APPENDIX V

Seismic Hazard Assessment

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1. SEISMICITY AND SEISMIC HAZARD ASSESSMENT

1.1 Seismo-Tectonic Setting

The Morrison tailings facility is located in a zone of relatively low seismicity that includes the northern British Columbia Cordillera and extends into Yukon Territory.

The following descriptions of the modern plate tectonic regime of the western margin of Cordillera are extracted from Gabrielse and Yorath (1992). The western margin of the Cordillera and adjacent offshore areas exhibit pronounced tectonic activity through a variety of plate tectonic interactions, including ocean-ridge spreading, transform faulting and subduction. The Pacific-North America plate interaction, which extends along the continental margin northwards from Queen Charlotte Sound is predominantly right-lateral transform faulting at a rate of 50 to 60 mm/year. Intraplate activity within the British Columbia interior of the North America Plate is limited to deformation rates of at least an order of magnitude less than that at the plate boundaries. The north-south Stikine volcanic belt in northern British Columbia may indicate some form of extensional faulting or rifting associated with Pacific-North America plates relative movement.

Edwards and Russel (1999, 2000) rationalized the character and onset of Neogene-Quaternary volcanism in the Northern Cordilleran volcanic province of British Columbia. They attributed the volcanism from 20 Ma to present to incipient rifting of the continental margin of northwestern North America. The majority of magmatism falls in two distinct pulses: 8 to 4 Ma, and 2 to 0 Ma. The earlier pulse had a relatively higher rate of magma production and correlated with a period of net extension along the Pacific-North American plate margin. The later pulse resulted from local domains of extension during a period of net compression between the Pacific and North American plates.

Rogers et al. (1990) listed eight moderate to large thrust earthquakes with magnitudes ranging from 4.8 to 6.9 over the period 1918 to 1988, which occurred in the Foreland Fold and Thrust Belt between 52.3^{o} to 63.6^{o} Latitude. They raised the possibility that this normally low seismic region east of the project site may represent a significant seismic hazard along the entire length of the belt.

1.2 Regional Setting

Figure 1.1 shows generalized terranes in British Columbia, and the location of section M-M. Cross-section M-M (Figure 1.2) is a structural section through the Coastal and Intermontane belts. Figure 1.3 shows the faults and specific geological terranes near the Morrison project site. Regional, mainly northwest-striking faults are conspicuous elements in the geology of north-central British Columbia. They are generally marked by prominent linaments, across which lithology, stratigraphic sequence, grade of metamorphism, and structural style change abruptly.

The following descriptions of the structural styles in the general area are extracted from Gabrielse and Yorath (1992). The oldest principal structural feature in the central Intermontane Belt is the Skeena Arch, a paleogeographic arch trending approximately northeast from Terrace (Figure 1.3). The development of the arch in Late Jurassic time involved only uplift (possibly by block faulting) and was not accompanied by significant folding or plutonism (Tipper and Richards, 1976). Nonetheless, the Skeena Arch seems to have had an influence, albeit subtle and poorly understood, on later deformation in the western Intermontane Belt. The best record of widespread tectonism in the area is recorded in the deposition of mid-Oxfordian, basal conglomerate of the Bowser Lake Group. It was shed northwesterly off the arch into the Bowser Basin.

Most of the deformation in the western Intermontane Belt is Late Cretaceous and Tertiary in age. Structural style varies among the various stratigraphic units; in particular, folding is most intense in the Upper Jurassic and Lower Cretaceous sediments of the Bowser Lake and Skeena groups. Folds are variable: most are concentric to chevron in style, vary form open to closed, and most verge northeastwards. The massive, underlying volcanic rocks of the Hazelton Group form broad, open warps. In many places, the contact between the Hazelton and Bowser Lake groups is a decollement surface.

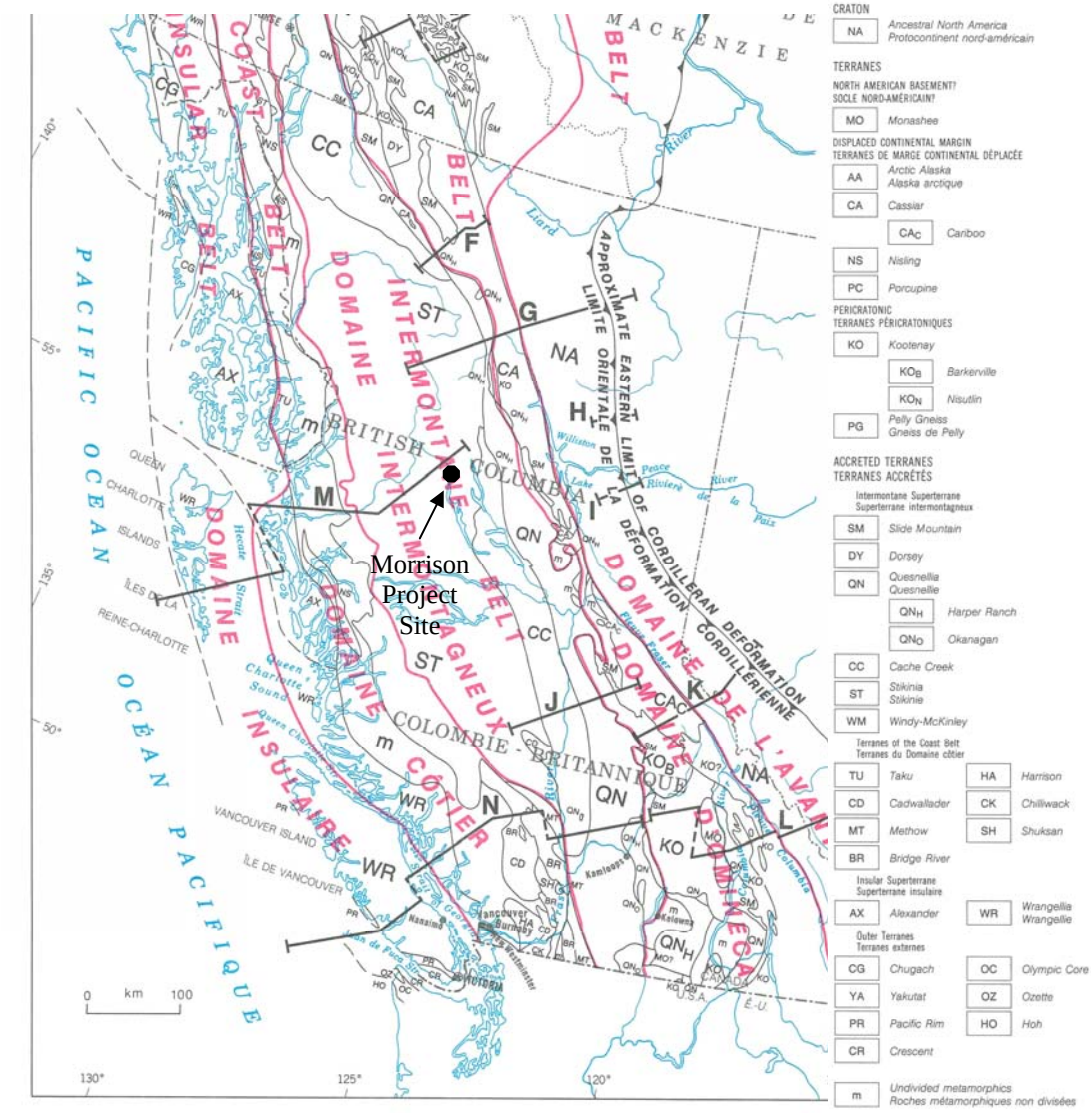
Ductile shear is locally important in the western Intermontane Belt, especially along the axis of Skeena Arch (Figure 1.3). Northeast of Terrace, along the Skeena River, rocks tentatively correlated with the Lower Jurassic Telkwa Formation have gently to moderately dipping foliations and stretching lineations that generally plunge gently east-northeast, or west-southwest. These lineations can be traced southwestward into the high grade rocks of the Coast Belt and show that ductile deformation in the western Intermontane Belt is related to that in the Coast Belt. Deformed chert-pebble conglomerate of the Lower Cretaceous Skeena Group indicates that thrust faults and ductile deformation structures are Late Cretaceous or younger in age, a conclusion consistent with the age of deformation estimated from radiometric ages from high grade rocks of the Coast Belt. Minor structures in both belts indicate that Late Cretaceous compression was accompanied by a component of right-lateral motion, not only between the two belts but within them.

Following the compressive events of in the central Intermontane Belt, the region was disrupted by steep, brittle, high-angle faults which produces the conspicuous mosaic of polygonal mountain blocks and broad, linear valleys. Most of these faults appear to be normal fault zones whose traces approximately follow the change in slope between valley floor and hillside. Movement on many is difficult to document as they are commonly not exposed, but in most cases it is probably small (few metres to hundreds of metres).

However, up to 2 km of normal displacement is evident on faults in the Skeen Arch. The uplifted areas resulting from block faulting commonly are cored by Upper Cretaceous to Paleocene intrusions whereas adjacent depressions are generally underlain by younger strata.

Block faulting may have begun as early as the Jurassic, but reached its peak in the Eocene and continued into the Oligocene. Miocene plateau basalts are unfaulted. The regular, orthogonal pattern of block faults the Hazelton (Figure 1.3; Richards, 1980) suggests an extensional regime resulting from domal uplift whereas the rhomboid pattern near Tahtsa Lake indicates a component of transcurrent stress (Woodsworth, 1980).

Due to poor exposure structural styles in the eastern part of the central Intermontane Belt are less well understood than those to the west. Block faulting appears to be important as far east as the Takla and Tidal faults. The Takla Fault is a dextral strike-sip fault with an offset of more than 100 km (Gabrielse, 1985) separating Stikinia from the Cache Creek Terrane.



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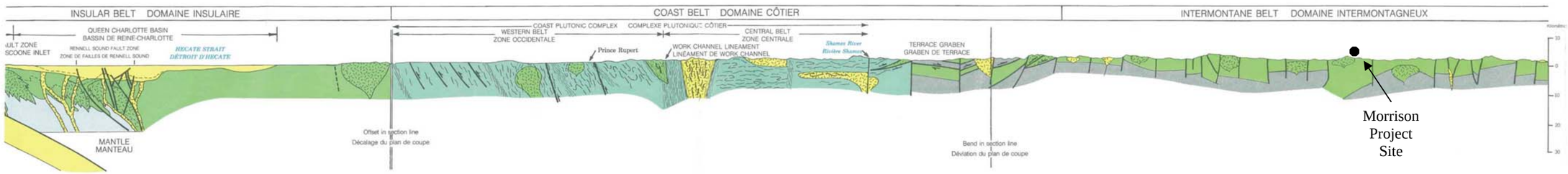


LEGEND

TIME STRATIGRAPHIC UNITS

- Cenozoic
- Mesozoic
- Mesozoic-Paleozoic
- Paleozoic
- Upper Paleozoic (Devonian, Carboniferous, Permian)
- Lower Paleozoic (Cambrian, Ordovician, Silurian)
- Upper Proterozoic
- Middle Proterozoic
- Lower Proterozoic

- *Geological contact (defined, approximate)*
- *Form line*
- *Facies boundary*
- *Unconformity on basement*
- *Erosion surface on restored section*
- *Fault (defined, approximate)(arrows indicate relative movement)*
- *Normal fault (Cenozoic, Cretaceous)*
- *Thrust fault (Cenozoic, Cretaceous)*
- *Thrust fault (Jura-Cretaceous, Jurassic and older)*
- *Transcurrent fault (dextral)*
- *Broad, ductile shear*
- *Ductile fabric*
- *Gabbro dyke*
- *Plutonic rock*
- *Metamorphic isograd (garnet, staurolite, sillimanite)*
- *Well location*

Figure 1.2 Structural Cross Section M-M through the Morrison project area. Location in plan is shown in Figure 1.1. Geology section and legend were extracted from Figure 17.1, Gabrielse and Yorath, 1992, Structural cross-sections of the Canadian Cordillera, Geology of Canada, No.4.

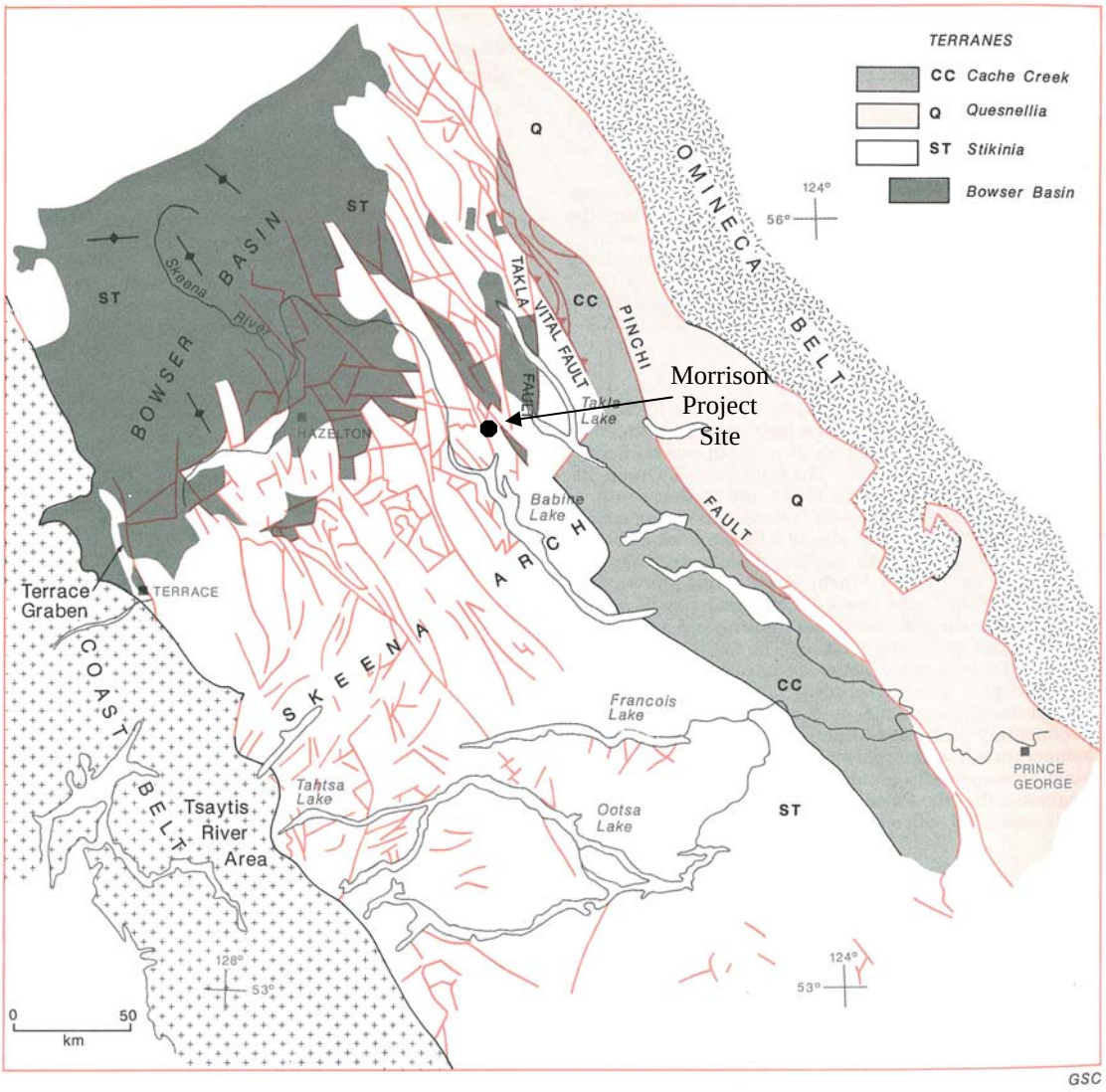


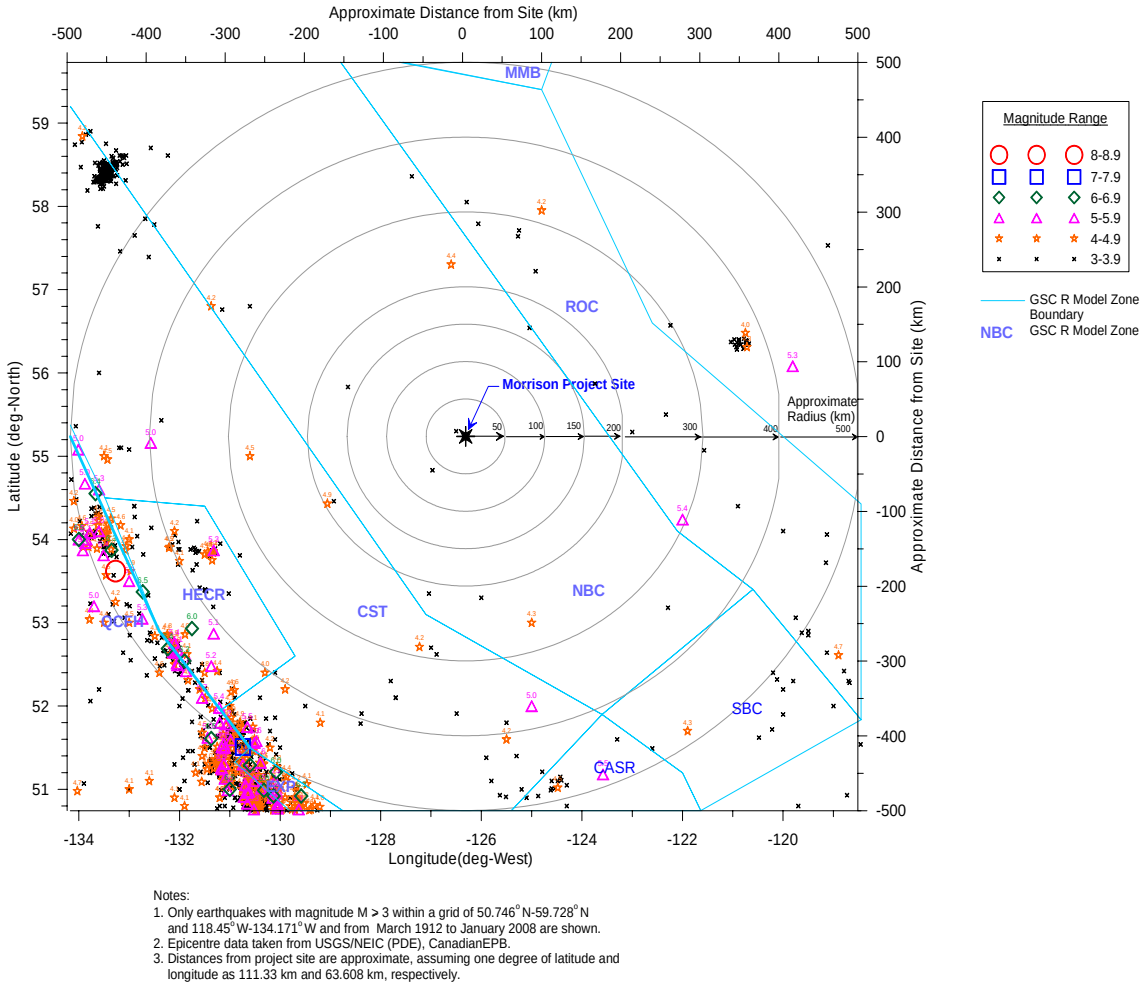
Figure 1.3 Faults along and near the Skeena Arch and structural trends in the southern Bowser Basin. Figure extracted from Figure 17.22, p. 596 of Gabrielse and Yorath (1992).

2. HISTORICAL SEISMICITY

Information on earthquakes that occurred within about 500 km from the project site was extracted from the following seismicity catalogs available at USGS National Earthquake Information Center (USGS/NEIC).

- EPB - Canadian Database (From 1568 to 1992). EPB is a catalog of earthquake compiled by the Earth Physics Branch (EPB) of Canada, now the Geological Survey of Canada (GSC). Also includes U.S. earthquakes occurring near the Canadian border.
- PDE - USGS/NEIC Database (From 1973 to Present). PDE is a catalog of earthquakes located by the USGS/NEIC and its predecessors in the U.S. Coast and Geodetic Survey, the National Oceanic Survey, and the Environmental Research Laboratories of the Department of Commerce.

Data from the above catalogs were compiled and duplicated listings were removed. Figure 2.1 shows the epicenters of earthquakes with magnitude 3 or greater around the project site. The GSC R-model boundaries are also shown in Figure 2.1. The earthquake with magnitude 3 or greater that occurred within about 200 km from the project site is listed in Table 2.1. As can be seen from the Figure 2.1, there have been not much seismic activity around the project site within the last century and there have been no earthquake with magnitude greater than five within 200 km. Table 2.1 shows that one earthquake with magnitude M4.9 and six earthquakes with magnitude M3 and M3.9 occurred within 200 km from the project site. The epicenters of the large earthquakes with magnitude M>6, which appeared to have been associated with the Queen Charlotte Fault, occurred more than 400 km from the project site.



Notes:
1. Only earthquakes with magnitude M > 3 within a grid of 50.746° N-59.728° N and 118.45° W-134.171° W and from March 1912 to January 2008 are shown.
2. Epicentre data taken from USGS/NEIC (PDE), CanadianEPB.
3. Distances from project site are approximate, assuming one degree of latitude and longitude as 111.33 km and 63.608 km, respectively.

Figure 2.1 Location of Earthquake Epicenters with GSC-R Model Boundaries

Table 2.1 Epicenters of Earthquakes with Magnitude Greater than 3 Within 200 km from the Project Site

Year	Month	Day	Hour	Min	Sec	Latitude	Longitude	Depth (km)	Magnitude	Epicentral Distance (km)
1973	11	5	12	36	17	54.43	-129.06	10	4.9	197
1937	11	6	15	57	12	54.46	-128.93	10	3.7	188
1967	9	15	6	5	4	55.30	-126.50		3.3	14
1977	9	29	22	19	23	54.83	-126.97	18	3.3	62
1986	12	3	6	58	31.2	55.87	-123.74	18	3.2	178
2008	1	18	0	36	9	55.83	-128.65	1	3.2	163
1977	7	25	11	7	57	56.54	-125.04	18	3.1	166

3. SEISMIC HAZARD ASSESSMENT

Probabilistic and deterministic seismic hazard analyses were conducted to derive the Maximum Design Earthquake (MDE) parameters for the project site located at 55.24°N and 126.3°W.

3.1 Probabilistic Seismic Hazard Assessment

3.1.1 Methodology

The quantification of the probabilistic seismic hazard at the site is estimated using the well-known Cornell-McGuire approach, which is the basis for the seismic provisions of building codes in North America and elsewhere. The steps in a probabilistic seismic hazard assessment (PSHA) as shown in Figure 3.1, consist of defining seismic sources, either areal and linear faults; definition of the earthquake frequency within each source zone; definition of the attenuation of ground shaking relationship for earthquakes in the area, and, finally, numerical summation of the contributions of all earthquake magnitudes at all distances from the site from each source. The computer program EZ-FRISK was used to perform the calculations in the last step.

3.1.2 Uncertainties and Treatment of Uncertainty

Two types of uncertainties associated with the seismic hazard were considered in the analyses, namely the aleatory uncertainty and the epistemic uncertainty. The aleatory uncertainty or the random uncertainty is due to the physical variability of the earthquake processes such as the randomness of the location of the earthquakes and the scatter in the earthquake ground motions. This uncertainty is readily incorporated within the Cornell-McGuire analysis frame work by integrating over the statistical distribution in the ground motion relations and by considering the randomness in earthquake location.

The epistemic uncertainty or the professional uncertainty is due to incomplete understanding the physical models governing the earthquake occurrence and ground motion generation i.e. selection and characterization of sources zones, ground motion relations etc. The epistemic uncertainty is normally considered using a logic tree approach.

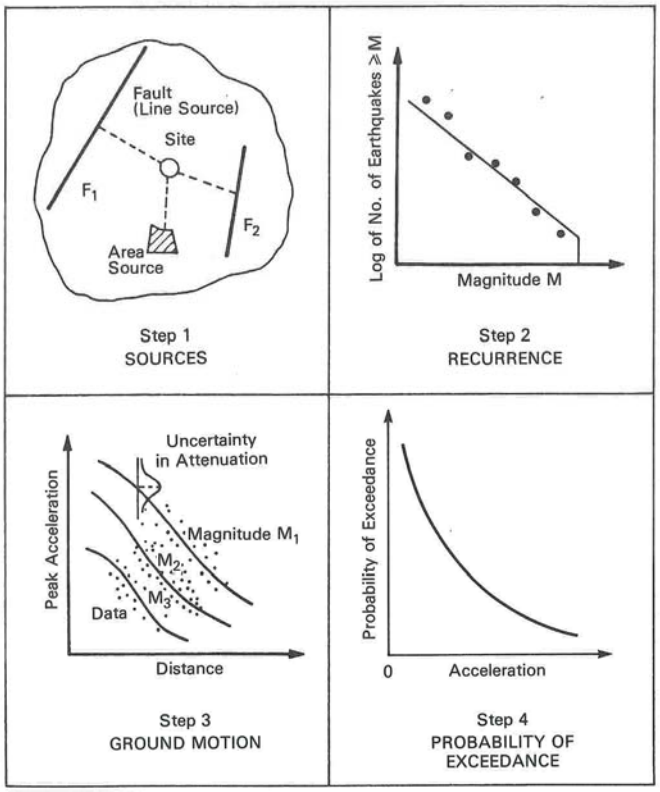


Figure 3.1 Steps in Probabilistic Seismic Hazard Analysis

Figure 3.2 shows an example of a logic tree. In the logic tree, uncertainties such as the different choices for source zone model, source zone model parameters such as the maximum magnitude, depth etc. and attenuation relations, are weighed subjectively. Each

calculated hazard result (i.e. probability of exceedance of a specified motion) is multiplied by the branch probability. The weighted branch probabilities are summed to obtain the mean hazard results, or may be ordered to calculate, for example, 50th (median), 16th and 84th percentiles. Thus, for a specific ground motion parameter value (i.e. for a PGA), the "mean" frequency of exceedance can be calculated along with the median value and other confidence limits.

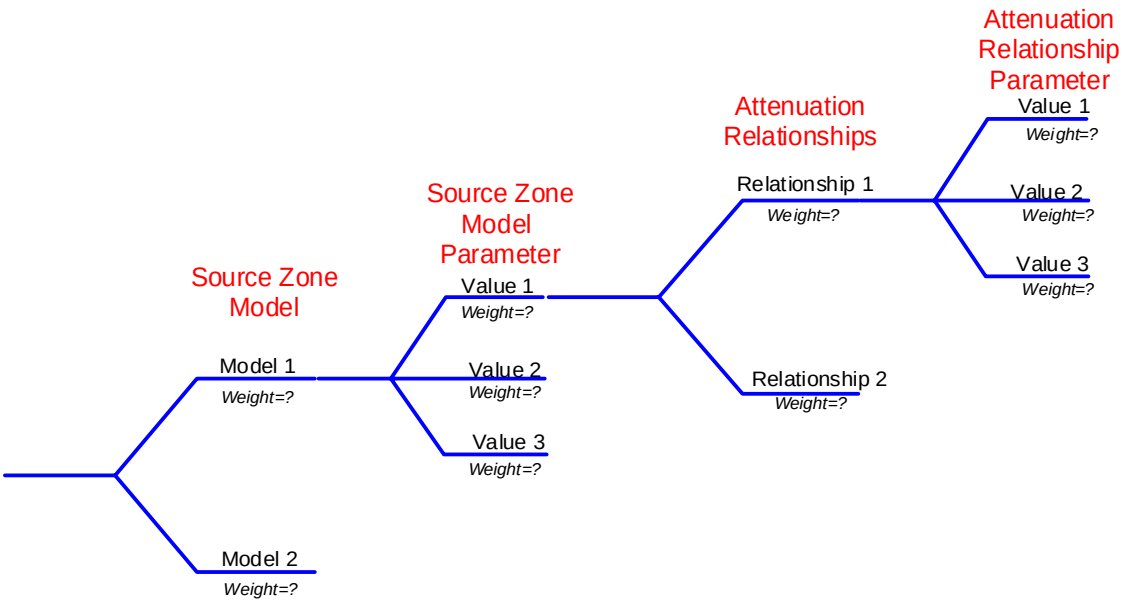


Figure 3.2 An Example Logic Tree Used in Seismic Hazard Analyses

If a logic tree approach is followed, CDA (2007) recommends that "mean" hazard estimates of ground motions shall be used in the design. However, in cases where just a few sources of uncertainty are known to dominate the uncertainty in results, CDA (2007) suggest that, instead of a logic tree approach, sensitivity analyses can be used to assess the impact of the uncertainties. In this case, CDA (2007) recommends that the design ground motion shall be selected based on the sensitivity analysis allowing reasonable level of conservatism in interpreting the impact of uncertainties. For this project, the

latter approach is followed and potential uncertainties are handled through sensitivity analyses.

3.1.3 Seismic Source Zone Model

The probabilistic assessment for the project site was conducted using the Geological Survey of Canada‘s (GSC) GSC-H and GSC-R Source zone models. These models were used to develop the seismic hazard maps for the 2005 NBCC (National Building Code of Canada).

Figure 3.3 and Figure 3.4 show the GSC’s H and R models for western Canada. The GSC-H source zone model uses relatively small source zones drawn around historical seismicity clusters and GSC-R source zone model uses larger regional zones generally reflecting the seismotectonic units. Both models are chiefly composed of areal sources, with only the Queen Charlotte Fault being modelled as a fault source. As can be seen from Figure 3.3 which also shows the location of Morrison mine site, there is no areal zone in the GSC-H model that encloses the project site, apparently due to historical inactivity in this area. The areal zones close to the project site are NRMT (Northern Rocky Mountain Trench) and CCM (Central Coast Mountains) in the GSC-H source zone model. However, in the GSC-R model, the site is located within the NBC (Northern BC) zone as shown in Figure 3.4.

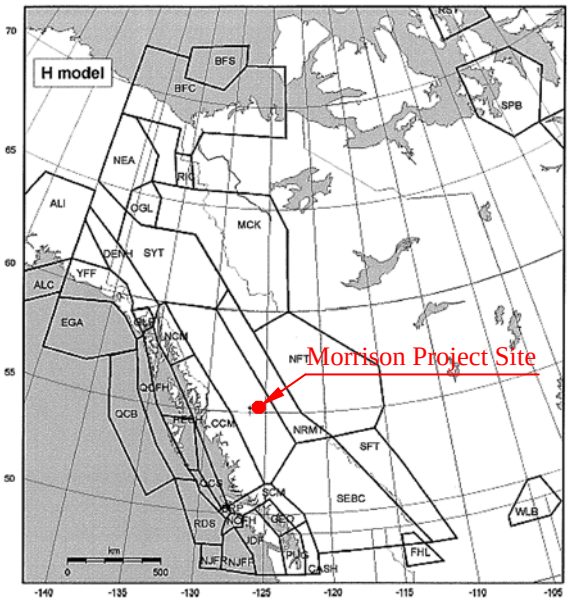


Figure 3.3 Geological Survey of Canada's GSC-H Model

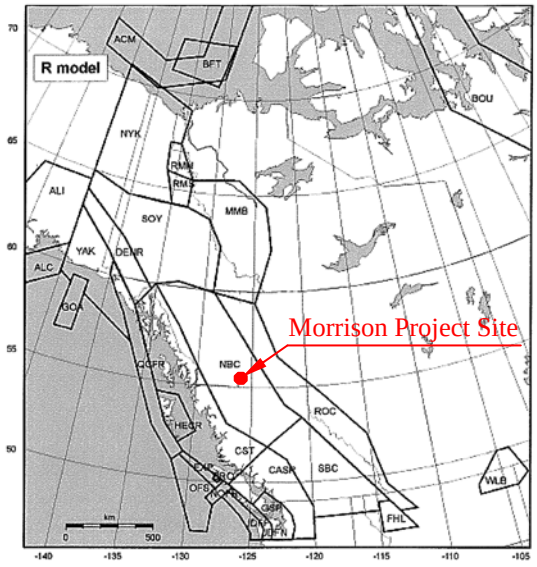


Figure 3.4 Geological Survey of Canada's GSC-R Model

3.1.4 Attenuation Equations

Attenuation equations relate peak ground acceleration (PGA) or spectral acceleration to the distance between the source and site, characteristics of the earthquake rupture, and soil conditions at the site. For the 2005NBCC hazard maps, GSC used the attenuation relations proposed by Boore, Joyner and Fumal (1993, 1994) and Youngs et al. (1997) the shallow and deep zones, respectively, for western Canada's GSC-H and GSC-R models.

Uncertainties in the attenuation relationships are one of the significant contributors to overall uncertainty in a seismic hazard analysis and are often assessed by considering alternative sets of attenuation equations.

In our analysis, for shallow crustal sources that dominate hazard at our project site, we used the Boore, Joyner and Fumal (1997) equation, which is an updated version of Boore, Joyner and Fumal (1993, 1994) equation for shallow source zones. In addition, for shallow crustal sources, we also used the new NGA equations proposed by Boore and Atkinson (2007), Campbell and Bozorgnia (2007), and Chiou and Youngs (2006). The NGA equations were developed as a part of New Generation Attenuation Model Project (NGA) sponsored by Pacific Earthquake Engineering Research Center (PEER) and were based on strong motion database containing strong motion records from 173 earthquakes worldwide. The NGA equations were used to develop the recently released 2007 USGS (US Geological Survey) hazard maps for United States. For the deep source zones, we used Youngs et al. (1997) equation.

3.1.5 Reference Site Conditions

As the ground motions vary with the site conditions, they should be referenced to a particular category, which is appropriate for the site of interest. The reference site

condition for our project site was taken as NEHRP Site class C (Very dense soil or soft rock), which is defined as having a shear wave velocity of 760 m/s in the top 30 m (NEHRP, 2003). Note that the same Site class C was used as reference condition in the 2005NBCC hazard maps.

3.1.6 Probabilistic Seismic Hazard Analyses

Three sets of analyses listed below were conducted using the computer program Ez-Frisk (Risk Engineering, 2008) evaluate the sensitivities of uncertainties in the source zone model, model parameters and attenuation equations.

1. Analyses using GSC-H and GSC-R Model and best estimate values for model parameters and attenuation equations for shallow zones by Boore, Joyner and Fumal (1997).
2. Analyses using GSC-R model and upper bound, lower bound and best estimate parameters for the NBC zone and attenuation equations for shallow zones by Boore, Joyner and Fumal (1997).
3. Analyses using GSC-R model and upper bound parameters for the NBC zone and NGA attenuation equations for shallow zones.

Analyses using GSC-H and GSC-R Model and Best Estimate Parameters

Initial analyses were conducted using GSC-H and GSC-R source zone models and the Boore, Joyner and Fumal (1993, 1994) and Youngs et al. (1997) attenuation equations. The same models and attenuation equations were used to develop the seismic hazard maps for the 2005NBCC. However, in our analyses we used only, “best estimate” values of parameters for the source zones. Figure 3.5 shows the hazard curves corresponding to the GSC-H and GSC-R models. As can be seen from figure, the PGAs from GSC-R model is significantly greater than those from GSC-H model. The 10,000 year PGAs from GSC-R and GSC-H models are approximately 0.03 g and 0.11 g, respectively.

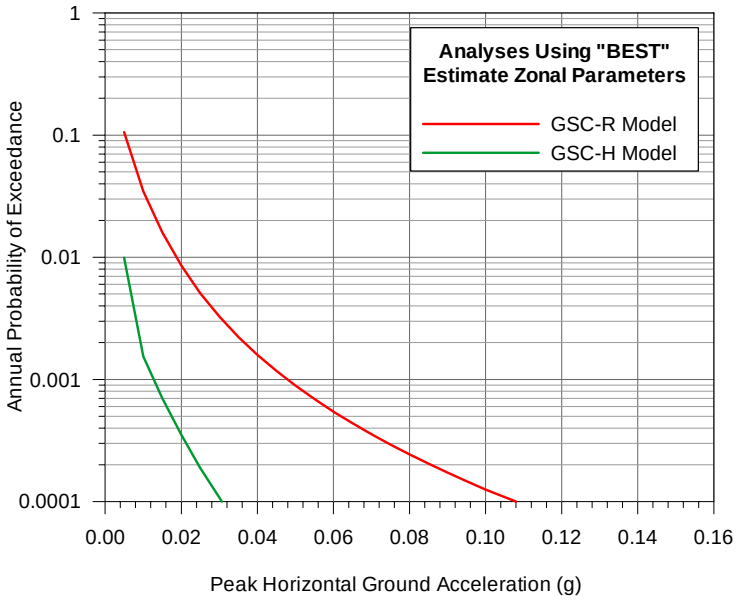


Figure 3.5 Hazard Curves Using GSC-H and GSC-R Models and Their Best Estimate Parameters

Figure 3.6 shows the contribution to the total hazard by various source zones in the GSC-R model. The hazard corresponding to 10,000 year return period (or 0.0001 annual probability of exceedance) comes mainly from the Northern BC (NBC) zone and hazard contributions from other zones surrounding the project site are insignificant.

Analyses using GSC-R Model and Upper Bound, Lower Bound and Best Estimate Parameters for the NBC Zone

In the analyses described in the preceding section, “best estimate” values of source zone parameters were used for all the source zones including the NBC zone in the GSC-R model. Two more analyses were conducted using GSC-R model, in which the upper bound and lower bound parameters were used for the NBC zone. These parameters are listed in Table 3.1 and the results from the analyses are shown in Figure 3.7.

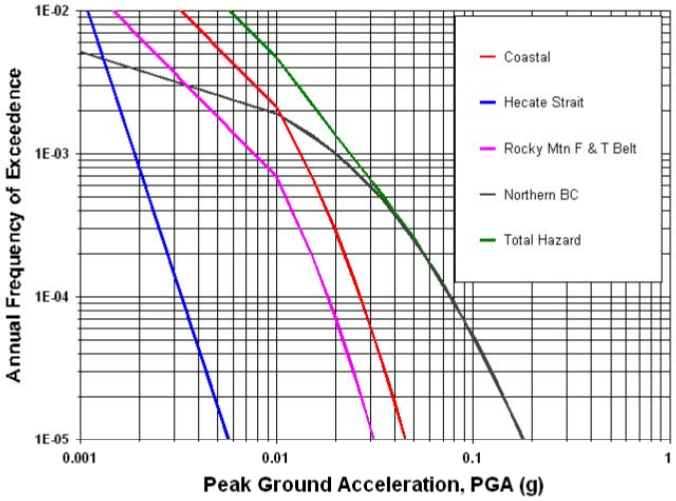


Figure 3.6 Hazard Contribution from GSC-R Seismic Source Zones

Table 3.1 Source Zone Parameters for NBC Zone in the GSC-R Model

Type of Estimates	Magnitude Recurrence Parameter,	Number of earthquakes per annum, No	Maximum Magnitude, Mx	Depth, H (km)
Best	2.0	169	7.0	5
Upper Bound	1.8	135	7.0	0
Lower Bound	2.0	169	6.0	0

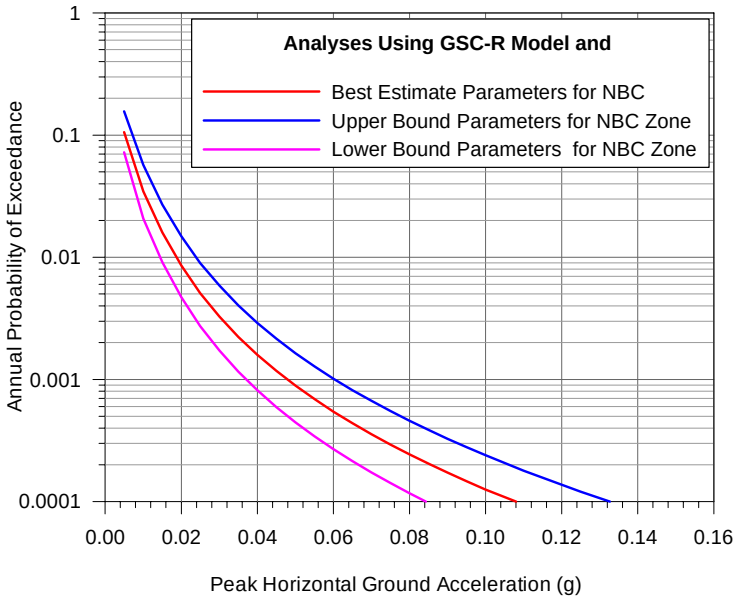


Figure 3.7 Hazard Curves for GSC-R Model with Best, Upper Bound and Lower Bound Parameters for the NBC Zone

As shown in Figure 3.7, the 10,000 year return period PGAs corresponding to upper bound, best estimate and lower bound parameters for the NBC zone are 0.13 g, 0.11 g and 0.08 g, respectively. Note that, in these analyses, we used the Boore, Joyner and Fumal (1997) equation for the NBC zone.

Analyses using GSC-R Model with Upper Bound Parameters for the NBC Zone and NGA Attenuation Equations

Analyses were conducted to check the sensitivity of the attenuation equations. In these analyses, GSC-R model with upper bound parameters for the NBC zone and the following attenuation equations were used.

1. Boore, Joyner and Fumal (1997);
2. Boore and Atkinson (2007);

3. Campbell and Bozorgnia (2007); and
4. Chiou and Youngs (2006).

Figure 3.8 summarizes the results from the analyses using the above four attenuation equations. The 10,000 year return period PGAs corresponding to Boore and Atkinson (2007), Campbell and Bozorgnia (2007) and Chiou and Youngs (2006) are 0.10, 0.12 and 0.09, respectively. These values are smaller than 0.13 g which was estimated using Boore, Joyner and Fumal (1997) equation.

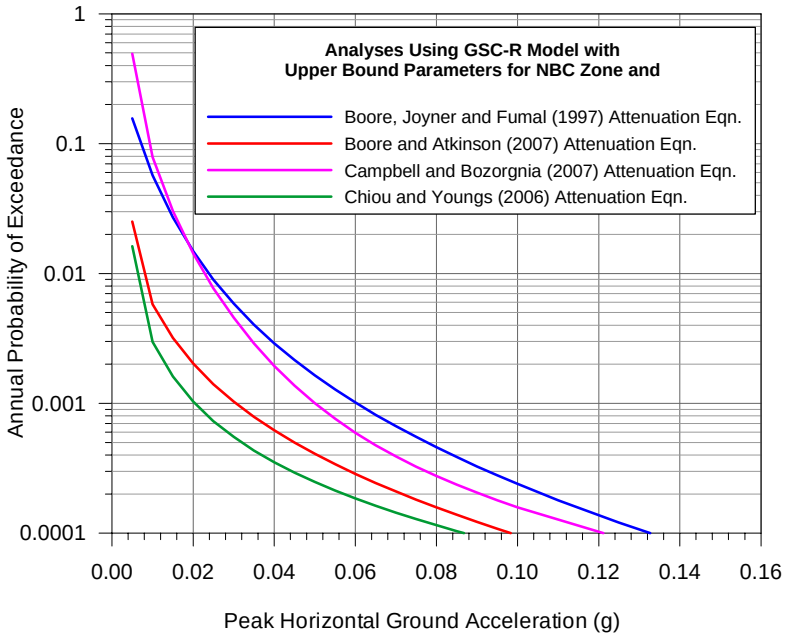


Figure 3.8 Hazard Curves for GSC-R Model with Upper Bound Parameters for the NBC Zone and NGA Attenuation Equations

3.1.7 PGA from Probabilistic Seismic Hazard Analyses

Based on the three sets of probabilistic seismic hazard analyses described above, the 10,000 year return period PGA for the project site was selected as 0.13 g.

3.2 Deterministic Analyses

In the deterministic analyses, two potential earthquake scenarios were considered. In the first one, earthquakes that are associated with the rupture of known faults were considered. In the second one, random floating earthquakes, which may occur near the project site but cannot be linked to any known tectonic features or faults was considered. As the site is located in the British Columbia interior away from the Cascadia subduction plate margin, all scenario are crustal events.

3.2.1 Scenario 1 Earthquakes

In this scenario, the earthquakes that may occur due to the rupture of the known and active faults were considered. Based on the data in the available literature, no active local fault near the project site that needs to be considered in the deterministic analysis was identified. However, no site specific mapping or field work was conducted for this study.

The Queen Charlotte Fault (QCF) located west of the project site at about 450 km off shore is capable of producing magnitude M_w8.5 earthquake. Thus, the PGA at the site due to an M_w8.5 earthquake at QCF was estimated using Boore, Joyner and Fumal (1997) attenuation equation. The median and median plus one standard deviations estimates of the PGA are 0.03 g and 0.06 g, respectively.

3.2.2 Scenario 2 Earthquakes

In this scenario, the random floating earthquakes, which may occur in the vicinity of the project site was considered. Historical earthquake records (Figure 1.2) show that the maximum magnitude of the earthquakes that occurred within 50 km is M3.3. Thus, for the Scenario 2 earthquakes, an M_w4, M_w4.5 and M_w5 events were considered conservatively. Normally, the maximum magnitude for this scenario earthquakes is taken as historical maximum plus 0.5. A quasi-probabilistic approach proposed by USBR

(Committee on the Safety Criteria for Dams, 1985) was used to calculate the distances for these random events. The magnitude recurrence upper bound parameters for the NBC zone was used in this procedure to estimate the distances. The estimated distances are 10 km, 16 km and 25 km for the M_w4, M_w4.5 and M_w5 earthquakes, respectively.

The attenuation equations by Boore, Joyner and Fumal (1997), Boore and Atkinson (2007), Campbell and Bozorgnia (2007) and Chiou and Youngs (2006) were used. As the median plus one standard deviation estimates of the PGA are normally considered as representative of the MCE rather than the median estimates, Table 3.2 below lists those estimates from the four attenuation equations. The estimated PGAs ranged between 0.03 g and 0.095 g.

Table 3.2 Peak Ground Accelerations (PGAs) from Deterministic Seismic Hazard Analyses for Random Floating Events

Scenario Earthquake	Earthquake Magnitude, Mw	Distance (km)	Peak Ground Acceleration, PGA (g)			
			Equation 1	Equation 2	Equation 3	Equation 4
1	4.0	10	0.095	0.042	0.073	0.033
2	4.5	16	0.091	0.050	0.068	0.045
3	5.0	25	0.086	0.057	0.066	0.044

Notes:
PGAs are median plus one standard deviation estimates;
Equation 1: Boore, Joyner and Fumal (1997);
Equation 2: Boore and Atkinson (2007);
Equation 3: Campbell and Bozorgnia (2007); and
Equation 4: Chiou and Youngs (2006).

3.3 Recommendations for MCE Ground Motions

Based on our seismic hazard assessment described here, we recommend an MCE PGA of 0.13 g for the Morrison project site and it should be associated with earthquake magnitude of M_w6.2 in seismic deformation and liquefaction assessments. The recommended ground motion is applicable to Site Class C (i.e. very dense soil or soft

rock with shear wave velocity of 360-760 m/s in the top 30 m) conditions (NEHRP, 2003).

REFERENCES:

Adams, J., and S. Halchuk, (2003). "Fourth Generation Seismic Hazard Maps of Canada: Values for Over 650 Canadian Localities intended for the 2005 National Building Code of Canada", Geological Survey of Canada, Open File 4459, 155p May 15, 2003.

Boore, D., Joyner, W. and Fumal, T. (1997). "Equations for Estimating Horizontal Response Spectra and Peak Acceleration from Western North American Earthquakes: A Summary of Recent Work." Seismological Research Letters, 68(1): 128-153.

Boore, D.M., and Atkinson, G.M., (2007). "Boore-Atkinson NGA Ground Motion Relations for the Geometric Mean Horizontal Component and Peak and Spectral Ground Motion Parameters", PEER Report No. 2007/01, Pacific Earthquake Engineering Research Center, May 2007.

Boore, D.M., W.B. Joyner, and T.E. Fumal (1993). "Estimation of response spectra and peak accelerations from western North American earthquakes: An interim report" US Geological Survey Open-File Report 93-509, Menlo Park, California, 72 pp.

Boore, D.M., W.B. Joyner, and T.E. Fumal (1994). "Estimation of response spectra and peak accelerations from western North American earthquakes: An interim report-Part 2" US Geological Survey Open-File Report 94-127, Menlo Park, California, 40pp.

CDA (2007). "Canadian Dam Safety Guidelines", Canadian Dam Association.

Campbell, K.W. and Bozorgnia, Y., (2007). "Campbell-Bozorgnia NGA Ground Motion Relations for the Geometric Mean Horizontal Component and Peak and Spectral Ground Motion Parameters". PEER Report No. 2007/02, Pacific Earthquake Engineering Research Center, May 2007.

Chiou, B., and Youngs, R., (2006). "PEER-NGA Empirical Ground motion Model for the Average Horizontal Component of Peak Acceleration and Psuedo-spectral Acceleration for Spectral Periods of 0.01 to 10 Seconds". Pacific Earthquake Engineering interim report for USGS review, 14Jun2006.

Gabrielse, H. 1985. Major dextral transcurrent displacements along the Northern Rocky Mountain Trench and related lineaments in north-central British Columbia. Geological Society of America Bulletin: v. 96, p. 1-14.

Gabrielse, H., and Yorath, C.J. (Editors) 1992. Geology of the Cordilleran Orogen in Canada. Geological Survey of Canada. The Geology of Canada Number 4, 847 p.

(also Decade of North American Geology, The Geology of North America, Volume G2).

National Earthquake Hazard Reduction Program (NEHRP), (2003). "2003 Recommended Provisions for New buildings and Other Structures". Part 1, provisions. FEMA 450, Federal Emergency Management Agency, Washington, D.C.

Richards, T.A. 1980. Geology, Hazelton map area, British Columbia (93M). Geological Survey of Canada, Map I-932.

Risk Engineering, Inc. (2008). "EZ-FRISK-A program for Probabilistic Seismic Hazard Analysis", Boulder, Colorado, USA.

Tipper, H.W., and Richards, T.A. 1976. Jurassic stratigraphy and history of north-central British Columbia. Geological Survey of Canada. Bulletin 270, 73 p.

Woodsworth, G.J. 1980. Geology of Whitesail Lake (93E) map-area, B.C. Geological Survey of Canada, Open File 708.

Youngs, R.R., S.J. Chiou, W.J. Silva, and J.R. Humphrey (1997). "Strong Ground Motion Attenuation Relationships for Subduction Zone Earthquakes". Seism. Res. Letts., v. 68, no. 1, pp. 58-73. 22

APPENDIX VI

Groundwater and Tailings Geochemical Data

- Groundwater Geochemical Analysis Results (Rescan)
- "Environmental Testing of Morrison Tailings Solids and Supernatant" Interim Report dated October 4, 2007 (SGS)
- Tailings Humidity Cell Testing Data, May 2008 (SGS)
- Tailings Analysis Data, May 2006 (PRA)
- Whole Tailings/Sulphide-Reduced Tailings ABA Results, April 2007 (SGS)
- Compiled Acid Base Accounting and Total-Element Analyses for Mettalurgical-Test Tailings, excerpt from "Prediction of Metal Leaching and Acid Rock Drainage, Phase 2", March 22, 2007 (MDAG)

Project Morrison_Hydrogeology
Report To PEYMAN SAYYAH, RESCAN ENVIRONMENTAL SERVICES
ALS File No. L579343
Date Received 20-Nov-07
Date 23-Nov-07

RESULTS OF ANALYSIS

Sample ID	MW07-07B	MW07-05A	MW07-06A	MW07-08A	MW07-04A	MW07-03A	MW07-03B	MW07-02A	MW07-02B	MW07-01A	DUPLICATE 1	DUPLICATE 2	TRAVEL BLANK	FIELD BLANK
Date Sampled														
Time Sampled														
ALS Sample ID	L579343-1	L579343-2	L579343-3	L579343-4	L579343-5	L579343-6	L579343-7	L579343-8	L579343-9	L579343-10	L579343-11	L579343-12	L579343-13	L579343-14
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Physical Tests														
Anion Sum	5.3	8.3	3.8	5.6	9.7	6.4	3.6	3.6	9	9.7	6.5	9.4	<0.1	<0.1
Cation Sum	5.7	7.5	4	5.8	9.7	6.3	3.7	3.3	7.7	9.5	6.4	9.3	<0.1	<0.1
Cation - Anion Balance	2.9	-5	3.1	1.7	-0.1	-0.7	1.1	-4.6	-8	-1.2	-0.6	-0.7	0	0
Hardness (as CaCO3)	195	363	49.1	231	239	36.9	147	112	293	154	36.8	144	<0.50	<0.50
Colour, True	5	<5.0	21.9	9.9	9.1	<5.0	14.8	14.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Conductivity	500	710	352	509	929	581	338	329	831	876	587	863	<2.0	<2.0
pH	7.38	7.64	8.17	7.78	8.12	8.44	7.96	8.15	7.9	8.19	8.46	8.24	5.71	5.68
Total Dissolved Solids	324	415	249	335	621	352	212	192	497	545	354	529	<1.0	<1.0
Total Suspended Solids	162	9	1790	14.3	1690	<3.0	4490	251	1390	9.7	<3.0	<3.0	<3.0	<3.0
Turbidity	105	5.43	728	13.4	3400	1.23	>4000	178	1320	4.62	1.2	1.32	<0.10	<0.10
Anions and Nutrients														
Ammonia as N	<0.0050	0.0131	<0.0050	<0.0050	0.0931	0.3	<0.0050	<0.0050	<0.0050	0.0827	0.306	0.0867	<0.0050	<0.0050
Acidity (as CaCO3)	9.5	17.4	4.1	8.5	4.8	<1.0	6.5	3.6	9.7	2.8	<1.0	1.6	2.2	2.1
Alkalinity, Bicarbonate (as CaCO3)	150	318	163	220	161	259	158	136	272	320	260	311	<2.0	<2.0
Alkalinity, Carbonate (as CaCO3)	<2.0	<2.0	<1.0	<2.0	<1.0	12.9	<1.0	<1.0	<1.0	<2.0	13.8	<2.0	<2.0	<2.0
Alkalinity, Hydroxide (as CaCO3)	<2.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0
Alkalinity, Total (as CaCO3)	150	318	163	220	161	272	158	136	272	320	274	311	<2.0	<2.0
Bromide (Br)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	7.45	<0.50	1.42	7.56	3.57	1.73	2.63	4.41	29.2	1.7	1.74	1.1	<0.50	<0.50
Fluoride (F)	0.38	0.28	0.418	0.267	0.202	0.658	0.157	0.141	0.251	1.21	0.679	1.21	<0.020	<0.020
Sulfate (SO4)	102	93.9	23.6	48.5	306	43.2	19.5	34.2	131	154	43.2	148	<0.50	<0.50
Nitrate (as N)	<0.0050	<0.0050	<0.0050	0.0072	0.0379	<0.0050	<0.0050	0.0971	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nitrite (as N)	<0.0010	<0.0010	<0.0010	0.0019	0.0044	<0.0010	<0.0010	0.0051	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Kjeldahl Nitrogen	0.34	0.08	3.09	0.371	0.816	0.37	2.13	0.558	0.683	0.09	0.39	0.08	<0.050	<0.050
Total Nitrogen	0.34	0.08	3.1	0.38	0.86	0.37	2.13	0.66	0.68	0.09	0.39	0.08	<0.05	<0.05
Total Phosphate as P	0.0935	0.0077	0.76	0.0202	1.71	0.0106	6.3	0.119	0.778	0.0159	0.0104	0.0036	<0.0020	<0.0020
Total Metals														
Aluminum (Al)-Total	3.34	0.0777	32	0.287	43.6	0.0619	91.1	6.96	27.7	0.0187	0.0551	0.0071	<0.0010	<0.0020
Antimony (Sb)-Total	0.0205	0.0037	0.00072	0.00142	0.00119	<0.00020	0.0012	0.00173	0.00081	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Arsenic (As)-Total	0.0109	0.0735	0.00937	0.00524	0.0526	0.00683	0.125	0.0129	0.0617	0.0007	0.00686	0.00047	<0.00010	<0.00010
Barium (Ba)-Total	0.168	0.0293	0.711	0.0519	0.474	0.0774	1.86	0.0671	0.494	0.0156	0.0733	0.0148	<0.000050	<0.000050
Beryllium (Be)-Total	<0.00050	<0.00050	<0.0025	<0.00050	<0.0025	<0.0010	<0.0050	<0.00050	0.0025	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Bismuth (Bi)-Total	<0.00050	<0.00050	<0.0025	<0.00050	<0.0025	<0.0010	<0.0050	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Boron (B)-Total	0.013	0.014	0.233	0.061	0.167	0.15	<0.10	0.017	0.035	0.094	0.147	0.094	<0.010	<0.010
Cadmium (Cd)-Total	0.00013	0.000038	0.0008	0.000049	0.00106	0.00009	0.00319	0.000522	0.000331	0.000069	0.000105	0.000049	<0.000020	<0.000020
Calcium (Ca)-Total	48.1	84.1	23.8	55.5	99.2	9.9	90.6	36	158	26.4	9.91	24.5	<0.020	<0.020
Chromium (Cr)-Total	0.00614	<0.00050	0.0443	0.00083	0.0678	<0.0010	0.184	0.00564	0.0216	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Cobalt (Co)-Total	0.00291	0.00833	0.0179	0.00091	0.0288	<0.00020	0.0866	0.0029	0.0159	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Copper (Cu)-Total	0.229	0.0141	0.0549	0.00264	0.476	0.00064	0.257	0.0168	0.0281	0.00043	0.00067	0.00022	<0.00010	<0.00010
Iron (Fe)-Total	2.07	0.33	42.4	0.511	71.2	0.044	184	4.68	53.7	0.122	<0.030	0.109	<0.030	<0.030
Lead (Pb)-Total	0.00244	0.000277	0.00808	0.000393	0.0192	<0.00010	0.0528	0.00232	0.0155	<0.00010	<0.00010	<0.00010	<0.000050	<0.000050
Lithium (Li)-Total	0.0108	0.0113	<0.025	0.0168	0.033	<0.010	0.074	0.0247	0.03	0.129	<0.010	0.131	<0.0050	<0.0050
Magnesium (Mg)-Total	18.8	46.3	8.98	21.6	33.7	3.5	42.5	8.89	29.5	21.2	3.53	20.2	<0.0050	<0.0050
Manganese (Mn)-Total	0.319	0.42	0.518	0.184	2.15	0.041	8.24	0.129	1.36	0.00671	0.0404	0.00595	<0.000050	<0.000050
Mercury (Hg)-Total	0.000011	<0.000010	<0.00010	<0.000010	0.0054	<0.000010	0.00103	<0.000010	<0.00010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Total	0.0379	0.00151	0.00765	0.00385	0.0123	0.0103	0.00902	0.0157	0.01	0.0013	0.00976	0.00129	<0.000050	<0.000050
Nickel (Ni)-Total	0.00867	0.0203	0.0238	0.00325	0.0736	<0.0010	0.218	0.00517	0.0251	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Phosphorus (P)-Total	<0.30	<0.30	0.79	<0.30	1.49	<0.30	3.72	<0.30	0.85	<0.30	<0.30	<0.30	<0.30	<0.30
Potassium (K)-Total	3.09	2.67	9.68	1.63	8.15	1.82	8.65	4.03	6.04	1.62	1.77	1.51	<0.050	<0.050
Selenium (Se)-Total	0.00138	<0.00050	0.00086	<0.00050	0.00162	<0.00050	0.00271	0.00101	0.00181	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon (Si)-Total	11.4	4.79	30.3	5.41	60.7	4.42	99.8	16.4	48.1	4.51	4.39	4.55	<0.050	<0.050
Silver (Ag)-Total	0.000049	<0.000010	0.00154	<0.000010	0.000722	<0.000020	0.00191	0.00093	0.00017	<0.000020	<0.000020	<0.000020	<0.000010	<0.000010
Sodium (Na)-Total	37.9	4.7	69.5	27.9	112	127	17.1	22	83.7	150	128	150	<2.0	<2.0
Strontium (Sr)-Total	0.725	0.316	0.39	0.39	0.637	0.17	0.448	0.251	0.414	0.776	0.169	0.725	<0.00010	<0.00010
Thallium (Tl)-Total	<0.00010	<0.00010	<0.00050	<0.00010	<0.00050	<0.00020	0.0011	0.00022	0.00072	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Tin (Sn)-Total	0.00111	0.00011	0.00153	0.00083	0.004	<0.00020	<0.0010	0.00075	0.00062	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Titanium (Ti)-Total	0.076	<0.010	0.186	<0.010	0.798	<0.010	0.599	0.062	0.186	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Total	0.00608	0.0033	0.00172	0.000762	0.00263	0.000817	0.0042	0.00121	0.0063	0.000029	0.000811	0.000027	<0.000010	<0.000010
Vanadium (V)-Total	0.0056	<0.0010	0.13	0.0011	0.13	<0.0020	0.26	0.451	0.0664	<0.0020	<0.0020	<0.0020	<0.0010	<0.0010
Zinc (Zn)-Total	0.0429	0.0248	0.136	0.038	0.328	0.0078	0.63	0.18	0.175	0.0079	0.0081	0.0042	<0.0010	<0.0010
Dissolved Metals														
Aluminum (Al)-Dissolved	0.0064	<0.0010	0.355	0.0098	0.0868	0.0323	0.136	0.143	0.0417	0.0145	0.0294	0.0068	<0.0010	<0.0010
Antimony (Sb)-Dissolved	0.0234	0.0034	0.00107	0.00143	0.00052	<0.00020	<0.0010	0.00207	0.00048	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Arsenic (As)-Dissolved	0.0114	0.0499	0.00238	0.00633	0.00186	0.00635	0.0034	0.00521	0.00117	0.00056	0.00607	0.00041	<0.00010	<0.00010
Barium (Ba)-Dissolved	0.0596	0.0268	0.149	0.0469	0.0491	0.0735	0.0835	0.0324	0.0707	0.0151	0.0699	0.0141	<0.000050	<0.000050
Beryllium (Be)-Dissolved	<0.00050	<0.00050	<0.0025	<0.00050	<0.0025	<0.0010	<0.0050	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Bismuth (Bi)-Dissolved	<0.00050	<0.00050	<0.0025	<0.00050	<0.0025	<0.0010	<0.0050	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Boron (B)-Dissolved	0.013	0.013	0.158	0.064	0.151	0.144	<0.10	0.013	<0.020	0.095	0.139	0.091	<0.010	<0.010
Cadmium (Cd)-Dissolved	0.000062	0.000033	0.00044	0.000038	0.00033	0.000092	0.00076	<0.000020	<0.000040	0.000058	0.000112	0.000044	<0.000020	<0.000020
Calcium (Ca)-Dissolved	48.2	74.6	15.1	55.8	67.8	9.25	46	32.1	82.9	26.5	9.29	24.6	<0.020	<0.020
Chromium (Cr)-Dissolved	<0.00050	<0.00050	<0.0025	<0.00050	<0.0025	<0.0010	<0.0050	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Cobalt (Co)-Dissolved	0.00192	0.00726	0.00063	0.00069	0.00092	<0.00020	0.0014	0.00053	<0.00020	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Copper (Cu)-Dissolved	0.021	0.00497	0.0054	<0.0030	0.0159	<0.00070	0.0058	0.00214	<0.00090	<0.00050	<0.00070	<0.00030	<0.00010	<0.00010
Iron (Fe)-Dissolved	<0.030	<0.030	0.053	<0.030	0.05	<0.030	0.13	0.071	0.065	<0.030	<0.030	<0.030	<0.030	<0.030
Lead (Pb)-Dissolved	<0.000050	<0.000050	<0.00025	0.000068	<0.00025	<0.00010	<0.00050	<0.000050	<0.00010	<0.00010	<0.00010	<0.00010	<0.000050	<0.000050
Lithium (Li)-Dissolved	0.01	0.0107	<0.025	0.0166	<0.025	<0.010	<0.050	0.0218	<0.010	0.133	<0.010	0.128	<0.0050	<0.0050
Magnesium (Mg)-Dissolved	18.2	42.8	2.8	22.3	16.9	3.34	7.73	7.84	21	21.3	3.31	20	<0.0050	<0.0050
Manganese (Mn)-Dissolved	0.286	0.372	0.0515	0.149	0.412	0.0377	0.546	0.0392	0.0288	0.00644	0.0371	0.00586	<0.000050	<0.000050
Mercury (Hg)-Dissolved	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	0.041	0.00121	0.00803	0.00386	0.00931	0.00962	0.00946	0.0127	0.00358	0.0013	0.00943	0.00124	<0.000050	<0.000050
Nickel (Ni)-Dissolved	0.00488	0.0178	0.0036	0.00291	0.0029	<0.0010	<0.0050	0.00241	0.0015	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Phosphorus (P)-Dissolved	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Potassium (K)-Dissolved	2.91	2.36	2.54	1.64	2.96	1.71	1.88	1.23	1.42	1.64	1.66	1.5	<0.050	<0.050
Selenium (Se)-Dissolved	0.00118	0.00056	<0.00050	<0.00050	0.00077	<0.00050	0.00052	0.00068	0.00089	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon (Si)-Dissolved	3.75	4.37	2.4	4.98	3.85	4.3	4.11	3.21	4.73	4.37	4.33	4.36	<0.050	<0.050
Silver (Ag)-Dissolved	<0.000010	<0.000010	<0.000050	<0.000010	<0.000050	<0.000020	<0.00010	<0.000010	<0.000020	<0.000020	<0.000020	<0.000020	<0.000010	<0.000010
Sodium (Na)-Dissolved	38.6	4.6	68	26.9	110	127	16.1	22	40.6	146	128	146	<2.0	<2.0
Strontium (Sr)-Dissolved	0.77	0.284	0.172	0.384	0.493	0.16	0.204	0.249	0.306	0.783	0.159	0.718	<0.00010	<0.00010
Thallium (Tl)-Dissolved	<0.00010	<0.00010	<0.00050	<0.00010	<0.00050	<0.00020	<0.0010	<0.00010	<0.00020	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Tin (Sn)-Dissolved	0.00068	<0.00010	<0.00050	0.00052	<0.00050	<0.00020	<0.0010	0.00042	<0.00020	<0.00020	<0.00020	<0.00020	<0.00010	<0.00010
Titanium (Ti)-Dissolved	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Dissolved	0.00553	0.00333	0.00102	0.000627	0.00149	0.000816	0.0014	0.000875	0.00224	0.000027	0.000781	0.000025	<0.000010	<0.000010
Vanadium (V)-Dissolved	<0.0010	<0.0010	<0.0050	<0.0010	<0.0050	<0.0020	<0.010	0.0062	<0.0020	<0.0020	<0.0020	<0.0020	<0.0010	<0.0010
Zinc (Zn)-Dissolved	0.0209	0.0176	0.0512	0.0413	0.036	0.0081	0.074	0.0255	<0.0020	0.0078	0.008	0.0043	<0.0010	<0.0010
Organic Parameters														
Total Organic Carbon	16.2	5.65	36.6	39.8	15.7	1.44	22.2	8.03	26.5	<0.50	1.74	<0.50	<0.50	<0.50

Project 794-4
Report To MARY SAMOLCZYK, RESCAN ENVIRONMENTAL SERVICES
ALS File No. L597899
Date Received 29-Jan-08
Date 18-Feb-08

RESULTS OF ANALYSIS

Sample ID	MW07-01A	MW07-02A	MW07-02B	MW07-03B	MW07-04A	MW07-08A	ALS TRAVEL BLANK	ALS FIELD BLANK	DUPLICATE	MW07-08B	MW07-05A	MW07-06A	MW07-06B	MW07-07A	MW07-07B
Date Sampled	23-JAN-08	23-JAN-08	23-JAN-08	24-JAN-08	24-JAN-08	24-JAN-08			25-JAN-08	24-JAN-08	25-JAN-08	25-JAN-08	25-JAN-08	26-JAN-08	25-JAN-08
Time Sampled	00:00	00:00	00:00	00:00	00:00	00:00			00:00	00:00	00:00	00:00	00:00	00:00	00:00
ALS Sample ID	L597899-1	L597899-2	L597899-3	L597899-4	L597899-5	L597899-6	L597899-7	L597899-8	L597899-9	L597899-10	L597899-11	L597899-12	L597899-13	L597899-14	L597899-15
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Physical Tests															
Hardness (as CaCO3)	133	48.3	264	144	230	293	<0.50	<0.50	367	528	357	26.4	151	64.4	173
Colour, True	<5.0	7.8	<5.0	<5.0	<5.0	9.5	<5.0	<5.0	<5.0	18.6	<5.0	9.3	<5.0	58.4	<5.0
Conductivity	892	540	582	389	1020	1230	<2.0	<2.0	727	1320	729	561	349	2820	521
pH	8.24	8.16	7.94	7.88	7.88	7.83	5.57	5.5	7.82	7.65	7.84	8.18	7.82	11.9	7.92
Total Dissolved Solids	532	332	341	224	679	805	<10	<10	429	940	427	410	213	753	316
Total Suspended Solids	<3.0	40	103	982	171	30	<3.0	<3.0	<3.0	54	<3.0	848	890	27	28
Turbidity	0.94	31.8	91.1	1930	202	21.8	<0.10	<0.10	5.27	104	8.66	3370	1150	18.6	9.96
Anions and Nutrients															
Ammonia as N	0.0962	<0.0050	<0.0050	<0.0050	0.0702	<0.0050	<0.0050	<0.0050	0.0129	<0.0050	0.051	0.528	0.078	0.546	<0.0050
Acidity (as CaCO3)	<1.0	1.3	6.3	5.3	3.8	9.7	<1.0	<1.0	9.7	17.8	8.9	1.2	4.6	<1.0	3.6
Alkalinity, Bicarbonate (as CaCO3)	326	212	275	207	169	337	<2.0	<2.0	322	365	325	267	164	<1.0	160
Alkalinity, Carbonate (as CaCO3)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	4.1	<2.0	243	<2.0
Alkalinity, Hydroxide (as CaCO3)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	<1.0	<2.0	491	<2.0
Alkalinity, Total (as CaCO3)	326	212	275	207	169	337	<2.0	<2.0	322	365	325	271	164	734	160
Bromide (Br)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloride (Cl)	1.16	2.94	0.8	1.49	3.01	23.4	<0.50	<0.50	<0.50	3.52	<0.50	1.66	<0.50	1.45	6.41
Fluoride (F)	1.24	0.332	0.232	0.161	0.205	0.401	<0.020	<0.020	0.228	0.129	0.241	1.12	0.093	0.534	0.41
Sulfate (SO4)	153	73.4	50.1	3.44	348	295	<0.50	<0.50	93.8	365	95.1	31.5	20	35.6	106
Nitrate (as N)	<0.0050	0.0115	<0.0050	<0.0050	<0.0050	0.008	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0413	<0.0050
Nitrite (as N)	<0.0010	0.0048	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	<0.0010
Total Kjeldahl Nitrogen	0.09	0.134	0.07	0.543	0.34	0.502	<0.050	<0.050	<0.050	0.67	<0.050	1.28	0.319	1.31	0.45
Total Nitrogen	0.09	0.15	0.07	0.54	0.34	0.51	<0.05	<0.05	<0.05	0.67	<0.05	1.28	0.32	1.36	0.45
Total Phosphate as P	0.0033	0.099	0.0892	1.83	0.182	0.0652	<0.0020	<0.0020	0.0048	0.399	0.0056	0.513	1.56	0.706	0.0275
Total Metals															
Aluminum (Al)-Total	<0.0020	1.01	1.83	22.2	3.94	0.851	<0.0010	<0.0010	0.0021	0.376	0.0024	51.4	9.26	2.26	0.211
Antimony (Sb)-Total	<0.00020	0.0011	0.00017	0.00081	0.00181	0.0043	<0.00010	<0.00010	0.00016	0.00114	0.00015	<0.00050	0.00077	0.00305	0.00726
Arsenic (As)-Total	<0.00020	0.0104	0.00373	0.0318	0.00464	0.00457	<0.00010	<0.00010	0.0258	0.00702	0.0249	0.0084	0.0442	0.0331	0.0066
Barium (Ba)-Total	0.0126	0.0351	0.0689	0.426	0.0959	0.116	<0.000050	<0.000050	0.0243	0.238	0.0239	0.735	0.23	0.266	0.0685
Beryllium (Be)-Total	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050
Bismuth (Bi)-Total	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050
Boron (B)-Total	0.081	0.055	<0.010	0.065	0.172	0.1	<0.010	<0.010	0.014	0.137	0.015	0.369	0.016	<0.050	0.013
Cadmium (Cd)-Total	<0.000040	0.000134	0.000089	0.000881	0.000176	0.000285	<0.000020	<0.000020	<0.000020	0.0003	<0.000020	0.00079	0.000998	0.00046	0.00009
Calcium (Ca)-Total	23.9	14.4	76.3	52.7	69.6	80	<0.020	<0.020	79.2	154	75.1	20	47.7	36.5	42.7
Chromium (Cr)-Total	<0.0010	0.0016	0.00143	0.0367	0.006	0.0095	<0.00050	<0.00050	<0.00050	<0.0025	<0.00050	0.0397	0.0162	0.0153	0.0006
Cobalt (Co)-Total	<0.00020	0.00173	0.0019	0.0273	0.00384	0.00793	<0.00010	<0.00010	0.00156	0.0292	0.00158	0.0303	0.0131	0.00105	0.00086
Copper (Cu)-Total	<0.00020	0.00809	0.00394	0.0493	0.0254	0.0377	<0.00010	<0.00010	<0.00010	0.00702	0.00016	0.0898	0.237	0.0306	0.0265
Iron (Fe)-Total	0.147	0.882	2.53	31.7	5.63	2.25	<0.030	<0.030	0.888	9.39	0.874	59	18.8	0.512	0.391
Lead (Pb)-Total	<0.00010	0.00314	0.00112	0.0118	0.0157	0.0265	<0.000050	<0.000050	<0.000050	0.00663	<0.000050	0.025	0.0134	0.00195	0.000399
Lithium (Li)-Total	0.133	0.184	0.0172	0.019	<0.010	0.029	<0.0050	<0.0050	0.0127	<0.025	0.0123	0.037	0.0065	<0.025	0.0098
Magnesium (Mg)-Total	17.1	4.01	21.6	14.6	18.1	30.3	<0.0050	<0.0050	40.8	40.9	39.5	12	11.8	2.37	15.6
Manganese (Mn)-Total	0.00464	0.234	0.183	3.65	0.601	1.35	0.000147	<0.000050	0.297	12.6	0.299	0.709	2.4	0.0391	0.405
Mercury (Hg)-Total	<0.000010	<0.000010	<0.000010	0.000144	0.000023	<0.000010	<0.000010	<0.000010	<0.000010	0.000016	<0.000010	<0.00010	0.000304	0.000047	<0.000010
Molybdenum (Mo)-Total	0.00119	0.0066	0.0033	0.0074	0.00818	0.0113	<0.000050	<0.000050	0.000949	0.00688	0.00097	0.0179	0.00191	0.0384	0.0345
Nickel (Ni)-Total	<0.0010	0.0045	0.00294	0.0522	0.0086	0.0164	<0.00050	<0.00050	0.0043	0.0196	0.00414	0.0297	0.0265	0.0099	0.00233
Phosphorus (P)-Total	<0.30	<0.30	<0.30	0.7	<0.30	<0.30	<0.30	<0.30	<0.30	0.33	<0.30	0.52	0.46	0.64	<0.30
Potassium (K)-Total	1.56	1.61	1.13	4.46	3.78	2.57	<0.050	<0.050	2.63	3.52	2.56	8.71	2.28	9.69	2.69
Selenium (Se)-Total	<0.00050	0.00056	0.00057	0.00098	0.00108	0.0008	<0.00050	<0.00050	<0.00050	0.00067	<0.00050	0.00086	0.00063	0.0033	0.00051
Silicon (Si)-Total	4.61	5.46	9.54	38	14.2	8.02	<0.050	<0.050	4.85	8.15	4.79	40.7	18.2	7.32	4.77
Silver (Ag)-Total	<0.000020	0.000075	0.000013	0.000403	0.000063	0.000069	<0.000010	<0.000010	<0.000010	<0.000050	<0.000010	0.00146	0.000472	0.000098	<0.000010
Sodium (Na)-Total	148	129	10.7	17.4	120	133	<2.0	<2.0	4.7	78.1	4.8	118	3.8	344	39.3
Strontium (Sr)-Total	0.69	0.164	0.437	0.261	0.482	0.679	<0.00010	<0.00010	0.304	0.945	0.296	0.452	0.207	1.68	0.706
Thallium (Tl)-Total	<0.00020	<0.00020	<0.00010	0.00039	<0.00020	<0.00020	<0.00010	<0.00010	<0.00010	<0.00050	<0.00010	<0.00050	0.00054	<0.00050	<0.00010
Tin (Sn)-Total	<0.00020	0.0013	0.00017	0.00062	0.004	0.0108	<0.00010	<0.00010	<0.00010	0.00276	<0.00010	0.00108	0.00012	0.00242	0.00152
Titanium (Ti)-Total	<0.010	0.015	0.051	0.277	0.183	0.034	<0.010	<0.010	<0.010	0.013	<0.010	0.18	0.196	0.012	<0.010
Uranium (U)-Total	0.000024	0.00314	0.000698	0.00191	0.00187	0.00871	<0.000010	<0.000010	0.00168	0.00174	0.00166	0.00118	0.000512	0.00064	0.00535
Vanadium (V)-Total	<0.0020	0.0564	0.0042	0.06	0.0104	0.0029	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010	0.104	0.029	0.0323	<0.0010
Zinc (Zn)-Total	<0.0020	0.0296	0.01	0.104	0.0349	0.0718	<0.0010	<0.0010	<0.0010	0.0741	0.0017	0.116	0.0977	0.0187	0.0118
Dissolved Metals															
Aluminum (Al)-Dissolved	<0.0020	0.0482	0.0075	0.216	0.0149	0.0214	-	-	0.01	<0.0050	0.0012	1.38	0.242	1.58	0.015
Antimony (Sb)-Dissolved	<0.00020	0.00092	0.00018	0.00022	0.00084	0.00145	-	-	0.00016	0.0016	0.00016	<0.00050	0.00019	0.0029	0.00618
Arsenic (As)-Dissolved	<0.00020	0.0103	0.00248	0.00405	0.00116	0.00278	-	-	0.0248	0.00979	0.0253	0.00087	0.0127	0.0326	0.00668
Barium (Ba)-Dissolved	0.0125	0.0264	0.0545	0.12	0.057	0.0961	-	-	0.0251	0.245	0.0241	0.162	0.109	0.163	0.0571
Beryllium (Be)-Dissolved	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	-	-	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050
Bismuth (Bi)-Dissolved	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	-	-	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050	<0.0025	<0.00050
Boron (B)-Dissolved	0.085	0.052	<0.010	0.043	0.165	0.092	-	-	0.014	0.134	0.014	0.288	<0.010	<0.050	0.013
Cadmium (Cd)-Dissolved	<0.000040	0.000045	0.000082	<0.000040	0.000065	0.00007	-	-	<0.000020	<0.00010	<0.000020	<0.00010	0.000037	0.00018	0.000139
Calcium (Ca)-Dissolved	24.3	13.3	68.8	45.3	65.1	71.6	-	-	77.7	145	75.2	7.93	44.7	25.8	42.8
Chromium (Cr)-Dissolved	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	-	-	<0.00050	<0.0025	<0.00050	<0.0025	0.00057	0.0128	<0.00050
Cobalt (Co)-Dissolved	<0.00020	0.00088	0.00163	0.00508	0.00132	0.00526	-	-	0.00159	0.0296	0.00158	<0.00050	0.004	<0.00050	0.00056
Copper (Cu)-Dissolved	<0.00020	0.00093	0.00099	0.00125	0.00144	0.00208	-	-	0.00012	0.00076	<0.00010	0.00144	0.0092	0.0168	0.00265
Iron (Fe)-Dissolved	<0.030	0.038	<0.030	0.323	<0.030	0.074	-	-	0.873	4.96	0.899	0.21	1.38	<0.030	0.155
Lead (Pb)-Dissolved	<0.00010	<0.00010	0.000098	0.0003	<0.00010	0.00112	-	-	<0.000050	<0.00025	<0.000050	<0.00025	0.000604	0.00071	0.000067
Lithium (Li)-Dissolved	0.136	0.176	0.0191	<0.010	<0.010	0.024	-	-	0.0131	<0.025	0.0132	<0.025	<0.0050	<0.025	0.0096
Magnesium (Mg)-Dissolved	17.6	3.68	22.4	7.45	16.3	27.7	-	-	42.1	40.4	41	1.6	9.48	<0.025	16.1
Manganese (Mn)-Dissolved	0.00488	0.173	0.193	2.22	0.482	1.28	-	-	0.301	12	0.292	0.0541	2.13	0.00312	0.415
Mercury (Hg)-Dissolved	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000036	<0.000010
Molybdenum (Mo)-Dissolved	0.00119	0.00549	0.00364	0.00501	0.00782	0.00839	-	-	0.000933	0.00984	0.000941	0.0177	0.000738	0.0355	0.0349
Nickel (Ni)-Dissolved	<0.0010	0.0029	0.00318	0.0101	0.0029	0.0094	-	-	0.00433	0.0302	0.0043	<0.0025	0.0055	0.0068	0.00167
Phosphorus (P)-Dissolved	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Potassium (K)-Dissolved	1.57	1.18	0.87	1.3	3.04	2.32	-	-	2.65	3.44	2.56	4.15	0.822	8.12	2.69
Selenium (Se)-Dissolved	<0.00050	0.00062	<0.00050	<0.00050	0.00082	<0.00050	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00377	<0.00050
Silicon (Si)-Dissolved	4.59	3.27	5.82	5.39	4.23	6.12	-	-	4.79	7.75	4.76	3.25	4.55	6.78	4.35
Silver (Ag)-Dissolved	<0.000020	<0.000020	<0.000010	<0.000020	<0.000020	<0.000020	-	-	<0.000010	<0.000050	<0.000010	<0.000050	<0.000010	<0.000050	<0.000010
Sodium (Na)-Dissolved	149	128	11	14.7	126	136	-	-	4.7	80.4	4.8	122	3.6	345	40.8
Strontium (Sr)-Dissolved	0.696	0.152	0.482	0.19	0.46	0.619	-	-	0.303	0.911	0.297	0.196	0.185	1.24	0.708
Thallium (Tl)-Dissolved	<0.00020	<0.00020	<0.00010	<0.00020	<0.00020	<0.00020	-	-	<0.00010	<0.00050	<0.00010	<0.00050	<0.00010	<0.00050	<0.00010
Tin (Sn)-Dissolved	<0.00020	0.00055	<0.00010	<0.00020	0.0005	0.00092	-	-	<0.00010	<0.00050	<0.00010	<0.00050	<0.00010	0.00082	0.00075
Titanium (Ti)-Dissolved	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	<0.010	<0.010	0.028	<0.010	<0.010	<0.010
Uranium (U)-Dissolved	0.000024	0.00269	0.000733	0.0011	0.00171	0.00852	-	-	0.00165	0.00285	0.00166	0.000538	0.000216	0.00011	0.00534
Vanadium (V)-Dissolved	<0.0020	<0.0020	<0.0010	<0.0020	<0.0020	<0.0020	-	-	<0.0010	<0.0050	<0.0010	<0.0050	0.0014	0.0316	<0.0010
Zinc (Zn)-Dissolved	<0.0020	0.0046	0.003	0.0022	0.0089	0.0107	-	-	<0.0010	<0.0050	0.0015	<0.0050	0.006	<0.0050	0.0024
Organic Parameters															
Total Organic Carbon	0.55	7.92	2.39	13.8	7.54	48.8	<0.50	-	1.92	66.5	1.91	25.3	9.31	68.9	14.9

ENVIRONMENTAL TESTING OF MORRISON TAILINGS SOLIDS AND SUPERNATANT

prepared for

WARDROP MINING ENGINEERING INC.

on behalf of

PACIFIC BOOKER MINERALS INC.

