1                | 2                                     | 0.3                       | 0.4           | 0.4                             | 0.6           | 0.2           | <0.1           | <0.1          | 0.3            | 0.8            | 0.3             |
| Sulfate (SO <sub>4</sub> <sup>2-</sup> )         | 1                  | 1000                                  | 663                       | 1,150         | 952                             | 340           | 1,490         | 2,270          | 385           | 920            | 1,300          | 462             |
| Trace Metals/Metalloids                          |                    | All units mg/L                        | All units mg/L            |               |                                 |               |               |                |               |                |                |                 |
| Aluminium (Al)                                   | 0.01               | 5                                     | 0.06                      | 0.14          | <0.01                           | <0.01         | <0.01         | 27.4           | 0.13          | <0.01          | 35             | 3.89            |
| Antimony (Sb)                                    | 0.001              | -                                     | ----                      | ----          | <0.001                          | <0.001        | <0.001        | <0.001         | <0.001        | <0.001         | <0.001         | <0.001          |
| Arsenic (As)                                     | 0.001              | 0.5                                   | <0.001                    | <0.001        | <0.001                          | <0.001        | <0.001        | 0.003          | <0.001        | <0.001         | 0.001          | 0.003           |
| Barium (Ba)                                      | 0.001              | -                                     | 0.232                     | 0.188         | 0.019                           | 0.08          | 0.031         | 0.018          | 0.026         | 0.022          | 0.018          | 0.019           |
| Beryllium (Be)                                   | 0.001              | -                                     | <0.001                    | <0.001        | <0.001                          | <0.001        | <0.001        | 0.02           | 0.002         | <0.001         | 0.025          | 0.003           |
| Bismuth (Bi)                                     | 0.001              | -                                     | 0.0005                    | 0.0005        | <0.001                          | <0.001        | <0.001        | <0.001         | <0.001        | <0.001         | <0.001         | <0.001          |
| Boron (B)                                        | 0.05               | 5                                     | 0.53                      | 0.3           | <0.05                           | <0.05         | <0.05         | <0.05          | 0.08          | <0.05          | <0.05          | <0.05           |
| Cadmium (Cd)                                     | 0.0001             | 0.01                                  | 0.0009                    | 0.0004        | 0.0001                          | <0.0001       | 0.0012        | 0.0126         | 0.001         | <0.0001        | 0.0093         | 0.0018          |
| Caesium (Cs)                                     | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Cerium (Ce)                                      | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Chromium (Cr)                                    | 0.001              | 1                                     | <0.001                    | 0.002         | <0.001                          | <0.001        | <0.001        | 0.003          | <0.001        | <0.001         | 0.001          | <0.001          |
| Cobalt (Co)                                      | 0.001              | 1                                     | 0.123                     | <0.001        | 0.03                            | 0.001         | 0.038         | 0.592          | 0.486         | 0.003          | 0.001          | <0.001          |
| Copper (Cu)                                      | 0.001              | 1                                     | 0.002                     | 0.006         | <0.001                          | <0.001        | <0.001        | 0.083          | 0.005         | <0.001         | 1.39           | 0.916           |
| Dysprosium (Dy)                                  | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | 0.193          | 0.003           |
| Erbium (Er)                                      | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Europium (Eu)                                    | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Gadolinium (Gd)                                  | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Gallium (Ga)                                     | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Holmium (Ho)                                     | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Indium (In)                                      | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Iron (Fe)                                        | 0.05               | -                                     | 0.07                      | 3.09          | <0.05                           | <0.05         | <0.05         | 4.07           | 0.08          | <0.05          | 6.99           | 16.9            |
| Lanthanum (La)                                   | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Lead (Pb)                                        | 0.001              | 0.1                                   | 0.055                     | 0.021         | 0.018                           | <0.001        | 0.005         | 0.149          | 0.071         | 0.002          | 0.004          | <0.001          |
| Lithium (Li)                                     | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | 0.136          | 0.048           |
| Lutetium (Lu)                                    | 0.001              | -                                     | 3.73                      | 2.87          | 2.04                            | 0.214         | 5.7           | 8.12           | 3.25          | 2.28           | ----           | ----            |
| Manganese (Mn)                                   | 0.001              | -                                     | ----                      | ----          | <0.0001                         | <0.0001       | <0.0001       | <0.0001        | <0.0001       | <0.0001        | 5.66           | 0.587           |
| Mercury (Hg)                                     | 0.0001             | 0.002                                 | <0.001                    | 0.002         | <0.001                          | 0.002         | <0.001        | <0.001         | <0.001        | <0.001         | <0.0001        | <0.0001         |
| Molybdenum (Mo)                                  | 0.001              | 0.15                                  | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | <0.001         | <0.001          |
| Neodymium (Nd)                                   | 0.001              | -                                     | 0.252                     | 0.001         | 0.075                           | <0.001        | 0.064         | 1.37           | 0.664         | 0.003          | ----           | ----            |
| Nickel (Ni)                                      | 0.001              | 1                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | 2.59           | 0.84            |
| Praseodymium (Pr)                                | 0.001              | -                                     | 0.016                     | 0.073         | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Rubidium (Rb)                                    | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Samarium (Sm)                                    | 0.001              | -                                     | <0.01                     | <0.01         | <0.01                           | <0.01         | <0.01         | <0.01          | <0.01         | <0.01          | ----           | ----            |
| Selenium (Se)                                    | 0.01               | 0.02                                  | ----                      | ----          | ----                            | ----          | ----          | ----           | ----          | ----           | <0.01          | <0.01           |
| Silver (Ag)                                      | 0.001              | -                                     | 0.727                     | 1.37          | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Strontium (Sr)                                   | 0.001              | -                                     | 0.727                     | 1.37          | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Terbium (Tb)                                     | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Thallium (Tl)                                    | 0.001              | -                                     | <0.001                    | <0.001        | <0.001                          | <0.001        | <0.001        | <0.001         | <0.001        | <0.001         | <0.001         | <0.001          |
| Thorium (Th)                                     | 0.001              | -                                     | <0.001                    | <0.001        | <0.001                          | <0.001        | <0.001        | 0.001          | <0.001        | <0.001         | <0.001         | <0.001          |
| Thulium (Tm)                                     | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Tin (Sn)                                         | 0.001              | -                                     | ----                      | ----          | <0.001                          | <0.001        | <0.001        | <0.001         | <0.001        | <0.001         | <0.001         | <0.001          |
| Titanium (Ti)                                    | 0.01               | -                                     | ----                      | ----          | <0.01                           | <0.01         | <0.01         | <0.01          | <0.01         | <0.01          | <0.01          | <0.01           |
| Uranium (U)                                      | 0.001              | 0.1                                   | <0.001                    | <0.001        | <0.001                          | <0.001        | <0.001        | 0.012          | <0.001        | 0.003          | <0.001         | <0.001          |
| Vanadium (V)                                     | 0.001              | -                                     | ----                      | ----          | <0.001                          | <0.001        | <0.001        | <0.001         | <0.001        | <0.001         | <0.001         | <0.001          |
| Ytterbium (Yb)                                   | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Yttrium (Y)                                      | 0.001              | -                                     | <0.001                    | <0.001        | ----                            | ----          | ----          | ----           | ----          | ----           | ----           | ----            |
| Zinc (Zn)                                        | 0.005              | 20                                    | 1.23                      | 0.743         | 0.006                           | 0.016         | 0.072         | 5.79           | 0.73          | 0.005          | 6.58           | 5.41            |

Notes: < indicates concentration less than the detection limit. Shaded cells exceed applied guideline values.

1. ---- indicates sample wasn't tested for that metal/ metalloid

2. ANZG (2018). Recommended guideline limits for Livestock Drinking Water.

Table B2: Multi-Element Test Results for Water Extracts from Samples from the Collinsville Project

|                                                  |                    | RGS Sample Number →                   | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
|--------------------------------------------------|--------------------|---------------------------------------|---------------------------------|--------------|-----------------|----------------|--------------|---------------|----------------|--------------|----------------|
|                                                  |                    | Sample Date →                         | 27/05/2025                      | 27/05/2025   | 06/06/2025      | 08/06/2025     | 10/06/2025   | 10/06/2025    | 10/06/2025     | 11/06/2025   | 11/06/2025     |
|                                                  |                    | ALS Laboratory ID →                   | EB2527449009                    | EB2527449010 | EB2527476001    | EB2527476002   | EB2527476003 | EB2527476004  | EB2527476005   | EB2527476006 | EB2527476007   |
|                                                  |                    | Client Sample ID →                    | Pit11-05_2-4m                   | Pit11-05_4-6 | Pit11-05_17-21m | Pit11-06_3-11m | Pit7-01_0-4m | Pit7-01_7-13m | Pit7-01_13-17m | Pit7-02_0-7m | Pit7-02_13-21m |
| Parameters                                       | Limit of Reporting | Livestock Drinking Water <sup>2</sup> | KCB 2025 Geochemical Assessment |              |                 |                |              |               |                |              |                |
| pH                                               | 0.01 pH unit       | -                                     | 4.15                            | 6.73         | 7.65            | 7.42           | 8.18         | 8.36          | 7.63           | 8.00         | 7.71           |
| Electrical Conductivity                          | 1 µS/cm            | -                                     | 1,590                           | 2,840        | 2,320           | 1,230          | 164          | 274           | 378            | 149          | 742            |
| Carbonate Alkalinity (mg CaCO <sub>3</sub> /L)   | 1 mg/L             | -                                     | <1                              | <1           | <1              | <1             | <1           | <1            | <1             | <1           | <1             |
| Bicarbonate Alkalinity (mg CaCO <sub>3</sub> /L) | 1 mg/L             | -                                     | <1                              | <1           | <1              | <1             | <1           | <1            | <1             | <1           | <1             |
| Total Alkalinity (mg CaCO <sub>3</sub> /L)       | 1 mg/L             | -                                     | <1                              | 46           | 70              | 138            | 61           | 75            | 60             | 54           | 73             |
| Acidity (mg CaCO <sub>3</sub> /L)                | 1 mg/L             | -                                     | 88                              | 8            | 9               | 9              | <1           | <1            | 3              | <1           | 2              |
| Net Alkalinity (mg CaCO <sub>3</sub> /L)         | 1 mg/L             | -                                     | <1                              | <1           | <1              | <1             | <1           | <1            | <1             | <1           | <1             |
| Major Ions                                       | All units mg/L     |                                       | All units mg/L                  |              |                 |                |              |               |                |              |                |
| Calcium (Ca)                                     | 1                  | 1000                                  | 221                             | 583          | 460             | 233            | 6            | 2             | 11             | 12           | 41             |
| Magnesium (Mg)                                   | 1                  | -                                     | 64                              | 71           | 68              | 34             | 2            | 1             | 6              | 1            | 19             |
| Potassium (K)                                    | 1                  | -                                     | 3                               | 8            | 9               | 4              | 25           | 52            | 52             | 18           | 68             |
| Sodium (Na)                                      | 1                  | -                                     | 4                               | 6            | 10              | 7              | <1           | 4             | 5              | 1            | 8              |
| Chloride (Cl)                                    | 1                  | -                                     | <1                              | 7            | 12              | 2              | 5            | 19            | 42             | 8            | 112            |
| Fluoride (F)                                     | 0.1                | 2                                     | 0.8                             | 0.2          | 0.2             | 0.1            | 1.1          | 0.9           | 0.6            | 0.9          | 0.3            |
| Sulfate (SO <sub>4</sub> <sup>2-</sup> )         | 1                  | 1000                                  | 996                             | 1,700        | 1,400           | 642            | 9            | 36            | 62             | 6            | 142            |
| Trace Metals/Metalloids                          | All units mg/L     |                                       | All units mg/L                  |              |                 |                |              |               |                |              |                |
| Aluminium (Al)                                   | 0.01               | 5                                     | 10.40                           | 0.02         | <0.01           | <0.01          | <0.01        | 0.02          | <0.01          | <0.01        | <0.01          |
| Antimony (Sb)                                    | 0.001              | -                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | 0.003         | 0.002          | <0.001       | <0.001         |
| Arsenic (As)                                     | 0.001              | 0.5                                   | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | 0.005         | 0.002          | <0.001       | <0.001         |
| Barium (Ba)                                      | 0.001              | -                                     | 0.015                           | 0.016        | 0.021           | 0.023          | 0.929        | 0.582         | 1.12           | 0.681        | 0.028          |
| Beryllium (Be)                                   | 0.001              | -                                     | 0.013                           | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Bismuth (Bi)                                     | 0.001              | -                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Boron (B)                                        | 0.05               | 5                                     | <0.05                           | <0.05        | <0.05           | <0.05          | 0.25         | 0.18          | 0.25           | 0.19         | 0.06           |
| Cadmium (Cd)                                     | 0.0001             | 0.01                                  | 0.0033                          | <0.0001      | 0.0002          | <0.0001        | <0.0001      | <0.0001       | <0.0001        | <0.0001      | <0.0001        |
| Caesium (Cs)                                     | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Cerium (Ce)                                      | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Chromium (Cr)                                    | 0.001              | 1                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Cobalt (Co)                                      | 0.001              | 1                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Copper (Cu)                                      | 0.001              | 1                                     | 0.528                           | 0.002        | 0.007           | 0.003          | <0.001       | <0.001        | <0.001         | <0.001       | 0.003          |
| Dysprosium (Dy)                                  | 0.001              | -                                     | 0.183                           | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Erbium (Er)                                      | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Europium (Eu)                                    | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Gadolinium (Gd)                                  | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Gallium (Ga)                                     | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Holmium (Ho)                                     | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Indium (In)                                      | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Iron (Fe)                                        | 0.05               | -                                     | 2.19                            | <0.05        | <0.05           | <0.05          | <0.05        | <0.05         | <0.05          | <0.05        | <0.05          |
| Lanthanum (La)                                   | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Lead (Pb)                                        | 0.001              | 0.1                                   | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Lithium (Li)                                     | 0.001              | -                                     | 0.156                           | 0.005        | 0.007           | 0.008          | 0.004        | 0.018         | 0.02           | 0.005        | 0.039          |
| Lutetium (Lu)                                    | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Manganese (Mn)                                   | 0.001              | -                                     | 6                               | 0.634        | 3.26            | 0.627          | <0.001       | <0.001        | 0.006          | <0.001       | 0.243          |
| Mercury (Hg)                                     | 0.0001             | 0.002                                 | <0.0001                         | <0.0001      | <0.0001         | <0.0001        | <0.0001      | <0.0001       | <0.0001        | <0.0001      | <0.0001        |
| Molybdenum (Mo)                                  | 0.001              | 0.15                                  | <0.001                          | 0.001        | 0.002           | 0.001          | 0.006        | 0.013         | 0.005          | 0.006        | 0.003          |
| Neodymium (Nd)                                   | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Nickel (Ni)                                      | 0.001              | 1                                     | 0.814                           | 0.001        | 0.006           | 0.002          | <0.001       | <0.001        | 0.002          | <0.001       | 0.008          |
| Praseodymium (Pr)                                | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Rubidium (Rb)                                    | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Samarium (Sm)                                    | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Selenium (Se)                                    | 0.01               | 0.02                                  | <0.01                           | <0.01        | <0.01           | <0.01          | <0.01        | 0.01          | <0.01          | <0.01        | <0.01          |
| Silver (Ag)                                      | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Strontium (Sr)                                   | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Terbium (Tb)                                     | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Thallium (Tl)                                    | 0.001              | -                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Thorium (Th)                                     | 0.001              | -                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Thulium (Tm)                                     | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Tin (Sn)                                         | 0.001              | -                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Titanium (Ti)                                    | 0.01               | -                                     | <0.01                           | <0.01        | <0.01           | <0.01          | <0.01        | <0.01         | <0.01          | <0.01        | <0.01          |
| Uranium (U)                                      | 0.001              | 0.1                                   | 0.001                           | 0.001        | 0.001           | 0.002          | <0.001       | 0.002         | 0.002          | <0.001       | <0.001         |
| Vanadium (V)                                     | 0.001              | -                                     | <0.001                          | <0.001       | <0.001          | <0.001         | <0.001       | <0.001        | <0.001         | <0.001       | <0.001         |
| Ytterbium (Yb)                                   | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Yttrium (Y)                                      | 0.001              | -                                     | ----                            | ----         | ----            | ----           | ----         | ----          | ----           | ----         | ----           |
| Zinc (Zn)                                        | 0.005              | 20                                    | 3.62                            | <0.005       | 0.022           | <0.005         | 0.006        | <0.005        | 0.025          | 0.011        | <0.005         |

Notes: < indicates concentration less than the detection limit. Shaded cells exceed applied guideline values.