Project 11474-003 – Interim Report
October 4, 2007

Interim

NOTE:
This report refers to the samples as received.

The practice of this Company in issuing reports of this nature is to require the recipient not to publish the report or any part thereof without the written consent of SGS Minerals Services.

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Department of Justice Canada, 2004. *Metal mining effluent regulations (SOR/2002-222).* Fisheries Act, Aug 31, 2004. Available online: http://laws.justice.gc.ca/en/F-14/SOR-2002-222/119716.html

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Executive Summary

SGS was contracted by Pacific Booker Minerals Inc. (Pacific Booker) through their consultant Wardrop Mining Engineering Inc. (Wardrop) to complete environmental characterisation of tailings from the Morrison project located in central British Columbia. The purpose of the environmental test program was to assess the geochemical, acid rock drainage (ARD) and contaminant release potential associated with the tailings over time. Two locked-cycle flotation test (LCT) samples, generated during the metallurgical test program conducted at SGS facilities in Lakefield (SGS project reference number 11474-001), representing the Fine Fraction (-270 mesh) and Coarse Fraction (+270 mesh) tailings were submitted for environmental characterisation.

Whole rock analyses indicated that both the *Coarse Fraction* and *Fine Fraction* samples were comprised primarily of SiO_2 (66.8 and 58.2%, respectively) with significant amounts of Al_2O_3 (14.2 and 15.8%), Fe_2O_3 (3.42 and 5.80%), CaO (3.79 and 3.95%), Na_2O (3.43 and 2.85%), MgO (1.99 and 2.90%) and K_2O (1.25 and 1.59%). The high loss on ignition values reported (4.10 and 5.72%) suggest considerable amounts of volatile species are present in the samples. Inductively coupled plasma, optical emission spectroscopy/mass spectroscopy (ICP-OES/MS) strong acid digest elemental analyses confirmed that the *Coarse Fraction* and *Fine Fraction* tailings are comprised primarily of Si (31 and 28%, respectively) with significant amounts of Al (6.9 and 7.8%), Fe (2.3 and 4.0%), Ca (2.4 and 2.6%), Na (2.3 and 1.9%), Mg (1.2 and 1.7%) and K (1.1 and 1.4%).

The low sulphide content (0.11%) and significant total and carbonate (CO_3) net neutralization potential (net NP) values (47.1 and 33.0 t $CaCO_3$/1000 t, respectively) determined during modified acid base accounting (ABA) testing of the *Coarse Fraction* tailings suggest that this sample is potentially acid consuming. The CO_3 content (2.40%) reported in the *Fine Fraction* tailings however, indicates that a considerable amount of the total NP reported by the ABA test method is from less reactive sources. Since carbonate minerals are typically the only minerals that can react at fast enough rates to counteract acidities released by sulphide mineral oxidation, the CO_3 neutralization potential to acid potential (NP/AP) ratio (2.8) calculated suggests a low potential for acid generation from the *Fine Fraction* tailings.

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Both the *Coarse Fraction* and *Fine Fraction* humidity cell leachates have maintained near neutral pH values and low levels of alkalinity over the initial twelve weeks of testing. Although decreasing concentrations of sulphate have been observed in the *Coarse Fraction* leachates, increasing sulphate concentrations are evident in the *Fine Fraction* leachates. ICP-OES/MS trace metal scans revealed all controlled parameters in both the *Coarse Fraction* and *Fine Fraction* leachates reporting at concentrations well within the Metal Mining Effluent Regulations (MMER).

After twelve weeks of leaching, calculation of the cumulative sulphide, NP and CO_3 NP depletion rates indicate that the sulphide is depleting at a rate greater than ten times faster than the CO_3 in the *Coarse Fraction* sample and that the sulphide is depleting at a rate approximately three times faster than the CO_3 in the *Fine Fraction* sample. These results suggest that, if the current depletion rates continue, an excess of carbonate will remain upon exhaustion of the sulphide content contained within the samples.

ICP-OES/MS analyses of the *Coarse Fraction* and *Fine Fraction* decant solutions reported all controlled parameters, with the exception of TSS, within the limits specified by the MMER. Substantial concentrations of alkalinity, SO_4 and high levels of TDS were reported in all samples tested.

The *Coarse Fraction* tailings have a fairly uniform grain size with approximately 75% of the sample being comprised of fine sand sized particles. Of the minus 200 mesh portion of the *Coarse Fraction* sample, approximately 23% are silt size particles and approximately 2% are clay size particles. The *Fine Fraction* tailings reported approximately 95% of the sample passing the 200 mesh sieve with the majority of these fines being comprised of silt size particles and approximately 14% falling into the clay sized fraction.

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Introduction

SGS was contracted by Pacific Booker Minerals Inc. (Pacific Booker) through their consultant Wardrop Mining Engineering Inc. (Wardrop) to complete environmental characterisation of tailings from the Morrison project located in central British Columbia. Environmental tests were conducted on two locked-cycle flotation test (LCT) samples generated during the metallurgical test program conducted at SGS facilities in Lakefield (SGS project reference number 11474-001) representing the finer fraction (-270 mesh) and coarser fraction (+270 mesh) of the tailings. The purpose of the environmental test program was to assess the acid rock drainage (ARD) and the contaminant release potential associated with the tailings over time.

The following report provides a summary of the environmental test work completed and the results thereof.

SGS LAKEFIELD RESEARCH LIMITED
Minerals Services

Barbara Bowman
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Scope of Work

The scope of test work completed on the samples received included:

- Whole rock analyses.
- Inductively coupled plasma, optical emission spectroscopy/mass spectroscopy (ICP-OES/MS) strong acid digest elemental analyses.
- Modified acid base accounting (ABA).
- Humidity cell testing.
- Inductively coupled plasma, optical emission spectroscopy/mass spectroscopy (ICP-OES/MS) analyses of the fresh and aged tailings decant solutions.
- Particle size distribution (ASTM D 224).

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Sample Descriptions and Test Methods

The following sections provide brief overviews of the samples received and the test methods included in the environmental characterisation program.

1. Sample Descriptions

Two tailing samples (pulp) were received from the metallurgical operations department at SGS (SGS project reference number 11474-001). Descriptions of the samples received are provided in Table 1 below.

Table 1 Metallurgical Samples Received

Sample Identifier	Description	Volume
Coarse Fraction	+270 mesh fraction	~35 L
Fine Fraction	-270 mesh fraction	~70 L

2. Sample Preparation and Handling

Each of the pulp samples were mixed for 60 minutes at 200 rpm to ensure all solids were thoroughly recombined prior to the extraction of individual Day 0, 7, 29 and 60 ageing test charges that maintained the original ratio of liquids to solids. The fresh Day 0 tailings samples were allowed to settle undisturbed for 2 hours prior to the supernatant being decanted and submitted for analyses. The remainder of the pulps were filtered on No. 1 Whatman filter papers and the resultant filter cake solids were submitted for analysis at SGS facilities in Lakefield. Samples were prepared for the proposed test work and analyses according to SGS Standard Operating Procedures.

3. Test Methods

The following sections provide a brief overview of the test methods included in the environmental characterisation program.

3.1. XRF Whole Rock Analyses

Whole rock analyses were completed on the samples using a semi-quantitative XRF method in order to determine the elemental concentrations of the major rock forming constituents. This

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method quantifies major elements present and reports them as oxides to permit a mass balance assessment against the component of a sample that is amenable to oxidization (loss on ignition).

3.2. ICP-OES/MS Strong Acid Digest Elemental Analyses

The samples were digested using an acid mixture of HNO_3, HF, $HClO_4$, and HCl to obtain a near total digest of the parameters being analyzed. ICP-OES/MS trace metal scans were performed to provide quantitative analyses of the elemental components of the sample material. Analyses requested included: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Ti, V and Zn. Mercury analyses were completed by cold vapour atomic absorption spectroscopy (CVAAS).

3.3. Modified ABA Testing

The modified acid base accounting (ABA) test provided quantification of the total sulphur, sulphide sulphur, and sulphate concentrations present and the potential acid generation (AP) related to the oxidation of the sulphide sulphur concentration. The test method determined the neutralization potential (NP) of the samples by initiating a reaction with excess acid and then identified the quantity of acid neutralized by the samples NP by back-titrating to pH 8.3 with NaOH. The balance between the AP and NP assists in defining the potential of the sample to generate acid drainage. In addition, quantification of the extent of carbonate mineral content permitted calculation of the theoretical carbonate NP.

3.4. Humidity Cell Testing

The humidity cell test is used to predict the potential for acidic leachate generation and the primary rates of reaction under aerobic weathering conditions. Humidity cell testing was initiated on the tailings samples at the "as received" particle size according to the standard ASTM D5744-96 (2001) method.

The tailings samples were placed in cells with dimensions of 203.2 mm (8") inside diameter by 101.6 mm (4") height. A perforated disk was located approximately 12.5 mm (1/2") above the cell bottom to support the solid tailings samples. A filter media was placed on the perforated disk to transmit air and to allow leachate to drain and collect in the cell bottom. A valve located at the bottom of the cell allows leachate to pass into the collection vessel.

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A 1000 g dry tailings sample was loaded into the cell. The first leach, designated as the Week 0 leach, initiated the humidity cell test and established the initial characteristics of the leachate. The first leach was performed by flooding the tailings sample with 1000 mL of deionised water (DI) for one hour, followed by the collection of leachate for analyses.

Subsequent stages of the humidity cell test involved three stages over a 7-day cycle: (1) dry air (which entered the bottom of the cell and flowed upward through the sample) was passed through the sample for 3 days; (2) humid air was passed through the cell in the same manner as the dry air for 3 days; and (3) on the last day of the cycle, DI was added through the top of the cell and allowed to flood the cell for one hour prior to the leachate being collected. Weekly leachate samples from the humidity cell tests were submitted for general analyses including: pH, acidity, alkalinity, conductivity and sulphate. ICP-MS trace metal scans were initially performed on a weekly basis (Weeks 0 through 6). Subsequent ICP-MS trace metal scans were completed or are scheduled to be completed on the Weeks 9, 12, 16 and 20 leachates.

3.5. ICP-OES/MS Analyses of the Fresh and Aged Tailings Decant Solutions

Aged supernatants were decanted from the settled tailings slurries and analysed after defined periods of ageing. The objective of this testing was to identify changes and quantify the elemental components in the sample supernatant over time. Decant solutions were collected and submitted for chemical analysis of the following parameters: pH, acidity, alkalinity, conductivity, TDS, TSS, EMF, anions (Cl, F, SO_4, NO_2, NO_3 and PO_4), NH_3 and NH_4. Total metal analyses included: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Ti, V and Zn. Mercury analyses were completed by CVAAS.

3.6. Particle Size Distribution (ASTM D 224)

The Micromeritics Model 1305 multivolume gas pycnometer measured the volume of powdery, granular, porous and irregularly shaped solids in the waste products using Boyle's Law. The test used a known weight of solids to quantitatively determine the specific gravity of the solids.

Standard screen sieve sizes (Tyler) were used to determine the particle sizes of the solid waste product particles. The weights of the percent retained and passing on each respective screen size

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were determined. The test determined the particle size distribution of the plus 200 mesh fraction of the waste products being investigated.

The particle size distribution for the minus 200 mesh fraction of the waste products was established using the hydrometer (sedimentation) method. A 50 g (dry equivalent) sample was placed into solution (dispersing agent) with 1 L of distilled water in a standardized glass cylinder. The solution was agitated, and the particles were permitted to settle out of suspension. As settling occurred over time, the average specific gravity of the mixture decreased, causing the height of the suspended hydrometer to drop. Reading of the hydrometer at specific time intervals provided (though established relationships) the weight of the soil remaining in suspension, and the size of the particles that had settled out of solution. The percent finer weight was calculated based on the hydrometer readings, using the Stokes equation for spheres falling freely in a fluid of known properties.

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Results

Results of the analytical testwork completed are summarised in the following sections. Detailed test results are appended to this report.

1. XRF Whole Rock Analyses

Results of the whole rock analyses completed on the tailings samples are presented in Table 2.

Table 2 Whole Rock Analyses Results

Parameter	Units	Coarse Fraction	Fine Fraction
SiO_2	%	66.8	58.2
Al_2O_3	%	14.2	15.8
Fe_2O_3	%	3.42	5.80
MgO	%	1.99	2.90
CaO	%	3.79	3.95
Na_2O	%	3.43	2.85
K_2O	%	1.25	1.59
TiO_2	%	0.64	0.85
P_2O_5	%	0.19	0.29
MnO	%	0.04	0.06
Cr_2O_3	%	0.03	0.02
V_2O_5	%	0.02	0.03
LOI	%	4.10	5.72
Sum	%	99.8	98

2. ICP-OES/MS Strong Acid Digest Elemental Analyses

The ICP-OES/MS strong acid digest elemental analyses completed on the tailings samples are summarised in Table 3. Complete results are shown in Appendix 1.

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Table 3 ICP-OES/MS Strong Acid Digest Elemental Analyses Results

Parameter	Units	Coarse Fraction	Fine Fraction
Hg	g/t	0.1	0.2
Al	g/t	69000	78000
As	g/t	8	34
B	g/t	250	270
Ba	g/t	1000	1500
Ca	g/t	24000	26000
Cd	g/t	0.28	0.28
Cr	g/t	140	89
Cu	g/t	650	480
Fe	g/t	23000	40000
K	g/t	11000	14000
Mg	g/t	12000	17000
Mn	g/t	320	420
Na	g/t	23000	19000
Ni	g/t	37	81
Pb	g/t	7.4	20
Se	g/t	1	2
Si	g/t	310000	280000
Ti	g/t	1900	2800
Zn	g/t	81	94

3. Modified ABA Testing

Summary results of the modified ABA tests completed on the tailings samples are shown in Table 4. Detailed results are provided in Appendix 1

Table 4 Modified ABA Test Results

Parameter	Units	Coarse Fraction	Fine Fractiion
Paste pH	units	9.31	8.76
NP	t $CaCO_3$/1000 t	50.5	61.0
AP	t $CaCO_3$/1000 t	3.4	14.4
Net NP	t $CaCO_3$/1000 t	47.1	46.6
NP/AP	ratio	14.9	4.2
S	%	0.094	0.542
Sulphide1	%	0.11	0.46
SO_4	%	< 0.4	< 0.4
C	%	0.744	0.955
Carbonate	%	2.19	2.40
pH Rinse Water	units	8.59	8.61
pH DI Water	units	6.39	6.39
Theoretical CO_3 NP	t $CaCO_3$/1000 t	36.4	39.8
CO_3 NP/AP	ratio	10.7	2.8

4. Humidity Cell Testing

The humidity cell tests initiated on June 20, 2007 are currently in the fifteenth week of testing. Results of the humidity cell tests available to September 21, 2007 are summarised in the

following sections and presented in detail in Appendix 2. Humidity cell certificates of analysis are included in Appendix 3. A summary report is scheduled to be provided upon completion of the test program.

Preliminary results of pH, conductivity, acidity, alkalinity and sulphate analyses and calculated cumulative depletion rates for the *Coarse Fraction* and *Fine Fraction* humidity cell test leachates are summarised in Tables 5 and 7, respectively. Summary results of the dissolved metal concentrations in the *Coarse Fraction* and *Fine Fraction* leachates, as compared to the Metal Mining Effluent Regulations (MMER), are presented in Tables 6 and 8, respectively.

5. ICP-OES/MS Analyses of the Fresh and Aged Tailings Decant Solutions

Summary results of the ICP-OES/MS analyses completed on the *Coarse Fraction* and *Fine Fraction* fresh and aged tailings decant solutions are presented in Tables 9 and 10, respectively. Complete test results are provided in Appendix 1.

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Table 5 Weekly Leachate Results and Cumulative Depletion Rates – Coarse Fraction

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	Cum $S^=$ Depletion	Cum NP Depletion	Cum CO_3 NP Depletion
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µmhos/cm	mg/L	%	%	%
0	7.68	<2	51	308	58	1.24	0.08	0.12
1	8.20	<2	71	197	25	1.96	0.13	0.19
2	7.92	<2	62	159	17	2.45	0.17	0.23
3	8.01	<2	59	150	12	2.82	0.19	0.27
4	7.70	<2	55	128	11	3.12	0.21	0.29
5	8.15	<2	54	135	10	3.41	0.23	0.32
6	7.84	<2	51	132	10	3.66	0.25	0.35
7	7.32	<2	49	134	9.6	3.95	0.27	0.37
8	7.96	<2	52	140	9.3	4.22	0.29	0.40
9	7.90	<2	50	136	9.4	4.50	0.31	0.42
10	8.05	<2	54	132	9	4.77	0.32	0.45
11	8.05	<2	58	139	46	6.16	0.42	0.58
12	7.62	<2	52	141	8.3	6.40	0.44	0.60

Table 6 Dissolved Metal Concentrations – Coarse Fraction

Parameter	Units	MMER[1]	0	1	2	3	4	5	6	7	8	9	10	11	12
pH	units	6 to 9.5	7.68	8.20	7.92	8.01	7.70	8.15	7.84	7.32	7.96	7.90	8.05	8.05	7.62
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	< 0.0001	---	---	< 0.0001
As	mg/L	0.5	0.0020	0.0033	0.0022	0.0023	0.0022	0.0024	0.0023	---	---	0.0022	---	---	0.0013
Cu	mg/L	0.3	0.0022	0.0016	0.0011	0.0009	0.0011	0.0011	0.0011	---	---	0.0012	---	---	0.0013
Ni	mg/L	0.50	0.0047	0.0021	0.0019	0.0016	0.0009	0.0011	0.0008	---	---	< 0.0007	---	---	0.0007
Pb	mg/L	0.20	0.00013	<0.00002	0.00002	<0.00002	<0.00002	0.00002	0.00003	---	---	0.00012	---	---	<0.00002
Zn	mg/L	0.50	0.0026	0.0018	0.0032	0.0042	0.0033	0.0031	0.0025	---	---	0.0026	---	---	0.004

[1]*Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.*

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Table 7 Weekly Leachate Results and Cumulative Depletion Rates – Fine Fraction

Week	pH	Acidity	Alkalinity	Conductivity	SO_4	Cum $S^=$ Depletion	Cum NP Depletion	Cum CO_3 NP Depletion
	units	$CaCO_3$ eq. mg/L	$CaCO_3$ eq. mg/L	µmhos/cm	mg/L	%	%	%
0	6.31	8	4	69	4.3	0.03	0.01	0.01
1	7.18	<2	7	43	8.2	0.08	0.02	0.03
2	7.09	<2	9	55	16	0.18	0.04	0.07
3	7.11	<2	9	70	16	0.29	0.07	0.10
4	6.83	<2	8	60	16	0.39	0.09	0.14
5	7.39	<2	11	81	21	0.54	0.13	0.19
6	6.94	<2	7	64	17	0.65	0.15	0.23
7	6.78	<2	7	71	21	0.78	0.18	0.28
8	7.06	<2	7	80	22	0.92	0.22	0.33
9	7.05	<2	9	87	24	1.09	0.26	0.39
10	7.50	<2	15	111	34	1.33	0.31	0.48
11	7.27	<2	11	104	29	1.54	0.36	0.56
12	7.00	<2	11	92	25	1.71	0.40	0.62

Table 8 Dissolved Metal Concentrations – Fine Fraction

Parameter	Units	MMER[1]	0	1	2	3	4	5	6	7	8	9	10	11	12
pH	units	6 to 9.5	6.31	7.18	7.09	7.11	6.83	7.39	6.94	6.78	7.06	7.05	7.50	7.27	7.00
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	< 0.0001	---	---	< 0.0001
As	mg/L	0.50	0.0005	0.0005	0.0003	0.0003	0.0003	0.0004	0.0005	---	---	< 0.0002	---	---	0.0003
Cu	mg/L	0.30	0.0005	0.0009	0.0004	0.0008	0.0008	0.0010	0.0008	---	---	0.0009	---	---	0.0006
Ni	mg/L	0.50	0.0025	< 0.0007	< 0.0007	< 0.0007	< 0.0007	0.0009	< 0.0007	---	---	< 0.0007	---	---	0.0006
Pb	mg/L	0.20	0.00004	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	---	---	0.00005	---	---	< 0.00002
Zn	mg/L	0.50	0.0091	0.0026	0.0007	0.0017	0.0023	0.0030	0.0020	---	---	0.0039	---	---	0.007

[1] *Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.*

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Table 9 Fresh and Aged Liquid Analyses – Coarse Fraction

Parameter	Units	MMER[1]	Day 0		Day 7		Day 29		Day 61	
pH	units	6.0-9.5	8.39		8.50		8.35		8.33	
Alkalinity	mg/L as $CaCO_3$		89		100		132		63	
TDS	mg/L		317		314		346		585	
TSS	mg/L	15.00	**197**		**17**		5		< 2	
Cl	mg/L		38		35		36		38	
SO_4	mg/L		75		76		87		98	
Metals			**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
As	mg/L	0.50	0.0065	0.0019	0.0023	0.0018	0.0023	0.0021	0.0028	0.0027
Ca	mg/L		42.0	40.1	40.0	38.0	45.9	43.3	41.0	36.3
Cu	mg/L	0.30	0.0510	0.0023	0.0057	0.0023	0.0077	0.0062	0.0064	0.0058
K	mg/L		14.2	12.8	14.5	14.5	16.8	16.2	18.1	17.8
Mg	mg/L		11.8	9.56	10.0	9.80	12.2	11.7	13.0	12.7
Na	mg/L		35.7	35.4	34.7	31.5	36.5	35.1	37.5	33.8
Ni	mg/L	0.50	0.0171	0.0060	0.0054	0.0049	0.0493	0.0048	0.0031	0.0023
Pb	mg/L	0.20	0.00279	0.00006	0.00017	0.00014	0.00080	0.00052	0.00009	0.00014
Si	mg/L		7.06	2.02	2.68	2.15	2.55	2.44	4.27	2.68
Zn	mg/L	0.50	0.0166	0.0034	0.0055	0.0015	0.0157	< 0.0003	0.0004	0.0032

Table 10 Fresh and Aged Liquid Analyses – Fine Fraction

Parameter	Units	MMER[1]	Day 0		Day 7		Day 29		Day 61	
pH	units	6.0-9.5	8.34	---	8.35	---	8.22	---	8.30	---
Alkalinity	mg/L as $CaCO_3$		78	---	83	---	102	---	66	---
TDS	mg/L		234	---	231	---	237	---	254	---
TSS	mg/L	15.00	**74**	---	< 2	---	2	---	< 2	---
Cl	mg/L		28	---	25	---	24	---	26	---
SO_4	mg/L		53	---	50	---	57	---	64	---
Metals			**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
As	mg/L	0.50	0.0056	0.0021	0.0025	0.0022	0.0018	0.0019	0.0021	0.0025
Ca	mg/L		31.3	30.4	31.1	26.7	32.8	33.4	31.8	30.9
Cu	mg/L	0.30	0.066	0.0008	0.0012	0.0008	0.0046	0.0046	0.0057	0.0077
K	mg/L		13.3	12.6	14.0	12.9	14.2	14.3	15.8	15.6
Mg	mg/L		8.59	7.87	8.17	8.24	9.38	9.51	10.3	10.3
Na	mg/L		23.3	23.2	23.7	20.0	24.4	24.7	28.3	26.2
Ni	mg/L	0.50	0.0096	0.0030	0.0026	0.0024	0.0024	0.0025	0.0015	0.0013
Pb	mg/L	0.20	0.00354	< 0.00002	0.00013	0.00006	0.00049	0.00064	< 0.00002	0.00014
Si	mg/L		4.44	1.28	1.72	1.70	1.89	1.91	3.13	2.20
Zn	mg/L	0.50	0.0097	0.0020	0.0029	0.0030	< 0.0003	< 0.0003	< 0.0003	0.0013

[1]*Department of Justice Canada. 2002. Metal Mining Effluent Regulations, Fisheries Act SOR-2002-222.*

Interim

6. Particle Size Distribution (ASTM D 224)

Table 11 provides summary results of the particle size analyses. Complete test reports are provided in Appendix 2.

Table 11 Particle Size Distribution Results

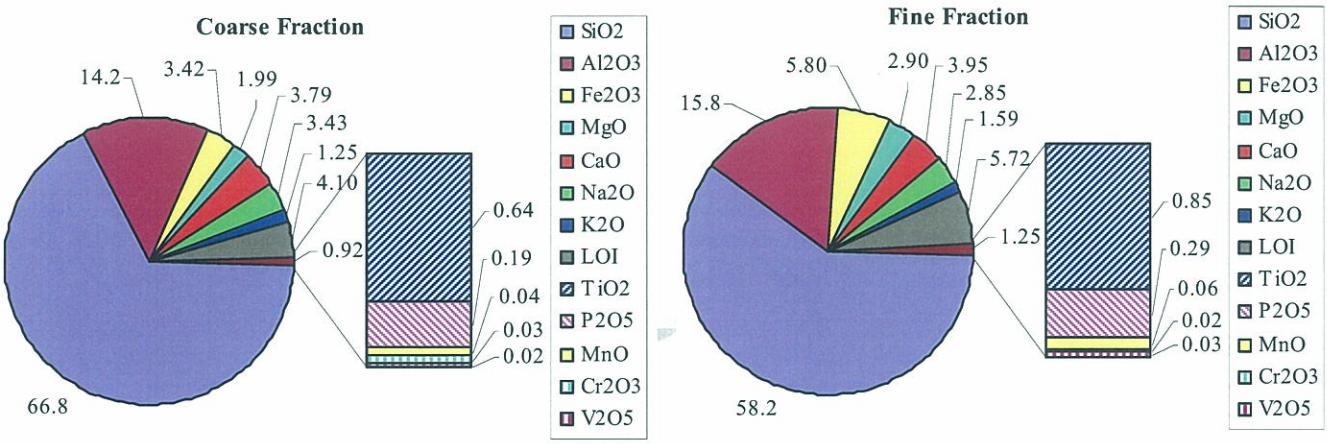
Coarse Fraction		Fine Fraction	
Particle Size (mm)	Weight Passing %	Particle Size (mm)	Weight Passing %
0.425	100	0.425	100
0.25	98.8	0.250	99.9
0.15	81.3	0.150	98.7
0.075	25.4	0.075	94.8
0.048	9.8	0.036	75.5
0.034	5.9	0.027	63.9
0.024	3.9	0.020	54.2
0.017	3.9	0.015	44.5
0.012	3.9	0.011	36.8
0.009	2.0	0.008	31.0
0.006	2.0	0.006	23.2
0.004	2.0	0.004	21.3
0.001	2.0	0.001	9.7

Interim

Discussion

Results of the whole rock analyses[1] completed on the *Coarse Fraction* and *Fine Fraction* samples indicate that these samples are comprised primarily of SiO_2 (66.8 and 58.2%, respectively) with significant amounts of Al_2O_3 (14.2 and 15.8%). Considerable amounts of Fe_2O_3 (3.42 and 5.80%), CaO (3.79 and 3.95%), Na_2O (3.43 and 2.85%), MgO (1.99 and 2.90%) and K_2O (1.25 and 1.59%) were also evident. The high losses on ignition (4.10 and 5.72%) determined for these samples suggests considerable amounts of volatile species (e.g., carbonates, hydrates and hydroxy-compounds) are present. Figure 1 graphically illustrates the results of the whole rock analyses.

Figure 1 Whole Rock Analyses

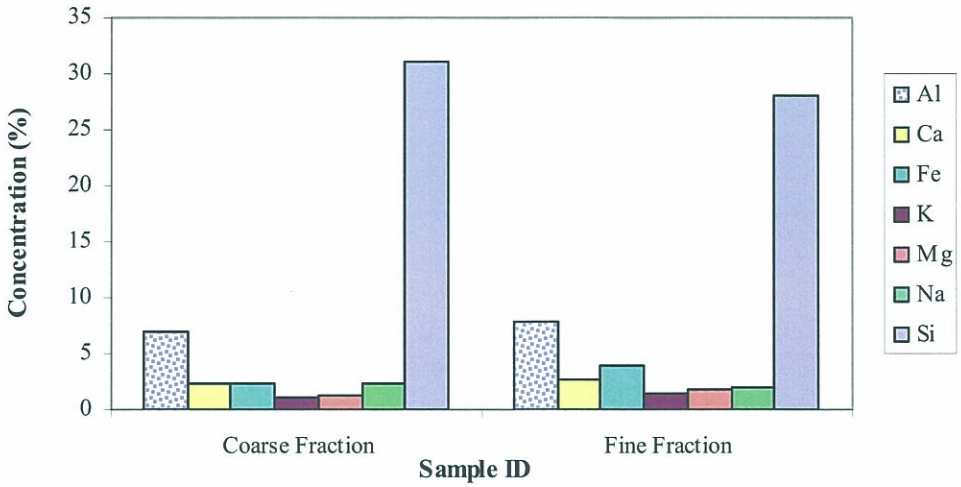


ICP-OES/MS[2] strong acid digest elemental analyses confirmed that the *Coarse Fraction* and *Fine Fraction* tailings are comprised primarily of Si (31 and 28%, respectively) with significant amounts of Al (6.9 and 7.8%). As expected, considerable amounts of Fe (2.3 and 4.0%), Ca (2.4 and 2.6%), Na (2.3 and 1.9%), Mg (1.2 and 1.7%) and K (1.1 and 1.4%) were also observed. As with the findings of the whole rock analyses, the elemental analyses reported slightly higher concentrations of Si in the *Coarse Fraction* tailings in comparison to the *Fine Fraction* tailings, while the *Fine Fraction* tailings showed slightly higher concentrations of Al, Ca, Fe and Mg in comparison to the *Coarse Fraction* tailings. Intermediate concentrations of Ba and Ti and low

[1] *Table 2 provides results of the whole rock analyses.*
[2] *ICP-OES/MS strong acid digest elemental analyses are summarised in Table 3.*

levels of B, Cr, Cu and Mn were also noted. The significant components of the samples are illustrated in Figure 2.

Figure 2 ICP-OES Strong Acid Digest Elemental Analyses



The low sulphide content (0.11%), significant total and carbonate (CO_3) net neutralization potential (net NP) values (47.1 and 33.0 t $CaCO_3$/1000 t, respectively) and high total and CO_3 neutralization potential to acid potential (NP/AP) ratios (14.9 and 10.7) determined during modified ABA[3] testing of the *Coarse Fraction* tailings suggest that this sample is potentially acid consuming.

Although ABA testing of the *Fine Fraction* tailings also suggested the potential for acid consumption based on the total net NP (46.6 t $CaCO_3$/1000 t) and total NP/AP ratio (4.2), the CO_3 content (2.40%) reported indicates that a considerable amount of the total NP reported by the ABA test method is from less reactive sources. Since carbonate minerals are typically the only minerals that can react at fast enough rates to counteract acidities released by sulphide mineral oxidation, the resultant CO_3 NP/AP ratio (2.8) suggests a low potential for acid generation. The total NP and CO_3 NP as compared to the AP of the samples are illustrated in Figure 3. Comparisons of the total NP/AP and CO_3 NP/AP ratios versus sulphide are presented in Figure 4.

[3] *Results of the ABA testing are provided in Table 4.*

Figure 3 Total NP and CO_3 NP vs. AP

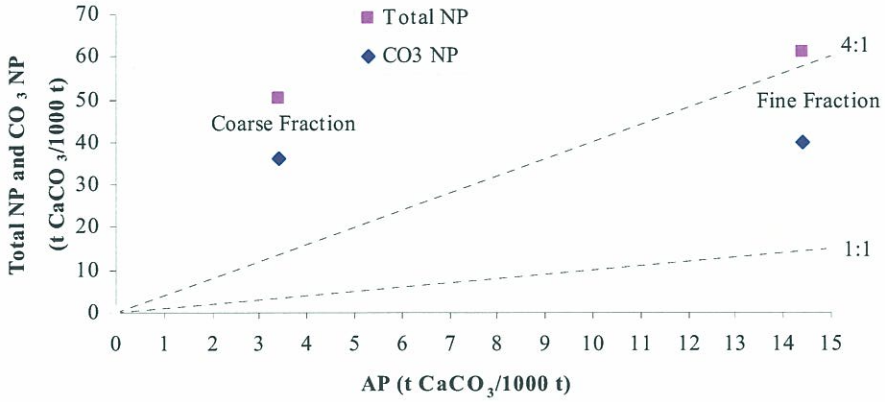
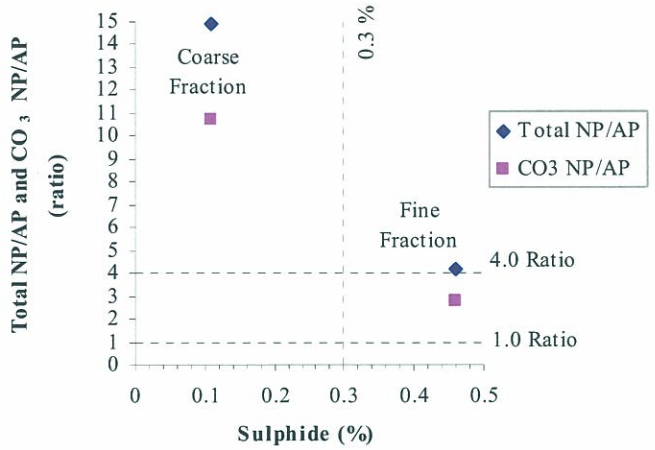


Figure 4 Total NP/AP and CO_3 NP/AP vs. Sulphide

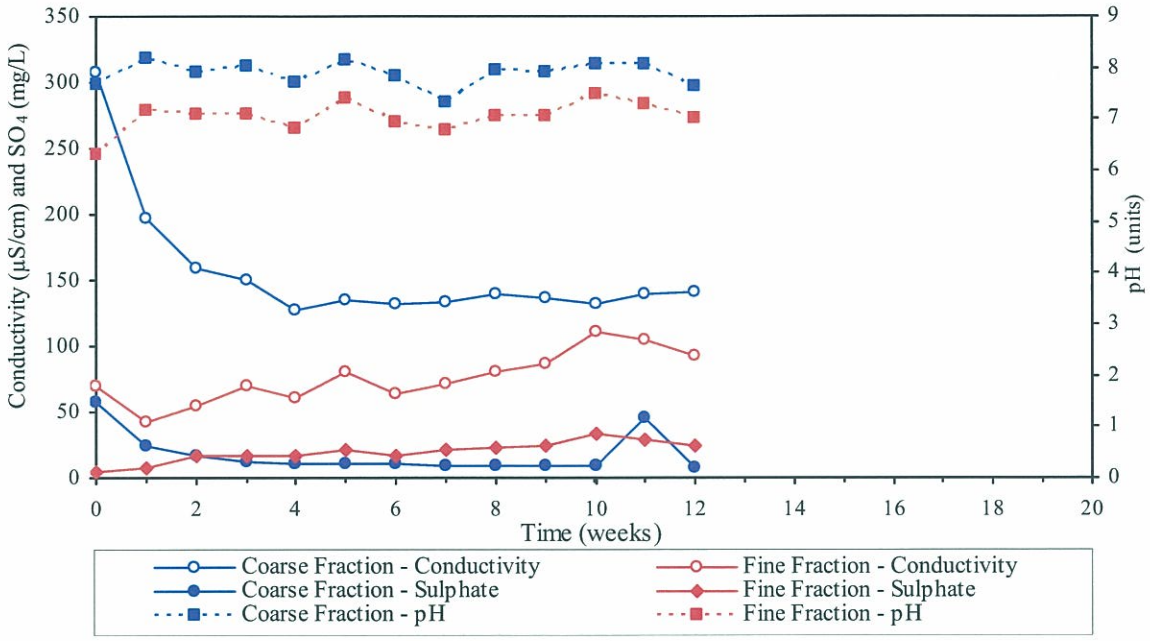


The *Coarse Fraction* humidity cell leachates[4] have reported near neutral to slightly alkaline pH values, decreasing concentrations of sulphate and moderate levels of alkalinity over the initial twelve weeks of testing. Although the *Fine Fraction* humidity cell leachates have also maintained near neutral pH values throughout the initial test period; increases have been noted in the sulphate concentrations released into the leachates. Low levels of alkalinity have been maintained and acidity initially released into the *Fine Fraction* leachates decreased to below the analytical detection limit in Week 1. ICP-OES/MS trace metal scans[5] revealed all controlled parameters in both the *Coarse Fraction* and *Fine Fraction* leachates reporting at concentrations

[4] *Results of pH, conductivity, acidity, alkalinity and sulphate analyses and cumulative depletion rates for the Coarse Fraction and Fine Fraction humidity cells are summarised in Tables 5 and 7, respectively.*
[5] *Summary results of the dissolved metal concentrations in the Coarse Fraction and Fine Fraction humidity cell leachates are shown in Tables 6 and 8, respectively.*

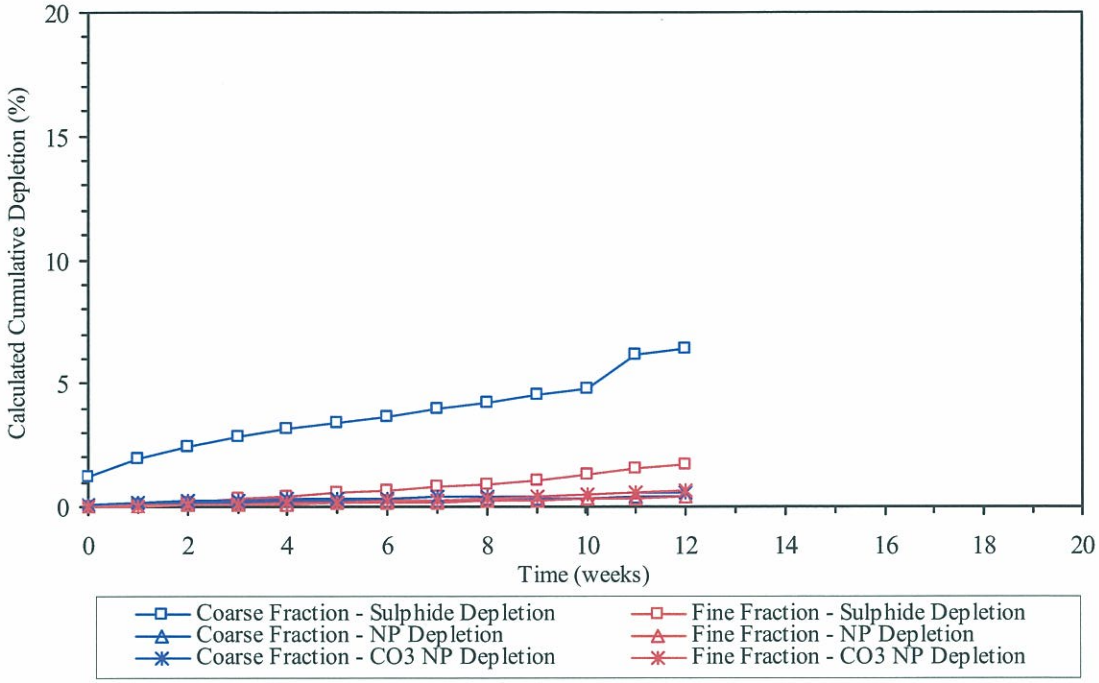
well within the MMER limits. Comparisons of the pH, conductivity and sulphate concentrations reported in the *Coarse Fraction* and *Fine Fraction* weekly leachates are presented graphically in Figure 5 below.

Figure 5 Conductivity, pH and SO_4 Concentrations in the Humidity Cell Leachates



After twelve weeks of leaching, cumulative sulphide depletions of 6.40 and 1.71% (from 0.11 to 0.10% and from 0.46 to 0.45% sulphide) were determined for the *Coarse Fraction* and *Fine Fraction* samples, respectively. The related total NP depletions (0.44 and 0.40%, respectively) and CO_3 NP depletions (0.60 and 0.62%) indicate that the sulphide is depleting at a rate greater than ten times faster than the CO_3 in the *Coarse Fraction* sample and that the sulphide is depleting at a rate approximately three times faster than the CO_3 in the *Fine Fraction* sample. These results suggest that, if the current depletion rates continue, an excess of carbonate will remain upon exhaustion of the sulphide content contained within the samples. Depletion rates for the *Coarse Fraction* and *Fine Fraction* samples are illustrated in Figure 6.

Figure 6 Cumulative Sulphide and NP Depletion Rates



ICP-OES/MS analyses of the *Coarse Fraction* and *Fine Fraction* decant solutions[6] reported all controlled parameters, with the exception of TSS, within the limits specified by the MMER. TSS of the *Coarse Fraction* fell to below MMER limits after 7 days of ageing while the *Fine Fraction* cleared within several days. Substantial concentrations of alkalinity, SO_4, Ca, Cl, K, Mg, Na and Si and high levels of TDS were reported in all samples tested. Although decreasing concentrations of total Al, Ba, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, Se, Sn, Ti, V and Zn were observed with the passage of time, increasing dissolved Pb was evident with increased time. Comparisons of the *Coarse Fraction* and *Fine Fraction* solutions versus time are shown in Figures 7 through 10.

[6] *Results of the ICP-OES/MS analyses completed on the liquid effluents are summarised in Tables 9 and 10.*

Figure 7 Total Metals Aged Solution Analyses – Coarse Fraction

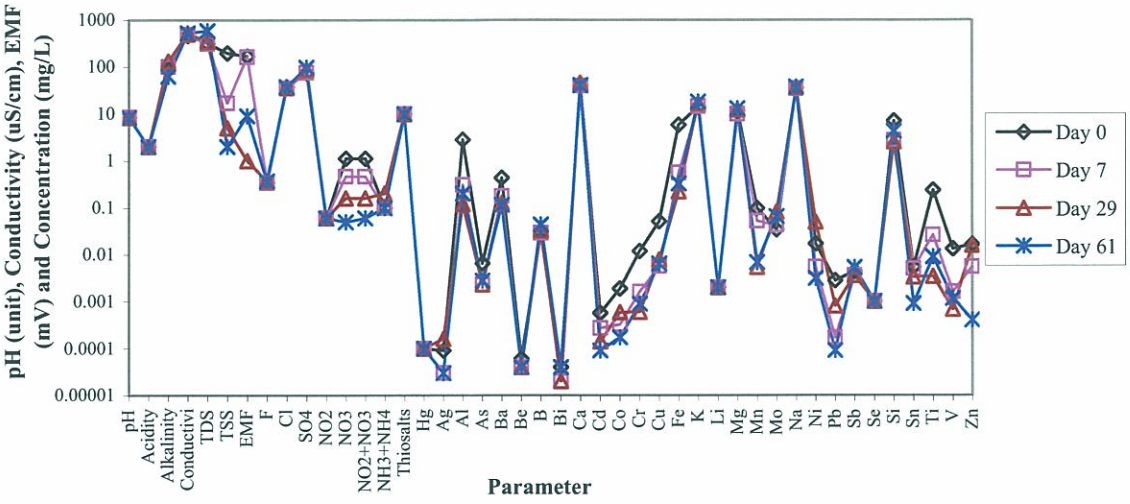


Figure 8 Dissolved Metals Aged Solution Analyses – Coarse Fraction

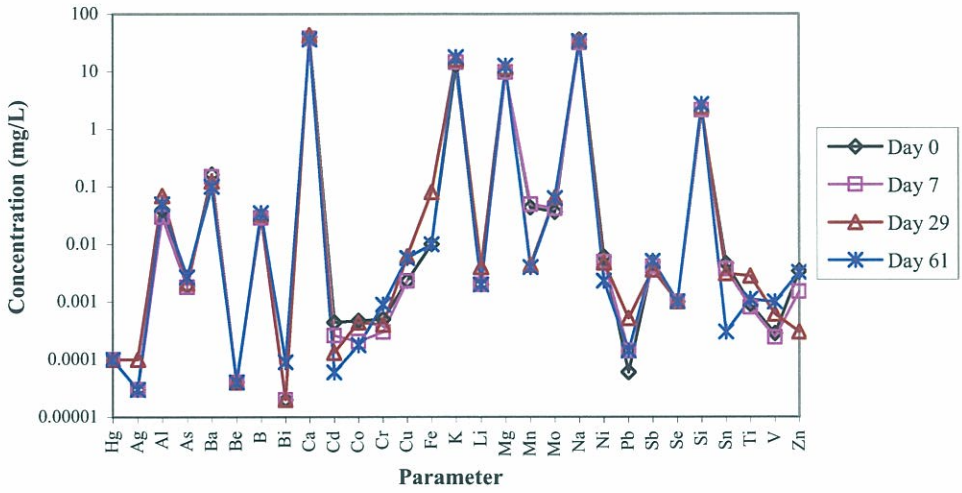


Figure 9 Total Metals Aged Solution Analyses – Fine Fraction

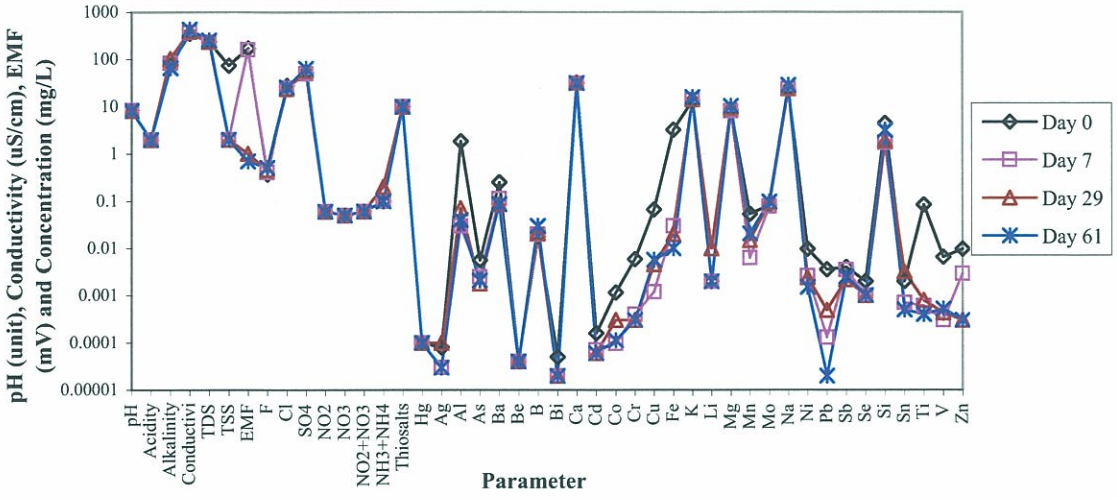
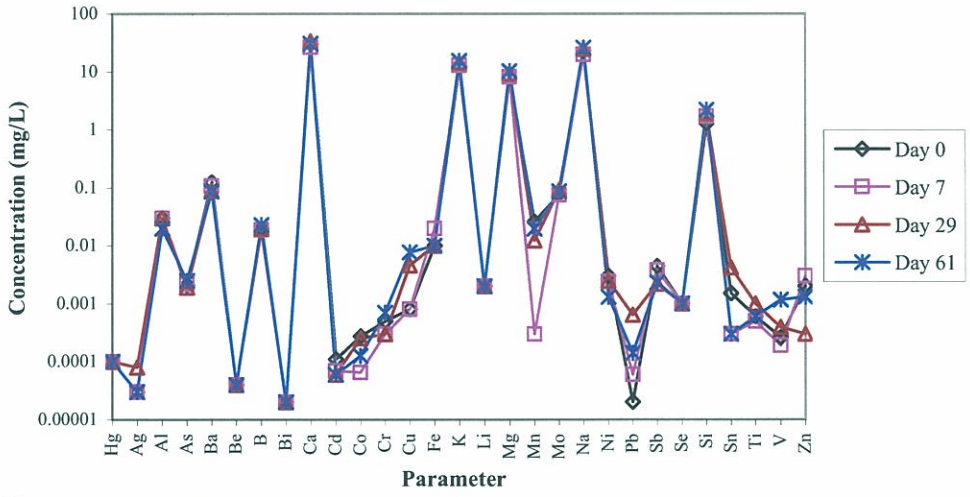


Figure 10 Dissolved Metals Aged Solution Analyses – Fine Fraction

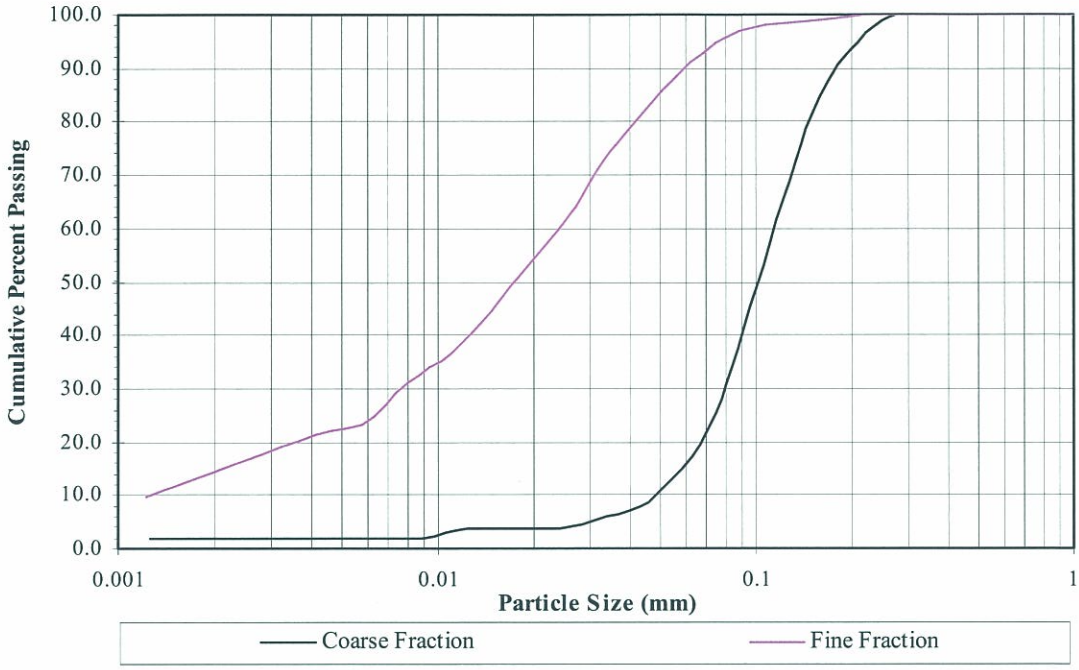


As expected, results of the particle size distribution analyses[7] indicate that the *Coarse Fraction* and *Fine Fraction* samples have very different particle size distribution characteristics. The *Coarse Fraction* tailings have a fairly uniform grain size with approximately 75% of the sample being comprised of fine sand sized particles and approximately 25% of the sample passing the 200 mesh sieve. Of this minus 200 mesh portion of the sample, approximately 23% are silt size particles and approximately 2% are clay size particles. The *Fine Fraction* tailings showed very

[7] *Results of the ASTM D 422 particle size analyses are summarised in Table 11.*

fine particle size distribution characteristics with approximately 95% of the sample passing the 200 mesh sieve. The majority of these fines were comprised of silt size particles with approximately 14% falling into the clay sized fraction. Comparative results of the particle size analyses are presented graphically in Figure 11 below.

Figure 11 Comparison of Particle Sized Distribution Results



Closing

This report has been provided as an interim report summarising the environmental test work completed to September 21, 2007 and results thereof. A final report is scheduled upon completion of the test program.

Interim

Appendix 1 Analytical Data Tables

XRF Whole Rock Analyses

Parameter	Units	Coarse Fraction	Fine Fraction
SiO_2	%	66.8	58.2
Al_2O_3	%	14.2	15.8
Fe_2O_3	%	3.42	5.80
MgO	%	1.99	2.90
CaO	%	3.79	3.95
Na_2O	%	3.43	2.85
K_2O	%	1.25	1.59
TiO_2	%	0.64	0.85
P_2O_5	%	0.19	0.29
MnO	%	0.04	0.06
Cr_2O_3	%	0.03	0.02
V_2O_5	%	0.02	0.03
LOI	%	4.10	5.72
Sum	%	99.8	98

LIMS #10158-JUN07

ICP-OES/MS Strong Acid Digest Elemental Analyses

Parameter	Units	Coarse Fraction	Fine Fraction
Hg	g/t	0.1	0.2
Ag	g/t	0.86	1.2
Al	g/t	69000	78000
As	g/t	8	34
B	g/t	250	270
Ba	g/t	1000	1500
Be	g/t	1.1	1.2
Bi	g/t	0.11	0.35
Ca	g/t	24000	26000
Cd	g/t	0.28	0.28
Co	g/t	6.8	24
Cr	g/t	140	89
Cu	g/t	650	480
Fe	g/t	23000	40000
K	g/t	11000	14000
Li	g/t	12	17
Mg	g/t	12000	17000
Mn	g/t	320	420
Mo	g/t	13	22
Na	g/t	23000	19000
Ni	g/t	37	81
Pb	g/t	7.4	20
Sb	g/t	0.7	1.4
Se	g/t	1	2
Si	g/t	310000	280000
Sn	g/t	2	2.8
Ti	g/t	1900	2800
V	g/t	44	67
Zn	g/t	81	94

LIMS #10157-JUN07

Modified Acid Base Accounting

Parameter	Units	Coarse Fraction	Fine Fractiion
Paste pH	units	9.31	8.76
Fizz Rate	---	2	1
Sample	weight(g)	2.0	2.0
HCl added	mL	40.50	47.60
HCl	Normality	0.10	0.10
NaOH	Normality	0.10	0.10
NaOH to	pH=8.3 mL	20.10	23.45
Final pH	units	1.57	1.72
NP	t $CaCO_3$/1000 t	50.5	61.0
AP	t $CaCO_3$/1000 t	3.4	14.4
Net NP	t $CaCO_3$/1000 t	47.1	46.6
NP/AP	ratio	14.9	4.2
S	%	0.094	0.542
Sulphide1	%	0.11	0.46
SO_4	%	< 0.4	< 0.4
C	%	0.744	0.955
Carbonate	%	2.19	2.40
pH Rinse Water	units	8.59	8.61
pH DI Water	units	6.39	6.39
Theoretical CO_3 NP	t $CaCO_3$/1000 t	36.4	39.8
CO_3 NP/AP	ratio	10.7	2.8

LIMS #10159-JUN07

ICP-OES/MS Analyses - Coarse Fraction

Parameter	Units	MMER[1]	Day 0		Day 7		Day 29		Day 61	
LIMS			10151-JUN07		10334-JUN07		10157-JUL07		10157-AUG07	
pH	units	6.0-9.5	8.39	---	8.50	---	8.35	---	8.33	---
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2	---	< 2	---
Alkalinity	mg/L as $CaCO_3$		89	---	100	---	132	---	63	---
Conductivity	uS/cm		464	---	486	---	500	---	528	---
TDS	mg/L		317	---	314	---	346	---	585	---
TSS	mg/L	15.00	**197**	---	**17**	---	5	---	< 2	---
EMF	mV		168	---	164	---	< 1	---	9	---
F	mg/L		0.35	---	0.34	---	0.37	---	0.37	---
Cl	mg/L		38	---	35	---	36	---	38	---
SO_4	mg/L		75	---	76	---	87	---	98	---
NO_2	as N mg/L		< 0.06	---	< 0.06	---	< 0.06	---	< 0.06	---
NO_3	as N mg/L		1.11	---	0.46	---	0.16	---	< 0.05	---
NO_2+NO_3	as N mg/L		1.11	---	0.46	---	0.16	---	< 0.06	---
NH_3+NH_4	as N mg/L		0.1	---	< 0.1	---	0.2	---	< 0.1	---
Thiosalts	as S_2O_3 mg/L		< 10	---	< 10	---	< 10	---	< 10	---
Metals			**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L		0.00009	< 0.00003	< 0.00003	< 0.00003	0.00016	0.0001	< 0.00003	< 0.00003
Al	mg/L		2.83	0.04	0.31	0.03	0.12	0.07	0.20	0.05
As	mg/L	0.50	0.0065	0.0019	0.0023	0.0018	0.0023	0.0021	0.0028	0.0027
Ba	mg/L		0.437	0.165	0.177	0.150	0.127	0.124	0.116	0.101
Be	mg/L		0.00006	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
B	mg/L		0.030	0.030	0.029	0.029	0.033	0.033	0.044	0.035
Bi	mg/L		0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00004	0.00009
Ca	mg/L		42.0	40.1	40.0	38.0	45.9	43.3	41.0	36.3
Cd	mg/L		0.00057	0.00044	0.00027	0.00026	0.00014	0.00013	0.00009	< 0.00006
Co	mg/L		0.00188	0.000469	0.000326	0.000204	0.000590	0.000440	0.000172	0.000178
Cr	mg/L		0.0119	0.0005	0.0016	0.0003	0.0006	0.0004	0.0009	0.0009
Cu	mg/L	0.30	0.0510	0.0023	0.0057	0.0023	0.0077	0.0062	0.0064	0.0058
Fe	mg/L		5.82	0.01	0.56	< 0.01	0.22	0.08	0.33	< 0.01
K	mg/L		14.2	12.8	14.5	14.5	16.8	16.2	18.1	17.8
Li	mg/L		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.004	< 0.002	< 0.002
Mg	mg/L		11.8	9.56	10.0	9.80	12.2	11.7	13.0	12.7
Mn	mg/L		0.0971	0.0435	0.0521	0.0496	0.00538	0.00435	0.00688	0.00400
Mo	mg/L		0.0342	0.0362	0.0421	0.0421	0.0827	0.0649	0.0649	0.0630
Na	mg/L		35.7	35.4	34.7	31.5	36.5	35.1	37.5	33.8
Ni	mg/L	0.50	0.0171	0.0060	0.0054	0.0049	0.0493	0.0048	0.0031	0.0023
Pb	mg/L	0.20	0.00279	0.00006	0.00017	0.00014	0.00080	0.00052	0.00009	0.00014
Sb	mg/L		0.0044	0.0049	0.0036	0.0041	0.0036	0.0036	0.0053	0.0051
Se	mg/L		0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001
Si	mg/L		7.06	2.02	2.68	2.15	2.55	2.44	4.27	2.68
Sn	mg/L		0.0054	0.0046	0.0050	0.0037	0.0033	0.0031	0.0009	< 0.0003
Ti	mg/L		0.237	0.0009	0.0262	0.0008	0.0034	0.0028	0.0090	0.0011
V	mg/L		0.0133	0.00028	0.00160	0.00024	0.00068	0.00061	0.00116	0.00099
Zn	mg/L	0.50	0.0166	0.0034	0.0055	0.0015	0.0157	< 0.0003	0.0004	0.0032

ICP-OES/MS Analyses - Fine Fraction

Parameter	Units	MMER[1]	Day 0		Day 7		Day 29		Day 61	
LIMS			10151-JUN07		10334-JUN07		10157-JUL07		10157-AUG07	
pH	units	6.0-9.5	8.34	---	8.35	---	8.22	---	8.30	---
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2	---	< 2	---
Alkalinity	mg/L as $CaCO_3$		78	---	83	---	102	---	66	---
Conductivity	uS/cm		353	---	372	---	389	---	433	---
TDS	mg/L		234	---	231	---	237	---	254	---
TSS	mg/L	15.00	**74**	---	< 2	---	2	---	< 2	---
EMF	mV		170	---	160	---	< 1	---	-1	---
F	mg/L		0.37	---	0.41	---	0.46	---	0.51	---
Cl	mg/L		28	---	25	---	24	---	26	---
SO_4	mg/L		53	---	50	---	57	---	64	---
NO_2	as N mg/L		< 0.06	---	< 0.06	---	< 0.06	---	< 0.06	---
NO_3	as N mg/L		< 0.05	---	< 0.05	---	< 0.05	---	< 0.05	---
NO_2+NO_3	as N mg/L		< 0.06	---	<0.06	---	< 0.06	---	< 0.06	---
NH_3+NH_4	as N mg/L		< 0.1	---	< 0.1	---	0.2	---	< 0.1	---
Thiosalts	as S_2O_3 mg/L		< 10	---	< 10	---	< 10	---	< 10	---
Metals			**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**	**Total**	**Dissolved**
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ag	mg/L		0.00008	< 0.00003	< 0.00003	< 0.00003	0.00010	0.00008	< 0.00003	< 0.00003
Al	mg/L		1.85	0.03	0.03	0.03	0.07	0.03	0.04	0.02
As	mg/L	0.50	0.0056	0.0021	0.0025	0.0022	0.0018	0.0019	0.0021	0.0025
Ba	mg/L		0.248	0.124	0.113	0.107	0.0858	0.0891	0.0861	0.0865
Be	mg/L		< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
B	mg/L		0.018	0.020	0.020	0.019	0.021	0.020	0.030	0.023
Bi	mg/L		0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Ca	mg/L		31.3	30.4	31.1	26.7	32.8	33.4	31.8	30.9
Cd	mg/L		0.00016	0.00011	0.00007	0.00007	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Co	mg/L		0.00115	0.000275	0.000096	0.000065	0.000303	0.000255	0.000112	0.000126
Cr	mg/L		0.0059	0.0005	0.0004	0.0003	< 0.0003	< 0.0003	< 0.0003	0.0007
Cu	mg/L	0.30	0.066	0.0008	0.0012	0.0008	0.0046	0.0046	0.0057	0.0077
Fe	mg/L		3.22	0.01	0.03	0.02	0.02	< 0.01	< 0.01	< 0.01
K	mg/L		13.3	12.6	14.0	12.9	14.2	14.3	15.8	15.6
Li	mg/L		< 0.002	< 0.002	< 0.002	< 0.002	0.010	< 0.002	< 0.002	< 0.002
Mg	mg/L		8.59	7.87	8.17	8.24	9.38	9.51	10.3	10.3
Mn	mg/L		0.0532	0.0256	0.0062	0.0003	0.0148	0.0123	0.0205	0.0197
Mo	mg/L		0.0816	0.0772	0.0776	0.0754	0.0923	0.0917	0.0962	0.0870
Na	mg/L		23.3	23.2	23.7	20.0	24.4	24.7	28.3	26.2
Ni	mg/L	0.50	0.0096	0.0030	0.0026	0.0024	0.0024	0.0025	0.0015	0.0013
Pb	mg/L	0.20	0.00354	< 0.00002	0.00013	0.00006	0.00049	0.00064	< 0.00002	0.00014
Sb	mg/L		0.0040	0.0044	0.0035	0.0038	0.0022	0.0022	0.0025	0.0023
Se	mg/L		0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Si	mg/L		4.44	1.28	1.72	1.70	1.89	1.91	3.13	2.20
Sn	mg/L		0.0020	0.0015	0.0007	< 0.0003	0.0032	0.0042	0.0005	< 0.0003
Ti	mg/L		0.0838	0.0006	0.0006	0.0005	0.0008	0.0010	0.0004	0.0006
V	mg/L		0.00655	0.00026	0.00030	0.00019	0.00043	0.00039	0.00052	0.00116
Zn	mg/L	0.50	0.0097	0.0020	0.0029	0.0030	< 0.0003	< 0.0003	< 0.0003	0.0013

Appendix 2 Humidity Cell Test Reports

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	0	1	2	3	4	5	6	7	8	9	10
LIMS			10434-JUN	10560-JUN	10017-JUL	10168-JUL	10362-JUL	10511-JUL	10000-AUG	10081-AUG	10278-AUG	10445-AUG	10666-AUG
Hum Cell Leachate Vol	mLs		707	947	960	1000	910	960	820	982	982	967	989
pH	units	6 to 9	7.68	8.20	7.92	8.01	7.70	8.15	7.84	7.32	7.96	7.90	8.05
Conductivity	uS/cm		308	197	159	150	128	135	132	134	140	136	132
Alkalinity	mg/L as $CaCO_3$		51	71	62	59	55	54	51	49	52	50	54
Acidity	mg/L as $CaCO_3$		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
SO_4	mg/L		58	25	17	12	11	10	10	9.6	9.3	9.4	9
Hg	mg/L	0.01	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	< 0.0001	---
Ag	mg/L		< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	< 0.00003	---
Al	mg/L		0.0347	0.0347	0.0346	0.0386	0.0397	0.0481	0.0490	---	---	0.0439	---
As	mg/L	0.1	0.0020	0.0033	0.0022	0.0023	0.0022	0.0024	0.0023	---	---	0.0022	---
Ba	mg/L		0.0767	0.114	0.208	0.231	0.244	0.289	0.278	---	---	0.319	---
Be	mg/L		< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	---	---	< 0.00004	---
B	mg/L		< 0.002	0.008	0.006	0.092	< 0.002	0.008	< 0.002	---	---	< 0.002	---
Bi	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	< 0.00002	---
Ca	mg/L		24.3	21.3	19.1	17.9	16.5	15.9	15.1	---	---	6.80	---
Co	mg/L		0.00242	0.000527	0.000367	0.000316	0.000246	0.000162	0.000176	---	---	0.000117	---
Cd	mg/L	0.1	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	---	---	< 0.00006	---
Cr	mg/L		< 0.0003	0.0005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	< 0.0003	---
Cu	mg/L	0.5	0.0022	0.0016	0.0011	0.0009	0.0011	0.0011	0.0011	---	---	0.0012	---
Fe	mg/L	3.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	---
Li	mg/L		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.003	< 0.002	---	---	< 0.002	---
K	mg/L		11.1	9.78	7.97	7.17	6.45	5.99	5.69	---	---	2.35	---
Mg	mg/L		6.63	6.13	5.30	4.92	4.44	4.22	4.00	---	---	2.80	---
Mn	mg/L		0.0712	0.0545	0.0591	0.0502	0.0440	0.0380	0.0329	---	---	0.0315	---
Mo	mg/L		0.0209	0.0124	0.00726	0.00491	0.00471	0.00316	0.00249	---	---	0.00392	---
Na	mg/L		14.7	4.80	1.55	0.88	0.57	0.49	0.44	---	---	1.80	---
Ni	mg/L	0.5	0.0047	0.0021	0.0019	0.0016	0.0009	0.0011	0.0008	---	---	< 0.0007	---
Pb	mg/L	0.1	0.00013	< 0.00002	0.00002	< 0.00002	< 0.00002	0.00002	0.00003	---	---	0.00012	---
Sb	mg/L		0.0038	0.0031	0.0041	0.0019	0.0024	0.0027	0.0037	---	---	0.0025	---
Se	mg/L		0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	---	---	< 0.001	---
Sn	mg/L		0.0010	0.0011	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	0.0004	---
Si	mg/L		1.35	1.36	1.21	1.14	1.04	1.03	1.02	---	---	0.15	---
Ti	mg/L		< 0.0002	< 0.0002	0.0002	< 0.0002	0.0004	< 0.0002	0.0002	---	---	< 0.0002	---
V	mg/L		0.00022	0.00035	0.00035	0.00037	0.00041	0.00043	0.00049	---	---	0.00045	---
Zn	mg/L	2.0	0.0026	0.0018	0.0032	0.0042	0.0033	0.0031	0.0025	---	---	0.0026	---

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	11	12
LIMS			10015-SEP	10166-SEP
Hum Cell Leachate Vol	mLs		999	950
pH	units	6 to 9	8.05	7.62
Conductivity	uS/cm		139	141
Alkalinity	mg/L as $CaCO_3$		58	52
Acidity	mg/L as $CaCO_3$		< 2	< 2
SO_4	mg/L		46	8.3
Hg	mg/L	0.01	---	< 0.0001
Ag	mg/L		---	< 0.00001
Al	mg/L		---	0.0365
As	mg/L	0.1	---	0.0013
Ba	mg/L		---	0.352
Be	mg/L		---	< 0.00002
B	mg/L		---	0.003
Bi	mg/L		---	< 0.00001
Ca	mg/L		---	16.8
Co	mg/L		---	0.000146
Cd	mg/L	0.1	---	0.000004
Cr	mg/L		---	< 0.0005
Cu	mg/L	0.5	---	0.0013
Fe	mg/L	3.5	---	< 0.01
Li	mg/L		---	< 0.002
K	mg/L		---	5.11
Mg	mg/L		---	4.47
Mn	mg/L		---	0.0414
Mo	mg/L		---	0.00247
Na	mg/L		---	0.32
Ni	mg/L	0.5	---	0.0007
Pb	mg/L	0.1	---	< 0.00002
Sb	mg/L		---	0.00129
Se	mg/L		---	< 0.001
Sn	mg/L		---	0.00017
Si	mg/L		---	0.87
Ti	mg/L		---	0.0001
V	mg/L		---	0.00044
Zn	mg/L	2.0	---	0.004

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TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 10159-JUN07
Sulphur (S)	%	0.1
Sulphide ($S^{=}$)	%	0.11
NP	t $CaCO_3$/1000 t	50.5
CO_3 NP	t $CaCO_3$/1000 t	36.4

	Leachate Paremeters Measured						*Acid Generation* [1]				*Acid Neutralization* [1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
0	707	7.68	<2	51	308	58	41.0	41.0	1.24	1.24	42.71	0.08	0.12
1	947	8.20	<2	71	197	25	23.7	64.7	0.72	1.96	24.66	0.13	0.19
2	960	7.92	<2	62	159	17	16.3	81.0	0.49	2.45	17.00	0.17	0.23
3	1000	8.01	<2	59	150	12	12.0	93.0	0.36	2.82	12.50	0.19	0.27
4	910	7.70	<2	55	128	11	10.0	103.0	0.30	3.12	10.43	0.21	0.29
5	960	8.15	<2	54	135	10	9.6	112.6	0.29	3.41	10.00	0.23	0.32
6	820	7.84	<2	51	132	10	8.2	120.8	0.25	3.66	8.54	0.25	0.35
7	982	7.32	<2	49	134	9.6	9.4	130.2	0.29	3.95	9.82	0.27	0.37
8	982	7.96	<2	52	140	9.3	9.1	139.4	0.28	4.22	9.51	0.29	0.40
9	967	7.90	<2	50	136	9.4	9.1	148.5	0.28	4.50	9.47	0.31	0.42
10	989	8.05	<2	54	132	9	8.9	157.4	0.27	4.77	9.27	0.32	0.45
11	999	8.05	<2	58	139	46	46.0	203.3	1.39	6.16	47.87	0.42	0.58
12	950	7.62	<2	52	141	8.3	7.9	211.2	0.24	6.40	8.21	0.44	0.60

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

Summary - Weeks 0 to 20

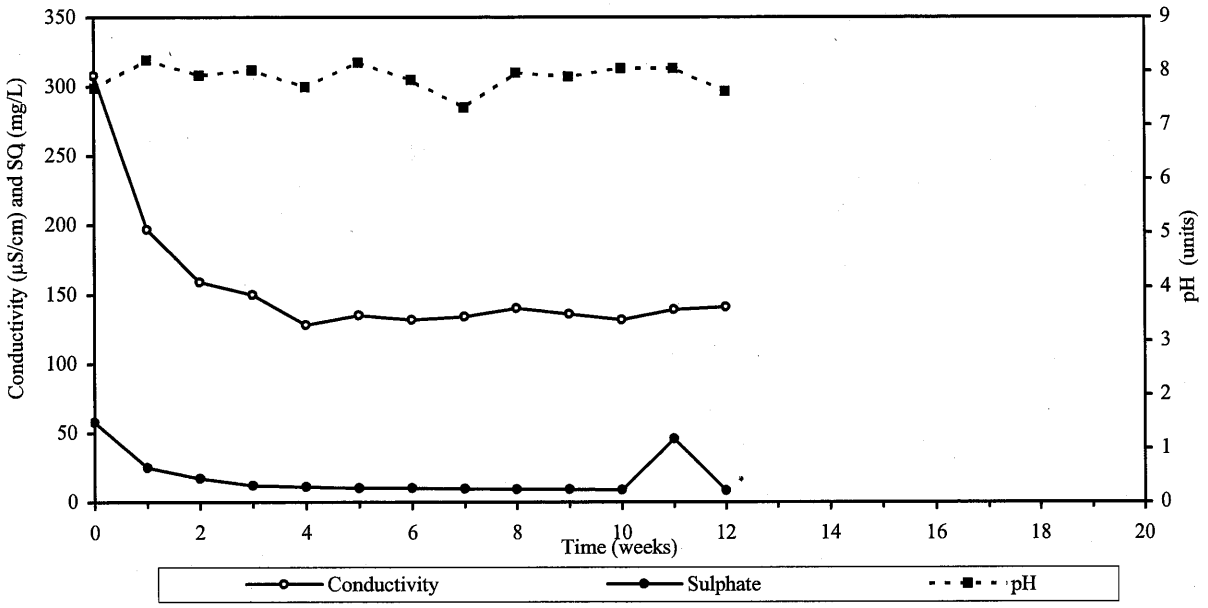
Maximum Value	8.20	2	71	308	58	46.0	-	1.39	-	48	-	-
Minimum Value	7.32	<2	49	128	8	7.9	-	0.24	-	8.2	-	-
Average Value	7.80	2	55	156	18	16.2	-	0.49	-	16.92	-	-

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

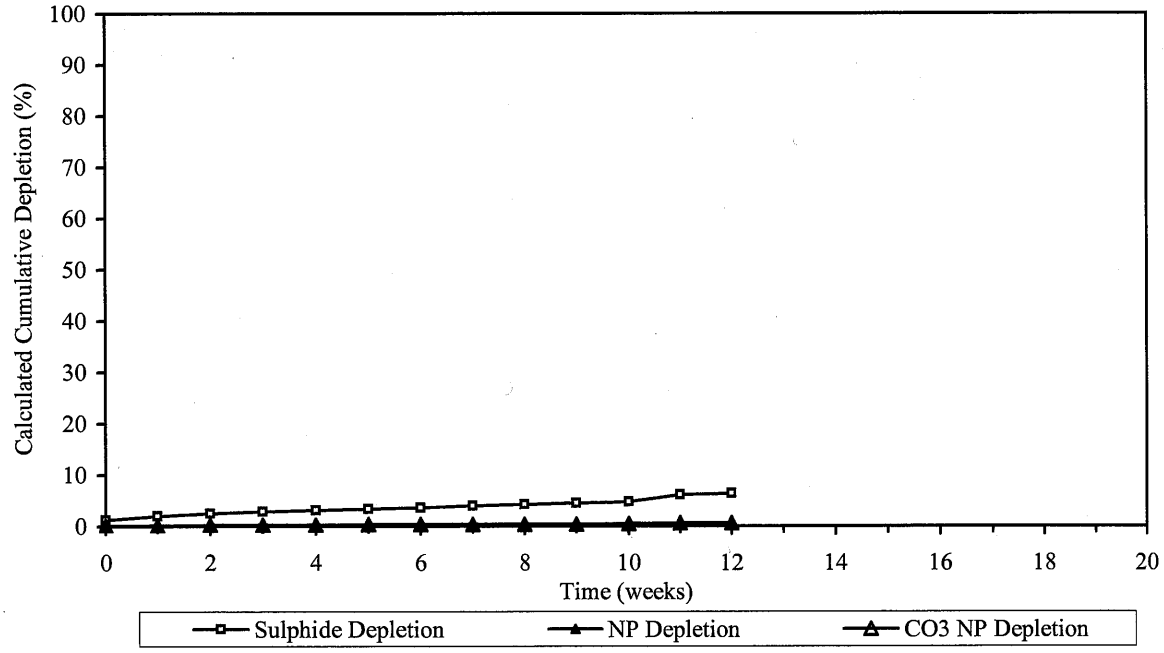
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - Coarse Fraction



Cumulative Sulphide and NP Depletion - Coarse Fraction



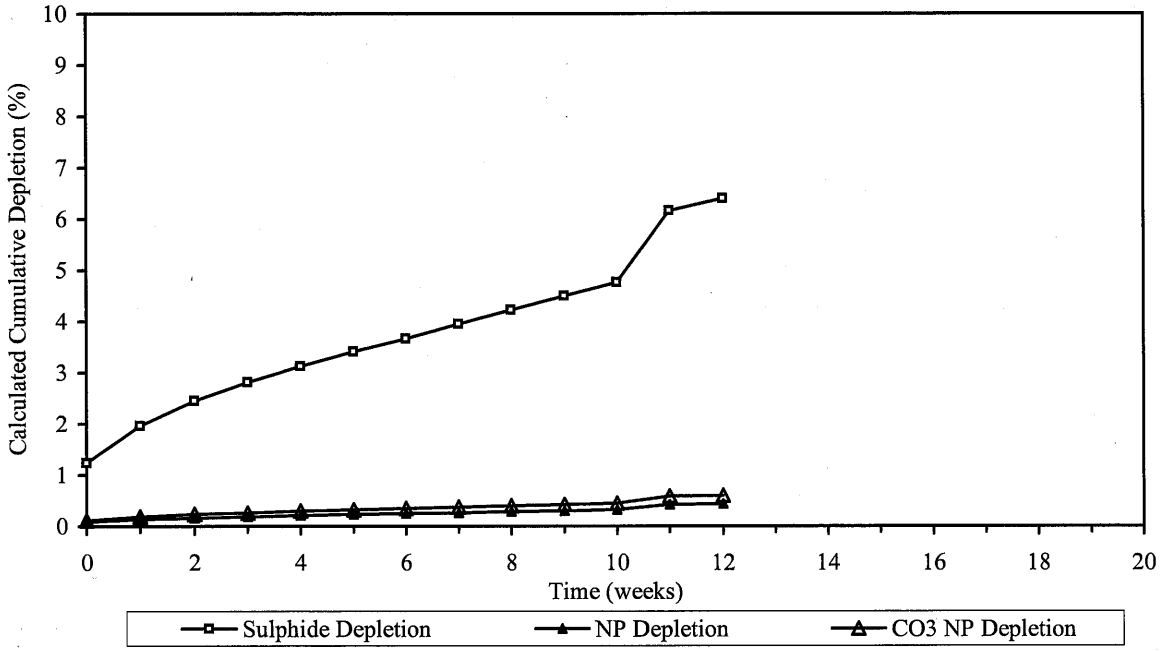
Note: NP depletion calculated based on sulphate assay.

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Magnification of Cumulative Sulphide and NP Depletion - Coarse Fraction

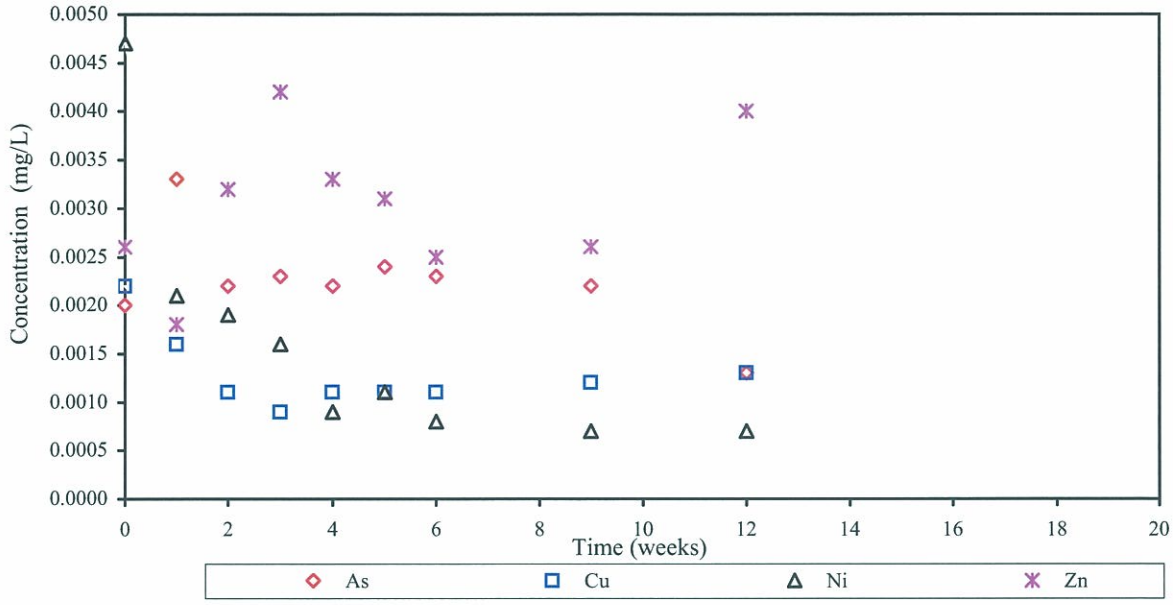


This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

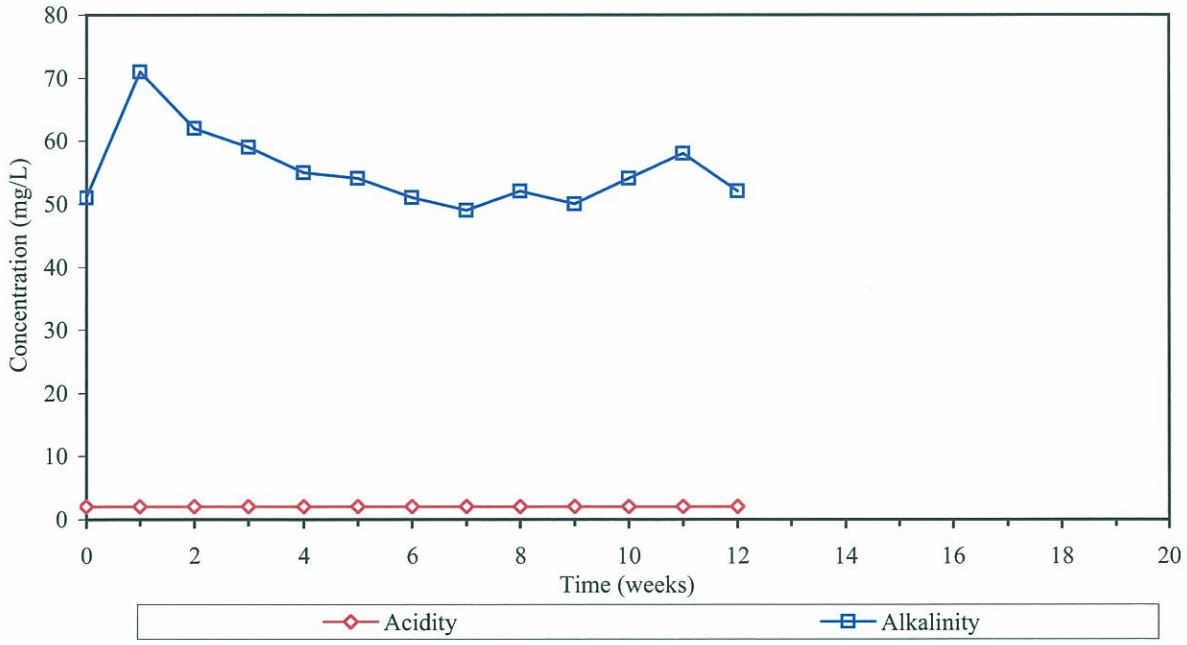
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

As, Cu, Ni and Zn in Weekly Humidity Cell Leachate - Coarse Fraction



Acidity vs. Alkalinity in Weekly Humidity Cell Leachate - Coarse Fraction



Note: Acidity and alkalinity have detection limit of 2 mg/L.