1. ---- indicated sample wasn't tested for that metal/ metalloid

2. ANZG (2018). Recommended guideline limits for Livestock Drinking Water.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

**KLC 3: Collinsville Spoil (Ramp 12) - PAF-LR Sandstone**

|                                              |  |  |                    |           |                                       |           |           |           |           |           |           |           |           |           |              |        |
|----------------------------------------------|--|--|--------------------|-----------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|--------|
|                                              |  |  | Weight (kg)        | 1.83      | Total S (%)                           | 0.570     | ANC       | 24.0      |           |           |           |           |           |           |              |        |
|                                              |  |  | pH (1:5)           | 6.72      | Scr (%)                               | 0.299     | NAPP      | -14.9     |           |           |           |           |           |           |              |        |
|                                              |  |  | EC (µS/cm)         | 304       | MPA                                   | 9.16      | ANC:MPA   | 2.6       |           |           |           |           |           |           |              |        |
|                                              |  |  |                    |           |                                       |           |           |           |           |           |           |           |           |           |              |        |
| Date                                         |  |  | 20-Jan-15          | 19-Feb-15 | 19-Mar-15                             | 21-Apr-15 | 19-May-15 | 16-Jun-15 | 21-Jul-15 | 19-Sep-15 | 20-Oct-15 | 17-Nov-15 | 15-Dec-15 | 19-Jan-16 | 16-Feb-16    |        |
| Number of Weeks                              |  |  | 0                  | 4         | 8                                     | 13        | 17        | 21        | 26        | 35        | 39        | 43        | 47        | 52        | 56           |        |
| Leach Number                                 |  |  | 1                  | 2         | 3                                     | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        | 13           |        |
| ALS Laboratory Number                        |  |  | EB1511068          | EB1513236 | EB1515127                             | EB1517152 | EB1519177 | EB1521025 | EB1523622 | EB1530682 | EB1532131 | EB1534911 | EB1537828 | EB1600214 | EB1604063001 |        |
| Volume On (L)                                |  |  | 1.0                | 0.9       | 0.9                                   | 0.9       | 0.9       | 0.9       | 0.9       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0          |        |
| Volume Off (L)                               |  |  | 0.693              | 0.615     | 0.612                                 | 0.604     | 0.703     | 0.632     | 0.666     | 0.712     | 0.708     | 0.696     | 0.693     | 0.681     | 0.689        |        |
| Cum. Volume (L)                              |  |  | 0.7                | 1.308     | 1.920                                 | 2.524     | 3.227     | 3.859     | 4.525     | 5.237     | 5.945     | 6.641     | 7.334     | 8.015     | 8.704        |        |
| Pore Volumes                                 |  |  | 0.513              | 0.969     | 1.422                                 | 1.870     | 2.390     | 2.859     | 3.352     | 3.879     | 4.404     | 4.919     | 5.433     | 5.937     | 6.447        |        |
| pH (ALS Measurement)                         |  |  | 4.82               | 5.04      | 4.93                                  | 4.84      | 5.17      | 5.67      | 5.98      | 5.86      | 5.67      | 5.28      | 5.57      | 5.42      | 5.80         |        |
| EC (ALS Measurement) (µS/cm)                 |  |  | 3,580 <sup>a</sup> | 886       | 919                                   | 1,006     | 892       | 943       | 940       | 788       | 906       | 867       | 697       | 701       | 724          |        |
| Acidity (mg/L as CaCO <sub>3</sub> )*        |  |  | -                  | 35        | 8                                     | 11        | 13        | 7         | 3         | 4         | 10        | 3         | 7         | 3         | 10           |        |
| Alkalinity (mg/L as CaCO <sub>3</sub> )*     |  |  | -                  | <1        | 9                                     | <1        | 1         | 4         | 1         | 2         | 4         | 5         | <1        | 4         | 4            |        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> )* |  |  | -35                | 1         | -11                                   | -12       | -3        | -2        | -2        | -6        | 2         | -7        | 1         | -3        | -6           |        |
|                                              |  |  |                    |           |                                       |           |           |           |           |           |           |           |           |           |              |        |
| Major Ions (mg/L)                            |  |  | Elements           | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |        |
| Chloride                                     |  |  | Cl                 | 1         | -                                     | 3         | 3         | 3         | 3         | 2         | 2         | 1         | 2         | 1         | <1           | <1     |
| Calcium                                      |  |  | Ca                 | 1         | 1,000                                 | 20        | 20        | 26        | 25        | 30        | 33        | 26        | 37        | 35        | 28           | 32     |
| Magnesium                                    |  |  | Mg                 | 1         | -                                     | 17        | 18        | 23        | 29        | 37        | 37        | 35        | 46        | 46        | 32           | 37     |
| Potassium                                    |  |  | K                  | 1         | -                                     | 6         | 6         | 5         | 5         | 5         | 5         | 4         | 6         | 5         | 45           | 4      |
| Sodium                                       |  |  | Na                 | 1         | -                                     | 121       | 123       | 112       | 93        | 115       | 97        | 71        | 71        | 66        | 4            | 43     |
| Fluoride                                     |  |  | F                  | 0.1       | 2                                     | <0.1      | <0.1      | <0.1      | <0.1      | <0.1      | 0.7       | <0.1      | <0.1      | <0.1      | <0.1         | <0.1   |
| Sulfate                                      |  |  | SO <sub>4</sub>    | 1         | 1,000                                 | 423       | 361       | 438       | 424       | 474       | 427       | 424       | 454       | 444       | 324          | 355    |
| Trace metals/ metalloids (mg/L)              |  |  | Elements           | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |        |
| Aluminium                                    |  |  | Al                 | 0.01      | 5                                     | 0.21      | 0.04      | 0.13      | 0.05      | 0.02      | <0.01     | <0.01     | 0.02      | 0.01      | 0.01         | 0.02   |
| Antimony                                     |  |  | Sb                 | 0.001     | -                                     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001 |
| Arsenic                                      |  |  | As                 | 0.001     | 0.5                                   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001 |
| Cadmium                                      |  |  | Cd                 | 0.0001    | 0.01                                  | 0.0002    | 0.0014    | 0.0001    | 0.0001    | 0.0001    | <0.0001   | <0.0001   | 0.0002    | 0.0002    | 0.0001       | 0.0001 |
| Chromium                                     |  |  | Cr                 | 0.001     | 1                                     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001 |
| Cobalt                                       |  |  | Co                 | 0.001     | 1                                     | 0.154     | 0.044     | 0.033     | 0.026     | 0.026     | 0.019     | 0.014     | 0.022     | 0.015     | 0.008        | 0.007  |
| Copper                                       |  |  | Cu                 | 0.001     | 1                                     | 0.014     | 0.004     | 0.004     | 0.006     | 0.003     | 0.001     | <0.001    | 0.003     | 0.001     | 0.002        | 0.002  |
| Iron                                         |  |  | Fe                 | 0.05      | -                                     | 11.7      | 1.02      | 1.44      | 1.33      | 0.62      | 0.22      | 0.16      | 0.54      | 0.28      | 0.46         | 0.4    |
| Lead                                         |  |  | Pb                 | 0.001     | 0.1                                   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001 |
| Manganese                                    |  |  | Mn                 | 0.001     | -                                     | 0.195     | 0.201     | 0.256     | 0.258     | 0.354     | 0.34      | 0.285     | 0.512     | 0.399     | 0.25         | 0.248  |
| Molybdenum                                   |  |  | Mo                 | 0.001     | 0.15                                  | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001 |
| Nickel                                       |  |  | Ni                 | 0.001     | 1                                     | 0.261     | 0.071     | 0.057     | 0.052     | 0.042     | 0.03      | 0.026     | 0.044     | 0.031     | 0.012        | 0.019  |
| Selenium                                     |  |  | Se                 | 0.01      | 0.02                                  | <0.01     | 0.01      | 0.01      | 0.01      | 0.01      | <0.01     | <0.01     | <0.01     | <0.01     | <0.01        | <0.01  |
| Zinc                                         |  |  | Zn                 | 0.005     | -                                     | 0.076     | 0.151     | 0.054     | 0.048     | 0.067     | 0.051     | 0.045     | 0.077     | 0.06      | 0.035        | 0.038  |
| Boron                                        |  |  | B                  | 0.05      | 5                                     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05        | <0.05  |

Notes: ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments. Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.  
 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L.  
 Shaded cells exceed applied guideline values. (triv) 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex) Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
 ^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
 \*\*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity; and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 4: Collinsville Spoil (Ramp 12) - PAF-MR Sandstone   |                 |        |                                       |                    |             |           |           |           |           |           |
|----------------------------------------------------------|-----------------|--------|---------------------------------------|--------------------|-------------|-----------|-----------|-----------|-----------|-----------|
|                                                          |                 |        | Weight (kg)                           | 1.93               | Total S (%) | 1.404     | ANC       | 0.6       |           |           |
|                                                          |                 |        | pH (1:5)                              | 5.78               | Scr (%)     | 1.021     | NAPP      | 30.688    |           |           |
|                                                          |                 |        | EC (µS/cm)                            | 893                | MPA         | 31.27     | ANC:MPA   | 0.019     |           |           |
|                                                          |                 |        |                                       |                    |             |           |           |           |           |           |
| Date                                                     |                 |        |                                       | 20-Jan-15          | 19-Feb-15   | 19-Mar-15 | 21-Apr-15 | 19-May-15 | 16-Jun-15 | 21-Jul-15 |
| Number of Weeks                                          |                 |        |                                       | 0                  | 4           | 8         | 13        | 17        | 21        | 26        |
| Leach Number                                             |                 |        |                                       | 1                  | 2           | 3         | 4         | 5         | 6         | 7         |
| ALS Laboratory Number                                    |                 |        |                                       | EB1511068          | EB1513236   | EB1515127 | EB1517152 | EB1519177 | EB1521025 | EB1523622 |
| Volume On (L)                                            |                 |        |                                       | 1.0                | 1.0         | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       |
| Volume Off (L)                                           |                 |        |                                       | 0.690              | 0.633       | 0.628     | 0.631     | 0.654     | 0.709     | 0.596     |
| Cum. Volume (L)                                          |                 |        |                                       | 0.7                | 1.323       | 1.951     | 2.582     | 3.236     | 3.945     | 4.541     |
| Pore Volumes                                             |                 |        |                                       | 0.511              | 0.980       | 1.445     | 1.913     | 2.397     | 2.922     | 3.364     |
| pH (ALS Measurement)                                     |                 |        |                                       | -                  | 3.16        | 2.97      | 2.65      | 2.37      | 1.81      | 1.85      |
| EC (ALS Measurement) (µS/cm)                             |                 |        |                                       | 3,580 <sup>A</sup> | 2,421       | 3,130     | 5,290     | 9,060     | 11,630    | 12,600    |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>        |                 |        |                                       | -                  | 723         | 906       | 2480      | 7710      | 16600     | 18100     |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>     |                 |        |                                       | -                  | <1          | <1        | <1        | <1        | <1        | <1        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup> |                 |        |                                       | -                  | -723        | -906      | -2,480    | -7,710    | -16,600   | -18,100   |
|                                                          |                 |        |                                       |                    |             |           |           |           |           |           |
| Major Ions (mg/L)                                        | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Chloride                                                 | Cl              | 1      | -                                     | 3                  | 1           | <1        | <1        | <10       | <5        | <1        |
| Calcium                                                  | Ca              | 1      | 1,000                                 | 104                | 51          | 79        | 105       | 192       | 132       | 98        |
| Magnesium                                                | Mg              | 1      | -                                     | 125                | 324         | 409       | 446       | 338       | 141       | 81        |
| Potassium                                                | K               | 1      | -                                     | 9                  | <1          | <1        | <1        | <1        | <1        | <1        |
| Sodium                                                   | Na              | 1      | -                                     | 68                 | 5           | <1        | <1        | <1        | <1        | <1        |
| Fluoride                                                 | F               | 0.1    | 2                                     | <0.1               | <0.1        | <0.1      | <0.1      | <0.1      | 7.5       | <0.1      |
| Sulfate                                                  | SO <sub>4</sub> | 1      | 1,000                                 | 1,610              | 2,050       | 3,940     | 5,860     | 14,500    | 7,660     | 5,280     |
| Trace metals/ metalloids (mg/L)                          | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Aluminium                                                | Al              | 0.01   | 5                                     | 26.5               | 33.9        | 91.1      | 216       | 240       | 192       | 102       |
| Antimony                                                 | Sb              | 0.001  | -                                     | <0.001             | <0.001      | <0.001    | <0.001    | <0.010    | <0.001    | <0.001    |
| Arsenic                                                  | As              | 0.001  | 0.5                                   | 0.01               | 0.003       | 0.005     | 0.285     | 1.43      | 0.713     | 0.382     |
| Cadmium                                                  | Cd              | 0.0001 | 0.01                                  | 0.0036             | 0.0138      | 0.033     | 0.047     | 0.0519    | 0.0328    | 0.0154    |
| Chromium                                                 | Cr              | 0.001  | 1                                     | 0.079              | 0.052       | 0.147     | 0.446     | 0.572     | 0.26      | 0.169     |
| Cobalt                                                   | Co              | 0.001  | 1                                     | 1.11               | 2.31        | 3.84      | 3.98      | 4.16      | 2.15      | 1.3       |
| Copper                                                   | Cu              | 0.001  | 1                                     | 0.484              | 0.153       | 0.373     | 2.14      | 4.72      | 3.36      | 2.28      |
| Iron                                                     | Fe              | 0.05   | -                                     | 238                | 218         | 650       | 2310      | 5160      | 4420      | 2500      |
| Lead                                                     | Pb              | 0.001  | 0.1                                   | 0.023              | 0.001       | <0.001    | 0.001     | <0.010    | 0.004     | 0.001     |
| Manganese                                                | Mn              | 0.001  | -                                     | 9.69               | 25.4        | 58.6      | 84.7      | 95.9      | 55.2      | 35.2      |
| Molybdenum                                               | Mo              | 0.001  | 0.15                                  | <0.001             | <0.001      | <0.001    | 0.001     | 0.015     | 0.016     | 0.013     |
| Nickel                                                   | Ni              | 0.001  | 1                                     | 1.55               | 3.42        | 6.28      | 8.19      | 9.58      | 5.19      | 3.55      |
| Selenium                                                 | Se              | 0.01   | 0.02                                  | <0.01              | 0.02        | 0.02      | 0.06      | <0.10     | 0.04      | 0.02      |
| Zinc                                                     | Zn              | 0.005  | -                                     | 1.55               | 10.1        | 29.9      | 2.29      | 38.1      | 18.4      | 10.1      |
| Boron                                                    | B               | 0.05   | 5                                     | <0.05              | <0.05       | <0.05     | <0.05     | <0.10     | <0.05     | <0.05     |

Notes: ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.

< indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tn)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.

# for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.

<sup>a</sup> calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.

<sup>\*\*</sup> SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.

Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 5: Collinsville Spoil (Ramp 12) - PAF-HR Sandstone   |                    |           |                                       |             |           |             |           |         |        |
|----------------------------------------------------------|--------------------|-----------|---------------------------------------|-------------|-----------|-------------|-----------|---------|--------|
|                                                          |                    |           |                                       | Weight (kg) | 1.92      | Total S (%) | 4.227     | ANC     | 0.3    |
|                                                          |                    |           |                                       | pH (1:5)    | 4.67      | Scr (%)     | 3.037     | NAPP    | 92.8   |
|                                                          |                    |           |                                       | EC (µS/cm)  | 1,332     | MPA         | 93.01     | ANC:MPA | 0.003  |
| Date                                                     | 20-Jan-15          | 19-Feb-15 | 19-Mar-15                             | 21-Apr-15   | 19-May-15 | 18-Jun-15   | 21-Jul-15 |         |        |
| Number of Weeks                                          | 0                  | 4         | 8                                     | 13          | 17        | 21          | 26        |         |        |
| Leach Number                                             | 1                  | 2         | 3                                     | 4           | 5         | 6           | 7         |         |        |
| ALS Laboratory Number                                    | EB1511068          | EB1513236 | EB1515127                             | EB1517152   | EB1519177 | EB1521025   | EB1523622 |         |        |
| Volume On (L)                                            | 1.0                | 1.0       | 1.0                                   | 1.0         | 1.0       | 1.0         | 1.0       |         |        |
| Volume Off (L)                                           | 0.743              | 0.676     | 0.664                                 | 0.632       | 0.634     | 0.701       | 0.660     |         |        |
| Cum. Volume (L)                                          | 0.7                | 1.419     | 2.083                                 | 2.715       | 3.349     | 4.050       | 4.710     |         |        |
| Pore Volumes                                             | 0.550              | 1.051     | 1.543                                 | 2.011       | 2.481     | 3.000       | 3.489     |         |        |
| pH (ALS Measurement)                                     | -                  | 2.89      | 2.33                                  | 2.05        | 1.98      | 1.5         | 1.52      | 1.57    |        |
| EC (ALS Measurement) (µS/cm)                             | 3,580 <sup>a</sup> | 4,150     | 9,560                                 | 15,240      | 15,510    | 20,390      | 25,500    | 23,220  |        |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>        | -                  | 1,720     | 6,280                                 | 13,400      | 11,500    | 18,000      | 24,900    | 22,200  |        |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>     | -                  | <1        | <1                                    | <1          | <1        | <1          | <1        | <1      |        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup> | -                  | -1,720    | -6,280                                | -13,400     | -11,500   | -18,000     | -24,900   | -22,200 |        |
| Major Ions (mg/L)                                        | Elements           | LoR       | Livestock Drinking Water <sup>2</sup> |             |           |             |           |         |        |
| Chloride                                                 | Cl                 | 1         | -                                     | 2           | <1        | <1          | <1        | 7       | <1     |
| Calcium                                                  | Ca                 | 1         | 1,000                                 | 69          | 35        | 86          | 68        | 126     | 106    |
| Magnesium                                                | Mg                 | 1         | -                                     | 81          | 250       | 298         | 174       | 185     | 112    |
| Potassium                                                | K                  | 1         | -                                     | 17          | <1        | 2           | 4         | 2       | 2      |
| Sodium                                                   | Na                 | 1         | -                                     | 367         | 628       | 706         | 327       | 389     | 276    |
| Fluoride                                                 | F                  | 0.1       | 2                                     | <0.1        | <0.1      | <0.1        | <0.1      | <0.1    | <0.1   |
| Sulfate                                                  | SO <sub>4</sub>    | 1         | 1,000                                 | 2,810       | 7,510     | 16,100      | 12,200    | 23,200  | 18,900 |
| Trace metals/ metalloids (mg/L)                          | Elements           | LoR       | Livestock Drinking Water <sup>2</sup> |             |           |             |           |         |        |
| Aluminium                                                | Al                 | 0.01      | 5                                     | 369         | 354       | 680         | 411       | 526     | 388    |
| Antimony                                                 | Sb                 | 0.001     | -                                     | <0.001      | <0.001    | <0.001      | <0.001    | <0.010  | <0.001 |
| Arsenic                                                  | As                 | 0.001     | 0.5                                   | 0.037       | 0.516     | 1.28        | 1.44      | 2.36    | 2.76   |
| Cadmium                                                  | Cd                 | 0.0001    | 0.01                                  | 0.0074      | 0.0395    | 0.0837      | 0.0518    | 0.086   | 0.0736 |
| Chromium                                                 | Cr                 | 0.001     | 1                                     | 0.216       | 0.456     | 0.877       | 0.538     | 0.683   | 0.45   |
| Cobalt                                                   | Co                 | 0.001     | 1                                     | 0.743       | 2.74      | 4.8         | 2.82      | 3.68    | 2.56   |
| Copper                                                   | Cu                 | 0.001     | 1                                     | 0.046       | 0.107     | 0.208       | 0.39      | 1.43    | 2.64   |
| Iron                                                     | Fe                 | 0.05      | -                                     | 447         | 1480      | 4520        | 3330      | 6690    | 6720   |
| Lead                                                     | Pb                 | 0.001     | 0.1                                   | 0.012       | 0.01      | 0.018       | 0.034     | 0.058   | 0.069  |
| Manganese                                                | Mn                 | 0.001     | -                                     | 2.66        | 9.69      | 24.9        | 20.3      | 29.9    | 26.7   |
| Molybdenum                                               | Mo                 | 0.001     | 0.15                                  | <0.001      | 0.009     | 0.029       | 0.047     | 0.118   | 0.174  |
| Nickel                                                   | Ni                 | 0.001     | 1                                     | 1.59        | 5.74      | 11          | 7.56      | 10.2    | 7.5    |
| Selenium                                                 | Se                 | 0.01      | 0.02                                  | <0.01       | 0.05      | 0.06        | 0.06      | <0.10   | 0.07   |
| Zinc                                                     | Zn                 | 0.005     | -                                     | 1.23        | 12.4      | 33.7        | 1.86      | 29      | 19     |
| Boron                                                    | B                  | 0.05      | 5                                     | <0.05       | <0.05     | <0.05       | <0.05     | <0.10   | <0.05  |

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 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L.  
 Shaded cells exceed applied guideline values. (tn)<sup>3</sup> 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)<sup>3</sup> Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
<sup>a</sup> calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
<sup>\*\*</sup> SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity, and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

**KLC 6: Collinsville Spoil (Ramp 12) - PAF-LR Siltstone**

|                                              |  |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |        |        |        |
|----------------------------------------------|--|--|--|-----------------|-----------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|--------|--------|--------|
|                                              |  |  |  | Weight (kg)     | 1.92      | Total S (%)                           | 0.138     | ANC       | 3.8       |           |           |           |           |           |           |              |        |        |        |
|                                              |  |  |  | pH (1:5)        | 7.58      | Scr (%)                               | 0.116     | NAPP      | -0.2      |           |           |           |           |           |           |              |        |        |        |
|                                              |  |  |  | EC (µS/cm)      | 151       | MPA                                   | 3.56      | ANC:MPA   | 1.05      |           |           |           |           |           |           |              |        |        |        |
|                                              |  |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |        |        |        |
| Date                                         |  |  |  | 20-Jan-15       | 19-Feb-15 | 19-Mar-15                             | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 | 19-Sep-15 | 20-Oct-15 | 17-Nov-15 | 15-Dec-15 | 19-Jan-16 | 16-Feb-16    |        |        |        |
| Number of Weeks                              |  |  |  | 0               | 4         | 8                                     | 13        | 17        | 21        | 26        | 35        | 39        | 43        | 47        | 52        | 56           |        |        |        |
| Leach Number                                 |  |  |  | 1               | 2         | 3                                     | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        | 13           |        |        |        |
| ALS Laboratory Number                        |  |  |  | EB1511068       | EB1513236 | EB1515127                             | EB1517152 | EB1519177 | EB1521025 | EB1523622 | EB1530682 | EB1532131 | EB1534911 | EB1537828 | EB1600214 | EB1604063002 |        |        |        |
| Volume On (L)                                |  |  |  | 1.0             | 1.0       | 1.0                                   | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0          |        |        |        |
| Volume Off (L)                               |  |  |  | 0.683           | 0.658     | 0.662                                 | 0.666     | 0.666     | 0.687     | 0.723     | 0.760     | 0.746     | 0.726     | 0.725     | 0.755     | 0.736        |        |        |        |
| Cum. Volume (L)                              |  |  |  | 0.7             | 1.341     | 2.003                                 | 2.669     | 3.335     | 4.022     | 4.745     | 5.505     | 6.251     | 6.977     | 7.702     | 8.457     | 9.193        |        |        |        |
| Pore Volumes                                 |  |  |  | 0.506           | 0.993     | 1.484                                 | 1.977     | 2.470     | 2.979     | 3.515     | 4.078     | 4.630     | 5.168     | 5.705     | 6.264     | 6.810        |        |        |        |
| pH (ALS Measurement)                         |  |  |  | 6.75            | 5.94      | 5.57                                  | 5.32      | 3.71      | 3.67      | 5.12      | 6.58      | 6.32      | 5.88      | 5.84      | 5.31      | 4.82         |        |        |        |
| EC (ALS Measurement) (µS/cm)                 |  |  |  | 3,580^          | 227       | 342                                   | 413       | 454       | 507       | 733       | 610       | 587       | 495       | 421       | 412       | 404          |        |        |        |
| Acidity (mg/L as CaCO <sub>3</sub> )*        |  |  |  | -               | 4         | 3                                     | 5         | 17        | 6         | 5         | 4         | 2         | 2         | 4         | 3         | 8            |        |        |        |
| Alkalinity (mg/L as CaCO <sub>3</sub> )*     |  |  |  | -               | 8         | 5                                     | 1         | <1        | 4         | <1        | <1        | 4         | 5         | <1        | 4         | 4            |        |        |        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> )* |  |  |  | -               | 4         | 2                                     | -4        | -17       | -2        | -5        | -4        | 2         | 3         | -4        | 1         | -1           | -4     |        |        |
|                                              |  |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |        |        |        |
| Major Ions (mg/L)                            |  |  |  | Elements        | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |        |        |        |
| Chloride                                     |  |  |  | Cl              | 1         | -                                     | 2         | <1        | <1        | <1        | <1        | <1        | <1        | <1        | <1        | <1           | 2      |        |        |
| Calcium                                      |  |  |  | Ca              | 1         | 1,000                                 | 4         | 4         | 5         | 6         | 7         | 13        | 8         | 10        | 7         | 10           | 11     |        |        |
| Magnesium                                    |  |  |  | Mg              | 1         | -                                     | 2         | 2         | 3         | 4         | 6         | 5         | 6         | 4         | 6         | 6            | 9      |        |        |
| Potassium                                    |  |  |  | K               | 1         | -                                     | 1         | 2         | 1         | 2         | 2         | 2         | 2         | 2         | 55        | 2            | 2      |        |        |
| Sodium                                       |  |  |  | Na              | 1         | -                                     | 37        | 56        | 65        | 62        | 85        | 105       | 88        | 86        | 69        | 2            | 60     | 53     | 55     |
| Fluoride                                     |  |  |  | F               | 0.1       | 2                                     | 0.2       | 0.1       | <0.1      | <0.1      | <0.1      | <0.1      | <0.1      | 0.2       | <0.1      | 0.1          | 0.3    | <0.1   | <0.1   |
| Sulfate                                      |  |  |  | SO <sub>4</sub> | 1         | 1,000                                 | 77        | 132       | 181       | 186       | 207       | 278       | 251       | 232       | 206       | 172          | 194    | 166    | 169    |
| Trace metals/ metalloids (mg/L)              |  |  |  | Elements        | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |        |        |        |
| Aluminium                                    |  |  |  | Al              | 0.01      | 5                                     | <0.01     | 0.07      | 0.03      | 0.05      | <0.01     | 0.04      | 0.02      | <0.01     | <0.01     | <0.01        | <0.01  | 0.03   | 0.03   |
| Antimony                                     |  |  |  | Sb              | 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 |
| Arsenic                                      |  |  |  | As              | 0.001     | 0.5                                   | <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 |
| Cadmium                                      |  |  |  | Cd              | 0.0001    | 0.01                                  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001      | 0.0001 | 0.0002 | 0.0002 |
| Chromium                                     |  |  |  | Cr              | 0.001     | 1                                     | <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 |
| Cobalt                                       |  |  |  | Co              | 0.001     | 1                                     | 0.007     | 0.006     | 0.007     | 0.006     | 0.008     | 0.009     | 0.007     | 0.009     | 0.007     | 0.006        | 0.008  | 0.008  | 0.013  |
| Copper                                       |  |  |  | Cu              | 0.001     | 1                                     | <0.001    | <0.001    | <0.001    | 0.002     | <0.001    | 0.002     | 0.002     | 0.002     | <0.001    | 0.003        | 0.006  | 0.008  | 0.012  |
| Iron                                         |  |  |  | Fe              | 0.05      | -                                     | <0.05     | 0.38      | 0.2       | 0.47      | <0.05     | 0.31      | 0.45      | <0.05     | <0.05     | <0.05        | 0.09   | 0.18   | 0.16   |
| Lead                                         |  |  |  | Pb              | 0.001     | 0.1                                   | <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 |
| Manganese                                    |  |  |  | Mn              | 0.001     | -                                     | 0.06      | 0.023     | 0.035     | 0.045     | 0.041     | 0.072     | 0.06      | 0.082     | 0.066     | 0.066        | 0.092  | 0.107  | 0.158  |
| Molybdenum                                   |  |  |  | Mo              | 0.001     | 0.15                                  | 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 |
| Nickel                                       |  |  |  | Ni              | 0.001     | 1                                     | 0.01      | 0.007     | 0.008     | 0.009     | 0.009     | 0.011     | 0.008     | 0.011     | 0.01      | 0.003        | 0.014  | 0.016  | 0.026  |
| Selenium                                     |  |  |  | Se              | 0.01      | 0.02                                  | <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  |
| Zinc                                         |  |  |  | Zn              | 0.005     | -                                     | <0.005    | 0.012     | 0.018     | 0.04      | 0.021     | 0.033     | 0.03      | 0.033     | 0.025     | 0.027        | 0.049  | 0.059  | 0.095  |
| Boron                                        |  |  |  | B               | 0.05      | 5                                     | <0.05     | 0.14      | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05        | <0.05  | <0.05  | <0.05  |