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	0	1	2	3	4	5	6	7	8	9	10
LIMS			10434-JUN	10560-JUN	10017-JUL	10168-JUL	10362-JUL	10511-JUL	10000-AUG	10081-AUG	10278-AUG	10445-AUG	10666-AUG
Hum Cell Leachate Vol	mLs		845	852	915	911	889	958	880	887	898	965	982
pH	units	6 to 9	6.31	7.18	7.09	7.11	6.83	7.39	6.94	6.78	7.06	7.05	7.50
Conductivity	uS/cm		69	43	55	70	60	81	64	71	80	87	111
Alkalinity	mg/L as $CaCO_3$		4	7	9	9	8	11	7	7	7	9	15
Acidity	mg/L as $CaCO_3$		8	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
SO_4	mg/L		4.3	8.2	16	16	16	21	17	21	22	24	34
Hg	mg/L	0.01	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	< 0.0001	---
Ag	mg/L		< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	< 0.00003	---
Al	mg/L		0.0027	0.0056	0.0089	0.0042	0.0049	0.0039	0.0161	---	---	0.0027	---
As	mg/L	0.1	0.0005	0.0005	0.0003	0.0003	0.0003	0.0004	0.0005	---	---	< 0.0002	---
Ba	mg/L		0.116	0.0218	0.0354	0.0248	0.0184	0.0190	0.0189	---	---	0.0113	---
Be	mg/L		< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	---	---	< 0.00004	---
B	mg/L		< 0.002	< 0.002	0.002	0.090	< 0.002	0.007	< 0.002	---	---	< 0.002	---
Bi	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	---	---	< 0.00002	---
Ca	mg/L		3.98	3.15	4.56	5.62	5.26	6.49	5.06	---	---	3.90	---
Co	mg/L		0.00279	0.000145	0.000114	0.000117	0.000113	0.000150	0.000067	---	---	0.000098	---
Cd	mg/L	0.1	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	---	---	< 0.00006	---
Cr	mg/L		0.0005	< 0.0003	0.0009	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	< 0.0003	---
Cu	mg/L	0.5	0.0005	0.0009	0.0004	0.0008	0.0008	0.0010	0.0008	---	---	0.0009	---
Fe	mg/L	3.5	0.29	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	---
Li	mg/L		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	---
K	mg/L		1.69	1.77	2.18	2.29	2.24	2.5	2.12	---	---	0.22	---
Mg	mg/L		0.926	0.906	1.36	1.91	1.84	2.40	1.82	---	---	0.067	---
Mn	mg/L		0.0268	0.00769	0.0129	0.0168	0.0154	0.0223	0.0129	---	---	0.0193	---
Mo	mg/L		0.00412	0.00398	0.00366	0.00345	0.00313	0.00303	0.00130	---	---	0.00286	---
Na	mg/L		1.56	1.74	1.96	2.16	1.91	2.17	1.62	---	---	0.10	---
Ni	mg/L	0.5	0.0025	< 0.0007	< 0.0007	< 0.0007	< 0.0007	0.0009	< 0.0007	---	---	< 0.0007	---
Pb	mg/L	0.1	0.00004	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	0.00005	---
Sb	mg/L		0.0007	0.0003	0.0006	0.0003	0.0003	0.0004	0.0009	---	---	0.0007	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	< 0.001	---
Sn	mg/L		0.0018	0.0005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	0.0004	---
Si	mg/L		0.13	0.10	0.13	0.14	0.12	0.16	0.12	---	---	0.63	---
Ti	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	< 0.0002	---
V	mg/L		0.00035	0.00009	0.00008	0.00009	< 0.00006	< 0.00006	< 0.00006	---	---	< 0.00006	---
Zn	mg/L	2.0	0.0091	0.0026	0.0007	0.0017	0.0023	0.0030	0.0020	---	---	0.0039	---

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	11	12
LIMS			10015-SEP	10166-SEP
Hum Cell Leachate Vol	mLs		974	966
pH	units	6 to 9	7.27	7.00
Conductivity	uS/cm		104	92
Alkalinity	mg/L as $CaCO_3$		11	11
Acidity	mg/L as $CaCO_3$		< 2	< 2
SO_4	mg/L		29	25
Hg	mg/L	0.01	---	< 0.0001
Ag	mg/L		---	< 0.00001
Al	mg/L		---	0.0041
As	mg/L	0.1	---	0.0003
Ba	mg/L		---	0.0113
Be	mg/L		---	< 0.00002
B	mg/L		---	0.003
Bi	mg/L		---	< 0.00001
Ca	mg/L		---	7.36
Co	mg/L		---	0.000145
Cd	mg/L	0.1	---	< 0.000003
Cr	mg/L		---	< 0.0005
Cu	mg/L	0.5	---	0.0006
Fe	mg/L	3.5	---	< 0.01
Li	mg/L		---	< 0.002
K	mg/L		---	2.67
Mg	mg/L		---	3.44
Mn	mg/L		---	0.0243
Mo	mg/L		---	0.00273
Na	mg/L		---	1.93
Ni	mg/L	0.5	---	0.0006
Pb	mg/L	0.1	---	< 0.00002
Sb	mg/L		---	0.00029
Se	mg/L		---	< 0.001
Sn	mg/L		---	0.00008
Si	mg/L		---	0.21
Ti	mg/L		---	< 0.0001
V	mg/L		---	0.00008
Zn	mg/L	2.0	---	0.007

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 10159-JUN07
Sulphur (S)	%	0.542
Sulphide ($S^{=}$)	%	0.46
NP	t $CaCO_3$/1000 t	61.0
CO_3 NP	t $CaCO_3$/1000 t	39.8

	Leachate Paremeters Measured						*Acid Generation*[1]				*Acid Neutralization*[1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
0	845	6.31	8	4	69	4.3	3.6	3.6	0.03	0.03	3.78	0.01	0.01
1	852	7.18	<2	7	43	8.2	7.0	10.6	0.05	0.08	7.28	0.02	0.03
2	915	7.09	<2	9	55	16	14.6	25.3	0.11	0.18	15.25	0.04	0.07
3	911	7.11	<2	9	70	16	14.6	39.8	0.11	0.29	15.18	0.07	0.10
4	889	6.83	<2	8	60	16	14.2	54.1	0.10	0.39	14.82	0.09	0.14
5	958	7.39	<2	11	81	21	20.1	74.2	0.15	0.54	20.96	0.13	0.19
6	880	6.94	<2	7	64	17	15.0	89.1	0.11	0.65	15.58	0.15	0.23
7	887	6.78	<2	7	71	21	18.6	107.8	0.13	0.78	19.40	0.18	0.28
8	898	7.06	<2	7	80	22	19.8	127.5	0.14	0.92	20.58	0.22	0.33
9	965	7.05	<2	9	87	24	23.2	150.7	0.17	1.09	24.13	0.26	0.39
10	982	7.50	<2	15	111	34	33.4	184.1	0.24	1.33	34.78	0.31	0.48
11	974	7.27	<2	11	104	29	28.2	212.3	0.20	1.54	29.42	0.36	0.56
12	966	7.00	<2	11	92	25	24.2	236.5	0.18	1.71	25.16	0.40	0.62

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

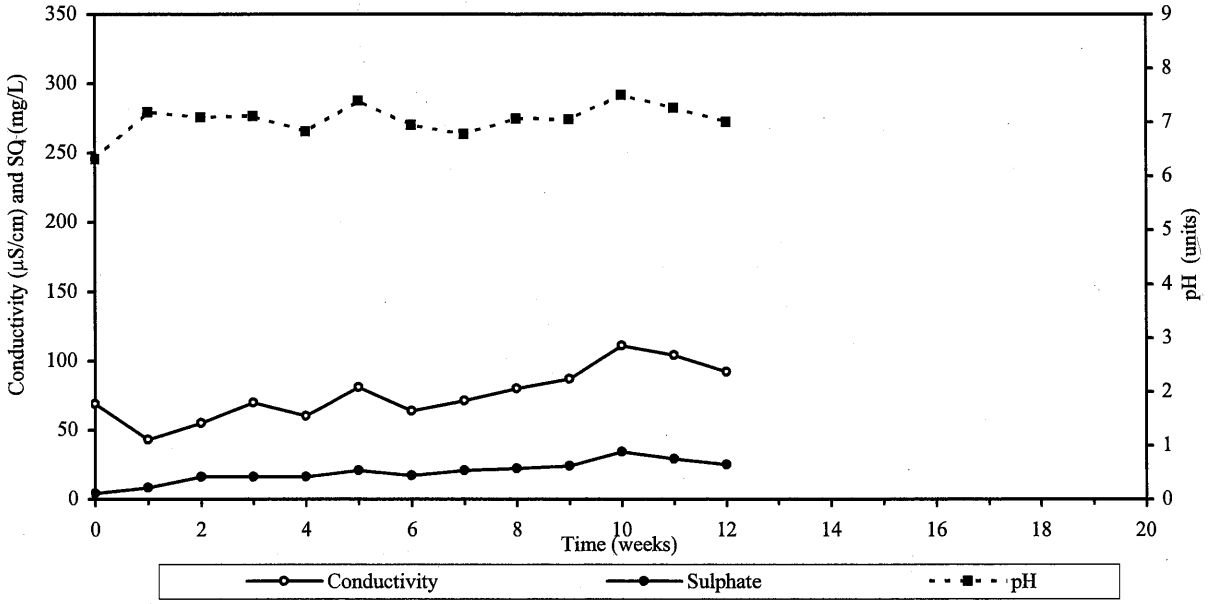
Summary - Weeks 0 to 20													
Maximum Value	7.50	8	15	111	34	33.4	-	0.24	-	35	-	-
Minimum Value	6.31	<2	4	43	4	3.6	-	0.03	-	3.8	-	-
Average Value	6.92	2	9	76	20	18.2	-	0.13	-	18.95	-	-

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

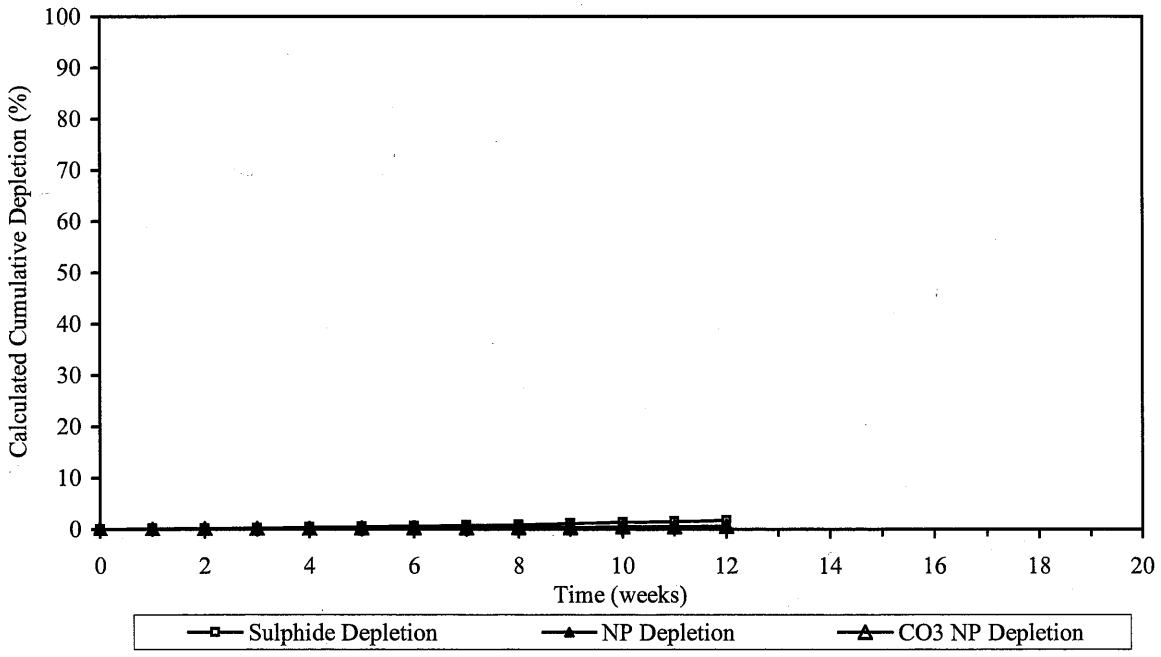
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - Fine Fraction



Cumulative Sulphide and NP Depletion - Fine Fraction



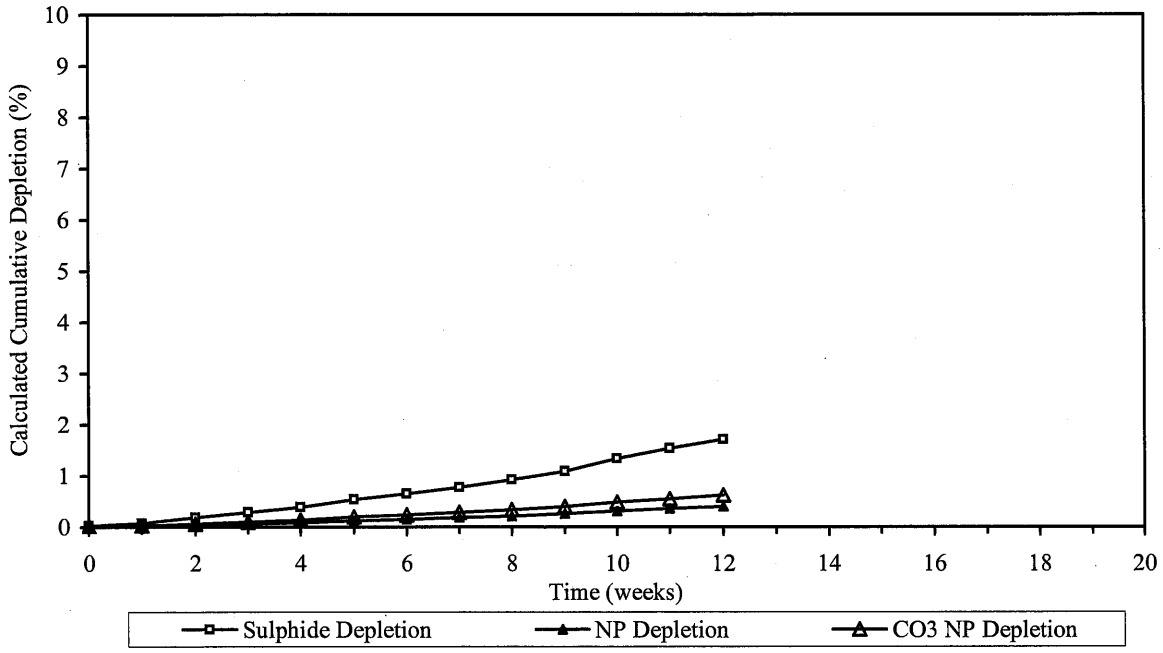
Note: NP depletion calculated based on sulphate assay.

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Magnification of Cumulative Sulphide and NP Depletion - Fine Fraction

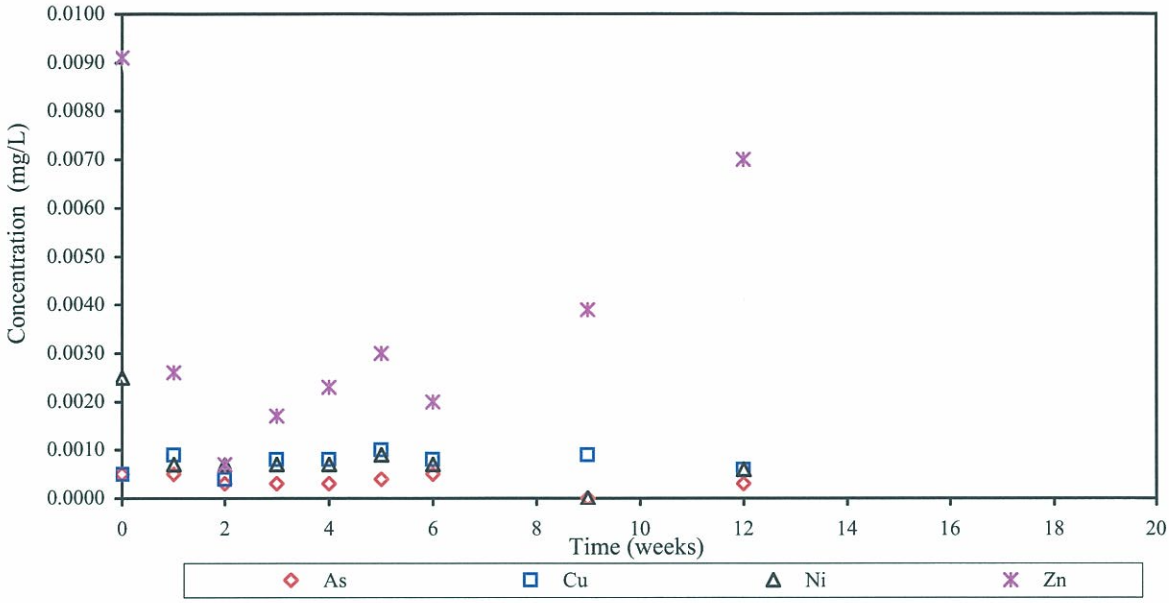


This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

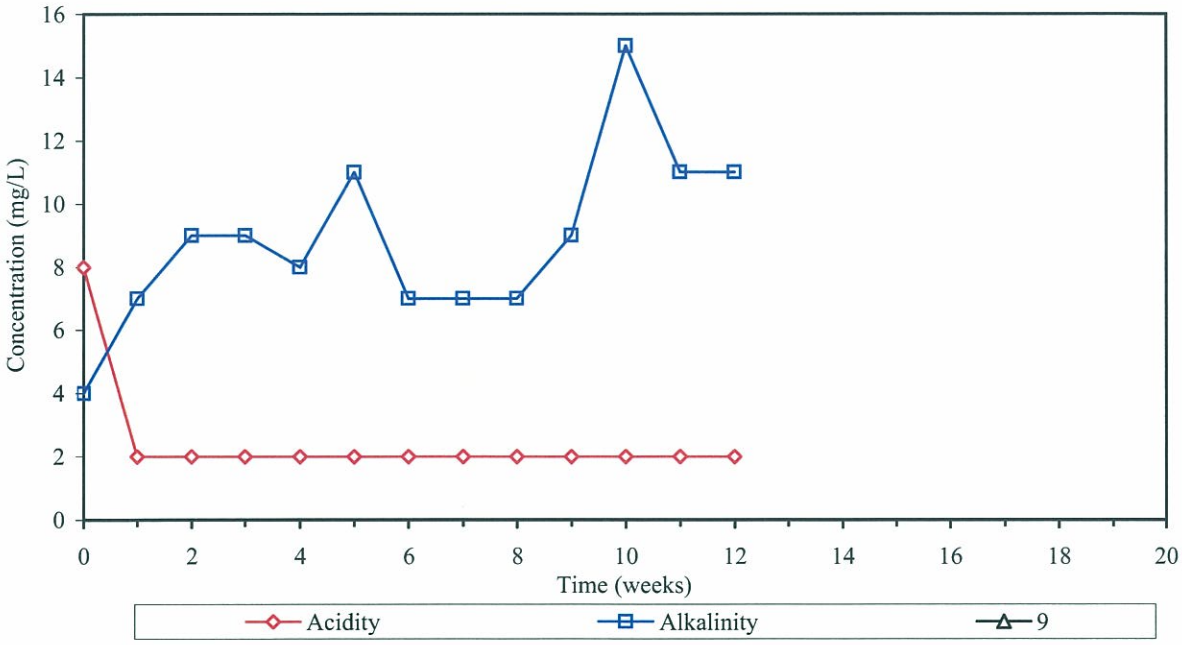
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

As, Cu, Ni and Zn in Weekly Humidity Cell Leachate - Fine Fraction



Fine Fraction



Note: Acidity and alkalinity have detection limit of 2 mg/L.

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Appendix 3 Humidity Cell Certificates of Analysis

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Friday, June 29, 2007

Date Rec. : 20 June 2007
LR Report: **CA10434-JUN07**
Reference: Week# 0

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 0	6: Fine Fraction Week# 0
Sample Date & Time			20-Jun-07	20-Jun-07
Hum Cell Leachate Volume [mLs]	---	---	707	845
pH [no unit]	22-Jun-07	09:55	7.68	6.31
Conductivity [uS/cm]	22-Jun-07	09:55	308	69
Alkalinity [mg/L as CaCO3]	22-Jun-07	09:55	51	4
Acidity [mg/L as CaCO3]	22-Jun-07	09:55	< 2	8
Sulphate [mg/L]	27-Jun-07	14:20	58	4.3
Mercury [mg/L]	23-Jun-07	12:48	< 0.0001	< 0.0001
Silver [mg/L]	28-Jun-07	16:55	< 0.00003	< 0.00003
Aluminum [mg/L]	28-Jun-07	16:55	0.0347	0.0027
Arsenic [mg/L]	28-Jun-07	16:55	0.0020	0.0005
Barium [mg/L]	28-Jun-07	16:55	0.0767	0.116
Beryllium [mg/L]	28-Jun-07	16:55	< 0.00004	< 0.00004
Boron [mg/L]	26-Jun-07	09:19	< 0.002	< 0.002
Bismuth [mg/L]	28-Jun-07	16:55	< 0.00002	< 0.00002
Calcium [mg/L]	26-Jun-07	09:19	24.3	3.98
Cobalt [mg/L]	28-Jun-07	16:55	0.00242	0.00279
Cadmium [mg/L]	28-Jun-07	16:55	< 0.00006	< 0.00006
Chromium [mg/L]	28-Jun-07	16:55	< 0.0003	0.0005
Copper [mg/L]	28-Jun-07	16:55	0.0022	0.0005
Iron [mg/L]	26-Jun-07	09:19	< 0.01	0.29
Lithium [mg/L]	26-Jun-07	09:19	< 0.002	< 0.002
Potassium [mg/L]	26-Jun-07	09:19	11.1	1.69
Magnesium [mg/L]	26-Jun-07	09:19	6.63	0.926
Manganese [mg/L]	28-Jun-07	16:55	0.0712	0.0268
Molybdenum [mg/L]	28-Jun-07	16:55	0.0209	0.00412
Sodium [mg/L]	26-Jun-07	09:19	14.7	1.56
Nickel [mg/L]	28-Jun-07	16:55	0.0047	0.0025
Lead [mg/L]	28-Jun-07	16:55	0.00013	0.00004
Antimony [mg/L]	28-Jun-07	16:55	0.0038	0.0007

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

LR Report : **CA10434-JUN07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 0	6: Fine Fraction Week# 0
Selenium [mg/L]	28-Jun-07	16:55	0.001	< 0.001
Tin [mg/L]	28-Jun-07	16:55	0.0010	0.0018
Silica [mg/L]	26-Jun-07	09:19	1.35	0.13
Titanium [mg/L]	28-Jun-07	16:55	< 0.0002	< 0.0002
Vanadium [mg/L]	28-Jun-07	16:55	0.00022	0.00035
Zinc [mg/L]	28-Jun-07	16:55	0.0026	0.0091

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Thursday, July 05, 2007

Date Rec. : 26 June 2007
LR Report: **CA10560-JUN07**
Reference: Week#1

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#1	6: Fine Fraction Week#1
Sample Date & Time			27-Jun-07	27-Jun-07
Hum Cell Leachate Volume [mLs]	---	---	947	852
pH [no unit]	29-Jun-07	08:13	8.20	7.18
Conductivity [uS/cm]	29-Jun-07	08:13	197	43
Alkalinity [mg/L as CaCO3]	29-Jun-07	08:13	71	7
Acidity [mg/L as CaCO3]	29-Jun-07	08:13	< 2	< 2
Sulphate [mg/L]	03-Jul-07	14:52	25	8.2
Mercury [mg/L]	29-Jun-07	14:13	< 0.0001	< 0.0001
Silver [mg/L]	03-Jul-07	09:50	< 0.00003	< 0.00003
Aluminum [mg/L]	03-Jul-07	09:50	0.0347	0.0056
Arsenic [mg/L]	03-Jul-07	09:50	0.0033	0.0005
Barium [mg/L]	03-Jul-07	09:50	0.114	0.0218
Beryllium [mg/L]	03-Jul-07	09:50	< 0.00004	< 0.00004
Boron [mg/L]	05-Jul-07	11:37	0.008	< 0.002
Bismuth [mg/L]	03-Jul-07	09:50	< 0.00002	< 0.00002
Calcium [mg/L]	05-Jul-07	11:37	21.3	3.15
Cobalt [mg/L]	03-Jul-07	09:50	0.000527	0.000145
Cadmium [mg/L]	03-Jul-07	09:50	< 0.00006	< 0.00006
Chromium [mg/L]	03-Jul-07	09:50	0.0005	< 0.0003
Copper [mg/L]	03-Jul-07	09:50	0.0016	0.0009
Iron [mg/L]	05-Jul-07	11:37	< 0.01	< 0.01
Lithium [mg/L]	05-Jul-07	11:37	< 0.002	< 0.002
Potassium [mg/L]	05-Jul-07	11:37	9.78	1.77
Magnesium [mg/L]	05-Jul-07	11:37	6.13	0.906
Manganese [mg/L]	03-Jul-07	09:50	0.0545	0.00769
Molybdenum [mg/L]	03-Jul-07	09:50	0.0124	0.00398
Sodium [mg/L]	05-Jul-07	11:37	4.80	1.74
Nickel [mg/L]	03-Jul-07	09:50	0.0021	< 0.0007
Lead [mg/L]	03-Jul-07	09:50	< 0.00002	< 0.00002
Antimony [mg/L]	03-Jul-07	09:50	0.0031	0.0003

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

LR Report : **CA10560-JUN07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#1	6: Fine Fraction Week#1
Selenium [mg/L]	03-Jul-07	09:50	0.001	< 0.001
Tin [mg/L]	03-Jul-07	09:50	0.0011	0.0005
Silica [mg/L]	05-Jul-07	11:37	1.36	0.10
Titanium [mg/L]	03-Jul-07	09:50	< 0.0002	< 0.0002
Vanadium [mg/L]	03-Jul-07	09:50	0.00035	0.00009
Zinc [mg/L]	03-Jul-07	09:50	0.0018	0.0026

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Project Specialist
Environmental Services, Analytical

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Thursday, July 12, 2007

Date Rec. : 04 July 2007
LR Report: **CA10017-JUL07**
Reference: Week#2

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 2	6: Fine Fraction Week#2
Sample Date & Time			04-Jul-07	04-Jul-07
Hum Cell Leachate Volume [mLs]	---	---	960	915
pH [no unit]	06-Jul-07	06:46	7.92	7.09
Conductivity [uS/cm]	06-Jul-07	06:46	159	55
Alkalinity [mg/L as CaCO3]	06-Jul-07	06:46	62	9
Acidity [mg/L as CaCO3]	06-Jul-07	06:46	< 2	< 2
Sulphate [mg/L]	11-Jul-07	16:28	17	16
Mercury [mg/L]	06-Jul-07	14:23	< 0.0001	< 0.0001
Silver [mg/L]	11-Jul-07	15:10	< 0.00003	< 0.00003
Aluminum [mg/L]	11-Jul-07	15:10	0.0346	0.0089
Arsenic [mg/L]	11-Jul-07	15:10	0.0022	0.0003
Barium [mg/L]	11-Jul-07	15:10	0.208	0.0354
Beryllium [mg/L]	11-Jul-07	15:10	< 0.00004	< 0.00004
Boron [mg/L]	10-Jul-07	11:23	0.006	0.002
Bismuth [mg/L]	11-Jul-07	15:10	< 0.00002	< 0.00002
Calcium [mg/L]	10-Jul-07	11:23	19.1	4.56
Cobalt [mg/L]	11-Jul-07	15:10	0.000367	0.000114
Cadmium [mg/L]	11-Jul-07	15:10	< 0.00006	< 0.00006
Chromium [mg/L]	11-Jul-07	15:10	< 0.0003	0.0009
Copper [mg/L]	11-Jul-07	15:10	0.0011	0.0004
Iron [mg/L]	10-Jul-07	11:23	< 0.01	< 0.01
Lithium [mg/L]	10-Jul-07	11:23	< 0.002	< 0.002
Potassium [mg/L]	10-Jul-07	11:23	7.97	2.18
Magnesium [mg/L]	10-Jul-07	11:23	5.30	1.36
Manganese [mg/L]	11-Jul-07	15:10	0.0591	0.0129
Molybdenum [mg/L]	11-Jul-07	15:10	0.00726	0.00366
Sodium [mg/L]	10-Jul-07	11:23	1.55	1.96
Nickel [mg/L]	11-Jul-07	15:10	0.0019	< 0.0007
Lead [mg/L]	11-Jul-07	15:10	0.00002	0.00002
Antimony [mg/L]	11-Jul-07	15:10	0.0041	0.0006

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

LR Report : **CA10017-JUL07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 2	6: Fine Fraction Week#2
Selenium [mg/L]	11-Jul-07	15:10	< 0.001	< 0.001
Tin [mg/L]	11-Jul-07	15:10	< 0.0003	< 0.0003
Silica [mg/L]	10-Jul-07	11:23	1.21	0.13
Titanium [mg/L]	11-Jul-07	15:10	0.0002	< 0.0002
Vanadium [mg/L]	11-Jul-07	15:10	0.00035	0.00008
Zinc [mg/L]	11-Jul-07	15:10	0.0032	0.0007

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met
Attn : Barb Bowman marilyn.kelly@sgs.com

Project : CALR-11474-003

Monday, July 23, 2007

Date Rec. : 11 July 2007
LR Report: **CA10168-JUL07**
Reference: Week#3

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#3	6: Fine Fraction Week#3
Sample Date & Time			11-Jul-07	11-Jul-07
Hum Cell Leachate Volume [mLs]	---	---	1000	911
pH [no unit]	12-Jul-07	12:34	8.01	7.11
Conductivity [uS/cm]	12-Jul-07	12:34	150	70
Alkalinity [mg/L as CaCO3]	12-Jul-07	12:34	59	9
Acidity [mg/L as CaCO3]	12-Jul-07	12:34	< 2	< 2
Sulphate [mg/L]	19-Jul-07	14:51	12	16
Mercury [mg/L]	17-Jul-07	13:41	< 0.0001	< 0.0001
Silver [mg/L]	17-Jul-07	11:29	< 0.00003	< 0.00003
Aluminum [mg/L]	17-Jul-07	11:29	0.0386	0.0042
Arsenic [mg/L]	17-Jul-07	11:29	0.0023	0.0003
Barium [mg/L]	17-Jul-07	11:29	0.231	0.0248
Beryllium [mg/L]	17-Jul-07	11:29	< 0.00004	< 0.00004
Boron [mg/L]	17-Jul-07	11:29	0.092	0.090
Bismuth [mg/L]	17-Jul-07	11:29	< 0.00002	< 0.00002
Calcium [mg/L]	17-Jul-07	11:29	17.9	5.62
Cobalt [mg/L]	17-Jul-07	11:29	0.000316	0.000117
Cadmium [mg/L]	17-Jul-07	11:29	< 0.00006	< 0.00006

OnLine LIMS

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Project : CALR-11474-003
LR Report : CA10168-JUL07

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#3	6: Fine Fraction Week#3
Chromium [mg/L]	17-Jul-07	11:29	< 0.0003	< 0.0003
Copper [mg/L]	17-Jul-07	11:29	0.0009	0.0008
Iron [mg/L]	17-Jul-07	11:29	< 0.01	< 0.01
Lithium [mg/L]	17-Jul-07	11:29	< 0.002	< 0.002
Potassium [mg/L]	17-Jul-07	11:29	7.17	2.29
Magnesium [mg/L]	17-Jul-07	11:29	4.92	1.91
Manganese [mg/L]	17-Jul-07	11:29	0.0502	0.0168
Molybdenum [mg/L]	17-Jul-07	11:29	0.00491	0.00345
Sodium [mg/L]	17-Jul-07	11:29	0.88	2.16
Nickel [mg/L]	17-Jul-07	11:29	0.0016	< 0.0007
Lead [mg/L]	17-Jul-07	11:29	< 0.00002	< 0.00002
Antimony [mg/L]	17-Jul-07	11:29	0.0019	0.0003
Selenium [mg/L]	17-Jul-07	11:29	0.001	< 0.001
Tin [mg/L]	17-Jul-07	11:29	< 0.0003	< 0.0003
Silica [mg/L]	17-Jul-07	11:29	1.14	0.14
Titanium [mg/L]	17-Jul-07	11:29	< 0.0002	< 0.0002
Vanadium [mg/L]	17-Jul-07	11:29	0.00037	0.00009
Zinc [mg/L]	17-Jul-07	11:29	0.0042	0.0017

Kimberley Didsbury
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman marilyn.kelly@sgs.com (for Rob and Barb only)

Friday, July 27, 2007

Date Rec. : 18 July 2007
LR Report: **CA10362-JUL07**
Reference: Week# 4

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 4	6: Fine Fraction Week# 4
Sample Date & Time			18-Jul-07	18-Jul-07
HumCell Leachate Vol [mLs]	---	---	910	889
pH [units]	20-Jul-07	08:44	7.70	6.83
Conductivity [uS/cm]	20-Jul-07	08:44	128	60
Alkalinity [mg/L as CaCO3]	20-Jul-07	08:44	55	8
Acidity [mg/L as CaCO3]	20-Jul-07	08:44	< 2	< 2
SO4 [mg/L]	20-Jul-07	12:00	11	16
Hg [mg/L]	20-Jul-07	07:39	< 0.0001	< 0.0001
Ag [mg/L]	23-Jul-07	07:33	< 0.00003	< 0.00003
Al [mg/L]	23-Jul-07	07:33	0.0397	0.0049
As [mg/L]	23-Jul-07	07:33	0.0022	0.0003
Ba [mg/L]	23-Jul-07	07:33	0.244	0.0184
Be [mg/L]	23-Jul-07	07:33	< 0.00004	< 0.00004
B [mg/L]	26-Jul-07	15:43	< 0.002	< 0.002
Bi [mg/L]	23-Jul-07	07:33	< 0.00002	< 0.00002
Ca [mg/L]	23-Jul-07	15:28	16.5	5.26
Co [mg/L]	23-Jul-07	07:33	0.000246	0.000113
Cd [mg/L]	23-Jul-07	07:33	< 0.00006	< 0.00006
Cr [mg/L]	23-Jul-07	07:33	< 0.0003	< 0.0003
Cu [mg/L]	23-Jul-07	07:33	0.0011	0.0008
Fe [mg/L]	23-Jul-07	15:28	< 0.01	< 0.01
Li [mg/L]	23-Jul-07	15:28	< 0.002	< 0.002
K [mg/L]	23-Jul-07	15:28	6.45	2.24
Mg [mg/L]	23-Jul-07	15:28	4.44	1.84
Mn [mg/L]	23-Jul-07	07:33	0.0440	0.0154
Mo [mg/L]	23-Jul-07	07:33	0.00471	0.00313
Na [mg/L]	23-Jul-07	15:28	0.57	1.91
Ni [mg/L]	23-Jul-07	07:33	0.0009	< 0.0007
Pb [mg/L]	23-Jul-07	07:33	< 0.00002	< 0.00002
Sb [mg/L]	23-Jul-07	07:33	0.0024	0.0003
Se [mg/L]	23-Jul-07	07:33	< 0.001	< 0.001
Sn [mg/L]	23-Jul-07	07:33	< 0.0003	< 0.0003
Si [mg/L]	23-Jul-07	15:28	1.04	0.12

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Project : CALR-11474-003

LR Report : **CA10362-JUL07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 4	6: Fine Fraction Week# 4
Ti [mg/L]	23-Jul-07	07:33	0.0004	< 0.0002
V [mg/L]	23-Jul-07	07:33	0.00041	< 0.00006
Zn [mg/L]	23-Jul-07	07:33	0.0033	0.0023

Chris Sullivan, B.Sc., C.Chem
Project Specialist
Environmental Services, Analytical

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Friday, August 03, 2007

Date Rec. : 25 July 2007
LR Report: **CA10511-JUL07**
Reference: Week#5

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 5	6: Fine Fraction Week# 5
Sample Date & Time			25-Jul-07	25-Jul-07
Hum Cell Leachate Volume [mLs]	---	---	960	958
pH [no unit]	30-Jul-07	12:01	8.15	7.39
Conductivity [uS/cm]	30-Jul-07	12:01	135	81
Alkalinity [mg/L as CaCO3]	30-Jul-07	12:01	54	11
Acidity [mg/L as CaCO3]	30-Jul-07	12:01	< 2	< 2
Sulphate [mg/L]	31-Jul-07	12:55	10	21
Mercury [mg/L]	01-Aug-07	07:52	< 0.0001	< 0.0001
Silver [mg/L]	03-Aug-07	14:58	< 0.00003	< 0.00003
Aluminum [mg/L]	03-Aug-07	14:58	0.0481	0.0039
Arsenic [mg/L]	03-Aug-07	14:58	0.0024	0.0004
Barium [mg/L]	03-Aug-07	14:58	0.289	0.0190
Beryllium [mg/L]	03-Aug-07	14:58	< 0.00004	< 0.00004
Boron [mg/L]	02-Aug-07	09:35	0.008	0.007
Bismuth [mg/L]	03-Aug-07	14:58	< 0.00002	< 0.00002
Calcium [mg/L]	02-Aug-07	09:35	15.9	6.49
Cobalt [mg/L]	03-Aug-07	14:58	0.000162	0.000150
Cadmium [mg/L]	03-Aug-07	14:58	< 0.00006	< 0.00006
Chromium [mg/L]	03-Aug-07	14:58	< 0.0003	< 0.0003
Copper [mg/L]	03-Aug-07	14:58	0.0011	0.0010
Iron [mg/L]	02-Aug-07	09:35	< 0.01	< 0.01
Lithium [mg/L]	02-Aug-07	09:35	0.003	< 0.002
Potassium [mg/L]	02-Aug-07	09:35	5.99	2.50
Magnesium [mg/L]	02-Aug-07	09:35	4.22	2.40
Manganese [mg/L]	03-Aug-07	14:58	0.0380	0.0223
Molybdenum [mg/L]	03-Aug-07	14:58	0.00316	0.00303
Sodium [mg/L]	02-Aug-07	09:35	0.49	2.17
Nickel [mg/L]	03-Aug-07	14:58	0.0011	0.0009
Lead [mg/L]	03-Aug-07	14:58	0.00002	< 0.00002
Antimony [mg/L]	03-Aug-07	14:58	0.0027	0.0004

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Project : CALR-11474-003

LR Report : **CA10511-JUL07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 5	6: Fine Fraction Week# 5
Selenium [mg/L]	03-Aug-07	14:58	< 0.001	< 0.001
Tin [mg/L]	03-Aug-07	14:58	< 0.0003	< 0.0003
Silica [mg/L]	02-Aug-07	09:35	1.03	0.16
Titanium [mg/L]	03-Aug-07	14:58	< 0.0002	< 0.0002
Vanadium [mg/L]	03-Aug-07	14:58	0.00043	< 0.00006
Zinc [mg/L]	03-Aug-07	14:58	0.0031	0.0030

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Thursday, August 09, 2007

Date Rec. : 01 August 2007
LR Report: **CA10000-AUG07**
Reference: Week# 6

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 6	6: Fine Fraction Week# 6
Sample Date & Time			01-Aug-07	01-Aug-07
Hum Cell Leachate Volume [mLs]	---	---	820	880
pH [no unit]	08-Aug-07	14:22	7.84	6.94
Conductivity [uS/cm]	08-Aug-07	14:22	132	64
Alkalinity [mg/L as CaCO3]	08-Aug-07	14:22	51	7
Acidity [mg/L as CaCO3]	08-Aug-07	14:22	< 2	< 2
Sulphate [mg/L]	07-Aug-07	14:14	10	17
Mercury [mg/L]	09-Aug-07	10:49	< 0.0001	< 0.0001
Silver [mg/L]	09-Aug-07	11:10	< 0.00003	< 0.00003
Aluminum [mg/L]	09-Aug-07	11:10	0.0490	0.0161
Arsenic [mg/L]	09-Aug-07	11:10	0.0023	0.0005
Barium [mg/L]	09-Aug-07	11:10	0.278	0.0189
Beryllium [mg/L]	09-Aug-07	11:10	< 0.00004	< 0.00004
Boron [mg/L]	09-Aug-07	10:09	< 0.002	< 0.002
Bismuth [mg/L]	09-Aug-07	11:10	< 0.00002	0.00005
Calcium [mg/L]	09-Aug-07	10:09	15.1	5.06
Cobalt [mg/L]	09-Aug-07	11:10	0.000176	0.000067
Cadmium [mg/L]	09-Aug-07	11:10	< 0.00006	< 0.00006
Chromium [mg/L]	09-Aug-07	11:10	< 0.0003	< 0.0003
Copper [mg/L]	09-Aug-07	11:10	0.0011	0.0008
Iron [mg/L]	09-Aug-07	10:09	< 0.01	< 0.01
Lithium [mg/L]	09-Aug-07	10:09	< 0.002	< 0.002
Potassium [mg/L]	09-Aug-07	10:09	5.69	2.12
Magnesium [mg/L]	09-Aug-07	10:09	4.00	1.82
Manganese [mg/L]	09-Aug-07	11:10	0.0329	0.0129
Molybdenum [mg/L]	09-Aug-07	11:10	0.00249	0.00130
Sodium [mg/L]	09-Aug-07	10:09	0.44	1.62
Nickel [mg/L]	09-Aug-07	11:10	0.0008	< 0.0007
Lead [mg/L]	09-Aug-07	11:10	0.00003	< 0.00002
Antimony [mg/L]	09-Aug-07	11:10	0.0037	0.0009

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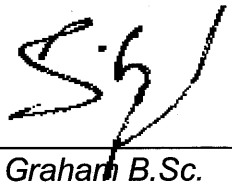
Project : CALR-11474-003

LR Report : **CA10000-AUG07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 6	6: Fine Fraction Week# 6
Selenium [mg/L]	09-Aug-07	11:10	< 0.001	< 0.001
Tin [mg/L]	09-Aug-07	11:10	< 0.0003	< 0.0003
Silica [mg/L]	09-Aug-07	10:09	1.02	0.12
Titanium [mg/L]	09-Aug-07	11:10	0.0002	< 0.0002
Vanadium [mg/L]	09-Aug-07	11:10	0.00049	< 0.00006
Zinc [mg/L]	09-Aug-07	11:10	0.0025	0.0020



Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Friday, August 17, 2007

Date Rec. : 08 August 2007
LR Report: **CA10081-AUG07**
Reference: Week#7

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#7	6: Fine Fraction Week#7
Sample Date & Time			08-Aug-07	08-Aug-07
Hum Cell Leachate Volume [mLs]	---	---	982	887
pH [no unit]	10-Aug-07	10:13	7.32	6.78
Conductivity [uS/cm]	10-Aug-07	10:13	134	71
Alkalinity [mg/L as CaCO3]	10-Aug-07	10:13	49	7
Acidity [mg/L as CaCO3]	10-Aug-07	10:13	< 2	< 2
Sulphate [mg/L]	15-Aug-07	13:01	9.6	21

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Friday, August 24, 2007

Date Rec. : 15 August 2007
LR Report: **CA10278-AUG07**
Reference: Week#8

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#8	6: Fine Fraction Week#8
Sample Date & Time			15-Aug-07	15-Aug-07
Hum Cell Leachate Volume [mLs]	---	---	982	898
pH [no unit]	16-Aug-07	14:44	7.96	7.06
Conductivity [uS/cm]	16-Aug-07	14:44	140	80
Alkalinity [mg/L as CaCO3]	16-Aug-07	14:44	52	7
Acidity [mg/L as CaCO3]	16-Aug-07	14:44	< 2	< 2
Sulphate [mg/L]	23-Aug-07	09:59	9.3	22

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Tuesday, September 04, 2007

Date Rec. : 22 August 2007
LR Report: **CA10445-AUG07**
Reference: Week#9

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#9	6: Fine Fraction Week#9
Sample Date & Time			22-Aug-07	22-Aug-07
Hum Cell Leachate Volume [mLs]	---	---	967	965
pH [no unit]	24-Aug-07	16:02	7.90	7.05
Conductivity [uS/cm]	24-Aug-07	16:02	136	87
Alkalinity [mg/L as CaCO3]	24-Aug-07	16:02	50	9
Acidity [mg/L as CaCO3]	24-Aug-07	16:02	< 2	< 2
Sulphate [mg/L]	31-Aug-07	16:25	9.4	24
Mercury [mg/L]	30-Aug-07	13:05	< 0.0001	< 0.0001
Silver [mg/L]	28-Aug-07	15:45	< 0.00003	< 0.00003
Aluminum [mg/L]	28-Aug-07	15:45	0.0439	0.0027
Arsenic [mg/L]	28-Aug-07	15:45	0.0022	< 0.0002
Barium [mg/L]	28-Aug-07	15:45	0.319	0.0113
Beryllium [mg/L]	28-Aug-07	15:45	< 0.00004	< 0.00004
Boron [mg/L]	24-Aug-07	09:37	< 0.002	< 0.002
Bismuth [mg/L]	28-Aug-07	15:45	< 0.00002	< 0.00002
Calcium [mg/L]	24-Aug-07	09:37	6.80	3.90
Cobalt [mg/L]	28-Aug-07	15:45	0.000117	0.000098
Cadmium [mg/L]	28-Aug-07	15:45	< 0.00006	< 0.00006
Chromium [mg/L]	28-Aug-07	15:45	< 0.0003	< 0.0003
Copper [mg/L]	28-Aug-07	15:45	0.0012	0.0009
Iron [mg/L]	24-Aug-07	09:37	< 0.01	< 0.01
Lithium [mg/L]	24-Aug-07	09:37	< 0.002	< 0.002
Potassium [mg/L]	24-Aug-07	09:37	2.35	0.22
Magnesium [mg/L]	24-Aug-07	09:37	2.80	0.067
Manganese [mg/L]	28-Aug-07	15:45	0.0315	0.0193
Molybdenum [mg/L]	28-Aug-07	15:45	0.00392	0.00286
Sodium [mg/L]	24-Aug-07	09:37	1.80	0.10
Nickel [mg/L]	28-Aug-07	15:45	< 0.0007	< 0.0007
Lead [mg/L]	28-Aug-07	15:45	0.00012	0.00005
Antimony [mg/L]	28-Aug-07	15:45	0.0025	0.0007

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Project : CALR-11474-003

LR Report : **CA10445-AUG07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#9	6: Fine Fraction Week#9
Selenium [mg/L]	28-Aug-07	15:45	< 0.001	< 0.001
Tin [mg/L]	28-Aug-07	15:45	0.0004	0.0004
Silica [mg/L]	24-Aug-07	09:37	0.15	0.63
Titanium [mg/L]	28-Aug-07	15:45	< 0.0002	< 0.0002
Vanadium [mg/L]	28-Aug-07	15:45	0.00045	< 0.00006
Zinc [mg/L]	28-Aug-07	15:45	0.0026	0.0039

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Wednesday, September 12, 2007

Date Rec. : 29 August 2007
LR Report: **CA10666-AUG07**
Reference: Week# 10

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 10	6: Fine Fraction Week# 10
Sample Date & Time			29-Aug-07	29-Aug-07
Hum Cell Leachate Volume [mLs]	---	---	989	982
pH [no unit]	04-Sep-07	10:02	8.05	7.50
Conductivity [uS/cm]	04-Sep-07	10:02	132	111
Alkalinity [mg/L as CaCO3]	04-Sep-07	10:02	54	15
Acidity [mg/L as CaCO3]	04-Sep-07	10:02	< 2	< 2
Sulphate [mg/L]	06-Sep-07	17:25	9.0	34

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Tuesday, September 11, 2007

Date Rec. : 05 September 2007
LR Report: **CA10015-SEP07**
Reference: Week# 11

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week# 11	6: Fine Fraction Week# 11
Sample Date & Time			05-Sep-07	05-Sep-07
Hum Cell Leachate Volume [mLs]	---	---	999	974
pH [no unit]	06-Sep-07	11:28	8.05	7.27
Conductivity [uS/cm]	06-Sep-07	11:28	139	104
Alkalinity [mg/L as CaCO3]	06-Sep-07	11:28	58	11
Acidity [mg/L as CaCO3]	06-Sep-07	11:28	< 2	< 2
Sulphate [mg/L]	11-Sep-07	12:03	46	29

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Test method information available upon request.

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Friday, September 21, 2007

Date Rec. : 12 September 2007
LR Report: **CA10166-SEP07**
Reference: Week#12

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#12	6: Fine Fraction Week#12
Sample Date & Time			12-Sep-07	12-Sep-07
Hum Cell Leachate Volume [mLs]	---	---	950	966
pH [no unit]	13-Sep-07	16:35	7.62	7.00
Conductivity [uS/cm]	13-Sep-07	16:35	141	92
Alkalinity [mg/L as CaCO3]	13-Sep-07	16:35	52	11
Acidity [mg/L as CaCO3]	13-Sep-07	16:35	< 2	< 2
Sulphate [mg/L]	20-Sep-07	12:47	8.3	25
Mercury [mg/L]	18-Sep-07	08:40	< 0.0001	< 0.0001
Silver [mg/L]	21-Sep-07	10:21	< 0.00001	< 0.00001
Aluminum [mg/L]	21-Sep-07	10:21	0.0365	0.0041
Arsenic [mg/L]	21-Sep-07	10:21	0.0013	0.0003
Barium [mg/L]	21-Sep-07	10:21	0.352	0.0113
Beryllium [mg/L]	21-Sep-07	10:21	< 0.00002	< 0.00002
Boron [mg/L]	18-Sep-07	08:40	0.003	0.003
Bismuth [mg/L]	21-Sep-07	10:21	< 0.00001	< 0.00001
Calcium [mg/L]	18-Sep-07	08:40	16.8	7.36
Cobalt [mg/L]	21-Sep-07	10:21	0.000146	0.000145
Cadmium [mg/L]	21-Sep-07	10:21	0.000004	< 0.000003
Chromium [mg/L]	21-Sep-07	10:21	< 0.0005	< 0.0005
Copper [mg/L]	21-Sep-07	10:21	0.0013	0.0006
Iron [mg/L]	18-Sep-07	08:40	< 0.01	< 0.01
Lithium [mg/L]	18-Sep-07	08:40	< 0.002	< 0.002
Potassium [mg/L]	18-Sep-07	08:40	5.11	2.67
Magnesium [mg/L]	18-Sep-07	08:40	4.47	3.44
Manganese [mg/L]	21-Sep-07	10:21	0.0414	0.0243
Molybdenum [mg/L]	21-Sep-07	10:21	0.00247	0.00273
Sodium [mg/L]	18-Sep-07	08:40	0.32	1.93
Nickel [mg/L]	21-Sep-07	10:21	0.0007	0.0006
Lead [mg/L]	21-Sep-07	10:21	< 0.00002	< 0.00002
Antimony [mg/L]	21-Sep-07	10:21	0.00129	0.00029

OnLine LIMS

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

LR Report : **CA10166-SEP07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction Week#12	6: Fine Fraction Week#12
Selenium [mg/L]	21-Sep-07	10:21	< 0.001	< 0.001
Tin [mg/L]	21-Sep-07	10:21	0.00017	0.00008
Silica [mg/L]	18-Sep-07	08:41	0.87	0.21
Titanium [mg/L]	21-Sep-07	10:21	0.0001	< 0.0001
Vanadium [mg/L]	21-Sep-07	10:21	0.00044	0.00008
Zinc [mg/L]	21-Sep-07	10:21	0.004	0.007

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LMT

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Test method information available upon request.

Appendix 4 Laboratory Certificates of Analysis

SGS Lakefield Research Limited
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Thursday, July 05, 2007

Date Rec. : 08 June 2007
LR Report: **CA10157-JUN07**
Reference: 11474-003-1

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction	6: Fine Fraction
Sample Date & Time			Date:N/A	Date:N/A
Mercury [µg/g]	14-Jun-07	15:07	0.1	0.2
Silver [g/t]	29-Jun-07	07:49	0.86	1.2
Aluminum [µg/g]	20-Jun-07	12:43	69000	78000
Arsenic [g/t]	29-Jun-07	07:49	8	34
Boron [g/t]	29-Jun-07	07:49	250	270
Barium [µg/g]	20-Jun-07	12:43	1000	1500
Beryllium [g/t]	29-Jun-07	07:49	1.1	1.2
Bismuth [g/t]	29-Jun-07	07:49	0.11	0.35
Calcium [µg/g]	20-Jun-07	12:43	24000	26000
Cadmium [g/t]	29-Jun-07	07:49	0.28	0.28
Cobalt [g/t]	29-Jun-07	07:49	6.8	24
Chromium [g/t]	29-Jun-07	07:49	140	89
Copper [g/t]	29-Jun-07	07:49	650	480
Iron [µg/g]	20-Jun-07	12:43	23000	40000
Potassium [µg/g]	20-Jun-07	12:43	11000	14000
Lithium [g/t]	29-Jun-07	07:49	12	17
Magnesium [µg/g]	20-Jun-07	12:43	12000	17000
Manganese [g/t]	29-Jun-07	07:49	320	420
Molybdenum [g/t]	29-Jun-07	07:49	13	22
Sodium [µg/g]	20-Jun-07	12:43	23000	19000
Nickel [g/t]	29-Jun-07	07:49	37	81
Lead [g/t]	29-Jun-07	07:49	7.4	20
Antimony [g/t]	29-Jun-07	07:49	0.7	1.4
Selenium [g/t]	29-Jun-07	07:49	1	2
Silica [g/t]	21-Jun-07	19:12	310000	280000
Tin [g/t]	29-Jun-07	07:49	2.0	2.8
Titanium [g/t]	29-Jun-07	07:49	1900	2800
Vanadium [µg/g]	04-Jul-07	15:17	44	67
Zinc [g/t]	29-Jun-07	07:49	81	94

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Project : CALR-11474-003

LR Report : **CA10157-JUN07**

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Tuesday, June 26, 2007

Date Rec. : 08 June 2007
LR Report: **CA10158-JUN07**
Reference: Whole Rock Analysis
11474-003-1

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	5: Coarse Fraction	6: Fine Fraction
Sample Date & Time	Date:N/A	Date:N/A
SiO2 [%]	66.8	58.2
Al2O3 [%]	14.2	15.8
Fe2O3 [%]	3.42	5.80
MgO [%]	1.99	2.90
CaO [%]	3.79	3.95
Na2O [%]	3.43	2.85
K2O [%]	1.25	1.59
TiO2 [%]	0.64	0.85
P2O5 [%]	0.19	0.29
MnO [%]	0.04	0.06
Cr2O3 [%]	0.03	0.02
V2O5 [%]	0.02	0.03
LOI [%]	4.10	5.72
Sum [%]	99.8	98.0

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Modified ABA

Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Tuesday, July 03, 2007

Date Rec. : 08 June 2007
LR Report: **CA10159-JUN07**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Approval Date	4: Analysis Approval Time	5: Coarse Fraction	6: Fine Fractiion
Sample Date & Time					Date:NA	Date:NA
Paste pH [units]	26-Jun-07	10:00	28-Jun-07	08:51	9.31	8.76
Fizz Rate [---]	26-Jun-07	10:00	28-Jun-07	08:51	2	1
Sample [weight(g)]	26-Jun-07	10:00	28-Jun-07	08:51	2.0	2.0
HCl added [mL]	26-Jun-07	10:00	28-Jun-07	08:51	40.50	47.60
HCl [Normality]	26-Jun-07	10:00	28-Jun-07	08:51	0.10	0.10
NaOH [Normality]	26-Jun-07	10:00	28-Jun-07	08:51	0.10	0.10
NaOH to [pH=8.3 mL]	26-Jun-07	10:00	28-Jun-07	08:51	20.10	23.45
Final pH [units]	26-Jun-07	10:00	28-Jun-07	08:51	1.57	1.72
NP [t CaCO3/1000t]	26-Jun-07	10:00	28-Jun-07	08:51	50.5	61.0
AP [t CaCO3/1000 t]	26-Jun-07	10:00	28-Jun-07	08:51	3.4	14.4
Net NP [t CaCO3/1000 t]	26-Jun-07	10:00	28-Jun-07	08:51	47.1	46.6
NP/AP [ratio]	26-Jun-07	10:00	28-Jun-07	08:51	14.9	4.2
Total Sulphur [%]	14-Jun-07	09:00	14-Jun-07	11:22	0.094	0.542
Sulphide [%]	20-Jun-07	11:00	21-Jun-07	12:52	0.11	0.46
Sulphate [%]	19-Jun-07	17:47	22-Jun-07	15:49	< 0.4	< 0.4
Total Carbon [%]	14-Jun-07	09:00	14-Jun-07	11:22	0.744	0.955
Carbonate [%]	14-Jun-07	14:00	18-Jun-07	11:40	2.19	2.40
pH Rinse Water [units]	28-Jun-07	09:00	28-Jun-07	09:21	8.59	8.61
pH DI Water [units]	28-Jun-07	09:00	28-Jun-07	09:21	6.39	6.39

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Project : CALR-11474-003

LR Report : **CA10159-JUN07**

*NP (Neutralization Potential)

$$= \frac{50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Friday, June 22, 2007

Date Rec. : 07 June 2007
LR Report: **CA10151-JUN07**
Reference: CofC:11474-003-1

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: June 7/07 Coarse Fraction Day 0	6: June 7/07 Fine Fraction Day 0	7: June 7/07 Coarse Fraction Day 0 Diss	8: June 7/07 Fine Fraction Day 0 Diss
Sample Date & Time			07-Jun-07	07-Jun-07	07-Jun-07	07-Jun-07
Temperature Upon Receipt [°C]	---	---	20.0	20.0	20.0	20.0
pH [no unit]	12-Jun-07	07:56	8.39	8.34	---	---
Acidity [mg/L as CaCO3]	12-Jun-07	07:56	< 2	< 2	---	---
Alkalinity [mg/L as CaCO3]	12-Jun-07	07:56	89	78	---	---
Conductivity [uS/cm]	12-Jun-07	07:56	464	353	---	---
Solids (Total Dissolved) [mg/L]	13-Jun-07	16:28	317	234	---	---
Tot. Suspended Solids [mg/L]	12-Jun-07	13:28	197	74	---	---
EMF [mV]	11-Jun-07	13:34	168	170	---	---
Fluoride [mg/L]	08-Jun-07	14:15	0.35	0.37	---	---
Chloride [mg/L]	13-Jun-07	15:36	38	28	---	---
Sulphate [mg/L]	13-Jun-07	15:36	75	53	---	---
Nitrite (as nitrogen) [mg/L]	15-Jun-07	11:19	< 0.06	< 0.06	---	---
Nitrate (as nitrogen) [mg/L]	15-Jun-07	11:19	1.11	< 0.05	---	---
Nitrate + Nitrite (as nitrogen) [mg/L]	15-Jun-07	11:19	1.11	< 0.06	---	---
Ammonia+Ammonium (N) [mg/L]	13-Jun-07	07:58	0.1	< 0.1	---	---
Thiosalts [as S2O3 mg/L]	12-Jun-07	08:03	---	< 10	---	---
Total Thiosalts [as S2O3 mg/L]	22-Jun-07	11:55	< 10	---	---	---
Mercury [ug/L]	08-Jun-07	15:35	< 0.1	< 0.1	< 0.1	< 0.1
Silver [mg/L]	12-Jun-07	13:19	0.00009	0.00008	< 0.00003	< 0.00003
Aluminum [mg/L]	13-Jun-07	13:09	2.83	1.85	0.04	0.03
Arsenic [mg/L]	12-Jun-07	13:19	0.0065	0.0056	0.0019	0.0021
Barium [mg/L]	12-Jun-07	13:19	0.437	0.248	0.165	0.124
Beryllium [mg/L]	12-Jun-07	13:19	0.00006	< 0.00004	< 0.00004	< 0.00004
Boron [mg/L]	12-Jun-07	13:19	0.030	0.018	0.030	0.020
Bismuth [mg/L]	12-Jun-07	13:19	0.00004	0.00005	< 0.00002	< 0.00002
Calcium [mg/L]	13-Jun-07	13:09	42.0	31.3	40.1	30.4
Cadmium [mg/L]	12-Jun-07	13:19	0.00057	0.00016	0.00044	0.00011
Cobalt [mg/L]	12-Jun-07	13:19	0.00188	0.00115	0.000469	0.000275

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Project : CALR-11474-003

LR Report : **CA10151-JUN07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: June 7/07 Coarse Fraction Day 0	6: June 7/07 Fine Fraction Day 0	7: June 7/07 Coarse Fraction Day 0 Diss	8: June 7/07 Fine Fraction Day 0 Diss
Chromium [mg/L]	12-Jun-07	13:19	0.0119	0.0059	0.0005	0.0005
Copper [mg/L]	12-Jun-07	13:19	0.0510	0.0660	0.0023	0.0008
Iron [mg/L]	13-Jun-07	13:09	5.82	3.22	0.01	0.01
Potassium [mg/L]	13-Jun-07	13:09	14.2	13.3	12.8	12.6
Lithium [mg/L]	13-Jun-07	13:09	< 0.002	< 0.002	< 0.002	< 0.002
Magnesium [mg/L]	13-Jun-07	13:09	11.8	8.59	9.56	7.87
Manganese [mg/L]	12-Jun-07	13:19	0.0971	0.0532	0.0435	0.0256
Molybdenum [mg/L]	12-Jun-07	13:19	0.0342	0.0816	0.0362	0.0772
Sodium [mg/L]	13-Jun-07	13:09	35.7	23.3	35.4	23.2
Nickel [mg/L]	12-Jun-07	13:19	0.0171	0.0096	0.0060	0.0030
Lead [mg/L]	12-Jun-07	13:19	0.00279	0.00354	0.00006	< 0.00002
Antimony [mg/L]	12-Jun-07	13:19	0.0044	0.0040	0.0049	0.0044
Selenium [mg/L]	12-Jun-07	13:19	0.001	0.002	< 0.001	< 0.001
Silica [mg/L]	13-Jun-07	13:09	7.06	4.44	2.02	1.28
Tin [mg/L]	12-Jun-07	13:19	0.0054	0.0020	0.0046	0.0015
Titanium [mg/L]	12-Jun-07	13:19	0.237	0.0838	0.0009	0.0006
Vanadium [mg/L]	12-Jun-07	13:19	0.0133	0.00655	0.00028	0.00026
Zinc [mg/L]	12-Jun-07	13:19	0.0166	0.0097	0.0034	0.0020

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman Project Manager

Friday, June 22, 2007

Date Rec. : 14 June 2007
LR Report: **CA10334-JUN07**
Reference: CofC:11474-003-3

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: June 14/07 Coarse Fraction Day 7	6: June 14/07 Fine Fraction Day 7	7: June 14/07 Coarse Fraction Day 7 Diss	8: June 14/07 Fine Fraction Day 7 Diss
Sample Date & Time			Date:NA	Date:NA	Date:NA	Date:NA
Temperature Upon Receipt [°C]	---	---	20.0	20.0	20.0	20.0
pH [no unit]	18-Jun-07	13:19	8.50	8.35	---	---
Acidity [mg/L as CaCO3]	18-Jun-07	13:19	< 2	< 2	---	---
Alkalinity [mg/L as CaCO3]	18-Jun-07	13:19	100	83	---	---
Conductivity [uS/cm]	18-Jun-07	13:19	486	372	---	---
Solids (Total Dissolved) [mg/L]	21-Jun-07	11:09	314	231	---	---
Tot. Suspended Solids [mg/L]	21-Jun-07	12:40	17	< 2	---	---
EMF [mV]	19-Jun-07	16:11	164	160	---	---
Fluoride [mg/L]	22-Jun-07	11:11	0.34	0.41	---	---
Chloride [mg/L]	21-Jun-07	15:41	35	25	---	---
Sulphate [mg/L]	21-Jun-07	14:02	76	50	---	---
Nitrite (as nitrogen) [mg/L]	21-Jun-07	14:02	< 0.06	< 0.06	---	---
Nitrate (as nitrogen) [mg/L]	21-Jun-07	15:41	0.46	< 0.05	---	---
Nitrate + Nitrite (as nitrogen) [mg/L]	21-Jun-07	15:41	0.46	<0.06	---	---
Ammonia+Ammonium (N) [mg/L]	19-Jun-07	10:15	< 0.1	< 0.1	---	---
Thiosalts [as S2O3 mg/L]	19-Jun-07	16:18	< 10	< 10	---	---
Mercury [ug/L]	19-Jun-07	13:08	< 0.1	< 0.1	< 0.1	< 0.1
Silver [mg/L]	22-Jun-07	09:08	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Aluminum [mg/L]	22-Jun-07	10:15	0.31	0.03	0.03	0.03
Arsenic [mg/L]	22-Jun-07	09:08	0.0023	0.0025	0.0018	0.0022
Barium [mg/L]	22-Jun-07	09:08	0.177	0.113	0.150	0.107
Beryllium [mg/L]	22-Jun-07	09:08	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Boron [mg/L]	22-Jun-07	09:08	0.029	0.020	0.029	0.019
Bismuth [mg/L]	22-Jun-07	09:09	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Calcium [mg/L]	22-Jun-07	10:15	40.0	31.1	38.0	26.7
Cadmium [mg/L]	22-Jun-07	09:09	0.00027	0.00007	0.00026	0.00007
Cobalt [mg/L]	22-Jun-07	09:09	0.000326	0.000096	0.000204	0.000065
Chromium [mg/L]	22-Jun-07	09:09	0.0016	0.0004	0.0003	0.0003
Copper [mg/L]	22-Jun-07	09:09	0.0057	0.0012	0.0023	0.0008
Iron [mg/L]	22-Jun-07	10:15	0.56	0.03	< 0.01	0.02
Potassium [mg/L]	22-Jun-07	10:14	14.5	14.0	14.5	12.9
Lithium [mg/L]	22-Jun-07	10:14	< 0.002	< 0.002	< 0.002	< 0.002

OnLine LIMS

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Test method information available upon request.

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

LR Report : **CA10334-JUN07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: June 14/07 Coarse Fraction Day 7	6: June 14/07 Fine Fraction Day 7	7: June 14/07 Coarse Fraction Day 7 Diss	8: June 14/07 Fine Fraction Day 7 Diss
Magnesium [mg/L]	22-Jun-07	10:14	10.0	8.17	9.80	8.24
Manganese [mg/L]	22-Jun-07	09:09	0.0521	0.0062	0.0496	0.0003
Molybdenum [mg/L]	22-Jun-07	09:09	0.0421	0.0776	0.0421	0.0754
Sodium [mg/L]	22-Jun-07	10:14	34.7	23.7	31.5	20.0
Nickel [mg/L]	22-Jun-07	09:09	0.0054	0.0026	0.0049	0.0024
Lead [mg/L]	22-Jun-07	09:09	0.00017	0.00013	0.00014	0.00006
Antimony [mg/L]	22-Jun-07	09:09	0.0036	0.0035	0.0041	0.0038
Selenium [mg/L]	22-Jun-07	09:09	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	22-Jun-07	10:14	2.68	1.72	2.15	1.70
Tin [mg/L]	22-Jun-07	09:09	0.0050	0.0007	0.0037	< 0.0003
Titanium [mg/L]	22-Jun-07	09:09	0.0262	0.0006	0.0008	0.0005
Vanadium [mg/L]	22-Jun-07	09:09	0.00160	0.00030	0.00024	0.00019
Zinc [mg/L]	22-Jun-07	09:09	0.0055	0.0029	0.0015	0.0030

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Test method information available upon request.

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Environmental Met
Attn : Barb Bowman marilyn.kelly@sgs.com

Project : CALR-11474-003

Monday, July 23, 2007

Date Rec. : 06 July 2007
LR Report: **CA10157-JUL07**
Reference: CofC:11474-003-4

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: July 6/07 Coarse Fraction Day 29	6: July 6/07 Fine Fraction Day 29	7: July 6/07 Coarse Fraction Day 29 Diss	8: July 6/07 Fine Fraction Day 29 Diss
Sample Date & Time			Date:NA	Date:NA	Date:NA	Date:NA
Temperature Upon Receipt [°C]	---	---	21.0	21.0	21.0	21.0
pH [no unit]	10-Jul-07	08:55	8.35	8.22	---	---
Acidity [mg/L as CaCO3]	10-Jul-07	08:55	< 2	< 2	---	---
Alkalinity [mg/L as CaCO3]	10-Jul-07	08:55	132	102	---	---
Conductivity [uS/cm]	10-Jul-07	08:55	500	389	---	---
Solids (Total Dissolved) [mg/L]	11-Jul-07	13:33	346	237	---	---
Tot. Suspended Solids [mg/L]	12-Jul-07	15:31	5	2	---	---
EMF [mV]	11-Jul-07	07:55	< 1	< 1	---	---
Fluoride [mg/L]	13-Jul-07	15:07	0.37	0.46	---	---
Chloride [mg/L]	13-Jul-07	12:05	36	24	---	---
Sulphate [mg/L]	13-Jul-07	12:05	87	57	---	---
Nitrite (as nitrogen) [mg/L]	13-Jul-07	12:05	< 0.06	< 0.06	---	---
Nitrate (as nitrogen) [mg/L]	13-Jul-07	12:05	0.16	< 0.05	---	---
Nitrate + Nitrite (as nitrogen) [mg/L]	13-Jul-07	12:05	0.16	< 0.06	---	---
Ammonia+Ammonium (N) [mg/L]	10-Jul-07	11:48	0.2	0.2	---	---
Thiosalts [as S2O3 mg/L]	18-Jul-07	12:37	< 10	< 10	---	---

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Test method information available upon request.

SGS
SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003
LR Report : CA10157-JUL07

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: July 6/07 Coarse Fraction Day 29	6: July 6/07 Fine Fraction Day 29	7: July 6/07 Coarse Fraction Day 29 Diss	8: July 6/07 Fine Fraction Day 29 Diss
Mercury [ug/L]	12-Jul-07	11:17	< 0.1	< 0.1	< 0.1	< 0.1
Silver [mg/L]	13-Jul-07	07:38	0.00016	0.00010	0.00010	0.00008
Aluminum [mg/L]	13-Jul-07	07:38	0.12	0.07	0.07	0.03
Arsenic [mg/L]	13-Jul-07	07:38	0.0023	0.0018	0.0021	0.0019
Barium [mg/L]	13-Jul-07	07:38	0.127	0.0858	0.124	0.0891
Beryllium [mg/L]	13-Jul-07	07:38	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Boron [mg/L]	13-Jul-07	07:38	0.033	0.021	0.033	0.020
Bismuth [mg/L]	13-Jul-07	07:38	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Calcium [mg/L]	13-Jul-07	07:38	45.9	32.8	43.3	33.4
Cadmium [mg/L]	13-Jul-07	07:38	0.00014	< 0.00006	0.00013	< 0.00006
Cobalt [mg/L]	13-Jul-07	07:38	0.000590	0.000303	0.000440	0.000255
Chromium [mg/L]	13-Jul-07	07:38	0.0006	< 0.0003	0.0004	< 0.0003
Copper [mg/L]	13-Jul-07	07:38	0.0077	0.0046	0.0062	0.0046
Iron [mg/L]	13-Jul-07	07:38	0.22	0.02	0.08	< 0.01
Potassium [mg/L]	13-Jul-07	07:38	16.8	14.2	16.2	14.3
Lithium [mg/L]	13-Jul-07	07:38	< 0.002	0.010	0.004	< 0.002
Magnesium [mg/L]	13-Jul-07	07:38	12.2	9.38	11.7	9.51
Manganese [mg/L]	13-Jul-07	07:38	0.00538	0.0148	0.00435	0.0123
Molybdenum [mg/L]	13-Jul-07	07:38	0.0827	0.0923	0.0649	0.0917
Sodium [mg/L]	13-Jul-07	07:38	36.5	24.4	35.1	24.7
Nickel [mg/L]	13-Jul-07	07:39	0.0493	0.0024	0.0048	0.0025
Lead [mg/L]	13-Jul-07	07:39	0.00080	0.00049	0.00052	0.00064
Antimony [mg/L]	13-Jul-07	07:39	0.0036	0.0022	0.0036	0.0022
Selenium [mg/L]	13-Jul-07	07:39	< 0.001	< 0.001	< 0.001	< 0.001
Silica [mg/L]	13-Jul-07	07:39	2.55	1.89	2.44	1.91
Tin [mg/L]	13-Jul-07	07:39	0.0033	0.0032	0.0031	0.0042
Titanium [mg/L]	13-Jul-07	07:39	0.0034	0.0008	0.0028	0.0010
Vanadium [mg/L]	13-Jul-07	07:39	0.00068	0.00043	0.00061	0.00039
Zinc [mg/L]	13-Jul-07	07:39	0.0157	< 0.0003	< 0.0003	< 0.0003

OnLine LIMS

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Test method information available upon request.

SGS
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P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003
LR Report : **CA10157-JUL07**

Kimberley Didsbury
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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SGS Lakefield Research Limited
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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

Environmental Met
Attn : Barb Bowman

Tuesday, August 21, 2007

Date Rec. : 07 August 2007
LR Report: **CA10157-AUG07**
Reference: CofC:11474-003-5

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Aug 7/07 Coarse Fraction Day 61	7: Aug 7/07 Coarse Fraction Day 61 Diss	6: Aug 7/07 Fine Fraction Day 61	8: Aug 7/07 Fine Fraction Day 61 Diss
Sample Date & Time			07-Aug-07	07-Aug-07	07-Aug-07	07-Aug-07
Temperature Upon Receipt [°C]	---	---	26.0	26.0	26.0	26.0
pH [no unit]	10-Aug-07	10:34	8.33	---	8.30	---
Acidity [mg/L as CaCO3]	10-Aug-07	10:34	< 2	---	< 2	---
Alkalinity [mg/L as CaCO3]	10-Aug-07	10:34	63	---	66	---
Conductivity [uS/cm]	10-Aug-07	10:34	528	---	433	---
Solids (Total Dissolved) [mg/L]	13-Aug-07	13:10	585	---	254	---
Tot. Suspended Solids [mg/L]	10-Aug-07	13:04	< 2	---	< 2	---
EMF [mV]	09-Aug-07	14:44	9	---	-1	---
Fluoride [mg/L]	10-Aug-07	10:51	0.37	---	0.51	---
Chloride [mg/L]	13-Aug-07	12:00	38	---	26	---
Sulphate [mg/L]	15-Aug-07	12:57	98	---	64	---
Nitrite (as nitrogen) [mg/L]	13-Aug-07	12:00	< 0.06	---	< 0.06	---
Nitrate (as nitrogen) [mg/L]	21-Aug-07	11:23	< 0.05	---	< 0.05	---
Nitrate + Nitrite (as nitrogen) [mg/L]	13-Aug-07	12:00	< 0.06	---	< 0.06	---
Ammonia+Ammonium (N) [mg/L]	10-Aug-07	09:09	< 0.1	---	< 0.1	---
Thiosalts [as S2O3 mg/L]	21-Aug-07	11:23	< 10	---	< 10	---
Mercury [ug/L]	13-Aug-07	16:31	< 0.1	< 0.1	< 0.1	< 0.1
Silver [mg/L]	13-Aug-07	13:07	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Aluminum [mg/L]	14-Aug-07	10:42	0.20	0.05	0.04	0.02
Arsenic [mg/L]	13-Aug-07	13:07	0.0028	0.0027	0.0021	0.0025
Barium [mg/L]	13-Aug-07	13:07	0.116	0.101	0.0861	0.0865
Beryllium [mg/L]	13-Aug-07	13:07	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Boron [mg/L]	13-Aug-07	13:07	0.044	0.035	0.030	0.023
Bismuth [mg/L]	13-Aug-07	13:07	0.00004	0.00009	< 0.00002	< 0.00002
Calcium [mg/L]	14-Aug-07	10:42	41.0	36.3	31.8	30.9
Cadmium [mg/L]	13-Aug-07	13:07	0.00009	< 0.00006	< 0.00006	< 0.00006
Cobalt [mg/L]	13-Aug-07	13:07	0.000172	0.000178	0.000112	0.000126
Chromium [mg/L]	13-Aug-07	13:07	0.0009	0.0009	< 0.0003	0.0007
Copper [mg/L]	13-Aug-07	13:07	0.0064	0.0058	0.0057	0.0077
Iron [mg/L]	14-Aug-07	10:42	0.33	< 0.01	< 0.01	< 0.01
Potassium [mg/L]	14-Aug-07	10:42	18.1	17.8	15.8	15.6
Lithium [mg/L]	14-Aug-07	10:42	< 0.002	< 0.002	< 0.002	< 0.002

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Phone: 705-652-2000 FAX: 705-652-6365

Project : CALR-11474-003

LR Report : **CA10157-AUG07**

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: Aug 7/07 Coarse Fraction Day 61	7: Aug 7/07 Coarse Fraction Day 61 Diss	6: Aug 7/07 Fine Fraction Day 61	8: Aug 7/07 Fine Fraction Day 61 Diss
Magnesium [mg/L]	14-Aug-07	10:43	13.0	12.7	10.3	10.3
Manganese [mg/L]	13-Aug-07	13:07	0.00688	0.00400	0.0205	0.0197
Molybdenum [mg/L]	13-Aug-07	13:07	0.0649	0.0630	0.0962	0.0870
Sodium [mg/L]	14-Aug-07	10:43	37.5	33.8	28.3	26.2
Nickel [mg/L]	13-Aug-07	13:07	0.0031	0.0023	0.0015	0.0013
Lead [mg/L]	13-Aug-07	13:07	0.00009	0.00014	< 0.00002	0.00014
Antimony [mg/L]	13-Aug-07	13:07	0.0053	0.0051	0.0025	0.0023
Selenium [mg/L]	13-Aug-07	13:07	0.001	0.001	< 0.001	< 0.001
Silica [mg/L]	14-Aug-07	10:43	4.27	2.68	3.13	2.20
Tin [mg/L]	13-Aug-07	13:07	0.0009	< 0.0003	0.0005	< 0.0003
Titanium [mg/L]	13-Aug-07	13:07	0.0090	0.0011	0.0004	0.0006
Vanadium [mg/L]	13-Aug-07	13:07	0.00116	0.00099	0.00052	0.00116
Zinc [mg/L]	13-Aug-07	13:07	0.0004	0.0032	< 0.0003	0.0013

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Test method information available upon request.

Appendix 5 Geotechnical Test Reports

TEST REPORT

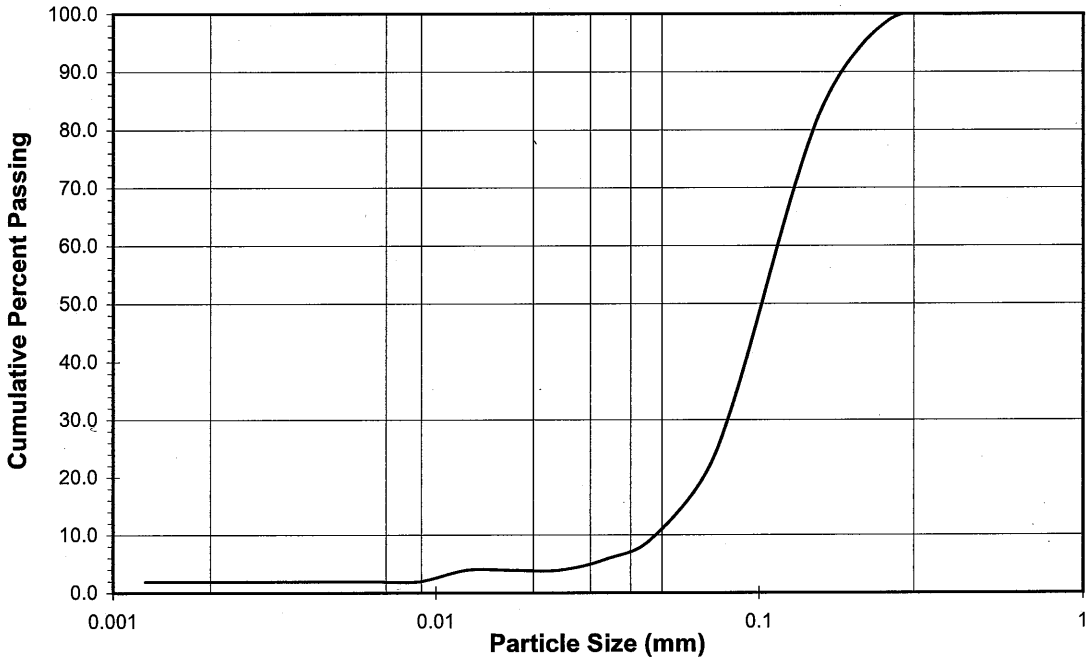
Particle Size Analysis by Hydrometer

Sample ID: Coarse Fraction
Date Completed: 15-Aug-07
Reference: ASTM D 422, SOP 7-18-6

Specific Gravity: 2.76

Sieve Size (US Stan.)	Particle Size (mm)	Weight Passing %
1"	25.400	100.0
3/4"	19.050	100.0
3/8"	9.500	100.0
#10	2.000	100.0
#12	1.700	100.0
#40	0.425	100.0
#60	0.250	98.8
#100	0.150	81.3
#200	0.075	25.4
-	0.048	9.8
-	0.034	5.9
-	0.024	3.9
-	0.017	3.9
-	0.012	3.9
-	0.009	2.0
-	0.006	2.0
-	0.004	2.0
-	0.001	2.0

Particle Size Distribution



B. Bowman
Project Technician

R. J. Caldwell
Project Manager

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

TEST REPORT

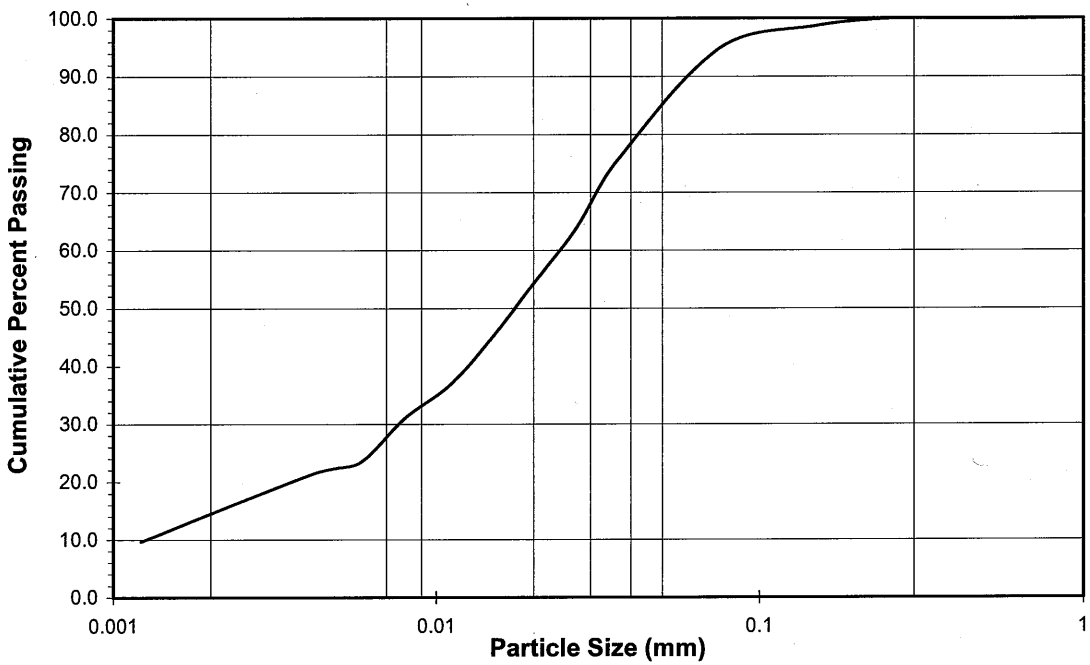
Particle Size Analysis by Hydrometer

Sample ID: Fine Fraction
Date Completed: 15-Aug-07
Reference: ASTM D 422, SOP 7-18-6

Specific Gravity: 2.82

Sieve Size (US Stan.)	Particle Size (mm)	Weight Passing %
1"	25.400	100.0
3/4"	19.050	100.0
3/8"	9.500	100.0
#10	2.000	100.0
#12	1.700	100.0
#40	0.425	100.0
#60	0.250	99.9
#100	0.150	98.7
#200	0.075	94.8
-	0.036	75.5
-	0.027	63.9
-	0.020	54.2
-	0.015	44.5
-	0.011	36.8
-	0.008	31.0
-	0.006	23.2
-	0.004	21.3
-	0.001	9.7

Particle Size Distribution



B. Bowman
Project Technician

R. J. Caldwell
Project Manager

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Appendix 6 Chain of Custody Forms

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 11474-003-1

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038 Fax (705) 652-6441

June 10151 R2

Report Results to:	**Name: Barb Bowman**	LRL LIMS No.:
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): 0607 Cr
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	**Project No.:** 11474-003
	Telephone Number: 2524 **Fax:**	**Plant No.:**
Send invoice to:	Name: Rob Caldwell	**Quote No.:**
	Company:	**Purchase Order No.:**
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	**Sampled by:**	Sample condition upon receipt:
	Packed and Shipped by: **Date /Time:**	
	Shipment Method and WB#: **Date /Time:**	Temperature upon receipt: 20.0

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: **Regulation:** **initial:**

ICP Total and Dissolved Metals: Hg, Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Si, Ti, V and Zn.

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	pH, acid, alk, Cond, EH, TDS, TSS	Anions (Cl, F, NO2, NO3, SO4)	Ammonia	Thiosalts	Total Metals	Dissolved Metals	Total Hg + Dissolved Hg
1		June 7/07 Coarse Fraction Day 0		June 7		X	X	X	X	X	X	X
2		June 7/07 Fine Fraction Day 0		"		X	X	X	X	X	X	X
3												
4												
5												
6												
7												
8												
9												
10												

* **Matrix Codes:** GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* **Regulated Water Codes:** GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): **Date:** June 7/07

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 11474-003-1

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.:
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): 06/08/07
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 11474-003
	Telephone Number: 2524 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard X RUSH Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by:	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: _____ **Regulation:** _____ **Initial:** _____

Temperature upon receipt: _____ °C

ABA: Need the Rinse pH, and pH of water used for Rinse pH reported

ICP Metals: Hg, Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Si, Ti, V and Zn.

Humdity Cells: weekly pH, acid, Alk, cond and SO4

Same suite of metals for hum cells on Weeks 0 through 6 and weeks 9, 12, 16 and 20

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	ICP-OES/MS Elemental Analyses	Whole Rock	Mod ABA	Humidity Cell Testing			
1		Coarse Fraction				X	X	X	X			
2		Fine Fraction				X	X	X	X			
3												
4												
5												
6												
7												
8												
9												
10												

Jun 10157 Jun 10158 Jun 10159

* Matrix Codes: GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): _____ **Date:** June 8/07

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 11474-003-3

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.: Jun 10334.607
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): JB Jun 14/07
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 11474-003
	Telephone Number: 2524 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard X RUSH Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by:	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: _____ **Regulation:** _____ **initial:** _____

Temperature upon receipt 20.0°C

ICP Total and Dissolved Metals as per 10151-JUN07

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	pH, acid, alk, Cond, EH, TDS, TSS	Anions (Cl, F, NO2, NO3, SO4)	Ammonia	Thiosalts	Total Metals	Dissolved Metals	Total Hg + Dissolved Hg
1		June 14/07 Coarse Fraction Day 7				X	X	X	X	X	X	X
2		June 14/07 Fine Fraction Day 7				X	X	X	X	X	X	X
3												
4												
5												
6												
7												
8												
9												
10												

* **Matrix Codes:** GW-ground water, SW-surface water, RES-Residential Water, EFF-Effluent, PROC-Process Water, SOIL-Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* **Regulated Water Codes:** GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): _____ **Date:** June 14/07

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 11474-003-4

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.: JUL 10157-R07
	Company: SGS Lakefield Research Ltd	Received by (Date & Time): 07/06/07
	Address:	Logged in by (Date):
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 11474-003
	Telephone Number: 2524 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by:	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	
	Shipment Method and WB#: Date /Time:	

Please specify any guideline or regulation that these samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: **Regulation:** **initial:**

Temperature upon receipt: 21 °C

ICP Total and Dissolved Metals as per 10151-JUN07

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	pH, acid, alk, Cond, EH, TDS, TSS	Anions (Cl, F, NO2, NO3, SO4)	Ammonia	Thiosalts	Total Metals	Dissolved Metals	Total Hg + Dissolved Hg
1		July 6/07 Coarse Fraction Day 29	10			X	X	X	X	X	X	X
2		July 6/07 Fine Fraction Day 29	10			X	X	X	X	X	X	X
3												
4												
5												
6												
7												
8												
9												
10												

* **Matrix Codes:** GW-ground water, SW-surface water, RES -Residential Water, EFF -Effluent, PROC -Process Water, SOIL -Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* **Regulated Water Codes:** GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): **Date:** July 6/07

Part No. CofC-2(Email/Fax Copy)

SGS Lakefield Research Limited
Environmental Services

Request for Laboratory Services and Chain of Custody Form

No 11474-003-5

P.O. Box 4300, 185 Concession St., Lakefield, ON. K0L 2H0, Phone (705) 652-2038, Fax (705) 652-6441

Report Results to:	Name: Barb Bowman	LRL LIMS No.: Aug 10157 R07
	Company: SGS Lakefield Research Ltd	Received by (Date & Time):
	Address:	Logged in by (Date): Jm Aug 7.
	City	Lab Batch ID:
	Province, Postal Code	Project No.: 11474-003
	Telephone Number: 2524 Fax:	Plant No.:
Send Invoice to:	Name: Rob Caldwell	Quote No.:
	Company:	Purchase Order No.:
	Address:	TAT (Turnaround Time) * Some exceptions apply, please contact lab
	City	Standard [X] RUSH [ ] Specify Date:
	Province, Postal Code	Time:
	Telephone Number: 2043 Fax:	PLEASE CONTACT LAB PRIOR TO SUBMITTING RUSH PROJECTS
Chain of Custody	Sampled by: B Bowman	Sample condition upon receipt:
	Packed and Shipped by: Date /Time:	26.0
	Shipment Method and WB#: Date /Time:	Temperature upon receipt: °C

Please specify any guideline or regulation that those samples may apply(i.e. ODWS, PWQO, Reg 558, GCSO, MISA, MMER, CBWA).

Guideline: **Regulation:** **initial:**

ICP Total and Dissolved Metals as per 10151-JUN07

Analysis Requested (X) as Required

(Enter an "X" in the boxes to indicate which request(s) apply to each sample)

	Sample Matrix*	Sample Identifier	No. Bottles	Date Sampled	Time Sampled	pH, acid, alk, Cond, EH, TDS, TSS	Anions (Cl, F, NO2, NO3, SO4)	Ammonia	Thiosalts	Total Metals	Dissolved Metals	Total Hg + Dissolved Hg
1		Aug 7/07 Coarse Fraction Day 61				X	X	X	X	X	X	X
2		Aug 7/07 Fine Fraction Day 61				X	X	X	X	X	X	X
3												
4												
5												
6												
7												
8												
9												
10												

* Matrix Codes: GW-ground water, SW-surface water, RES -Residential Water, EFF -Effluent, PROC-Process Water, SOIL -Soil, SED-Sediment, SWAB-Swabs, FILT-Filters

* Regulated Water Codes: GRW-ground raw water, SRW-surface raw water, TDW-Treated Drinking Water, DDW-Distribution Drinking Water

Work Authorized by(Client or representative signature must accompany request): **Date:** Aug 7/07

Part No. CofC-2(Email/Fax Copy)

Appendix 7 Qualifications and Limitations

QUALIFICATIONS AND LIMITATIONS

Limited Warranty

In performing work on behalf of a client, SGS Lakefield Research Limited relies on its client to provide instructions on the scope of its retainer and, on that basis, SGS Lakefield Research Limited determines the precise nature of the work to be performed. SGS Lakefield Research Limited undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

Reliance on Materials and Information

The findings and results presented in reports prepared by SGS Lakefield Research Limited are based on the materials and information provided by the client to SGS Lakefield Research Limited and on the facts, conditions and circumstances encountered by SGS Lakefield Research Limited during the performance of the work requested by the client. In formulating its findings and results into a report, SGS Lakefield Research Limited assumes that the information and materials provided by the client or obtained by SGS Lakefield Research Limited from the client or otherwise are factual, accurate and represent a true depiction of the circumstances that exist. SGS Lakefield Research Limited relies on its client to inform SGS Lakefield Research Limited if there are changes to any such information and materials. SGS Lakefield Research Limited does not review, analyze or attempt to verify the accuracy or completeness of the information or materials provided, or circumstances encountered, other than in accordance with applicable accepted industry practice. SGS Lakefield Research Limited will not be responsible for matters arising from incomplete, incorrect or misleading information or from facts or circumstances that are not fully disclosed to or that are concealed from SGS Lakefield Research Limited during the provision of services, work or reports.

Facts, conditions, information and circumstances may vary with time and locations and SGS Lakefield Research Limited's work is based on a review of such matters as they existed at the particular time and location indicated in its reports. No assurance is made by SGS Lakefield Research Limited that the facts, conditions, information, circumstances or any underlying assumptions made by SGS Lakefield Research Limited in connection with the work performed will not change after the work is completed and a report is submitted. If any such changes occur or additional information is obtained, SGS Lakefield Research Limited should be advised and requested to consider if the changes or additional information affect its findings or results.

When preparing reports, SGS Lakefield Research Limited considers applicable legislation, regulations, governmental guidelines and policies to the extent they are within its knowledge, but SGS Lakefield Research Limited is not qualified to advise with respect to legal matters. The presentation of information regarding applicable legislation, regulations, governmental guidelines and policies is for information only and is not intended to and should not be interpreted as constituting a legal opinion concerning the work completed or conditions outlined in a report. All legal matters should be reviewed and considered by an appropriately qualified legal practitioner.

Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that SGS Lakefield Research Limited's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

Only conditions at the site and locations chosen for study by the client are evaluated; no adjacent or other properties are evaluated unless specifically requested by the client. Any physical or other aspects of the site chosen for study by the client, or any other matter not specifically addressed in a report prepared by SGS Lakefield Research Limited, are beyond the scope of the work performed by SGS Lakefield Research Limited and such matters have not been investigated or addressed.

No Reliance

SGS Lakefield Research Limited's services, work and reports are provided solely for the exclusive use of the client which has retained the services of SGS Lakefield Research Limited and to which its reports are addressed. SGS Lakefield Research Limited is not responsible for the use of its work or reports by any other party, or for the reliance on, or for any decision which is made by any party using the services or work performed by or a report prepared by SGS Lakefield Research Limited without SGS Lakefield Research Limited's express written consent. Any party that relies on services or work performed by SGS Lakefield Research Limited or a report prepared by SGS Lakefield Research Limited without SGS Lakefield Research Limited's express written consent, does so at its own risk. No report of SGS Lakefield Research Limited may be disclosed or referred to in any public document without SGS Lakefield Research Limited's express prior written consent. SGS Lakefield Research Limited specifically disclaims any liability or responsibility to any such party for any loss, damage, expense, fine, penalty or other such thing which may arise or result from the use of any information, recommendation or other matter arising from the services, work or reports provided by SGS Lakefield Research Limited.

Limitation of Liability

SGS Lakefield Research Limited is not responsible for any lost revenues, lost profits, cost of capital, or any special, indirect, consequential or punitive damages suffered by the client or any other party in reliance on any SGS Lakefield Research Limited work or report. SGS Lakefield Research Limited's total liability and responsibility to the client or any other person for any and all losses, costs, expenses, damages, claims, causes of action or other liability whatsoever which do or may result or arise from or be in relation to SGS Lakefield Research Limited's services, work (or failure to perform services or work) or reports shall be limited to the invoiced charges for the work performed by SGS Lakefield Research Limited.

Fiscal Allowances in Canada for Organizations Conducting Experimental Research

SGS Lakefield Research Limited may apply to CCRA (Canada Customs and Revenue Agency) for fiscal allowances permitted to Canadian laboratories undertaking accreditable experimental research and development within Canada. The high success rate of SGS Lakefield Research Limited in meeting the technological objectives of its clients and in providing quality experimental work and results requires it to undertake internal experimental research. This is done to perfect its technological approaches and methodology, as well as overcome unanticipated or unavoidable technical challenges that occur in the course of much work undertaken for its clients.

It is implicit in this contract that the experimental work performed by SGS Lakefield Research Limited may sometimes be cited, in an anonymous manner, for the purpose of requesting fiscal credits for risks assumed by SGS Lakefield Research Limited in the course of performing services for its clients.

Notwithstanding the presence of an obligatory agreement of confidentiality between CCRA and SGS Lakefield Research Limited, any information used by the latter to support claims for the assumption of risk in experimental research, will be presented in an anonymous form. For example, no mention will be made of the names of companies, ore bodies or proprietary processes in these claims. Throughout this process, SGS Lakefield Research Limited will fully respect the trust and the agreements of confidentiality that exist with all of its clients.

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	0	1	2	3	4	5	6	7	8	9	10	11
LIMS			10434-JUN	10560-JUN	10017-JUL	10168-JUL	10362-JUL	10511-JUL	10000-AUG	10081-AUG	10278-AUG	10445-AUG	10666-AUG	10015-SEP
Hum Cell Leachate Vol	mLs		707	947	960	1000	910	960	820	982	982	967	989	999
pH	units	6 to 9	7.68	8.20	7.92	8.01	7.70	8.15	7.84	7.32	7.96	7.90	8.05	8.05
Conductivity	uS/cm		308	197	159	150	128	135	132	134	140	136	132	139
Alkalinity	mg/L as $CaCO_3$		51	71	62	59	55	54	51	49	52	50	54	58
Acidity	mg/L as $CaCO_3$		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
SO_4	mg/L		58	25	17	12	11	10	10	9.6	9.3	9.4	9	46
Hg	mg/L	0.01	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	< 0.0001	---	---
Ag	mg/L		< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	< 0.00003	---	---
Al	mg/L		0.0347	0.0347	0.0346	0.0386	0.0397	0.0481	0.0490	---	---	0.0439	---	---
As	mg/L	0.1	0.0020	0.0033	0.0022	0.0023	0.0022	0.0024	0.0023	---	---	0.0022	---	---
Ba	mg/L		0.0767	0.114	0.208	0.231	0.244	0.289	0.278	---	---	0.319	---	---
Be	mg/L		< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	---	---	< 0.00004	---	---
B	mg/L		< 0.002	0.008	0.006	0.092	< 0.002	0.008	< 0.002	---	---	< 0.002	---	---
Bi	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	< 0.00002	---	---
Ca	mg/L		24.3	21.3	19.1	17.9	16.5	15.9	15.1	---	---	6.80	---	---
Co	mg/L		0.00242	0.000527	0.000367	0.000316	0.000246	0.000162	0.000176	---	---	0.000117	---	---
Cd	mg/L	0.1	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	---	---	< 0.00006	---	---
Cr	mg/L		< 0.0003	0.0005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	< 0.0003	---	---
Cu	mg/L	0.5	0.0022	0.0016	0.0011	0.0009	0.0011	0.0011	0.0011	---	---	0.0012	---	---
Fe	mg/L	3.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	---	---
Li	mg/L		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.003	< 0.002	---	---	< 0.002	---	---
K	mg/L		11.1	9.78	7.97	7.17	6.45	5.99	5.69	---	---	2.35	---	---
Mg	mg/L		6.63	6.13	5.30	4.92	4.44	4.22	4.00	---	---	2.80	---	---
Mn	mg/L		0.0712	0.0545	0.0591	0.0502	0.0440	0.0380	0.0329	---	---	0.0315	---	---
Mo	mg/L		0.0209	0.0124	0.00726	0.00491	0.00471	0.00316	0.00249	---	---	0.00392	---	---
Na	mg/L		14.7	4.80	1.55	0.88	0.57	0.49	0.44	---	---	1.80	---	---
Ni	mg/L	0.5	0.0047	0.0021	0.0019	0.0016	0.0009	0.0011	0.0008	---	---	< 0.0007	---	---
Pb	mg/L	0.1	0.00013	< 0.00002	0.00002	< 0.00002	< 0.00002	0.00002	0.00003	---	---	0.00012	---	---
Sb	mg/L		0.0038	0.0031	0.0041	0.0019	0.0024	0.0027	0.0037	---	---	0.0025	---	---
Se	mg/L		0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	---	---	< 0.001	---	---
Sn	mg/L		0.0010	0.0011	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	0.0004	---	---
Si	mg/L		1.35	1.36	1.21	1.14	1.04	1.03	1.02	---	---	0.15	---	---
Ti	mg/L		< 0.0002	< 0.0002	0.0002	< 0.0002	0.0004	< 0.0002	0.0002	---	---	< 0.0002	---	---
V	mg/L		0.00022	0.00035	0.00035	0.00037	0.00041	0.00043	0.00049	---	---	0.00045	---	---
Zn	mg/L	2.0	0.0026	0.0018	0.0032	0.0042	0.0033	0.0031	0.0025	---	---	0.0026	---	---

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	12	13	14	15	16	17	18	19	20	21	22
LIMS			10166-SEP	10302-SEP	10472-SEP	10028-OCT	10261-OCT	10386-OCT	10624-OCT	10767-OCT	10052-NOV	10253-NOV	10388-NOV
Hum Cell Leachate Vol	mLs		950	983	997	964	979	981	881	991	958	982	998
pH	units	6 to 9	7.62	8.06	7.93	7.87	7.82	7.76	7.07	7.92	8.05	8.00	7.60
Conductivity	uS/cm		141	141	132	134	137	115	63	119	115	116	118
Alkalinity	mg/L as $CaCO_3$		52	55	53	53	53	48	6	52	49	49	49
Acidity	mg/L as $CaCO_3$		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
SO_4	mg/L		8.3	9.1	8.1	8.7	8.9	8.1	7.4	6.9	6.8	8.1	7.4
Hg	mg/L	0.01	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ag	mg/L		< 0.00001	---	---	---	0.00002	---	---	---	< 0.00001	---	---
Al	mg/L		0.0365	---	---	---	0.0420	---	---	---	0.0242	---	---
As	mg/L	0.1	0.0013	---	---	---	0.0007	---	---	---	0.0006	---	---
Ba	mg/L		0.352	---	---	---	0.332	---	---	---	0.305	---	---
Be	mg/L		< 0.00002	---	---	---	< 0.00002	---	---	---	0.00002	---	---
B	mg/L		0.003	---	---	---	< 0.002	---	---	---	< 0.002	---	---
Bi	mg/L		< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ca	mg/L		16.8	---	---	---	15.8	---	---	---	15.7	---	---
Co	mg/L		0.000146	---	---	---	0.000102	---	---	---	0.000204	---	---
Cd	mg/L	0.1	0.000004	---	---	---	0.000004	---	---	---	0.000010	---	---
Cr	mg/L		< 0.0005	---	---	---	< 0.0005	---	---	---	< 0.0005	---	---
Cu	mg/L	0.5	0.0013	---	---	---	0.0013	---	---	---	0.0011	---	---
Fe	mg/L	3.5	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---	---
Li	mg/L		< 0.002	---	---	---	< 0.002	---	---	---	< 0.002	---	---
K	mg/L		5.11	---	---	---	4.71	---	---	---	3.65	---	---
Mg	mg/L		4.47	---	---	---	4.17	---	---	---	4.27	---	---
Mn	mg/L		0.0414	---	---	---	0.0336	---	---	---	0.0333	---	---
Mo	mg/L		0.00247	---	---	---	0.00184	---	---	---	0.00160	---	---
Na	mg/L		0.32	---	---	---	0.26	---	---	---	0.21	---	---
Ni	mg/L	0.5	0.0007	---	---	---	0.0006	---	---	---	0.0007	---	---
Pb	mg/L	0.1	< 0.00002	---	---	---	0.00005	---	---	---	0.00004	---	---
Sb	mg/L		0.00129	---	---	---	0.00112	---	---	---	0.00117	---	---
Se	mg/L		< 0.001	---	---	---	< 0.001	---	---	---	< 0.001	---	---
Sn	mg/L		0.00017	---	---	---	0.00004	---	---	---	0.00005	---	---
Si	mg/L		0.87	---	---	---	0.77	---	---	---	0.59	---	---
Ti	mg/L		0.0001	---	---	---	0.0002	---	---	---	< 0.0001	---	---
V	mg/L		0.00044	---	---	---	0.00051	---	---	---	0.00031	---	---
Zn	mg/L	2.0	0.004	---	---	---	0.002	---	---	---	0.004	---	---

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	23	24	25	26	27	28	29	30	31	32	33
LIMS			10621-NOV	10016-DEC	10165-DEC	10315-DEC	10490-DEC	10009-JAN	10076-JAN	10211-JAN	10376-JAN	10536-JAN	10002-FEB
Hum Cell Leachate Vol	mLs		988	987	996	990	971	995	884	981	993	976	983
pH	units	6 to 9	---	7.96	---	8.00	---	7.67	---	7.66	8.02	8.02	---
Conductivity	uS/cm		---	125	---	114	---	112	---	117	133	111	---
Alkalinity	mg/L as $CaCO_3$		---	47	---	48	---	46	---	44	46	46	---
Acidity	mg/L as $CaCO_3$		---	< 2	---	< 2	---	< 2	---	< 2	< 2	< 2	---
SO_4	mg/L		---	6.6	---	6.5	---	6.2	---	6.2	6.4	6.3	---
Hg	mg/L	0.01	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ag	mg/L		---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Al	mg/L		---	0.0332	---	---	---	0.0364	---	---	---	0.0320	---
As	mg/L	0.1	---	0.0007	---	---	---	0.0007	---	---	---	0.0005	---
Ba	mg/L		---	0.326	---	---	---	0.314	---	---	---	0.324	---
Be	mg/L		---	< 0.00002	---	---	---	< 0.00002	---	---	---	< 0.00002	---
B	mg/L		---	< 0.002	---	---	---	0.002	---	---	---	< 0.002	---
Bi	mg/L		---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ca	mg/L		---	13.6	---	---	---	13.3	---	---	---	14.1	---
Co	mg/L		---	0.000086	---	---	---	0.000085	---	---	---	0.000061	---
Cd	mg/L	0.1	---	0.000008	---	---	---	0.000014	---	---	---	0.000005	---
Cr	mg/L		---	< 0.0005	---	---	---	< 0.0005	---	---	---	< 0.0005	---
Cu	mg/L	0.5	---	0.0012	---	---	---	0.0012	---	---	---	0.0012	---
Fe	mg/L	3.5	---	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
Li	mg/L		---	< 0.002	---	---	---	< 0.002	---	---	---	< 0.002	---
K	mg/L		---	3.73	---	---	---	3.52	---	---	---	3.71	---
Mg	mg/L		---	3.82	---	---	---	3.78	---	---	---	4.17	---
Mn	mg/L		---	0.0292	---	---	---	0.0227	---	---	---	0.0237	---
Mo	mg/L		---	0.00133	---	---	---	0.00254	---	---	---	0.00115	---
Na	mg/L		---	0.21	---	---	---	0.22	---	---	---	0.19	---
Ni	mg/L	0.5	---	0.0005	---	---	---	< 0.0001	---	---	---	0.0003	---
Pb	mg/L	0.1	---	0.00002	---	---	---	0.00005	---	---	---	0.00002	---
Sb	mg/L		---	0.00093	---	---	---	0.00060	---	---	---	0.00072	---
Se	mg/L		---	< 0.001	---	---	---	< 0.001	---	---	---	< 0.001	---
Sn	mg/L		---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Si	mg/L		---	0.59	---	---	---	0.54	---	---	---	0.56	---
Ti	mg/L		---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
V	mg/L		---	0.00038	---	---	---	0.00033	---	---	---	0.00029	---
Zn	mg/L	2.0	---	0.002	---	---	---	0.003	---	---	---	0.010	---

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Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	34	35	36	37	38	39	40	41	42	43
LIMS			10169-FEB	10317-FEB	10436-FEB	10003-MAR	10165-MAR	10265-MAR	10366-MAR	10005-APR08	10176-APR08	10310-APR08
Hum Cell Leachate Vol	mLs		981	843	903	864	909	877	896	916	931	945
pH	units	6 to 9	7.91	---	7.94	---	7.96	---	7.70	---	7.38	---
Conductivity	uS/cm		112	---	98	---	103	---	104	---	111	---
Alkalinity	mg/L as $CaCO_3$		52	---	45	---	45	---	43	---	43	---
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2	---	< 2	---	< 2	---
SO_4	mg/L		5.8	---	5.7	---	5.5	---	5.4	---	5.6	---
Hg	mg/L	0.01	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ag	mg/L		---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Al	mg/L		---	---	0.0309	---	---	---	0.0242	---	---	---
As	mg/L	0.1	---	---	0.0004	---	---	---	0.0004	---	---	---
Ba	mg/L		---	---	0.335	---	---	---	0.292	---	---	---
Be	mg/L		---	---	< 0.00002	---	---	---	< 0.00002	---	---	---
B	mg/L		---	---	< 0.002	---	---	---	0.025	---	---	---
Bi	mg/L		---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ca	mg/L		---	---	13.1	---	---	---	12.8	---	---	---
Co	mg/L		---	---	0.000082	---	---	---	0.000079	---	---	---
Cd	mg/L	0.1	---	---	0.000005	---	---	---	0.000005	---	---	---
Cr	mg/L		---	---	< 0.0005	---	---	---	< 0.0005	---	---	---
Cu	mg/L	0.5	---	---	0.0015	---	---	---	0.0013	---	---	---
Fe	mg/L	3.5	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Li	mg/L		---	---	< 0.002	---	---	---	< 0.002	---	---	---
K	mg/L		---	---	2.94	---	---	---	2.93	---	---	---
Mg	mg/L		---	---	3.90	---	---	---	4.17	---	---	---
Mn	mg/L		---	---	0.0250	---	---	---	0.0227	---	---	---
Mo	mg/L		---	---	0.00288	---	---	---	0.00136	---	---	---
Na	mg/L		---	---	0.19	---	---	---	0.17	---	---	---
Ni	mg/L	0.5	---	---	0.0003	---	---	---	0.0004	---	---	---
Pb	mg/L	0.1	---	---	< 0.00002	---	---	---	0.00005	---	---	---
Sb	mg/L		---	---	0.00057	---	---	---	0.00068	---	---	---
Se	mg/L		---	---	< 0.001	---	---	---	< 0.001	---	---	---
Sn	mg/L		---	---	0.00007	---	---	---	< 0.00001	---	---	---
Si	mg/L		---	---	0.37	---	---	---	0.42	---	---	---
Ti	mg/L		---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
V	mg/L		---	---	0.00028	---	---	---	0.00021	---	---	---
Zn	mg/L	2.0	---	---	0.001	---	---	---	< 0.001	---	---	---

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Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	44	45	46	47	48
LIMS			10514-APR08	10627-APR08	10059-MAY08	10147-MAY08	10345-MAY08
Hum Cell Leachate Vol	mLs		845	966	966	928	969
pH	units	6 to 9	7.38	---	7.76	---	7.65
Conductivity	uS/cm		105	---	109	---	110
Alkalinity	mg/L as $CaCO_3$		38	---	46	---	42
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2
SO_4	mg/L		5.6	---	5.7	---	5.2
Hg	mg/L	0.01	< 0.0001	---	---	---	< 0.0001
Ag	mg/L		< 0.00001	---	---	---	0.00003
Al	mg/L		0.0223	---	---	---	0.0207
As	mg/L	0.1	0.0004	---	---	---	0.0003
Ba	mg/L		0.292	---	---	---	0.287
Be	mg/L		< 0.00002	---	---	---	< 0.00002
B	mg/L		< 0.002	---	---	---	< 0.002
Bi	mg/L		< 0.00001	---	---	---	0.00002
Ca	mg/L		11.8	---	---	---	11.8
Co	mg/L		0.000102	---	---	---	0.000062
Cd	mg/L	0.1	0.000004	---	---	---	0.000006
Cr	mg/L		< 0.0005	---	---	---	< 0.0005
Cu	mg/L	0.5	0.0011	---	---	---	0.001
Fe	mg/L	3.5	< 0.01	---	---	---	< 0.01
Li	mg/L		< 0.002	---	---	---	< 0.002
K	mg/L		2.53	---	---	---	2.6
Mg	mg/L		3.78	---	---	---	3.95
Mn	mg/L		0.0179	---	---	---	0.0195
Mo	mg/L		0.0012	---	---	---	0.00267
Na	mg/L		0.15	---	---	---	0.14
Ni	mg/L	0.5	0.0003	---	---	---	0.0003
Pb	mg/L	0.1	< 0.00002	---	---	---	< 0.00002
Sb	mg/L		0.00052	---	---	---	0.00043
Se	mg/L		< 0.001	---	---	---	< 0.001
Sn	mg/L		0.00065	---	---	---	0.00003
Si	mg/L		0.34	---	---	---	0.37
Ti	mg/L		0.0001	---	---	---	< 0.0001
V	mg/L		0.00018	---	---	---	0.00021
Zn	mg/L	2.0	0.001	---	---	---	< 0.001

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TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 10159-JUN07
Sulphur (S)	%	0.094
Sulphide ($S^{=}$)	%	0.11
NP	t $CaCO_3$/1000 t	50.5
CO_3 NP	t $CaCO_3$/1000 t	36.4

	Leachate Paremeters Measured						***Acid Generation*** [1]				***Acid Neutralization*** [1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
0	707	7.68	<2	51	308	58	41.0	41.0	1.24	1.24	42.71	0.08	0.12
1	947	8.20	<2	71	197	25	23.7	64.7	0.72	1.96	24.66	0.13	0.19
2	960	7.92	<2	62	159	17	16.3	81.0	0.49	2.45	17.00	0.17	0.23
3	1000	8.01	<2	59	150	12	12.0	93.0	0.36	2.82	12.50	0.19	0.27
4	910	7.70	<2	55	128	11	10.0	103.0	0.30	3.12	10.43	0.21	0.29
5	960	8.15	<2	54	135	10	9.6	112.6	0.29	3.41	10.00	0.23	0.32
6	820	7.84	<2	51	132	10	8.2	120.8	0.25	3.66	8.54	0.25	0.35
7	982	7.32	<2	49	134	9.6	9.4	130.2	0.29	3.95	9.82	0.27	0.37
8	982	7.96	<2	52	140	9.3	9.1	139.4	0.28	4.22	9.51	0.29	0.40
9	967	7.90	<2	50	136	9.4	9.1	148.5	0.28	4.50	9.47	0.31	0.42
10	989	8.05	<2	54	132	9	8.9	157.4	0.27	4.77	9.27	0.32	0.45
11	999	8.05	<2	58	139	46	46.0	203.3	1.39	6.16	47.87	0.42	0.58
12	950	7.62	<2	52	141	8.3	7.9	211.2	0.24	6.40	8.21	0.44	0.60
13	983	8.06	<2	55	141	9.1	8.9	220.1	0.27	6.67	9.32	0.45	0.63
14	997	7.93	<2	53	132	8.1	8.1	228.2	0.24	6.92	8.41	0.47	0.65
15	964	7.87	<2	53	134	8.7	8.4	236.6	0.25	7.17	8.74	0.49	0.68
16	979	7.82	<2	53	137	8.9	8.7	245.3	0.26	7.43	9.08	0.51	0.70
17	981	7.76	<2	48	115	8.1	7.9	253.3	0.24	7.67	8.28	0.52	0.72
18	881	7.07	<2	6	63	7.4	6.5	259.8	0.20	7.87	6.79	0.54	0.74
19	991	7.92	<2	52	119	6.9	6.8	266.6	0.21	8.08	7.12	0.55	0.76
20	958	8.05	<2	49	115	6.8	6.5	273.1	0.20	8.28	6.79	0.56	0.78

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

Summary - Weeks 0 to 20

Maximum Value	8.20	<2	71	308	58	46.0	-	1.39	-	48	-	-
Minimum Value	7.07	<2	6	63	7	6.5	-	0.20	-	6.8	-	-
Average Value	7.75	<2	52	142	14	13.0	-	0.39	-	13.55	-	-

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TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Changes to Head Sample after 20 Weeks [1]

Parameter	Units	Reference No.: 10159-JUN07
Sulphide ($S^{=}$) Remaining	%	0.10
NP Remaining	t $CaCO_3$/1000 t	50.2
CO_3 NP Remaining	t $CaCO_3$/1000 t	36.1

	Leachate Paremeters Measured						***Acid Generation*** [1]				***Acid Neutralization*** [1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
21	982	8.00	<2	49	116	8.1	8.0	281.1	0.24	8.52	8.29	0.58	0.80
22	998	7.60	<2	49	118	7.4	7.4	288.5	0.22	8.74	7.69	0.60	0.83
23	988	---	---	---	---	---							
24	987	7.96	<2	47	125	6.6	6.5	295.0	0.20	8.94	6.79	0.61	0.84
25	996	---	---	---	---	---							
26	990	8.00	<2	48	114	6.5	6.4	301.4	0.20	9.13	6.70	0.62	0.86
27	971	---	---	---	---	---							
28	995	7.67	<2	46	112	6.2	6.2	307.6	0.19	9.32	6.43	0.63	0.88
29	884	---	---	---	---	---							
30	981	7.66	<2	44	117	6.2	6.1	313.7	0.18	9.51	6.34	0.65	0.90
31	993	8.02	<2	46	133	6.4	6.4	320.0	0.19	9.70	6.62	0.66	0.92
32	976	8.02	<2	46	111	6.3	6.1	326.2	0.19	9.88	6.41	0.67	0.93
33	983	---	---	---	---	---							
34	981	7.91	<2	52	112	5.8	5.7	331.9	0.17	10.06	5.93	0.68	0.95
35	843	---	---	---	---	---							
36	903	7.94	<2	45	98	5.7	5.1	337.0	0.16	10.21	5.36	0.70	0.96
37	864	---	---	---	---	---							
38	909	7.96	< 2	45	103	5.5	5.0	342.0	0.15	10.36	5.21	0.71	0.98
39	877	---	---	---	---	---							
40	896	7.70	< 2	43	104	5.4	4.8	346.9	0.15	10.51	5.04	0.72	0.99

[1] *Calculated values*

Summary - Weeks 0 to 40

Maximum Value	8.20	<2	71	308	58	-	-	-	-	-	-	-
Minimum Value	7.07	<2	6	63	5	-	-	-	-	-	-	-
Average Value	7.78	<2	37	101	10	-	-	-	-	-	-	-

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TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Coarse Fraction	1000

Changes to Head Sample after 40 Weeks [1]

Parameter	Units	Reference No.: 10159-JUN07
Sulphide ($S^{=}$) Remaining	%	0.10
NP Remaining	t $CaCO_3$/1000 t	50.1
CO_3 NP Remaining	t $CaCO_3$/1000 t	36.0

	Leachate Paremeters Measured						***Acid Generation*** [1]				***Acid Neutralization*** [1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
41	916	---	---	---	---	---							
42	931	7.38	<2	43	111	5.6	5.2	352.1	0.16	10.67	5.43	0.73	1.01
43	945	---	---	---	---	---							
44	845	7.38	<2	38	105	5.6	4.7	356.8	0.14	10.81	4.93	0.74	1.02
45	966	---	---	---	---	---							
46	966	7.76	<2	46	109	5.7	5.5	362.3	0.17	10.98	5.74	0.75	1.04
47	928	---	---	---	---	---							
48	969	7.65	<2	42	110	5.2	5.0	367.3	0.15	11.13	5.25	0.76	1.05
Summary - Weeks 0 to 60													
Maximum Value		8.20	<2	71	308	58	-	-	-	-	-	-	-
Minimum Value		7.07	<2	6	63	5	-	-	-	-	-	-	-
Average Value		7.74	<2	49	129	11	-	-	-	-	-	-	-

[1] *Calculated values*

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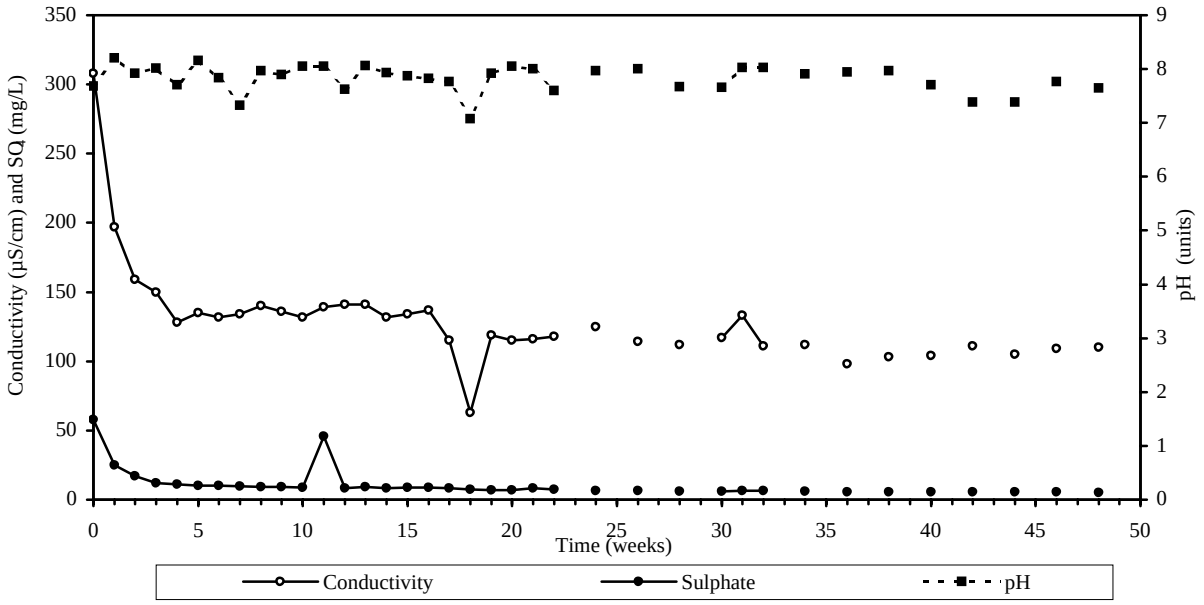
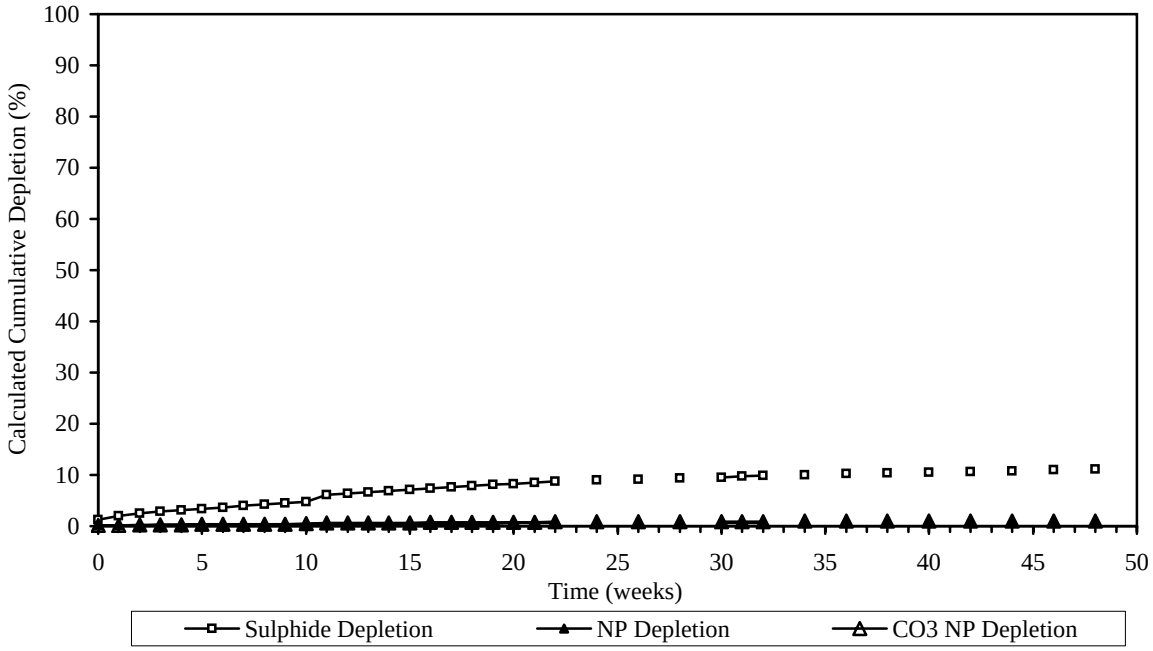
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - Coarse Fraction



Cumulative Sulphide and NP Depletion - Coarse Fraction



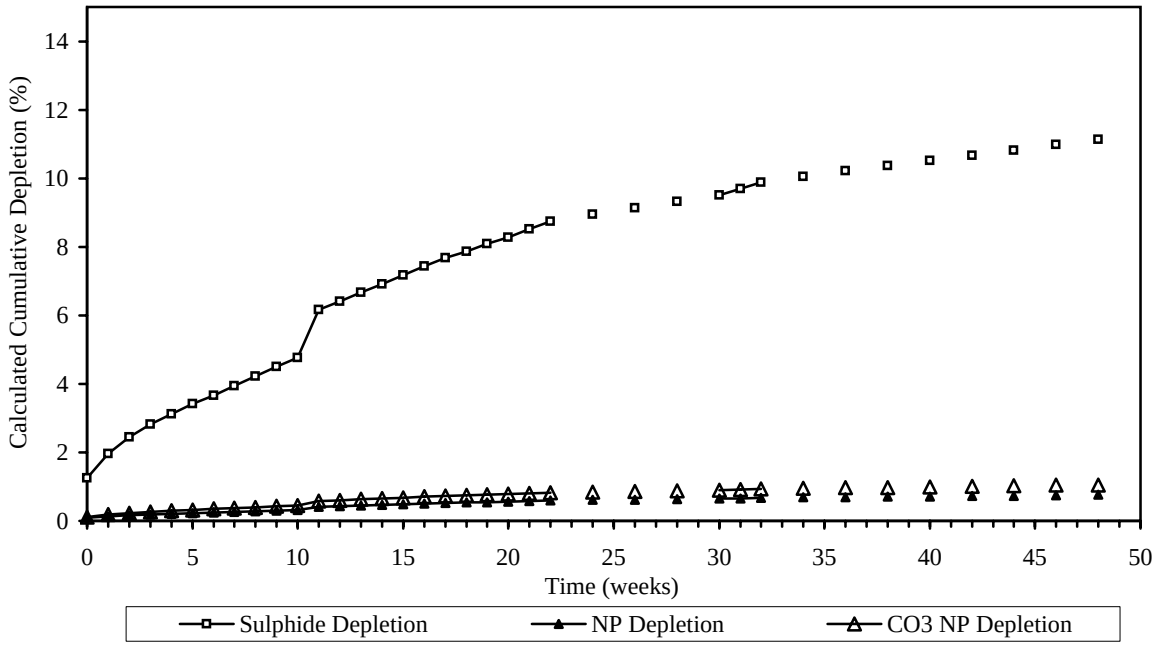
Note: NP depletion calculated based on sulphate assay.

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

TEST REPORT

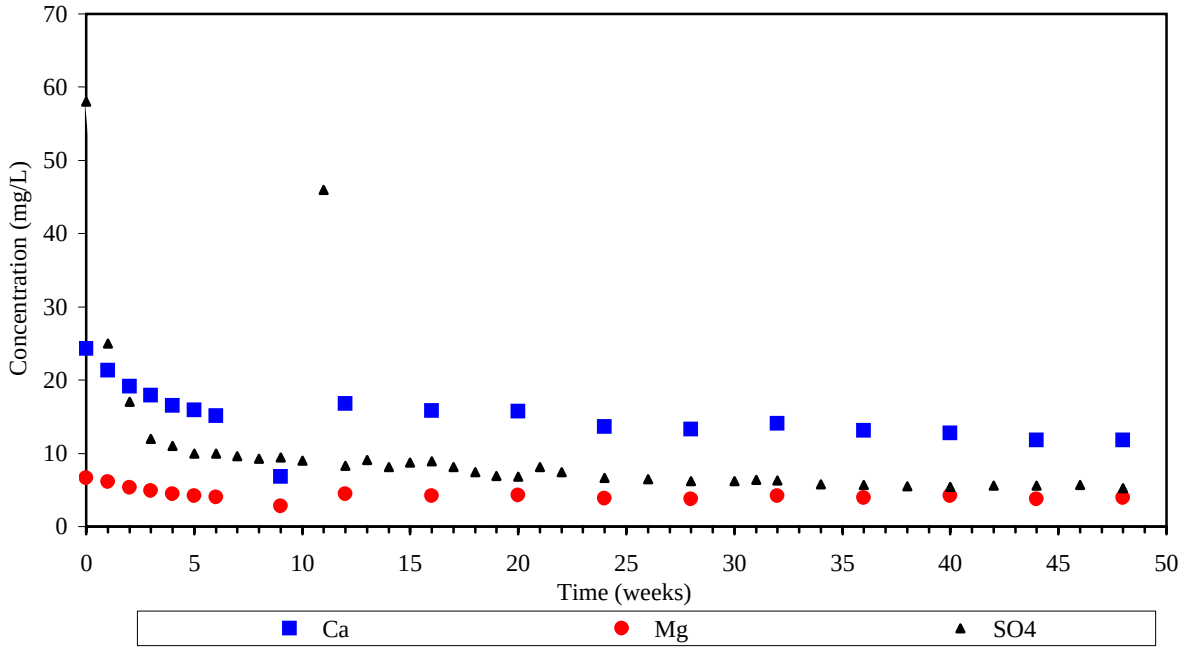
Humidity Cell Test (ASTM D 5744-96)

Magnification of Cumulative Sulphide and NP Depletion ***Coarse Fraction***



Note: Depletion shown on 10% scale for ease of viewing.

Selected Parameters in Weekly Humidity Cell Leachate - ***Coarse Fraction***



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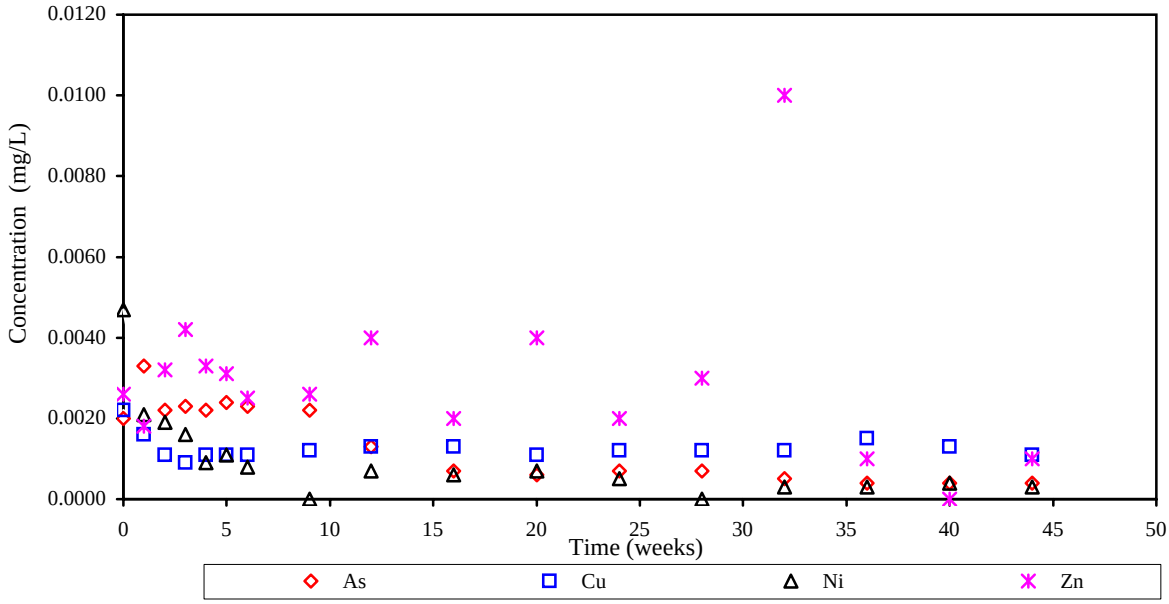
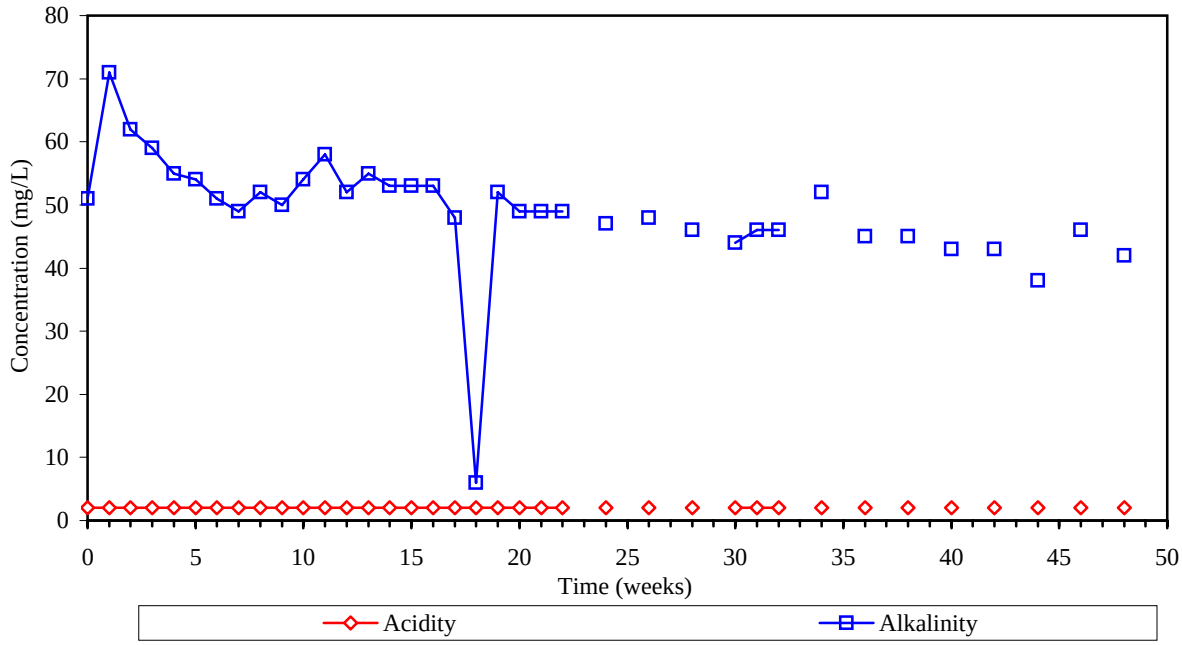
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

As, Mo, Mn and Sb in Weekly Humidity Cell Leachate - Coarse Fraction



Acidity vs. Alkalinity in Weekly Humidity Cell Leachate - Coarse Fraction



Note: Acidity and alkalinity have detection limit of 2 mg/L.

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	0	1	2	3	4	5	6	7	8	9	10	11
LIMS			10434-JUN	10560-JUN	10017-JUL	10168-JUL	10362-JUL	10511-JUL	10000-AUG	10081-AUG	10278-AUG	10445-AUG	10666-AUG	10015-SEP
Hum Cell Leachate Vol	mLs		845	852	915	911	889	958	880	887	898	965	982	974
pH	units	6 to 9	6.31	7.18	7.09	7.11	6.83	7.39	6.94	6.78	7.06	7.05	7.50	7.27
Conductivity	uS/cm		69	43	55	70	60	81	64	71	80	87	111	104
Alkalinity	mg/L as $CaCO_3$		4	7	9	9	8	11	7	7	7	9	15	11
Acidity	mg/L as $CaCO_3$		8	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
SO_4	mg/L		4.3	8.2	16	16	16	21	17	21	22	24	34	29
Hg	mg/L	0.01	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	---	---	< 0.0001	---	---
Ag	mg/L		< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	---	---	< 0.00003	---	---
Al	mg/L		0.0027	0.0056	0.0089	0.0042	0.0049	0.0039	0.0161	---	---	0.0027	---	---
As	mg/L	0.1	0.0005	0.0005	0.0003	0.0003	0.0003	0.0004	0.0005	---	---	< 0.0002	---	---
Ba	mg/L		0.116	0.0218	0.0354	0.0248	0.0184	0.0190	0.0189	---	---	0.0113	---	---
Be	mg/L		< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	---	---	< 0.00004	---	---
B	mg/L		< 0.002	< 0.002	0.002	0.090	< 0.002	0.007	< 0.002	---	---	< 0.002	---	---
Bi	mg/L		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	---	---	< 0.00002	---	---
Ca	mg/L		3.98	3.15	4.56	5.62	5.26	6.49	5.06	---	---	3.90	---	---
Co	mg/L		0.00279	0.000145	0.000114	0.000117	0.000113	0.000150	0.000067	---	---	0.000098	---	---
Cd	mg/L	0.1	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	---	---	< 0.00006	---	---
Cr	mg/L		0.0005	< 0.0003	0.0009	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	< 0.0003	---	---
Cu	mg/L	0.5	0.0005	0.0009	0.0004	0.0008	0.0008	0.0010	0.0008	---	---	0.0009	---	---
Fe	mg/L	3.5	0.29	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	---	---
Li	mg/L		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	---	---
K	mg/L		1.69	1.77	2.18	2.29	2.24	2.5	2.12	---	---	0.22	---	---
Mg	mg/L		0.926	0.906	1.36	1.91	1.84	2.40	1.82	---	---	0.067	---	---
Mn	mg/L		0.0268	0.00769	0.0129	0.0168	0.0154	0.0223	0.0129	---	---	0.0193	---	---
Mo	mg/L		0.00412	0.00398	0.00366	0.00345	0.00313	0.00303	0.00130	---	---	0.00286	---	---
Na	mg/L		1.56	1.74	1.96	2.16	1.91	2.17	1.62	---	---	0.10	---	---
Ni	mg/L	0.5	0.0025	< 0.0007	< 0.0007	< 0.0007	< 0.0007	0.0009	< 0.0007	---	---	< 0.0007	---	---
Pb	mg/L	0.1	0.00004	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	---	---	0.00005	---	---
Sb	mg/L		0.0007	0.0003	0.0006	0.0003	0.0003	0.0004	0.0009	---	---	0.0007	---	---
Se	mg/L		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	---	---	< 0.001	---	---
Sn	mg/L		0.0018	0.0005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	---	---	0.0004	---	---
Si	mg/L		0.13	0.10	0.13	0.14	0.12	0.16	0.12	---	---	0.63	---	---
Ti	mg/L		< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	---	---	< 0.0002	---	---
V	mg/L		0.00035	0.00009	0.00008	0.00009	< 0.00006	< 0.00006	< 0.00006	---	---	< 0.00006	---	---
Zn	mg/L	2.0	0.0091	0.0026	0.0007	0.0017	0.0023	0.0030	0.0020	---	---	0.0039	---	---

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Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	12	13	14	15	16	17	18	19	20	21	22
LIMS			10166-SEP	10302-SEP	10472-SEP	10028-OCT	10261-OCT	10386-OCT	10624-OCT	10767-OCT	10052-NOV	10253-NOV	10388-NOV
Hum Cell Leachate Vol	mLs		966	971	983	984	988	956	896	885	934	991	902
pH	units	6 to 9	7.00	6.91	7.93	7.03	6.94	6.99	6.86**	6.99	7.22	7.11	6.64
Conductivity	uS/cm		92	107	129	97	93	79	62**	62	78	89	47
Alkalinity	mg/L as $CaCO_3$		11	11	53	12	10	10	7**	7	9	11	5
Acidity	mg/L as $CaCO_3$		< 2	< 2 *	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
SO_4	mg/L		25	27	29	25	24	22	17**	17	22	25	13
Hg	mg/L	0.01	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
Ag	mg/L		< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Al	mg/L		0.0041	---	---	---	0.0040	---	---	---	0.0025	---	---
As	mg/L	0.1	0.0003	---	---	---	< 0.0002	---	---	---	< 0.0002	---	---
Ba	mg/L		0.0113	---	---	---	0.00932	---	---	---	0.00786	---	---
Be	mg/L		< 0.00002	---	---	---	< 0.00002	---	---	---	< 0.00002	---	---
B	mg/L		0.003	---	---	---	< 0.002	---	---	---	< 0.002	---	---
Bi	mg/L		< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---	---
Ca	mg/L		7.36	---	---	---	6.76	---	---	---	6.38	---	---
Co	mg/L		0.000145	---	---	---	0.000136	---	---	---	0.000084	---	---
Cd	mg/L	0.1	< 0.000003	---	---	---	0.000006	---	---	---	0.000003	---	---
Cr	mg/L		< 0.0005	---	---	---	< 0.0005	---	---	---	< 0.0005	---	---
Cu	mg/L	0.5	0.0006	---	---	---	0.0006	---	---	---	0.0006	---	---
Fe	mg/L	3.5	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---	---
Li	mg/L		< 0.002	---	---	---	< 0.002	---	---	---	< 0.002	---	---
K	mg/L		2.67	---	---	---	2.36	---	---	---	2.00	---	---
Mg	mg/L		3.44	---	---	---	3.41	---	---	---	3.59	---	---
Mn	mg/L		0.0243	---	---	---	0.0227	---	---	---	0.0140	---	---
Mo	mg/L		0.00273	---	---	---	0.00224	---	---	---	0.00237	---	---
Na	mg/L		1.93	---	---	---	1.42	---	---	---	1.16	---	---
Ni	mg/L	0.5	0.0006	---	---	---	0.0006	---	---	---	0.0002	---	---
Pb	mg/L	0.1	< 0.00002	---	---	---	0.00003	---	---	---	0.00002	---	---
Sb	mg/L		0.00029	---	---	---	0.00028	---	---	---	0.00034	---	---
Se	mg/L		< 0.001	---	---	---	< 0.001	---	---	---	< 0.001	---	---
Sn	mg/L		0.00008	---	---	---	0.00005	---	---	---	< 0.00001	---	---
Si	mg/L		0.21	---	---	---	0.19	---	---	---	0.14	---	---
Ti	mg/L		< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---	---
V	mg/L		0.00008	---	---	---	0.00007	---	---	---	0.00008	---	---
Zn	mg/L	2.0	0.007	---	---	---	0.004	---	---	---	0.002	---	---

**Reassay 10075-OCT07* ***Reassay 10254-NOV07*

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	23	24	25	26	27	28	29	30	31	32	33
LIMS			10621-NOV	10016-DEC	10165-DEC	10315-DEC	10490-DEC	10009-JAN	10076-JAN	10211-JAN	10376-JAN	10536-JAN	10002-FEB
Hum Cell Leachate Vol	mLs		899	915	889	886	914	924	899	905	933	911	908
pH	units	6 to 9	---	7.19	---	7.04	---	6.69	---	6.10	7.07	7.13	---
Conductivity	uS/cm		---	85	---	80	---	80	---	65	86	72	---
Alkalinity	mg/L as $CaCO_3$		---	8	---	7	---	6	---	< 2	7	6	---
Acidity	mg/L as $CaCO_3$		---	< 2	---	< 2	---	< 2	---	2	62	< 2	---
SO_4	mg/L		---	21	---	22	---	21	---	17	22	19	---
Hg	mg/L	0.01	---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Ag	mg/L		---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Al	mg/L		---	0.0030	---	---	---	0.0025	---	---	---	0.0037	---
As	mg/L	0.1	---	0.0003	---	---	---	0.0003	---	---	---	< 0.0002	---
Ba	mg/L		---	0.00712	---	---	---	0.00589	---	---	---	0.00439	---
Be	mg/L		---	< 0.00002	---	---	---	< 0.00002	---	---	---	< 0.00002	---
B	mg/L		---	< 0.002	---	---	---	< 0.002	---	---	---	< 0.002	---
Bi	mg/L		---	< 0.00001	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Ca	mg/L		---	5.54	---	---	---	5.53	---	---	---	5.19	---
Co	mg/L		---	0.000064	---	---	---	0.000087	---	---	---	0.000048	---
Cd	mg/L	0.1	---	< 0.000003	---	---	---	0.000005	---	---	---	< 0.000003	---
Cr	mg/L		---	< 0.0005	---	---	---	< 0.0005	---	---	---	< 0.0005	---
Cu	mg/L	0.5	---	< 0.0005	---	---	---	< 0.0005	---	---	---	< 0.0005	---
Fe	mg/L	3.5	---	< 0.01	---	---	---	< 0.01	---	---	---	< 0.01	---
Li	mg/L		---	< 0.002	---	---	---	< 0.002	---	---	---	< 0.002	---
K	mg/L		---	1.96	---	---	---	2.01	---	---	---	1.77	---
Mg	mg/L		---	3.25	---	---	---	3.35	---	---	---	3.16	---
Mn	mg/L		---	0.0135	---	---	---	0.0120	---	---	---	0.0115	---
Mo	mg/L		---	0.00230	---	---	---	0.00255	---	---	---	0.00181	---
Na	mg/L		---	0.94	---	---	---	0.87	---	---	---	0.67	---
Ni	mg/L	0.5	---	0.0003	---	---	---	< 0.0001	---	---	---	< 0.0001	---
Pb	mg/L	0.1	---	< 0.00002	---	---	---	0.00002	---	---	---	0.00003	---
Sb	mg/L		---	0.00016	---	---	---	0.00005	---	---	---	0.00030	---
Se	mg/L		---	< 0.001	---	---	---	< 0.001	---	---	---	< 0.001	---
Sn	mg/L		---	0.00002	---	---	---	< 0.00001	---	---	---	< 0.00001	---
Si	mg/L		---	0.14	---	---	---	0.14	---	---	---	0.13	---
Ti	mg/L		---	< 0.0001	---	---	---	< 0.0001	---	---	---	< 0.0001	---
V	mg/L		---	0.00008	---	---	---	0.00005	---	---	---	0.00006	---
Zn	mg/L	2.0	---	0.003	---	---	---	0.002	---	---	---	0.002	---

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Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	34	35	36	37	38	39	40	41	42	43
LIMS			10169-FEB	10317-FEB	10436-FEB	10003-MAR	10165-MAR	10265-MAR	10366-MAR	10005-APR08	10176-APR08	10310-APR08
Hum Cell Leachate Vol	mLs		890	890	896	882	913	899	893	918	939	945
pH	units	6 to 9	6.83	---	7.14	---	7.07	---	6.76	---	6.70	---
Conductivity	uS/cm		90	---	65	---	67	---	65	---	77	---
Alkalinity	mg/L as $CaCO_3$		32	---	6	---	6	---	4	---	16	---
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2	---	< 2	---	< 2	---
SO_4	mg/L		23	---	20	---	20	---	18	---	20	---
Hg	mg/L	0.01	---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
Ag	mg/L		---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Al	mg/L		---	---	0.0046	---	---	---	0.0045	---	---	---
As	mg/L	0.1	---	---	< 0.0002	---	---	---	< 0.0002	---	---	---
Ba	mg/L		---	---	0.0106	---	---	---	0.00793	---	---	---
Be	mg/L		---	---	< 0.00002	---	---	---	< 0.00002	---	---	---
B	mg/L		---	---	< 0.002	---	---	---	0.025	---	---	---
Bi	mg/L		---	---	< 0.00001	---	---	---	< 0.00001	---	---	---
Ca	mg/L		---	---	5.10	---	---	---	4.57	---	---	---
Co	mg/L		---	---	0.000057	---	---	---	0.000060	---	---	---
Cd	mg/L	0.1	---	---	0.000003	---	---	---	0.000003	---	---	---
Cr	mg/L		---	---	< 0.0005	---	---	---	< 0.0005	---	---	---
Cu	mg/L	0.5	---	---	0.0005	---	---	---	0.001	---	---	---
Fe	mg/L	3.5	---	---	< 0.01	---	---	---	< 0.01	---	---	---
Li	mg/L		---	---	< 0.002	---	---	---	< 0.002	---	---	---
K	mg/L		---	---	1.62	---	---	---	1.58	---	---	---
Mg	mg/L		---	---	3.13	---	---	---	3.12	---	---	---
Mn	mg/L		---	---	0.0116	---	---	---	0.00857	---	---	---
Mo	mg/L		---	---	0.00260	---	---	---	0.00195	---	---	---
Na	mg/L		---	---	0.62	---	---	---	0.55	---	---	---
Ni	mg/L	0.5	---	---	0.0002	---	---	---	0.0003	---	---	---
Pb	mg/L	0.1	---	---	< 0.00002	---	---	---	0.00031	---	---	---
Sb	mg/L		---	---	0.00024	---	---	---	0.00028	---	---	---
Se	mg/L		---	---	< 0.001	---	---	---	< 0.001	---	---	---
Sn	mg/L		---	---	0.00007	---	---	---	< 0.00001	---	---	---
Si	mg/L		---	---	0.10	---	---	---	0.11	---	---	---
Ti	mg/L		---	---	< 0.0001	---	---	---	< 0.0001	---	---	---
V	mg/L		---	---	0.00007	---	---	---	0.00007	---	---	---
Zn	mg/L	2.0	---	---	0.001	---	---	---	0.003	---	---	---

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Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Analysis of Weekly Humidity Cell Leachate

Parameter	Units	World Bank	44	45	46	47	48
LIMS			10514-APR08	10627-APR08	10059-MAY08	10147-MAY08	10345-MAY08
Hum Cell Leachate Vol	mLs		852	956	939	941	972
pH	units	6 to 9	6.71	---	**5.89**	---	6.77
Conductivity	uS/cm		64	---	84	---	87
Alkalinity	mg/L as $CaCO_3$		27	---	< 2	---	4
Acidity	mg/L as $CaCO_3$		< 2	---	< 2	---	< 2
SO_4	mg/L		16	---	22	---	21
Hg	mg/L	0.01	< 0.0001	---	---	---	< 0.0001
Ag	mg/L		< 0.00001	---	---	---	0.00005
Al	mg/L		0.0045	---	---	---	0.0023
As	mg/L	0.1	0.0003	---	---	---	0.0002
Ba	mg/L		0.0103	---	---	---	0.00744
Be	mg/L		< 0.00002	---	---	---	< 0.00002
B	mg/L		< 0.002	---	---	---	< 0.002
Bi	mg/L		< 0.00001	---	---	---	< 0.00001
Ca	mg/L		3.17	---	---	---	5.73
Co	mg/L		0.000089	---	---	---	0.000086
Cd	mg/L	0.1	< 0.000003	---	---	---	0.000007
Cr	mg/L		< 0.0005	---	---	---	< 0.0005
Cu	mg/L	0.5	0.0006	---	---	---	< 0.0005
Fe	mg/L	3.5	< 0.01	---	---	---	< 0.01
Li	mg/L		< 0.002	---	---	---	< 0.002
K	mg/L		1.09	---	---	---	1.61
Mg	mg/L		2.06	---	---	---	3.81
Mn	mg/L		0.00777	---	---	---	0.0162
Mo	mg/L		0.00182	---	---	---	0.00257
Na	mg/L		0.34	---	---	---	0.54
Ni	mg/L	0.5	0.0002	---	---	---	0.0004
Pb	mg/L	0.1	< 0.00002	---	---	---	0.00002
Sb	mg/L		0.00032	---	---	---	0.00014
Se	mg/L		< 0.001	---	---	---	< 0.001
Sn	mg/L		0.00093	---	---	---	< 0.00001
Si	mg/L		0.07	---	---	---	0.14
Ti	mg/L		0.0001	---	---	---	0.0001
V	mg/L		0.00007	---	---	---	0.00008
Zn	mg/L	2.0	0.001	---	---	---	0.001

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TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Summary of ABA Test Data

Parameter	Units	Reference No.: 10159-JUN07
Sulphur (S)	%	0.542
Sulphide ($S^{=}$)	%	0.46
NP	t $CaCO_3$/1000 t	61.0
CO_3 NP	t $CaCO_3$/1000 t	39.8

	Leachate Paremeters Measured						***Acid Generation*** [1]				***Acid Neutralization*** [1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
0	845	6.31	8	4	69	4.3	3.6	3.6	0.03	0.03	3.78	0.01	0.01
1	852	7.18	<2	7	43	8.2	7.0	10.6	0.05	0.08	7.28	0.02	0.03
2	915	7.09	<2	9	55	16	14.6	25.3	0.11	0.18	15.25	0.04	0.07
3	911	7.11	<2	9	70	16	14.6	39.8	0.11	0.29	15.18	0.07	0.10
4	889	6.83	<2	8	60	16	14.2	54.1	0.10	0.39	14.82	0.09	0.14
5	958	7.39	<2	11	81	21	20.1	74.2	0.15	0.54	20.96	0.13	0.19
6	880	6.94	<2	7	64	17	15.0	89.1	0.11	0.65	15.58	0.15	0.23
7	887	6.78	<2	7	71	21	18.6	107.8	0.13	0.78	19.40	0.18	0.28
8	898	7.06	<2	7	80	22	19.8	127.5	0.14	0.92	20.58	0.22	0.33
9	965	7.05	<2	9	87	24	23.2	150.7	0.17	1.09	24.13	0.26	0.39
10	982	7.50	<2	15	111	34	33.4	184.1	0.24	1.33	34.78	0.31	0.48
11	974	7.27	<2	11	104	29	28.2	212.3	0.20	1.54	29.42	0.36	0.56
12	966	7.00	<2	11	92	25	24.2	236.5	0.18	1.71	25.16	0.40	0.62
13	971	6.91	<2	11	107	27	26.2	262.7	0.19	1.90	27.31	0.45	0.69
14	983	7.93	<2	53	129	29	28.5	291.2	0.21	2.11	29.69	0.50	0.76
15	984	7.03	<2	12	97	25	24.6	315.8	0.18	2.29	25.63	0.54	0.83
16	988	6.94	<2	10	93	24	23.7	339.5	0.17	2.46	24.70	0.58	0.89
17	956	6.99	<2	10	79	22	21.0	360.5	0.15	2.61	21.91	0.62	0.94
18	896	6.86	<2	7	62	17	15.2	375.8	0.11	2.72	15.87	0.64	0.98
19	885	6.99	<2	7	62	17	15.0	390.8	0.11	2.83	15.67	0.67	1.02
20	934	7.22	<2	9	78	22	20.5	411.4	0.15	2.98	21.40	0.70	1.08

** Initial Week 0 leachate may included soluble sulphate, and may not indicate oxidation of sulphide in the sample material has occurred.*

[1] *Calculated values*

Summary - Weeks 0 to 20

Maximum Value	7.93	8	53	129	34	33.4	-	0.24	-	35	-	-
Minimum Value	6.31	<2	4	43	4	3.6	-	0.03	-	3.8	-	-
Average Value	6.96	2	11	81	21	19.6	-	0.14	-	20.40	-	-

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Changes to Head Sample after 20 Weeks [1]

Parameter	Units	Reference No.: 10159-JUN07
Sulphide ($S^{=}$) Remaining	%	0.45
NP Remaining	t $CaCO_3$/1000 t	60.57
CO_3 NP Remaining	t $CaCO_3$/1000 t	39.37

	Leachate Paremeters Measured						***Acid Generation*** [1]				***Acid Neutralization*** [1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
21	991	7.11	<2	11	89	25	24.8	436.1	0.18	3.16	25.81	0.74	1.14
22	902	6.64	<2	5	47	13	11.7	447.9	0.08	3.25	12.21	0.76	1.17
23	899	---	---	---	---	---							
24	915	7.19	<2	8	85	21	19.2	467.1	0.14	3.38	20.02	0.80	1.22
25	889	---	---	---	---	---							
26	886	7.04	<2	7	80	22	19.5	486.6	0.14	3.53	20.30	0.83	1.27
27	914	---	---	---	---	---							
28	924	6.69	<2	6	80	21	19.4	506.0	0.14	3.67	20.21	0.86	1.32
29	899	---	---	---	---	---							
30	905	6.10	2	<2	65	17	15.4	521.4	0.11	3.78	16.03	0.89	1.36
31	933	7.07	62	7	86	22	20.5	541.9	0.15	3.93	21.38	0.93	1.42
32	911	7.13	<2	6	72	19	17.3	559.2	0.13	4.05	18.03	0.95	1.46
33	908	---	---	---	---	---							
34	890	6.83	<2	32	90	23	20.5	579.7	0.15	4.20	21.32	0.99	1.52
35	890	---	---	---	---	---							
36	896	7.14	<2	6	65	20	17.9	597.6	0.13	4.33	18.67	1.02	1.56
37	882	---	---	---	---	---							
38	913	7.07	<2	6	67	20	18.3	615.8	0.13	4.46	19.02	1.05	1.61
39	899	---	---	---	---	---							
40	893	6.76	<2	4	65	18	16.1	631.9	0.12	4.58	16.74	1.08	1.65

[1] *Calculated values*

Summary - Weeks 0 to 40

Maximum Value	7.93	62	53	129	34	-	-	-	-	-	-	-
Minimum Value	6.10	<2	<2	43	4	-	-	-	-	-	-	-
Average Value	6.88	2	8	58	15	-	-	-	-	-	-	-

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TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Test Specimen

Sample	Weight (g)
Fine Fraction	1000

Changes to Head Sample after 40 Weeks [1]

Parameter	Units	Reference No.: 10159-JUN07
Sulphide ($S^{=}$) Remaining	%	0.44
NP Remaining	t $CaCO_3$/1000 t	60.34
CO_3 NP Remaining	t $CaCO_3$/1000 t	39.14175635

	Leachate Paremeters Measured						***Acid Generation*** [1]				***Acid Neutralization*** [1]		
Weekly Leach No.	**Volume Collected** mL	**pH** units	**Acidity** $CaCO_3$ eq. mg/L	**Alkalinity** $CaCO_3$ eq. mg/L	**Conductivity** µmhos/cm	**SO_4** mg/L	**SO_4 Production Rate** g/t/wk	**Cumulative SO_4 Production** g/t	**Weekly S= Depletion** %	**Cumulative S= Depletion** %	**NP Consumption** $CaCO_3$, g/t/wk	**Cumulative NP Depletion** %	**Cumulative CO_3 NP Depletion** %
41	918	---	---	---	---	---							
42	939	6.70	<2	16	77	20	18.8	650.7	0.14	4.72	19.56	1.11	1.70
43	945	---	---	---	---	---							
44	852	6.71	< 2	27	64	16	13.6	664.3	0.10	4.81	14.20	1.13	1.74
45	956	---	---	---	---	---							
46	939	5.89	< 2	< 2	84	22	20.7	685.0	0.15	4.96	21.52	1.17	1.79
47	941	---	---	---	---	---							
48	972	6.77	< 2	4	87	21	20.4	705.4	0.15	5.11	21.26	1.20	1.85
Summary - Weeks 0 to 60													
Maximum Value		7.93	62	53	129	34	-	-	-	-	-	-	-
Minimum Value		5.89	2	2	43	4	-	-	-	-	-	-	-
Average Value		6.77	4	11	78	20	-	-	-	-	-	-	-

[1] *Calculated values*

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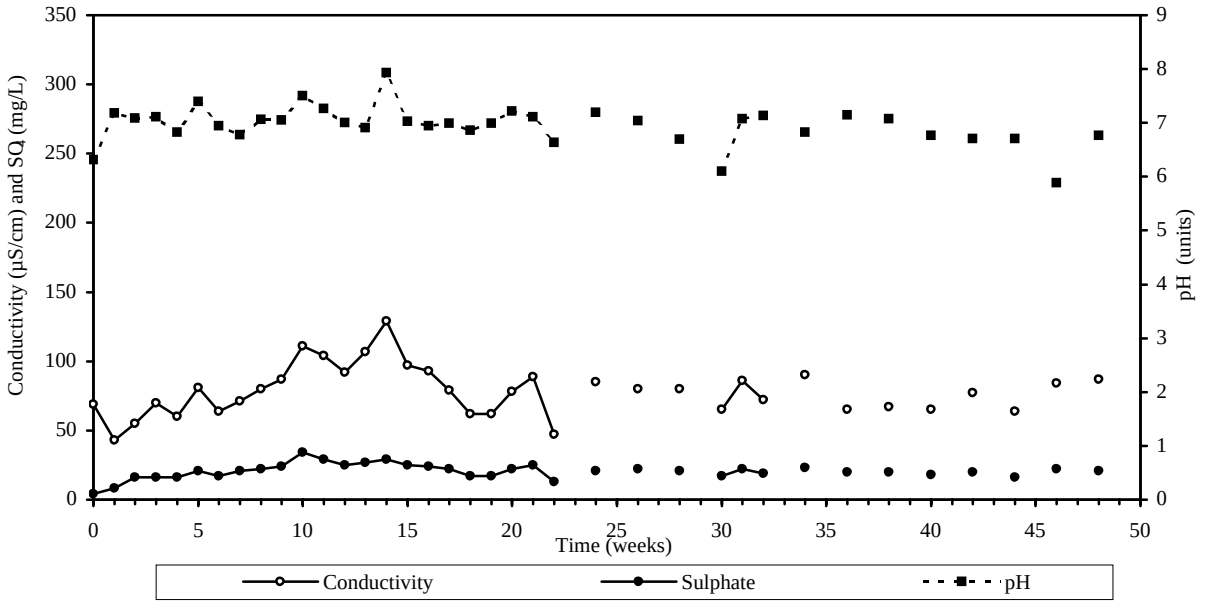
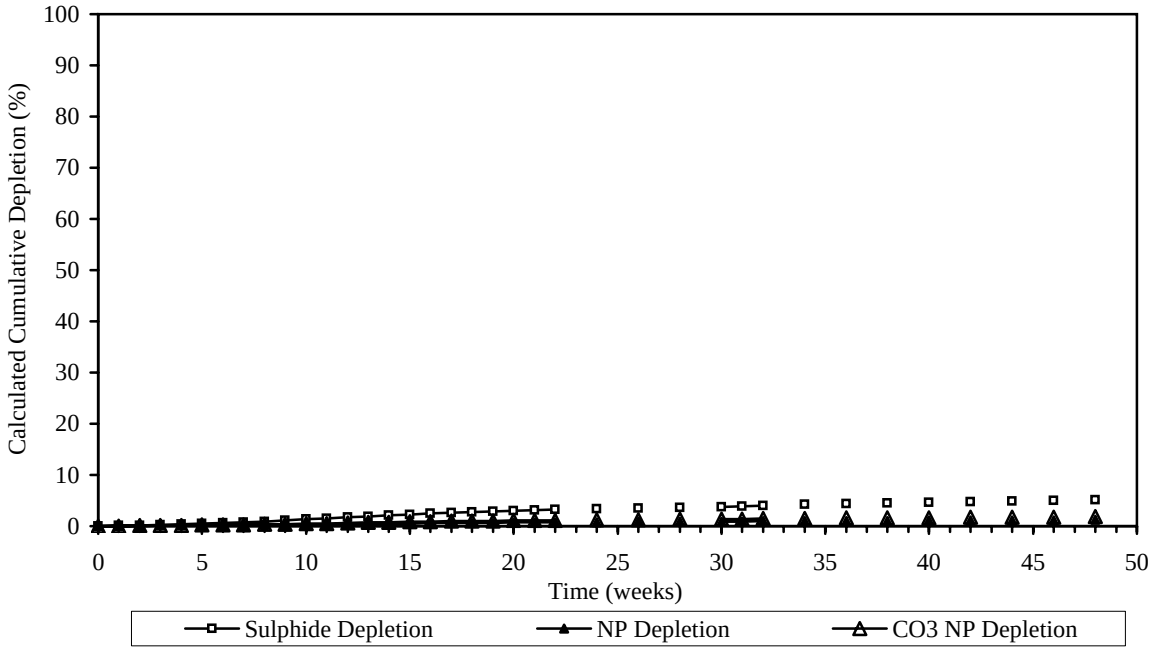
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

Conductivity, Sulphate, and pH in Weekly Humidity Cell Leachate - Fine Fraction



Cumulative Sulphide and NP Depletion - Fine Fraction



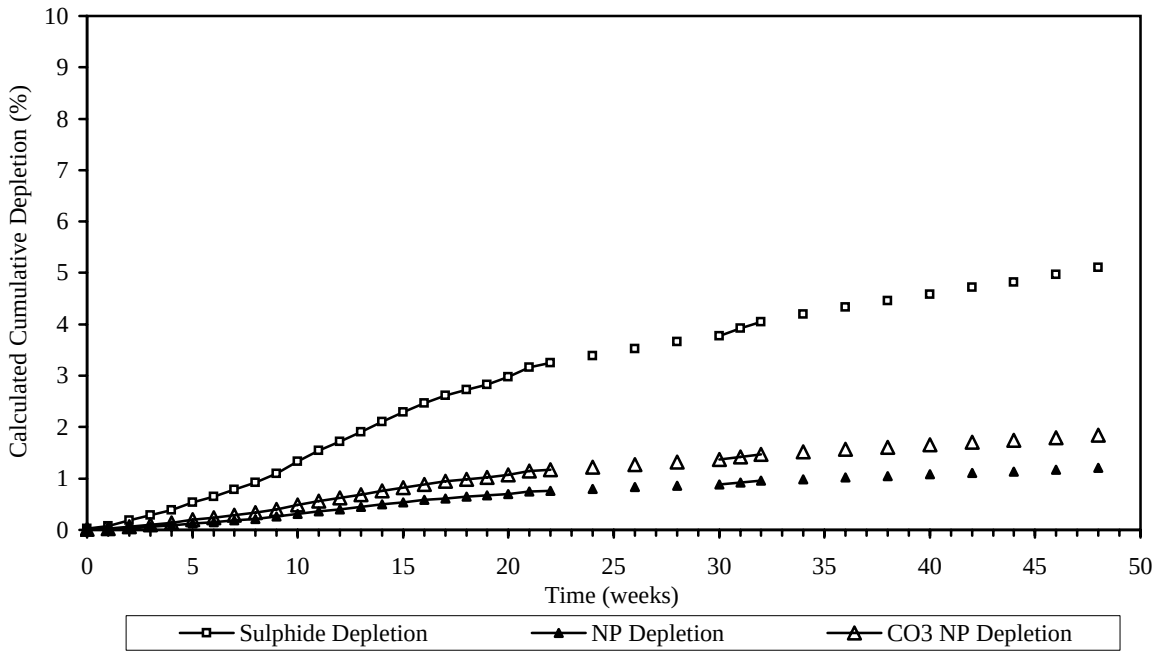
Note: NP depletion calculated based on sulphate assay.