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 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L.  
 Shaded cells exceed applied guideline values. (tri)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
 ^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
 \*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 7: Collinsville Spoil (Ramp 12) - PAF-MR Siltstone   |                 |        |                                       |                    |             |           |           |           |           |           |
|----------------------------------------------------------|-----------------|--------|---------------------------------------|--------------------|-------------|-----------|-----------|-----------|-----------|-----------|
|                                                          |                 |        | Weight (kg)                           | 1.67               | Total S (%) | 1.490     | ANC       | 1.2       |           |           |
|                                                          |                 |        | pH (1:5)                              | 5.20               | Scr (%)     | 1.121     | NAPP      | 33.1      |           |           |
|                                                          |                 |        | EC (µS/cm)                            | 796                | MPA         | 34.32     | ANC:MPA   | 0.0       |           |           |
|                                                          |                 |        |                                       |                    |             |           |           |           |           |           |
| Date                                                     |                 |        |                                       | 20-Jan-15          | 19-Feb-15   | 19-Mar-15 | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 |
| Number of Weeks                                          |                 |        |                                       | 0                  | 4           | 8         | 13        | 17        | 21        | 26        |
| Leach Number                                             |                 |        |                                       | 1                  | 2           | 3         | 4         | 5         | 6         | 7         |
| ALS Laboratory Number                                    |                 |        |                                       | EB1511068          | EB1513236   | EB1515127 | EB1517152 | EB1519177 | EB1521025 | EB1523622 |
| Volume On (L)                                            |                 |        |                                       | 1.0                | 0.8         | 0.8       | 0.8       | 0.8       | 0.8       | 0.8       |
| Volume Off (L)                                           |                 |        |                                       | 0.752              | 0.515       | 0.569     | 0.555     | 0.583     | 0.618     | 0.585     |
| Cum. Volume (L)                                          |                 |        |                                       | 0.8                | 1.267       | 1.836     | 2.391     | 2.974     | 3.592     | 4.177     |
| Pore Volumes                                             |                 |        |                                       | 0.557              | 0.939       | 1.360     | 1.771     | 2.203     | 2.661     | 3.094     |
| pH (ALS Measurement)                                     |                 |        |                                       | -                  | 3.34        | 3.09      | 2.68      | 2.41      | 1.84      | 1.89      |
| EC (ALS Measurement) (µS/cm)                             |                 |        |                                       | 3,580 <sup>a</sup> | 1,894       | 2,008     | 3,370     | 6,260     | 9,750     | 12,180    |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>        |                 |        |                                       | -                  | 417         | 469       | 1,560     | 4,200     | 11,000    | 16,600    |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>     |                 |        |                                       | -                  | <1          | <1        | <1        | <1        | <1        | <1        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup> |                 |        |                                       | -                  | -417        | -469      | -1,560    | -4,200    | -11,000   | -16,600   |
|                                                          |                 |        |                                       | -31,200            |             |           |           |           |           |           |
|                                                          |                 |        |                                       |                    |             |           |           |           |           |           |
| Major Ions (mg/L)                                        | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Chloride                                                 | Cl              | 1      | -                                     | 3                  | 2           | 2         | <1        | <10       | <5        | <1        |
| Calcium                                                  | Ca              | 1      | 1,000                                 | 96                 | 50          | 67        | 71        | 116       | 128       | 104       |
| Magnesium                                                | Mg              | 1      | -                                     | 112                | 148         | 215       | 281       | 352       | 237       | 162       |
| Potassium                                                | K               | 1      | -                                     | 10                 | <1          | <1        | <1        | <1        | <1        | <1        |
| Sodium                                                   | Na              | 1      | -                                     | 45                 | 10          | <1        | <1        | <1        | <1        | <1        |
| Fluoride                                                 | F               | 0.1    | 2                                     | <0.1               | <0.1        | <0.1      | <0.01     | <0.1      | <0.1      | <0.1      |
| Sulfate                                                  | SO <sub>4</sub> | 1      | 1,000                                 | 1,100              | 1,120       | 2,350     | 5,030     | 8,110     | 9,400     | 6,050     |
|                                                          |                 |        |                                       |                    |             |           |           |           |           |           |
| Trace metals/ metalloids (mg/L)                          | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Aluminium                                                | Al              | 0.01   | 5                                     | 19.7               | 20.5        | 55.6      | 149       | 277       | 311       | 217       |
| Antimony                                                 | Sb              | 0.001  | -                                     | <0.001             | <0.001      | <0.001    | <0.001    | <0.010    | <0.001    | <0.001    |
| Arsenic                                                  | As              | 0.001  | 0.5                                   | 0.018              | 0.004       | 0.01      | 0.31      | 2.62      | 2.37      | 1.43      |
| Cadmium                                                  | Cd              | 0.0001 | 0.01                                  | 0.0062             | 0.0145      | 0.0297    | 0.0416    | 0.0667    | 0.0643    | 0.0402    |
| Chromium                                                 | Cr              | 0.001  | 1                                     | 0.026              | 0.03        | 0.098     | 0.256     | 0.421     | 0.33      | 0.242     |
| Cobalt                                                   | Co              | 0.001  | 1                                     | 1                  | 1.59        | 3.02      | 3.78      | 5.98      | 4.36      | 3.01      |
| Copper                                                   | Cu              | 0.001  | 1                                     | 0.067              | 0.195       | 0.455     | 1.52      | 3.93      | 4.48      | 3.79      |
| Iron                                                     | Fe              | 0.05   | -                                     | 91.2               | 102         | 283       | 959       | 3160      | 4350      | 3360      |
| Lead                                                     | Pb              | 0.001  | 0.1                                   | 0.01               | 0.001       | <0.001    | <0.001    | <0.010    | <0.001    | <0.001    |
| Manganese                                                | Mn              | 0.001  | -                                     | 9.26               | 14.8        | 35.1      | 59.7      | 104       | 90.6      | 71.8      |
| Molybdenum                                               | Mo              | 0.001  | 0.15                                  | <0.001             | <0.001      | <0.001    | 0.004     | 0.083     | 0.175     | 0.179     |
| Nickel                                                   | Ni              | 0.001  | 1                                     | 2.26               | 4.13        | 8.12      | 11.2      | 17.5      | 12.7      | 9.85      |
| Selenium                                                 | Se              | 0.01   | 0.02                                  | 0.02               | 0.03        | 0.03      | 0.05      | 0.14      | 0.15      | 0.1       |
| Zinc                                                     | Zn              | 0.005  | -                                     | 1.44               | 4.6         | 10.2      | 2.34      | 21.5      | 15.6      | 10.6      |
| Boron                                                    | B               | 0.05   | 5                                     | <0.05              | 0.13        | <0.05     | <0.05     | <0.10     | <0.05     | <0.05     |

Notes: ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.  
 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L.  
 Shaded cells exceed applied guideline values. (tn)<sup>3</sup> 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)<sup>4</sup> Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
<sup>a</sup> calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
<sup>\*\*</sup> SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

**KLC 8: Collinsville Spoil (Ramp 12) - PAF-LR Mudstone**

|                                              |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |         |
|----------------------------------------------|--|--|-----------------|-----------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|---------|
|                                              |  |  | Weight (kg)     | 1.65      | Total S (%)                           | 0.040     | ANC       | 2.7       |           |           |           |           |           |           |              |         |
|                                              |  |  | pH (1:5)        | 8.40      | Scr (%)                               | 0.043     | NAPP      | -1.4      |           |           |           |           |           |           |              |         |
|                                              |  |  | EC (µS/cm)      | 86        | MPA                                   | 1.30      | ANC:MPA   | 2.1       |           |           |           |           |           |           |              |         |
|                                              |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |         |
| Date                                         |  |  | 20-Jan-15       | 19-Feb-15 | 19-Mar-15                             | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 | 19-Sep-15 | 20-Oct-15 | 17-Nov-15 | 15-Dec-15 | 19-Jan-16 | 16-Feb-16    |         |
| Number of Weeks                              |  |  | 0               | 4         | 8                                     | 13        | 17        | 21        | 26        | 35        | 39        | 43        | 47        | 52        | 56           |         |
| Leach Number                                 |  |  | 1               | 2         | 3                                     | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        | 13           |         |
| ALS Laboratory Number                        |  |  | EB1511068       | EB1513236 | EB1515127                             | EB1517152 | EB1519177 | EB1521025 | EB1523622 | EB1530682 | EB1532131 | EB1534911 | EB1537828 | EB1600214 | EB1604063003 |         |
| Volume On (L)                                |  |  | 1.0             | 0.8       | 0.8                                   | 0.8       | 0.8       | 0.8       | 0.8       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0          |         |
| Volume Off (L)                               |  |  | 0.744           | 0.509     | 0.575                                 | 0.563     | 0.581     | 0.578     | 0.575     | 0.773     | 0.784     | 0.761     | 0.777     | 0.752     | 0.785        |         |
| Cum. Volume (L)                              |  |  | 0.7             | 1.253     | 1.828                                 | 2.391     | 2.972     | 3.550     | 4.125     | 4.898     | 5.682     | 6.443     | 7.220     | 7.972     | 8.757        |         |
| Pore Volumes                                 |  |  | 0.551           | 0.928     | 1.354                                 | 1.771     | 2.201     | 2.630     | 3.056     | 3.628     | 4.209     | 4.773     | 5.348     | 5.905     | 6.487        |         |
| Water Quality Guidelines                     |  |  | 0.551           | 0.928     | 1.354                                 | 1.771     | 2.201     | 2.630     | 3.056     | 3.628     | 4.209     | 4.773     | 5.348     | 5.905     | 6.487        |         |
| pH (ALS Measurement)                         |  |  | -               | 9.02      | 8.83                                  | 7.24      | 8.30      | 8.25      | 6.33      | 7.10      | 8.15      | 7.76      | 7.11      | 6.93      | 7.23         |         |
| EC (ALS Measurement) (µS/cm)                 |  |  | 3,580^          | 84        | 88                                    | 158       | 73        | 105       | 100       | 104       | 150       | 100       | 146       | 156       | 152          |         |
| Acidity (mg/L as CaCO <sub>3</sub> )*        |  |  | -               | 1         | <1                                    | 2         | 9         | 3         | <1        | 2         | <1        | <1        | 4         | 2         | 3            |         |
| Alkalinity (mg/L as CaCO <sub>3</sub> )*     |  |  | -               | 31        | 32                                    | 43        | 17        | 31        | 18        | 22        | 37        | 21        | 15        | 14        | 10           |         |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> )* |  |  | -               | 30        | 32                                    | 41        | 8         | 28        | 18        | 20        | 37        | 21        | 11        | 12        | 8            |         |
|                                              |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |         |
| Major Ions (mg/L)                            |  |  | Elements        | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |         |
| Chloride                                     |  |  | Cl              | 1         | -                                     | 1         | <1        | 1         | <1        | 1         | 1         | 2         | 2         | 3         | 2            | 2       |
| Calcium                                      |  |  | Ca              | 1         | 1,000                                 | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5          | 0.5     |
| Magnesium                                    |  |  | Mg              | 1         | -                                     | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       | 0.5          | 0.5     |
| Potassium                                    |  |  | K               | 1         | -                                     | <1        | <1        | <1        | <1        | <1        | <1        | <1        | <1        | <1        | <1           | <1      |
| Sodium                                       |  |  | Na              | 1         | -                                     | 18        | 16        | 26        | 13        | 24        | 21        | 22        | 28        | 18        | 27           | 31      |
| Fluoride                                     |  |  | F               | 0.1       | 2                                     | 0.4       | 0.4       | 0.6       | 0.4       | 0.5       | 0.3       | 0.3       | 0.5       | 0.2       | 0.3          | 0.3     |
| Sulfate                                      |  |  | SO <sub>4</sub> | 1         | 1,000                                 | 10        | 13        | 26        | 10        | 26        | 26        | 29        | 20        | 13        | 12           | 11      |
| Trace metals/ metalloids (mg/L)              |  |  | Elements        | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |         |
| Aluminium                                    |  |  | Al              | 0.01      | 5                                     | 1.3       | 7.26      | 4.26      | 7.06      | 14.5      | 11.1      | 1.28      | 2.37      | 3.76      | 5.83         | 3.94    |
| Antimony                                     |  |  | Sb              | 0.001     | -                                     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001  |
| Arsenic                                      |  |  | As              | 0.001     | 0.5                                   | 0.001     | 0.003     | 0.003     | 0.002     | 0.003     | 0.002     | 0.001     | 0.002     | <0.001    | <0.001       | <0.001  |
| Cadmium                                      |  |  | Cd              | 0.0001    | 0.01                                  | <0.0001   | <0.0001   | 0.0002    | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001      | <0.0001 |
| Chromium                                     |  |  | Cr              | 0.001     | 1                                     | 0.001     | 0.005     | 0.004     | 0.005     | 0.002     | <0.001    | 0.001     | 0.002     | 0.003     | <0.001       | 0.002   |
| Cobalt                                       |  |  | Co              | 0.001     | 1                                     | 0.001     | <0.001    | <0.001    | 0.001     | 0.002     | 0.001     | 0.001     | <0.001    | <0.001    | <0.001       | <0.001  |
| Copper                                       |  |  | Cu              | 0.001     | 1                                     | <0.001    | 0.001     | 0.002     | 0.004     | 0.008     | 0.007     | 0.007     | 0.002     | 0.003     | 0.006        | 0.004   |
| Iron                                         |  |  | Fe              | 0.05      | -                                     | <0.05     | 0.41      | 0.3       | 0.5       | 0.87      | 0.65      | 0.5       | 0.13      | 0.22      | 0.21         | 0.2     |
| Lead                                         |  |  | Pb              | 0.001     | 0.1                                   | <0.001    | <0.001    | <0.001    | <0.001    | 0.002     | 0.002     | 0.002     | <0.001    | <0.001    | <0.001       | 0.001   |
| Manganese                                    |  |  | Mn              | 0.001     | -                                     | <0.001    | 0.005     | 0.004     | 0.008     | 0.006     | 0.009     | 0.008     | 0.001     | 0.002     | 0.003        | 0.002   |
| Molybdenum                                   |  |  | Mo              | 0.001     | 0.15                                  | 0.001     | 0.006     | 0.01      | 0.004     | 0.017     | 0.021     | 0.014     | 0.017     | 0.011     | 0.009        | 0.006   |
| Nickel                                       |  |  | Ni              | 0.001     | 1                                     | <0.001    | 0.002     | 0.001     | 0.004     | 0.007     | 0.004     | 0.003     | <0.001    | 0.002     | <0.001       | 0.001   |
| Selenium                                     |  |  | Se              | 0.01      | 0.02                                  | <0.01     | 0.01      | 0.02      | 0.01      | 0.03      | 0.02      | 0.02      | 0.02      | 0.01      | 0.02         | 0.01    |
| Zinc                                         |  |  | Zn              | 0.005     | -                                     | <0.005    | <0.005    | 0.006     | 0.007     | <0.005    | 0.022     | 0.019     | <0.005    | 0.006     | 0.008        | 0.006   |
| Boron                                        |  |  | B               | 0.05      | 5                                     | <0.05     | 0.12      | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05        | <0.05   |

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< indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L.

Shaded cells exceed applied guideline values. (tri)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.

# for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.

^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.

\*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.

Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

**KLC 9: Collinsville Spoil (Blake North) PAF-LR Sandstone**

|                                              |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |         |
|----------------------------------------------|--|--|-----------------|-----------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|---------|
|                                              |  |  | Weight (kg)     | 22.36     | Total S (%)                           | 0.19      | ANC       | 6.8       |           |           |           |           |           |           |              |         |
|                                              |  |  | pH (1:5)        | 7.71      | Scr (%)                               | 0.14      | NAPP      | -2.5      |           |           |           |           |           |           |              |         |
|                                              |  |  | EC (µS/cm)      | 315       | MPA                                   | 4.38      | ANC:MPA   | 1.6       |           |           |           |           |           |           |              |         |
|                                              |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |         |
| Date                                         |  |  | 06-Feb-15       | 05-Mar-15 | 06-Apr-15                             | 05-May-15 | 02-Jun-15 | 07-Jul-15 | 06-Aug-15 | 19-Sep-15 | 20-Oct-15 | 17-Nov-15 | 15-Dec-15 | 19-Jan-16 | 16-Feb-16    |         |
| Number of Weeks                              |  |  | 0               | 4         | 8                                     | 13        | 17        | 22        | 26        | 32        | 37        | 41        | 45        | 50        | 54           |         |
| Leach Number                                 |  |  | 1               | 2         | 3                                     | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        | 13           |         |
| ALS Laboratory Number                        |  |  | EB1512346       | EB1514187 | EB1516236                             | EB1518167 | EB1520114 | EB1522444 | EB1524949 | EB1530682 | EB1532131 | EB1534911 | EB1537828 | EB1600214 | EB1604063004 |         |
| Volume On (L)                                |  |  | 3.0             | 2.2       | 2.2                                   | 2.2       | 2.2       | 2.2       | 2.2       | 2.0       | 2.0       | 2.0       | 2.0       | 2.0       | 2.0          |         |
| Volume Off (L)                               |  |  | 1.204           | 1.977     | 1.681                                 | 1.797     | 1.797     | 1.874     | 1.882     | 1.402     | 1.731     | 1.624     | 1.652     | 1.331     | 1.488        |         |
| Cum. Volume (L)                              |  |  | 1.2             | 3.181     | 4.862                                 | 6.659     | 8.456     | 10.330    | 12.212    | 13.614    | 15.345    | 16.969    | 18.621    | 19.952    | 21.440       |         |
| Pore Volumes                                 |  |  | 0.892           | 2.356     | 3.601                                 | 4.933     | 6.264     | 7.652     | 9.046     | 10.084    | 11.367    | 12.570    | 13.793    | 14.779    | 15.881       |         |
| pH (ALS Measurement)                         |  |  | 7.72            | 7.61      | 7.28                                  | 7.61      | 7.88      | 8.02      | 8.41      | 7.31      | 7.73      | 7.80      | 7.39      | 7.49      | 7.42         |         |
| EC (ALS Measurement) (µS/cm)                 |  |  | 3,580*          | 2,384     | 3,290                                 | 2,590     | 2,530     | 2,279     | 2,164     | 2,120     | 2,247     | 1,631     | 1,269     | 1,453     | 1,244        |         |
| Acidity (mg/L as CaCO <sub>3</sub> )*        |  |  | -               | 4         | 4                                     | 2         | 8         | 1         | <1        | 5         | 3         | 4         | 2         | 2         | 8            |         |
| Alkalinity (mg/L as CaCO <sub>3</sub> )*     |  |  | -               | 51        | 66                                    | 38        | 43        | 46        | 40        | 48        | 62        | 53        | 54        | 65        | 33           |         |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> )* |  |  | -               | 47        | 62                                    | 36        | 35        | 45        | 40        | 48        | 57        | 50        | 50        | 63        | 31           |         |
|                                              |  |  |                 |           |                                       |           |           |           |           |           |           |           |           |           |              |         |
| Major Ions (mg/L)                            |  |  | Elements        | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |         |
| Chloride                                     |  |  | Cl              | 1         | -                                     | 153       | 119       | 55        | 36        | 25        | 13        | 15        | 7         | 5         | 4            | 4       |
| Calcium                                      |  |  | Ca              | 1         | 1,000                                 | 83        | 146       | 101       | 136       | 123       | 119       | 120       | 144       | 91        | 98           | 106     |
| Magnesium                                    |  |  | Mg              | 1         | -                                     | 28        | 43        | 29        | 36        | 32        | 36        | 32        | 45        | 27        | 29           | 34      |
| Potassium                                    |  |  | K               | 1         | -                                     | 14        | 12        | 8         | 8         | 7         | 6         | 7         | 9         | 6         | 180          | 7       |
| Sodium                                       |  |  | Na              | 1         | -                                     | 438       | 594       | 403       | 428       | 344       | 283       | 296       | 304       | 192       | 6            | 183     |
| Fluoride                                     |  |  | F               | 0.1       | 2                                     | 0.2       | 0.2       | 0.3       | 0.3       | 0.3       | 0.3       | 0.4       | 0.4       | 0.3       | 0.3          | 0.3     |
| Sulfate                                      |  |  | SO <sub>4</sub> | 1         | 1,000                                 | 980       | 1,580     | 1,140     | 1,170     | 1,200     | 1,140     | 999       | 1,150     | 827       | 739          | 776     |
| Trace metals/ metalloids (mg/L)              |  |  | Elements        | LoR       | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |         |
| Aluminium                                    |  |  | Al              | 0.01      | 5                                     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | 0.01         | <0.01   |
| Antimony                                     |  |  | Sb              | 0.001     | -                                     | 0.064     | 0.124     | 0.044     | 0.044     | 0.035     | 0.029     | 0.026     | 0.019     | 0.03      | 0.03         | 0.028   |
| Arsenic                                      |  |  | As              | 0.001     | 0.5                                   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001  |
| Cadmium                                      |  |  | Cd              | 0.0001    | 0.01                                  | <0.0001   | 0.0002    | 0.0002    | 0.0001    | <0.0001   | <0.0001   | 0.0001    | 0.0001    | <0.0001   | 0.0001       | <0.0001 |
| Chromium                                     |  |  | Cr              | 0.001     | 1                                     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001  |
| Cobalt                                       |  |  | Co              | 0.001     | 1                                     | 0.012     | 0.022     | 0.014     | 0.011     | 0.007     | 0.005     | 0.002     | 0.001     | 0.001     | <0.001       | 0.001   |
| Copper                                       |  |  | Cu              | 0.001     | 1                                     | <0.001    | <0.001    | 0.001     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | 0.001   |
| Iron                                         |  |  | Fe              | 0.05      | -                                     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05        | <0.05   |
| Lead                                         |  |  | Pb              | 0.001     | 0.1                                   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       | <0.001  |
| Manganese                                    |  |  | Mn              | 0.001     | -                                     | 0.214     | 0.493     | 0.315     | 0.11      | 0.058     | 0.04      | 0.018     | 0.015     | 0.014     | 0.014        | 0.015   |
| Molybdenum                                   |  |  | Mo              | 0.001     | 0.15                                  | 0.002     | 0.004     | 0.002     | 0.001     | 0.002     | 0.001     | 0.001     | 0.002     | 0.002     | 0.001        | 0.001   |
| Nickel                                       |  |  | Ni              | 0.001     | 1                                     | 0.023     | 0.029     | 0.019     | 0.019     | 0.018     | 0.017     | 0.015     | 0.014     | 0.011     | 0.004        | 0.01    |
| Selenium                                     |  |  | Se              | 0.01      | 0.02                                  | 0.01      | 0.03      | 0.02      | 0.02      | <0.01     | <0.01     | <0.01     | 0.01      | <0.01     | <0.01        | <0.01   |
| Zinc                                         |  |  | Zn              | 0.005     | -                                     | <0.005    | 0.056     | 0.06      | 0.065     | 0.074     | 0.075     | 0.066     | 0.074     | 0.053     | 0.048        | 0.053   |
| Boron                                        |  |  | B               | 0.05      | 5                                     | 0.17      | 0.26      | 0.17      | 0.2       | 0.12      | 0.1       | 0.07      | 0.12      | 0.14      | 0.16         | 0.18    |

Notes: ANZG 2018, Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments. Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.  
 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tri)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
 ^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
 \*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 10: Collinsville Spoil (Blake North) PAF-MR Sandstone                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |        |                                       |                    |             |           |           |           |           |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------|---------------------------------------|--------------------|-------------|-----------|-----------|-----------|-----------|-----------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        | Weight (kg)                           | 2.42               | Total S (%) | 1.30      | ANC       | 2.1       |           |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        | pH (1:5)                              | 4.80               | Scr (%)     | 0.93      | NAPP      | 26.3      |           |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        | EC (µS/cm)                            | 959                | MPA         | 28.36     | ANC:MPA   | 0.1       |           |           |
| <div>Date</div> <div>Number of Weeks</div> <div>Leach Number</div> <div>ALS Laboratory Number</div> <div>Volume On (L)</div> <div>Volume Off (L)</div> <div>Cum. Volume (L)</div> <div>Pore Volumes</div> <div>Water Quality Guidelines</div> <div>pH (ALS Measurement)</div> <div>EC (ALS Measurement) (µS/cm)</div> <div>Acidity (mg/L as CaCO<sub>3</sub>)<sup>*</sup></div> <div>Alkalinity (mg/L as CaCO<sub>3</sub>)<sup>*</sup></div> <div>Net Alkalinity (mg/L as CaCO<sub>3</sub>)<sup>*</sup></div> |                 |        |                                       | 20-Jan-15          | 19-Feb-15   | 19-Mar-15 | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 0                  | 4           | 8         | 13        | 17        | 21        | 26        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 1                  | 2           | 3         | 4         | 5         | 6         | 7         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | EB1511068          | EB1513236   | EB1515127 | EB1517152 | EB1519177 | EB1521025 | EB1523622 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 1.0                | 1.3         | 1.2       | 1.2       | 1.2       | 1.2       | 1.2       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 0.773              | 1.053       | 0.922     | 0.919     | 0.931     | 0.967     | 0.954     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 0.8                | 1.826       | 2.748     | 3.667     | 4.598     | 5.565     | 6.519     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 0.573              | 1.353       | 2.036     | 2.716     | 3.406     | 4.122     | 4.829     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 3.89               | 3.26        | 2.83      | 2.68      | 2.17      | 2.22      | 2.24      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       | 3,580 <sup>A</sup> | 1,359       | 1,156     | 2,321     | 4,100     | 6,720     | 6,570     |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 196             | 185    | 910                                   | 2,470              | 6,080       | 6,740     | 7,030     |           |           |           |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <1              | <1     | <1                                    | <1                 | <1          | <1        | <1        |           |           |           |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -196            | -185   | -910                                  | -2,470             | -6,080      | -6,740    | -7,030    |           |           |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |        |                                       |                    |             |           |           |           |           |           |
| Major Ions (mg/L)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Chloride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cl              | 1      | -                                     | 4                  | 2           | 2         | <1        | <50       | <5        | <1        |
| Calcium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ca              | 1      | 1,000                                 | 125                | 45          | 52        | 81        | 100       | 92        | 63        |
| Magnesium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mg              | 1      | -                                     | 42                 | 48          | 114       | 200       | 218       | 140       | 107       |
| Potassium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | K               | 1      | -                                     | 5                  | <1          | <1        | <1        | <1        | <1        | <1        |
| Sodium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Na              | 1      | -                                     | 71                 | 38          | 24        | 6         | <1        | <1        | <1        |
| Fluoride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | F               | 0.1    | 2                                     | 0.1                | 0.1         | <0.1      | <0.1      | 5.2       | <0.1      | <0.1      |
| Sulfate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SO <sub>4</sub> | 1      | 1,000                                 | 854                | 510         | 1,440     | 3,130     | 5,810     | 2,550     | 2,510     |
| Trace metals/ metalloids (mg/L)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Aluminium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Al              | 0.01   | 5                                     | 4.02               | 3.94        | 24.2      | 83.9      | 181       | 124       | 110       |
| Antimony                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Sb              | 0.001  | -                                     | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Arsenic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | As              | 0.001  | 0.5                                   | 0.002              | 0.001       | 0.011     | 0.116     | 0.49      | 0.649     | 0.596     |
| Cadmium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Cd              | 0.0001 | 0.01                                  | 0.0013             | 0.0023      | 0.01      | 0.0206    | 0.0412    | 0.0288    | 0.0195    |
| Chromium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cr              | 0.001  | 1                                     | 0.004              | 0.013       | 0.043     | 0.101     | 0.148     | 0.115     | 0.106     |
| Cobalt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Co              | 0.001  | 1                                     | 0.57               | 0.598       | 1.74      | 2.78      | 3.59      | 2.28      | 1.76      |
| Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cu              | 0.001  | 1                                     | 0.021              | 0.058       | 0.261     | 0.975     | 1.9       | 2.19      | 2.07      |
| Iron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Fe              | 0.05   | -                                     | 63.1               | 45.9        | 170       | 629       | 1860      | 1840      | 2000      |
| Lead                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Pb              | 0.001  | 0.1                                   | 0.005              | <0.001      | <0.001    | <0.001    | <0.001    | 0.002     | 0.002     |
| Manganese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mn              | 0.001  | -                                     | 2.47               | 3.19        | 9.88      | 18.2      | 23.7      | 17.5      | 14        |
| Molybdenum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mo              | 0.001  | 0.15                                  | <0.001             | <0.001      | <0.001    | <0.001    | 0.003     | 0.006     | 0.012     |
| Nickel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Ni              | 0.001  | 1                                     | 1.12               | 1.26        | 3.96      | 6.97      | 8.8       | 6.23      | 5.42      |
| Selenium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Se              | 0.01   | 0.02                                  | <0.01              | <0.01       | 0.01      | 0.05      | 0.06      | 0.06      | 0.03      |
| Zinc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Zn              | 0.005  | -                                     | 0.534              | 1.52        | 6.85      | 2.6       | 20.7      | 13.8      | 10.3      |
| Boron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | B               | 0.05   | 5                                     | <0.05              | 0.12        | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     |

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 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tn)<sup>3</sup> 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)<sup>4</sup> Cr (VI) = hexavalent.  
<sup>#</sup> for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
<sup>a</sup> calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
<sup>\*\*</sup> SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity, and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 11: Collinsville Spoil (Blake North) PAF-HR Siltstone |                          |        |                                       |           |             |           |           |           |           |         |
|-----------------------------------------------------------|--------------------------|--------|---------------------------------------|-----------|-------------|-----------|-----------|-----------|-----------|---------|
|                                                           |                          |        | Weight (kg)                           | 1.94      | Total S (%) | 5.30      | ANC       | 0.3       |           |         |
|                                                           |                          |        | pH (1:5)                              | 5.80      | Scr (%)     | 3.80      | NAPP      | 116.1     |           |         |
|                                                           |                          |        | EC (µS/cm)                            | 821       | MPA         | 116.38    | ANC:MPA   | 0.0       |           |         |
| Date                                                      |                          |        | 20-Jan-15                             | 19-Feb-15 | 19-Mar-15   | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 |         |
| Number of Weeks                                           |                          |        | 0                                     | 4         | 8           | 13        | 17        | 21        | 26        |         |
| Leach Number                                              |                          |        | 1                                     | 2         | 3           | 4         | 5         | 6         | 7         |         |
| ALS Laboratory Number                                     |                          |        | EB1511068                             | EB1513236 | EB1515127   | EB1517152 | EB1519177 | EB1521025 | EB1523622 |         |
| Volume On (L)                                             |                          |        | 1.0                                   | 1.0       | 1.0         | 1.0       | 1.0       | 1.0       | 1.0       |         |
| Volume Off (L)                                            |                          |        | 0.756                                 | 0.722     | 0.715       | 0.739     | 0.734     | 0.782     | 0.762     |         |
| Cum. Volume (L)                                           |                          |        | 0.8                                   | 1.478     | 2.193       | 2.932     | 3.666     | 4.448     | 5.210     |         |
| Pore Volumes                                              |                          |        | 0.560                                 | 1.095     | 1.624       | 2.172     | 2.716     | 3.295     | 3.859     |         |
| pH (ALS Measurement)                                      | Water Quality Guidelines |        | -                                     | 3.3       | 2.68        | 2.49      | 2.31      | 1.8       | 1.88      | 1.62    |
| EC (ALS Measurement) (µS/cm)                              |                          |        | 3,580 <sup>a</sup>                    | 2,212     | 3,450       | 7,420     | 11,490    | 14,170    | 12,620    | 22,470  |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>         |                          |        | -                                     | 584       | 327         | 6,370     | 10,500    | 13,200    | 11,900    | 26,200  |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>      |                          |        | -                                     | <1        | <1          | <1        | <1        | <1        | <1        | <1      |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>*</sup>  |                          |        | -                                     | -584      | -327        | -6,370    | -10,500   | -13,200   | -11,900   | -26,200 |
| Major Ions (mg/L)                                         | Elements                 | LoR    | Livestock Drinking Water <sup>2</sup> |           |             |           |           |           |           |         |
| Chloride                                                  | Cl                       | 1      | -                                     | 2         | <1          | <1        | <1        | <5        | <1        | <1      |
| Calcium                                                   | Ca                       | 1      | 1,000                                 | 212       | 63          | 79        | 122       | 193       | 139       | 131     |
| Magnesium                                                 | Mg                       | 1      | -                                     | 66        | 125         | 261       | 246       | 179       | 60        | 50      |
| Potassium                                                 | K                        | 1      | -                                     | 10        | <1          | <1        | <1        | <1        | <1        | <1      |
| Sodium                                                    | Na                       | 1      | -                                     | 60        | 6           | <1        | 4         | 8         | 5         | 7       |
| Fluoride                                                  | F                        | 0.1    | 2                                     | <0.1      | <0.1        | <0.1      | <0.1      | <0.1      | <0.1      | <0.1    |
| Sulfate                                                   | SO <sub>4</sub>          | 1      | 1,000                                 | 1,460     | 2,410       | 5,950     | 13,200    | 16,100    | 7,880     | 19,000  |
| Trace metals/ metalloids (mg/L)                           | Elements                 | LoR    | Livestock Drinking Water <sup>2</sup> |           |             |           |           |           |           |         |
| Aluminium                                                 | Al                       | 0.01   | 5                                     | 11.9      | 31.3        | 143       | 294       | 334       | 197       | 280     |
| Antimony                                                  | Sb                       | 0.001  | -                                     | <0.001    | <0.001      | <0.001    | <0.001    | <0.010    | <0.001    | <0.001  |
| Arsenic                                                   | As                       | 0.001  | 0.5                                   | 0.013     | 0.123       | 1.21      | 2.18      | 2.23      | 1.75      | 4.3     |
| Cadmium                                                   | Cd                       | 0.0001 | 0.01                                  | 0.0067    | 0.0353      | 0.151     | 0.197     | 0.256     | 0.127     | 0.111   |
| Chromium                                                  | Cr                       | 0.001  | 1                                     | 0.021     | 0.118       | 0.274     | 0.355     | 0.367     | 0.139     | 0.189   |
| Cobalt                                                    | Co                       | 0.001  | 1                                     | 1.21      | 2.02        | 7.26      | 6.3       | 5.45      | 1.97      | 2.12    |
| Copper                                                    | Cu                       | 0.001  | 1                                     | 0.056     | 0.341       | 0.69      | 2.13      | 4.08      | 3.32      | 6.36    |
| Iron                                                      | Fe                       | 0.05   | -                                     | 196       | 497         | 2850      | 3780      | 4730      | 3600      | 7220    |
| Lead                                                      | Pb                       | 0.001  | 0.1                                   | 0.017     | 0.003       | <0.001    | 0.004     | <0.010    | 0.009     | 0.06    |
| Manganese                                                 | Mn                       | 0.001  | -                                     | 2.26      | 7.98        | 26.6      | 28.9      | 28.5      | 13.6      | 21.6    |
| Molybdenum                                                | Mo                       | 0.001  | 0.15                                  | <0.001    | <0.001      | 0.002     | 0.005     | <0.010    | 0.007     | 0.052   |
| Nickel                                                    | Ni                       | 0.001  | 1                                     | 2.53      | 4.76        | 16.5      | 16.8      | 15.6      | 6.05      | 7.98    |
| Selenium                                                  | Se                       | 0.01   | 0.02                                  | <0.01     | 0.02        | 0.06      | 0.09      | <0.10     | 0.06      | 0.11    |
| Zinc                                                      | Zn                       | 0.005  | -                                     | 0.604     | 5.77        | 28.7      | 2.22      | 34.2      | 13.3      | 11.8    |
| Boron                                                     | B                        | 0.05   | 5                                     | <0.05     | 0.09        | <0.05     | <0.05     | <0.10     | <0.05     | <0.05   |