This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

TEST REPORT

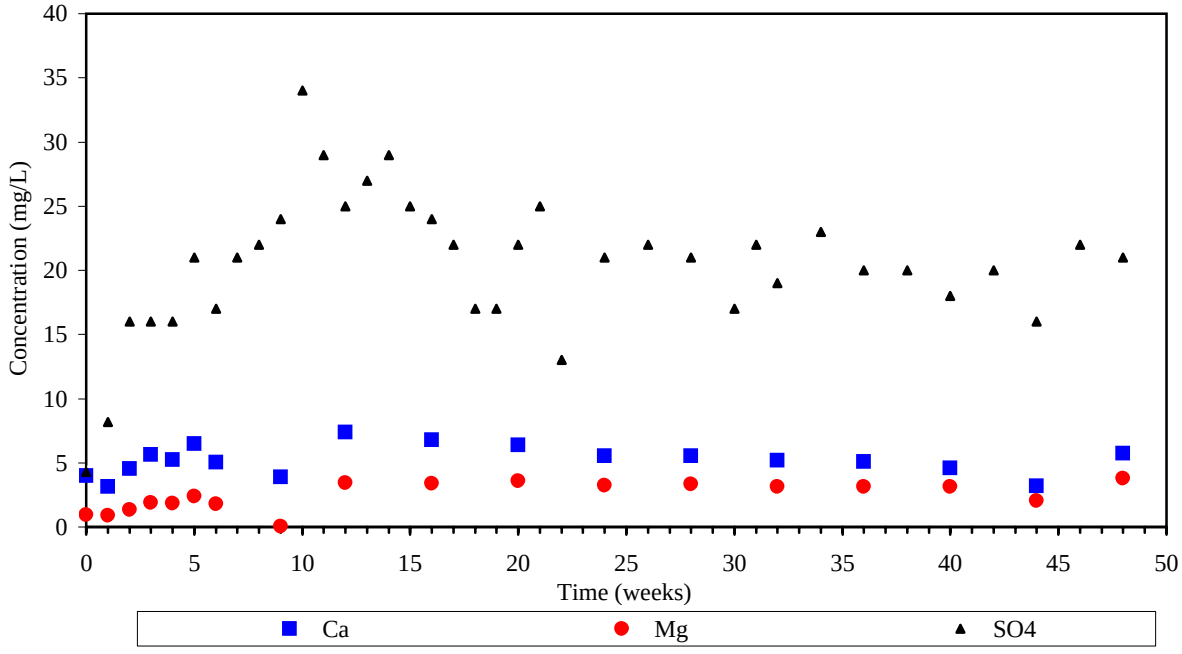
Humidity Cell Test (ASTM D 5744-96)

Magnification of Cumulative Sulphide and NP Depletion - Fine Fraction



Note: Depletion shown at 10% scale for ease of viewing.

Selected Parameters in Weekly Humidity Cell Leachate - Fine Fraction

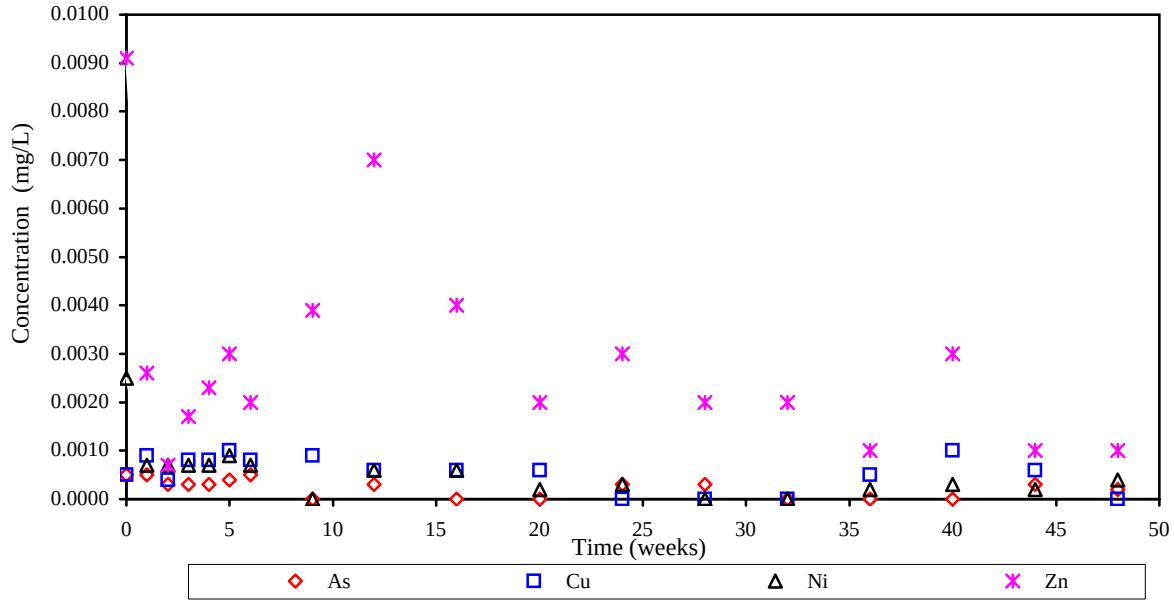


This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

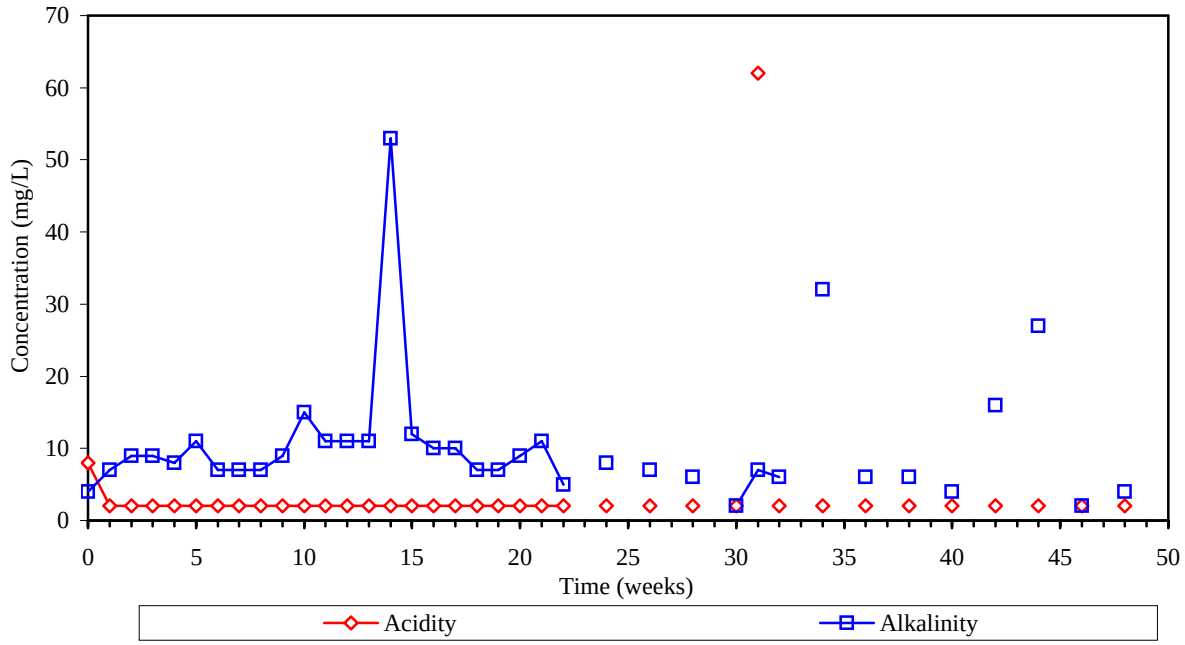
TEST REPORT

Humidity Cell Test (ASTM D 5744-96)

As, Mo, Mn and Sb in Weekly Humidity Cell Leachate - Fine Fraction



Acidity vs. Alkalinity in Weekly Humidity Cell Leachate - Fine Fraction



Note: Acidity and alkalinity have detection limit of 2 mg/L.

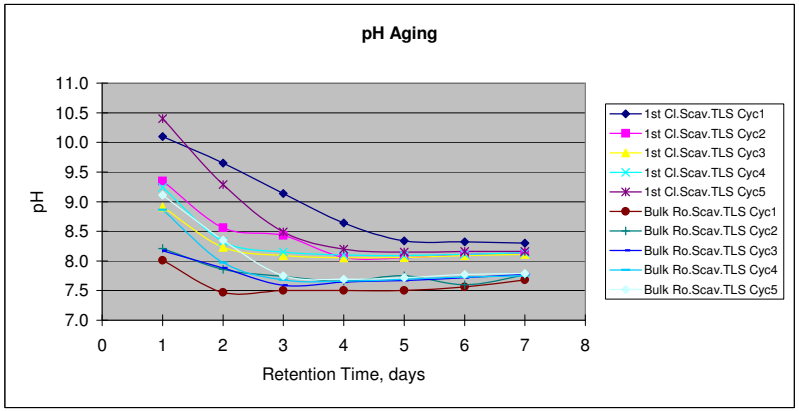
This report refers to the samples as-received. SGS Lakefield Research is not responsible for any use of this data beyond the result of this test method.

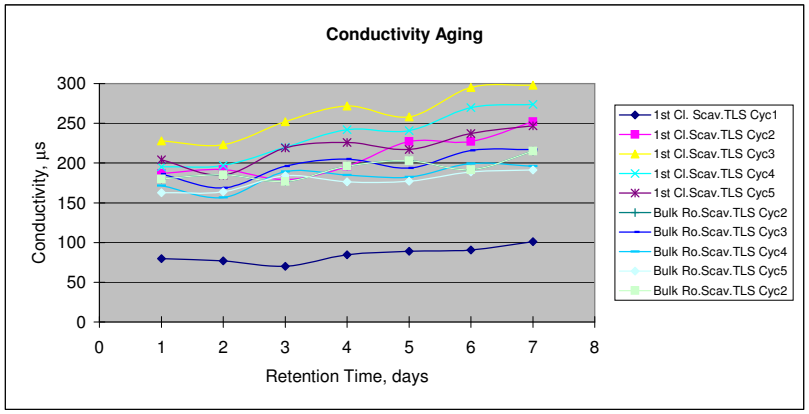
AGING TEST REPORT

Client: Pacific Booker Minerals Inc.
Test: F53 LC
Sample ID: as specified

Date: 15-May-06
Project: 0503003

Sample ID	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7	
	pH	Cond, us	pH	Cond, us	pH	Cond, us	pH	Cond, us	pH	Cond, us	pH	Cond, us	pH	Cond, us
F53 LC 1st Cl. Scav TLS Cyc.1	10.1	80	9.7	77	9.1	70	8.6	85	8.3	89	8.3	91	8.3	101
F53 LC 1st Cl. Scav TLS Cyc.2	9.4	187	8.6	192	8.4	179	8.1	196	8.1	227	8.1	227	8.13	252
F53 LC 1st Cl. Scav TLS Cyc.3	8.9	228	8.2	223	8.1	252	8.1	272	8.1	258	8.1	295	8.11	298
F53 LC 1st Cl. Scav TLS Cyc.4	9.2	195	8.3	197	8.2	220	8.1	242	8.1	241	8.1	270	8.14	274
F53 LC 1st Cl. Scav TLS Cyc.5	10.4	204	9.3	185	8.5	219	8.2	226	8.2	217	8.2	237	8.16	247
F53 LC Bulk Ro. Scav TLS Cyc.1	8.0	162	7.5	164.6	7.5	146	7.5	175	7.5	183	7.6	177	7.68	192
F53 LC Bulk Ro. Scav TLS Cyc.2	8.2	180	7.9	185	7.7	177	7.7	196	7.8	203	7.6	192	7.76	215
F53 LC Bulk Ro. Scav TLS Cyc.3	8.2	186	7.9	169	7.6	196	7.6	205	7.7	194	7.7	216	7.78	217
F53 LC Bulk Ro. Scav TLS Cyc.4	8.9	172	8.0	157	7.7	189	7.7	185	7.7	182	7.7	199	7.75	196
F53 LC Bulk Ro. Scav TLS Cyc.5	9.1	163	8.4	164	7.8	184	7.7	176	7.7	177	7.8	189	7.79	191





ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 19-May-06

Test: as specified F53 LC supernatant **Project:** 0503003

Items	Units	Scav. TLS			Blank	Standard		Detection Limits		Analytical
		Cyc. 1	RE Cyc. 1	RE Cyc. 3	Blk iPL	Std iPL	Std iPL	Minimum	Maximum	Method
pH	--	10.69	8.97	8.3	--	7	7	0.01	14	4500-H
Cond	µs/cm	244	262	275	--	100	100	1	99999	Env
TDS	mg/L	78	92	142	<1	--	--	1	20000	STDM2540C
TSS	mg/L	36	10	2	<1	--	--	1	9999	2540D
Alk Ttl	mg/L	72	21	18	2	--	--	1	10000	Env
Acidity	mgCaCO3/L	<1	<1	<1	--	--	--	1	999999	Env
Cl-	mg/L	3.5	6.5	7.4	<0.1	2.1	2	0.1	1000	Env-IC
F-	mg/L	0.1	0.3	0.3	<0.1	2	2	0.1	1000	Env-IC
NO2-N	mg/L	<0.1	<0.1	<0.1	<0.1	0.6	0.6	0.1	999	Env-IC
NO3-N	mg/L	0.1	0.1	<0.1	<0.1	0.5	0.5	0.1	9999.9	Env-IC
O-PO4	mg/L	<0.1	<0.1	<0.1	<0.1	5	5	0.1	9999.9	Env-IC
SO4-2	mg/L	12.7	70.2	86.6	<0.1	10	10	0.1	9999.9	Env-IC
NH3-N (T)	mg/L	0.08	0.09	0.07	0.05	--	--	0.03	1400	STDM4500
(Total)CN-	mg/L	<0.005	<0.005	<0.005	--	--	1	0.005	99999.999	4500-CN-E
(WAD)CN-	mg/L	<0.005	<0.005	<0.005	--	--	1	0.005	99999.999	4500-CN-I
CNO-	mg/L	<2	<2	<2	<2	30	30	2	10000	Env
SCN-	mg/L	<1	<1	<1	<1	50	50	1	10000	Env
S2O3-2	mg/L	5	<1	3	<1	50	50	1	5000	Env-inhse
S4O6-2	mg/L	<1	13	13	<1	50	50	1	5000	Env-inhse

ANALYSIS REPORT

Client: Pacific Booker Minerals Inc.

Date: 19-May-06

Test: F53

Project: 0503003

Sample ID: as specified F53 LC 8days aged supernatant

Items	Units	Bulk Ro. Scav TLS C1-5(7d)	1st Cl.Scav. TLS C1-5(7d)	RE Bulk Ro. Scav TLS C1-5(7d)	Blank	Standard		Detection Limits		Analytical
					Blk iPL	Std iPL	Std iPL	Minimum	Maximum	Method
pH	--	7.31	7.91	7.31	--	7.01	7	0.01	14	4500-H
Cond	µs/cm	263	277	262	--	--	100	1	99999	Env
TDS	mg/L	98	92	94	--	--	--	1	20000	STDM2540C
TSS	mg/L	80	124	78	--	--	--	1	9999	2540D
Alk Ttl	mg/L	22	64	22	--	--	--	1	10000	Env
Acidity	mgCaCO3/L	<1	<1	<1	--	--	--	1	999999	Env
Cl-	mg/L	7.5	7.1	7.5	<0.1	2	2	0.1	1000	Env-IC
F-	mg/L	0.4	0.3	0.4	<0.1	2	2	0.1	1000	Env-IC
NO2-N	mg/L	<0.1	<0.1	<0.1	<0.1	0.6	0.6	0.1	999	Env-IC
NO3-N	mg/L	<0.1	<0.1	<0.1	<0.1	0.5	0.5	0.1	9999.9	Env-IC
O-PO4	mg/L	<0.1	<0.1	<0.1	<0.1	5	5	0.1	9999.9	Env-IC
SO4-2	mg/L	80.2	66.5	80.1	<0.1	10	10	0.1	9999.9	Env-IC
NH3-N (T)	mg/L	0.03	0.15	0.03	<0.03	10.05	10	0.03	1400	STDM4500
(Total)CN-	mg/L	<0.005	<0.005	<0.005	--	--	1	0.005	99999.999	4500-CN-E
(WAD)CN-	mg/L	<0.005	<0.005	<0.005	--	--	1	0.005	99999.999	4500-CN-I
CNO-	mg/L	<2	<2	<2	<2	30	30	2	10000	Env
SCN-	mg/L	1	<1	1	<1	50	50	1	10000	Env
S2O3-2	mg/L	8	11	8	<1	50	50	1	5000	Env-inhse
S4O6-2	mg/L	<1	<1	<1	<1	50	50	1	5000	Env-inhse

ANALYSIS REPORT

Client: Pacific Booker Minerals Inc.

Date: 19-May-06

Test: as specified F53 LC supernatant

Project: 0503003

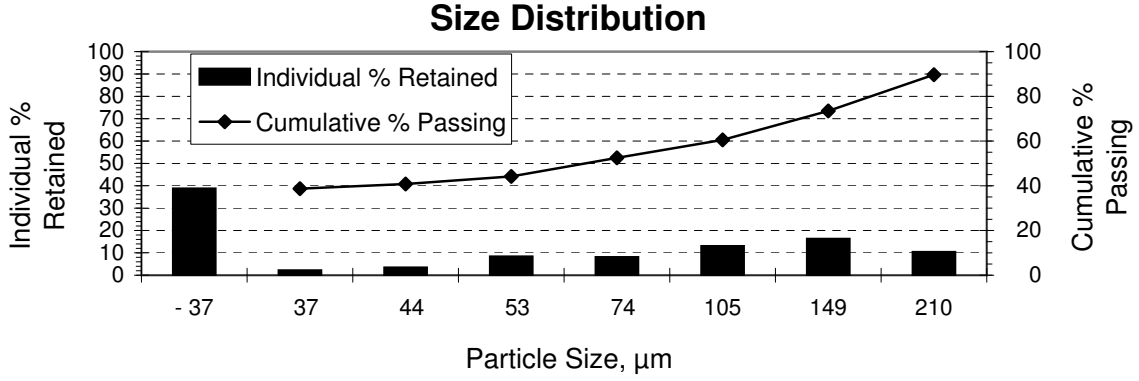
Items	Units	F53 LC 1st Cl. Scav. TLS supernatant					F54 LC Bulk Ro. Scav. TLS supernatant							Blank	Standard		Detection Limits		Analytical
		Cyc. 1	Cyc. 2	Cyc. 3	Cyc. 4	Cyc. 5	Cyc. 1	Cyc. 2	Cyc. 3	Cyc. 4	Cyc. 5	RE Cyc. 1	RE Cyc. 3	Blk iPL	Std iPL	Std iPL	Minimum	Maximum	Method
pH	--	10.69	10.87	9.82	10.47	11.08	9.02	9.13	8.47	8.87	9.34	8.97	8.3	--	7	7	0.01	14	4500-H
Cond	µs/cm	244	494	394	451	552	262	302	275	256	247	262	275	--	100	100	1	99999	Env
TDS	mg/L	78	204	188	160	200	100	110	136	102	106	92	142	<1	--	--	1	20000	STDM2540C
TSS	mg/L	36	108	64	98	256	12	104	2	36	52	10	2	<1	--	--	1	9999	2540D
Alk Ttl	mg/L	72	83	52	79	110	22	20	18	20	22	21	18	2	--	--	1	10000	Env
Acidity	mgCaCO3/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--	--	1	999999	Env
Cl-	mg/L	3.5	7.4	8.5	7.4	6.8	6.4	6.7	7.5	7.1	6.6	6.5	7.4	<0.1	2.1	2	0.1	1000	Env-IC
F-	mg/L	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	<0.1	2	2	0.1	1000	Env-IC
NO2-N	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.6	0.1	999	Env-IC
NO3-N	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.5	0.5	0.1	9999.9	Env-IC
O-PO4	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5	5	0.1	9999.9	Env-IC
SO4-2	mg/L	12.7	77.5	95.3	76.9	71.7	70.4	86.1	87.4	81.3	75.8	70.2	86.6	<0.1	10	10	0.1	9999.9	Env-IC
NH3-N (T)	mg/L	0.08	0.08	0.07	0.09	0.08	0.1	0.09	0.07	0.07	0.08	0.09	0.07	0.05	--	--	0.03	1400	STDM4500
(Total)CN-	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	1	0.005	99999.999	4500-CN-E
(WAD)CN-	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	1	0.005	99999.999	4500-CN-I
CNO-	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	30	30	2	10000	Env
SCN-	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	50	50	1	10000	Env
S2O3-2	mg/L	5	1	7	<1	6	<1	3	3	<1	<1	<1	3	<1	50	50	1	5000	Env-inhse
S4O6-2	mg/L	<1	16	15	19	13	13	16	13	2	6	13	13	<1	50	50	1	5000	Env-inhse

SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Flotation Head **Cycle:** 1
Grind: 2 kg for 8'15" at 65% solids in stainless steel mill 2#.

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
65	210	10.3	89.7
100	149	16.2	73.5
150	105	13.0	60.5
200	74	8.0	52.5
270	53	8.3	44.2
325	44	3.4	40.8
400	37	2.1	38.7
Undersize	- 37	38.7	-
TOTAL:		100.0	

80 % Passing Size (µm) = 173

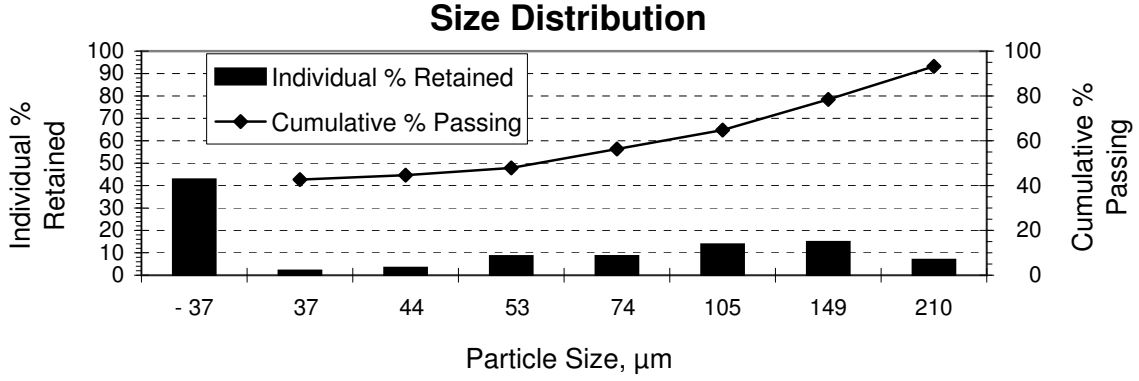


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Flotation Head **Cycle:** 2
Grind: 2 kg for 8'20" at 65% solids in stainless steel mill 2#.

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
65	210	6.8	93.2
100	149	14.8	78.4
150	105	13.7	64.8
200	74	8.5	56.3
270	53	8.4	47.9
325	44	3.2	44.6
400	37	2.0	42.7
Undersize	- 37	42.7	-
TOTAL:		100.0	

80 % Passing Size (µm) = 155

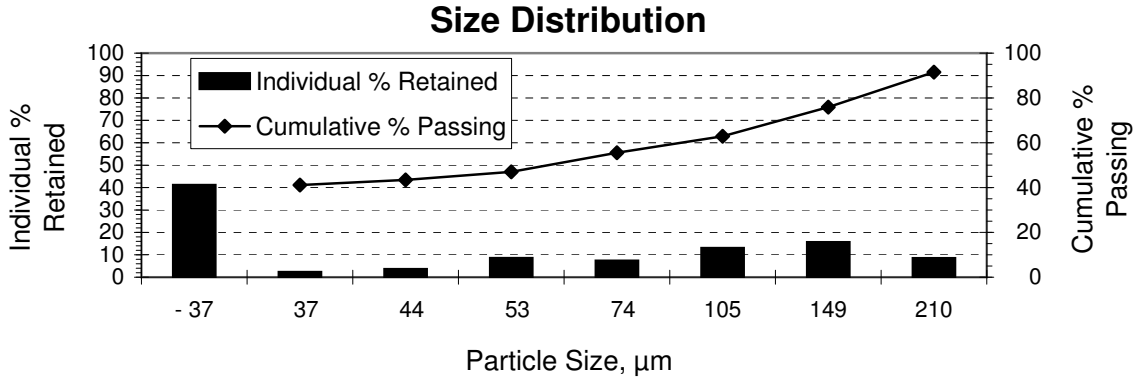


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Flotation Head **Cycle:** 3
Grind: 2 kg for 8'20" at 65% solids in stainless steel mill 2#.

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
65	210	8.5	91.5
100	149	15.6	75.9
150	105	13.0	62.9
200	74	7.4	55.5
270	53	8.5	47.0
325	44	3.6	43.4
400	37	2.3	41.1
Undersize	- 37	41.1	-
TOTAL:		100.0	

80 % Passing Size (µm) = 164

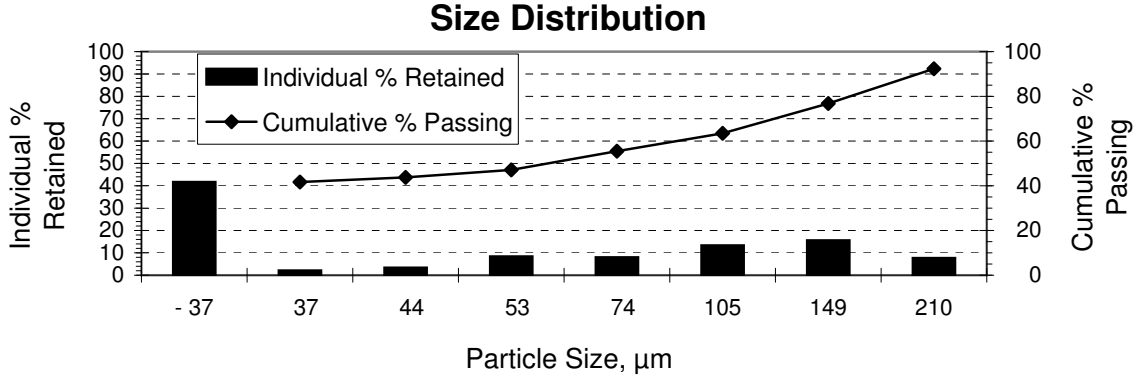


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Flotation Head **Cycle:** 4
Grind: 2 kg for 8'20" at 65% solids in stainless steel mill 2#.

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
65	210	7.7	92.3
100	149	15.6	76.8
150	105	13.3	63.5
200	74	8.0	55.5
270	53	8.4	47.1
325	44	3.3	43.8
400	37	2.1	41.7
Undersize	- 37	41.7	-
TOTAL:		100.0	

80 % Passing Size (µm) = 161

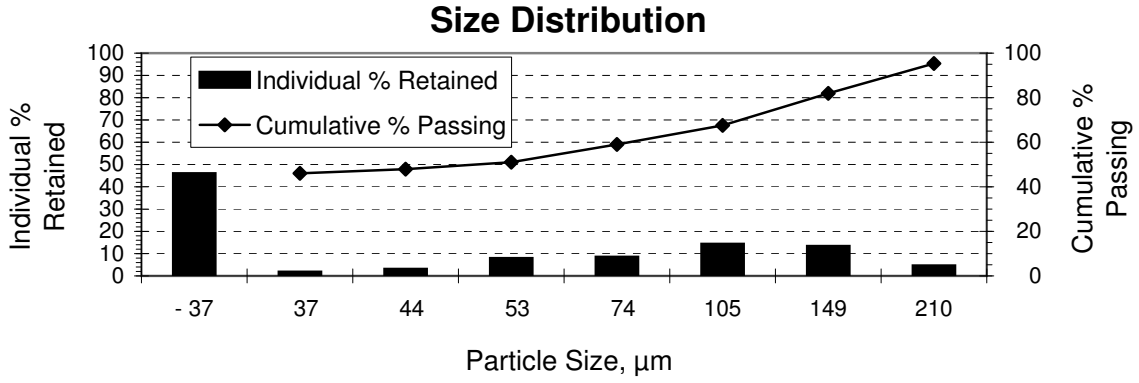


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Flotation Head **Cycle:** 5
Grind: 2 kg for 8'20" at 65% solids in stainless steel mill 2#.

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
65	210	4.7	95.3
100	149	13.4	81.9
150	105	14.4	67.6
200	74	8.6	59.0
270	53	8.0	51.0
325	44	3.1	47.9
400	37	1.9	46.1
Undersize	- 37	46.1	-
TOTAL:		100.0	

80 % Passing Size (µm) = 143

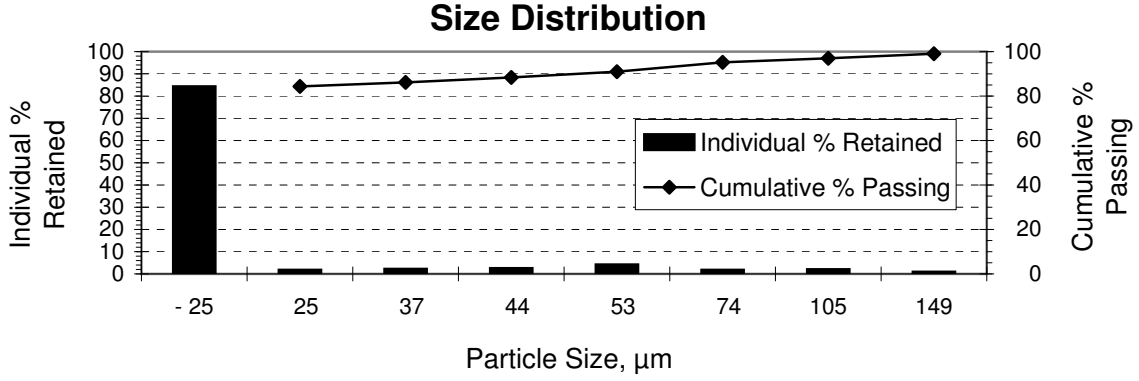


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: 1st Cleaner Scavenger Tails **Cycle:** 1
Grind: 7 minutes at ~65% solids in ceramic regrind mill with mild steel balls

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
100	149	0.9	99.1
150	105	2.1	97.0
200	74	1.8	95.2
270	53	4.2	91.0
325	44	2.6	88.4
400	37	2.2	86.2
500	25	1.8	84.4
Undersize	- 25	84.4	-
TOTAL:		100.0	

90 % Passing Size (µm) = 49

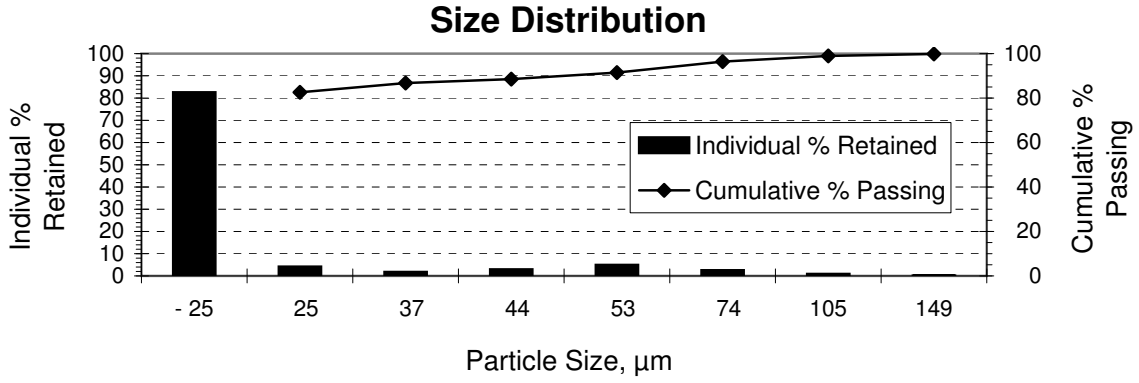


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: 1st Cleaner Scavenger Tails **Cycle:** 2
Grind: 7 minutes at ~65% solids in ceramic regrind mill with mild steel balls

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
100	149	0.1	99.9
150	105	0.9	99.0
200	74	2.5	96.4
270	53	5.0	91.5
325	44	2.9	88.5
400	37	1.8	86.8
500	25	4.2	82.6
Undersize	- 25	82.6	-
TOTAL:		100.0	

90 % Passing Size (µm) = 48

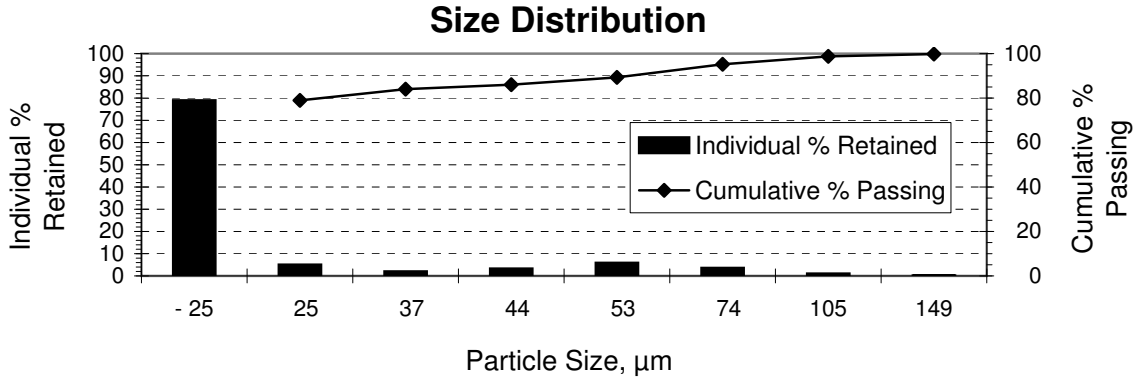


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: 1st Cleaner Scavenger Tails **Cycle:** 3
Grind: 7.5 minutes at ~65% solids in ceramic regrind mill with mild steel balls

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
100	149	0.2	99.8
150	105	1.0	98.8
200	74	3.6	95.2
270	53	5.9	89.3
325	44	3.3	86.0
400	37	2.0	84.0
500	25	5.0	79.0
Undersize	- 25	79.0	-
TOTAL:		100.0	

90 % Passing Size (µm) = 55

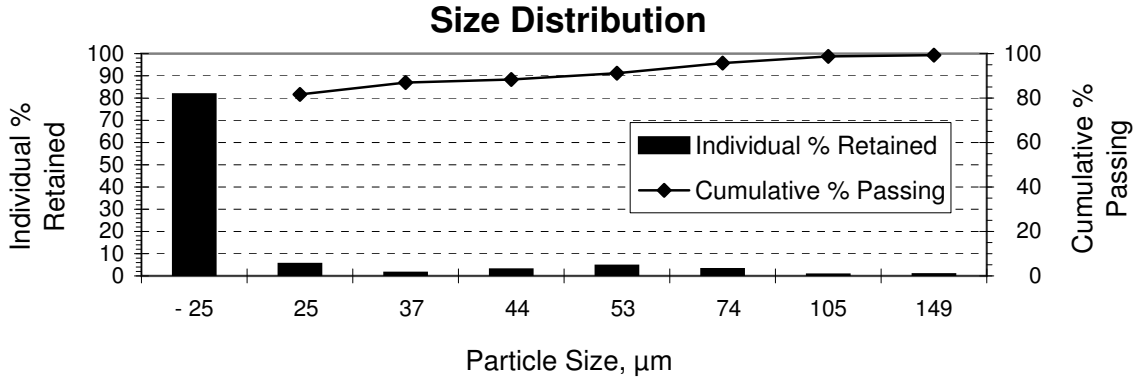


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: 1st Cleaner Scavenger Tails **Cycle:** 4
Grind: 7.5 minutes at ~65% solids in ceramic regrind mill with mild steel balls

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
100	149	0.7	99.3
150	105	0.6	98.8
200	74	3.0	95.7
270	53	4.5	91.2
325	44	2.8	88.4
400	37	1.4	87.0
500	25	5.3	81.6
Undersize	- 25	81.6	-
TOTAL:		100.0	

90 % Passing Size (µm) = 49

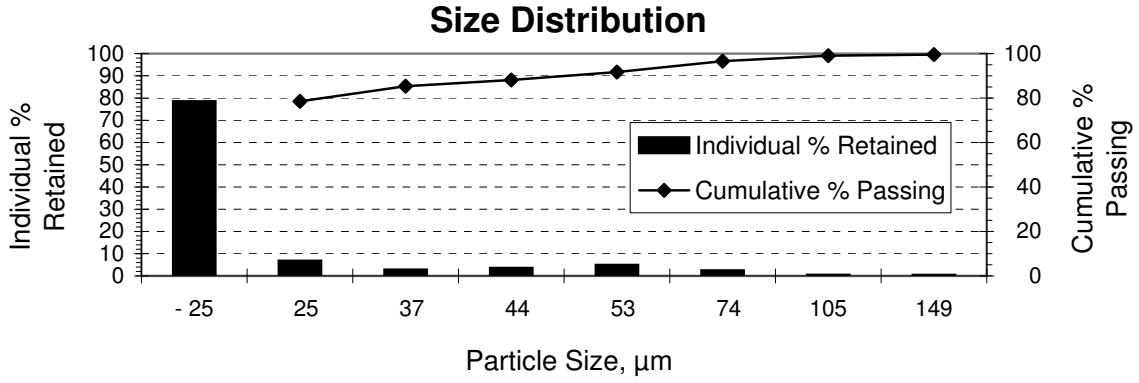


SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: 1st Cleaner Scavenger Tails **Cycle:** 5
Grind: 7.5 minutes at ~65% solids in ceramic regrind mill with mild steel balls

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
100	149	0.4	99.6
150	105	0.5	99.1
200	74	2.5	96.6
270	53	4.9	91.7
325	44	3.6	88.1
400	37	2.8	85.3
500	25	6.8	78.5
Undersize	- 25	78.5	-
TOTAL:		100.0	

90 % Passing Size (µm) = 48



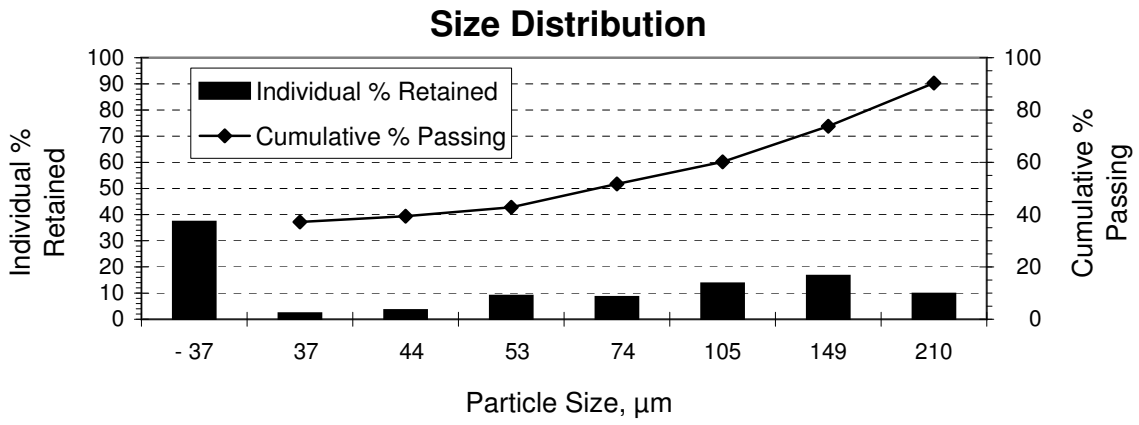
SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Ro Scav. Tails

Date: 8-May-06
Project: 0503003
Cycle: 1

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
65	210	9.7	90.3
100	149	16.5	73.8
150	105	13.6	60.2
200	74	8.4	51.7
270	53	8.9	42.8
325	44	3.4	39.4
400	37	2.2	37.2
Undersize	- 37	37.2	-
TOTAL:		100.0	

80 % Passing Size (µm) = 171



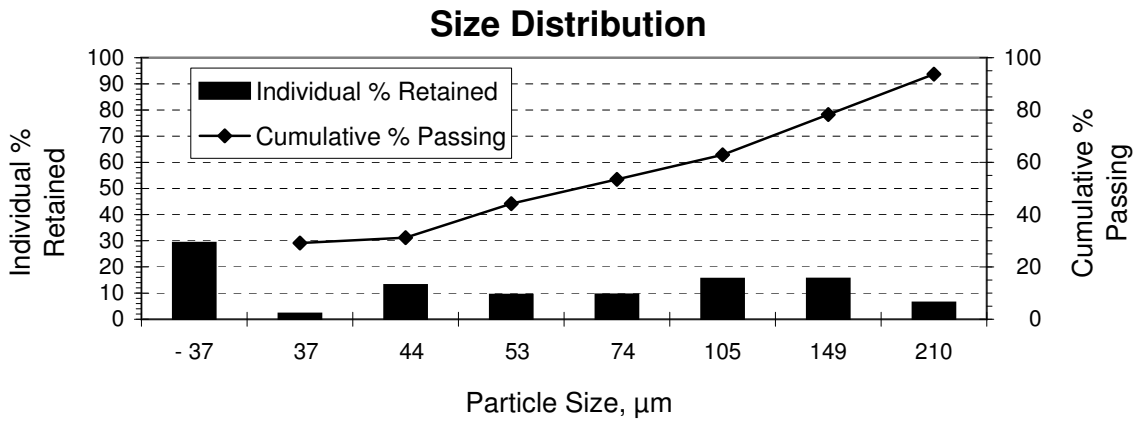
SIZE ANALYSIS REPORT

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Ro Scav. Tails

Date: 8-May-06
Project: 0503003
Cycle: 2

Sieve Size		Individual	Cumulative
Tyler Mesh	**Micrometers**	**% Retained**	**% Passing**
65	210	6.3	93.7
100	149	15.4	78.3
150	105	15.4	62.9
200	74	9.4	53.5
270	53	9.3	44.2
325	44	13.0	31.2
400	37	2.1	29.1
Undersize	- 37	29.1	-
TOTAL:		100.0	

80 % Passing Size (µm) = 155

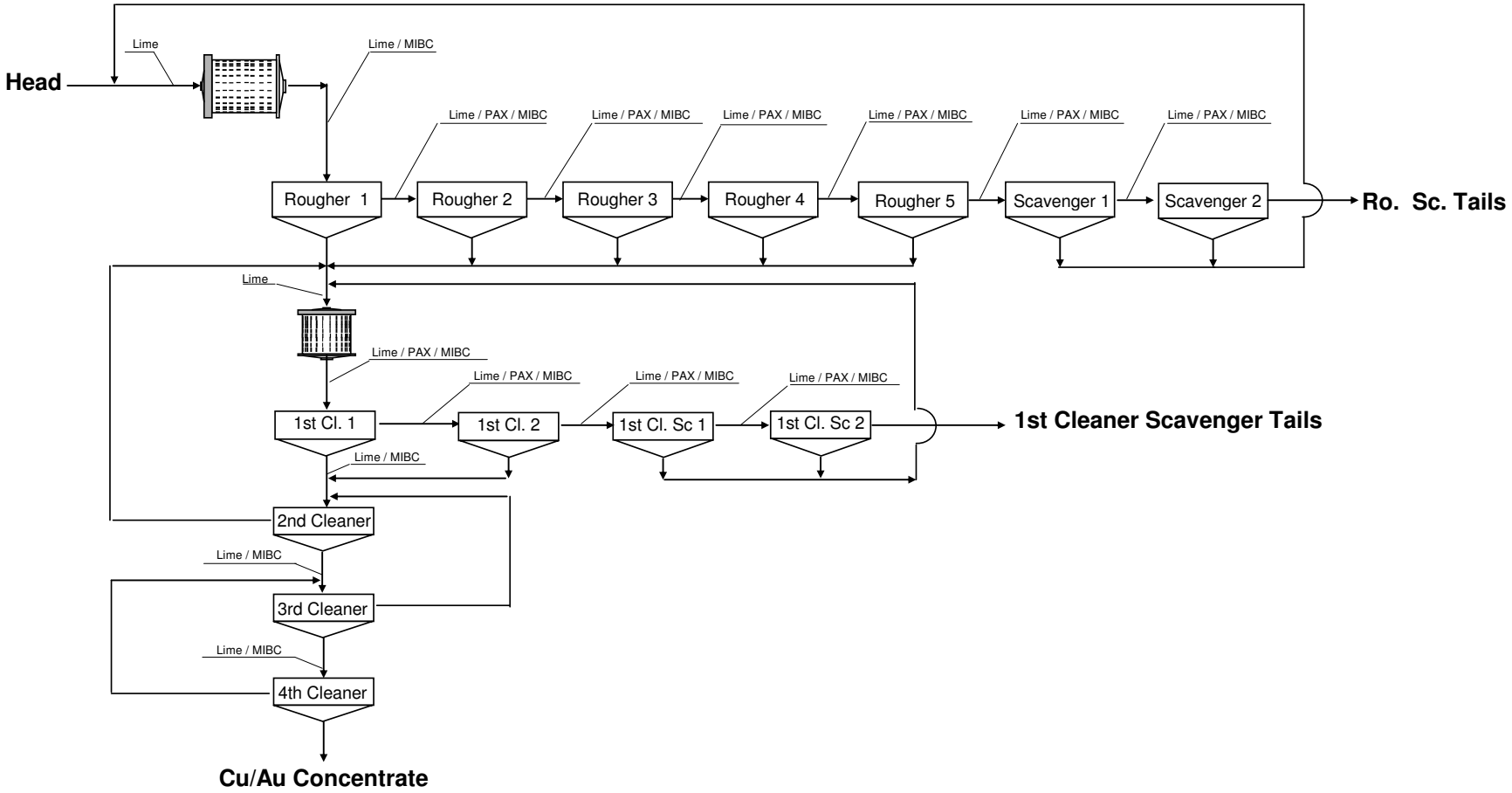


LOCKED CYCLE FLOTATION FLOWSHEET

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Composite MHM4

Date: 8-May-06
Project: 0503003

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing



LOCKED CYCLE FLOTATION TEST PROCEDURE

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Composite MHM4 **Cycle:** 1

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

STAGE	TIME (min)	pH	ADDITION		COMMENTS
			Reagent	g/tonne	
Grind - 2kg	8'15"	9.3	Lime	286	Target Size: P80 = 150 µm
Copper Rougher Flotation					
Condition	1.0	10.0	Lime	110	
Rougher Float 1	4.0	10.0	MIBC	13	chpy for ~1 minute then grey froth
Condition	1.0	10.0	Lime	33	
			PAX	5	
Rougher Float 2	5.5	10.0	MIBC	8	as Ro 1
Condition	1.0	10.0	Lime	33	
			PAX	5	
Rougher Float 3	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Rougher Float 4	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	22	
			PAX	5	
Rougher Float 5	4.5	10.0	MIBC	5	
Condition	1.0	10.0	Lime	28	
			PAX	5	
Scavenger Float 1	4.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	22	
			PAX	5	
Scavenger Float 2	4.0	10.0	MIBC	5	
Regrind	7.0	11.2	Lime	242	wet:452g
(on combined Ro. Concs 1 to 5)					with steel balls as grinding media
Condition	1.0	11.2	Lime	264	
	1.0		PAX	5	
1st Cleaner Float 1	10.5	11.5	MIBC	12	2L flotation cell
Condition	1.0	11.5	Lime	-	
	1.0		PAX	5	
1st Cleaner Float 2	4.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	11	
	1.0		PAX	5	
1st Cleaner Scavenger Float 1	5.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	33	
	1.0		PAX	5	
1st Cleaner Scavenger Float 2	4.0	11.5	MIBC	2	
Condition	2.0	12.0	Lime	550	
(on 1st Cl. Conc 1+2)					
2nd Cleaner Float	7.0	12.0	MIBC	5	
Condition	2.0	12.0	Lime	99	
3rd Cleaner Float	5.5	12.0	MIBC	3	1L flotation cell
Condition	2.0	12.2	Lime	209	
4th Cleaner Float	4.5	12.2	MIBC	2	1L flotation cell

LOCKED CYCLE FLOTATION TEST PROCEDURE

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Composite MHM4 **Cycle:** 2

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

STAGE	TIME (min)	pH	ADDITION		COMMENTS
			Reagent	g/tonne	
Grind - 2kg	8'20"	9.3	Lime	286	Target Size: P80 = 150 µm
Copper Rougher Flotation					
Condition	1.0	10.0	Lime	121	
Rougher Float 1	4.0	10.0	MIBC	13	
Condition	1.0	10.0	Lime	66	
			PAX	5	
Rougher Float 2	5.5	10.0	MIBC	8	
Condition	1.0	10.0	Lime	55	
			PAX	5	
Rougher Float 3	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	44	
			PAX	5	
Rougher Float 4	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	44	
			PAX	5	
Rougher Float 5	4.5	10.0	MIBC	5	
Condition	1.0	10.0	Lime	55	
			PAX	5	
Scavenger Float 1	4.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Scavenger Float 2	4.0	10.0	MIBC	5	
Regrind	7.0	11.2	Lime	242	wet:540g
(on combined Ro. Concs 1 to 5)					with steel balls as grinding media
Condition	1.0	11.2	Lime	187	
	1.0		PAX	5	
1st Cleaner Float 1	10.5	11.5	MIBC	7	2L flotation cell
Condition	1.0	11.5	Lime	0	
	1.0		PAX	5	
1st Cleaner Float 2	4.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	33	
	1.0		PAX	5	
1st Cleaner Scavenger Float 1	5.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	44	
	1.0		PAX	5	
1st Cleaner Scavenger Float 2	4.0	11.5	MIBC	2	
Condition	2.0	12.0	Lime	264	
(on 1st Cl. Conc 1+2)					
2nd Cleaner Float	7.0	12.0	MIBC	2	
Condition	2.0	12.0	Lime	132	
3rd Cleaner Float	5.5	12.0	MIBC	2	1L flotation cell
Condition	2.0	12.2	Lime	33	
4th Cleaner Float	4.5	12.2	MIBC	2	1L flotation cell

LOCKED CYCLE FLOTATION TEST PROCEDURE

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Composite MHM4 **Cycle:** 3

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

STAGE	TIME (min)	pH	ADDITION		COMMENTS
			Reagent	g/tonne	
Grind - 2kg	8'20"	9.5	Lime	286	Target Size: P80 = 150 µm
Copper Rougher Flotation					
Condition	1.0	10.0	Lime	121	
Rougher Float 1	4.0	10.0	MIBC	13	
Condition	1.0	10.0	Lime	44	
			PAX	5	
Rougher Float 2	5.5	10.0	MIBC	8	
Condition	1.0	10.0	Lime	44	
			PAX	5	
Rougher Float 3	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	55	
			PAX	5	
Rougher Float 4	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Rougher Float 5	4.5	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Scavenger Float 1	4.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	28	
			PAX	5	
Scavenger Float 2	4.0	10.0	MIBC	5	
Regrind	7.5	11.2	Lime	242	wet:678g
(on combined Ro. Concs 1 to 5)					with steel balls as grinding media
Condition	1.0	11.2	Lime	187	
	1.0		PAX	5	
1st Cleaner Float 1	10.5	11.5	MIBC	7	2L flotation cell
Condition	1.0	11.5	Lime	1	
	1.0		PAX	5	
1st Cleaner Float 2	4.0	11.5	MIBC	-	
Condition	1.0	11.5	Lime	44	
	1.0		PAX	5	
1st Cleaner Scavenger Float 1	5.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	33	
	1.0		PAX	5	
1st Cleaner Scavenger Float 2	4.0	11.5	MIBC	2	
Condition	2.0	12.0	Lime	264	
(on 1st Cl. Conc 1+2)					
2nd Cleaner Float	7.0	12.0	MIBC	2	
Condition	2.0	12.0	Lime	88	
3rd Cleaner Float	5.5	12.0	MIBC	-	1L flotation cell
Condition	2.0	12.2	Lime	132	
4th Cleaner Float	4.5	12.2	MIBC	2	1L flotation cell

LOCKED CYCLE FLOTATION TEST PROCEDURE

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Composite MHM4 **Cycle:** 4

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

STAGE	TIME (min)	pH	ADDITION		COMMENTS
			Reagent	g/tonne	
Grind - 2kg	8'20"	9.6	Lime	286	Target Size: P80 = 150 µm
Copper Rougher Flotation					
Condition	1.0	10.0	Lime	143	
Rougher Float 1	4.0	10.0	MIBC	13	
Condition	1.0	10.0	Lime	88	
			PAX	5	
Rougher Float 2	5.5	10.0	MIBC	8	
Condition	1.0	10.0	Lime	55	
			PAX	5	
Rougher Float 3	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	44	
			PAX	5	
Rougher Float 4	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Rougher Float 5	4.5	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Scavenger Float 1	4.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	44	
			PAX	5	
Scavenger Float 2	4.0	10.0	MIBC	5	
Regrind	7.5	11.2	Lime	242	wet:710g
(on combined Ro. Concs 1 to 5)					with steel balls as grinding media
Condition	1.0	11.2	Lime	143	
	1.0		PAX	5	
1st Cleaner Float 1	10.5	11.5	MIBC	7	2L flotation cell
Condition	1.0	11.5	Lime	1	
	1.0		PAX	5	
1st Cleaner Float 2	4.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	55	
	1.0		PAX	5	
1st Cleaner Scavenger Float 1	5.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	55	
	1.0		PAX	5	
1st Cleaner Scavenger Float 2	4.0	11.5	MIBC	2	
Condition	2.0	12.0	Lime	286	
(on 1st Cl. Conc 1+2)					
2nd Cleaner Float	7.0	12.0	MIBC	2	
Condition	2.0	12.0	Lime	66	
3rd Cleaner Float	5.5	12.0	MIBC	-	1L flotation cell
Condition	2.0	12.2	Lime	396	
4th Cleaner Float	4.5	12.2	MIBC	2	1L flotation cell

LOCKED CYCLE FLOTATION TEST PROCEDURE

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Composite MHM4

Date: 8-May-06
Project: 0503003
Cycle: 5

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

STAGE	TIME (min)	pH	ADDITION		COMMENTS
			Reagent	g/tonne	
Grind - 2kg	8'20"	9.6	Lime	286	Target Size: P80 = 150 µm
Copper Rougher Flotation					
Condition	1.0	10.0	Lime	132	
Rougher Float 1	4.0	10.0	MIBC	13	
Condition	1.0	10.0	Lime	55	
			PAX	5	
Rougher Float 2	5.5	10.0	MIBC	8	
Condition	1.0	10.0	Lime	44	
			PAX	5	
Rougher Float 3	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Rougher Float 4	5.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Rougher Float 5	4.5	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Scavenger Float 1	4.0	10.0	MIBC	5	
Condition	1.0	10.0	Lime	33	
			PAX	5	
Scavenger Float 2	4.0	10.0	MIBC	5	
Regrind	7.5	11.2	Lime	242	wet:780g
(on combined Ro. Concs 1 to 5)					with steel balls as grinding media
Condition	1.0	11.2	Lime	264	
	1.0		PAX	5	
1st Cleaner Float 1	10.5	11.5	MIBC	7	2L flotation cell
Condition	1.0	11.5	Lime	-	
	1.0		PAX	5	
1st Cleaner Float 2	4.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	22	
	1.0		PAX	5	
1st Cleaner Scavenger Float 1	5.0	11.5	MIBC	2	
Condition	1.0	11.5	Lime	44	
	1.0		PAX	5	
1st Cleaner Scavenger Float 2	4.0	11.5	MIBC	-	
Condition	2.0	12.0	Lime	275	
(on 1st Cl. Conc 1+2)					
2nd Cleaner Float	7.0	12.0	MIBC	-	
Condition	2.0	12.0	Lime	33	
3rd Cleaner Float	5.5	12.0	MIBC	2	1L flotation cell
Condition	2.0	12.2	Lime	495	
4th Cleaner Float	4.5	12.2	MIBC	2	1L flotation cell

LOCKED CYCLE FLOTATION TEST METALLURGICAL BALANCE

Client: Pacific Booker Minerals Inc. **Date:** 8-May-06
Test: F53 **Project:** 0503003
Sample: Composite MHM4 **Cycle:** 1 to 5

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

Product	Weight		Assay		Distribution	
			Au	Cu	Au	Cu
	(g)	(%)	(g/t)	(%)	(%)	(%)
Flotation cleaner concentrate						
4th Cleaner Concentrate, Cycle 1	29.5	0.3	5.60	22.40	8.7	13.1
4th Cleaner Concentrate, Cycle 2	36.3	0.4	6.08	22.24	11.7	16.0
4th Cleaner Concentrate, Cycle 3	37.0	0.4	5.40	22.21	10.6	16.3
4th Cleaner Concentrate, Cycle 4	32.2	0.3	6.72	24.07	11.4	15.4
4th Cleaner Concentrate, Cycle 5	32.8	0.3	6.40	26.92	11.1	17.5
Total 4th Cleaner Concentrate	**167.8**	**1.7**	**6.03**	**23.53**	**53.4**	**78.4**
Recycle Streams						
4th Cleaner Tails, Cycle 5	23.7	0.2	2.12	6.74	2.6	3.2
3rd Cleaner Tails, Cycle 5	23.4	0.2	2.60	5.89	3.2	2.7
2nd Cleaner Tails, Cycle 5	122.9	1.3	1.04	1.31	6.7	3.2
1st Cleaner Scavenger Conc 1, Cycle 5	27.8	0.3	1.60	0.77	2.3	0.4
1st Cleaner Scavenger Conc 2, Cycle 5	44.3	0.5	1.80	0.39	4.2	0.3
Rougher Scavenger Concentrate 1, Cycle 5	35.5	0.4	0.14	0.31	0.3	0.2
Rougher Scavenger Concentrate 2, Cycle 5	35.3	0.4	0.10	0.26	0.2	0.2
Total Recycle Stream	**312.9**	**3.2**	**1.19**	**1.65**	**19.6**	**10.3**
Flotation Tails						
1st Cleaner Scavenger Tails						
1st Cleaner Scavenger Tails, Cycle 1	256.3	2.6	0.07	0.11	0.9	0.6
1st Cleaner Scavenger Tails, Cycle 2	257.2	2.6	0.08	0.12	1.1	0.6
1st Cleaner Scavenger Tails, Cycle 3	293.6	3.0	0.11	0.13	1.7	0.8
1st Cleaner Scavenger Tails, Cycle 4	297.8	3.0	0.13	0.15	2.0	0.9
1st Cleaner Scavenger Tails, Cycle 5	353.7	3.6	0.42	0.15	7.8	1.1
Total Rougher Scavenger Tails	**1458.5**	**14.9**	**0.18**	**0.13**	**13.6**	**3.9**
Rougher Scavenger Tails						
Rougher Scavenger Tails, Cycle 1	1534.4	15.7	0.03	0.05	2.4	1.5
Rougher Scavenger Tails, Cycle 2	1600.0	16.3	0.04	0.05	3.4	1.6
Rougher Scavenger Tails, Cycle 3	1587.4	16.2	0.03	0.05	2.5	1.6
Rougher Scavenger Tails, Cycle 4	1576.6	16.1	0.03	0.05	2.5	1.6
Rougher Scavenger Tails, Cycle 5	1564.6	16.0	0.03	0.04	2.5	1.2
Total Rougher Scavenger Tails	**7863.0**	**80.2**	**0.03**	**0.05**	**13.3**	**7.5**
Total Tails (Ro. Sc Tails + 1st Cl. Sc. Tails)	**9321.5**	**95.1**	**0.05**	**0.06**	**26.9**	**11.4**
Calculated Feed	**9802.2**	**100.0**	**0.19**	**0.51**	**100.0**	**100.0**
Measured Feed			0.21	0.46		

* Metallurgical Balance: With Recycling Streams, Cycles 1 to 5

LOCKED CYCLE FLOTATION TEST METALLURGICAL BALANCE

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Composite MHM4

Date: 8-May-06
Project: 0503003
Cycle: 1 to 5

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

Product	Weight		Assay		Distribution	
			Au	Cu	Au	Cu
	(g)	(%)	(g/t)	(%)	(%)	(%)
Flotation cleaner concentrate						
4th Cleaner Concentrate, Cycle 1	29.5	0.3	5.60	22.40	10.9	14.6
4th Cleaner Concentrate, Cycle 2	36.3	0.4	6.08	22.24	14.5	17.9
4th Cleaner Concentrate, Cycle 3	37.0	0.4	5.40	22.21	13.1	18.2
4th Cleaner Concentrate, Cycle 4	32.2	0.3	6.72	24.07	14.2	17.1
4th Cleaner Concentrate, Cycle 5	32.8	0.3	6.40	26.92	13.8	19.5
Total 4th Cleaner Concentrate	**167.8**	**1.8**	**6.03**	**23.53**	**66.5**	**87.3**
Flotation Tails						
1st Cleaner Scavenger Tails						
1st Cleaner Scavenger Tails, Cycle 1	256.3	2.7	0.07	0.11	1.2	0.6
1st Cleaner Scavenger Tails, Cycle 2	257.2	2.7	0.08	0.12	1.4	0.7
1st Cleaner Scavenger Tails, Cycle 3	293.6	3.1	0.11	0.13	2.1	0.8
1st Cleaner Scavenger Tails, Cycle 4	297.8	3.1	0.13	0.15	2.5	1.0
1st Cleaner Scavenger Tails, Cycle 5	353.7	3.7	0.42	0.15	9.8	1.2
Total Rougher Scavenger Tails	**1458.5**	**15.4**	**0.18**	**0.13**	**17.0**	**4.3**
Rougher Scavenger Tails						
Rougher Scavenger Tails, Cycle 1	1534.4	16.2	0.03	0.05	3.0	1.7
Rougher Scavenger Tails, Cycle 2	1600.0	16.9	0.04	0.05	4.2	1.8
Rougher Scavenger Tails, Cycle 3	1587.4	16.7	0.03	0.05	3.1	1.8
Rougher Scavenger Tails, Cycle 4	1576.6	16.6	0.03	0.05	3.1	1.7
Rougher Scavenger Tails, Cycle 5	1564.6	16.5	0.03	0.04	3.1	1.4
Total Rougher Scavenger Tails	**7863.0**	**82.9**	**0.03**	**0.05**	**16.6**	**8.4**
Total Tails (Ro. Sc Tails + 1st Cl. Sc. Tails)	**9321.5**	**98.2**	**0.05**	**0.06**	**33.5**	**12.7**
Calculated Feed	**9489.3**	**100.0**	**0.16**	**0.48**	**100.0**	**100.0**
Measured Feed			0.21	0.46		

* Metallurgical Balance: Without Recycling Streams, Cycles 1 to 5

LOCKED CYCLE FLOTATION TEST METALLURGICAL BALANCE

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Composite MHM4

Date: 8-May-06
Project: 0503003
Cycle: 3 to 5

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

Product	Weight		Assay		Distribution	
			Au	Cu	Au	Cu
	(g)	(%)	(g/t)	(%)	(%)	(%)
Flotation cleaner concentrate						
4th Cleaner Concentrate, Cycle 3	37.0	0.6	5.40	22.21	20.2	29.0
4th Cleaner Concentrate, Cycle 4	32.2	0.6	6.72	24.07	21.9	27.3
4th Cleaner Concentrate, Cycle 5	32.8	0.6	6.40	26.92	21.2	31.1
Total 4th Cleaner Concentrate	**102.0**	**1.8**	**6.14**	**24.31**	**63.4**	**87.4**
Flotation Tails						
1st Cleaner Scavenger Tails						
1st Cleaner Scavenger Tails, Cycle 3	293.6	5.1	0.11	0.13	3.3	1.3
1st Cleaner Scavenger Tails, Cycle 4	297.8	5.2	0.13	0.15	3.9	1.6
1st Cleaner Scavenger Tails, Cycle 5	353.7	6.1	0.42	0.15	15.0	1.9
Total Rougher Scavenger Tails	**945.0**	**16.4**	**0.23**	**0.14**	**22.2**	**4.8**
Rougher Scavenger Tails						
Rougher Scavenger Tails, Cycle 3	1587.4	27.5	0.03	0.05	4.8	2.8
Rougher Scavenger Tails, Cycle 4	1576.6	27.3	0.03	0.05	4.8	2.8
Rougher Scavenger Tails, Cycle 5	1564.6	27.1	0.03	0.04	4.8	2.2
Total Rougher Scavenger Tails	**4728.6**	**81.9**	**0.03**	**0.05**	**14.4**	**7.8**
Total Tails (Ro. Sc Tails + 1st Cl. Sc. Tails)	**5673.6**	**98.2**	**0.06**	**0.06**	**36.6**	**12.6**
Calculated Feed	**5775.6**	**100.0**	**0.17**	**0.49**	**100.0**	**100.0**
Measured Feed			0.21	0.46		

* Metallurgical Balance: Without Recycling Streams, Cycles 3 to 5

LOCKED CYCLE FLOTATION TEST METALLURGICAL BALANCE

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Composite MHM4

Date: 8-May-06
Project: 0503003
Cycle: 4 + 5

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

Product	Weight		Assay		Distribution	
			Au	Cu	Au	Cu
	(g)	(%)	(g/t)	(%)	(%)	(%)
Flotation cleaner concentrate						
4th Cleaner Concentrate, Cycle 4	32.2	0.8	6.72	24.07	30.6	40.8
4th Cleaner Concentrate, Cycle 5	32.8	0.8	6.40	26.92	29.7	46.5
Total 4th Cleaner Concentrate	**65.0**	**1.7**	**6.56**	**25.51**	**60.2**	**87.4**
Flotation Tails						
1st Cleaner Scavenger Tails						
1st Cleaner Scavenger Tails, Cycle 4	297.8	7.7	0.13	0.15	5.5	2.4
1st Cleaner Scavenger Tails, Cycle 5	353.7	9.2	0.42	0.15	21.0	2.8
Total Rougher Scavenger Tails	**651.4**	**16.9**	**0.29**	**0.15**	**26.5**	**5.2**
Rougher Scavenger Tails						
Rougher Scavenger Tails, Cycle 4	1576.6	40.9	0.03	0.05	6.7	4.2
Rougher Scavenger Tails, Cycle 5	1564.6	40.6	0.03	0.04	6.6	3.3
Total Rougher Scavenger Tails	**3141.2**	**81.4**	**0.03**	**0.05**	**13.3**	**7.5**
Total Tails (Ro. Sc Tails + 1st Cl. Sc. Tails)	**3792.6**	**98.3**	**0.07**	**0.06**	**39.8**	**12.6**
Calculated Feed	**3857.5**	**100.0**	**0.18**	**0.49**	**100.0**	**100.0**
Measured Feed			0.21	0.46		

* Metallurgical Balance: Without Recycling Streams, Cycles 4 + 5

LOCKED CYCLE FLOTATION TEST METALLURGICAL BALANCE

Client: Pacific Booker Minerals Inc.
Test: F53
Sample: Composite MHM4

Date: 8-May-06
Project: 0503003
Cycle: 5

Objective: Locked cycle test to investigate the effect of middling streams on recovery and grade, two tails flowsheet with a coarser regrind size as test F52 to produce tailings for environmental testing

Product	Weight		Assay		Distribution	
			Au	Cu	Au	Cu
	(g)	(%)	(g/t)	(%)	(%)	(%)
Flotation cleaner concentrate						
4th Cleaner Concentrate, Cycle 5	32.8	1.7	6.40	26.92	51.8	88.4
Total 4th Cleaner Concentrate	**32.8**	**1.7**	**6.40**	**26.92**	**51.8**	**88.4**
Flotation Tails						
1st Cleaner Scavenger Tails						
1st Cleaner Scavenger Tails, Cycle 5	353.7	18.1	0.42	0.15	36.7	5.3
Total Rougher Scavenger Tails	**353.7**	**18.1**	**0.42**	**0.15**	**36.7**	**5.3**
Rougher Scavenger Tails						
Rougher Scavenger Tails, Cycle 5	1564.6	80.2	0.03	0.04	11.6	6.3
Total Rougher Scavenger Tails	**1564.6**	**80.2**	**0.03**	**0.04**	**11.6**	**6.3**
Total Tails (Ro. Sc Tails + 1st Cl. Sc. Tails)	**1918.3**	**98.3**	**0.10**	**0.06**	**48.2**	**11.6**
Calculated Feed	**1951.1**	**100.0**	**0.21**	**0.51**	**100.0**	**100.0**
Measured Feed			0.21	0.46		

* Metallurgical Balance: Without Recycling Streams, Cycle 5

PROCESS RESEARCH-X06
PROJ#0503003:PO#6393

teckcominco
Global Discovery Labs

Report date: 23 MAY 2006 **Job V06-0337R**

LAB NO	FIELD NUMBER	SiO2 %	TiO2 %	Al2O3 %	Fe2O3 %	FeO %	MnO %	MgO %	CaO %	Na2O %	K2O %	P205 %	Ba(F) %	LOI %	Total %
R0610177	F53:1CL SCTL C1	56.73	0.86	17.27	5.34		0.10	2.65	3.75	2.60	1.68	0.20	0.16	6.87	98.21
R0610178	F53:1CL SCTL C2	56.18	0.83	17.32	5.49		0.11	2.70	3.93	2.44	1.67	0.22	0.16	7.37	98.42
R0610179	F53:1CL SCTL C3	55.67	0.83	17.13	6.16		0.10	2.62	3.88	2.43	1.65	0.21	0.17	7.20	98.05
R0610180	F53:1CL SCTL C4	54.65	0.83	17.23	6.56		0.10	2.62	3.89	2.37	1.68	0.21	0.17	7.41	97.72
R0610181	F53:1CL SCTL C5	49.47	0.76	15.68	11.88		0.10	2.43	3.54	2.16	1.55	0.27	0.15	9.85	97.84
R0610182	F53:RO SCTL C1	64.29	0.72	14.33	4.36		0.10	2.21	3.43	2.98	1.43	0.24	0.12	4.55	98.76
R0610183	F53:RO SCTL C2	63.46	0.72	14.30	4.53		0.12	2.24	3.50	2.83	1.40	0.24	0.12	4.89	98.35
R0610184	F53:RO SCTL C3	63.49	0.72	14.42	4.43		0.10	2.27	3.46	2.87	1.43	0.27	0.12	4.97	98.55
R0610185	F53:RO SCTL C4	63.89	0.73	14.38	4.40		0.10	2.22	3.45	2.92	1.44	0.24	0.12	4.68	98.57
R0610186	F53:RO SCTL C5	64.09	0.72	14.31	4.36		0.11	2.22	3.43	2.95	1.43	0.31	0.12	4.47	98.52
STD: SY-4		49.79	0.28	20.60	6.19		0.10	0.53	8.00	6.96	1.63	0.13	0.03	4.80	99.03

I=insufficient sample
If requested analyses are not shown, results are to follow

ANALYTICAL METHODS

FeO determined by acid digestion /volumetric.LOI determined gravimetrically
Other elements by Li borate fusion/XRF. Where no FeO value shown "Fe2O3" is total Fe as Fe2O3

COMMENTS

Low total is due to high Sulpher content

Teck Cominco Ltd.
Global Discovery Labs 1486 East Pender Street Vancouver, B.C. Canada V5L 1V8 Phone: (604) 685-3032 Fax: (604) 844-2686

11474-001 Morrison
Modified ABA Results for Tailings Streams

Sample ID		Test F17 Comb Tailings	Test F21 Low 'S' Tails - Cyclone Sands
Paste pH	units	8.75	9.05
Fizz Rate	---	2	2
Sample	weight(g)	1.96	2.03
HCl added	mL	30.5	32.8
HCl	Normality	0.1	0.1
NaOH	Normality	0.1	0.1
NaOH to	pH=8.3 mL	10.9	13.45
Final pH	units	1.96	1.74
NP	t CaCO3/1000t	50	47.7
AP	t CaCO3/1000 t	7.5	1.25
Net NP	t CaCO3/1000 t	42.5	46.4
NP/AP	**ratio**	**6.7**	**38.1**
S	%	0.26	0.132
Sulphide1	%	0.24	0.04
SO4	%	< 0.4	< 0.4
C	%	0.907	0.832
Carbonate	%	1.54	2.25

Test No.: F17 **Project No.**: 11474-001 **Operator**: RG **Date**: April , 2007

Purpose: Effect of regrind size

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh Master Comp

Grind: 24 minutes / 2 kg @ 65% solids in laboratory ball mill (BM-2). K_{80} = 158 µm

Regrind: 10 minutes in laboratory pebble mill (PM). K_{80} = 29 µm

Conditions:

	Reagents added, grams per tonne								Time, minutes				
Stage	Lime	PEX	Cytec 3302				MIBC		Grind	Cond.	Froth	pH	Ep
Grind	-	15	10				-		24			7.7	
Rougher													
Bulk Rougher 1	-	-	-				15			1	3		
Bulk Rougher 2	-	15	-				15			1	4		
Bulk Rougher 3	-	15					10			1	5		
Cu Cleaner													
Regrind	400	5	5						10			10.9	0
Cu 1st Cleaner	25	-	-				5			1	4	11.0	0
Cu 1st Cleaner Scav	-	5	-				5			1	2		
Cu 2nd Cleaner	150	-	-				5			1	3.5	11.5	0
Total	575	55	15	0	0	0	55	0					

* as required to maintain pH

Stage	Bulk Ro	1st Cleaner	2nd Cleaner
Flotation Cell	1000g-D1	500g-D1	250g-D1
Speed: rpm	1800	1500	1200

Metallurgical Balance

Product	**Weight**		**Assays %, g/t**					**% Distribution**				
	g	**%**	**Cu**	**Mo**	**S**	**Au**	**Ag**	**Cu**	**Mo**	**S**	**Au**	**Ag**
Cu 2nd Cleaner	29.6	1.49	21.4	0.62	27.9	7.78	57.8	78.9	80.1	51.4	49.1	55.5
Cu 2nd Cleaner Tail	13.3	0.67	1.50	0.11	13.4	1.52	10.2	2.5	6.4	11.1	4.3	4.4
Cu 1st Cleaner Scav Conc	9.5	0.48	1.45	0.065	12.8	1.44	9.5	1.7	2.7	7.6	2.9	2.9
Cu 1st Cleaner Scav Tail	180.6	9.10	0.14	0.004	1.11	0.26	1.50	3.1	3.2	12.5	10.0	8.8
Rougher Tail	1751.1	88.3	0.063	0.001	0.16	0.090	<0.5	13.7	7.6	17.4	33.6	28.4
Head (calc.)	1984.1	100.0	0.40	0.012	0.81	0.24	1.55	100.0	100.0	100.0	100.0	100.0
(direct)			0.45	0.006	0.89	0.21	1.40					
Combined Products			Not sufficient sample									
Cu 2nd Cleaner Conc	29.6	1.49	21.4	0.62	27.9	7.78	57.8	78.9	80.1	51.4	49.1	55.5
Cu 1st Cleaner Conc	42.9	2.16	15.2	0.46	23.4	5.84	43.0	81.4	86.5	62.5	53.4	59.9
Cu 1st Cleaner Conc + Scav Conc	52.4	2.64	12.7	0.39	21.5	5.04	37.0	83.1	89.2	70.1	56.4	62.8
Rougher Conc	233.0	11.7	2.97	0.091	5.69	1.34	9.5	86.3	92.4	82.6	66.4	71.6
Combined Tail	1931.7	97.4	0.07	0.001	0.25	0.11	.6	16.9	10.8	29.9	43.6	37.2
Rougher Tail	1751.1	88.3	0.063	0.001	0.16	0.090	0.50	13.7	7.6	17.4	33.6	28.4

Test No.: F21 **Project No.**: 11474-001 **Operator**: RG **Date**: April , 2007

Purpose: Test desliming and pyrite flotation from combined tails

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh Master Comp

Grind: 25 minutes / 2 kg @ 65% solids in laboratory ball mill (BM-2). K_{80} = 147 µm

Regrind: 10 minutes in laboratory pebble mill (PM). K_{80} = 31 µm

Conditions:

	Reagents added, grams per tonne								Time, minutes				
Stage	Lime	PEX	Cytec 3302	H_2SO_4	PAX		MIBC		Grind	Cond.	Froth	pH	Ep
Grind	-	15	10				-		25			7.9	20
Rougher													
Bulk Rougher 1	-	-	-				15			1	3	7.9	20
Bulk Rougher 2	-	15	-				15			1	4	7.9	80
Bulk Rougher 3	-	15					10			1	5	7.8	80
Cu Cleaner													
Regrind	400	5	5						10			10.9	0
Cu 1st Cleaner	25	-	-				5			1	4	11.0	0
Cu 1st Cleaner Scav	-	5	-				5			1	2		
Cu 2nd Cleaner	150	-	-				5			1	3.5	11.5	0
Tailings Flotation - Combined Ro Tail + 1st Cl Scav Tail													
Deslime										3x			
Pyrite Rougher	30				20					1	4	8.5	200
Total	605	55	15	0	20	0	55	0					

* as required to maintain pH

Stage	Bulk Ro	Cleaners	Deslime	Py Ro
Flotation Cell	1000g-D1	250g-D1	14L tank	1000g-D1
Speed: rpm	1800	1200		1800

Metallurgical Balance

Product	**Weight**		**Assays %, g/t**					**% Distribution**				
	g	**%**	**Cu**	**Mo**	**S**	**Au**	**Ag**	**Cu**	**Mo**	**S**	**Au**	**Ag**
Cu 2nd Cleaner	28.5	1.44	22.0	0.35	31.7	6.66	60.6	79.4	80.2	52.9	49.1	56.8
Cu 2nd Cleaner Tail	9.2	0.47	2.29	0.038	11.2	1.68	13.6	2.7	2.8	6.0	4.0	4.1
Cu 1st Cleaner Scav Conc	6.1	0.31	2.03	0.029	15.1	1.75	13.5	1.6	1.4	5.4	2.8	2.7
Pyrite Tails (Py Ro conc + slimes)	704.6	35.7	0.083	<0.001	0.62	0.12	0.70	7.4	5.7	25.6	21.9	16.2
Low 'S' Tails (Py Ro Tail)	1226.0	62.1	0.058	<0.001	0.14	0.070	<0.50	9.0	9.9	10.1	22.2	20.2
Head (calc.)	1974.4	100.0	0.40	0.006	0.86	0.20	1.54	100.0	100.0	100.0	100.0	100.0
(direct)			0.45	0.006	0.89	0.21	1.40					
Combined Products			Not sufficient sample									
Cu 2nd Cleaner Conc	28.5	1.44	22.0	0.35	31.7	6.66	60.6	79.4	80.2	52.9	49.1	56.8
Cu 1st Cleaner Conc	37.7	1.91	17.2	0.27	26.7	5.44	49.1	82.0	83.0	59.0	53.1	60.9
Cu 1st Cleaner Conc + Scav Conc	43.8	2.22	15.1	0.24	25.1	4.93	44.2	83.6	84.5	64.4	55.9	63.6
Combined Tails	1930.6	97.8	0.067	0.001	0.32	0.088	0.57	16.4	15.5	35.6	44.1	36.4
Pyrite Tails	704.6	35.7	0.083	0.001	0.62	0.12	0.70	7.4	5.7	25.6	21.9	16.2
Low 'S' Tail	1226.0	62.1	0.058	0.001	0.14	0.070	0.50	9.0	9.9	10.1	22.2	20.2

APPENDIX A. Compiled Acid-Base Accounting and Total-Element Analyses for the Rock and Metallurgical-Test Tailings at the Morrison Project

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **Sample Information**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Drillhole	Interval From (m)	To (m)	Interval (m)	Sample Type	Ore Type	Lithology	Alteration	Description	Comment
547460	MO-01-54	141.0	144.0	3.00	Rock				Core	No core below 144.7m
547461	MO-01-55	3.0	6.0	3.00	Rock				Core	
547462	MO-01-55	50.0	53.0	3.00	Rock				Core	
547463	MO-01-55	100.0	103.0	3.00	Rock				Core	
547464	MO-01-56	125.0	128.0	3.00	Rock				Core	
547465	MO-01-56	157.0	160.0	3.00	Rock				Core	EOH at 160.02
547466	MO-01-57	75.0	78.0	3.00	Rock				Core	
547467	MO-01-57	125.0	128.0	3.00	Rock				Core	
547468	MO-01-57	175.0	178.0	3.00	Rock				Core	
547469	MO-01-58	150.0	153.0	3.00	Rock				Core	
547470	MO-01-58	200.0	203.0	3.00	Rock				Core	
547471	MO-01-58	250.0	253.0	3.00	Rock				Core	
547472	MO-01-60	5.0	8.0	3.00	Rock				Core	
547473	MO-01-60	50.0	53.0	3.00	Rock				Core	
547474	MO-01-60	108.0	111.0	3.00	Rock				Core	
547475	MO-01-60	150.0	153.0	3.00	Rock				Core	
547476	MO-02-64	3.0	6.0	3.00	Rock				Core	
547477	MO-02-64	51.0	54.0	3.00	Rock				Core	
547478	MO-02-64	100.0	103.0	3.00	Rock				Core	
547479	MO-02-65	8.0	11.0	3.00	Rock				Core	
547480	MO-02-65	54.0	57.0	3.00	Rock				Core	
547481	MO-02-65	75.0	78.0	3.00	Rock				Core	
547482	MO-02-65	175.0	178.0	3.00	Rock				Core	
547483	MO-02-65	250.0	253.0	3.00	Rock				Core	
547484	MO-02-66	6.0	9.0	3.00	Rock				Core	
547485	MO-02-66	50.0	53.0	3.00	Rock				Core	
547486	MO-02-66	100.0	103.0	3.00	Rock				Core	
547487	MO-02-66	150.0	153.0	3.00	Rock				Core	
547488	MO-02-68	17.0	20.0	3.00	Rock				Core	
547489	MO-02-68	50.0	53.0	3.00	Rock				Core	
547490	MO-02-68	100.0	103.0	3.00	Rock				Core	Rubble and tiny scraps of green tarp
547491	MO-02-68	130.0	133.0	3.00	Rock				Core	
547492	MO-02-69	25.0	28.0	3.00	Rock				Core	
547493	MO-02-69	50.0	53.0	3.00	Rock				Core	
547494	MO-02-69	100.0	103.0	3.00	Rock				Core	Mineralized interval below 202.2m
547495	MO-02-69	125.0	128.0	3.00	Rock				Core	Rubbly sand thru-out
547496	MO-02-70	31.0	34.0	3.00	Rock				Core	
547497	MO-02-70	50.0	53.0	3.00	Rock				Core	Rubble & extreme core loss
547498	MO-02-70	100.0	103.0	3.00	Rock				Core	
547499	MO-02-70	150.0	153.0	3.00	Rock				Core	Mixed lithologies & obscured contacts
547500	MO-02-70	200.0	203.0	3.00	Rock				Core	
F46 1800 ROUGHER SCAV TAIL (HC Composite)					Tailings				Low-Sulphide Tailings Composite F46: 1800 grams of F46 Rougher Scavenger Tailings well mixed with 200 grams of F46 First Cleaner Scavenger Tailings	Humidity Cell Composite (sample ID provided by Chemex should say "composite" not "1800 rougher scav tail").
F47 1800 ROUGHER SCAV TAIL (HC Composite)					Tailings				High-Sulphide Tailings Composite F47: 1800 grams of F47 Rougher Scavenger Tailings well mixed with 200 grams of F47 First Cleaner Scavenger Tailings	Humidity Cell Composite (sample ID provided by Chemex should say "composite" not "1800 rougher scav tail").
F53:1CL SCTL C1					Tailings					R0610177 (Lab No.)
F53:1CL SCTL C2					Tailings					R0610178 (Lab No.)
F53:1CL SCTL C3					Tailings					R0610179 (Lab No.)
F53:1CL SCTL C4					Tailings					R0610180 (Lab No.)
F53:1CL SCTL C5					Tailings					R0610181 (Lab No.)
F53:RO SCTL C1					Tailings					R0610182 (Lab No.)
F53:RO SCTL C2					Tailings					R0610183 (Lab No.)
F53:RO SCTL C3					Tailings					R0610184 (Lab No.)
F53:RO SCTL C4					Tailings					R0610185 (Lab No.)

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **Sample Information**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Drillhole	Interval From (m)	To (m)	Interval (m)	Sample Type	Ore Type	Lithology	Alteration	Description	Comment
F53:RO SCTL C5					Tailings					R0610186 (Lab No.)
F46 Bulk Ro.Sc.Tails Cyc 3+4+5					Tailings					1 (Lab No.)
F47 Bulk Ro.Sc.Tails Cyc 3+4+5					Tailings					2 (Lab No.)
F48 Bulk Ro.Sc.Tails Cyc 3+4+5					Tailings					3 (Lab No.)
F51 Bulk Ro.Sc.Tails Cyc 3+4+5					Tailings					4 (Lab No.)
F52 Bulk Ro.Sc.Tails Cyc 3+4+5					Tailings					5 (Lab No.)
F46 1st Cl.ScTails Cyc 3+4+5					Tailings					6 (Lab No.)
F47 1st Cl.ScTails Cyc 3+4+5					Tailings					7 (Lab No.)
F48 1st Cl.ScTails Cyc 3+4+5					Tailings					8 (Lab No.)
F51 1st Cl.ScTails Cyc 3+4+5					Tailings					9 (Lab No.)
F52 1st Cl.ScTails Cyc 3+4+5					Tailings					10 (Lab No.)

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ABA Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
pH of DI water used for paste pH read 6.1 for samples 547301 - 547410.

Sample Id.	Weight Received (kg)	SCR-51 WT.-300um (g)	WEI-25 Reject Wt. (kg)	Rinse pH Unity	Paste pH Unity	S (Total) (% Leco)	S (Sulphide) (% Leco)	S (Sulphide) (% Calc)	Carbonate Leach S (Sulphate) (%)	HCl Leachable S (Sulphate) (%)	$S(BaSO_4)$ (%)	$S(del_{actual})$ (%)	S(del) (%)	TAP (kg $CaCO_3$/t)	SAP (kg $CaCO_3$/t)	NP (kg $CaCO_3$/t)	Available NP (kg $CaCO_3$/t)
Method	WEI-21			OA-ELE08	OA-ELE07	S-IR08	S-IR07	S-CAL06	S-GRA06	S-GRA06a	Calculated	Calculated	Calculated	Calculated	Calculated	OA-VOL08	Calculated
MDL					0.1	0.01	0.01	0.01	0.01	0.01						1	
547460	1.78				8	1.21	1.06	1.15	0.05	0.06	0.035	0.055	0.055	37.8	34.8	87	74
547461	2.16				7	2.61	2.31	2.59	0.01	0.02	0.003	0.277	0.277	81.6	80.9	100	87
547462	2.34				7.7	1.35	1.28	1.345	0.01	*0.005*	0.018	0.047	0.047	42.2	41.5	64	51
547463	2.42				7.2	1.39	1.41	1.38	*0.005*	0.01	0.005	-0.035	0.000	43.4	44.1	141	128
547464	2.3				7.4	0.95	0.89	0.91	0.03	0.04	0.062	-0.042	0.000	29.7	27.8	84	71
547465	2.4				7.8	1.62	1.46	1.6	0.01	0.02	0.024	0.116	0.116	50.6	49.2	90	77
547466	2.6				8	1.47	1.45	1.46	0.01	0.01	0.014	-0.004	0.000	45.9	45.3	64	51
547467	2.66				8.2	1.23	1.02	1.21	0.01	0.02	0.015	0.175	0.175	38.4	37.4	84	71
547468	1.92				8	1.27	1.2	1.26	0.01	0.01	0.021	0.039	0.039	39.7	38.7	84	71
547469	2.1				8	1.08	1.06	1.06	0.01	0.02	0.023	-0.023	0.000	33.8	33.1	68	55
547470	2.56				7.8	0.76	0.72	0.755	0.01	*0.005*	0.031	0.004	0.004	23.8	22.6	94	81
547471	2.02				7.3	3.08	2.71	3.05	0.02	0.03	0.003	0.337	0.337	96.3	95.2	111	98
547472	1.74				7.4	0.38	0.36	0.37	0.01	0.01	0.010	0.000	0.000	11.9	11.3	163	150
547473	2				8.4	0.1	0.08	0.09	0.01	0.01	0.019	-0.009	0.000	3.1	2.5	31	18
547474	2.88				7.9	0.56	0.18	0.15	0.4	0.41	0.009	-0.039	0.000	17.5	5.6	78	65
547475	1.9				8.3	0.81	0.76	0.8	0.01	0.01	0.011	0.029	0.029	25.3	24.6	41	28
547476	2.32				6.2	2.5	2.09	2.47	0.03	0.03	0.011	0.369	0.369	78.1	76.9	8	-5
547477	2.52				7	1.02	0.87	1.015	0.01	*0.005*	0.012	0.133	0.133	31.9	31.3	12	-1
547478	1.62				7.9	1.55	1.3	1.49	0.07	0.06	0.034	0.156	0.156	48.4	45.5	122	109
547479	2.84				7.2	0.82	0.71	0.81	0.01	0.01	0.011	0.089	0.089	25.6	25.0	5	-8
547480	2.1				7.5	1.29	1.22	1.28	0.02	0.01	0.001	0.059	0.059	40.3	40.0	123	110
547481	2.42				7.9	0.95	0.85	0.945	0.02	*0.005*	0.011	0.084	0.084	29.7	29.2	91	78
547482	2.16				8	0.47	0.44	0.465	0.02	*0.005*	0.014	0.011	0.011	14.7	14.1	79	66
547483	2.24				8.2	1.73	1.65	1.71	0.04	0.02	0.023	0.037	0.037	54.1	52.7	112	99
547484	2.28				8.3	0.53	0.37	0.38	0.17	0.15	0.123	-0.113	0.000	16.6	11.6	104	91
547485	2				8.2	1.09	1	1.07	0.05	0.02	0.024	0.046	0.046	34.1	32.7	94	81
547486	2.22				8.7	0.23	0.22	0.225	0.02	*0.005*	0.023	-0.018	0.000	7.2	6.9	38	25
547487	2.28				8.1	0.99	0.77	0.91	0.11	0.08	0.058	0.082	0.082	30.9	26.6	87	74
547488	1.56				8	1.42	1.34	1.33	0.1	0.09	0.034	-0.044	0.000	44.4	41.9	24	11
547489	1.86				5.8	1.28	1.3	1.25	0.04	0.03	0.003	-0.053	0.000	40.0	40.6	11	-2
547490	1.86				6.1	2.4	2.31	2.395	0.05	*0.005*	0.003	0.082	0.082	75.0	74.8	75	62
547491	1.56				6.9	0.88	0.85	0.875	0.03	*0.005*	0.001	0.024	0.024	27.5	27.3	110	97
547492	1.26				6.3	0.19	0.14	0.18	0.04	0.01	0.031	0.009	0.009	5.9	4.7	1	-12
547493	2.04				6.6	1.33	1.29	1.31	0.03	0.02	0.004	0.016	0.016	41.6	40.8	16	3
547494	1.5				6.6	1.31	1.19	1.29	0.05	0.02	0.018	0.082	0.082	40.9	39.8	12	-1
547495	1.5				6.1	0.64	0.64	0.635	0.03	*0.005*	0.001	-0.006	0.000	20.0	20.0	35	22
547496	1.76				5.3	2.37	2.11	2.34	0.06	0.03	0.008	0.222	0.222	74.1	72.9	12	-1
547497	1.38				5.5	0.49	0.45	0.47	0.04	0.02	0.020	0.000	0.000	15.3	14.1	27	14
547498	1.38				7.3	0.45	0.38	0.39	0.05	0.06	0.061	-0.051	0.000	14.1	11.9	20	7
547499	1.38				7.7	0.56	0.42	0.44	0.11	0.12	0.109	-0.089	0.000	17.5	13.1	86	73
547500	1.58				8.2	0.46	0.4	0.43	0.04	0.03	0.041	-0.011	0.000	14.4	12.5	77	64
F46 1800 ROUGHER SCAV TAIL (HC Con				7.5	8.2	0.19	0.14	0.15	0.03	0.04	0.037	-0.027	0.000	5.9	4.4	48	35
F47 1800 ROUGHER SCAV TAIL (HC Con				7.6	7.7	1.07	0.99	1.02	0.06	0.05	0.018	0.012	0.012	33.4	31.3	86	73

F53:1CL SCTL C1
F53:1CL SCTL C2
F53:1CL SCTL C3
F53:1CL SCTL C4
F53:1CL SCTL C5
F53:RO SCTL C1
F53:RO SCTL C2
F53:RO SCTL C3
F53:RO SCTL C4

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ABA Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
pH of DI water used for paste pH read 6.1 for samples 547301 - 547410.

Sample Id.	Weight Received (kg)	SCR-51 WT.-300um (g)	WEI-25 Reject Wt. (kg)	Rinse pH Unity	Paste pH Unity	S (Total) (% Leco)	S (Sulphide) (% Leco)	S (Sulphide) (% Calc)	Carbonate Leach S (Sulphate) (%)	HCl Leachable S (Sulphate) (%)	$S(BaSO_4)$ (%)	$S(del_{actual})$ (%)	S(del) (%)	TAP (kg $CaCO_3$/t)	SAP (kg $CaCO_3$/t)	NP (kg $CaCO_3$/t)	Available NP (kg $CaCO_3$/t)
Method	WEI-21			OA-ELE08	OA-ELE07	S-IR08	S-IR07	S-CAL06	S-GRA06	S-GRA06a	Calculated	Calculated	Calculated	Calculated	Calculated	OA-VOL08	Calculated
MDL					0.1	0.01	0.01	0.01	0.01	0.01						1	
F53:RO SCTL C5																	
F46 Bulk Ro.Sc.Tails Cyc 3+4+5					7.6		0.06								1.9	40.08	27.08
F47 Bulk Ro.Sc.Tails Cyc 3+4+5					8.0		0.13								4.1	60.39	47.39
F48 Bulk Ro.Sc.Tails Cyc 3+4+5					8.0		0.28								8.8	25.20	12.2
F51 Bulk Ro.Sc.Tails Cyc 3+4+5					8.2		0.10								3.1	44.24	31.24
F52 Bulk Ro.Sc.Tails Cyc 3+4+5					7.5		0.05								1.6	43.39	30.39
F46 1st Cl.ScTails Cyc 3+4+5					8.2		0.84								26.3	56.32	43.32
F47 1st Cl.ScTails Cyc 3+4+5					7.6		8.29								259.1	54.04	41.04
F48 1st Cl.ScTails Cyc 3+4+5					7.9		1.46								45.6	38.24	25.24
F51 1st Cl.ScTails Cyc 3+4+5					7.7		5.07								158.4	56.14	43.14
F52 1st Cl.ScTails Cyc 3+4+5					7.7		2.87								89.7	56.24	43.24
Maximum				9	8.9	9.36	8.77	9.34	0.65	0.64	0.16	0.57	0.57	292	292	403	390
Minimum				4.5	3.9	0.01	0.05	0.005	0.005	0.005	0.0007	-0.14	0	0.31	0.16	0	-13
Mean				6.19	7.64	1.06	1.02	1.03	0.031	0.03	0.019	0.031	0.04	33	32.3	62.7	49.7
Standard Deviation				0.97	0.82	0.74	0.89	0.74	0.052	0.054	0.019	0.08	0.073	23.1	26	48.3	48.3
10 Percentile				5	6.7	0.38	0.28	0.35	0.005	0.005	0.0021	-0.03	0	11.9	10.3	17	4
25 Percentile				5.5	7.4	0.61	0.54	0.59	0.01	0.005	0.0072	-0.014	0	19.1	17.9	32	19
Median				6	7.8	0.93	0.85	0.89	0.02	0.01	0.015	0.0067	0.0067	29.1	27.4	50	37
75 Percentile				7	8.2	1.35	1.29	1.31	0.03	0.03	0.025	0.055	0.055	42.2	41	81	68
90 Percentile				7.5	8.4	1.82	1.84	1.78	0.06	0.07	0.035	0.11	0.11	56.8	56.1	122	109
Interquartile Range (IQR) [1]				1.5	0.8	0.74	0.76	0.72	0.02	0.025	0.017	0.068	0.055	23.1	23.1	49	49
Variance				0.95	0.68	0.55	0.78	0.54	0.0027	0.0029	0.00038	0.0064	0.0053	534	674	2337	2337
Skewness				0.93	-1.69	4.15	4.33	4.13	5.94	5.61	3.39	2.61	3.34	4.15	4.38	2.04	2.04
Coefficient of Variation (CoV) [2]				0.16	0.11	0.7	0.87	0.72	1.7	1.79	1.02	2.6	1.8	0.7	0.8	0.77	0.97
Count				118	503	493	363	493	493	493	493	493	493	493	503	503	503

Total
NPR < 1.0 or NPR = 1.0
1.0 < NPR < 2.0
NPR > 2.0 or NPR =2.0

% NPR < 1.0 or NPR = 1.0 of Total
% 1.0 < NPR < 2.0 of Total
% NPR > 2.0 or NPR =2.0 of Total

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
NOTE: If data was reported as < detection limit half the detection limit is shown in italics and was used in subsequent calculations.

% S (Sulphide) (calc) = % S (Total) - % S (Sulphate) Carbonate Leach
$\%S(BaSO_4)$ = Ba (ppm) * 0.0001 * 32.06 / 137.37
% S (del_{actual}) = %S(Total) - %S(Sulphide) Leco - $\%S(BaSO_4)$
% S (del) = % S (del_{actual}) unless < 0, then 0
TAP = % S (Total) * 31.25
SAP = % S (Sulphide + del) * 31.25
Unavailable NP = 13

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ABA Data**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Total C	Inorganic C	Inorganic CO_2	Excess C	Total CaNP	Inorganic CaNP	(Ca) CaNP	(Ca+Mg) CaNP	TNNP	Adjusted TNNP	SNNP	Adjusted SNNP	TNPR	Adjusted TNPR	SNPR	Adjusted SNPR	Fizz Rating	Comparison of Fizz Rating
	(% Leco)	(%)	(%)	(%)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)					Unity	& NP
Method	C-IR07	C-GAS05	C-GAS05	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	OA-VOL08	
MDL	0.01	0.05	0.2															
547460	1.14	0.91	3.3	0.23	95.0	75.1	86.7	146.8	49.2	36.2	52.2	39.2	2.3	1.96	2.5	2.12	3	Disagree
547461	2.04	1.53	5.6	0.51	170.0	127.4	15.5	45.1	18.4	5.4	19.1	6.1	1.23	1.07	1.24	1.08	3	Agree
547462	0.5	0.46	1.7	0.04	41.7	38.7	65.4	131.7	21.8	8.8	22.5	9.5	1.52	1.21	1.54	1.23	3	Disagree
547463	2.06	1.99	7.3	0.07	171.7	166.0	67.4	122.6	97.6	84.6	96.9	83.9	3.25	2.95	3.2	2.9	3	Agree
547464	1.23	0.97	3.6	0.26	102.5	81.9	42.7	79.3	54.3	41.3	56.2	43.2	2.83	2.39	3.02	2.55	3	Disagree
547465	1.1	1.04	3.8	0.06	91.7	86.4	53.4	102.0	39.4	26.4	40.8	27.8	1.78	1.52	1.83	1.56	3	Disagree
547466	0.47	0.41	1.5	0.06	39.2	34.1	59.9	159.2	18.1	5.1	18.7	5.7	1.39	1.11	1.41	1.13	3	Disagree
547467	0.75	0.72	2.6	0.03	62.5	59.1	63.7	146.4	45.6	32.6	46.6	33.6	2.19	1.85	2.25	1.9	3	Disagree
547468	1.25	1.22	4.5	0.03	104.2	102.3	49.2	87.1	44.3	31.3	45.3	32.3	2.12	1.79	2.17	1.83	3	Disagree
547469	0.79	0.77	2.8	0.02	65.8	63.7	50.2	100.8	34.3	21.3	34.9	21.9	2.01	1.63	2.05	1.66	3	Disagree
547470	1.32	1.27	4.7	0.05	110.0	106.9	53.7	91.2	70.3	57.3	71.4	58.4	3.96	3.41	4.15	3.58	3	Disagree
547471	1.62	1.58	5.8	0.04	135.0	131.9	53.2	91.1	14.8	1.8	15.8	2.8	1.15	1.02	1.17	1.03	3	Agree
547472	2.23	2.21	8.1	0.02	185.8	184.2	101.6	145.3	151.1	138.1	151.7	138.7	13.7	12.6	14.5	13.3	3	Agree
547473	0.19	0.2	0.7	0	15.8	15.9	90.9	165.4	27.9	14.9	28.5	15.5	9.92	5.76	12.4	7.2	2	Disagree
547474	0.73	0.69	2.5	0.04	60.8	56.9	98.6	164.1	60.5	47.5	72.4	59.4	4.46	3.71	13.9	11.6	3	Disagree
547475	0.34	0.34	1.2	0	28.3	27.3	65.2	150.4	15.7	2.7	16.4	3.4	1.62	1.11	1.66	1.14	2	Disagree
547476	0.44	0.43	1.6	0.01	36.7	36.4	4.0	13.9	-70.1	-83.1	-68.9	-81.9	0.102	0.001	0.104	0.001	1	Agree
547477	0.41	0.38	1.4	0.03	34.2	31.8	5.7	18.1	-19.9	-32.9	-19.3	-32.3	0.376	0.001	0.383	0.001	2	Disagree
547478	1.51	1.49	5.5	0.02	125.8	125.1	70.2	134.0	73.6	60.6	76.5	63.5	2.52	2.25	2.68	2.4	3	Agree
547479	0.17	0.18	0.7	0	14.2	15.9	4.0	15.5	-20.6	-33.6	-20.0	-33.0	0.195	0.001	0.2	0.001	1	Agree
547480	2.01	1.78	6.5	0.23	167.5	147.8	74.4	121.8	82.7	69.7	83.0	70.0	3.05	2.73	3.08	2.75	3	Agree
547481	1.24	1.21	4.4	0.03	103.3	100.1	48.7	88.6	61.3	48.3	61.8	48.8	3.07	2.63	3.12	2.67	3	Disagree
547482	1.2	1.16	4.3	0.04	100.0	97.8	41.5	84.3	64.3	51.3	64.9	51.9	5.38	4.49	5.61	4.68	3	Disagree
547483	1.36	1.34	4.9	0.02	113.3	111.4	76.4	142.7	57.9	44.9	59.3	46.3	2.07	1.83	2.12	1.88	3	Agree
547484	1.16	1.1	4	0.06	96.7	91.0	85.9	143.5	87.4	74.4	92.4	79.4	6.28	5.49	8.99	7.87	3	Agree
547485	1.04	0.89	3.3	0.15	86.7	75.1	75.7	146.9	59.9	46.9	61.3	48.3	2.76	2.38	2.88	2.48	3	Disagree
547486	0.27	0.28	1	0	22.5	22.7	70.9	131.0	30.8	17.8	31.1	18.1	5.29	3.48	5.53	3.64	2	Disagree
547487	0.96	0.95	3.5	0.01	80.0	79.6	97.1	154.0	56.1	43.1	60.4	47.4	2.81	2.39	3.27	2.78	3	Disagree
547488	0.45	0.43	1.6	0.02	37.5	36.4	55.4	134.5	-20.4	-33.4	-17.9	-30.9	0.541	0.248	0.573	0.263	2	Disagree
547489	0.65	0.63	2.3	0.02	54.2	52.3	2.2	7.2	-29.0	-42.0	-29.6	-42.6	0.275	0.001	0.271	0.001	2	Disagree
547490	1.77	1.72	6.3	0.05	147.5	143.3	5.0	22.3	0.0	-13.0	0.2	-12.8	1	0.827	1	0.829	3	Disagree
547491	1.94	1.89	6.9	0.05	161.7	156.9	20.0	39.3	82.5	69.5	82.7	69.7	4	3.53	4.03	3.55	3	Agree
547492	0.43	*0.025*	*0.1*	0.405	35.8	2.3	0.5	8.3	-4.9	-17.9	-3.7	-16.7	0.168	0.001	0.215	0.001	1	Agree
547493	1.03	0.91	3.3	0.12	85.8	75.1	10.7	42.9	-25.6	-38.6	-24.8	-37.8	0.385	0.0722	0.392	0.0735	1	Agree
547494	0.35	0.36	1.3	0	29.2	29.6	23.7	79.7	-28.9	-41.9	-27.8	-40.8	0.293	0.001	0.302	0.001	1	Agree
547495	2.31	2.26	8.3	0.05	192.5	188.8	11.0	24.6	15.0	2.0	15.0	2.0	1.75	1.1	1.75	1.1	2	Disagree
547496	0.05	0.07	0.3	0	4.2	6.8	10.0	48.7	-62.1	-75.1	-60.9	-73.9	0.162	0.001	0.165	0.001	1	Agree
547497	1	0.93	3.4	0.07	83.3	77.3	3.5	10.9	11.7	-1.3	12.9	-0.1	1.76	0.914	1.92	0.995	2	Disagree
547498	0.25	0.18	0.7	0.07	20.8	15.9	50.2	128.4	5.9	-7.1	8.1	-4.9	1.42	0.498	1.68	0.589	1	Agree
547499	0.9	0.75	2.8	0.15	75.0	63.7	61.2	123.8	68.5	55.5	72.9	59.9	4.91	4.17	6.55	5.56	3	Disagree
547500	0.54	0.5	1.8	0.04	45.0	40.9	90.4	215.2	62.6	49.6	64.5	51.5	5.36	4.45	6.16	5.12	3	Disagree
F46 1800 ROUGHER SCAV TAIL (HC Cor	0.65	0.58	2.1	0.07	54.2	47.8	70.4	135.9	42.1	29.1	43.6	30.6	8.08	5.89	11	8	2	Disagree
F47 1800 ROUGHER SCAV TAIL (HC Cor	1.72	1.6	5.8	0.12	143.3	131.9	46.7	80.0	52.6	39.6	54.7	41.7	2.57	2.18	2.75	2.33	3	Disagree

F53:1CL SCTL C1
F53:1CL SCTL C2
F53:1CL SCTL C3
F53:1CL SCTL C4
F53:1CL SCTL C5
F53:RO SCTL C1
F53:RO SCTL C2
F53:RO SCTL C3
F53:RO SCTL C4

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ABA Data**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Total C	Inorganic C	Inorganic CO_2	Excess C	Total CaNP	Inorganic CaNP	(Ca) CaNP	(Ca+Mg) CaNP	TNNP	Adjusted TNNP	SNNP	Adjusted SNNP	TNPR	Adjusted TNPR	SNPR	Adjusted SNPR	Fizz Rating	Comparison of Fizz Rating
	(% Leco)	(%)	(%)	(%)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)					Unity	& NP
Method	C-IR07	C-GAS05	C-GAS05	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	OA-VOL08	
MDL	0.01	0.05	0.2															
F53:RO SCTL C5																		
F46 Bulk Ro.Sc.Tails Cyc 3+4+5											38.2	25.2			21.4	14.4		
F47 Bulk Ro.Sc.Tails Cyc 3+4+5											56.3	43.3			14.9	11.7		
F48 Bulk Ro.Sc.Tails Cyc 3+4+5											16.5	3.5			2.88	1.39		
F51 Bulk Ro.Sc.Tails Cyc 3+4+5											41.1	28.1			14.2	10		
F52 Bulk Ro.Sc.Tails Cyc 3+4+5											41.8	28.8			27.8	19.4		
F46 1st Cl.ScTails Cyc 3+4+5											30.1	17.1			2.15	1.65		
F47 1st Cl.ScTails Cyc 3+4+5											-205.0	-218.0			0.209	0.158		
F48 1st Cl.ScTails Cyc 3+4+5											-7.4	-20.4			0.838	0.553		
F51 1st Cl.ScTails Cyc 3+4+5											-102.3	-115.3			0.354	0.272		
F52 1st Cl.ScTails Cyc 3+4+5											-33.4	-46.4			0.627	0.482		
Maximum	6.33	5.79	21.2	1.74	528	482	221	356	352	339	356	343	43.5	35.2	200	200		
Minimum	0.005	0.025	0.1	0	0.42	2.27	0.5	1.98	-272	-284	-271	-284	0.001	0.001	0.001	0.001		
Mean	1.03	0.88	3.23	0.15	85.8	73.5	51.1	98.5	30	17	30.4	17.4	2.96	2.31	3.72	3.03		
Standard Deviation	0.77	0.7	2.55	0.2	63.8	58	33.2	56.2	53.5	53.5	54.4	54.4	4.14	3.47	9.96	9.67		
10 Percentile	0.28	0.22	0.8	0	23.3	18.2	7.29	24.6	-20.2	-33.2	-19.8	-32.8	0.49	0.095	0.49	0.14		
25 Percentile	0.49	0.38	1.4	0.02	40.8	31.8	21.2	47.6	1.5	-11.5	2.77	-10.2	1.05	0.63	1.1	0.65		
Median	0.79	0.67	2.5	0.08	65.8	56.9	53.9	103	20.6	7.56	21.6	8.56	1.75	1.25	1.84	1.29		
75 Percentile	1.42	1.21	4.4	0.21	118	100	73.2	144	53.3	40.3	54.5	41.5	3.12	2.57	3.32	2.74		
90 Percentile	2.09	1.82	6.7	0.38	175	152	88.2	163	94.8	81.8	94.1	81.1	6.27	5.46	7.1	6.15		
Interquartile Range (IQR) [1]	0.93	0.83	3	0.19	77.5	68.2	51.9	96	51.8	51.8	51.7	51.7	2.07	1.94	2.22	2.09		
Variance	0.59	0.48	6.49	0.041	4074	3358	1102	3154	2863	2863	2960	2960	17.1	12	99.1	93.6		
Skewness	1.69	1.81	1.81	3.33	1.69	1.81	0.57	0.32	0.95	0.95	0.74	0.74	4.79	4.59	15.7	17.1		
Coefficient of Variation (CoV) [2]	0.74	0.79	0.79	1.34	0.74	0.79	0.65	0.57	1.78	3.15	1.79	3.14	1.4	1.5	2.68	3.2		
Count	493	493	493	493	493	493	493	493	493	493	503	503	493	493	503	503		
Total																		
NPR < 1.0 or NPR = 1.0													118	195	119	186		
1.0 < NPR < 2.0													154	137	141	142		
NPR > 2.0 or NPR =2.0													221	161	243	175		
% NPR < 1.0 or NPR = 1.0 of Total													23.94	39.55	23.66	36.98		
% 1.0 < NPR < 2.0 of Total													31.24	27.79	28.03	28.23		
% NPR > 2.0 or NPR =2.0 of Total													44.83	32.66	48.31	34.79		

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
NOTE: If data was reported as < detection limit half the detection limit is shown in italics and was used in subsequent calculations.

Total CaNP = % C * 10 * 100.09 / 12.01
Inorganic CaNP = % CO_2 * 10 * 100.09 / 44.01
(Ca) CaNP = (Ca(ppm) * 100.09 / 40.08) / 1000
(Ca+Mg) CaNP = ((Ca(ppm) * 100.09 / 40.08) + (Mg(ppm) * 100.09 / 24.31)) / 1000
TNNP = NP - TAP
Adjusted TNNP = (NP - 13) - TAP
SNNP = NP - SAP
Adjusted SNNP = (NP - 13) - SAP

TNPR = NP / TAP
Note: If % S(Total) < 0.01 then TNPR = 200
Note: If % S(Total) > 0.01 and NP < = 0 then TNPR = 0.001
Adjusted TNPR = (NP - 13) / TAP
Note: If % S(Total) < 0.01 then Adjusted TNPR = 200
Note: If % S(Total) > 0.01 and (NP - 13) < = 0 then Adjusted TNPR = 0.001
SNPR = NP / SAP
Note: If % S(Sulphide + del) < 0.01 then SNPR = 200
'Note: If % S(Sulphide + del) > 0.01 and NP < = 0 then SNPR = 0.001
Adjusted SNPR = (NP - 13) / SAP
Note: If % S(Sulphide + del) < 0.01 then Adjusted SNPR = 200
Note: If % S(Sulphide + del) > 0.01 and (NP - 13) < = 0 then Adjusted SNPR = 0.001

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ICP Metals Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
Rare earth elements may not be totally soluble in MS61 method.
Interference: Mo>400ppm on ICP-MS Cd

Sample Id.	Silver Ag (ppm)	Aluminum Al (ppm)	Arsenic As (ppm)	Barium Ba (ppm)	Beryllium Be (ppm)	Bismuth Bi (ppm)	Calcium Ca (ppm)	Cadmium Cd (ppm)	Cerium Ce (ppm)	Cobalt Co (ppm)	Chromium Cr (ppm)	Cesium Cs (ppm)	Copper Cu (ppm)	Iron Fe (ppm)	Gallium Ga (ppm)	Germanium Ge (ppm)
Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
MDL	0.01	100	0.2	10	0.05	0.01	100	0.02	0.01	0.1	1	0.05	0.2	100	0.05	0.05
Crustal Abundance: From	0.037	4200	1	0.4	1	0.007	5100	0.035	11.5	0.1	2	0.4	4	3800	4	0.2
Crustal Abundance: To	0.11	88000	13	2300	3	0.01	312400	0.42	345	74	170	6	250	86500	30	8
547460	3.28	78800	40	1520	1.47	1.54	34700	*0.01*	36.2	10.7	49	4.88	3410	38200	22.9	0.27
547461	5.76	77700	166	110	0.94	2.2	6200	2	26.1	20.1	47	3.95	2440	97300	23.6	0.21
547462	1.27	86300	7.7	790	1.36	0.2	26200	0.16	36	25.5	32	3.15	2900	40000	24.3	0.21
547463	0.38	85700	77.5	210	1.1	1.07	27000	0.77	53.9	17.5	58	0.92	280	45300	24.3	0.2
547464	0.91	90600	21.2	2650	1.96	0.3	17100	0.05	40.2	17	112	3.21	2800	37600	22.5	0.23
547465	1.2	91100	4.8	1040	1.78	0.25	21400	*0.01*	24.1	33.2	112	2.84	2340	46700	22.5	0.22
547466	1.83	77100	0.4	600	1.18	0.48	24000	*0.01*	25.7	26.4	80	2.75	7990	44100	23.2	0.19
547467	0.82	81400	0.9	630	1.31	0.18	25500	0.04	37	22.5	65	4.31	2640	35300	24.2	0.21
547468	0.59	80100	24	900	1.4	0.19	19700	*0.01*	26.4	24.3	118	2.86	1865	31400	18.7	0.21
547469	1.63	84000	11.9	990	1.59	0.56	20100	*0.01*	46.8	13.6	88	4.26	4050	36600	20.7	0.21
547470	0.89	84900	22.1	1320	1.43	0.24	21500	*0.01*	25.1	13.9	110	3.3	2110	34300	19.6	0.15
547471	1.3	85400	50.5	120	0.62	1.1	21300	0.21	26.3	27.9	32	0.64	3450	53200	18.4	0.05
547472	0.41	82900	114	410	0.85	0.3	40700	0.09	41.8	15.5	61	1.08	1145	34500	24.2	0.14
547473	0.33	88500	2.8	820	1.15	0.11	36400	0.11	35.8	12.3	52	1.31	1200	29400	24.3	0.22
547474	0.42	83000	11.9	370	1.15	0.1	39500	0.11	36.1	10.7	53	2.17	1465	27100	23	0.25
547475	1.37	83700	1.7	490	1.15	0.17	26100	0.14	33.3	15.6	72	2.48	4760	39600	22.7	0.23
547476	1.02	106500	27.1	450	1.06	1.81	1600	0.05	28.8	25.6	59	5.13	531	40200	25.5	0.22
547477	0.2	107500	25.1	520	1.8	1.18	2300	0.02	54	19.4	69	6.12	132.5	26900	27.2	0.24
547478	3.97	79300	16.3	1470	1.24	1.34	28100	1.24	16.75	20.5	77	3.39	4710	38100	22.7	0.19
547479	0.22	109500	10.7	490	1.39	0.41	1600	0.05	49	15.1	57	4.48	160.5	18300	26	0.2
547480	1.28	80200	53.1	40	0.81	0.23	29800	0.11	39.2	26.3	65	0.37	2460	34500	21.8	0.15
547481	0.78	89100	46.6	470	1.42	0.41	19500	0.38	31	11.3	118	1.67	1630	18700	21.3	0.19
547482	2.42	83300	36.1	600	1.74	0.34	16600	0.28	33.9	15.5	110	2.45	1885	26200	19.3	0.2
547483	0.98	75400	21.1	990	1.17	1.15	30600	0.27	43.6	25.7	67	4.29	488	42600	22.1	0.22
547484	1.14	78100	3.4	5290	1.27	0.79	34400	0.11	31.8	10.1	48	4.27	1850	28600	22.9	0.26
547485	7.72	74700	27.4	1030	0.9	4.14	30300	0.27	32.3	11.2	61	2.66	6170	38800	20.9	0.21
547486	1.01	80400	2.8	990	1.38	0.25	28400	0.27	30.4	12.3	46	2.49	1625	35100	22	0.21
547487	1.51	80100	29.1	2470	1.02	0.44	38900	0.25	50.2	12.8	54	3.41	4420	33300	23.3	0.27
547488	0.71	83400	2.7	1450	1.28	0.12	22200	0.02	43.6	30.1	81	4.09	2390	53700	21.8	0.25
547489	3.05	30300	55.3	120	0.44	0.42	900	0.39	16.75	14.5	55	1.36	3210	39500	7.47	0.08
547490	12.25	33400	427	110	0.6	3.62	2000	52.5	14.55	10.6	31	5.45	2130	83400	11.05	0.14
547491	2.53	61800	36.1	30	0.51	0.43	8000	0.58	21.6	12.9	92	0.7	3830	73900	14.75	0.12
547492	0.18	77600	23.8	1320	1.46	0.11	200	0.2	41.3	5.6	102	2.16	70.6	8600	19.4	0.1
547493	4.03	86100	12.1	170	1.42	1.53	4300	0.71	32.8	19.9	85	1.88	4950	68900	24.2	0.19
547494	0.31	85800	27	770	1.57	0.19	9500	0.05	33.4	17.9	76	3.45	461	46700	24.4	0.21
547495	1.89	62100	101	40	0.94	0.6	4400	0.11	23.1	21.4	47	0.74	2440	98300	16.4	0.17
547496	0.7	102000	12.1	340	2.66	0.2	4000	0.3	30.2	68.7	84	2.64	1020	39400	32.1	0.15
547497	0.51	69700	34.9	850	1.48	0.17	1400	0.14	33.5	23.1	78	1.88	921	48400	17.7	0.15
547498	2.03	80900	7.4	2630	1.31	0.85	20100	0.26	36.1	11.6	94	3.4	3220	63300	21.4	0.21
547499	1.11	82200	14.4	4690	0.96	0.27	24500	0.07	31.3	16.2	62	2.19	2290	37400	23.7	0.23
547500	0.57	83400	2.3	1750	1.17	0.2	36200	0.07	34.4	28.7	151	3.76	913	51300	21.8	0.25
F46 1800 ROUGHER SCAV TAIL (HC Con	0.6	80200	8.2	1590	1.21	0.14	28200	0.13	41	11.5	205	3.06	539	28800	19.45	0.11
F47 1800 ROUGHER SCAV TAIL (HC Con	1.79	71000	211	780	0.72	1.75	18700	1.08	35.6	12.6	166	1.71	828	49500	17.95	0.12

F53:1CL SCTL C1
F53:1CL SCTL C2
F53:1CL SCTL C3
F53:1CL SCTL C4
F53:1CL SCTL C5
F53:RO SCTL C1
F53:RO SCTL C2
F53:RO SCTL C3
F53:RO SCTL C4

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ICP Metals Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
Rare earth elements may not be totally soluble in MS61 method.
Interference: Mo>400ppm on ICP-MS Cd

Sample	Silver	Aluminum	Arsenic	Barium	Beryllium	Bismuth	Calcium	Cadmium	Cerium	Cobalt	Chromium	Cesium	Copper	Iron	Gallium	Germanium
Id.	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	Ga	Ge
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
MDL	0.01	100	0.2	10	0.05	0.01	100	0.02	0.01	0.1	1	0.05	0.2	100	0.05	0.05
Crustal Abundance: From	0.037	4200	1	0.4	1	0.007	5100	0.035	11.5	0.1	2	0.4	4	3800	4	0.2
Crustal Abundance: To	0.11	88000	13	2300	3	0.01	312400	0.42	345	74	170	6	250	86500	30	8
F53:RO SCTL C5																
F46 Bulk Ro.Sc.Tails Cyc 3+4+5																
F47 Bulk Ro.Sc.Tails Cyc 3+4+5																
F48 Bulk Ro.Sc.Tails Cyc 3+4+5																
F51 Bulk Ro.Sc.Tails Cyc 3+4+5																
F52 Bulk Ro.Sc.Tails Cyc 3+4+5																
F46 1st Cl.ScTails Cyc 3+4+5																
F47 1st Cl.ScTails Cyc 3+4+5																
F48 1st Cl.ScTails Cyc 3+4+5																
F51 1st Cl.ScTails Cyc 3+4+5																
F52 1st Cl.ScTails Cyc 3+4+5																
Maximum	27.9	117000	8590	6830	2.77	25.4	88400	52.5	123	68.7	540	19.2	11800	110000	32.1	0.34
Minimum	0.005	14100	0.4	30	0.27	0.01	200	0.01	4.27	3.4	23	0.34	20.9	5000	2.99	0.025
Mean	1.6	81326	101	815	1.26	0.57	20450	0.51	40.9	18.6	106	2.79	2599	38799	20.9	0.16
Standard Deviation	1.97	13495	504	833	0.37	1.55	13290	2.55	13.8	7.9	58.7	1.75	2154	14963	3.76	0.058
10 Percentile	0.3	68500	2.62	90	0.83	0.1	2920	0.03	26.1	10.7	53	0.84	455	23200	16.4	0.09
25 Percentile	0.58	76800	6	310	1.04	0.15	8500	0.09	32.5	13.6	66	1.48	927	29400	19.4	0.11
Median	1.09	82200	24.6	640	1.22	0.25	21600	0.16	39.7	16.8	90	2.62	2050	37400	21.6	0.15
75 Percentile	1.92	87100	60.5	1050	1.45	0.5	29300	0.37	48.4	21.9	134	3.63	3470	45100	23	0.19
90 Percentile	3.29	95760	120	1516	1.8	1.07	35300	0.77	56.2	29.8	166	4.68	5586	53700	24.7	0.24
Interquartile Range (IQR) [1]	1.34	10300	54.5	740	0.41	0.35	20800	0.28	15.9	8.3	68	2.15	2543	15700	3.6	0.08
Variance	3.9	182106998	254374	693383	0.14	2.41	176634578	6.53	191	62.3	3445	3.07	4640473	223877051	14.1	0.0033
Skewness	6.34	-0.88	12.4	3.39	0.51	11.2	0.57	17.6	1.04	1.49	2.43	2.25	1.34	1.34	-1.25	0.53
Coefficient of Variation (CoV) [2]	1.23	0.17	4.99	1.02	0.29	2.7	0.65	4.97	0.34	0.42	0.56	0.63	0.83	0.39	0.18	0.37
Count	493	493	493	493	493	493	493	493	493	493	493	493	493	493	493	493

27.9 NOTE: if data is boxed, then data is 3 times the maximum crustal abundance.

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
NOTE: If data was reported as < detection limit half the detection limit is shown in italics and was used in subsequent calculations.
NOTE: If data was reported as > detection limit the detection limit is shown in bold and was used in subsequent calculations.

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ICP Metals Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
Rare earth elements may not be totally soluble in MS61 method.
Detection limits on samples requiring dilutions for Hg-CV41 due to inteferences or high concentration levels have been increased according to the dilution.
Matrix interference in samples that are highly mineralized and/or high in Au and Ag (>1000 ppb anf >40 ppm resp.) may cause Hg results to be low biased.

Sample Id.	Hafnium Hf (ppm)	Mercury Hg (ppm)	Indium In (ppm)	Potassium K (ppm)	Lanthanum La (ppm)	Lithium Li (ppm)	Magnesium Mg (ppm)	Manganese Mn (ppm)	Molybdenum Mo (ppm)	Sodium Na (ppm)	Niobium Nb (ppm)	Nickel Ni (ppm)	Phosphorus P (ppm)	Lead Pb (ppm)	Rubidium Rb (ppm)	Rhenium Re (ppm)
Method	ME-MS61	Hg-CV41	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
MDL	0.1	0.01	0.005	100	0.5	0.2	100	5	0.05	100	0.1	0.2	10	0.5	0.1	0.002
Crustal Abundance: From	0.3	0.03	0.01	40	10	5	1600	390	0.2	400	0.3	2	170	1	0.2	NA
Crustal Abundance: To	11	0.4	0.26	48000	115	66	47000	6700	27	40400	35	225	1500	80	170	NA
547460	0.8	1.08	0.396	13200	16	11.6	14600	708	292	21800	7	56.8	1270	13.9	57.1	0.468
547461	0.6	0.4	0.38	18400	11.7	36.9	7200	7870	58.8	400	5.4	53.3	1210	159.5	92.7	0.159
547462	0.8	0.02	0.294	16900	19.1	27	16100	191	45.2	29500	5.7	42	1570	11.3	59.6	0.073
547463	1.6	0.6	0.139	4700	28.2	43.1	13400	612	4.94	400	6.8	36.8	1380	20.4	13.4	0.008
547464	0.4	0.62	0.121	21800	19.8	34.9	8900	321	38.2	16500	4.8	96.5	780	12.6	50.4	0.105
547465	0.6	0.47	0.24	13500	11.9	34	11800	341	167	32900	5.2	114.5	1300	11.4	41.2	0.278
547466	0.5	0.02	0.511	18000	12.8	26.6	24100	171	71.3	27900	6.1	81.4	1530	7.3	60.2	0.157
547467	0.8	0.02	0.284	17000	19.3	28.8	20100	152	33.8	27900	4.6	58.7	1500	7.6	59.7	0.066
547468	0.7	0.37	0.102	12600	12.5	25.4	9200	254	113	22000	3.1	110	540	7.4	37.2	0.118
547469	0.7	0.11	0.411	16500	23.3	14.6	12300	293	210	24200	6.2	76.6	1440	11.1	45.4	0.523
547470	0.8	0.49	0.128	13500	12.8	29	9100	386	110.5	12200	6	62.3	1350	7	34.4	0.276
547471	0.8	0.74	0.228	2800	13	29.1	9200	447	6.91	500	5.3	44.2	1430	7	6	0.013
547472	1	0.74	0.022	5100	21.4	23.1	10600	292	1.64	600	8	42.8	1450	6.7	3.9	0.005
547473	1	0.03	0.105	10900	16.8	12.5	18100	376	1.51	36300	6.9	42.8	1350	8	13.9	0.003
547474	1.3	1.27	0.086	6000	12.6	14.5	15900	462	5.66	36500	6.7	46.6	1290	10.4	12.1	0.012
547475	0.6	0.01	0.215	13900	15.1	19	20700	290	12.35	32200	7.1	46.6	1350	6	42	0.026
547476	1	1.49	0.085	18700	14.4	58.9	2400	80	1.51	4200	5.7	53.3	190	8.5	65.1	0.002
547477	0.7	0.28	0.031	19800	26.1	63.6	3000	83	3.14	5600	4.3	42.2	260	4.1	70.6	0.002
547478	1.3	0.31	0.489	15200	7.1	18.3	15500	599	94.4	16300	4.3	70.6	1470	53.5	55.1	0.225
547479	0.8	0.13	0.023	12600	23.7	61.2	2800	44	1.45	9900	5	26.3	130	4.9	44.6	0.002
547480	1.4	0.27	0.117	700	21.6	35.8	11500	206	56.2	300	4.2	55.7	1360	8.9	1.2	0.128
547481	0.8	0.09	0.099	13100	13.7	35.2	9700	249	57.8	10700	3.1	74.2	290	28.7	33	0.108
547482	1.1	0.09	0.235	13200	18.1	37.9	10400	350	84.5	13800	5.5	107	730	9.9	34.3	0.133
547483	1.5	0.09	0.158	10600	19.4	20	16100	953	23.2	22100	5.6	58.9	1250	14.5	24.3	0.03
547484	1	0.02	0.269	9700	14.5	9.1	14000	381	2.56	32200	6.7	35.1	1310	9.2	28.4	0.004
547485	0.7	0.74	0.758	12700	15.1	13.9	17300	714	0.99	26500	6.9	42.2	1240	13.7	34.6	*0.001*
547486	0.9	0.1	0.082	16500	14.6	18.6	14600	354	4.12	32600	6.8	35.3	1130	12.5	35	*0.001*
547487	0.6	1.7	0.37	6900	22.8	11.1	13800	378	1.3	33600	7.3	41	1250	9.1	17.1	*0.001*
547488	1.2	0.01	0.082	17600	21.8	23.4	19200	564	50.1	22600	7.2	76.9	1580	6.8	65.4	0.087
547489	0.3	0.99	0.135	6200	8.7	17.3	1200	2550	18.15	200	2.2	42.1	320	52.6	28.3	0.051
547490	0.2	23.1	0.258	4800	7.7	31.6	4200	8340	0.63	200	2.5	38.3	580	2930	18.3	0.003
547491	0.4	1.64	0.19	2300	10.8	27.3	4700	5470	4.87	100	4.7	39.9	720	99.2	8.3	0.013
547492	1.2	0.16	0.041	22700	19.9	11.2	1900	48	2.08	2000	9.4	33.1	130	11.4	90.8	*0.001*
547493	0.6	0.19	0.565	3900	15.2	30.4	7800	1220	0.57	300	7.3	114.5	1400	5.2	12.3	*0.001*
547494	1.4	0.1	0.036	20300	16.9	29.6	13600	783	8.75	17000	4	56.9	1160	7.3	78.3	*0.001*
547495	0.3	3.42	0.06	900	11.9	25	3300	4880	0.55	200	4.8	60	1050	9.4	4.2	*0.001*
547496	2.3	0.21	0.05	9700	14.3	26.5	9400	120	7.5	300	4.9	256	1980	16.9	22.5	*0.001*
547497	1.4	0.69	0.061	14600	16.7	27.3	1800	2700	2.29	2000	6.9	74.1	530	13.3	59.7	*0.001*
547498	0.7	0.07	0.146	11800	17	22.3	19000	623	0.49	25200	7.5	49.3	1520	5.4	34.4	*0.001*
547499	0.4	0.25	0.084	13500	14.9	28	15200	318	0.91	19700	6.8	44.7	1260	6.7	33.9	*0.001*
547500	0.9	0.01	0.05	17300	16.6	18.3	30300	584	0.7	27300	6.8	89.9	1500	5.3	46.7	*0.001*
F46 1800 ROUGHER SCAV TAIL (HC Con	0.7	0.1	0.089	13800	20.8	17.6	15900	322	13.8	28000	6.6	151.5	1130	10.2	39.1	0.014
F47 1800 ROUGHER SCAV TAIL (HC Con	0.6	0.98	0.145	6500	17.3	24.8	8100	2290	10.45	2200	5.5	112.5	1240	65.1	19.4	0.014

F53:1CL SCTL C1
F53:1CL SCTL C2
F53:1CL SCTL C3
F53:1CL SCTL C4
F53:1CL SCTL C5
F53:RO SCTL C1
F53:RO SCTL C2
F53:RO SCTL C3
F53:RO SCTL C4

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ICP Metals Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
Rare earth elements may not be totally soluble in MS61 method.
Detection limits on samples requiring dilutions for Hg-CV41 due to inteferences or high concentration levels have been increased according to the dilution.
Matrix interference in samples that are highly mineralized and/or high in Au and Ag (>1000 ppb anf >40 ppm resp.) may cause Hg results to be low biased.

Sample Id.	Hafnium Hf (ppm)	Mercury Hg (ppm)	Indium In (ppm)	Potassium K (ppm)	Lanthanum La (ppm)	Lithium Li (ppm)	Magnesium Mg (ppm)	Manganese Mn (ppm)	Molybdenum Mo (ppm)	Sodium Na (ppm)	Niobium Nb (ppm)	Nickel Ni (ppm)	Phosphorus P (ppm)	Lead Pb (ppm)	Rubidium Rb (ppm)	Rhenium Re (ppm)
Method	ME-MS61	Hg-CV41	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
MDL	0.1	0.01	0.005	100	0.5	0.2	100	5	0.05	100	0.1	0.2	10	0.5	0.1	0.002
Crustal Abundance: From	0.3	0.03	0.01	40	10	5	1600	390	0.2	400	0.3	2	170	1	0.2	NA
Crustal Abundance: To	11	0.4	0.26	48000	115	66	47000	6700	27	40400	35	225	1500	80	170	NA
F53:RO SCTL C5																
F46 Bulk Ro.Sc.Tails Cyc 3+4+5																
F47 Bulk Ro.Sc.Tails Cyc 3+4+5																
F48 Bulk Ro.Sc.Tails Cyc 3+4+5																
F51 Bulk Ro.Sc.Tails Cyc 3+4+5																
F52 Bulk Ro.Sc.Tails Cyc 3+4+5																
F46 1st Cl.ScTails Cyc 3+4+5																
F47 1st Cl.ScTails Cyc 3+4+5																
F48 1st Cl.ScTails Cyc 3+4+5																
F51 1st Cl.ScTails Cyc 3+4+5																
F52 1st Cl.ScTails Cyc 3+4+5																
Maximum	2.7	23.1	4.13	35200	58.2	120	33200	8340	824	46700	11.8	256	10000	2930	118	1.71
Minimum	0.2	0.005	0.014	300	2.2	6.7	300	18	0.47	100	0.9	19.7	70	1.5	0.3	0.001
Mean	1	0.5	0.2	12591	20.4	27.4	11531	607	39.1	14178	5.97	64.6	1060	31.5	40.3	0.074
Standard Deviation	0.46	1.27	0.24	6529	7.36	14	6208	1036	69.7	12946	1.87	27.7	847	182	24.2	0.15
10 Percentile	0.5	0.01	0.041	2420	12.5	12.8	3600	156	1.15	300	3.52	37	250	4.92	8.54	0.001
25 Percentile	0.7	0.04	0.081	7600	15.5	17.7	6400	222	2.77	600	4.7	44	470	6.5	22.2	0.005
Median	0.9	0.18	0.14	13300	19.7	25.3	10800	328	14.6	10800	6.2	58.2	1190	8.5	39.1	0.028
75 Percentile	1.3	0.54	0.26	17200	24.3	33.5	16600	536	47	27300	7.3	77.9	1380	12.6	55.3	0.087
90 Percentile	1.6	1.3	0.42	20900	28.9	42.5	19800	922	87.7	31380	8.08	103	1568	26.2	72.4	0.16
Interquartile Range (IQR) [1]	0.6	0.5	0.18	9600	8.8	15.8	10200	314	44.2	26700	2.6	33.9	910	6.1	33.1	0.082
Variance	0.21	1.6	0.059	42631489	54.2	197	38534015	1074210	4859	167596773	3.48	765	717620	33279	586	0.023
Skewness	0.88	12.3	9.13	-0.077	1.12	1.97	0.33	4.74	5.05	0.28	-0.24	1.58	6.32	12.9	0.5	6.21
Coefficient of Variation (CoV) [2]	0.46	2.53	1.2	0.52	0.36	0.51	0.54	1.71	1.78	0.91	0.31	0.43	0.8	5.8	0.6	2.05
Count	493	493	493	493	493	493	493	493	493	493	493	493	493	493	493	493

27.9 NOTE: if data is boxed, then data is 3 times the maximum crustal abundance.

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
NOTE: If data was reported as < detection limit half the detection limit is shown in italics and was used in subsequent calculations.
NOTE: If data was reported as > detection limit the detection limit is shown in bold and was used in subsequent calculations.

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ICP Metals Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
Rare earth elements may not be totally soluble in MS61 method.

Sample Id.	Sulphur S (ppm)	Antimony Sb (ppm)	Scandium Sc (ppm)	Selenium Se (ppm)	Tin Sn (ppm)	Strontium Sr (ppm)	Tantalum Ta (ppm)	Tellurium Te (ppm)	Thorium Th (ppm)	Titanium Ti (ppm)	Thallium Tl (ppm)	Uranium U (ppm)	Vanadium V (ppm)	Tungsten W (ppm)	Yttrium Y (ppm)	Zinc Zn (ppm)	Zirconium Zr (ppm)
Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
MDL	100	0.05	1	1	0.2	0.2	0.05	0.05	0.2	50	0.02	0.1	1	0.1	0.1	2	0.5
Crustal Abundance: From	240	0.1	NA	0.05	0.5	1	0.8	NA	0.004	300	0.16	0.45	20	0.6	20	16	19
Crustal Abundance: To	2400	1.5	NA	0.6	6	2000	4.2	NA	17	13800	2.3	3.7	250	2.2	90	165	500
547460	12800	3.5	13	4	3.9	910	0.39	0.55	5.3	4520	0.61	1.4	131	1.9	15.9	124	24.4
547461	27700	13.35	8.5	3	3.3	989	0.34	0.14	5.3	3960	0.8	1.8	117	26.9	9.4	701	18.6
547462	15600	0.79	9.4	4	2	762	0.36	0.07	6.1	3970	0.72	2.4	115	0.7	8.8	84	25.7
547463	16500	2.64	10.3	3	2.4	167.5	0.42	*0.025*	6.9	4290	0.56	3.2	113	2.2	11.4	181	52.3
547464	10400	1.55	20.7	3	1.6	407	0.34	0.05	6.7	3140	1.16	2.3	168	0.6	11.9	56	16.4
547465	18400	0.4	21.2	4	2.1	484	0.34	0.11	6.6	3610	0.58	2.1	170	1	10.8	66	22.7
547466	16800	0.17	13	5	3.4	673	0.36	0.09	5.8	4420	0.66	1.4	150	0.3	9.1	67	14.9
547467	13300	0.24	12	4	1.7	1100	0.27	0.07	6.4	3900	0.63	1.9	132	0.3	10.8	51	24.1
547468	13300	0.71	18.8	3	1.2	348	0.2	0.09	4.6	2290	0.5	1.7	148	1.2	10.8	45	27.4
547469	12000	0.88	16.1	3	2.6	443	0.4	0.1	7.8	3880	0.42	1.8	149	0.6	17.8	60	22.7
547470	8800	1.5	17.3	2	1.7	329	0.4	0.06	5.7	3650	0.6	1.9	133	1.8	12.5	44	27
547471	30700	5.3	6.8	3	1.1	131.5	0.33	0.23	4.4	4130	0.54	2	111	0.6	7.1	89	22.6
547472	4000	3.92	10.4	2	0.7	96.5	0.47	*0.025*	6.1	4480	0.52	2.3	119	0.3	9.7	92	32
547473	1100	0.27	10.2	2	1.4	955	0.42	*0.025*	6	4400	0.14	1.5	119	0.2	10.1	80	30.5
547474	6400	0.34	10.2	2	2.7	976	0.42	*0.025*	6	4240	0.31	2.1	111	0.6	11.9	63	42.3
547475	8800	0.47	10.9	3	2.3	693	0.4	0.05	5.7	4530	0.4	1.1	127	0.2	11.2	87	19.2
547476	25300	1.99	17.3	2	1.6	138.5	0.32	0.27	4.4	4750	3.33	1.3	155	2.6	7.7	19	39.6
547477	10300	1.73	23.4	2	0.9	184.5	0.26	0.15	3.8	4110	1.46	1.2	176	1.8	10.2	10	26.8
547478	16300	1.62	12.1	4	3.6	1070	0.26	0.51	5.8	3560	0.71	2.8	125	3.3	11	277	49.2
547479	8700	0.98	23.7	2	1.4	209	0.3	0.11	4.4	4510	1.18	1.3	164	3.6	8.5	14	31
547480	13100	3.09	10.9	3	1.7	275	0.27	*0.025*	5.4	3920	0.17	2.2	120	3.4	8.5	76	47.7
547481	10200	2.14	18	2	1.5	263	0.2	0.06	4.2	2490	0.56	1.2	137	1.5	10.7	139	28.3
547482	4700	1.55	16.3	2	1.6	288	0.39	0.11	6.5	2990	0.4	2.3	128	1.8	14.7	114	40.2
547483	18800	1.92	10.7	3	2.6	617	0.34	0.48	4.9	3600	0.74	2.4	110	1.9	11.1	103	53
547484	5800	1.38	9.6	2	2.3	955	0.39	*0.025*	6.1	4310	0.19	2	106	0.3	9.8	70	34.4
547485	11300	2.46	10.1	4	2.2	691	0.41	0.2	5.4	4200	0.47	0.9	112	0.5	9.7	92	17.6
547486	2700	0.96	8.3	1	1.1	716	0.42	0.07	5.7	3830	0.19	1.9	96	0.4	8.4	101	24.5
547487	10800	1.28	10.1	3	2.5	1830	0.45	0.09	5.8	4320	0.58	1	108	0.3	11.1	165	15.3
547488	16000	0.42	11.4	4	2	790	0.44	0.05	5.4	4480	0.75	2.4	122	0.5	10.7	86	39.2
547489	14000	7.57	5.6	3	2	236	0.16	*0.025*	2	1190	0.31	0.6	47	0.9	5.5	462	8.4
547490	25800	187.5	4.2	6	1.3	347	0.15	0.26	2.3	1620	1.01	0.4	47	1.9	3.9	15400	5.8
547491	8500	5.5	8.4	2	1.3	265	0.29	0.05	4.5	3250	0.34	0.8	93	0.5	5.8	246	9.9
547492	2000	1.54	19.3	2	1.9	66.9	0.63	*0.025*	5.9	4540	1.3	2.1	151	1.3	19	70	42.1
547493	12200	2.91	11.9	4	3.8	20.7	0.41	0.15	5.8	4640	0.33	1.3	125	0.4	8.9	352	17.4
547494	14000	2.19	14.2	3	1.4	439	0.24	0.05	6.2	3450	1.08	3.3	134	0.7	8	45	48.2
547495	6500	10.15	7.3	2	0.7	341	0.3	0.09	4.4	3020	0.57	0.6	84	0.5	8.3	289	7
547496	24100	1.22	14.1	5	2.1	63.9	0.28	0.07	6.8	4440	0.65	4.7	159	1.2	12.3	283	71.2
547497	5400	3.22	16.6	2	1.6	337	0.45	*0.025*	5.5	3840	0.8	2.1	129	1.4	15.8	879	52
547498	5000	17.45	11	2	1.9	595	0.42	0.08	6	4650	0.59	0.8	116	0.3	9.6	127	19
547499	6100	0.6	10.3	2	1.1	649	0.41	0.06	5.9	4230	0.43	0.8	106	0.7	8.5	71	10.6
547500	5100	0.57	15.8	2	1.3	747	0.4	*0.025*	4.9	5290	0.33	1.1	157	0.6	11.5	93	28.8
F46 1800 ROUGHER SCAV TAIL (HC Con	2200	1.13		2	2	708	0.43	0.05	5.4	4130	0.39	1.3	124	2.7	12.2	75	19.2
F47 1800 ROUGHER SCAV TAIL (HC Con	10900	9.15		3	1.8	325	0.36	0.17	5	3670	0.5	1.2	105	4.1	9.4	413	16.6

F53:1CL SCTL C1
F53:1CL SCTL C2
F53:1CL SCTL C3
F53:1CL SCTL C4
F53:1CL SCTL C5
F53:RO SCTL C1
F53:RO SCTL C2
F53:RO SCTL C3
F53:RO SCTL C4

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **ICP Metals Data**
Comments: Samples collected by Pacific Booker Minerals personnel.
Rare earth elements may not be totally soluble in MS61 method.

Sample Id.	Sulphur S (ppm)	Antimony Sb (ppm)	Scandium Sc (ppm)	Selenium Se (ppm)	Tin Sn (ppm)	Strontium Sr (ppm)	Tantalum Ta (ppm)	Tellurium Te (ppm)	Thorium Th (ppm)	Titanium Ti (ppm)	Thallium Tl (ppm)	Uranium U (ppm)	Vanadium V (ppm)	Tungsten W (ppm)	Yttrium Y (ppm)	Zinc Zn (ppm)	Zirconium Zr (ppm)
Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
MDL	100	0.05	1	1	0.2	0.2	0.05	0.05	0.2	50	0.02	0.1	1	0.1	0.1	2	0.5
Crustal Abundance: From	240	0.1	NA	0.05	0.5	1	0.8	NA	0.004	300	0.16	0.45	20	0.6	20	16	19
Crustal Abundance: To	2400	1.5	NA	0.6	6	2000	4.2	NA	17	13800	2.3	3.7	250	2.2	90	165	500
F53:RO SCTL C5																	
F46 Bulk Ro.Sc.Tails Cyc 3+4+5																	
F47 Bulk Ro.Sc.Tails Cyc 3+4+5																	
F48 Bulk Ro.Sc.Tails Cyc 3+4+5																	
F51 Bulk Ro.Sc.Tails Cyc 3+4+5																	
F52 Bulk Ro.Sc.Tails Cyc 3+4+5																	
F46 1st Cl.ScTails Cyc 3+4+5																	
F47 1st Cl.ScTails Cyc 3+4+5																	
F48 1st Cl.ScTails Cyc 3+4+5																	
F51 1st Cl.ScTails Cyc 3+4+5																	
F52 1st Cl.ScTails Cyc 3+4+5																	
Maximum	94100	379	29.2	13	9.8	4330	0.76	8.02	9.1	7120	5.66	5	212	26.9	36.4	15400	85.5
Minimum	300	0.1	4.2	0.5	0.6	19.9	0.025	0.025	1.4	570	0.05	0.4	33	0.1	3.1	9	4.1
Mean	11143	4.84	13.6	3.31	2.04	516	0.38	0.15	5.5	3799	0.65	1.76	131	1.34	11.1	181	30.4
Standard Deviation	7876	24.3	4.85	1.54	1	444	0.13	0.44	1.17	1007	0.53	0.71	28.4	1.81	3.5	770	15.6
10 Percentile	4000	0.38	8.5	1.2	1.1	104	0.21	0.025	4.1	2432	0.25	0.9	99	0.3	7.9	40	13
25 Percentile	6200	0.65	10	2	1.4	192	0.29	0.05	4.9	3250	0.34	1.2	114	0.5	9.2	58	18.6
Median	9500	1.56	11.9	3	1.9	401	0.39	0.08	5.6	4020	0.54	1.7	128	0.9	10.8	80	26.8
75 Percentile	14100	3.12	17.1	4	2.4	762	0.46	0.13	6.2	4440	0.77	2.2	149	1.7	12.5	138	40.2
90 Percentile	19840	5.49	21.1	5	3.1	945	0.51	0.23	6.88	4830	1.16	2.6	168	2.8	14.7	254	52.9
Interquartile Range (IQR) [1]	7900	2.47	7.1	2	1	570	0.17	0.08	1.3	1190	0.43	1	35	1.2	3.3	80	21.6
Variance	62027616	590	23.5	2.36	0.99	197528	0.016	0.19	1.38	1014641	0.28	0.51	809	3.26	12.3	592435	243
Skewness	3.69	11.6	0.72	0.92	2.71	2.66	-0.15	14	-0.37	-0.78	4.19	0.71	0.0045	7.65	2.06	16.7	0.79
Coefficient of Variation (CoV) [2]	0.71	5.02	0.36	0.46	0.49	0.86	0.33	3	0.21	0.27	0.81	0.4	0.22	1.35	0.31	4.26	0.51
Count	493	493	329	493	493	493	493	493	493	493	493	493	493	493	493	493	493

27.9 NOTE: if data is boxed, then data is 3 times the maximum crustal abundance.

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
NOTE: If data was reported as < detection limit half the detection limit is shown in italics and was used in subsequent calculations.
NOTE: If data was reported as > detection limit the detection limit is shown in bold and was used in subsequent calculations.

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **Whole Rock by XRF**
Comments: Samples collected by Pacific Booker Minerals personnel.
Low totals for the LC tailings samples are due to high sulphur content.

Sample Id.	Al_2O_3 (%)	BaO (%)	CaO (%)	Cr_2O_3 (%)	Fe_2O_3 (%)	K_2O (%)	MgO (%)	MnO (%)	Na_2O (%)	P_2O_5 (%)	SiO_2 (%)	SrO (%)	TiO_2 (%)	LOI (%)	Total (%)
Method	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06
MDL	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		
547460	15.35	0.23	4.96	0.01	5.52	1.57	2.45	0.09	2.84	0.26	58.5	0.1	0.82	5.72	98.42
547461	14.09	0.01	0.83	*0.005*	12.97	2.21	1.33	0.99	0.1	0.24	52.85	0.09	0.74	11.85	98.31
547462	16.28	0.09	3.55	*0.005*	5.51	1.96	2.62	0.01	3.71	0.3	59.73	0.08	0.88	3.59	98.32
547463	15.85	0.02	3.63	0.01	6.18	0.55	2.32	0.07	0.09	0.27	56.45	0.02	0.76	12	98.22
547464	18.18	0.32	2.41	0.02	5.37	2.65	1.6	0.03	2.26	0.16	56.34	0.05	0.89	8.14	98.42
547465	17.52	0.12	2.96	0.03	6.57	1.58	1.93	0.04	4.2	0.25	55.38	0.05	0.82	6.84	98.29
547466	14.83	0.08	3.33	0.03	6.25	2.08	3.92	0.02	3.53	0.3	59.53	0.07	0.84	3.65	98.46
547467	15.86	0.07	3.55	0.02	5.15	2.02	3.31	0.01	3.61	0.3	59.29	0.12	0.83	4.65	98.79
547468	16.07	0.11	2.8	0.02	4.48	1.55	1.62	0.02	2.96	0.12	60.09	0.04	0.99	7.3	98.17
547469	16.36	0.12	2.81	0.01	5.25	1.97	2.09	0.03	3.18	0.29	59.89	0.05	0.86	5.12	98.03
547470	15.78	0.14	2.8	0.01	4.59	1.58	1.54	0.04	1.55	0.26	61.02	0.04	0.87	7.9	98.12
547471	16.35	0.01	2.96	*0.005*	7.42	0.35	1.71	0.05	0.11	0.29	55.47	0.02	0.77	12.7	98.22
547472	17.05	0.05	5.87	0.01	4.92	0.65	2.03	0.03	0.13	0.3	53.46	0.01	0.82	13.25	98.58
547473	16.07	0.09	4.88	*0.005*	4.09	1.25	2.87	0.04	4.47	0.26	61.69	0.1	0.74	1.72	98.28
547474	15.87	0.04	5.57	*0.005*	3.86	0.69	2.61	0.05	4.66	0.25	59.3	0.11	0.82	4.85	98.69
547475	15.22	0.06	3.48	0.01	5.53	1.6	3.35	0.03	4.04	0.26	61.03	0.07	0.81	2.96	98.45
547476	22.54	0.05	0.23	*0.005*	5.88	2.41	0.59	*0.005*	0.63	0.04	58.45	0.02	1.33	7.19	99.37
547477	22.12	0.07	0.34	0.01	3.98	2.53	0.68	*0.005*	0.81	0.06	61.49	0.02	1.25	6.02	99.39
547478	15.37	0.18	3.88	0.01	5.29	1.81	2.61	0.07	2.14	0.29	57.79	0.11	0.89	8.04	98.48
547479	22.06	0.06	0.22	0.01	2.65	1.58	0.61	*0.005*	1.4	0.03	63.61	0.03	1.32	4.62	98.21
547480	15.72	*0.005*	4.2	*0.005*	4.89	0.09	2.09	0.02	0.09	0.28	58.22	0.03	0.87	11.5	98.01
547481	18.93	0.06	2.84	0.02	2.71	1.62	1.78	0.02	1.48	0.06	58.97	0.03	1.03	8.9	98.45
547482	17.25	0.07	2.44	0.01	3.86	1.66	1.89	0.04	1.95	0.16	60.41	0.04	0.82	7.92	98.52
547483	15.16	0.12	4.28	0.01	6.22	1.3	2.8	0.12	2.92	0.25	56.95	0.07	0.69	7.32	98.21
547484	15.45	0.74	4.83	*0.005*	4.12	1.15	2.28	0.04	4.11	0.26	59.06	0.1	0.77	5.74	98.66
547485	14.98	0.13	4.31	*0.005*	5.76	1.51	2.87	0.09	3.49	0.25	58.57	0.08	0.74	5.32	98.11
547486	15.68	0.12	3.94	*0.005*	5.05	1.97	2.42	0.04	4.24	0.23	61.45	0.08	0.74	2.22	98.19
547487	15.26	0.3	5.53	*0.005*	4.8	0.81	2.26	0.04	4.28	0.25	58.97	0.2	0.75	4.83	98.29
547488	15.69	0.45	3.08	0.01	7.73	2.08	3.26	0.07	2.97	0.31	57.65	0.08	0.79	4.07	98.24
547489	5.82	0.02	0.11	*0.005*	5.49	0.77	0.32	0.33	0.09	0.07	80.78	0.03	0.26	4.52	98.62
547490	6.23	0.02	0.27	*0.005*	11.57	0.58	0.83	1.02	0.51	0.12	67.5	0.04	0.34	9.18	98.22
547491	11.67	*0.005*	1.15	0.01	10.33	0.27	0.92	0.69	0.07	0.15	61.45	0.03	0.58	10.75	98.08
547492	15.62	0.16	0.03	0.01	1.23	2.97	0.47	*0.005*	0.34	0.03	72.8	0.01	0.99	3.5	98.17
547493	16.47	0.02	0.65	0.01	9.69	0.49	1.51	0.16	0.11	0.31	57.28	*0.005*	0.83	10.7	98.24
547494	16.95	0.09	1.45	0.01	6.75	2.49	2.38	0.1	2.29	0.24	59.4	0.05	0.86	5.16	98.22
547495	11.75	0.01	0.62	*0.005*	13.32	0.11	0.7	0.64	0.07	0.22	58.13	0.03	0.52	12.05	98.18
547496	21.3	0.04	0.61	0.01	5.7	1.32	1.98	0.01	0.09	0.4	56.58	0.01	1.13	9.39	98.57
547497	13.23	0.1	0.18	0.01	6.76	1.82	0.43	0.35	0.34	0.11	67.49	0.04	0.73	6.61	98.20
547498	14.71	0.31	2.76	0.01	8.93	1.37	3.08	0.07	3.22	0.29	58.22	0.06	0.78	4.47	98.28
547499	15.78	0.56	3.43	0.01	5.35	1.63	2.51	0.04	2.56	0.25	59.35	0.07	0.74	5.91	98.19
547500	15.32	0.21	5.13	0.03	7.4	2.03	5.02	0.07	3.52	0.3	54.92	0.08	0.95	3.3	98.28
F46 1800 ROUGHER SCAV TAIL (HC Con	15.22	0.19	3.86	0.04	4.21	1.69	2.65	0.04	3.77	0.23	62.49	0.08	0.76	3.62	98.85
F47 1800 ROUGHER SCAV TAIL (HC Con	14.34	0.1	2.78	0.02	7.65	0.86	1.58	0.32	0.25	0.27	59.66	0.04	0.71	9.72	98.30
F53:1CL SCTL C1	17.27	0.16	3.75		5.34	1.68	2.65	0.1	2.6	0.2	56.73		0.86	6.87	98.21
F53:1CL SCTL C2	17.32	0.16	3.93		5.49	1.67	2.7	0.11	2.44	0.22	56.18		0.83	7.37	98.42
F53:1CL SCTL C3	17.13	0.17	3.88		6.16	1.65	2.62	0.1	2.43	0.21	55.67		0.83	7.2	98.05
F53:1CL SCTL C4	17.23	0.17	3.89		6.56	1.68	2.62	0.1	2.37	0.21	54.65		0.83	7.41	97.72
F53:1CL SCTL C5	15.68	0.15	3.54		11.88	1.55	2.43	0.1	2.16	0.27	49.47		0.76	9.85	97.84
F53:RO SCTL C1	14.33	0.12	3.43		4.36	1.43	2.21	0.1	2.98	0.24	64.29		0.72	4.55	98.76
F53:RO SCTL C2	14.3	0.12	3.5		4.53	1.4	2.24	0.12	2.83	0.24	63.46		0.72	4.89	98.35
F53:RO SCTL C3	14.42	0.12	3.46		4.43	1.43	2.27	0.1	2.87	0.27	63.49		0.72	4.97	98.55
F53:RO SCTL C4	14.38	0.12	3.45		4.4	1.44	2.22	0.1	2.92	0.24	63.89		0.73	4.68	98.57

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **Whole Rock by XRF**
Comments: Samples collected by Pacific Booker Minerals personnel.
Low totals for the LC tailings samples are due to high sulphur content.

Sample Id.	Al_2O_3 (%)	BaO (%)	CaO (%)	Cr_2O_3 (%)	Fe_2O_3 (%)	K_2O (%)	MgO (%)	MnO (%)	Na_2O (%)	P_2O_5 (%)	SiO_2 (%)	SrO (%)	TiO_2 (%)	LOI (%)	Total (%)
Method	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06
MDL	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		
F53:RO SCTL C5	14.31	0.12	3.43		4.36	1.43	2.22	0.11	2.95	0.31	64.09		0.72	4.47	98.52
F46 Bulk Ro.Sc.Tails Cyc 3+4+5															
F47 Bulk Ro.Sc.Tails Cyc 3+4+5															
F48 Bulk Ro.Sc.Tails Cyc 3+4+5															
F51 Bulk Ro.Sc.Tails Cyc 3+4+5															
F52 Bulk Ro.Sc.Tails Cyc 3+4+5															
F46 1st Cl.ScTails Cyc 3+4+5															
F47 1st Cl.ScTails Cyc 3+4+5															
F48 1st Cl.ScTails Cyc 3+4+5															
F51 1st Cl.ScTails Cyc 3+4+5															
F52 1st Cl.ScTails Cyc 3+4+5															
Maximum	27.3	1.04	12.9	0.11	16.1	4.28	5.42	1.05	6.13	3.68	88.3	0.43	1.46	18.2	
Minimum	2.99	0.005	0.03	0.005	0.69	0.05	0.2	0.005	0.005	0.02	39.8	0.005	0.22	1.72	
Mean	16	0.12	2.85	0.016	5.6	1.53	1.98	0.075	1.81	0.23	60.9	0.055	0.82	6.72	
Standard Deviation	2.98	0.13	1.8	0.013	2.09	0.79	0.97	0.14	1.58	0.22	5.71	0.046	0.17	3.41	
10 Percentile	13.6	0.02	0.46	0.005	3.3	0.32	0.7	0.01	0.08	0.06	55.5	0.01	0.65	2.88	
25 Percentile	15.1	0.05	1.24	0.01	4.35	0.92	1.17	0.02	0.13	0.11	57.8	0.02	0.74	3.99	
Median	15.9	0.09	3.11	0.01	5.41	1.61	1.97	0.04	1.53	0.25	60.1	0.04	0.81	5.86	
75 Percentile	16.9	0.14	3.96	0.02	6.5	2.05	2.74	0.07	3.24	0.29	63	0.08	0.89	9.14	
90 Percentile	19.6	0.21	4.83	0.03	7.91	2.54	3.28	0.13	3.92	0.33	67.5	0.1	1.02	11.8	
Interquartile Range (IQR) [1]	1.79	0.09	2.72	0.01	2.15	1.13	1.57	0.05	3.12	0.18	5.14	0.06	0.15	5.16	
Variance	8.89	0.018	3.23	0.00017	4.38	0.63	0.93	0.02	2.51	0.048	32.6	0.0021	0.031	11.6	
Skewness	-0.19	3.65	0.61	3.24	1.25	-0.01	0.26	4.71	0.26	10.1	1.01	2.7	0.092	0.73	
Coefficient of Variation (CoV) [2]	0.19	1.15	0.63	0.81	0.37	0.52	0.49	1.86	0.87	0.96	0.094	0.82	0.21	0.51	
Count	503	503	503	493	503	503	503	503	503	503	503	493	503	503	

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
NOTE: If data was reported as < detection limit half the detection limit is shown in italics and was used in subsequent calculations.