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 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L.  
 Shaded cells exceed applied guideline values. (tn)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
 ^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
 \*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity, and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 12 Collinsville Spoil (Blake North) AC Sandstone     |                 |        |                                       |                    |             |           |           |           |           |           |
|----------------------------------------------------------|-----------------|--------|---------------------------------------|--------------------|-------------|-----------|-----------|-----------|-----------|-----------|
|                                                          |                 |        | Weight (kg)                           | 1.85               | Total S (%) | 0.23      | ANC       | 56.0      |           |           |
|                                                          |                 |        | pH (1:5)                              | 8.00               | Scr (%)     | 0.16      | NAPP      | -50.98    |           |           |
|                                                          |                 |        | EC (µS/cm)                            | 433                | MPA         | 5.02      | ANC:MPA   | 11.15     |           |           |
| Date                                                     |                 |        |                                       | 20-Jan-15          | 19-Feb-15   | 19-Mar-15 | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 |
| Number of Weeks                                          |                 |        |                                       | 0                  | 4           | 8         | 13        | 17        | 21        | 26        |
| Leach Number                                             |                 |        |                                       | 1                  | 2           | 3         | 4         | 5         | 6         | 7         |
| ALS Laboratory Number                                    |                 |        |                                       | EB1511068          | EB1513236   | EB1515127 | EB1517152 | EB1519177 | EB1521025 | EB1523622 |
| Volume On (L)                                            |                 |        |                                       | 1.0                | 0.9         | 0.9       | 0.9       | 0.9       | 0.9       | 0.9       |
| Volume Off (L)                                           |                 |        |                                       | 0.697              | 0.580       | 0.649     | 0.644     | 0.673     | 0.681     | 0.653     |
| Cum. Volume (L)                                          |                 |        |                                       | 0.7                | 1.277       | 1.926     | 2.570     | 3.243     | 3.924     | 4.577     |
| Pore Volumes                                             |                 |        |                                       | 0.516              | 0.946       | 1.427     | 1.904     | 2.402     | 2.907     | 3.390     |
| pH (ALS Measurement)                                     |                 |        |                                       | -                  | 7.54        | 6.37      | 5.87      | 6.14      | 5.74      | 6.34      |
| EC (ALS Measurement) (µS/cm)                             |                 |        |                                       | 3,580 <sup>a</sup> | 1,227       | 984       | 729       | 686       | 697       | 805       |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup>        |                 |        |                                       | -                  | 8           | <1        | 4         | 12        | 4         | 1         |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup>     |                 |        |                                       | -                  | 32          | 11        | 8         | 9         | 4         | 4         |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup> |                 |        |                                       | -                  | 24          | 11        | 4         | -3        | 0         | -7        |
|                                                          |                 |        |                                       |                    |             |           |           |           |           |           |
| Major Ions (mg/L)                                        | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Chloride                                                 | Cl              | 1      | -                                     | 33                 | 18          | 8         | 6         | 5         | 4         | 2         |
| Calcium                                                  | Ca              | 1      | 1,000                                 | 94                 | 88          | 65        | 39        | 68        | 93        | 115       |
| Magnesium                                                | Mg              | 1      | -                                     | 35                 | 33          | 22        | 16        | 25        | 32        | 40        |
| Potassium                                                | K               | 1      | -                                     | 10                 | 8           | 4         | 3         | 4         | 4         | 5         |
| Sodium                                                   | Na              | 1      | -                                     | 115                | 69          | 37        | 18        | 27        | 25        | 19        |
| Fluoride                                                 | F               | 0.1    | 2                                     | 0.1                | 0.1         | <0.1      | <0.1      | <0.1      | 0.1       | <0.1      |
| Sulfate                                                  | SO <sub>4</sub> | 1      | 1,000                                 | 597                | 426         | 305       | 351       | 355       | 400       | 541       |
| Trace metals/ metalloids (mg/L)                          | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Aluminium                                                | Al              | 0.01   | 5                                     | 0.02               | <0.01       | <0.01     | 0.02      | <0.01     | 0.02      | 0.02      |
| Antimony                                                 | Sb              | 0.001  | -                                     | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Arsenic                                                  | As              | 0.001  | 0.5                                   | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Cadmium                                                  | Cd              | 0.0001 | 0.01                                  | <0.0001            | <0.0001     | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   |
| Chromium                                                 | Cr              | 0.001  | 1                                     | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Cobalt                                                   | Co              | 0.001  | 1                                     | 0.028              | 0.011       | 0.007     | 0.04      | 0.004     | 0.004     | 0.005     |
| Copper                                                   | Cu              | 0.001  | 1                                     | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | 0.001     |
| Iron                                                     | Fe              | 0.05   | -                                     | <0.05              | 0.1         | 0.13      | 0.37      | <0.05     | 0.17      | 0.61      |
| Lead                                                     | Pb              | 0.001  | 0.1                                   | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Manganese                                                | Mn              | 0.001  | -                                     | 0.288              | 0.21        | 0.132     | 0.078     | 0.104     | 0.11      | 0.148     |
| Molybdenum                                               | Mo              | 0.001  | 0.15                                  | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Nickel                                                   | Ni              | 0.001  | 1                                     | 0.072              | 0.028       | 0.019     | 0.013     | 0.011     | 0.01      | 0.015     |
| Selenium                                                 | Se              | 0.01   | 0.02                                  | <0.01              | <0.01       | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     |
| Zinc                                                     | Zn              | 0.005  | -                                     | <0.005             | <0.005      | 0.007     | 6.39      | <0.005    | 0.01      | 0.008     |
| Boron                                                    | B               | 0.05   | 5                                     | <0.05              | 0.12        | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     |

Notes: ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.

< indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tn)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.

# for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.

<sup>a</sup> calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.

\*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.

Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

**K:C 13: Collinsville Spoil (Blake North) - PAF-LR Sandstone 95% + Igneous Rock**

|                                              |                 |        | Weight (kg) | 21.07     | Total S (%) | 0.19                                  | ANC       | 11.1      |           |           |           |           |           |           |           |              |
|----------------------------------------------|-----------------|--------|-------------|-----------|-------------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
|                                              |                 |        | pH (1:5)    | 7.73      | Scr (%)     | 0.14                                  | NAPP      | -6.7      |           |           |           |           |           |           |           |              |
|                                              |                 |        | EC (µS/cm)  | 312       | MPA         | 4.42                                  | ANC:MPA   | 2.5       |           |           |           |           |           |           |           |              |
|                                              |                 |        |             |           |             |                                       |           |           |           |           |           |           |           |           |           |              |
| Date                                         |                 |        |             | 06-Feb-15 | 05-Mar-15   | 06-Apr-15                             | 05-May-15 | 02-Jun-15 | 07-Jul-15 | 06-Aug-15 | 19-Sep-15 | 20-Oct-15 | 17-Nov-15 | 15-Dec-15 | 19-Jan-16 | 16-Feb-16    |
| Number of Weeks                              |                 |        |             | 0         | 4           | 8                                     | 13        | 17        | 22        | 26        | 32        | 37        | 41        | 45        | 50        | 54           |
| Leach Number                                 |                 |        |             | 1         | 2           | 3                                     | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        | 13           |
| ALS Laboratory Number                        |                 |        |             | EB1512346 | EB1514187   | EB1516236                             | EB1518167 | EB1520114 | EB1522444 | EB1524949 | EB1530682 | EB1532131 | EB1534911 | EB1537828 | EB1600214 | EB1604063005 |
| Volume On (L)                                |                 |        |             | 3.1       | 2.1         | 2.1                                   | 2.1       | 2.1       | 2.1       | 2.1       | 2.1       | 2.1       | 2.1       | 2.1       | 2.1       | 2.1          |
| Volume Off (L)                               |                 |        |             | 1.290     | 1.919       | 1.495                                 | 1.702     | 1.702     | 1.728     | 1.722     | 1.443     | 1.829     | 1.675     | 1.665     | 1.539     | 1.603        |
| Cum. Volume (L)                              |                 |        |             | 1.3       | 3.209       | 4.704                                 | 6.406     | 8.108     | 9.836     | 11.558    | 13.001    | 14.830    | 16.505    | 18.170    | 19.709    | 21.312       |
| Pore Volumes                                 |                 |        |             | 0.956     | 2.377       | 3.484                                 | 4.745     | 6.006     | 7.286     | 8.561     | 9.630     | 10.985    | 12.226    | 13.459    | 14.599    | 15.787       |
| pH (ALS Measurement)                         |                 |        |             | 7.88      | 7.87        | 7.60                                  | 7.69      | 7.87      | 8.11      | 8.28      | 7.73      | 7.63      | 7.68      | 7.58      | 7.67      | 7.72         |
| EC (ALS Measurement) (µS/cm)                 |                 |        |             | 3,580*    | 2,352       | 3,160                                 | 2,350     | 2,513     | 2,198     | 1,874     | 1,698     | 2,080     | 1,460     | 1,263     | 1,218     | 1,162        |
| Acidity (mg/L as CaCO <sub>3</sub> )*        |                 |        |             | -         | 3           | 2                                     | 3         | 4         | 5         | 4         | 3         | 2         | 4         | 2         | 5         | 1            |
| Alkalinity (mg/L as CaCO <sub>3</sub> )*     |                 |        |             | -         | 84          | 73                                    | 40        | 45        | 53        | 47        | 52        | 65        | 58        | 48        | 54        | 38           |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> )* |                 |        |             | -         | 80          | 70                                    | 37        | 40        | 52        | 45        | 52        | 62        | 56        | 44        | 52        | 33           |
|                                              |                 |        |             | 40        |             |                                       |           |           |           |           |           |           |           |           |           |              |
|                                              |                 |        |             |           |             |                                       |           |           |           |           |           |           |           |           |           |              |
| Major Ions (mg/L)                            |                 |        |             | Elements  | LoR         | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |
| Chloride                                     | Cl              | 1      | -           | 76        | 98          | 39                                    | 30        | 24        | 14        | 9         | 8         | 4         | 3         | 4         | 2         | 3            |
| Calcium                                      | Ca              | 1      | 1,000       | 82        | 137         | 76                                    | 183       | 117       | 99        | 96        | 138       | 80        | 67        | 76        | 42        | 96           |
| Magnesium                                    | Mg              | 1      | -           | 30        | 48          | 25                                    | 35        | 34        | 33        | 29        | 46        | 25        | 21        | 26        | 15        | 36           |
| Potassium                                    | K               | 1      | -           | 14        | 13          | 8                                     | 10        | 10        | 8         | 9         | 12        | 6         | 142       | 8         | 5         | 10           |
| Sodium                                       | Na              | 1      | -           | 415       | 564         | 300                                   | 368       | 325       | 248       | 252       | 290       | 161       | 7         | 149       | 76        | 156          |
| Fluoride                                     | F               | 0.1    | 2           | 0.4       | 0.3         | 0.3                                   | 0.3       | 0.4       | 0.3       | 0.4       | 0.4       | 0.3       | 0.4       | 0.4       | 0.4       | 0.4          |
| Sulfate                                      | SO <sub>4</sub> | 1      | 1,000       | 927       | 1,590       | 923                                   | 1,170     | 1,150     | 929       | 845       | 1,100     | 611       | 527       | 585       | 525       | 617          |
| Trace metals/ metalloids (mg/L)              |                 |        |             | Elements  | LoR         | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |
| Aluminium                                    | Al              | 0.01   | 5           | <0.01     | <0.01       | <0.01                                 | 0.02      | <0.01     | 0.01      | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01        |
| Antimony                                     | Sb              | 0.001  | -           | 0.065     | 0.161       | 0.028                                 | 0.052     | 0.041     | 0.038     | 0.031     | 0.025     | 0.034     | 0.034     | 0.034     | 0.017     | 0.028        |
| Arsenic                                      | As              | 0.001  | 0.5         | 0.002     | <0.001      | <0.001                                | 0.002     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       |
| Cadmium                                      | Cd              | 0.0001 | 0.01        | <0.0001   | 0.0001      | <0.0001                               | 0.0002    | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.0002    | <0.0001   | <0.0001   | <0.0001   | <0.0001      |
| Chromium                                     | Cr              | 0.001  | 1           | <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       |
| Cobalt                                       | Co              | 0.001  | 1           | 0.009     | 0.016       | 0.007                                 | 0.012     | 0.003     | 0.002     | 0.001     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001       |
| Copper                                       | Cu              | 0.001  | 1           | <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       |
| Iron                                         | Fe              | 0.05   | -           | <0.05     | <0.05       | <0.05                                 | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05        |
| Lead                                         | Pb              | 0.001  | 0.1         | <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       |
| Manganese                                    | Mn              | 0.001  | -           | 0.25      | 0.394       | 0.203                                 | 0.136     | 0.02      | 0.016     | 0.009     | 0.009     | 0.003     | 0.006     | 0.004     | 0.004     | 0.005        |
| Molybdenum                                   | Mo              | 0.001  | 0.15        | 0.004     | 0.005       | 0.002                                 | 0.002     | 0.003     | 0.002     | 0.002     | 0.003     | 0.002     | 0.002     | 0.002     | <0.001    | 0.002        |
| Nickel                                       | Ni              | 0.001  | 1           | 0.024     | 0.037       | 0.014                                 | 0.022     | 0.018     | 0.014     | 0.013     | 0.016     | 0.008     | <0.001    | 0.006     | 0.002     | 0.006        |
| Selenium                                     | Se              | 0.01   | 0.02        | 0.01      | 0.03        | 0.02                                  | 0.01      | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01        |
| Zinc                                         | Zn              | 0.005  | -           | <0.005    | 0.029       | 0.025                                 | 0.034     | 0.051     | 0.039     | 0.038     | 0.044     | 0.067     | 0.019     | 0.023     | 0.01      | 0.021        |
| Boron                                        | B               | 0.05   | 5           | 0.14      | 0.26        | 0.12                                  | 0.15      | 0.14      | 0.09      | 0.11      | 0.09      | 0.09      | 0.14      | 0.17      | 0.08      | 0.14         |

Notes: ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments. Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.  
 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tri)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
 ^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
 \*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

**KLC 14: Collinsville Spoil (Blake North) PAF-LR Sandstone + 0.5% Lime Mix**

|                                              |  |  |             |                 |             |                                       |           |           |           |           |           |           |           |           |           |              |         |        |        |
|----------------------------------------------|--|--|-------------|-----------------|-------------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|---------|--------|--------|
|                                              |  |  | Weight (kg) | 20.10           | Total S (%) | 0.19                                  | ANC       | 6.8       |           |           |           |           |           |           |           |              |         |        |        |
|                                              |  |  | pH (1:5)    | 7.71            | Scr (%)     | 0.14                                  | NAPP      | -2.5      |           |           |           |           |           |           |           |              |         |        |        |
|                                              |  |  | EC (µS/cm)  | 315             | MPA         | 4.38                                  | ANC:MPA   | 1.6       |           |           |           |           |           |           |           |              |         |        |        |
|                                              |  |  |             |                 |             |                                       |           |           |           |           |           |           |           |           |           |              |         |        |        |
| Date                                         |  |  |             | 06-Feb-15       | 05-Mar-15   | 06-Apr-15                             | 05-May-15 | 02-Jun-15 | 07-Jul-15 | 06-Aug-15 | 19-Sep-15 | 20-Oct-15 | 17-Nov-15 | 15-Dec-15 | 19-Jan-16 | 16-Feb-16    |         |        |        |
| Number of Weeks                              |  |  |             | 0               | 4           | 8                                     | 13        | 17        | 22        | 26        | 32        | 37        | 41        | 45        | 50        | 54           |         |        |        |
| Leach Number                                 |  |  |             | 1               | 2           | 3                                     | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        | 13           |         |        |        |
| ALS Laboratory Number                        |  |  |             | EB1512346       | EB1514187   | EB1516236                             | EB1518167 | EB1520114 | EB1522444 | EB1524949 | EB1530682 | EB1532131 | EB1534911 | EB1537828 | EB1600214 | EB1604063006 |         |        |        |
| Volume On (L)                                |  |  |             | 3.0             | 2.0         | 2.0                                   | 2.0       | 2.0       | 2.0       | 2.0       | 2.0       | 2.0       | 2.2       | 2.2       | 2.2       | 2.2          |         |        |        |
| Volume Off (L)                               |  |  |             | 1.273           | 1.852       | 1.398                                 | 1.583     | 1.585     | 1.630     | 1.654     | 1.473     | 1.911     | 1.761     | 1.701     | 1.619     | 1.685        |         |        |        |
| Cum. Volume (L)                              |  |  |             | 1.3             | 3.125       | 4.523                                 | 6.106     | 7.691     | 9.321     | 10.975    | 12.448    | 14.359    | 16.120    | 17.821    | 19.440    | 21.125       |         |        |        |
| Pore Volumes                                 |  |  |             | 0.943           | 2.315       | 3.350                                 | 4.523     | 5.697     | 6.904     | 8.130     | 9.221     | 10.636    | 11.941    | 13.201    | 14.400    | 15.648       |         |        |        |
| Water Quality Guidelines                     |  |  |             | 7.91            | 7.93        | 7.71                                  | 7.75      | 7.88      | 8.22      | 8.25      | 7.80      | 7.88      | 7.82      | 7.94      | 7.94      | 8.10         |         |        |        |
| pH (ALS Measurement)                         |  |  |             | -               | -           | -                                     | -         | -         | -         | -         | -         | -         | -         | -         | -         | -            |         |        |        |
| EC (ALS Measurement) (µS/cm)                 |  |  |             | 3,580^          | 2,554       | 3,110                                 | 2,550     | 2,444     | 2,360     | 2,015     | 1,716     | 1,981     | 1,341     | 1,406     | 1,136     | 1,650        |         |        |        |
| Acidity (mg/L as CaCO <sub>3</sub> )*        |  |  |             | -               | 3           | 4                                     | 2         | 4         | 4         | 2         | <1        | 2         | 2         | 2         | 1         | 3            |         |        |        |
| Alkalinity (mg/L as CaCO <sub>3</sub> )*     |  |  |             | -               | 69          | 86                                    | 48        | 56        | 61        | 55        | 61        | 61        | 58        | 63        | 74        | 69           |         |        |        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> )* |  |  |             | -               | 66          | 82                                    | 46        | 52        | 57        | 53        | 61        | 59        | 56        | 61        | 73        | 66           |         |        |        |
|                                              |  |  |             |                 |             |                                       |           |           |           |           |           |           |           |           |           |              |         |        |        |
| Major Ions (mg/L)                            |  |  |             | Elements        | LoR         | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |         |        |        |
| Chloride                                     |  |  |             | Cl              | 1           | -                                     | 78        | 80        | 37        | 28        | 25        | 13        | 9         | 7         | 4         | 3            | 3       | 2      | 2      |
| Calcium                                      |  |  |             | Ca              | 1           | 1,000                                 | 89        | 146       | 115       | 139       | 143       | 116       | 108       | 132       | 80        | 84           | 108     | 130    | 131    |
| Magnesium                                    |  |  |             | Mg              | 1           | -                                     | 31        | 49        | 40        | 40        | 40        | 36        | 30        | 42        | 25        | 26           | 36      | 44     | 49     |
| Potassium                                    |  |  |             | K               | 1           | -                                     | 15        | 12        | 9         | 8         | 8         | 6         | 6         | 8         | 6         | 153          | 7       | 9      | 8      |
| Sodium                                       |  |  |             | Na              | 1           | -                                     | 453       | 530       | 408       | 384       | 351       | 255       | 250       | 255       | 161       | 6            | 179     | 178    | 165    |
| Fluoride                                     |  |  |             | F               | 0.1         | 2                                     | 0.5       | 0.3       | 0.3       | 0.3       | 0.4       | 0.4       | 0.4       | 0.4       | 0.3       | 0.4          | 0.4     | 0.5    | 0.4    |
| Sulfate                                      |  |  |             | SO <sub>4</sub> | 1           | 1,000                                 | 1,170     | 1,700     | 1,050     | 1,050     | 1,270     | 1,020     | 859       | 912       | 611       | 614          | 745     | 759    | 717    |
| Trace metals/ metalloids (mg/L)              |  |  |             | Elements        | LoR         | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |           |           |           |              |         |        |        |
| Aluminium                                    |  |  |             | Al              | 0.01        | 5                                     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01        | <0.01   | <0.01  | 0.08   |
| Antimony                                     |  |  |             | Sb              | 0.001       | -                                     | 0.044     | 0.172     | 0.114     | 0.072     | 0.039     | 0.046     | 0.034     | 0.076     | 0.034     | 0.034        | 0.034   | 0.031  | 0.026  |
| Arsenic                                      |  |  |             | As              | 0.001       | 0.5                                   | 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 |
| Cadmium                                      |  |  |             | Cd              | 0.0001      | 0.01                                  | <0.0001   | 0.0002    | 0.0002    | 0.0001    | 0.0001    | 0.0001    | <0.0001   | <0.0001   | 2         | 0.0002       | <0.0001 | 0.0009 | 0.001  |
| Chromium                                     |  |  |             | Cr              | 0.001       | 1                                     | <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 |
| Cobalt                                       |  |  |             | Co              | 0.001       | 1                                     | 0.008     | 0.018     | 0.012     | 0.008     | 0.005     | 0.002     | 0.001     | <0.001    | <0.001    | <0.001       | <0.001  | <0.001 | 0.004  |
| Copper                                       |  |  |             | Cu              | 0.001       | 1                                     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | 0.001        | <0.001  | <0.001 | 0.019  |
| Iron                                         |  |  |             | Fe              | 0.05        | -                                     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05        | <0.05   | <0.05  | <0.05  |
| Lead                                         |  |  |             | Pb              | 0.001       | 0.1                                   | <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 |
| Manganese                                    |  |  |             | Mn              | 0.001       | -                                     | 0.144     | 0.317     | 0.183     | 0.042     | 0.017     | 0.006     | 0.003     | 0.003     | 0.003     | 0.002        | 0.002   | 0.002  | 0.011  |
| Molybdenum                                   |  |  |             | Mo              | 0.001       | 0.15                                  | 0.005     | 0.006     | 0.003     | 0.002     | 0.003     | 0.002     | 0.002     | 0.003     | 0.002     | 0.002        | 0.002   | 0.002  | 0.002  |
| Nickel                                       |  |  |             | Ni              | 0.001       | 1                                     | 0.019     | 0.024     | 0.017     | 0.015     | 0.016     | 0.013     | 0.01      | 0.011     | 0.008     | <0.001       | 0.006   | 0.005  | 0.006  |
| Selenium                                     |  |  |             | Se              | 0.01        | 0.02                                  | 0.02      | 0.03      | 0.03      | 0.02      | 0.01      | <0.01     | <0.01     | <0.01     | <0.01     | <0.01        | <0.01   | 0.01   | 0.02   |
| Zinc                                         |  |  |             | Zn              | 0.005       | -                                     | <0.005    | 0.052     | 0.046     | 0.06      | 0.083     | 0.089     | 0.078     | 0.049     | 0.067     | 0.056        | 0.062   | 0.061  | 0.06   |
| Boron                                        |  |  |             | B               | 0.05        | 5                                     | 0.12      | 0.3       | 0.28      | 0.16      | 0.1       | 0.1       | 0.09      | 0.23      | 0.09      | 0.1          | 0.15    | 0.13   | 0.12   |

Notes: ANZG 2018, Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments. Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.  
 < indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L.  
 Shaded cells exceed applied guideline values. (tri)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.  
 # for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.  
 ^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.  
 \*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.  
 Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 15: Collinsville Spoil (Blake West) PAF-LR Sandstone |                 |        |                                       |                    |             |           |           |           |           |           |
|----------------------------------------------------------|-----------------|--------|---------------------------------------|--------------------|-------------|-----------|-----------|-----------|-----------|-----------|
|                                                          |                 |        | Weight (kg)                           | 2.30               | Total S (%) | 0.23      | ANC       | 6.3       |           |           |
|                                                          |                 |        | pH (1:5)                              | 5.60               | Scr (%)     | 0.18      | NAPP      | -0.9      |           |           |
|                                                          |                 |        | EC (µS/cm)                            | 528                | MPA         | 5.40      | ANC:MPA   | 1.2       |           |           |
| Date                                                     |                 |        |                                       | 20-Jan-15          | 19-Feb-15   | 19-Mar-15 | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 |
| Number of Weeks                                          |                 |        |                                       | 0                  | 4           | 8         | 13        | 17        | 21        | 26        |
| Leach Number                                             |                 |        |                                       | 1                  | 2           | 3         | 4         | 5         | 6         | 7         |
| ALS Laboratory Number                                    |                 |        |                                       | EB1511068          | EB1513236   | EB1515127 | EB1517152 | EB1519177 | EB1521025 | EB1523622 |
| Volume On (L)                                            |                 |        |                                       | 1.0                | 1.2         | 1.2       | 1.2       | 1.2       | 1.2       | 1.2       |
| Volume Off (L)                                           |                 |        |                                       | 0.660              | 0.880       | 0.840     | 0.819     | 0.825     | 0.841     | 8.160     |
| Cum. Volume (L)                                          |                 |        |                                       | 0.7                | 1.540       | 2.380     | 3.199     | 4.024     | 4.865     | 13.025    |
| Pore Volumes                                             |                 |        |                                       | 0.489              | 1.141       | 1.763     | 2.370     | 2.981     | 3.604     | 9.648     |
| pH (ALS Measurement)                                     |                 |        |                                       | -                  | 3.28        | 5.37      | 4.43      | 3.92      | 3.39      | 3.46      |
| EC (ALS Measurement) (µS/cm)                             |                 |        |                                       | 3,580 <sup>A</sup> | 1,064       | 851       | 1,067     | 1,260     | 1,765     | 1,828     |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>A</sup>        |                 |        |                                       | -                  | 25          | 46        | 13        | 433       | 82        | 18        |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>A</sup>     |                 |        |                                       | -                  | <1          | <1        | <1        | <1        | <1        | <1        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>A</sup> |                 |        |                                       | -                  | -25         | -46       | -13       | -433      | -82       | -18       |
|                                                          |                 |        |                                       | -49                |             |           |           |           |           |           |
|                                                          |                 |        |                                       |                    |             |           |           |           |           |           |
| Major Ions (mg/L)                                        | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Chloride                                                 | Cl              | 1      | -                                     | 16                 | 17          | 14        | 10        | 10        | 6         | 3         |
| Calcium                                                  | Ca              | 1      | 1,000                                 | 70                 | 51          | 68        | 77        | 132       | 140       | 110       |
| Magnesium                                                | Mg              | 1      | -                                     | 53                 | 47          | 60        | 85        | 138       | 140       | 113       |
| Potassium                                                | K               | 1      | -                                     | 10                 | 6           | 4         | 4         | 4         | 3         | 2         |
| Sodium                                                   | Na              | 1      | -                                     | 65                 | 52          | 51        | 39        | 50        | 39        | 25        |
| Fluoride                                                 | F               | 0.1    | 2                                     | <0.1               | <0.1        | <0.1      | <0.1      | <0.1      | 0.1       | 0.2       |
| Sulfate                                                  | SO <sub>4</sub> | 1      | 1,000                                 | 548                | 368         | 514       | 667       | 1,120     | 888       | 903       |
| Trace metals/ metalloids (mg/L)                          | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |                    |             |           |           |           |           |           |
| Aluminium                                                | Al              | 0.01   | 5                                     | 0.07               | 0.02        | 0.09      | 0.68      | 1.88      | 1.8       | 1.6       |
| Antimony                                                 | Sb              | 0.001  | -                                     | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Arsenic                                                  | As              | 0.001  | 0.5                                   | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Cadmium                                                  | Cd              | 0.0001 | 0.01                                  | 0.0008             | 0.0005      | 0.0015    | 0.0013    | 0.0026    | 0.003     | 0.0026    |
| Chromium                                                 | Cr              | 0.001  | 1                                     | <0.001             | <0.001      | <0.001    | <0.001    | 0.002     | <0.001    | 0.002     |
| Cobalt                                                   | Co              | 0.001  | 1                                     | 0.244              | 0.142       | 0.195     | 0.251     | 0.459     | 0.466     | 0.387     |
| Copper                                                   | Cu              | 0.001  | 1                                     | 0.011              | 0.004       | 0.006     | 0.023     | 0.033     | 0.025     | 0.02      |
| Iron                                                     | Fe              | 0.05   | -                                     | 6.71               | 0.78        | 1.08      | 6.97      | 7.86      | 1.66      | 2.18      |
| Lead                                                     | Pb              | 0.001  | 0.1                                   | <0.001             | <0.001      | <0.001    | 0.001     | 0.002     | 0.002     | 0.002     |
| Manganese                                                | Mn              | 0.001  | -                                     | 0.781              | 1.18        | 2.16      | 3.29      | 6.04      | 6.43      | 5.78      |
| Molybdenum                                               | Mo              | 0.001  | 0.15                                  | <0.001             | <0.001      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Nickel                                                   | Ni              | 0.001  | 1                                     | 0.385              | 0.206       | 0.286     | 0.427     | 0.688     | 0.668     | 0.594     |
| Selenium                                                 | Se              | 0.01   | 0.02                                  | <0.01              | <0.01       | 0.01      | 0.01      | 0.02      | 0.01      | <0.01     |
| Zinc                                                     | Zn              | 0.005  | -                                     | 0.408              | 0.205       | 0.329     | 3.93      | 1.49      | 1.6       | 1.42      |
| Boron                                                    | B               | 0.05   | 5                                     | <0.05              | 0.15        | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     |

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< indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tn)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.