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **QA/QC Data - Comparison on ICP Metals and Whole Rock Analyses**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Whole Rock Al * (ppm)	ICP Al (ppm)	Difference (%) [3]	Whole Rock Ba * (ppm)	ICP Ba (ppm)	Difference (%) [3]	Whole Rock Ca * (ppm)	ICP Ca (ppm)	Difference (%) [3]	Whole Rock Cr * (ppm)	ICP Cr (ppm)	Difference (%) [3]	Whole Rock Fe * (ppm)	ICP Fe (ppm)	Difference (%) [3]
547460	81236	78800	-3.00	2060	1520	-26.21	35449	34700	-2.11	68	49	-28.38	38609	38200	-1.06
547461	74568	77700	4.20	90	110	22.81	5932	6200	4.52	34	47	37.38	90717	97300	7.26
547462	86158	86300	0.16	806	790	-2.00	25372	26200	3.27	34	32	-6.46	38539	40000	3.79
547463	83883	85700	2.17	179	210	17.23	25943	27000	4.07	68	58	-15.23	43225	45300	4.80
547464	96213	90600	-5.83	2866	2650	-7.54	17224	17100	-0.72	137	112	-18.15	37560	37600	0.11
547465	92721	91100	-1.75	1075	1040	-3.24	21155	21400	1.16	205	112	-45.44	45953	46700	1.63
547466	78484	77100	-1.76	717	600	-16.26	23799	24000	0.84	205	80	-61.03	43715	44100	0.88
547467	83935	81400	-3.02	627	630	0.48	25372	25500	0.51	137	65	-52.50	36021	35300	-2.00
547468	85047	80100	-5.82	985	900	-8.65	20011	19700	-1.56	137	118	-13.77	31335	31400	0.21
547469	86582	84000	-2.98	1075	990	-7.89	20083	20100	0.09	68	88	28.62	36720	36600	-0.33
547470	83512	84900	1.66	1254	1320	5.27	20011	21500	7.44	68	110	60.77	32104	34300	6.84
547471	86529	85400	-1.30	90	120	33.98	21155	21300	0.69	34	32	-6.46	51898	53200	2.51
547472	90233	82900	-8.13	448	410	-8.45	41952	40700	-2.99	68	61	-10.85	34412	34500	0.25
547473	85047	88500	4.06	806	820	1.73	34877	36400	4.37	34	52	52.00	28607	29400	2.77
547474	83988	83000	-1.18	358	370	3.28	39808	39500	-0.77	34	53	54.92	26998	27100	0.38
547475	80548	83700	3.91	537	490	-8.82	24871	26100	4.94	68	72	5.23	38679	39600	2.38
547476	119288	106500	-10.72	448	450	0.48	1644	1600	-2.66	34	59	72.46	41127	40200	-2.25
547477	117065	107500	-8.17	627	520	-17.06	2430	2300	-5.35	68	69	0.85	27838	26900	-3.37
547478	81342	79300	-2.51	1612	1470	-8.82	27730	28100	1.33	68	77	12.54	37000	38100	2.97
547479	116748	109500	-6.21	537	490	-8.82	1572	1600	1.76	68	57	-16.69	18535	18300	-1.27
547480	83195	80200	-3.60	45	40	-10.68	30017	29800	-0.72	34	65	90.00	34202	34500	0.87
547481	100183	89100	-11.06	537	470	-12.54	20297	19500	-3.93	137	118	-13.77	18955	18700	-1.34
547482	91292	83300	-8.75	627	600	-4.30	17439	16600	-4.81	68	110	60.77	26998	26200	-2.96
547483	80231	75400	-6.02	1075	990	-7.89	30589	30600	0.04	68	67	-2.08	43505	42600	-2.08
547484	81766	78100	-4.48	6628	5290	-20.19	34520	34400	-0.35	34	48	40.31	28817	28600	-0.75
547485	79278	74700	-5.77	1164	1030	-11.54	30803	30300	-1.63	34	61	78.31	40288	38800	-3.69
547486	82983	80400	-3.11	1075	990	-7.89	28159	28400	0.86	34	46	34.46	35322	35100	-0.63
547487	80760	80100	-0.82	2687	2470	-8.07	39523	38900	-1.58	34	54	57.85	33573	33300	-0.81
547488	83036	83400	0.44	4030	1450	-64.02	22013	22200	0.85	68	81	18.38	54066	53700	-0.68
547489	30801	30300	-1.63	179	120	-33.01	786	900	14.48	34	55	60.77	38399	39500	2.87
547490	32971	33400	1.30	179	110	-38.59	1930	2000	3.64	34	31	-9.38	80925	83400	3.06
547491	61761	61800	0.06	45	30	-33.01	8219	8000	-2.66	68	92	34.46	72252	73900	2.28
547492	82665	77600	-6.13	1433	1320	-7.89	214	200	-6.72	68	102	49.08	8603	8600	-0.04
547493	87164	86100	-1.22	179	170	-5.10	4646	4300	-7.44	68	85	24.23	67775	68900	1.66
547494	89704	85800	-4.35	806	770	-4.48	10363	9500	-8.33	68	76	11.08	47212	46700	-1.08
547495	62184	62100	-0.14	90	40	-55.34	4431	4400	-0.70	34	47	37.38	93165	98300	5.51
547496	112725	102000	-9.51	358	340	-5.10	4360	4000	-8.25	68	84	22.77	39868	39400	-1.17
547497	70017	69700	-0.45	896	850	-5.10	1286	1400	8.83	68	78	14.00	47282	48400	2.36
547498	77849	80900	3.92	2777	2630	-5.28	19726	20100	1.90	68	94	37.38	62460	63300	1.35
547499	83512	82200	-1.57	5016	4690	-6.49	24514	24500	-0.06	68	62	-9.38	37420	37400	-0.05
547500	81078	83400	2.86	1881	1750	-6.96	36664	36200	-1.26	205	151	-26.44	51758	51300	-0.89
F46 1800 ROUGHER SCAV TAIL (HC Con	80548	80200	-0.43	1702	1590	-6.57	27587	28200	2.22	274	205	-25.10	29446	28800	-2.19
F47 1800 ROUGHER SCAV TAIL (HC Con	75891	71000	-6.44	896	780	-12.91	19868	18700	-5.88	137	166	21.31	53507	49500	-7.49
F53:1CL SCTL C1	91398			1433			26801						37350		
F53:1CL SCTL C2	91662			1433			28087						38399		
F53:1CL SCTL C3	90657			1523			27730						43085		
F53:1CL SCTL C4	91186			1523			27802						45883		
F53:1CL SCTL C5	82983			1343			25300						83093		
F53:RO SCTL C1	75838			1075			24514						30495		
F53:RO SCTL C2	75679			1075			25014						31684		
F53:RO SCTL C3	76315			1075			24728						30985		
F53:RO SCTL C4	76103			1075			24657						30775		

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **QA/QC Data - Comparison on ICP Metals and Whole Rock Analyses**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Whole Rock Al * (ppm)	ICP Al (ppm)	Difference (%) [3]	Whole Rock Ba * (ppm)	ICP Ba (ppm)	Difference (%) [3]	Whole Rock Ca * (ppm)	ICP Ca (ppm)	Difference (%) [3]	Whole Rock Cr * (ppm)	ICP Cr (ppm)	Difference (%) [3]	Whole Rock Fe * (ppm)	ICP Fe (ppm)	Difference (%) [3]
F53:RO SCTL C5	75732			1075			24514						30495		
F46 Bulk Ro.Sc.Tails Cyc 3+4+5															
F47 Bulk Ro.Sc.Tails Cyc 3+4+5															
F48 Bulk Ro.Sc.Tails Cyc 3+4+5															
F51 Bulk Ro.Sc.Tails Cyc 3+4+5															
F52 Bulk Ro.Sc.Tails Cyc 3+4+5															
F46 1st Cl.ScTails Cyc 3+4+5															
F47 1st Cl.ScTails Cyc 3+4+5															
F48 1st Cl.ScTails Cyc 3+4+5															
F51 1st Cl.ScTails Cyc 3+4+5															
F52 1st Cl.ScTails Cyc 3+4+5															
Maximum			17.8			119			39.9			146			12.4
Minimum			-23.9			-97.6			-44			-91.6			-19.7
Mean			-3.33			-13.4			0.28			13.5			-1.08
Standard Deviation			5.87			24.4			6.86			43.5			4.74
10 Percentile			-10.8			-44.2			-6.67			-33.7			-6.96
25 Percentile			-6.24			-17.1			-2.66			-18.2			-4.22
Median			-2.93			-7.54			1.03			6.69			-0.93
75 Percentile			0.54			-1.75			4.07			37.4			2.19
90 Percentile			3.33			5.61			6.86			75.4			4.64
Interquartile Range (IQR) [1]			6.78			15.3			6.73			55.5			6.41
Variance			34.5			593			47			1891			22.4
Skewness			-0.5			-0.85			-0.6			0.66			-0.2
Coefficient of Variation (CoV) [2]			-1.76			-1.82			24.7			3.23			-4.38
Count			493			493			493			493			493

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
[3] Difference (%) = (ICP - Whole Rock) * 100 / Whole Rock
* Element calculated from Whole Rock XRF analysis

Al (Whole Rock) = $(Al_2O_3*2*10000*26.98)/(2*26.98+3*16)$
Ba (Whole Rock) = $(BaO*10000*137.34)/(137.34+16)$
Ca (Whole Rock) = $(CaO*10000*40.08)/(40.08+16)$
Cr (Whole Rock) = $(Cr_2O_3*2*10000*52.00)/(2*52.00+3*16)$
Fe (Whole Rock) = $(Fe_2O_3*2*10000*55.85)/(2*55.85+3*16)$

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **QA/QC Data - Comparison on ICP Metals and Whole Rock Analyses**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Whole Rock K * (ppm)	ICP K (ppm)	Difference (%) [3]	Whole Rock Mg * (ppm)	ICP Mg (ppm)	Difference (%) [3]	Whole Rock Mn * (ppm)	ICP Mn (ppm)	Difference (%) [3]	Whole Rock Na * (ppm)	ICP Na (ppm)	Difference (%) [3]	Whole Rock P * (ppm)	ICP P (ppm)	Difference (%) [3]
547460	13033	13200	1.28	14775	14600	-1.19	697	708	1.58	21069	21800	3.47	1135	1270	11.93
547461	18345	18400	0.30	8021	7200	-10.23	7667	7870	2.65	742	400	-46.08	1047	1210	15.53
547462	16270	16900	3.87	15801	16100	1.89	77	191	146.62	27523	29500	7.18	1309	1570	19.93
547463	4566	4700	2.94	13991	13400	-4.23	542	612	12.89	668	400	-40.09	1178	1380	17.12
547464	21998	21800	-0.90	9649	8900	-7.76	232	321	38.16	16766	16500	-1.59	698	780	11.71
547465	13116	13500	2.93	11639	11800	1.38	310	341	10.08	31158	32900	5.59	1091	1300	19.16
547466	17266	18000	4.25	23641	24100	1.94	155	171	10.40	26187	27900	6.54	1309	1530	16.87
547467	16768	17000	1.38	19962	20100	0.69	77	152	96.27	26781	27900	4.18	1309	1500	14.58
547468	12867	12600	-2.07	9770	9200	-5.83	155	254	63.99	21959	22000	0.19	524	540	3.12
547469	16353	16500	0.90	12604	12300	-2.41	232	293	26.11	23591	24200	2.58	1266	1440	13.79
547470	13116	13500	2.93	9287	9100	-2.02	310	386	24.60	11499	12200	6.10	1135	1350	18.99
547471	2905	2800	-3.63	10313	9200	-10.79	387	447	15.44	816	500	-38.73	1266	1430	13.00
547472	5396	5100	-5.48	12242	10600	-13.42	232	292	25.68	964	600	-37.79	1309	1450	10.76
547473	10376	10900	5.05	17308	18100	4.57	310	376	21.38	33161	36300	9.47	1135	1350	18.99
547474	5728	6000	4.75	15740	15900	1.01	387	462	19.31	34570	36500	5.58	1091	1290	18.25
547475	13282	13900	4.65	20203	20700	2.46	232	290	24.82	29971	32200	7.44	1135	1350	18.99
547476	20006	18700	-6.53	3558	2400	-32.55	39	80	106.60	4674	4200	-10.13	175	190	8.85
547477	21002	19800	-5.72	4101	3000	-26.85	39	83	114.34	6009	5600	-6.81	262	260	-0.70
547478	15025	15200	1.16	15740	15500	-1.53	542	599	10.49	15876	16300	2.67	1266	1470	16.16
547479	13116	12600	-3.93	3679	2800	-23.89	39	44	13.63	10386	9900	-4.68	131	130	-0.70
547480	747	700	-6.30	12604	11500	-8.76	155	206	33.00	668	300	-55.07	1222	1360	11.30
547481	13448	13100	-2.59	10735	9700	-9.64	155	249	60.76	10979	10700	-2.54	262	290	10.76
547482	13780	13200	-4.21	11398	10400	-8.76	310	350	12.98	14466	13800	-4.60	698	730	4.55
547483	10791	10600	-1.77	16886	16100	-4.66	929	953	2.54	21662	22100	2.02	1091	1250	14.58
547484	9546	9700	1.61	13750	14000	1.82	310	381	22.99	30490	32200	5.61	1135	1310	15.46
547485	12535	12700	1.32	17308	17300	-0.05	697	714	2.44	25891	26500	2.35	1091	1240	13.66
547486	16353	16500	0.90	14594	14600	0.04	310	354	14.27	31455	32600	3.64	1004	1130	12.59
547487	6724	6900	2.62	13630	13800	1.25	310	378	22.02	31751	33600	5.82	1091	1250	14.58
547488	17266	17600	1.93	19660	19200	-2.34	542	564	4.04	22033	22600	2.57	1353	1580	16.80
547489	6392	6200	-3.00	1930	1200	-37.82	2556	2550	-0.22	668	200	-70.04	305	320	4.76
547490	4815	4800	-0.30	5006	4200	-16.09	7899	8340	5.58	3783	200	-94.71	524	580	10.76
547491	2241	2300	2.62	5548	4700	-15.29	5344	5470	2.36	519	100	-80.74	655	720	10.00
547492	24654	22700	-7.93	2834	1900	-32.97	39	48	23.96	2522	2000	-20.71	131	130	-0.70
547493	4068	3900	-4.12	9106	7800	-14.35	1239	1220	-1.54	816	300	-63.24	1353	1400	3.49
547494	20670	20300	-1.79	14353	13600	-5.25	774	783	1.10	16988	17000	0.07	1047	1160	10.76
547495	913	900	-1.44	4222	3300	-21.83	4957	4880	-1.54	519	200	-61.49	960	1050	9.37
547496	10957	9700	-11.48	11941	9400	-21.28	77	120	54.95	668	300	-55.07	1746	1980	13.43
547497	15108	14600	-3.36	2593	1800	-30.59	2711	2700	-0.39	2522	2000	-20.71	480	530	10.41
547498	11373	11800	3.76	18575	19000	2.29	542	623	14.92	23888	25200	5.49	1266	1520	20.11
547499	13531	13500	-0.23	15137	15200	0.41	310	318	2.65	18991	19700	3.73	1091	1260	15.50
547500	16851	17300	2.66	30274	30300	0.08	542	584	7.73	26113	27300	4.54	1309	1500	14.58
F46 1800 ROUGHER SCAV TAIL (HC Con	14029	13800	-1.63	15982	15900	-0.51	310	322	3.94	27968	28000	0.12	1004	1130	12.59
F47 1800 ROUGHER SCAV TAIL (HC Con	7139	6500	-8.95	9529	8100	-14.99	2478	2290	-7.60	1855	2200	18.62	1178	1240	5.24
F53:1CL SCTL C1	13946			15982			774			19288			873		
F53:1CL SCTL C2	13863			16283			852			18101			960		
F53:1CL SCTL C3	13697			15801			774			18027			916		
F53:1CL SCTL C4	13946			15801			774			17582			916		
F53:1CL SCTL C5	12867			14655			774			16024			1178		
F53:RO SCTL C1	11871			13328			774			22107			1047		
F53:RO SCTL C2	11622			13509			929			20994			1047		
F53:RO SCTL C3	11871			13690			774			21291			1178		
F53:RO SCTL C4	11954			13388			774			21662			1047		

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **QA/QC Data - Comparison on ICP Metals and Whole Rock Analyses**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Whole Rock K * (ppm)	ICP K (ppm)	Difference (%) [3]	Whole Rock Mg * (ppm)	ICP Mg (ppm)	Difference (%) [3]	Whole Rock Mn * (ppm)	ICP Mn (ppm)	Difference (%) [3]	Whole Rock Na * (ppm)	ICP Na (ppm)	Difference (%) [3]	Whole Rock P * (ppm)	ICP P (ppm)	Difference (%) [3]
F53:RO SCTL C5	11871			13388			852			21885			1353		
F46 Bulk Ro.Sc.Tails Cyc 3+4+5															
F47 Bulk Ro.Sc.Tails Cyc 3+4+5															
F48 Bulk Ro.Sc.Tails Cyc 3+4+5															
F51 Bulk Ro.Sc.Tails Cyc 3+4+5															
F52 Bulk Ro.Sc.Tails Cyc 3+4+5															
F46 1st Cl.ScTails Cyc 3+4+5															
F47 1st Cl.ScTails Cyc 3+4+5															
F48 1st Cl.ScTails Cyc 3+4+5															
F51 1st Cl.ScTails Cyc 3+4+5															
F52 1st Cl.ScTails Cyc 3+4+5															
Maximum			24.7			19.1			236			2326			78.1
Minimum			-27.7			-75.1			-55.5			-94.7			-37.7
Mean			-0.76			-6.25			27.7			34.4			7.03
Standard Deviation			6.02			10.6			39.2			201			8.79
10 Percentile			-6.85			-18.9			-5.11			-55.1			-3.72
25 Percentile			-3.63			-10.2			3.94			-19.1			3.12
Median			-0.9			-4.09			15.3			1.1			8.21
75 Percentile			2.4			0.69			39.5			11.3			12.4
90 Percentile			5.77			3.44			80.6			27.7			15.5
Interquartile Range (IQR) [1]			6.02			10.9			35.5			30.5			9.24
Variance			36.3			112			1537			40556			77.3
Skewness			-0.47			-2.05			1.79			6.35			-0.054
Coefficient of Variation (CoV) [2]			-7.91			-1.7			1.42			5.85			1.25
Count			493			493			493			493			493

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
[3] Difference (%) = (ICP - Whole Rock) * 100 / Whole Rock
* Element calculated from Whole Rock XRF analysis

K (Whole Rock) = (K_2O*2*10000*39.09)/(39.09*2+16)
Mg (Whole Rock) = (MgO*10000*24.31)/(24.31+16)
Mn (Whole Rock) = (MnO*10000*54.94)/(54.94+16)
Na (Whole Rock) = (Na_2O*2*10000*22.99)/(22.99*2+16)
P (Whole Rock) = (P_2O5*2*10000*30.97)/(2*30.97+5*16)

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **QA/QC Data - Comparison on ICP Metals and Whole Rock Analyses**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Whole Rock Si * (ppm)	ICP Si (ppm)	Difference (%) [3]	Whole Rock Sr * (ppm)	ICP Sr (ppm)	Difference (%) [3]	Leco S (Total)** (ppm)	ICP S (ppm)	Difference (%) [3]	Whole Rock Ti * (ppm)	ICP Ti (ppm)	Difference (%) [3]
547460	273467			846	910	7.62	12100	12800	5.79	4916	4520	-8.05
547461	247056			761	989	29.96	26100	27700	6.13	4436	3960	-10.74
547462	279217			676	762	12.64	13500	15600	15.56	5276	3970	-24.75
547463	263884			169	168	-0.96	13900	16500	18.71	4556	4290	-5.84
547464	263370			423	407	-3.74	9500	10400	9.47	5336	3140	-41.15
547465	258882			423	484	14.48	16200	18400	13.58	4916	3610	-26.56
547466	278282			592	673	13.70	14700	16800	14.29	5036	4420	-12.23
547467	277160			1015	1100	8.41	12300	13300	8.13	4976	3900	-21.62
547468	280900			338	348	2.89	12700	13300	4.72	5935	2290	-61.42
547469	279965			423	443	4.78	10800	12000	11.11	5156	3880	-24.74
547470	285247			338	329	-2.73	7600	8800	15.79	5216	3650	-30.02
547471	259303			169	132	-22.24	30800	30700	-0.32	4616	4130	-10.53
547472	249907			85	97	14.12	3800	4000	5.26	4916	4480	-8.87
547473	288379			846	955	12.94	1000	1100	10.00	4436	4400	-0.82
547474	277207			930	976	4.93	5600	6400	14.29	4916	4240	-13.75
547475	285294			592	693	17.08	8100	8800	8.64	4856	4530	-6.71
547476	273234			169	139	-18.10	25000	25300	1.20	7973	4750	-40.43
547477	287445			169	185	9.10	10200	10300	0.98	7494	4110	-45.15
547478	270148			930	1070	15.04	15500	16300	5.16	5336	3560	-33.28
547479	297355			254	209	-17.61	8200	8700	6.10	7913	4510	-43.01
547480	272158			254	275	8.41	12900	13100	1.55	5216	3920	-24.84
547481	275664			254	263	3.68	9500	10200	7.37	6175	2490	-59.68
547482	282396			338	288	-14.85	4700	4700	0.00	4916	2990	-39.18
547483	266222			592	617	4.24	17300	18800	8.67	4137	3600	-12.97
547484	276085			846	955	12.94	5300	5800	9.43	4616	4310	-6.63
547485	273795			676	691	2.15	10900	11300	3.67	4436	4200	-5.33
547486	287258			676	716	5.84	2300	2700	17.39	4436	3830	-13.67
547487	275664			1691	1830	8.21	9900	10800	9.09	4496	4320	-3.92
547488	269494			676	790	16.78	14200	16000	12.68	4736	4480	-5.41
547489	377619			254	236	-6.97	12800	14000	9.38	1559	1190	-23.65
547490	315539			338	347	2.59	24000	25800	7.50	2038	1620	-20.52
547491	287258			254	265	4.46	8800	8500	-3.41	3477	3250	-6.53
547492	340315			85	67	-20.88	1900	2000	5.26	5935	4540	-23.51
547493	267764			42	21	-51.04	13300	12200	-8.27	4976	4640	-6.75
547494	277674			423	439	3.83	13100	14000	6.87	5156	3450	-33.08
547495	271738			254	341	34.42	6400	6500	1.56	3117	3020	-3.12
547496	264492			85	64	-24.43	23700	24100	1.69	6774	4440	-34.46
547497	315492			338	337	-0.37	4900	5400	10.20	4376	3840	-12.26
547498	272158			507	595	17.28	4500	5000	11.11	4676	4650	-0.56
547499	277441			592	649	9.64	5600	6100	8.93	4436	4230	-4.65
547500	256732			676	747	10.43	4600	5100	10.87	5695	5290	-7.12
F46 1800 ROUGHER SCAV TAIL (HC Con	292119			676	708	4.66	1900	2200	15.79	4556	4130	-9.35
F47 1800 ROUGHER SCAV TAIL (HC Con	278890			338	325	-3.91	10700	10900	1.87	4256	3670	-13.78
F53:1CL SCTL C1	265193									5156		
F53:1CL SCTL C2	262622									4976		
F53:1CL SCTL C3	260238									4976		
F53:1CL SCTL C4	255470									4976		
F53:1CL SCTL C5	231255									4556		
F53:RO SCTL C1	300534									4316		
F53:RO SCTL C2	296654									4316		
F53:RO SCTL C3	296794									4316		
F53:RO SCTL C4	298664									4376		

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **QA/QC Data - Comparison on ICP Metals and Whole Rock Analyses**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Whole Rock Si * (ppm)	ICP Si (ppm)	Difference (%) [3]	Whole Rock Sr * (ppm)	ICP Sr (ppm)	Difference (%) [3]	Leco S (Total)** (ppm)	ICP S (ppm)	Difference (%) [3]	Whole Rock Ti * (ppm)	ICP Ti (ppm)	Difference (%) [3]
F53:RO SCTL C5	299599									4316		
F46 Bulk Ro.Sc.Tails Cyc 3+4+5												
F47 Bulk Ro.Sc.Tails Cyc 3+4+5												
F48 Bulk Ro.Sc.Tails Cyc 3+4+5												
F51 Bulk Ro.Sc.Tails Cyc 3+4+5												
F52 Bulk Ro.Sc.Tails Cyc 3+4+5												
F46 1st Cl.ScTails Cyc 3+4+5												
F47 1st Cl.ScTails Cyc 3+4+5												
F48 1st Cl.ScTails Cyc 3+4+5												
F51 1st Cl.ScTails Cyc 3+4+5												
F52 1st Cl.ScTails Cyc 3+4+5												
Maximum			NA			140			200			70.6
Minimum			NA			-55.1			-21.2			-74.3
Mean			NA			6.94			5.54			-22
Standard Deviation			NA			20.5			11			18.7
10 Percentile			NA			-17.2			-3.36			-49.3
25 Percentile			NA			-3.91			1.06			-34.8
Median			NA			8.41			5.26			-18.6
75 Percentile			NA			17.1			9.26			-6.97
90 Percentile			NA			28.5			13.1			-2.12
Interquartile Range (IQR) [1]			NA			21			8.2			27.8
Variance			NA			420			120			349
Skewness			NA			0.53			11.4			-0.39
Coefficient of Variation (CoV) [2]			NA			2.95			1.98			-0.85
Count			0			493			493			493

[1] Interquartile Range (IQR) = 75th percentile minus 25th percentile
[2] Coefficient of Variation (CoV) = standard deviation divided by mean
[3] Difference (%) = (ICP - Whole Rock) * 100 / Whole Rock
* Element calculated from Whole Rock XRF analysis

Si (Whole Rock) = (SiO_2*10000*28.09)/(28.09+2*16)
Sr (Whole Rock) = (SrO*10000*87.62)/(87.62+16)
Ti (Whole Rock) = (TiO_2*10000*47.9)/(47.9+2*16)

**S (Total) = S (Leco %) * 10000

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **Comparison of HCl Leachable and Carbonate Leach % S (Sulphate)**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Carbonate Leach S (Sulphate) (%)	HCl Leachable S (Sulphate) (%)	RPD (%)	S (Sulphide) (% Leco)	%S(Sulphide) Calculated from Carbonate Leach S (Sulphate) (%)	RPD (%)	S (Sulphide) (% Leco)	%S(Sulphide) Calculated from HCl Leachable S (Sulphate) (%)	RPD (%)	Inorganic CaNP / (Ca) CaNP Ratio	Inorganic CaNP / (Ca+Mg) CaNP Ratio	RPD (%)
547460	0.05	0.06	18.18	1.06	1.16	9.01	1.06	1.15	8.14	0.87	0.51	51.50
547461	0.01	0.02	66.67	2.31	2.6	11.81	2.31	2.59	11.43	8.23	2.82	97.82
547462	0.01	0.005	66.67	1.28	1.34	4.58	1.28	1.345	4.95	0.59	0.29	67.25
547463	0.005	0.01	66.67	1.41	1.385	1.79	1.41	1.38	2.15	2.46	1.35	58.07
547464	0.03	0.04	28.57	0.89	0.92	3.31	0.89	0.91	2.22	1.92	1.03	60.05
547465	0.01	0.02	66.67	1.46	1.61	9.77	1.46	1.6	9.15	1.62	0.85	62.50
547466	0.01	0.01	0.00	1.45	1.46	0.69	1.45	1.46	0.69	0.57	0.21	90.58
547467	0.01	0.02	66.67	1.02	1.22	17.86	1.02	1.21	17.04	0.93	0.40	78.77
547468	0.01	0.01	0.00	1.2	1.26	4.88	1.2	1.26	4.88	2.08	1.18	55.59
547469	0.01	0.02	66.67	1.06	1.07	0.94	1.06	1.06	0.00	1.27	0.63	67.06
547470	0.01	0.005	66.67	0.72	0.75	4.08	0.72	0.755	4.75	1.99	1.17	51.73
547471	0.02	0.03	40.00	2.71	3.06	12.13	2.71	3.05	11.81	2.48	1.45	52.51
547472	0.01	0.01	0.00	0.36	0.37	2.74	0.36	0.37	2.74	1.81	1.27	35.35
547473	0.01	0.01	0.00	0.08	0.09	11.76	0.08	0.09	11.76	0.18	0.10	58.15
547474	0.4	0.41	2.47	0.18	0.16	11.76	0.18	0.15	18.18	0.58	0.35	49.83
547475	0.01	0.01	0.00	0.76	0.8	5.13	0.76	0.8	5.13	0.42	0.18	79.07
547476	0.03	0.03	0.00	2.09	2.47	16.67	2.09	2.47	16.67	9.11	2.62	110.58
547477	0.01	0.005	66.67	0.87	1.01	14.89	0.87	1.015	15.38	5.54	1.76	103.63
547478	0.07	0.06	15.38	1.3	1.48	12.95	1.3	1.49	13.62	1.78	0.93	62.52
547479	0.01	0.01	0.00	0.71	0.81	13.16	0.71	0.81	13.16	3.98	1.03	118.12
547480	0.02	0.01	66.67	1.22	1.27	4.02	1.22	1.28	4.80	1.99	1.21	48.27
547481	0.02	0.005	120.00	0.85	0.93	8.99	0.85	0.945	10.58	2.05	1.13	58.16
547482	0.02	0.005	120.00	0.44	0.45	2.25	0.44	0.465	5.52	2.36	1.16	68.11
547483	0.04	0.02	66.67	1.65	1.69	2.40	1.65	1.71	3.57	1.46	0.78	60.50
547484	0.17	0.15	12.50	0.37	0.36	2.74	0.37	0.38	2.67	1.06	0.63	50.24
547485	0.05	0.02	85.71	1	1.04	3.92	1	1.07	6.76	0.99	0.51	64.01
547486	0.02	0.005	120.00	0.22	0.21	4.65	0.22	0.225	2.25	0.32	0.17	59.53
547487	0.11	0.08	31.58	0.77	0.88	13.33	0.77	0.91	16.67	0.82	0.52	45.25
547488	0.1	0.09	10.53	1.34	1.32	1.50	1.34	1.33	0.75	0.66	0.27	83.24
547489	0.04	0.03	28.57	1.3	1.24	4.72	1.3	1.25	3.92	23.27	7.28	104.72
547490	0.05	0.005	163.64	2.31	2.35	1.72	2.31	2.395	3.61	28.69	6.43	126.77
547491	0.03	0.005	142.86	0.85	0.85	0.00	0.85	0.875	2.90	7.85	3.99	65.26
547492	0.04	0.01	120.00	0.14	0.15	6.90	0.14	0.18	25.00	4.55	0.27	177.35
547493	0.03	0.02	40.00	1.29	1.3	0.77	1.29	1.31	1.54	6.99	1.75	119.85
547494	0.05	0.02	85.71	1.19	1.26	5.71	1.19	1.29	8.06	1.25	0.37	108.26
547495	0.03	0.005	142.86	0.64	0.61	4.80	0.64	0.635	0.78	17.18	7.68	76.41
547496	0.06	0.03	66.67	2.11	2.31	9.05	2.11	2.34	10.34	0.68	0.14	131.91
547497	0.04	0.02	66.67	0.45	0.45	0.00	0.45	0.47	4.35	22.12	7.09	102.91
547498	0.05	0.06	18.18	0.38	0.4	5.13	0.38	0.39	2.60	0.32	0.12	87.59
547499	0.11	0.12	8.70	0.42	0.45	6.90	0.42	0.44	4.65	1.04	0.51	67.68
547500	0.04	0.03	28.57	0.4	0.42	4.88	0.4	0.43	7.23	0.45	0.19	81.66
F46 1800 ROUGHER SCAV TAIL (HC Con	0.03	0.04	28.57	0.14	0.16	13.33	0.14	0.15	6.90	0.68	0.35	63.46
F47 1800 ROUGHER SCAV TAIL (HC Con	0.06	0.05	18.18	0.99	1.01	2.00	0.99	1.02	2.99	2.82	1.65	52.62
F53:1CL SCTL C1												
F53:1CL SCTL C2												
F53:1CL SCTL C3												
F53:1CL SCTL C4												
F53:1CL SCTL C5												
F53:RO SCTL C1												
F53:RO SCTL C2												
F53:RO SCTL C3												
F53:RO SCTL C4												

Project: **Morrison Project**
Client: Pacific Booker Minerals
Data: **Comparison of HCl Leachable and Carbonate Leach % S (Sulphate)**
Comments: Samples collected by Pacific Booker Minerals personnel.

Sample Id.	Carbonate Leach S (Sulphate) (%)	HCl Leachable S (Sulphate) (%)	RPD (%)	S (Sulphide) (% Leco)	%S(Sulphide) Calculated from Carbonate Leach S (Sulphate) (%)	RPD (%)	S (Sulphide) (% Leco)	%S(Sulphide) Calculated from HCl Leachable S (Sulphate) (%)	RPD (%)	Inorganic CaNP / (Ca) CaNP Ratio	Inorganic CaNP / (Ca+Mg) CaNP Ratio	RPD (%)
F53:RO SCTL C5												
F46 Bulk Ro.Sc.Tails Cyc 3+4+5				0.06			0.06					
F47 Bulk Ro.Sc.Tails Cyc 3+4+5				0.13			0.13					
F48 Bulk Ro.Sc.Tails Cyc 3+4+5				0.28			0.28					
F51 Bulk Ro.Sc.Tails Cyc 3+4+5				0.1			0.1					
F52 Bulk Ro.Sc.Tails Cyc 3+4+5				0.05			0.05					
F46 1st Cl.ScTails Cyc 3+4+5				0.84			0.84					
F47 1st Cl.ScTails Cyc 3+4+5				8.29			8.29					
F48 1st Cl.ScTails Cyc 3+4+5				1.46			1.46					
F51 1st Cl.ScTails Cyc 3+4+5				5.07			5.07					
F52 1st Cl.ScTails Cyc 3+4+5				2.87			2.87					
Maximum			173			70.7			71.2			177
Minimum			0			0			0			21.8
Mean			57.7			7.79			7.85			71.9
Standard Deviation			47			6.73			6.63			25.1
10 Percentile			0			1.12			1.19			47.9
25 Percentile			2.47			3.24			3.37			55.2
Median			66.7			6.85			6.96			65.9
75 Percentile			66.7			10.3			10.6			78.8
90 Percentile			120			14.5			15			109
Interquartile Range (IQR) [1]			64.2			7.01			7.23			23.5
Variance			2206			45.3			44			632
Skewness			0.34			3.28			3.2			1.51
Coefficient of Variation (CoV) [2]			0.81			0.86			0.84			0.35
Count			493			353			353			493

C6. F46 Tailings Composite

Project: Morrison
Sample: **F46 (Tailings)**
Low-Sulphide Tailings Composite
Data: ABA Data

	Pre-test	Post-test	% Difference
Analysis Date	04-Feb-06		
Lab Certificate No.	Sobek		
Method	VA05112853	Sobek	
Sample Weight (dry) (g)	1000		
Rinse pH	7.5		
Paste pH	8.2		
Sulphur Species			
% S (Total)	0.19		
% S (Sulphide)	0.14		
% S (Sulphide) Calc	0.15		
% S (Sulphate) Carbonate Leach	0.03		
% S (Sulphate) HCl Leachable	0.04		
% S ($BaSO_4$)	0.0371		
% S (del $_{actual}$)	-0.0271		
% S (del)	0.0000		
Neutralization Potential			
Measured NP (kg $CaCO_3$/t)	48		
Unavailable NP (kg $CaCO_3$/t)	10		
Effective NP (kg $CaCO_3$/t)	38		
Total C (%)	0.65		
Inorganic C (%)	0.58		
Inorganic CO_2 (%)	2.1		
Organic C (%)	0.07		
Total CaNP (kg $CaCO_3$/t)	54		
Inorganic CaNP (kg $CaCO_3$/t)	48		
Fizz Test	2		
Comparison of Fizz Rating & NP	Disagree		
Calculated Parameters			
TAP (kg $CaCO_3$/t)	6		
SAP (kg $CaCO_3$/t)	4		
TNNP (kg $CaCO_3$/t)	42		
Adjusted TNNP (kg $CaCO_3$/t)	32		
SNNP (kg $CaCO_3$/t)	44		
Adjusted SNNP (kg $CaCO_3$/t)	34		
CNNP (kg $CaCO_3$/t)	50		
RNNP (kg $CaCO_3$/t)	43		
TNPR	8.1		
Adjusted TNPR	6.4		
SNPR	11.0		
Adjusted SNPR	8.7		
CNPR	12.38		
RNPR	10.9		

% Remaining Taken From Calculated Weekly Data

	Not Including Final Flush	Including Final Flush
% S (Total)	83.18	83.18
% S (Sulphide)	77.17	77.17
% S (Sulphate) Total	20.11	20.11
NP (kg $CaCO_3$/t)	94.19	94.19

Notes:
When data were reported as < detection limit,
half the value of the detection limit was used in subsequent calculations.

% Difference = ((Post-test - Pre-test) *100) / Pre-test

If % S (Sulphate) HCl Leachable is available
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) HCl Leachable
Otherwise,
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) Carbonate Leach

$\%S(BaSO_4)$ = Ba (ppm) * 0.0001 * 32.06 / 137.37
% S (del $_{actual}$) = %S(Total) - %S(Sulphide) - %S(Sulphate) - $\%S(BaSO_4)$
% S (del) = if % S (del $_{actual}$) >0 then % S (del) = % S (del $_{actual}$) otherwise % S (del) = 0

Unavailable NP = estimated amount of NP that is not available for neutralization
Effective NP = Measured NP - Unavailable NP

Organic C (%) = Total C (%) - Inorganic C (%)
Total CaNP = % CO_2 * 10 * 100.09 / 12.01
Inorganic CaNP = % CO_2 * 10 * 100.09 / 44.01

TAP = % S (Total) * 31.25
SAP = % S (Sulphide + del) * 31.25
TNNP = NP - TAP
Adjusted TNNP = (NP - Unavailable NP) - TAP
SNNP = NP - SAP
Adjusted SNNP = (NP - Unavailable NP) - SAP
CNNP = Total CaNP - SAP
RNNP = Carbonate CaNP - SAP

NPR Upper Range = 200
NPR Lower Range = 0.001

TNPR = NP / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but NP <0 then TNPR = NPR Lower Range
Adjusted TNPR = (NP - Unavailable NP) / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but (NP - Unavailable NP) <0 then TNPR = NPR Lower Range
SNPR = NP / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but NP <0 then SNPR = NPR Lower Range
Adjusted SNPR = (NP - Unavailable NP) / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but (NP - Unavailable NP) <0 then SNPR = NPR Lower Range
CNPR = Total CaNP / SAP
RNPR = Carbonate CaNP / SAP

Project: Morrison
Sample: **F46 (Tailings)**
Low-Sulphide Tailings Composite
Data: ABA Data on Size Fractions

	Whole Sample	-2 mm to +850 µm	-250 µm to +180 µm	-45 µm
Analysis Date	04-Feb-06	02-May-06	02-May-06	02-May-06
Method	Sobek	Sobek	Sobek	Sobek
Lab Certificate No.	VA05112853	VA06032586	VA06032586	VA06032586
Rinse pH	7.5			
Paste pH	8.2	7.6	7.8	7.8
Sulphur Species				
% S (Total)	0.19	0.25	0.15	0.35
% S (Sulphide)	0.14	0.15	0.10	0.21
% S (Sulphide) Calc	0.14	0.20	0.12	0.30
% S (Sulphate) Carbonate Leach	0.03	0.04	0.02	0.03
% S (Sulphate) HCl Leachable	0.04	0.05	0.03	0.05
% S ($BaSO_4$)				
% S (del $_{actual}$)	-0.0271	0.0500	0.0200	0.0900
% S (del)	0.0000	0.0500	0.0200	0.0900
Neutralization Potential				
Measured NP (kg $CaCO_3$/t)	48	56	37	52
Unavailable NP (kg $CaCO_3$/t)	10	10	10	10
Effective NP (kg $CaCO_3$/t)	38	46	27	42
Total C (%)	0.65	0.78	0.49	0.75
Inorganic C (%)	0.58	0.73	0.45	0.71
Inorganic CO_2 (%)	2.1	2.7	1.6	2.6
Organic C (%)	0.07	0.05	0.04	0.04
Total CaNP (kg $CaCO_3$/t)	54	65	41	63
Inorganic CaNP (kg $CaCO_3$/t)	48	61	36	59
Fizz Test	2	2	2	2
Comparison of Fizz Rating & NP	Disagree	Agree	Disagree	Agree
Calculated Parameters				
TAP (kg $CaCO_3$/t)	6	8	5	11
SAP (kg $CaCO_3$/t)	4	6	4	9
TNNP (kg $CaCO_3$/t)	42	48	32	41
Adjusted TNNP (kg $CaCO_3$/t)	32	38	22	31
SNNP (kg $CaCO_3$/t)	44	50	33	43
Adjusted SNNP (kg $CaCO_3$/t)	34	40	23	33
CNNP (kg $CaCO_3$/t)	50	59	37	53
RNNP (kg $CaCO_3$/t)	43	55	33	50
TNPR	8.08	7.17	7.89	4.75
Adjusted TNPR	6.400	5.888	5.760	3.840
SNPR	10.97	8.96	9.87	5.55
Adjusted SNPR	8.686	7.360	7.200	4.480
CNPR	12.38	10.40	10.89	6.67
RNPR	10.92	9.82	9.70	6.31

Notes:
When data were reported as < detection limit,
half the value of the detection limit was used in subsequent calculations.

% Difference = ((Post-test - Pre-test) *100) / Pre-test

If % S (Sulphate) HCl Leachable is available
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) HCl Leachable
Otherwise,
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) Carbonate Leach

%S($BaSO_4$) = Ba (ppm) * 0.0001 * 32.06 / 137.37
% S (del $_{actual}$) = %S(Total) - %S(Sulphide) - %S(Sulphate) - %S($BaSO_4$)
% S (del) = if % S (del $_{actual}$) >0 then % S (del) = % S (del $_{actual}$) otherwise % S (del) = 0

Unavailable NP = estimated amount of NP that is not available for neutralization
Effective NP = Measured NP - Unavailable NP

Organic C (%) = Total C (%) - Inorganic C (%)
Total CaNP = % CO_2 * 10 * 100.09 / 12.01
Inorganic CaNP = % CO_2 * 10 * 100.09 / 44.01

TAP = % S (Total) * 31.25
SAP = % S (Sulphide + del) * 31.25
TNNP = NP - TAP
Adjusted TNNP = (NP - Unavailable NP) - TAP
SNNP = NP - SAP
Adjusted SNNP = (NP - Unavailable NP) - SAP
CNNP = Total CaNP - SAP
RNNP = Carbonate CaNP - SAP

NPR Upper Range = 200
NPR Lower Range = 0.001

TNPR = NP / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but NP <0 then TNPR = NPR Lower Range
Adjusted TNPR = (NP - Unavailable NP) / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but (NP - Unavailable NP) <0 then TNPR = NPR Lower Range
SNPR = NP / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but NP <0 then SNPR = NPR Lower Range
Adjusted SNPR = (NP - Unavailable NP) / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but (NP - Unavailable NP) <0 then SNPR = NPR Lower Range
CNPR = Total CaNP / SAP
RNPR = Carbonate CaNP / SAP

Project: Morrison
Sample: F46 (Tailings)
Low-Sulphide Tailings Composite
Data: ICP Solid-Phase Metals

Analysis Date			Pre-test 04-Feb-06	Post-test	% Difference	% Remaining Taken From Calculated Weekly Data	
Lab Certificate No.			VA05112853				
Analytical Method			ICP-MS	ICP-MS		Not Including	Including
Digestion Method			4-Acid	4-Acid	4-Acid	Final Flush	Final Flush
Silver	Ag	ppm	0.6			99.79	99.79
Aluminum	Al	%	8.02			100.00	100.00
Arsenic	As	ppm	8.2			99.27	99.27
Boron	B	ppm				#N/A	#N/A
Barium	Ba	ppm	1590			99.77	99.77
Beryllium	Be	ppm	1.21			94.82	94.82
Bismuth	Bi	ppm	0.14			55.21	55.21
Calcium	Ca	%	2.82			97.82	97.82
Cadmium	Cd	ppm	0.13			95.18	95.18
Cerium	Ce	ppm	41			NA	NA
Cobalt	Co	ppm	11.5			99.89	99.89
Chromium	Cr	ppm	205			99.97	99.97
Cesium	Cs	ppm	3.06			NA	NA
Copper	Cu	ppm	539			99.99	99.99
Iron	Fe	%	2.88			100.00	100.00
Gallium	Ga	ppm	19.45			100.00	100.00
Germanium	Ge	ppm	0.11			NA	NA
Hafnium	Hf	ppm	0.7			NA	NA
Mercury	Hg	ppm	0.1			87.60	87.60
Indium	In	ppm	0.089			100.00	100.00
Potassium	K	%	1.38			98.23	98.23
Lanthanum	La	ppm	20.8			NA	NA
Lithium	Li	ppm	17.6			99.18	99.18
Magnesium	Mg	%	1.59			98.98	98.98
Manganese	Mn	ppm	322			99.82	99.82
Molybdenum	Mo	ppm	13.8			99.22	99.22
Sodium	Na	%	2.8			99.71	99.71
Niobium	Nb	ppm	6.6			NA	NA
Nickel	Ni	ppm	151.5			99.96	99.96
Phosphorus	P	ppm	1130			99.67	99.67
Lead	Pb	ppm	10.2			99.88	99.88
Rubidium	Rb	ppm	39.1			NA	NA
Rhenium	Re	ppm	0.014			NA	NA
Sulphur	S	%	0.22			NA	NA
Antimony	Sb	ppm	1.13			95.34	95.34
Scandium	Sc	ppm				NA	NA
Selenium	Se	ppm	2			93.60	93.60
Silicon	Si	ppm				99.98	99.98
Tin	Sn	ppm	2			99.34	99.34
Strontium	Sr	ppm	708			95.73	95.73
Tantalum	Ta	ppm	0.43			NA	NA
Tellurium	Te	ppm	0.05			NA	NA
Thorium	Th	ppm	5.4			NA	NA
Titanium	Ti	%	0.413			100.00	100.00
Thallium	Tl	ppm	0.39			96.82	96.82
Uranium	U	ppm	1.3			98.20	98.20
Vanadium	V	ppm	124			99.90	99.90
Tungsten	W	ppm	2.7			NA	NA
Yttrium	Y	ppm	12.2			NA	NA
Zinc	Zn	ppm	75			99.92	99.92
Zirconium	Zr	ppm	19.2			100.00	100.00

Notes:
When data were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test

Project: Morrison
Sample: F46 (Tailings)
Low-Sulphide Tailings Composite
Data: ICP Solid-Phase Metals on Size Fractions

Analysis Date			Whole Sample 04-Feb-06	-2 mm to +850 µm 02-May-06	-250 µm to +180 µm 02-May-06	-45 µm 02-May-06
Lab Certificate No.			VA05112853	VA06032586	VA06032586	VA06032586
Analytical Method			ICP-MS	ICP-MS	ICP-MS	ICP-MS
Digestion Method			4-Acid	4-Acid	4-Acid	4-Acid
Silver	Ag	ppm	0.6	0.61	0.4	0.55
Aluminum	Al	%	8.02	8.68	8.84	8.46
Arsenic	As	ppm	8.2	9.9	3.5	13
Boron	B	ppm				
Barium	Ba	ppm	1590	2170	1170	2070
Beryllium	Be	ppm	1.21	1.41	1.34	1.27
Bismuth	Bi	ppm	0.14	0.21	0.08	0.22
Calcium	Ca	%	2.82	3.17	2.92	3.19
Cadmium	Cd	ppm	0.13	0.1	0.17	0.09
Cerium	Ce	ppm	41	49.3	29	51.3
Cobalt	Co	ppm	11.5	15.7	6.3	17.9
Chromium	Cr	ppm	205	286	80	344
Cesium	Cs	ppm	3.06	4.4	2.35	3.47
Copper	Cu	ppm	539	554	788	453
Iron	Fe	%	2.88	3.62	2.19	3.63
Gallium	Ga	ppm	19.45	22.4	19.1	20.9
Germanium	Ge	ppm	0.11	0.11	0.1	0.1
Hafnium	Hf	ppm	0.7	0.9	0.7	0.9
Mercury	Hg	ppm	0.1	0.08	0.110	0.080
Indium	In	ppm	0.089	0.112	0.072	0.102
Potassium	K	%	1.38	1.64	1.18	1.53
Lanthanum	La	ppm	20.8	23.5	14.3	23.8
Lithium	Li	ppm	17.6	20.8	14.2	17.4
Magnesium	Mg	%	1.59	2.21	1.2	2.04
Manganese	Mn	ppm	322	415	273	402
Molybdenum	Mo	ppm	13.8	13	12.6	14.9
Sodium	Na	%	2.8	2.64	3.3	2.79
Niobium	Nb	ppm	6.6	8	5.3	7.5
Nickel	Ni	ppm	151.5	248	49	285
Phosphorus	P	ppm	1130	1250	690	1480
Lead	Pb	ppm	10.2	10.5	7.2	13.8
Rubidium	Rb	ppm	39.1	50.3	31.1	43.2
Rhenium	Re	ppm	0.014	0.009	0.025	0.009
Sulphur	S	%	0.22	0.26	0.15	0.36
Antimony	Sb	ppm	1.13	0.96	0.61	1.05
Scandium	Sc	ppm				
Selenium	Se	ppm	2	<1	<1	<1
Silicon	Si	ppm				
Tin	Sn	ppm	2	3.1	1.8	7.1
Strontium	Sr	ppm	708	692	821	698
Tantalum	Ta	ppm	0.43	0.54	0.37	0.54
Tellurium	Te	ppm	0.05	<0.05	<0.05	<0.05
Thorium	Th	ppm	5.4	6.3	4.5	6.0
Titanium	Ti	%	0.413	0.515	0.338	0.484
Thallium	Tl	ppm	0.39	0.51	0.32	0.48
Uranium	U	ppm	1.3	1.8	1.3	1.7
Vanadium	V	ppm	124	160	93	153
Tungsten	W	ppm	2.7	2.4	0.8	3.5
Yttrium	Y	ppm	12.2	15.4	9.8	15.9
Zinc	Zn	ppm	75	88	72	81
Zirconium	Zr	ppm	19.2	25.2	21.7	24.5

Notes:
When data were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test

Project: Morrison
Sample: F46 (Tailings)
Low-Sulphide Tailings Composite
Data: Whole Rock

Analysis Date: / Lab Certificate No. / Method:		Pre-test 04-Feb-06 VA05112853 XRF	Post-test XRF	% Difference	RPD (%)
Al_2O_3	(%)	15.22			
BaO	(%)	0.19			
CaO	(%)	3.86			
Cr_2O_3	(%)	0.04			
Fe_2O_3	(%)	4.21			
K_2O	(%)	1.69			
MgO	(%)	2.65			
MnO	(%)	0.04			
Na_2O	(%)	3.77			
P_2O_5	(%)	0.23			
SiO_2	(%)	62.49			
SrO	(%)	0.08			
TiO_2	(%)	0.76			
LOI	(%)	3.62			
Total	(%)	98.85			

Pre-test Metal		Calculated From Whole Rock Analysis (ppm)	ICP Metal Analysis (ppm)	% Difference	RPD (%)
Aluminum	Al	80548	80200	-0.43	0.43
Barium	Ba	1702	1590	-6.57	6.79
Calcium	Ca	27587	28200	2.22	2.20
Chromium	Cr	274	205	-25.10	28.70
Iron	Fe	29446	28800	-2.19	2.22
Potassium	K	14029	13800	-1.63	1.65
Magnesium	Mg	15982	15900	-0.51	0.51
Manganese	Mn	310	322	3.94	3.87
Sodium	Na	27968	28000	0.12	0.11
Phosphorus	P	1004	1130	12.59	11.84
Silicon	Si	292119		NA	
Strontium	Sr	676	708	4.66	4.55
Titanium	Ti	4556	4130	-9.35	9.81

Post-test Metal		Calculated From Whole Rock Analysis (ppm)	ICP Metal Analysis (ppm)	% Difference	RPD (%)
Aluminum	Al			NA	
Barium	Ba			NA	
Calcium	Ca			NA	
Chromium	Cr			NA	
Iron	Fe			NA	
Potassium	K			NA	
Magnesium	Mg			NA	
Manganese	Mn			NA	
Sodium	Na			NA	
Phosphorus	P			NA	
Silicon	Si			NA	
Strontium	Sr			NA	
Titanium	Ti			NA	

Notes:
When metals were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test
RPD (Relative Percent Difference) (%) = ABS ((x1-x2)/((x1+x2)/2))*100

Project: Morrison
Sample: F46 (Tailings)
Low-Sulphide Tailings Composite
Data: Whole Rock on Size Fractions

Analysis Date: / Lab Certificate No. / Method:		Whole Sample 04-Feb-06 VA05112853 XRF	-2 mm to +850 µm 02-May-06 VA06032586 XRF	-250 µm to +180 µm 02-May-06 VA06032586 XRF	-45 µm 02-May-06 VA06032586 XRF
Al_2O_3	(%)	15.22	15.78	15.71	15.17
BaO	(%)	0.19	0.25	0.13	0.23
CaO	(%)	3.86	4.13	3.68	4.11
Cr_2O_3	(%)	0.04	0.06	0.01	0.06
Fe_2O_3	(%)	4.21	5.29	3.1	5.26
K_2O	(%)	1.69	2.05	1.47	1.9
MgO	(%)	2.65	3.58	1.89	3.25
MnO	(%)	0.04	0.05	0.03	0.05
Na_2O	(%)	3.77	3.37	4.14	3.5
P_2O_5	(%)	0.23	0.25	0.14	0.29
SiO_2	(%)	62.49	57.95	65.21	59.79
SrO	(%)	0.08	0.08	0.09	0.08
TiO_2	(%)	0.76	0.97	0.62	0.94
LOI	(%)	3.62	4.75	2.65	3.82
Total	(%)	98.85	98.56	98.87	98.45

Pre-test Metal		Calculated From Whole Rock Analysis			
		Whole Sample (ppm)	-2 mm to +850 µm (ppm)	-250 µm to +180 µm	-45 µm
Aluminum	Al	80548	83512	83142	80284
Barium	Ba	1702	2239	1164	2060
Calcium	Ca	27587	29517	26301	29374
Chromium	Cr	274	411	68	411
Iron	Fe	29446	37000	21683	36790
Potassium	K	14029	17017	12203	15772
Magnesium	Mg	15982	21590	11398	19600
Manganese	Mn	310	387	232	387
Sodium	Na	27968	25000	30713	25965
Phosphorus	P	1004	1091	611	1266
Silicon	Si	292119	270896	304834	279498
Strontium	Sr	676	676	761	676
Titanium	Ti	4556	5815	3717	5635

Post-test Metal		ICP Metala Analysis			
		Whole Sample (ppm)	-2 mm to +850 µm (ppm)	-250 µm to +180 µm (ppm)	-45 µm (ppm)
Aluminum	Al	80200	86800	88400	84600
Barium	Ba	1590	2170	1170	2070
Calcium	Ca	28200	31700	29200	31900
Chromium	Cr	205	286	80	344
Iron	Fe	28800	36200	21900	36300
Potassium	K	13800	16400	11800	15300
Magnesium	Mg	15900	22100	12000	20400
Manganese	Mn	322	415	273	402
Sodium	Na	28000	26400	33000	27900
Phosphorus	P	1130	1250	690	1480
Silicon	Si				
Strontium	Sr	708	692	821	698
Titanium	Ti	4130	5150	3380	4840

Notes:
When metals were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test
RPD (Relative Percent Difference) (%) = ABS ((x1-x2)/((x1+x2)/2))*100

Project: Morrison
Sample: **F46 (Tailings)**
Low-Sulphide Tailings Composite
Data: Particle Size

GRAIN 3.0©,TM

A Spreadsheet to calculate grain-surface area from sieve analyses.
(from MDAG Publishing, www.mdag.com)

Data: Pre-test analysis
Analysis Date: 11-Feb-06
Lab Certificate No. VA06010663
Comment:

Sieve/Screen Data:

Mesh Size #	Sieve Diameter (mm)	Wt. Retained On Sieve (g)	Calculated Grain-Surface Area (m^2)
20	0.850	68.40	0.089
35	0.500	15.50	0.051
40	0.425	4.10	0.020
60	0.250	25.20	0.166
80	0.180	65.50	0.677
100	0.149	62.10	0.839
150	0.106	76.90	1.340
200	0.075	60.70	1.490
270	0.053	63.00	2.188
325	0.044	18.00	0.825
Passing Finest Mesh (set Diameter = 0)	0.000	203.30	20.535

Total Sample Weight (g) = 662.70

Specific Gravity of -200 Mesh Fraction = NA
Specific Gravity of Sample Solids = 2.7

Surface Area (m^2):

Area for Total Sample Weight (m^2) = 28.220
Surface Area for 1000 g (m^2 / kg) = 42.584

GRAIN 3.0©,TM

A Spreadsheet to calculate grain-surface area from sieve analyses.
(from MDAG Publishing, www.mdag.com)

Data: Post-test analysis
Analysis Date:
Lab Certificate No.
Comment:

Sieve/Screen Data:

Mesh Size #	Sieve Diameter (mm)	Wt. Retained On Sieve (g)	Calculated Grain-Surface Area (m^2)
20	0.840	0.00	0.000
35	0.500	0.00	0.000
40	0.420	0.00	0.000
60	0.250	0.00	0.000
80	0.177	0.00	0.000
100	0.149	0.00	0.000
150	0.106	0.00	0.000
200	0.074	0.00	0.000
270	0.053	0.00	0.000
325	0.044	0.00	0.000
Passing Finest Mesh (set Diameter = 0)	0.000	0.00	0.000

Total Sample Weight (g) = 0.00

Specific Gravity of -200 Mesh Fraction = NA
Specific Gravity of Sample Solids = 2.7

Surface Area (m^2):

Area for Total Sample Weight (m^2) = 0.000
Surface Area for 1000 g (m^2 / kg) = 0.000

NOTES:

1) Be sure to adjust specific gravity to your particular sample
2) Sieve diameters can be changed to your particular set of sieves
3) Rows can be inserted between other rows, but be careful **!!!**) to adjust all equations so that they refer to the current or previous row as appropriate; a simple approach is to a any rows AFTER the first row and then copy the equations from the first row down to all underlying rows
4) The sieve diameter of the Passing Finest Mesh can be set to 0 so that the equations will use 1/2 of the diameter of your finest mesh used, or to any value you want which would then be averaged with your finest mesh used
5) If you used coarse screens which did not collect any sample, resulting calculations for the coarsest grains will be more accurate if you enter some small weight (e.g., 0.001 g) for the screen just coarser than the first screen retaining sample; for example, if your 13 mm screen retained sample which passed through your 19 mm screen, then enter 0.001 for a retained weight for the 19 mm screen; this constrains the calculated grain diameter for the coarsest grains to the average of 13 and 19 mm (16 mm).

Project:		Morrison																			
Sample:		**F46 (Tailings)**																			
		Low-Sulphide Tailings Composite																			
Data:		Weekly Data, Alkalinity, Acidity and Sulphate Production Rates																			
						Acidity Production			**Alkalinity Production**			**Sulphate Production**					**Sulphate Production By Surface Area:**			
							Acidity	Acidity		Alkalinity	Alkalinity		Sulphate	Sulphate	Cumulative	Cumulative	Sulphate	Sulphate	Cumulative	Cumulative
		Water	Leachate	Weekly		Acidity	Production	Production	Total	Production	Production	Sulphate	Production	Production	Sulphate	Sulphate	Production	Production	Sulphate	Sulphate
Week No.	Date	Added	Recovered	pH	Conductivity	(to pH 8.3)	Rate	Rate	Alkalinity	Rate	Rate	Sulphate	Rate	Rate	Production	Production	Rate	Rate	Production	Production
		(mL)	(mL)	(pH units)	(uS/cm)	($CaCO_3$ mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	($CaCO_3$ mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(SO_4 mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(mg/m^2/wk)	(mg/m^2/wk)[1]	(mg/m^2)	(mg/m^2)[1]
							(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
0	1-Feb-06	750	420	7.88	1220	2.9	1.22	1.22	69.2	29.1	29.1	551	231.4	231.4	231.4	231.4	5.43	5.43	5.43	5.43
1	8-Feb-06	500	420	7.98	487	4.4	1.85	1.85	68.6	28.8	28.8	169	70.98	70.98	302.38	302.38	1.67	1.67	7.1	7.1
2	15-Feb-06	500	490	8.14	357	15.5	7.6	7.6	73.8	36.2	36.2	99.8	48.9	48.9	351.28	351.28	1.15	1.15	8.25	8.25
3	22-Feb-06	500	445	8.23	327	4.9	2.18	2.18	84.8	37.7	37.7	77.2	34.35	34.35	385.63	385.63	0.807	0.807	9.057	9.057
4	1-Mar-06	500	510	8.19	247	6.9	3.52	3.52	70.6	36	36	47.3	24.12	24.12	409.75	409.75	0.566	0.566	9.623	9.623
5	8-Mar-06	500	455	8.18	220	4.8	2.18	2.18	67.6	30.8	30.8	37.2	16.93	16.93	426.68	426.68	0.398	0.398	10.02	10.02
6	15-Mar-06	500	445	8.2	234	6	2.67	2.67	70.6	31.4	31.4	41	18.25	18.25	444.93	444.93	0.429	0.429	10.45	10.45
7	22-Mar-06	500	445	8.2	263	7.7	3.43	3.43	91.5	40.7	40.7	48.2	21.45	21.45	466.38	466.38	0.504	0.504	10.95	10.95
8	29-Mar-06	500	450	8.13	213	1.2	0.54	0.54	69	31.1	31.1	38	17.1	17.1	483.48	483.48	0.402	0.402	11.35	11.35
9	5-Apr-06	500	470	8.05	234	2.3	1.08	1.08	76.4	35.9	35.9	40.4	18.99	18.99	502.47	502.47	0.446	0.446	11.8	11.8
10	12-Apr-06	500	445	8.17	227	2.2	0.979	0.979	71.3	31.7	31.7	41	18.25	18.25	520.72	520.72	0.429	0.429	12.23	12.23
11	19-Apr-06	500	485	8.19	236	2	0.97	0.97	76.3	37	37	42.4	20.56	20.56	541.28	541.28	0.483	0.483	12.71	12.71
12	26-Apr-06	500	500	8.14	227	1.3	0.65	0.65	79.6	39.8	39.8	37.4	18.7	18.7	559.98	559.98	0.439	0.439	13.15	13.15
13	3-May-06	500	460	8.16	198	6.5	2.99	2.99	85	39.1	39.1	32.4	14.9	14.9	574.88	574.88	0.35	0.35	13.5	13.5
14	10-May-06	500	440	8.2	232	1.6	0.704	0.704	82.6	36.3	36.3	39.5	17.38	17.38	592.26	592.26	0.408	0.408	13.91	13.91
15	17-May-06	500	485	8.11	213	1.7	0.825	0.825	72.8	35.3	35.3	32.8	15.91	15.91	608.17	608.17	0.374	0.374	14.28	14.28
16	24-May-06	500	440	8.19	212	3.2	1.41	1.41	74.4	32.7	32.7	34.4	15.14	15.14	623.31	623.31	0.356	0.356	14.64	14.64
17	31-May-06	500	470	8.13	201	1.6	0.752	0.752	65.3	30.7	30.7	32.7	15.37	15.37	638.68	638.68	0.361	0.361	15	15
18	7-Jun-06	500	445	8.08	194	2.7	1.2	1.2	79.9	35.6	35.6	21.5	9.568	9.568	648.25	648.25	0.225	0.225	15.23	15.23
19	14-Jun-06	500	505	8.04	191	1.7	0.859	0.859	73.6	37.2	37.2	24.9	12.57	12.57	660.82	660.82	0.295	0.295	15.53	15.53
20	21-Jun-06	500	420	8.09	199	1.1	0.462	0.462	69.4	29.1	29.1	28.3	11.89	11.89	672.71	672.71	0.279	0.279	15.81	15.81
21	28-Jun-06	500	450	8.18	174	1.3	0.585	0.585	63.4	28.5	28.5	23.6	10.62	10.62	683.33	683.33	0.249	0.249	16.06	16.06
22	5-Jul-06	500	480	8.24	152	1.5	0.72	0.72	57.9	27.8	27.8	20.8	9.984	9.984	693.31	693.31	0.234	0.234	16.29	16.29
23	12-Jul-06	500	450	8.11	185	3.2	1.44	1.44	65.1	29.3	29.3	27.5	12.38	12.38	705.69	705.69	0.291	0.291	16.58	16.58
24	19-Jul-06	500	470	8.22	149	4.4	2.07	2.07	55.9	26.3	26.3	18.8	8.836	8.836	714.53	714.53	0.207	0.207	16.79	16.79
25	26-Jul-06	500	480	8.22	167	1.6	0.768	0.768	62.4	30	30	24.3	11.66	11.66	726.19	726.19	0.274	0.274	17.06	17.06
26	2-Aug-06	500	425	8.22	168	1.6	0.68	0.68	64	27.2	27.2	25	10.63	10.63	736.82	736.82	0.25	0.25	17.31	17.31
27	9-Aug-06	500	450	8.08	156	<1.0	0.225	0.225	63.2	28.4	28.4	23.3	10.49	10.49	747.31	747.31	0.246	0.246	17.56	17.56
28	16-Aug-06	500	450	8.11	151	3.6	1.62	1.62	56.8	25.6	25.6	18.4	8.28	8.28	755.59	755.59	0.194	0.194	17.75	17.75
29	23-Aug-06	500	520	8.3	150	1.6	0.832	0.832	56.2	29.2	29.2	23.3	12.12	12.12	767.71	767.71	0.285	0.285	18.04	18.04
30	30-Aug-06	500	520	8.41	123	2.5	1.3	1.3	44.6	23.2	23.2	16.9	8.788	8.788	776.5	776.5	0.206	0.206	18.25	18.25
31	6-Sep-06	500	500	7.86	174	1.5	0.75	0.75	72.1	36.1	36.1	24.9	12.45	12.45	788.95	788.95	0.292	0.292	18.54	18.54
32	13-Sep-06	500	435	8	165	3.6	1.57	1.57	58.8	25.6	25.6	24.3	10.57	10.57	799.52	799.52	0.248	0.248	18.79	18.79
33	20-Sep-06	500	400	7.82	95.6	1.2	0.48	0.48	34.4	13.8	13.8	11.7	4.68	4.68	804.2	804.2	0.11	0.11	18.9	18.9
34	27-Sep-06	500	400	8.05	137	1.6	0.64	0.64	65.7	26.3	26.3	16.8	6.72	6.72	810.92	810.92	0.158	0.158	19.06	19.06
35	4-Oct-06	500	490	7.63	142	2.2	1.08	1.08	60.4	29.6	29.6	17.8	8.722	8.722	819.64	819.64	0.205	0.205	19.27	19.27
36	11-Oct-06	500	520	7.95	169	1.5	0.78	0.78	68.4	35.6	35.6	20.4	10.61	10.61	830.25	830.25	0.249	0.249	19.52	19.52
37	18-Oct-06	500	425	7.84	145	2.6	1.11	1.11	57.5	24.4	24.4	16.8	7.14	7.14	837.39	837.39	0.168	0.168	19.69	19.69
38	25-Oct-06	500	475	7.89	142	2.1	0.998	0.998	58.6	27.8	27.8	16.1	7.648	7.648	845.04	845.04	0.18	0.18	19.87	19.87
39	1-Nov-06	500	455	7.68	144	1.5	0.683	0.683	59.3	27	27	14.2	6.461	6.461	851.5	851.5	0.152	0.152	20.02	20.02
40	8-Nov-06	500	400	7.71	145	2.2	0.88	0.88	69.8	27.9	27.9	14	5.6	5.6	857.1	857.1	0.132	0.132	20.15	20.15
41	15-Nov-06	500	450	7.96	141	1.3	0.585	0.585	68.5	30.8	30.8	13.6	6.12	6.12	863.22	863.22	0.144	0.144	20.29	20.29
42	22-Nov-06	500	375	7.16	136	1.8	0.675	0.675	64.9	24.3	24.3	13.1	4.913	4.913	868.13	868.13	0.115	0.115	20.41	20.41
43	29-Nov-06	500	450	7.74	139	1.7	0.765	0.765	57.4	25.8	25.8	14.3	6.435	6.435	874.57	874.57	0.151	0.151	20.56	20.56
44	6-Dec-06	500	420	8.14	207	<1.0	0.21	0.21	95.2	40	40	23.6	9.912	9.912	884.48	884.48	0.233	0.233	20.79	20.79
45	13-Dec-06	500	520	8.12	249	<1.0	0.26	0.26	114	59.3	59.3	28.8	14.98	14.98	899.46	899.46	0.352	0.352	21.14	21.14
46	20-Dec-06	500	450	8.18	214	1.2	0.54	0.54	98.7	44.4	44.4	22.1	9.945	9.945	909.41	909.41	0.234	0.234	21.37	21.37
47	28-Dec-06	500	450	7.94	136	1.6	0.63	0.63	59	23.2	23.2	13.5	5.316	5.316	915.49	915.49	0.125	0.125	21.51	21.51
48	3-Jan-07	500	395	8.08	231	1.1	0.507	0.507	108	49.8	49.8	23.8	10.97	10.97	924.89	924.89	0.258	0.258	21.73	21.73
49	10-Jan-07	500	450	7.91	134	4.6	2.07	2.07	60	27	27	12.4	5.58	5.58	930.47	930.47	0.131	0.131	21.86	21.86
50	17-Jan-07	500	420	7.61	141	2.5	1.05	1.05	69.4	29.1	29.1	13.1	5.502	5.502	935.97	935.97	0.129	0.129	21.99	21.99
51	24-Jan-07	500	430	7.86	137	1.7	0.731	0.731	72.5	31.2	31.2	13.3	5.719	5.719	941.69	941.69	0.134	0.134	22.12	22.12
52	31-Jan-07	500	445	7.63	131	1.9	0.846	0.846	63.4	28.2	28.2	13.5	6.008	6.008	947.7	947.7	0.141	0.141	22.26	22.26
53	7-Feb-07	500	430	7.64	127	2.6	1.12	1.12	61.5	26.4	26.4	13.3	5.719	5.719	953.42	953.42	0.134	0.134	22.39	22.39
54	14-Feb-07	500	435	7.89	132	2.7	1.17	1.17	60.3	26.2	26.2	12.2	5.307	5.307	958.73	958.73	0.125	0.125	22.52	22.52
Maximum		750	520	8.41	1220	15.5	7.6	7.6	114	59.3	59.3	551	231.4	231.4	958.73	958.73	5.43	5.43	22.52	22.52
Minimum		500	375	7.16	95.6	0.5	0.21	0.21	34.4	13.8	13.8	11.7	4.68	4.68	231.4	231.4	0.11	0.11	5.43	5.43
Mean		505	454	8.02	208	2.72	1.24	1.24	69.4	31.6	31.6	39	17.45	17.45	709.17	709.17	0.41	0.41	16.66	16.66
Median		500	450	8.09	174	1.9	0.859	0.859	68.5	29.6	29.6	23.6	10.62	10.62	747.31	747.31	0.249	0.249	17.56	17.56
Mean Initial 5 Wk Flush		550	457	8.08	528	6.92	3.27	3.27	73.4	33.6	33.6	189	81.95	81.95	336.09	336.09	1.92	1.92	7.892	7.892
Mean Last 5 Weeks		500	432	7.73	134	2.28	0.983	0.983	65.4	28.2	28.2	13.1	5.651	5.651	947.5	947.5	0.133	0.133	22.26	22.26
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)																				
50% Remaining (Wks)																				
25% Remaining (Wks)																				
0% Remaining (Wks)																				

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison															
Sample:		**F46 (Tailings)**															
		Low-Sulphide Tailings Composite															
Data:		Molar Ratios, Remaining Total Sulphur, Sulphide and Sulphate															
		Remaining % S (Total)				**Remaining % S (Sulphide)**				**Remaining % S (Sulphate) HCl Leachable**				**Remaining % S (Sulphate) Carbonate Leach**			
		Original	Original			Original	Original			Original	Original			Original	Original		
		S (Total)	S (Total)	Remaining	Remaining	S (Sulphide)	S (Sulphide)	Remaining	Remaining	S (Sulphate)	S (Sulphate)	Remaining	Remaining	S (Sulphate)	S (Sulphate)	Remaining	Remaining
Week No.	Date	Remaining	Remaining	S (Total)	S (Total)	Remaining	Remaining	S (Sulphide)	S (Sulphide)	Remaining	Remaining	S (Sulphate)	S (Sulphate)	Remaining	Remaining	S (Sulphate)	S (Sulphate)
		(%)	(%) [1]	(% of original)	(% of original) [1]	(%)	(%) [1]	(% of original)	(% of original) [1]	(%)	(%) [1]	(% of original)	(% of original) [1]	(%)	(%) [1]	(% of original)	(% of original) [1]
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when avaelable)	(does not include final leach data)	(includes final leach data when avaelable)
		Original % S (Total) =			**0.19**	**Original % S (Sulphide) =**			**0.14**	**Original % S (Sulphate) =**			**0.04**	**Original % S (Sulphate) =**			**0.03**
0	1-Feb-06	0.182	0.182	95.94	95.94	0.132	0.132	94.49	94.49	0.032	0.032	80.72	80.72	0.022	0.022	74.29	74.29
1	8-Feb-06	0.18	0.18	94.7	94.7	0.13	0.13	92.8	92.8	0.03	0.03	74.8	74.8	0.02	0.02	66.4	66.4
2	15-Feb-06	0.178	0.178	93.84	93.84	0.128	0.128	91.64	91.64	0.028	0.028	70.73	70.73	0.018	0.018	60.97	60.97
3	22-Feb-06	0.177	0.177	93.23	93.23	0.127	0.127	90.82	90.82	0.027	0.027	67.86	67.86	0.017	0.017	57.15	57.15
4	1-Mar-06	0.176	0.176	92.81	92.81	0.126	0.126	90.24	90.24	0.026	0.026	65.85	65.85	0.016	0.016	54.47	54.47
5	8-Mar-06	0.176	0.176	92.51	92.51	0.126	0.126	89.84	89.84	0.026	0.026	64.44	64.44	0.016	0.016	52.59	52.59
6	15-Mar-06	0.175	0.175	92.19	92.19	0.125	0.125	89.41	89.41	0.025	0.025	62.92	62.92	0.015	0.015	50.56	50.56
7	22-Mar-06	0.174	0.174	91.82	91.82	0.124	0.124	88.9	88.9	0.024	0.024	61.14	61.14	0.014	0.014	48.18	48.18
8	29-Mar-06	0.174	0.174	91.52	91.52	0.124	0.124	88.49	88.49	0.024	0.024	59.71	59.71	0.014	0.014	46.28	46.28
9	5-Apr-06	0.173	0.173	91.18	91.18	0.123	0.123	88.04	88.04	0.023	0.023	58.13	58.13	0.013	0.013	44.17	44.17
10	12-Apr-06	0.173	0.173	90.86	90.86	0.123	0.123	87.6	87.6	0.023	0.023	56.61	56.61	0.013	0.013	42.14	42.14
11	19-Apr-06	0.172	0.172	90.5	90.5	0.122	0.122	87.11	87.11	0.022	0.022	54.89	54.89	0.012	0.012	39.86	39.86
12	26-Apr-06	0.171	0.171	90.18	90.18	0.121	0.121	86.67	86.67	0.021	0.021	53.34	53.34	0.011	0.011	37.78	37.78
13	3-May-06	0.171	0.171	89.91	89.91	0.121	0.121	86.31	86.31	0.021	0.021	52.09	52.09	0.011	0.011	36.12	36.12
14	10-May-06	0.17	0.17	89.61	89.61	0.12	0.12	85.9	85.9	0.02	0.02	50.65	50.65	0.01	0.01	34.19	34.19
15	17-May-06	0.17	0.17	89.33	89.33	0.12	0.12	85.52	85.52	0.02	0.02	49.32	49.32	0.0097	0.0097	32.43	32.43
16	24-May-06	0.169	0.169	89.06	89.06	0.119	0.119	85.16	85.16	0.019	0.019	48.06	48.06	0.0092	0.0092	30.74	30.74
17	31-May-06	0.169	0.169	88.8	88.8	0.119	0.119	84.79	84.79	0.019	0.019	46.78	46.78	0.0087	0.0087	29.04	29.04
18	7-Jun-06	0.168	0.168	88.63	88.63	0.118	0.118	84.57	84.57	0.018	0.018	45.98	45.98	0.0084	0.0084	27.97	27.97
19	14-Jun-06	0.168	0.168	88.41	88.41	0.118	0.118	84.27	84.27	0.018	0.018	44.93	44.93	0.008	0.008	26.58	26.58
20	21-Jun-06	0.168	0.168	88.2	88.2	0.118	0.118	83.98	83.98	0.018	0.018	43.94	43.94	0.0076	0.0076	25.25	25.25
21	28-Jun-06	0.167	0.167	88.01	88.01	0.117	0.117	83.73	83.73	0.017	0.017	43.06	43.06	0.0072	0.0072	24.07	24.07
22	5-Jul-06	0.167	0.167	87.84	87.84	0.117	0.117	83.49	83.49	0.017	0.017	42.22	42.22	0.0069	0.0069	22.97	22.97
23	12-Jul-06	0.166	0.166	87.62	87.62	0.116	0.116	83.2	83.2	0.016	0.016	41.19	41.19	0.0065	0.0065	21.59	21.59
24	19-Jul-06	0.166	0.166	87.46	87.46	0.116	0.116	82.99	82.99	0.016	0.016	40.46	40.46	0.0062	0.0062	20.61	20.61
25	26-Jul-06	0.166	0.166	87.26	87.26	0.116	0.116	82.71	82.71	0.016	0.016	39.48	39.48	0.0058	0.0058	19.31	19.31
26	2-Aug-06	0.165	0.165	87.07	87.07	0.115	0.115	82.46	82.46	0.015	0.015	38.6	38.6	0.0054	0.0054	18.13	18.13
27	9-Aug-06	0.165	0.165	86.89	86.89	0.115	0.115	82.21	82.21	0.015	0.015	37.72	37.72	0.0051	0.0051	16.97	16.97
28	16-Aug-06	0.165	0.165	86.74	86.74	0.115	0.115	82.01	82.01	0.015	0.015	37.03	37.03	0.0048	0.0048	16.05	16.05
29	23-Aug-06	0.164	0.164	86.53	86.53	0.114	0.114	81.72	81.72	0.014	0.014	36.02	36.02	0.0044	0.0044	14.7	14.7
30	30-Aug-06	0.164	0.164	86.38	86.38	0.114	0.114	81.51	81.51	0.014	0.014	35.29	35.29	0.0041	0.0041	13.72	13.72
31	6-Sep-06	0.164	0.164	86.16	86.16	0.114	0.114	81.22	81.22	0.014	0.014	34.25	34.25	0.0037	0.0037	12.34	12.34
32	13-Sep-06	0.163	0.163	85.97	85.97	0.113	0.113	80.96	80.96	0.013	0.013	33.37	33.37	0.0033	0.0033	11.16	11.16
33	20-Sep-06	0.163	0.163	85.89	85.89	0.113	0.113	80.85	80.85	0.013	0.013	32.98	32.98	0.0032	0.0032	10.64	10.64
34	27-Sep-06	0.163	0.163	85.77	85.77	0.113	0.113	80.69	80.69	0.013	0.013	32.42	32.42	0.003	0.003	9.898	9.898
35	4-Oct-06	0.163	0.163	85.62	85.62	0.113	0.113	80.48	80.48	0.013	0.013	31.7	31.7	0.0027	0.0027	8.929	8.929
36	11-Oct-06	0.162	0.162	85.43	85.43	0.112	0.112	80.23	80.23	0.012	0.012	30.81	30.81	0.0023	0.0023	7.75	7.75
37	18-Oct-06	0.162	0.162	85.31	85.31	0.112	0.112	80.06	80.06	0.012	0.012	30.22	30.22	0.0021	0.0021	6.957	6.957
38	25-Oct-06	0.162	0.162	85.17	85.17	0.112	0.112	79.88	79.88	0.012	0.012	29.58	29.58	0.0018	0.0018	6.107	6.107
39	1-Nov-06	0.162	0.162	85.06	85.06	0.112	0.112	79.73	79.73	0.012	0.012	29.04	29.04	0.0016	0.0016	5.389	5.389
40	8-Nov-06	0.161	0.161	84.96	84.96	0.111	0.111	79.59	79.59	0.011	0.011	28.58	28.58	0.0014	0.0014	4.767	4.767
41	15-Nov-06	0.161	0.161	84.86	84.86	0.111	0.111	79.45	79.45	0.011	0.011	28.07	28.07	0.0012	0.0012	4.087	4.087
42	22-Nov-06	0.161	0.161	84.77	84.77	0.111	0.111	79.33	79.33	0.011	0.011	27.66	27.66	0.0011	0.0011	3.541	3.541
43	29-Nov-06	0.161	0.161	84.66	84.66	0.111	0.111	79.18	79.18	0.011	0.011	27.12	27.12	0.00085	0.00085	2.826	2.826
44	6-Dec-06	0.161	0.161	84.48	84.48	0.111	0.111	78.94	78.94	0.011	0.011	26.29	26.29	0.00052	0.00052	1.724	1.724
45	13-Dec-06	0.16	0.16	84.22	84.22	0.11	0.11	78.58	78.58	0.01	0.01	25.05	25.05	0.000018	0.000018	0.06	0.06
46	20-Dec-06	0.16	0.16	84.05	84.05	0.11	0.11	78.35	78.35	0.0097	0.0097	24.22	24.22	-0.00031	-0.00031	-1.046	-1.046
47	28-Dec-06	0.159	0.159	83.94	83.94	0.109	0.109	78.2	78.2	0.0095	0.0095	23.71	23.71	-0.00052	-0.00052	-1.721	-1.721
48	3-Jan-07	0.159	0.159	83.77	83.77	0.109	0.109	77.98	77.98	0.0092	0.0092	22.93	22.93	-0.00083	-0.00083	-2.766	-2.766
49	10-Jan-07	0.159	0.159	83.68	83.68	0.109	0.109	77.85	77.85	0.009	0.009	22.46	22.46	-0.001	-0.001	-3.386	-3.386
50	17-Jan-07	0.159	0.159	83.58	83.58	0.109	0.109	77.72	77.72	0.0088	0.0088	22	22	-0.0012	-0.0012	-3.997	-3.997
51	24-Jan-07	0.159	0.159	83.48	83.48	0.109	0.109	77.58	77.58	0.0086	0.0086	21.53	21.53	-0.0014	-0.0014	-4.632	-4.632
52	31-Jan-07	0.158	0.158	83.37	83.37	0.108	0.108	77.44	77.44	0.0084	0.0084	21.03	21.03	-0.0016	-0.0016	-5.3	-5.3
53	7-Feb-07	0.158	0.158	83.27	83.27	0.108	0.108	77.3	77.3	0.0082	0.0082	20.55	20.55	-0.0018	-0.0018	-5.936	-5.936
54	14-Feb-07	0.158	0.158	83.18	83.18	0.108	0.108	77.17	77.17	0.008	0.008	20.11	20.11	-0.002	-0.002	-6.526	-6.526
Maximum		0.182	0.182	95.94	95.94	0.132	0.132	94.49	94.49	0.032	0.032	80.72	80.72	0.022	0.022	74.29	74.29
Minimum		0.158	0.158	83.18	83.18	0.108	0.108	77.17	77.17	0.008	0.008	20.11	20.11	-0.002	-0.002	-6.526	-6.526
Mean		0.166	0.166	87.56	87.56	0.116	0.116	83.12	83.12	0.016	0.016	40.9	40.9	0.0063	0.0063	21.2	21.2
Median		0.165	0.165	86.89	86.89	0.115	0.115	82.21	82.21	0.015	0.015	37.72	37.72	0.0051	0.0051	16.97	16.97
Mean Initial 5 Wk Flush		0.179	0.179	94.1	94.1	0.129	0.129	92	92	0.029	0.029	71.99	71.99	0.019	0.019	62.66	62.66
Mean Last 5 Weeks		0.158	0.158	83.38	83.38	0.108	0.108	77.44	77.44	0.0084	0.0084	21.04	21.04	-0.0016	-0.0016	-5.278	-5.278
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)				137	137			71	71			1	1			0	0
50% Remaining (Wks)				389	389			257	257			15	15			7	7
25% Remaining (Wks)				641	641			442	442			46	46			21	21
0% Remaining (Wks)				893	893			628	628			98	98			45	45