# for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.

^ calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.

\*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.

Total S = Total Sulfur; Scr = Chromium Reducing Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity. and NAPP = Net Acid Producing Potential.

Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project

| KLC 16: Collinsville Spoil (Blake West) PAF-MR Sandstone |                 |        |                                       |             |           |           |           |           |           |        |
|----------------------------------------------------------|-----------------|--------|---------------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|--------|
|                                                          | Weight (kg)     |        | 2.10                                  | Total S (%) |           | 1.26      | ANC       |           | 1.2       |        |
|                                                          | pH (1:5)        |        | 4.87                                  | Scr (%)     |           | 0.82      | NAPP      |           | 23.9      |        |
|                                                          | EC (µS/cm)      |        | 1,069                                 | MPA         |           | 25.09     | ANC:MPA   |           | 0.05      |        |
| Date                                                     |                 |        | 20-Jan-15                             | 19-Feb-15   | 19-Mar-15 | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 |        |
| Number of Weeks                                          |                 |        | 0                                     | 4           | 8         | 13        | 17        | 21        | 26        |        |
| Leach Number                                             |                 |        | 1                                     | 2           | 3         | 4         | 5         | 6         | 7         |        |
| ALS Laboratory Number                                    |                 |        | EB1511068                             | EB1513236   | EB1515127 | EB1517152 | EB1519177 | EB1521025 | EB1523622 |        |
| Volume On (L)                                            |                 |        | 1.0                                   | 1.1         | 1.1       | 1.1       | 1.1       | 1.1       | 1.1       |        |
| Volume Off (L)                                           |                 |        | 0.775                                 | 0.859       | 0.791     | 0.793     | 0.799     | 0.827     | 0.790     |        |
| Cum. Volume (L)                                          |                 |        | 0.8                                   | 1.634       | 2.425     | 3.218     | 4.017     | 4.844     | 5.634     |        |
| Pore Volumes                                             |                 |        | 0.574                                 | 1.210       | 1.796     | 2.384     | 2.976     | 3.588     | 4.173     |        |
| pH (ALS Measurement)                                     |                 |        | -                                     | 4.97        | 2.86      | 2.50      | 2.17      | 1.74      | 1.91      |        |
| EC (ALS Measurement) (µS/cm)                             |                 |        | 3,580 <sup>a</sup>                    | 2,190       | 2,900     | 5,260     | 1,040     | 11,201    | 10,300    |        |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup>        |                 |        | -                                     | 528         | 707       | 2,490     | 9,350     | 12,600    | 9,590     |        |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup>     |                 |        | -                                     | <1          | <1        | <1        | <1        | <1        | <1        |        |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup> |                 |        | -                                     | -528        | -707      | -2,490    | -9,350    | -12,600   | -9,590    |        |
|                                                          |                 |        | -7,640                                |             |           |           |           |           |           |        |
|                                                          |                 |        |                                       |             |           |           |           |           |           |        |
| Major Ions (mg/L)                                        | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |             |           |           |           |           |           |        |
| Chloride                                                 | Cl              | 1      | -                                     | 3           | 2         | 1         | <1        | <10       | <1        | <1     |
| Calcium                                                  | Ca              | 1      | 1,000                                 | 128         | 70        | 88        | 124       | 182       | 136       | 108    |
| Magnesium                                                | Mg              | 1      | -                                     | 136         | 247       | 369       | 464       | 372       | 162       | 96     |
| Potassium                                                | K               | 1      | -                                     | 6           | <1        | <1        | <1        | <1        | <1        | <1     |
| Sodium                                                   | Na              | 1      | -                                     | 57          | 14        | 2         | <1        | <1        | <1        | <1     |
| Fluoride                                                 | F               | 0.1    | 2                                     | <0.1        | <0.1      | <0.1      | <0.1      | <0.1      | <0.1      | <0.1   |
| Sulfate                                                  | SO <sub>4</sub> | 1      | 1,000                                 | 1,380       | 1,860     | 3,880     | 9,030     | 8,740     | 5,660     | 6,660  |
| Trace metals/ metalloids (mg/L)                          | Elements        | LoR    | Livestock Drinking Water <sup>2</sup> |             |           |           |           |           |           |        |
| Aluminium                                                | Al              | 0.01   | 5                                     | 9.79        | 23.8      | 86.8      | 252       | 256       | 151       | 102    |
| Antimony                                                 | Sb              | 0.001  | -                                     | <0.001      | <0.001    | <0.001    | <0.001    | <0.010    | <0.001    | <0.001 |
| Arsenic                                                  | As              | 0.001  | 0.5                                   | 0.013       | 0.007     | 0.022     | 0.977     | 1.09      | 0.423     | 0.285  |
| Cadmium                                                  | Cd              | 0.0001 | 0.01                                  | 0.0044      | 0.0118    | 0.0298    | 0.0502    | 0.0567    | 0.0312    | 0.0184 |
| Chromium                                                 | Cr              | 0.001  | 1                                     | 0.019       | 0.066     | 0.178     | 0.334     | 0.277     | 0.115     | 0.078  |
| Cobalt                                                   | Co              | 0.001  | 1                                     | 1.08        | 2.13      | 4.47      | 5.17      | 4.97      | 2.2       | 1.37   |
| Copper                                                   | Cu              | 0.001  | 1                                     | 0.132       | 0.345     | 1.16      | 4.35      | 5.33      | 3.19      | 2.28   |
| Iron                                                     | Fe              | 0.05   | -                                     | 123         | 186       | 547       | 2420      | 3420      | 2360      | 1730   |
| Lead                                                     | Pb              | 0.001  | 0.1                                   | 0.01        | 0.001     | 0.002     | 0.001     | <0.010    | <0.001    | <0.001 |
| Manganese                                                | Mn              | 0.001  | -                                     | 1.8         | 5.05      | 13.6      | 22.4      | 21.5      | 10.9      | 7.44   |
| Molybdenum                                               | Mo              | 0.001  | 0.15                                  | <0.001      | <0.001    | <0.001    | 0.032     | 0.038     | 0.024     | 0.025  |
| Nickel                                                   | Ni              | 0.001  | 1                                     | 1.97        | 4.04      | 9.01      | 12.5      | 12.2      | 5.65      | 4.03   |
| Selenium                                                 | Se              | 0.01   | 0.02                                  | <0.01       | 0.01      | 0.02      | 0.06      | <0.10     | 0.04      | 0.02   |
| Zinc                                                     | Zn              | 0.005  | -                                     | 0.584       | 4.99      | 15.3      | 2.04      | 25.4      | 12.2      | 7.34   |
| Boron                                                    | B               | 0.05   | 5                                     | <0.05       | 0.14      | <0.05     | <0.05     | <0.10     | <0.05     | <0.05  |

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< indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tn)\* 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)\* Cr (VI) = hexavalent.

# for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.

<sup>a</sup> calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.

\*\* SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.

Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity, and NAPP = Net Acid Producing Potential.

**Table B3: Multi-Element Test Results for Kinetic Leach Columns of Samples from the Collinsville Project**

| KLC 17: Collinsville Spoil (Blake West) PAF-HR Sandstone |                 |          |       |                                       |           |           |           |           |           |           |         |  |
|----------------------------------------------------------|-----------------|----------|-------|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|---------|--|
|                                                          | Weight (kg)     |          | 0.00  | Total S (%)                           |           | 0.00      | ANC       |           | 0.0       |           |         |  |
|                                                          | pH (1:5)        |          | 0.00  | Scr (%)                               |           | 0.00      | NAPP      |           | 0.0       |           |         |  |
|                                                          | EC (µS/cm)      |          | 0     | MPA                                   |           | 0.00      | ANC:MPA   |           | #DIV/0!   |           |         |  |
| Date                                                     |                 |          |       | 20-Jan-15                             | 19-Feb-15 | 19-Mar-15 | 21-Apr-15 | 19-May-15 | 18-Jun-15 | 21-Jul-15 |         |  |
| Number of Weeks                                          |                 |          |       | 0                                     | 4         | 8         | 13        | 17        | 21        | 26        |         |  |
| Leach Number                                             |                 |          |       | 1                                     | 2         | 3         | 4         | 5         | 6         | 7         |         |  |
| ALS Laboratory Number                                    |                 |          |       | EB1511068                             | EB1513236 | EB1515127 | EB1517152 | EB1519177 | EB1521025 | EB1523622 |         |  |
| Volume On (L)                                            |                 |          |       | 1.0                                   | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       | 1.0       |         |  |
| Volume Off (L)                                           |                 |          |       | 0.757                                 | 0.741     | 0.736     | 0.731     | 0.776     | 0.826     | 0.798     |         |  |
| Cum. Volume (L)                                          |                 |          |       | 0.8                                   | 1.498     | 2.234     | 2.965     | 3.741     | 4.567     | 5.365     |         |  |
| Pore Volumes                                             |                 |          |       | 0.561                                 | 1.110     | 1.655     | 2.196     | 2.771     | 3.383     | 3.974     |         |  |
| pH (ALS Measurement)                                     |                 |          |       | -                                     | 3.36      | 3.02      | 2.55      | 2.31      | 1.79      | 1.88      | 1.78    |  |
| EC (ALS Measurement) (µS/cm)                             |                 |          |       | 3,580 <sup>a</sup>                    | 2,303     | 2,248     | 4,880     | 10,340    | 12,600    | 12,930    | 17,150  |  |
| Acidity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup>        |                 |          |       | -                                     | 440       | 465       | 2,190     | 9,750     | 17,400    | 19,100    | 32,800  |  |
| Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup>     |                 |          |       | -                                     | <1        | <1        | <1        | <1        | <1        | <1        | <1      |  |
| Net Alkalinity (mg/L as CaCO <sub>3</sub> ) <sup>a</sup> |                 |          |       | -                                     | -440      | -465      | -2,190    | -9,750    | -17,400   | -19,100   | -32,800 |  |
|                                                          |                 |          |       |                                       |           |           |           |           |           |           |         |  |
| Major Ions (mg/L)                                        |                 | Elements | LoR   | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |         |  |
| Chloride                                                 | Cl              | 1        | -     | 2                                     | 1         | <1        | <1        | <10       | <10       | <1        |         |  |
| Calcium                                                  | Ca              | 1        | 1,000 | 80                                    | 35        | 72        | 104       | 92        | 113       | 119       |         |  |
| Magnesium                                                | Mg              | 1        | -     | 76                                    | 109       | 273       | 521       | 400       | 210       | 165       |         |  |
| Potassium                                                | K               | 1        | -     | 7                                     | <1        | <1        | <1        | <1        | <1        | <1        |         |  |
| Sodium                                                   | Na              | 1        | -     | 203                                   | 104       | 51        | 18        | 7         | 2         | 4         |         |  |
| Fluoride                                                 | F               | 0.1      | 2     | <0.1                                  | <0.1      | <0.1      | <0.1      | <0.1      | <0.1      | <0.1      |         |  |
| Sulfate                                                  | SO <sub>4</sub> | 1        | 1,000 | 1,340                                 | 1,070     | 3,320     | 6,230     | 17,200    | 7,450     | 10,700    |         |  |
| Trace metals/ metalloids (mg/L)                          |                 | Elements | LoR   | Livestock Drinking Water <sup>2</sup> |           |           |           |           |           |           |         |  |
| Aluminium                                                | Al              | 0.01     | 5     | 7.49                                  | 8.01      | 47.3      | 189       | 231       | 191       | 188       |         |  |
| Antimony                                                 | Sb              | 0.001    | -     | <0.001                                | <0.001    | <0.001    | <0.001    | <0.010    | <0.001    | <0.001    |         |  |
| Arsenic                                                  | As              | 0.001    | 0.5   | 0.006                                 | 0.003     | 0.014     | 0.597     | 1.66      | 1.57      | 1.43      |         |  |
| Cadmium                                                  | Cd              | 0.0001   | 0.01  | 0.0021                                | 0.004     | 0.0195    | 0.04      | 0.0483    | 0.0352    | 0.03      |         |  |
| Chromium                                                 | Cr              | 0.001    | 1     | 0.018                                 | 0.031     | 0.1       | 0.249     | 0.253     | 0.178     | 0.187     |         |  |
| Cobalt                                                   | Co              | 0.001    | 1     | 0.525                                 | 0.732     | 2.12      | 3.84      | 3.76      | 2.15      | 2.06      |         |  |
| Copper                                                   | Cu              | 0.001    | 1     | 0.035                                 | 0.069     | 0.192     | 0.753     | 1.68      | 1.92      | 2.28      |         |  |
| Iron                                                     | Fe              | 0.05     | -     | 162                                   | 163       | 637       | 3150      | 6990      | 6760      | 9240      |         |  |
| Lead                                                     | Pb              | 0.001    | 0.1   | 0.008                                 | <0.001    | <0.001    | <0.001    | <0.010    | 0.003     | 0.003     |         |  |
| Manganese                                                | Mn              | 0.001    | -     | 1.51                                  | 3.44      | 14.1      | 29.8      | 29.8      | 19.8      | 19.1      |         |  |
| Molybdenum                                               | Mo              | 0.001    | 0.15  | <0.001                                | <0.001    | <0.001    | 0.006     | 0.064     | 0.07      | 0.094     |         |  |
| Nickel                                                   | Ni              | 0.001    | 1     | 1.66                                  | 2.44      | 7.51      | 14        | 13.5      | 7.64      | 7.63      |         |  |
| Selenium                                                 | Se              | 0.01     | 0.02  | 0.02                                  | 0.01      | 0.03      | 0.1       | 0.15      | 0.14      | 0.12      |         |  |
| Zinc                                                     | Zn              | 0.005    | -     | 0.306                                 | 1.5       | 7.63      | 2.22      | 18.3      | 10.4      | 8.06      |         |  |
| Boron                                                    | B               | 0.05     | 5     | <0.05                                 | 0.12      | <0.05     | <0.05     | <0.10     | <0.05     | <0.05     |         |  |

Notes: ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at [www.waterquality.gov.au/anz-guidelines](http://www.waterquality.gov.au/anz-guidelines) 1. Trigger values for aquatic ecosystems (95% species protection level). 2. Recommended guideline limits for Livestock Drinking Water.

< indicates less than the analytical detection limit. \* Acidity and alkalinity data calculated in mg CaCO<sub>3</sub>/L. Shaded cells exceed applied guideline values. (tn)<sup>3</sup> 0.024 g/L for trivalent Arsenic (III) and 0.013 g/L for pentavalent Arsenic (V). (hex)<sup>3</sup> Cr (VI) = hexavalent.

# for still water bodies only, moving rivers at low flow rates should not exceed 2,200µS/cm.

<sup>a</sup> calculated based on total dissolved solids (TDS) conversion rate of 0.67% of EC. TDS is an approximate measure of inorganic dissolved salts and should not exceed 2,400mg/L for livestock drinking water.

<sup>\*\*</sup> SO<sub>4</sub>, Ca and Mg release rates calculated in mg/kg/flush. Residual ANC assumes that all leached Mg and Ca is due to dissolution of calcite or dolomite.

Total S = Total Sulfur; Scr = Chromium Reducible Sulfur; and ANC = Acid Neutralising Capacity. MPA = Maximum Potential Acidity, and NAPP = Net Acid Producing Potential.

# RGS



MINE WASTE AND  
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