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																			
Sample:		**F46 (Tailings)**																			
		Low-Sulphide Tailings Composite																			
Data:		Molar Ratios, NP Consumption and Remaining NP																			
		Molar Ratios:												**Theoretical Open-System Below pH 6**							
										Feldspar	Feldspar	Feldspar	Feldspar	NP	NP	Cumulative	Cumulative	Original	Original		
								Carbonate	Carbonate	(Ca+(K/2	(Ca+(K/2	((K/2)+	((K/2)+	Consumption	Consumption	NP	NP	NP	NP	Remaining	Remaining
Week No.	Date	Alk	Alk	Ca+Mg	Ca+Mg			(Ca+Mg)	(Ca+Mg)	+(Na/2))	+(Na/2))	(Na/2))	(Na/2))	At pH 6	At pH 6	Consumption	Consumption	Remaining	Remaining	NP	NP
		/SO_4	/SO_4 [1]	/Alk	/Alk [1]	Ca/SO_4	Ca/SO_4 [1]	/SO_4	/SO_4 [1]	/SO_4	/SO_4 [1]	/SO_4	/SO_4 [1]	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t) [1]	(% of original)	(% of original) [1]
		(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final
		include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data
		leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)
														Original Effective NP (kg CaCO3/t) =			**38**				
0	1-Feb-06	0.12	0.12	7.1	7.1	0.65	0.65	0.86	0.86	1	1	0.378	0.378	241.1	241.1	241.1	241.1	37.76	37.76	99.37	99.37
1	8-Feb-06	0.39	0.39	2.33	2.33	0.67	0.67	0.91	0.91	1.1	1.1	0.434	0.434	73.96	73.96	315.1	315.1	37.68	37.68	99.17	99.17
2	15-Feb-06	0.71	0.71	1.68	1.68	0.85	0.85	1.2	1.2	1.5	1.5	0.631	0.631	50.95	50.95	366.1	366.1	37.63	37.63	99.04	99.04
3	22-Feb-06	1.1	1.1	1.33	1.33	0.97	0.97	1.4	1.4	1.6	1.6	0.604	0.604	35.79	35.79	401.9	401.9	37.6	37.6	98.94	98.94
4	1-Mar-06	1.4	1.4	1.28	1.28	1.3	1.3	1.8	1.8	1.9	1.9	0.635	0.635	25.13	25.13	427	427	37.57	37.57	98.88	98.88
5	8-Mar-06	1.7	1.7	1.29	1.29	1.6	1.6	2.3	2.3	2.3	2.3	0.697	0.697	17.64	17.64	444.6	444.6	37.56	37.56	98.83	98.83
6	15-Mar-06	1.7	1.7	1.29	1.29	1.5	1.5	2.1	2.1	2.1	2.1	0.574	0.574	19.02	19.02	463.6	463.6	37.54	37.54	98.78	98.78
7	22-Mar-06	1.8	1.8	1.16	1.16	1.5	1.5	2.1	2.1	2	2	0.526	0.526	22.35	22.35	486	486	37.51	37.51	98.72	98.72
8	29-Mar-06	1.7	1.7	1.33	1.33	1.7	1.7	2.3	2.3	2.2	2.2	0.524	0.524	17.82	17.82	503.8	503.8	37.5	37.5	98.67	98.67
9	5-Apr-06	1.8	1.8	1.19	1.19	1.5	1.5	2.2	2.2	1.9	1.9	0.495	0.495	19.79	19.79	523.6	523.6	37.48	37.48	98.62	98.62
10	12-Apr-06	1.7	1.7	1.36	1.36	1.6	1.6	2.3	2.3	2.1	2.1	0.465	0.465	19.02	19.02	542.6	542.6	37.46	37.46	98.57	98.57
11	19-Apr-06	1.7	1.7	1.45	1.45	1.8	1.8	2.5	2.5	2.2	2.2	0.462	0.462	21.42	21.42	564	564	37.44	37.44	98.52	98.52
12	26-Apr-06	2	2	1.17	1.17	1.7	1.7	2.4	2.4	2.1	2.1	0.472	0.472	19.48	19.48	583.5	583.5	37.42	37.42	98.46	98.46
13	3-May-06	2.5	2.5	0.955	0.955	1.7	1.7	2.4	2.4	2.2	2.2	0.445	0.445	15.53	15.53	599	599	37.4	37.4	98.42	98.42
14	10-May-06	2	2	1.22	1.22	1.7	1.7	2.5	2.5	2.2	2.2	0.464	0.464	18.11	18.11	617.1	617.1	37.38	37.38	98.38	98.38
15	17-May-06	2.1	2.1	1.15	1.15	1.7	1.7	2.4	2.4	2.2	2.2	0.471	0.471	16.58	16.58	633.7	633.7	37.37	37.37	98.33	98.33
16	24-May-06	2.1	2.1	1.2	1.2	1.8	1.8	2.5	2.5	2.2	2.2	0.448	0.448	15.78	15.78	649.5	649.5	37.35	37.35	98.29	98.29
17	31-May-06	1.9	1.9	1.34	1.34	1.8	1.8	2.6	2.6	2.2	2.2	0.434	0.434	16.01	16.01	665.5	665.5	37.33	37.33	98.25	98.25
18	7-Jun-06	3.6	3.6	1.05	1.05	2.7	2.7	3.7	3.7	3.3	3.3	0.644	0.644	9.969	9.969	675.5	675.5	37.32	37.32	98.22	98.22
19	14-Jun-06	2.8	2.8	1.09	1.09	2.1	2.1	3.1	3.1	2.7	2.7	0.515	0.515	13.1	13.1	688.6	688.6	37.31	37.31	98.19	98.19
20	21-Jun-06	2.4	2.4	1.25	1.25	2	2	2.9	2.9	2.6	2.6	0.511	0.511	12.39	12.39	701	701	37.3	37.3	98.16	98.16
21	28-Jun-06	2.6	2.6	1.17	1.17	2.1	2.1	3	3	2.6	2.6	0.525	0.525	11.07	11.07	712.1	712.1	37.29	37.29	98.13	98.13
22	5-Jul-06	2.7	2.7	1.14	1.14	2.2	2.2	3	3	2.7	2.7	0.489	0.489	10.4	10.4	722.5	722.5	37.28	37.28	98.1	98.1
23	12-Jul-06	2.3	2.3	1.25	1.25	2	2	2.8	2.8	2.5	2.5	0.496	0.496	12.9	12.9	735.4	735.4	37.26	37.26	98.06	98.06
24	19-Jul-06	2.9	2.9	1.08	1.08	2.2	2.2	3.1	3.1	2.7	2.7	0.551	0.551	9.207	9.207	744.6	744.6	37.26	37.26	98.04	98.04
25	26-Jul-06	2.5	2.5	1.18	1.18	2.1	2.1	2.9	2.9	2.6	2.6	0.483	0.483	12.15	12.15	756.8	756.8	37.24	37.24	98.01	98.01
26	2-Aug-06	2.5	2.5	1.2	1.2	2.1	2.1	3	3	2.6	2.6	0.527	0.527	11.08	11.08	767.9	767.9	37.23	37.23	97.98	97.98
27	9-Aug-06	2.6	2.6	1.05	1.05	1.9	1.9	2.7	2.7	2.4	2.4	0.5	0.5	10.93	10.93	778.8	778.8	37.22	37.22	97.95	97.95
28	16-Aug-06	3	3	1.14	1.14	2.4	2.4	3.4	3.4	3	3	0.586	0.586	8.627	8.627	787.4	787.4	37.21	37.21	97.93	97.93
29	23-Aug-06	2.3	2.3	1.15	1.15	1.8	1.8	2.7	2.7	2.3	2.3	0.449	0.449	12.63	12.63	800	800	37.2	37.2	97.89	97.89
30	30-Aug-06	2.5	2.5	1.21	1.21	2.2	2.2	3.1	3.1	2.7	2.7	0.478	0.478	9.157	9.157	809.2	809.2	37.19	37.19	97.87	97.87
31	6-Sep-06	2.8	2.8	1.04	1.04	2	2	2.9	2.9	2.5	2.5	0.503	0.503	12.97	12.97	822.2	822.2	37.18	37.18	97.84	97.84
32	13-Sep-06	2.3	2.3	1.21	1.21	2	2	2.8	2.8	2.5	2.5	0.491	0.491	11.01	11.01	833.2	833.2	37.17	37.17	97.81	97.81
33	20-Sep-06	2.8	2.8	1.21	1.21	2.5	2.5	3.4	3.4	3	3	0.546	0.546	4.876	4.876	838.1	838.1	37.16	37.16	97.79	97.79
34	27-Sep-06	3.8	3.8	0.886	0.886	2.3	2.3	3.3	3.3	2.9	2.9	0.564	0.564	7.002	7.002	845.1	845.1	37.15	37.15	97.78	97.78
35	4-Oct-06	3.3	3.3	1.04	1.04	2.4	2.4	3.4	3.4	3	3	0.554	0.554	9.088	9.088	854.2	854.2	37.15	37.15	97.75	97.75
36	11-Oct-06	3.2	3.2	1.04	1.04	2.3	2.3	3.4	3.4	2.9	2.9	0.573	0.573	11.06	11.06	865.3	865.3	37.13	37.13	97.72	97.72
37	18-Oct-06	3.3	3.3	1.06	1.06	2.5	2.5	3.5	3.5	3.1	3.1	0.59	0.59	7.44	7.44	872.7	872.7	37.13	37.13	97.7	97.7
38	25-Oct-06	3.5	3.5	1.11	1.11	2.8	2.8	3.9	3.9	3.4	3.4	0.632	0.632	7.969	7.969	880.7	880.7	37.12	37.12	97.68	97.68
39	1-Nov-06	4	4	1.09	1.09	3	3	4.4	4.4	3.7	3.7	0.714	0.714	6.732	6.732	887.4	887.4	37.11	37.11	97.66	97.66
40	8-Nov-06	4.8	4.8	0.944	0.944	3.1	3.1	4.5	4.5	3.9	3.9	0.73	0.73	5.835	5.835	893.2	893.2	37.11	37.11	97.65	97.65
41	15-Nov-06	4.8	4.8	0.918	0.918	3.1	3.1	4.4	4.4	3.8	3.8	0.743	0.743	6.377	6.377	899.6	899.6	37.1	37.1	97.63	97.63
42	22-Nov-06	4.8	4.8	0.963	0.963	3.3	3.3	4.6	4.6	4	4	0.702	0.702	5.119	5.119	904.7	904.7	37.1	37.1	97.62	97.62
43	29-Nov-06	3.9	3.9	1.08	1.08	3	3	4.2	4.2	3.7	3.7	0.669	0.669	6.705	6.705	911.4	911.4	37.09	37.09	97.6	97.6
44	6-Dec-06	3.9	3.9	1.16	1.16	2.7	2.7	4.5	4.5	2.9	2.9	0.186	0.186	10.33	10.33	921.7	921.7	37.08	37.08	97.57	97.57
45	13-Dec-06	3.8	3.8	1.19	1.19	2.6	2.6	4.5	4.5	2.8	2.8	0.194	0.194	15.61	15.61	937.3	937.3	37.06	37.06	97.53	97.53
46	20-Dec-06	4.3	4.3	1.17	1.17	3.1	3.1	5	5	3.3	3.3	0.219	0.219	10.36	10.36	947.7	947.7	37.05	37.05	97.51	97.51
47	28-Dec-06	3.7	3.7	0.923	0.923	2.7	2.7	3.9	3.9	3.4	3.4	0.661	0.661	5.539	5.539	954	954	37.05	37.05	97.49	97.49
48	3-Jan-07	5.1	5.1	1.38	1.38	3.7	3.7	6	6	3.9	3.9	0.242	0.242	11.43	11.43	963.8	963.8	37.04	37.04	97.46	97.46
49	10-Jan-07	4.6	4.6	0.995	0.995	3.3	3.3	4.6	4.6	4.1	4.1	0.803	0.803	5.814	5.814	969.6	969.6	37.03	37.03	97.45	97.45
50	17-Jan-07	5.1	5.1	0.939	0.939	3.3	3.3	4.8	4.8	4.1	4.1	0.743	0.743	5.733	5.733	975.3	975.3	37.02	37.02	97.43	97.43
51	24-Jan-07	5.2	5.2	0.899	0.899	3.3	3.3	4.7	4.7	4	4	0.732	0.732	5.959	5.959	981.3	981.3	37.02	37.02	97.42	97.42
52	31-Jan-07	4.5	4.5	0.912	0.912	2.9	2.9	4.1	4.1	3.6	3.6	0.663	0.663	6.26	6.26	987.6	987.6	37.01	37.01	97.4	97.4
53	7-Feb-07	4.4	4.4	0.94	0.94	2.9	2.9	4.2	4.2	3.6	3.6	0.673	0.673	5.959	5.959	993.6	993.6	37.01	37.01	97.39	97.39
54	14-Feb-07	4.7	4.7	0.982	0.982	3.3	3.3	4.7	4.7	4	4	0.74	0.74	5.53	5.53	999.1	999.1	37	37	97.37	97.37
Maximum		5.2	5.2	7.1	7.1	3.7	3.7	6	6	4.1	4.1	0.803	0.803	241.1	241.1	999.1	999.1	37.76	37.76	99.37	99.37
Minimum		0.12	0.12	0.886	0.886	0.65	0.65	0.86	0.86	1	1	0.186	0.186	4.876	4.876	241.1	241.1	37	37	97.37	97.37
Mean		2.9	2.9	1.27	1.27	2.2	2.2	3.2	3.2	2.8	2.8	0.541	0.541	18.18	18.18	739	739	37.26	37.26	98.05	98.05
Median		2.7	2.7	1.16	1.16	2.1	2.1	3	3	2.7	2.7	0.526	0.526	11.07	11.07	778.8	778.8	37.22	37.22	97.95	97.95
Mean Initial 5 Wk Flush		0.74	0.74	2.74	2.74	0.89	0.89	1.2	1.2	1.4	1.4	0.536	0.536	85.39	85.39	350.2	350.2	37.65	37.65	99.08	99.08
Mean Last 5 Weeks		4.8	4.8	0.934	0.934	3.1	3.1	4.5	4.5	3.9	3.9	0.71	0.71	5.888	5.888	987.4	987.4	37.01	37.01	97.4	97.4
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)																				1499	1499
50% Remaining (Wks)																				3112	3112
25% Remaining (Wks)																				4726	4726
0% Remaining (Wks)																				6339	6339
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																			
		[1] Includes Final Leach data distributed evenly over all weeks																			

Project:		Morrison																
Sample:		**F46 (Tailings)**																
		Low-Sulphide Tailings Composite																
Data:		NP Consumption and Remaining NP																
		Empirical Open System								**Carbonate Molar Ratio**								
										Carbonate	Carbonate	Cumulative	Cumulative	Original	Original			
		NP	NP	Cumulative	Cumulative	Original	Original			Molar Ratio	Molar Ratio	NP Consumption	NP Consumption	NP Remaining	NP Remaining	Remaining	Remaining	
		Consumption	Consumption at	NP	NP	NP	NP	Remaining	Remaining	NP	NP	Carbonate	Carbonate	Carbonate	Carbonate	NP	NP	
Week No.	Date	At Measured pH	Measured pH	Consumption	Consumption	Remaining	Remaining	NP	NP	Consumption	Consumption	Molar Ratio	Molar Ratio	Molar Ratio	Molar Ratio	Carbonate	Carbonate	
		(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]	
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	
		Original Effective NP (kg CaCO3/t) =			**38**					**Original Effective NP (kg CaCO3/t) =**			**38**					
0	1-Feb-06	269	269	269	269	37.73	37.73	99.29	99.29	207	207	207	207	37.79	37.79	99.46	99.46	
1	8-Feb-06	101	101	370	370	37.63	37.63	99.03	99.03	67.3	67.3	274.3	274.3	37.73	37.73	99.28	99.28	
2	15-Feb-06	79.6	79.6	449.6	449.6	37.55	37.55	98.82	98.82	61.1	61.1	335.4	335.4	37.66	37.66	99.12	99.12	
3	22-Feb-06	71.3	71.3	520.9	520.9	37.48	37.48	98.63	98.63	50.1	50.1	385.5	385.5	37.61	37.61	98.99	98.99	
4	1-Mar-06	57.6	57.6	578.5	578.5	37.42	37.42	98.48	98.48	45.2	45.2	430.7	430.7	37.57	37.57	98.87	98.87	
5	8-Mar-06	46.3	46.3	624.8	624.8	37.38	37.38	98.36	98.36	40.6	40.6	471.3	471.3	37.53	37.53	98.76	98.76	
6	15-Mar-06	47.8	47.8	672.6	672.6	37.33	37.33	98.23	98.23	39.9	39.9	511.2	511.2	37.49	37.49	98.65	98.65	
7	22-Mar-06	59.6	59.6	732.2	732.2	37.27	37.27	98.07	98.07	46.9	46.9	558.1	558.1	37.44	37.44	98.53	98.53	
8	29-Mar-06	48.4	48.4	780.6	780.6	37.22	37.22	97.95	97.95	41	41	599.1	599.1	37.4	37.4	98.42	98.42	
9	5-Apr-06	54.6	54.6	835.2	835.2	37.16	37.16	97.8	97.8	43.5	43.5	642.6	642.6	37.36	37.36	98.31	98.31	
10	12-Apr-06	49.7	49.7	884.9	884.9	37.12	37.12	97.67	97.67	43.7	43.7	686.3	686.3	37.31	37.31	98.19	98.19	
11	19-Apr-06	57.5	57.5	942.4	942.4	37.06	37.06	97.52	97.52	53.6	53.6	739.9	739.9	37.26	37.26	98.05	98.05	
12	26-Apr-06	58.6	58.6	1001	1001	37	37	97.37	97.37	46.8	46.8	786.7	786.7	37.21	37.21	97.93	97.93	
13	3-May-06	51.6	51.6	1053	1053	36.95	36.95	97.23	97.23	37.3	37.3	824	824	37.18	37.18	97.83	97.83	
14	10-May-06	53.7	53.7	1107	1107	36.89	36.89	97.09	97.09	45.3	45.3	869.3	869.3	37.13	37.13	97.71	97.71	
15	17-May-06	51.1	51.1	1158	1158	36.84	36.84	96.95	96.95	39.8	39.8	909.1	909.1	37.09	37.09	97.61	97.61	
16	24-May-06	47.1	47.1	1205	1205	36.8	36.8	96.83	96.83	39.5	39.5	948.6	948.6	37.05	37.05	97.5	97.5	
17	31-May-06	46	46	1251	1251	36.75	36.75	96.71	96.71	41.6	41.6	990.2	990.2	37.01	37.01	97.39	97.39	
18	7-Jun-06	44.4	44.4	1295	1295	36.71	36.71	96.59	96.59	36.9	36.9	1027	1027	36.97	36.97	97.3	97.3	
19	14-Jun-06	49.4	49.4	1344	1344	36.66	36.66	96.46	96.46	40.6	40.6	1068	1068	36.93	36.93	97.19	97.19	
20	21-Jun-06	41	41	1385	1385	36.62	36.62	96.36	96.36	35.9	35.9	1104	1104	36.9	36.9	97.09	97.09	
21	28-Jun-06	39	39	1424	1424	36.58	36.58	96.25	96.25	33.2	33.2	1137	1137	36.86	36.86	97.01	97.01	
22	5-Jul-06	37.5	37.5	1462	1462	36.54	36.54	96.15	96.15	31.2	31.2	1168	1168	36.83	36.83	96.93	96.93	
23	12-Jul-06	40.8	40.8	1503	1503	36.5	36.5	96.04	96.04	36.1	36.1	1204	1204	36.8	36.8	96.83	96.83	
24	19-Jul-06	33.4	33.4	1536	1536	36.46	36.46	95.96	95.96	28.5	28.5	1233	1233	36.77	36.77	96.76	96.76	
25	26-Jul-06	41.4	41.4	1577	1577	36.42	36.42	95.85	95.85	35.2	35.2	1268	1268	36.73	36.73	96.66	96.66	
26	2-Aug-06	37.6	37.6	1615	1615	36.39	36.39	95.75	95.75	33.2	33.2	1301	1301	36.7	36.7	96.58	96.58	
27	9-Aug-06	39.1	39.1	1654	1654	36.35	36.35	95.65	95.65	29.5	29.5	1331	1331	36.67	36.67	96.5	96.5	
28	16-Aug-06	32.6	32.6	1687	1687	36.31	36.31	95.56	95.56	29.3	29.3	1360	1360	36.64	36.64	96.42	96.42	
29	23-Aug-06	41	41	1728	1728	36.27	36.27	95.45	95.45	34.1	34.1	1394	1394	36.61	36.61	96.33	96.33	
30	30-Aug-06	31.1	31.1	1759	1759	36.24	36.24	95.37	95.37	28.4	28.4	1422	1422	36.58	36.58	96.26	96.26	
31	6-Sep-06	48.3	48.3	1807	1807	36.19	36.19	95.24	95.24	37.6	37.6	1460	1460	36.54	36.54	96.16	96.16	
32	13-Sep-06	35	35	1842	1842	36.16	36.16	95.15	95.15	30.8	30.8	1491	1491	36.51	36.51	96.08	96.08	
33	20-Sep-06	18.2	18.2	1860	1860	36.14	36.14	95.11	95.11	16.6	16.6	1508	1508	36.49	36.49	96.03	96.03	
34	27-Sep-06	32.7	32.7	1893	1893	36.11	36.11	95.02	95.02	23.1	23.1	1531	1531	36.47	36.47	95.97	95.97	
35	4-Oct-06	37.6	37.6	1931	1931	36.07	36.07	94.92	94.92	30.9	30.9	1562	1562	36.44	36.44	95.89	95.89	
36	11-Oct-06	45.9	45.9	1977	1977	36.02	36.02	94.8	94.8	37.6	37.6	1600	1600	36.4	36.4	95.79	95.79	
37	18-Oct-06	30.7	30.7	2008	2008	35.99	35.99	94.72	94.72	26	26	1626	1626	36.37	36.37	95.72	95.72	
38	25-Oct-06	34.8	34.8	2043	2043	35.96	35.96	94.62	94.62	31.1	31.1	1657	1657	36.34	36.34	95.64	95.64	
39	1-Nov-06	33	33	2076	2076	35.92	35.92	94.54	94.54	29.6	29.6	1687	1687	36.31	36.31	95.56	95.56	
40	8-Nov-06	32.9	32.9	2109	2109	35.89	35.89	94.45	94.45	26.3	26.3	1713	1713	36.29	36.29	95.49	95.49	
41	15-Nov-06	36.6	36.6	2146	2146	35.85	35.85	94.35	94.35	28.1	28.1	1741	1741	36.26	36.26	95.42	95.42	
42	22-Nov-06	28.7	28.7	2175	2175	35.83	35.83	94.28	94.28	23.5	23.5	1765	1765	36.24	36.24	95.36	95.36	
43	29-Nov-06	31.7	31.7	2207	2207	35.79	35.79	94.19	94.19	28.2	28.2	1793	1793	36.21	36.21	95.28	95.28	
44	6-Dec-06	50.1	50.1	2257	2257	35.74	35.74	94.06	94.06	46.5	46.5	1840	1840	36.16	36.16	95.16	95.16	
45	13-Dec-06	74.7	74.7	2332	2332	35.67	35.67	93.86	93.86	70.2	70.2	1910	1910	36.09	36.09	94.97	94.97	
46	20-Dec-06	54.2	54.2	2386	2386	35.61	35.61	93.72	93.72	51.8	51.8	1962	1962	36.04	36.04	94.84	94.84	
47	28-Dec-06	28.1	28.1	2418	2418	35.58	35.58	93.64	93.64	21.6	21.6	1987	1987	36.01	36.01	94.77	94.77	
48	3-Jan-07	60.7	60.7	2470	2470	35.53	35.53	93.5	93.5	68.6	68.6	2046	2046	35.95	35.95	94.62	94.62	
49	10-Jan-07	30.7	30.7	2501	2501	35.5	35.5	93.42	93.42	26.7	26.7	2073	2073	35.93	35.93	94.54	94.54	
50	17-Jan-07	33.8	33.8	2535	2535	35.47	35.47	93.33	93.33	27.5	27.5	2101	2101	35.9	35.9	94.47	94.47	
51	24-Jan-07	36.4	36.4	2571	2571	35.43	35.43	93.23	93.23	28	28	2129	2129	35.87	35.87	94.4	94.4	
52	31-Jan-07	33.6	33.6	2605	2605	35.4	35.4	93.14	93.14	25.7	25.7	2155	2155	35.85	35.85	94.33	94.33	
53	7-Feb-07	31.2	31.2	2636	2636	35.36	35.36	93.06	93.06	25	25	2180	2180	35.82	35.82	94.26	94.26	
54	14-Feb-07	30.6	30.6	2667	2667	35.33	35.33	92.98	92.98	26	26	2206	2206	35.79	35.79	94.19	94.19	
Maximum		269	269	2667	2667	37.73	37.73	99.29	99.29	207	207	2206	2206	37.79	37.79	99.46	99.46	
Minimum		18.2	18.2	269	269	35.33	35.33	92.98	92.98	16.6	16.6	207	207	35.79	35.79	94.19	94.19	
Mean		48.5	48.5	1597	1597	36.4	36.4	95.8	95.8	40.2	40.2	1289	1289	36.71	36.71	96.61	96.61	
Median		41	41	1654	1654	36.35	36.35	95.65	95.65	35.9	35.9	1331	1331	36.67	36.67	96.5	96.5	
Mean Initial 5 Wk Flush		116	116	437.6	437.6	37.56	37.56	98.85	98.85	86.1	86.1	326.6	326.6	37.67	37.67	99.14	99.14	
Mean Last 5 Weeks		33.1	33.1	2603	2603	35.4	35.4	93.15	93.15	26.4	26.4	2154	2154	35.85	35.85	94.33	94.33	
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
75% Remaining (Wks)								261	261							331	331	
50% Remaining (Wks)								548	548							691	691	
25% Remaining (Wks)								835	835							1051	1051	
0% Remaining (Wks)								1122	1122							1411	1411	
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																
		[1] Includes Final Leach data distributed evenly over all weeks																

Project:		Morrison															
Sample:		**F46 (Tailings)**															
		Low-Sulphide Tailings Composite															
Data:		NP Consumption and Remaining NP															
		Feldspar Molar Ratio								**Feldspar Molar Ratio (without calcium contribution)**							
		Feldspar	Feldspar	Cumulative	Cumulative	Original	Original			Feldspar (no Ca)	Feldspar (no Ca)	Cumulative	Cumulative	Original	Original		
		Molar Ratio	Molar Ratio	NP Consumption	NP Consumption	NP Remaining	NP Remaining	Remaining	Remaining	Molar Ratio	Molar Ratio	NP Consumption	NP Consumption	NP Remaining	NP Remaining	Remaining	Remaining
		NP	NP	Feldspar	Feldspar	Feldspar	Feldspar	NP	NP	NP	NP	Feldspar (no Ca)	Feldspar (no Ca)	Feldspar (no Ca)	Feldspar (no Ca)	NP	NP
Week No.	Date	Consumption	Consumption	Molar Ratio	Molar Ratio	Molar Ratio	Molar Ratio	Feldspar	Feldspar	Consumption	Consumption	Molar Ratio	Molar Ratio	Molar Ratio	Molar Ratio	Feldspar (no Ca)	Feldspar (no Ca)
		(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Effective NP (kg CaCO3/t) =			**38**					**Original Effective NP (kg CaCO3/t) =**			**38**				
0	1-Feb-06	241	241	241	241	37.76	37.76	99.37	99.37	91.1	91.1	91.1	91.1	37.91	37.91	99.76	99.76
1	8-Feb-06	81.4	81.4	322.4	322.4	37.68	37.68	99.15	99.15	32.1	32.1	123	123	37.88	37.88	99.68	99.68
2	15-Feb-06	76.4	76.4	398.8	398.8	37.6	37.6	98.95	98.95	32.1	32.1	155	155	37.85	37.85	99.59	99.59
3	22-Feb-06	57.3	57.3	456.1	456.1	37.54	37.54	98.8	98.8	21.6	21.6	177	177	37.82	37.82	99.53	99.53
4	1-Mar-06	47.7	47.7	503.8	503.8	37.5	37.5	98.67	98.67	16	16	193	193	37.81	37.81	99.49	99.49
5	8-Mar-06	40.6	40.6	544.4	544.4	37.46	37.46	98.57	98.57	12.3	12.3	205	205	37.8	37.8	99.46	99.46
6	15-Mar-06	39.9	39.9	584.3	584.3	37.42	37.42	98.46	98.46	10.9	10.9	216	216	37.78	37.78	99.43	99.43
7	22-Mar-06	44.7	44.7	629	629	37.37	37.37	98.34	98.34	11.8	11.8	228	228	37.77	37.77	99.4	99.4
8	29-Mar-06	39.2	39.2	668.2	668.2	37.33	37.33	98.24	98.24	9.34	9.34	237	237	37.76	37.76	99.38	99.38
9	5-Apr-06	37.6	37.6	705.8	705.8	37.29	37.29	98.14	98.14	9.8	9.8	247	247	37.75	37.75	99.35	99.35
10	12-Apr-06	39.9	39.9	745.7	745.7	37.25	37.25	98.04	98.04	8.84	8.84	256	256	37.74	37.74	99.33	99.33
11	19-Apr-06	47.1	47.1	792.8	792.8	37.21	37.21	97.91	97.91	9.9	9.9	266	266	37.73	37.73	99.3	99.3
12	26-Apr-06	40.9	40.9	833.7	833.7	37.17	37.17	97.81	97.81	9.19	9.19	275	275	37.73	37.73	99.28	99.28
13	3-May-06	34.2	34.2	867.9	867.9	37.13	37.13	97.72	97.72	6.91	6.91	282	282	37.72	37.72	99.26	99.26
14	10-May-06	39.8	39.8	907.7	907.7	37.09	37.09	97.61	97.61	8.4	8.4	290	290	37.71	37.71	99.24	99.24
15	17-May-06	36.5	36.5	944.2	944.2	37.06	37.06	97.52	97.52	7.81	7.81	298	298	37.7	37.7	99.22	99.22
16	24-May-06	34.7	34.7	978.9	978.9	37.02	37.02	97.42	97.42	7.07	7.07	305	305	37.7	37.7	99.2	99.2
17	31-May-06	35.2	35.2	1014	1014	36.99	36.99	97.33	97.33	6.95	6.95	312	312	37.69	37.69	99.18	99.18
18	7-Jun-06	32.9	32.9	1047	1047	36.95	36.95	97.24	97.24	6.42	6.42	318	318	37.68	37.68	99.16	99.16
19	14-Jun-06	35.4	35.4	1082	1082	36.92	36.92	97.15	97.15	6.75	6.75	325	325	37.68	37.68	99.14	99.14
20	21-Jun-06	32.2	32.2	1114	1114	36.89	36.89	97.07	97.07	6.33	6.33	331	331	37.67	37.67	99.13	99.13
21	28-Jun-06	28.8	28.8	1143	1143	36.86	36.86	96.99	96.99	5.81	5.81	337	337	37.66	37.66	99.11	99.11
22	5-Jul-06	28.1	28.1	1171	1171	36.83	36.83	96.92	96.92	5.09	5.09	342	342	37.66	37.66	99.1	99.1
23	12-Jul-06	32.3	32.3	1203	1203	36.8	36.8	96.83	96.83	6.4	6.4	348	348	37.65	37.65	99.08	99.08
24	19-Jul-06	24.9	24.9	1228	1228	36.77	36.77	96.77	96.77	5.07	5.07	353	353	37.65	37.65	99.07	99.07
25	26-Jul-06	31.6	31.6	1260	1260	36.74	36.74	96.68	96.68	5.87	5.87	359	359	37.64	37.64	99.06	99.06
26	2-Aug-06	28.8	28.8	1289	1289	36.71	36.71	96.61	96.61	5.84	5.84	365	365	37.64	37.64	99.04	99.04
27	9-Aug-06	26.2	26.2	1315	1315	36.69	36.69	96.54	96.54	5.47	5.47	370	370	37.63	37.63	99.03	99.03
28	16-Aug-06	25.9	25.9	1341	1341	36.66	36.66	96.47	96.47	5.06	5.06	375	375	37.63	37.63	99.01	99.01
29	23-Aug-06	29	29	1370	1370	36.63	36.63	96.39	96.39	5.67	5.67	381	381	37.62	37.62	99	99
30	30-Aug-06	24.7	24.7	1395	1395	36.61	36.61	96.33	96.33	4.38	4.38	385	385	37.62	37.62	98.99	98.99
31	6-Sep-06	32.4	32.4	1427	1427	36.57	36.57	96.24	96.24	6.52	6.52	392	392	37.61	37.61	98.97	98.97
32	13-Sep-06	27.5	27.5	1455	1455	36.55	36.55	96.17	96.17	5.41	5.41	397	397	37.6	37.6	98.96	98.96
33	20-Sep-06	14.6	14.6	1470	1470	36.53	36.53	96.13	96.13	2.66	2.66	400	400	37.6	37.6	98.95	98.95
34	27-Sep-06	20.3	20.3	1490	1490	36.51	36.51	96.08	96.08	3.95	3.95	404	404	37.6	37.6	98.94	98.94
35	4-Oct-06	27.3	27.3	1517	1517	36.48	36.48	96.01	96.01	5.03	5.03	409	409	37.59	37.59	98.92	98.92
36	11-Oct-06	32.1	32.1	1549	1549	36.45	36.45	95.92	95.92	6.34	6.34	415	415	37.59	37.59	98.91	98.91
37	18-Oct-06	23.1	23.1	1572	1572	36.43	36.43	95.86	95.86	4.39	4.39	419	419	37.58	37.58	98.9	98.9
38	25-Oct-06	27.1	27.1	1599	1599	36.4	36.4	95.79	95.79	5.04	5.04	424	424	37.58	37.58	98.88	98.88
39	1-Nov-06	24.9	24.9	1624	1624	36.38	36.38	95.73	95.73	4.81	4.81	429	429	37.57	37.57	98.87	98.87
40	8-Nov-06	22.8	22.8	1647	1647	36.35	36.35	95.67	95.67	4.26	4.26	433	433	37.57	37.57	98.86	98.86
41	15-Nov-06	24.2	24.2	1671	1671	36.33	36.33	95.6	95.6	4.74	4.74	438	438	37.56	37.56	98.85	98.85
42	22-Nov-06	20.5	20.5	1692	1692	36.31	36.31	95.55	95.55	3.59	3.59	442	442	37.56	37.56	98.84	98.84
43	29-Nov-06	24.8	24.8	1717	1717	36.28	36.28	95.48	95.48	4.49	4.49	446	446	37.55	37.55	98.83	98.83
44	6-Dec-06	30	30	1747	1747	36.25	36.25	95.4	95.4	1.92	1.92	448	448	37.55	37.55	98.82	98.82
45	13-Dec-06	43.7	43.7	1791	1791	36.21	36.21	95.29	95.29	3.03	3.03	451	451	37.55	37.55	98.81	98.81
46	20-Dec-06	34.2	34.2	1825	1825	36.18	36.18	95.2	95.2	2.27	2.27	453	453	37.55	37.55	98.81	98.81
47	28-Dec-06	18.8	18.8	1846	1846	36.15	36.15	95.14	95.14	3.66	3.66	457	457	37.54	37.54	98.8	98.8
48	3-Jan-07	44.6	44.6	1884	1884	36.12	36.12	95.04	95.04	2.77	2.77	459	459	37.54	37.54	98.79	98.79
49	10-Jan-07	23.8	23.8	1908	1908	36.09	36.09	94.98	94.98	4.67	4.67	464	464	37.54	37.54	98.78	98.78
50	17-Jan-07	23.5	23.5	1932	1932	36.07	36.07	94.92	94.92	4.26	4.26	468	468	37.53	37.53	98.77	98.77
51	24-Jan-07	23.8	23.8	1956	1956	36.04	36.04	94.85	94.85	4.36	4.36	472	472	37.53	37.53	98.76	98.76
52	31-Jan-07	22.5	22.5	1979	1979	36.02	36.02	94.79	94.79	4.15	4.15	476	476	37.52	37.52	98.75	98.75
53	7-Feb-07	21.5	21.5	2001	2001	36	36	94.73	94.73	4.01	4.01	480	480	37.52	37.52	98.74	98.74
54	14-Feb-07	22.1	22.1	2023	2023	35.98	35.98	94.68	94.68	4.09	4.09	484	484	37.52	37.52	98.73	98.73
Maximum		241	241	2023	2023	37.76	37.76	99.37	99.37	91.1	91.1	484	484	37.91	37.91	99.76	99.76
Minimum		14.6	14.6	241	241	35.98	35.98	94.68	94.68	1.92	1.92	91.1	91.1	37.52	37.52	98.73	98.73
Mean		36.8	36.8	1262	1262	36.74	36.74	96.68	96.68	8.85	8.85	351	351	37.65	37.65	99.08	99.08
Median		31.6	31.6	1315	1315	36.69	36.69	96.54	96.54	5.67	5.67	370	370	37.63	37.63	99.03	99.03
Mean Initial 5 Wk Flush		101	101	384.4	384.4	37.62	37.62	98.99	98.99	38.6	38.6	148	148	37.85	37.85	99.61	99.61
Mean Last 5 Weeks		22.7	22.7	1978	1978	36.02	36.02	94.79	94.79	4.17	4.17	476	476	37.52	37.52	98.75	98.75
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)								384	384							2217	2217
50% Remaining (Wks)								803	803							4496	4496
25% Remaining (Wks)								1221	1221							6774	6774
0% Remaining (Wks)								1640	1640							9052	9052

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison										
Sample:		**F46 (Tailings)**										
		Low-Sulphide Tailings Composite										
Data:		NP Consumption and Remaining NP										
		Theoretical Closed-System										
		Theoretical	Theoretical	Cumulative	Cumulative	Original	Original					
		Closed-System	Closed-System	NP	NP	NP	NP	Remaining	Remaining			
		NP Consumption	NP Consumption	Consumption	Consumption	Remaining	Remaining	NP	NP			
Week No.	Date	Above pH 6.5	Above pH 6.5	Closed-System	Closed-System	Closed-System	Closed-System	Closed-System	Closed-System			
		(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]			
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			
		Original Effective NP (kg CaCO3/t) =			**38**							
0	1-Feb-06	481	481	481	481	37.5	37.5	98.73	98.73			
1	8-Feb-06	146	146	627	627	37.4	37.4	98.35	98.35			
2	15-Feb-06	94.3	94.3	721.3	721.3	37.3	37.3	98.1	98.1			
3	22-Feb-06	69.4	69.4	790.7	790.7	37.2	37.2	97.92	97.92			
4	1-Mar-06	46.7	46.7	837.4	837.4	37.2	37.2	97.8	97.8			
5	8-Mar-06	33.1	33.1	870.5	870.5	37.1	37.1	97.71	97.71			
6	15-Mar-06	35.4	35.4	905.9	905.9	37.1	37.1	97.62	97.62			
7	22-Mar-06	41.3	41.3	947.2	947.2	37.1	37.1	97.51	97.51			
8	29-Mar-06	35.1	35.1	982.3	982.3	37	37	97.42	97.42			
9	5-Apr-06	38.5	38.5	1021	1021	37	37	97.31	97.31			
10	12-Apr-06	37.1	37.1	1058	1058	36.9	36.9	97.22	97.22			
11	19-Apr-06	41.9	41.9	1100	1100	36.9	36.9	97.11	97.11			
12	26-Apr-06	38.3	38.3	1138	1138	36.9	36.9	97.01	97.01			
13	3-May-06	28.1	28.1	1166	1166	36.8	36.8	96.93	96.93			
14	10-May-06	35.5	35.5	1202	1202	36.8	36.8	96.84	96.84			
15	17-May-06	32.3	32.3	1234	1234	36.8	36.8	96.75	96.75			
16	24-May-06	30.2	30.2	1264	1264	36.7	36.7	96.67	96.67			
17	31-May-06	31.3	31.3	1295	1295	36.7	36.7	96.59	96.59			
18	7-Jun-06	18.7	18.7	1314	1314	36.7	36.7	96.54	96.54			
19	14-Jun-06	25.3	25.3	1339	1339	36.7	36.7	96.48	96.48			
20	21-Jun-06	24.3	24.3	1363	1363	36.6	36.6	96.41	96.41			
21	28-Jun-06	21.6	21.6	1385	1385	36.6	36.6	96.36	96.36			
22	5-Jul-06	20.1	20.1	1405	1405	36.6	36.6	96.3	96.3			
23	12-Jul-06	24.4	24.4	1429	1429	36.6	36.6	96.24	96.24			
24	19-Jul-06	16.3	16.3	1445	1445	36.6	36.6	96.2	96.2			
25	26-Jul-06	23.5	23.5	1469	1469	36.5	36.5	96.13	96.13			
26	2-Aug-06	21.5	21.5	1491	1491	36.5	36.5	96.08	96.08			
27	9-Aug-06	21.6	21.6	1513	1513	36.5	36.5	96.02	96.02			
28	16-Aug-06	15.6	15.6	1529	1529	36.5	36.5	95.98	95.98			
29	23-Aug-06	24.4	24.4	1553	1553	36.4	36.4	95.91	95.91			
30	30-Aug-06	17	17	1570	1570	36.4	36.4	95.87	95.87			
31	6-Sep-06	25.2	25.2	1595	1595	36.4	36.4	95.8	95.8			
32	13-Sep-06	20.5	20.5	1616	1616	36.4	36.4	95.75	95.75			
33	20-Sep-06	9.27	9.27	1625	1625	36.4	36.4	95.72	95.72			
34	27-Sep-06	13.4	13.4	1638	1638	36.4	36.4	95.69	95.69			
35	4-Oct-06	17.1	17.1	1655	1655	36.3	36.3	95.64	95.64			
36	11-Oct-06	21.3	21.3	1676	1676	36.3	36.3	95.59	95.59			
37	18-Oct-06	13.8	13.8	1690	1690	36.3	36.3	95.55	95.55			
38	25-Oct-06	14.9	14.9	1705	1705	36.3	36.3	95.51	95.51			
39	1-Nov-06	12.8	12.8	1718	1718	36.3	36.3	95.48	95.48			
40	8-Nov-06	10.8	10.8	1729	1729	36.3	36.3	95.45	95.45			
41	15-Nov-06	12.2	12.2	1741	1741	36.3	36.3	95.42	95.42			
42	22-Nov-06	9.56	9.56	1751	1751	36.2	36.2	95.39	95.39			
43	29-Nov-06	12.6	12.6	1764	1764	36.2	36.2	95.36	95.36			
44	6-Dec-06	20.5	20.5	1785	1785	36.2	36.2	95.3	95.3			
45	13-Dec-06	31	31	1816	1816	36.2	36.2	95.22	95.22			
46	20-Dec-06	20.2	20.2	1836	1836	36.2	36.2	95.17	95.17			
47	28-Dec-06	10.4	10.4	1848	1848	36.2	36.2	95.14	95.14			
48	3-Jan-07	22.4	22.4	1867	1867	36.1	36.1	95.09	95.09			
49	10-Jan-07	9.56	9.56	1877	1877	36.1	36.1	95.06	95.06			
50	17-Jan-07	10.4	10.4	1887	1887	36.1	36.1	95.03	95.03			
51	24-Jan-07	11.2	11.2	1898	1898	36.1	36.1	95.01	95.01			
52	31-Jan-07	11.7	11.7	1910	1910	36.1	36.1	94.97	94.97			
53	7-Feb-07	10.8	10.8	1921	1921	36.1	36.1	94.94	94.94			
54	14-Feb-07	9.89	9.89	1931	1931	36.1	36.1	94.92	94.92			
Maximum		481	481	1931	1931	37.5	37.5	98.73	98.73			
Minimum		9.27	9.27	481	481	36.1	36.1	94.92	94.92			
Mean		35.1	35.1	1435	1435	36.6	36.6	96.22	96.22			
Median		21.6	21.6	1513	1513	36.5	36.5	96.02	96.02			
Mean Initial 5 Wk Flush		167	167	691.5	691.5	37.3	37.3	98.18	98.18			
Mean Last 5 Weeks		10.8	10.8	1909	1909	36.1	36.1	94.97	94.97			
Number of Weeks		54	54	54	54	54	54	54	54			
75% Remaining (Wks)								756	756			
50% Remaining (Wks)								1636	1636			
25% Remaining (Wks)								2515	2515			
0% Remaining (Wks)								3395	3395			

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic
Week No.	Date	Al	Al	Al	Al	Al	Al	Al	Al	Al	Sb	Sb	Sb	Sb	Sb	Sb	Sb	Sb	Sb	As	As	As	As	As	As	As	As	As	As
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Aluminum (ppm) =			**80200**						**Original Antimony (ppm) =**			**1.13**						**Original Arsenic (ppm) =**			**8.2**					
0	1-Feb-06	0.023	0.00966	0.00966	0.00966	0.00966	80200	80200	100	100	0.005	0.0021	0.0021	0.0021	0.0021	1.128	1.128	99.81	99.81	0.0046	0.00193	0.00193	0.00193	0.00193	8.198	8.198	99.98	99.98
1	8-Feb-06	0.029	0.0122	0.0122	0.0219	0.0219	80200	80200	100	100	0.0055	0.0023	0.0023	0.0044	0.0044	1.126	1.126	99.61	99.61	0.0045	0.00189	0.00189	0.00382	0.00382	8.196	8.196	99.95	99.95
2	15-Feb-06	0.037	0.0181	0.0181	0.04	0.04	80200	80200	100	100	0.0056	0.0027	0.0027	0.0071	0.0071	1.123	1.123	99.37	99.37	0.0046	0.00225	0.00225	0.00607	0.00607	8.194	8.194	99.93	99.93
3	22-Feb-06	0.034	0.0151	0.0151	0.0551	0.0551	80200	80200	100	100	0.0053	0.0024	0.0024	0.0095	0.0095	1.121	1.121	99.16	99.16	0.0037	0.00165	0.00165	0.00772	0.00772	8.192	8.192	99.91	99.91
4	1-Mar-06	0.034	0.0173	0.0173	0.0724	0.0724	80200	80200	100	100	0.004	0.002	0.002	0.0115	0.0115	1.119	1.119	98.98	98.98	0.0035	0.00179	0.00179	0.00951	0.00951	8.19	8.19	99.88	99.88
5	8-Mar-06	0.062	0.0282	0.0282	0.101	0.101	80200	80200	100	100	0.003	0.0014	0.0014	0.0129	0.0129	1.117	1.117	98.86	98.86	0.0038	0.00173	0.00173	0.0112	0.0112	8.189	8.189	99.86	99.86
6	15-Mar-06	0.035	0.0156	0.0156	0.117	0.117	80200	80200	100	100	0.0031	0.0014	0.0014	0.0143	0.0143	1.116	1.116	98.73	98.73	0.003	0.00134	0.00134	0.0125	0.0125	8.188	8.188	99.85	99.85
7	22-Mar-06	0.036	0.016	0.016	0.133	0.133	80200	80200	100	100	0.0035	0.0016	0.0016	0.0159	0.0159	1.114	1.114	98.59	98.59	0.0032	0.00142	0.00142	0.0139	0.0139	8.186	8.186	99.83	99.83
8	29-Mar-06	0.052	0.0234	0.0234	0.156	0.156	80200	80200	100	100	0.0028	0.0013	0.0013	0.0172	0.0172	1.113	1.113	98.48	98.48	0.0033	0.00149	0.00149	0.0154	0.0154	8.185	8.185	99.81	99.81
9	5-Apr-06	0.04	0.0188	0.0188	0.175	0.175	80200	80200	100	100	0.0032	0.0015	0.0015	0.0187	0.0187	1.111	1.111	98.35	98.35	0.0024	0.00113	0.00113	0.0165	0.0165	8.184	8.184	99.8	99.8
10	12-Apr-06	0.048	0.0214	0.0214	0.196	0.196	80200	80200	100	100	0.003	0.0013	0.0013	0.02	0.02	1.11	1.11	98.23	98.23	0.0024	0.00107	0.00107	0.0176	0.0176	8.182	8.182	99.79	99.79
11	19-Apr-06	0.043	0.0209	0.0209	0.217	0.217	80200	80200	100	100	0.0031	0.0015	0.0015	0.0215	0.0215	1.109	1.109	98.1	98.1	0.0023	0.00112	0.00112	0.0187	0.0187	8.181	8.181	99.77	99.77
12	26-Apr-06	0.049	0.0245	0.0245	0.242	0.242	80200	80200	100	100	0.0026	0.0013	0.0013	0.0228	0.0228	1.107	1.107	97.98	97.98	0.0022	0.0011	0.0011	0.0198	0.0198	8.18	8.18	99.76	99.76
13	3-May-06	0.063	0.029	0.029	0.271	0.271	80200	80200	100	100	0.0021	0.00097	0.00097	0.0238	0.0238	1.106	1.106	97.89	97.89	0.0026	0.0012	0.0012	0.021	0.021	8.179	8.179	99.74	99.74
14	10-May-06	0.039	0.0172	0.0172	0.288	0.288	80200	80200	100	100	0.0027	0.0012	0.0012	0.025	0.025	1.105	1.105	97.79	97.79	0.0023	0.00101	0.00101	0.022	0.022	8.178	8.178	99.73	99.73
15	17-May-06	0.04	0.0194	0.0194	0.307	0.307	80200	80200	100	100	0.0022	0.0011	0.0011	0.0261	0.0261	1.104	1.104	97.69	97.69	0.002	0.00097	0.00097	0.023	0.023	8.177	8.177	99.72	99.72
16	24-May-06	0.041	0.018	0.018	0.325	0.325	80200	80200	100	100	0.002	0.00088	0.00088	0.027	0.027	1.103	1.103	97.61	97.61	0.0021	0.000924	0.000924	0.0239	0.0239	8.176	8.176	99.71	99.71
17	31-May-06	0.042	0.0197	0.0197	0.345	0.345	80200	80200	100	100	0.0019	0.00089	0.00089	0.0279	0.0279	1.102	1.102	97.53	97.53	0.0019	0.000893	0.000893	0.0248	0.0248	8.175	8.175	99.7	99.7
18	7-Jun-06	0.041	0.0182	0.0182	0.363	0.363	80200	80200	100	100	0.0019	0.00085	0.00085	0.0288	0.0288	1.101	1.101	97.45	97.45	0.002	0.00089	0.00089	0.0257	0.0257	8.174	8.174	99.69	99.69
19	14-Jun-06	0.053	0.0268	0.0268	0.39	0.39	80200	80200	100	100	0.0016	0.00081	0.00081	0.0296	0.0296	1.1	1.1	97.38	97.38	0.0022	0.00111	0.00111	0.0268	0.0268	8.173	8.173	99.67	99.67
20	21-Jun-06	0.053	0.0223	0.0223	0.412	0.412	80200	80200	100	100	0.0018	0.00076	0.00076	0.0304	0.0304	1.1	1.1	97.31	97.31	0.002	0.00084	0.00084	0.0276	0.0276	8.172	8.172	99.66	99.66
21	28-Jun-06	0.055	0.0248	0.0248	0.437	0.437	80200	80200	100	100	0.0015	0.00068	0.00068	0.0311	0.0311	1.099	1.099	97.25	97.25	0.0021	0.000945	0.000945	0.0285	0.0285	8.172	8.172	99.65	99.65
22	5-Jul-06	0.074	0.0355	0.0355	0.473	0.473	80200	80200	100	100	0.0012	0.00058	0.00058	0.0317	0.0317	1.098	1.098	97.19	97.19	0.0025	0.0012	0.0012	0.0297	0.0297	8.17	8.17	99.64	99.64
23	12-Jul-06	0.048	0.0216	0.0216	0.495	0.495	80200	80200	100	100	0.0016	0.00072	0.00072	0.0324	0.0324	1.098	1.098	97.13	97.13	0.0021	0.000945	0.000945	0.0306	0.0306	8.169	8.169	99.63	99.63
24	19-Jul-06	0.069	0.0324	0.0324	0.527	0.527	80199	80199	100	100	0.0011	0.00052	0.00052	0.0329	0.0329	1.097	1.097	97.09	97.09	0.0022	0.00103	0.00103	0.0316	0.0316	8.168	8.168	99.61	99.61
25	26-Jul-06	0.053	0.0254	0.0254	0.552	0.552	80199	80199	100	100	0.0014	0.00067	0.00067	0.0336	0.0336	1.096	1.096	97.03	97.03	0.002	0.00096	0.00096	0.0326	0.0326	8.167	8.167	99.6	99.6
26	2-Aug-06	0.06	0.0255	0.0255	0.578	0.578	80199	80199	100	100	0.0018	0.00077	0.00077	0.0344	0.0344	1.096	1.096	96.96	96.96	0.0022	0.000935	0.000935	0.0335	0.0335	8.167	8.167	99.59	99.59
27	9-Aug-06	0.06	0.027	0.027	0.605	0.605	80199	80199	100	100	0.0015	0.00068	0.00068	0.0351	0.0351	1.095	1.095	96.89	96.89	0.0024	0.00108	0.00108	0.0346	0.0346	8.165	8.165	99.58	99.58
28	16-Aug-06	0.061	0.0275	0.0275	0.633	0.633	80199	80199	100	100	0.0013	0.00059	0.00059	0.0357	0.0357	1.094	1.094	96.84	96.84	0.0023	0.00104	0.00104	0.0356	0.0356	8.164	8.164	99.57	99.57
29	23-Aug-06	0.072	0.0374	0.0374	0.67	0.67	80199	80199	100	100	0.0012	0.00062	0.00062	0.0363	0.0363	1.094	1.094	96.79	96.79	0.0029	0.00151	0.00151	0.0371	0.0371	8.163	8.163	99.55	99.55
30	30-Aug-06	0.119	0.0619	0.0619	0.732	0.732	80199	80199	100	100	<0.0010	0.00026	0.00026	0.0366	0.0366	1.093	1.093	96.76	96.76	0.0029	0.00151	0.00151	0.0386	0.0386	8.161	8.161	99.53	99.53
31	6-Sep-06	0.052	0.026	0.026	0.758	0.758	80199	80199	100	100	0.0017	0.00085	0.00085	0.0375	0.0375	1.093	1.093	96.68	96.68	0.0025	0.00125	0.00125	0.0399	0.0399	8.16	8.16	99.51	99.51
32	13-Sep-06	0.053	0.0231	0.0231	0.781	0.781	80199	80199	100	100	0.0018	0.00078	0.00078	0.0383	0.0383	1.092	1.092	96.61	96.61	0.0026	0.00113	0.00113	0.041	0.041	8.159	8.159	99.5	99.5
33	20-Sep-06	0.169	0.0676	0.0676	0.849	0.849	80199	80199	100	100	<0.0010	0.0002	0.0002	0.0385	0.0385	1.092	1.092	96.59	96.59	0.0034	0.00136	0.00136	0.0424	0.0424	8.158	8.158	99.48	99.48
34	27-Sep-06	0.07	0.028	0.028	0.877	0.877	80199	80199	100	100	0.0012	0.00048	0.00048	0.039	0.039	1.091	1.091	96.55	96.55	0.0025	0.001	0.001	0.0434	0.0434	8.157	8.157	99.47	99.47
35	4-Oct-06	0.058	0.0284	0.0284	0.905	0.905	80199	80199	100	100	0.0014	0.00069	0.00069	0.0397	0.0397	1.09	1.09	96.49	96.49	0.0022	0.00108	0.00108	0.0445	0.0445	8.156	8.156	99.46	99.46
36	11-Oct-06	0.042	0.0218	0.0218	0.927	0.927	80199	80199	100	100	0.0016	0.00083	0.00083	0.0405	0.0405	1.09	1.09	96.42	96.42	0.002	0.00104	0.00104	0.0455	0.0455	8.155	8.155	99.45	99.45
37	18-Oct-06	0.054	0.023	0.023	0.95	0.95	80199	80199	100	100	0.0014	0.0006	0.0006	0.0411	0.0411	1.089	1.089	96.36	96.36	0.0023	0.000978	0.000978	0.0465	0.0465	8.154	8.154	99.43	99.43
38	25-Oct-06	0.06	0.0285	0.0285	0.979	0.979	80199	80199	100	100	0.0012	0.00057	0.00057	0.0417	0.0417	1.088	1.088	96.31	96.31	0.0022	0.00105	0.00105	0.0476	0.0476	8.152	8.152	99.42	99.42
39	1-Nov-06	0.057	0.0259	0.0259	1	1	80199	80199	100	100	0.0013	0.00059	0.00059	0.0423	0.0423	1.088	1.088	96.26	96.26	0.0023	0.00105	0.00105	0.0487	0.0487	8.151	8.151	99.41	99.41
40	8-Nov-06	0.057	0.0228	0.0228	1.02	1.02	80199	80199	100	100	0.0011	0.00044	0.00044	0.0427	0.0427	1.087	1.087	96.22	96.22	0.0022	0.00088	0.00088	0.0496	0.0496	8.15	8.15	99.4	99.4
41	15-Nov-06	0.054	0.0243	0.0243	1.04	1.04	80199	80199	100	100	0.0011	0.0005	0.0005	0.0432	0.0432	1.087	1.087	96.18	96.18	0.0022	0.00099	0.00099	0.0506	0.0506	8.149	8.149	99.38	99.38
42	22-Nov-06	0.055	0.0206	0.0206	1.06	1.06	80199	80199	100	100	0.001	0.00038	0.00038	0.0436	0.0436	1.086	1.086	96.14	96.14	0.0021	0.000788	0.000788	0.0514	0.0514	8.149	8.149	99.37	99.37
43	29-Nov-06	0.054	0.0243	0.0243	1.08	1.08	80199	80199	100	100	0.0011	0.0005	0.0005	0.0441	0.0441	1.086	1.086	96.1	96.1	0.0022	0.00099	0.00099	0.0524	0.0524	8.148	8.148	99.36	99.36
44	6-Dec-06	0.012	0.00504	0.00504	1.09	1.09	80199	80199	100	100	0.0036	0.0015	0.0015	0.0456	0.0456	1.084	1.084	95.96	95.96	<0.0010	0.00021	0.00021	0.0526	0.0526	8.147	8.147	99.36	99.36
45	13-Dec-06	<0.010	0.0026	0.0026	1.09	1.09	80199	80199	100	100	0.0041	0.0021	0.0021	0.0477	0.0477	1.082	1.082	95.78	95.78	0.001	0.00052	0.00052	0.0531	0.0531	8.147	8.147	99.35	99.35
46	20-Dec-06	<0.010	0.00225	0.00225	1.09	1.09	80199	80199	100	100	0.0038	0.0017	0.0017	0.0494	0.0494	1.081	1.081	95.63	95.63	0.0011	0.000495	0.000495	0.0536	0.0536	8.146	8.146	99.35	99.35
47	28-Dec-06	0.065	0.0256	0.0256	1.12	1.12	80199	80199	100	100	0.0011	0.00043	0.00043	0.0498	0.0498	1.08	1.08	95.59	95.59	0.0024	0.000945	0.000945	0.0545	0.0545	8.146	8.146	99.34	99.34
48	3-Jan-07	<0.010	0.0023	0.0023	1.12	1.12	80199	80199	100	100	0.0031	0.0014	0.0014	0.0512	0.0512	1.079	1.079	95.47	95.47	<0.0010	0.00023	0.00023	0.0547	0.0547	8.145	8.145	99.33	99.33
49	10-Jan-07	0.111	0.05	0.05	1.17	1.17	80199	80199	100	100	0.001	0.00045	0.00045	0.0517	0.0517	1.078	1.078	95.42	95.42	0.0022	0.00099	0.00099	0.0557	0.0557	8.144	8.144	99.32	99.32
50	17-Jan-07	0.061	0.0256	0.0256	1.2	1.2	80199	80199	100	100	<0.0010	0.00021	0.00021	0.0519	0.0519	1.078	1.078	95.41	95.41	0.002	0.00084	0.00084	0.0565	0.0565	8.144	8.144	99.31	99.31
51	24-Jan-07		0.0262	0.0262	1.23	1.23	80199	80199	100	100		0.00022	0.00022	0.0521	0.0521	1.078	1.078	95.39	95.39		0.00086	0.00086	0.0574	0.0574	8.143	8.143	99.3	99.3
52	31-Jan-07	0.062	0.0276	0.0276	1.26	1.26	80199	80199	100	100	<0.0010	0.00022	0.00022	0.0523	0.0523	1.078	1.078	95.37	95.37	0.0019	0.000846	0.000846	0.0582	0.0582	8.142	8.142	99.29	99.29
53	7-Feb-07		0.0267	0.0267	1.29	1.29	80199	80199	100	100		0.00022	0.00022	0.0525	0.0525	1.078	1.078	95.35	95.35		0.000817	0.000817	0.059	0.059	8.141	8.141	99.28	99.28
54	14-Feb-07	0.063	0.0274	0.0274	1.32	1.32	80199	80199	100	100	<0.0010	0.00022	0.00022	0.0527	0.0527	1.077	1.077	95.34	95.34	0.002	0.00087	0.00087	0.0599	0.0599	8.14	8.14	99.27	99.27
Maximum		0.169	0.0676	0.0676	1.32	1.32	80200	80200	100	100	0.0056	0.0027	0.0027	0.0527	0.0527	1.128	1.128	99.81	99.81	0.0046	0.00225	0.00225	0.0599	0.0599	8.198	8.198	99.98	99.98
Minimum		0.005	0.00225	0.00225	0.00966	0.00966	80199	80199	100	100	0.0005	0.0002	0.0002	0.0021	0.0021	1.077	1.077	95.34	95.34	0.0005	0.00021	0.00021	0.00193	0.00193	8.14	8.14	99.27	99.27
Mean		0.0529	0.0239	0.0239	0.639	0.639	80199	80199	100	100	0.00208	0.00095	0.00095	0.0332	0.0332	1.097	1.097	97.06	97.06	0.00241	0.00109	0.00109	0.0346	0.0346	8.165	8.165	99.58	99.58
Median		0.053	0.0243	0.0243	0.605	0.605	80199	80199	100	100	0.0016	0.00077	0.00077	0.0351	0.0351	1.095	1.095	96.89	96.89	0.0022	0.00103	0.00103	0.0346	0.0346	8.165	8.165	99.58	99.58
Mean Initial 5 Wk Flush		0.0314	0.0145	0.0145	0.0398	0.0398	80200	80200	100	100	0.00508	0.0023	0.0023	0.00692	0.00692	1.123	1.123	99.39	99.39	0.00418	0.0019	0.0019	0.00581	0.00581	8.194	8.194	99.93	99.93
Mean Last 5 Weeks		0.0618	0.0267	0.0267	1.26	1.26	80199	80199	100	100	0.0005	0.00022	0.00022	0.0523	0.0523	1.078	1.078	95.37	95.37	0.00196	0.000847	0.000847	0.0582	0.0582	8.142	8.142	99.29	99.29
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									750991	750991								1100	1100								2405	2405
50% Remaining (Wks)									1501928	1501928								2384	2384								4825	4825
25% Remaining (Wks)									2252864	2252864								3668	3668								7245	7245
0% Remaining (Wks)									3003800	3003800								4952	4952								9666	9666
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all weeks																											

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
						Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Barium	Barium	Barium	Barium	Barium	Barium	Barium	Barium	Barium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth
Week No.	Date	Ba	Ba	Ba	Ba	Ba	Ba	Ba	Ba	Ba	Be	Be	Be	Be	Be	Be	Be	Be	Be	Bi	Bi	Bi	Bi	Bi	Bi	Bi	Bi	Bi	Bi
		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Barium (ppm) =			**1590**						**Original Beryllium (ppm) =**			**1.21**						**Original Bismuth (ppm) =**			**0.14**						
0	1-Feb-06	0.0321	0.0135	0.0135	0.0135	0.0135	1590	1590	100	100	<0.0050	0.00105	0.00105	0.00105	0.00105	1.209	1.209	99.91	99.91	<0.0050	0.00105	0.00105	0.00105	0.00105	0.139	0.139	99.25	99.25	
1	8-Feb-06	0.034	0.0143	0.0143	0.0278	0.0278	1590	1590	100	100	<0.0050	0.00105	0.00105	0.0021	0.0021	1.208	1.208	99.83	99.83	<0.0050	0.00105	0.00105	0.0021	0.0021	0.1379	0.1379	98.5	98.5	
2	15-Feb-06	0.0525	0.0257	0.0257	0.0535	0.0535	1590	1590	100	100	<0.0050	0.00123	0.00123	0.00333	0.00333	1.207	1.207	99.72	99.72	<0.0050	0.00123	0.00123	0.00333	0.00333	0.1367	0.1367	97.62	97.62	
3	22-Feb-06	0.0625	0.0278	0.0278	0.0813	0.0813	1590	1590	99.99	99.99	<0.0050	0.00111	0.00111	0.00444	0.00444	1.206	1.206	99.63	99.63	<0.0050	0.00111	0.00111	0.00444	0.00444	0.1356	0.1356	96.83	96.83	
4	1-Mar-06	0.0704	0.0359	0.0359	0.117	0.117	1590	1590	99.99	99.99	<0.0050	0.00128	0.00128	0.00572	0.00572	1.204	1.204	99.53	99.53	<0.0050	0.00128	0.00128	0.00572	0.00572	0.1343	0.1343	95.91	95.91	
5	8-Mar-06	0.103	0.0469	0.0469	0.164	0.164	1590	1590	99.99	99.99	<0.0050	0.00114	0.00114	0.00686	0.00686	1.203	1.203	99.43	99.43	<0.0050	0.00114	0.00114	0.00686	0.00686	0.1331	0.1331	95.1	95.1	
6	15-Mar-06	0.149	0.0663	0.0663	0.23	0.23	1590	1590	99.99	99.99	<0.0050	0.00111	0.00111	0.00797	0.00797	1.202	1.202	99.34	99.34	<0.0050	0.00111	0.00111	0.00797	0.00797	0.132	0.132	94.31	94.31	
7	22-Mar-06	0.125	0.0556	0.0556	0.286	0.286	1590	1590	99.98	99.98	<0.0050	0.00111	0.00111	0.00908	0.00908	1.201	1.201	99.25	99.25	<0.0050	0.00111	0.00111	0.00908	0.00908	0.1309	0.1309	93.51	93.51	
8	29-Mar-06	0.143	0.0644	0.0644	0.35	0.35	1590	1590	99.98	99.98	<0.0050	0.00113	0.00113	0.0102	0.0102	1.2	1.2	99.16	99.16	<0.0050	0.00113	0.00113	0.0102	0.0102	0.1298	0.1298	92.71	92.71	
9	5-Apr-06	0.107	0.0503	0.0503	0.4	0.4	1590	1590	99.97	99.97	<0.0050	0.00118	0.00118	0.0114	0.0114	1.199	1.199	99.06	99.06	<0.0050	0.00118	0.00118	0.0114	0.0114	0.1286	0.1286	91.86	91.86	
10	12-Apr-06	0.0982	0.0437	0.0437	0.444	0.444	1590	1590	99.97	99.97	<0.0050	0.00111	0.00111	0.0125	0.0125	1.198	1.198	98.97	98.97	<0.0050	0.00111	0.00111	0.0125	0.0125	0.1275	0.1275	91.07	91.07	
11	19-Apr-06	0.137	0.0664	0.0664	0.51	0.51	1589	1589	99.97	99.97	<0.0050	0.00121	0.00121	0.0137	0.0137	1.196	1.196	98.87	98.87	<0.0050	0.00121	0.00121	0.0137	0.0137	0.1263	0.1263	90.21	90.21	
12	26-Apr-06	0.117	0.0585	0.0585	0.569	0.569	1589	1589	99.96	99.96	<0.0050	0.00125	0.00125	0.015	0.015	1.195	1.195	98.76	98.76	<0.0050	0.00125	0.00125	0.015	0.015	0.125	0.125	89.29	89.29	
13	3-May-06	0.163	0.075	0.075	0.644	0.644	1589	1589	99.96	99.96	<0.0050	0.00115	0.00115	0.0162	0.0162	1.194	1.194	98.66	98.66	<0.0050	0.00115	0.00115	0.0162	0.0162	0.1238	0.1238	88.43	88.43	
14	10-May-06	0.173	0.0761	0.0761	0.72	0.72	1589	1589	99.95	99.95	<0.0050	0.0011	0.0011	0.0173	0.0173	1.193	1.193	98.57	98.57	<0.0050	0.0011	0.0011	0.0173	0.0173	0.1227	0.1227	87.64	87.64	
15	17-May-06	0.11	0.0534	0.0534	0.773	0.773	1589	1589	99.95	99.95	<0.0050	0.00121	0.00121	0.0185	0.0185	1.192	1.192	98.47	98.47	<0.0050	0.00121	0.00121	0.0185	0.0185	0.1215	0.1215	86.79	86.79	
16	24-May-06	0.131	0.0576	0.0576	0.831	0.831	1589	1589	99.95	99.95	<0.0050	0.0011	0.0011	0.0196	0.0196	1.19	1.19	98.38	98.38	<0.0050	0.0011	0.0011	0.0196	0.0196	0.1204	0.1204	86	86	
17	31-May-06	0.112	0.0526	0.0526	0.884	0.884	1589	1589	99.94	99.94	<0.0050	0.00118	0.00118	0.0208	0.0208	1.189	1.189	98.28	98.28	<0.0050	0.00118	0.00118	0.0208	0.0208	0.1192	0.1192	85.14	85.14	
18	7-Jun-06	0.1	0.0445	0.0445	0.929	0.929	1589	1589	99.94	99.94	<0.0050	0.00111	0.00111	0.0219	0.0219	1.188	1.188	98.19	98.19	<0.0050	0.00111	0.00111	0.0219	0.0219	0.1181	0.1181	84.36	84.36	
19	14-Jun-06	0.123	0.0621	0.0621	0.991	0.991	1589	1589	99.94	99.94	<0.0050	0.00126	0.00126	0.0232	0.0232	1.187	1.187	98.08	98.08	<0.0050	0.00126	0.00126	0.0232	0.0232	0.1168	0.1168	83.43	83.43	
20	21-Jun-06	0.136	0.0571	0.0571	1.05	1.05	1589	1589	99.93	99.93	<0.0050	0.00105	0.00105	0.0243	0.0243	1.186	1.186	97.99	97.99	<0.0050	0.00105	0.00105	0.0243	0.0243	0.1157	0.1157	82.64	82.64	
21	28-Jun-06	0.167	0.0752	0.0752	1.13	1.13	1589	1589	99.93	99.93	<0.0050	0.00113	0.00113	0.0254	0.0254	1.185	1.185	97.9	97.9	<0.0050	0.00113	0.00113	0.0254	0.0254	0.1146	0.1146	81.86	81.86	
22	5-Jul-06	0.189	0.0907	0.0907	1.22	1.22	1589	1589	99.92	99.92	<0.0050	0.0012	0.0012	0.0266	0.0266	1.183	1.183	97.8	97.8	<0.0050	0.0012	0.0012	0.0266	0.0266	0.1134	0.1134	81	81	
23	12-Jul-06	0.156	0.0702	0.0702	1.29	1.29	1589	1589	99.92	99.92	<0.0050	0.00113	0.00113	0.0277	0.0277	1.182	1.182	97.71	97.71	<0.0050	0.00113	0.00113	0.0277	0.0277	0.1123	0.1123	80.21	80.21	
24	19-Jul-06	0.191	0.0898	0.0898	1.38	1.38	1589	1589	99.91	99.91	<0.0050	0.00118	0.00118	0.0289	0.0289	1.181	1.181	97.61	97.61	<0.0050	0.00118	0.00118	0.0289	0.0289	0.1111	0.1111	79.36	79.36	
25	26-Jul-06	0.127	0.061	0.061	1.44	1.44	1589	1589	99.91	99.91	<0.0050	0.0012	0.0012	0.0301	0.0301	1.18	1.18	97.51	97.51	<0.0050	0.0012	0.0012	0.0301	0.0301	0.1099	0.1099	78.5	78.5	
26	2-Aug-06	0.131	0.0557	0.0557	1.5	1.5	1589	1589	99.91	99.91	<0.0050	0.00106	0.00106	0.0312	0.0312	1.179	1.179	97.42	97.42	<0.0050	0.00106	0.00106	0.0312	0.0312	0.1088	0.1088	77.71	77.71	
27	9-Aug-06	0.129	0.0581	0.0581	1.56	1.56	1588	1588	99.9	99.9	<0.0050	0.00113	0.00113	0.0323	0.0323	1.178	1.178	97.33	97.33	<0.0050	0.00113	0.00113	0.0323	0.0323	0.1077	0.1077	76.93	76.93	
28	16-Aug-06	0.132	0.0594	0.0594	1.62	1.62	1588	1588	99.9	99.9	<0.0050	0.00113	0.00113	0.0334	0.0334	1.177	1.177	97.24	97.24	<0.0050	0.00113	0.00113	0.0334	0.0334	0.1066	0.1066	76.14	76.14	
29	23-Aug-06	0.147	0.0764	0.0764	1.7	1.7	1588	1588	99.89	99.89	<0.0050	0.0013	0.0013	0.0347	0.0347	1.175	1.175	97.13	97.13	<0.0050	0.0013	0.0013	0.0347	0.0347	0.1053	0.1053	75.21	75.21	
30	30-Aug-06	0.196	0.102	0.102	1.8	1.8	1588	1588	99.89	99.89	<0.0050	0.0013	0.0013	0.036	0.036	1.174	1.174	97.02	97.02	<0.0050	0.0013	0.0013	0.036	0.036	0.104	0.104	74.29	74.29	
31	6-Sep-06	0.149	0.0745	0.0745	1.87	1.87	1588	1588	99.88	99.88	<0.0050	0.00125	0.00125	0.0373	0.0373	1.173	1.173	96.92	96.92	<0.0050	0.00125	0.00125	0.0373	0.0373	0.1027	0.1027	73.36	73.36	
32	13-Sep-06	0.128	0.0557	0.0557	1.93	1.93	1588	1588	99.88	99.88	<0.0050	0.00109	0.00109	0.0384	0.0384	1.172	1.172	96.83	96.83	<0.0050	0.00109	0.00109	0.0384	0.0384	0.1016	0.1016	72.57	72.57	
33	20-Sep-06	0.249	0.0996	0.0996	2.03	2.03	1588	1588	99.87	99.87	<0.0050	0.001	0.001	0.0394	0.0394	1.171	1.171	96.74	96.74	<0.0050	0.001	0.001	0.0394	0.0394	0.1006	0.1006	71.86	71.86	
34	27-Sep-06	0.19	0.076	0.076	2.11	2.11	1588	1588	99.87	99.87	<0.0050	0.001	0.001	0.0404	0.0404	1.17	1.17	96.66	96.66	<0.0050	0.001	0.001	0.0404	0.0404	0.0996	0.0996	71.14	71.14	
35	4-Oct-06	0.154	0.0755	0.0755	2.19	2.19	1588	1588	99.86	99.86	<0.0050	0.00123	0.00123	0.0416	0.0416	1.168	1.168	96.56	96.56	<0.0050	0.00123	0.00123	0.0416	0.0416	0.0984	0.0984	70.29	70.29	
36	11-Oct-06	0.161	0.0837	0.0837	2.27	2.27	1588	1588	99.86	99.86	<0.0050	0.0013	0.0013	0.0429	0.0429	1.167	1.167	96.45	96.45	<0.0050	0.0013	0.0013	0.0429	0.0429	0.0971	0.0971	69.36	69.36	
37	18-Oct-06	0.137	0.0582	0.0582	2.33	2.33	1588	1588	99.85	99.85	<0.0050	0.00106	0.00106	0.044	0.044	1.166	1.166	96.36	96.36	<0.0050	0.00106	0.00106	0.044	0.044	0.096	0.096	68.57	68.57	
38	25-Oct-06	0.154	0.0732	0.0732	2.4	2.4	1588	1588	99.85	99.85	<0.0050	0.00119	0.00119	0.0452	0.0452	1.165	1.165	96.26	96.26	<0.0050	0.00119	0.00119	0.0452	0.0452	0.0948	0.0948	67.71	67.71	
39	1-Nov-06	0.163	0.0742	0.0742	2.47	2.47	1588	1588	99.84	99.84	<0.0050	0.00114	0.00114	0.0463	0.0463	1.164	1.164	96.17	96.17	<0.0050	0.00114	0.00114	0.0463	0.0463	0.0937	0.0937	66.93	66.93	
40	8-Nov-06	0.179	0.0716	0.0716	2.54	2.54	1587	1587	99.84	99.84	<0.0050	0.001	0.001	0.0473	0.0473	1.163	1.163	96.09	96.09	<0.0050	0.001	0.001	0.0473	0.0473	0.0927	0.0927	66.21	66.21	
41	15-Nov-06	0.174	0.0783	0.0783	2.62	2.62	1587	1587	99.84	99.84	<0.0050	0.00113	0.00113	0.0484	0.0484	1.162	1.162	96	96	<0.0050	0.00113	0.00113	0.0484	0.0484	0.0916	0.0916	65.43	65.43	
42	22-Nov-06	0.17	0.0638	0.0638	2.68	2.68	1587	1587	99.83	99.83	<0.0050	0.000938	0.000938	0.0493	0.0493	1.161	1.161	95.93	95.93	<0.0050	0.000938	0.000938	0.0493	0.0493	0.0907	0.0907	64.79	64.79	
43	29-Nov-06	0.185	0.0833	0.0833	2.76	2.76	1587	1587	99.83	99.83	<0.0050	0.00113	0.00113	0.0504	0.0504	1.16	1.16	95.83	95.83	<0.0050	0.00113	0.00113	0.0504	0.0504	0.0896	0.0896	64	64	
44	6-Dec-06	0.141	0.0592	0.0592	2.82	2.82	1587	1587	99.82	99.82	<0.0050	0.00105	0.00105	0.0515	0.0515	1.159	1.159	95.74	95.74	<0.0050	0.00105	0.00105	0.0515	0.0515	0.0885	0.0885	63.21	63.21	
45	13-Dec-06	0.139	0.0723	0.0723	2.89	2.89	1587	1587	99.82	99.82	<0.0050	0.0013	0.0013	0.0528	0.0528	1.157	1.157	95.64	95.64	<0.0050	0.0013	0.0013	0.0528	0.0528	0.0872	0.0872	62.29	62.29	
46	20-Dec-06	0.136	0.0612	0.0612	2.95	2.95	1587	1587	99.81	99.81	<0.0050	0.00113	0.00113	0.0539	0.0539	1.156	1.156	95.55	95.55	<0.0050	0.00113	0.00113	0.0539	0.0539	0.0861	0.0861	61.5	61.5	
47	28-Dec-06	0.208	0.0819	0.0819	3.03	3.03	1587	1587	99.81	99.81	<0.0050	0.000984	0.000984	0.0549	0.0549	1.155	1.155	95.46	95.46	<0.0050	0.000984	0.000984	0.0549	0.0549	0.0851	0.0851	60.79	60.79	
48	3-Jan-07	0.115	0.053	0.053	3.08	3.08	1587	1587	99.81	99.81	<0.0050	0.00115	0.00115	0.0561	0.0561	1.154	1.154	95.36	95.36	<0.0050	0.00115	0.00115	0.0561	0.0561	0.0839	0.0839	59.93	59.93	
49	10-Jan-07	0.215	0.0968	0.0968	3.18	3.18	1587	1587	99.8	99.8	<0.0050	0.00113	0.00113	0.0572	0.0572	1.153	1.153	95.27	95.27	<0.0050	0.00113	0.00113	0.0572	0.0572	0.0828	0.0828	59.14	59.14	
50	17-Jan-07	0.215	0.0903	0.0903	3.27	3.27	1587	1587	99.79	99.79	<0.0050	0.00105	0.00105	0.0583	0.0583	1.152	1.152	95.18	95.18	<0.0050	0.00105	0.00105	0.0583	0.0583	0.0817	0.0817	58.36	58.36	
51	24-Jan-07		0.0925	0.0925	3.36	3.36	1587	1587	99.79	99.79		0.00108	0.00108	0.0594	0.0594	1.151	1.151	95.09	95.09		0.00108	0.00108	0.0594	0.0594	0.0806	0.0806	57.57	57.57	
52	31-Jan-07	0.2	0.089	0.089	3.45	3.45	1587	1587	99.78	99.78	<0.0050	0.00111	0.00111	0.0605	0.0605	1.15	1.15	95	95	<0.0050	0.00111	0.00111	0.0605	0.0605	0.0795	0.0795	56.79	56.79	
53	7-Feb-07		0.086	0.086	3.54	3.54	1586	1586	99.78	99.78		0.00108	0.00108	0.0616	0.0616	1.148	1.148	94.91	94.91		0.00108	0.00108	0.0616	0.0616	0.0784	0.0784	56	56	
54	14-Feb-07	0.219	0.0953	0.0953	3.64	3.64	1586	1586	99.77	99.77	<0.0050	0.00109	0.00109	0.0627	0.0627	1.147	1.147	94.82	94.82	<0.0050	0.00109	0.00109	0.0627	0.0627	0.0773	0.0773	55.21	55.21	
Maximum		0.249	0.102	0.102	3.64	3.64	1590	1590	100	100	0.0025	0.0013	0.0013	0.0627	0.0627	1.209	1.209	99.91	99.91	0.0025	0.0013	0.0013	0.0627	0.0627	0.139	0.139	99.25	99.25	
Minimum		0.0321	0.0135	0.0135	0.0135	0.0135	1586	1586	99.77	99.77	0.0025	0.000938	0.000938	0.00105	0.00105	1.147	1.147	94.82	94.82	0.0025	0.000938	0.000938	0.00105	0.00105	0.0773	0.0773	55.21	55.21	
Mean		0.146	0.066	0.066	1.64	1.64	1588	1588	99.9	99.9	0.0025	0.00114	0.00114	0.0322	0.0322	1.178	1.178	97.34	97.34	0.0025	0.00114	0.00114	0.0322	0.0322	0.1078	0.1078	77	77	
Median		0.143	0.0663	0.0663	1.56	1.56	1588	1588	99.9	99.9	0.0025	0.00113	0.00113	0.0323	0.0323	1.178	1.178	97.33	97.33	0.0025	0.00113	0.00113	0.0323	0.0323	0.1077	0.1077	76.93	76.93	
Mean Initial 5 Wk Flush		0.0503	0.0234	0.0234	0.0586	0.0586	1590	1590	100	100	0.0025	0.00114	0.00114	0.00333	0.00333	1.207	1.207	99.72	99.72	0.0025	0.00114	0.00114	0.00333	0.00333	0.1367	0.1367	97.62	97.62	
Mean Last 5 Weeks		0.21	0.0906	0.0906	3.45	3.45	1587	1587	99.78	99.78	0.0025	0.00108	0.00108	0.0605	0.0605	1.15	1.15	95	95	0.0025	0.00108	0.00108	0.0605	0.0605	0.0795	0.0795	56.79	56.79	
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
75% Remaining (Wks)									4402	4402								277	277								30	30	
50% Remaining (Wks)									8789	8789								557	557								62	62	
25% Remaining (Wks)									13177	13177								837	837								94	94	
0% Remaining (Wks)									17564	17564								1117	1117								127	127	
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all weeks																											

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Boron	Boron	Boron	Boron	Boron	Boron	Boron	Boron	Boron	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium
Week No.	Date	B	B	B	B	B	B	B	B	B	Cd	Cd	Cd	Cd	Cd	Cd	Cd	Cd	Cd	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca
		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Boron (ppm) =			**NA**						**Original Cadmium (ppm) =**			**0.13**						**Original Calcium (ppm) =**			**28200**				
0	1-Feb-06	<0.10	0.021	0.021	0.021	0.021					<0.00050	0.000105	0.000105	0.000105	0.000105	0.13	0.13	99.92	99.92	149	62.6	62.6	62.6	62.6	28140	28140	99.78	99.78
1	8-Feb-06	<0.10	0.021	0.021	0.042	0.042					<0.00050	0.000105	0.000105	0.00021	0.00021	0.13	0.13	99.84	99.84	47.5	20	20	82.6	82.6	28120	28120	99.71	99.71
2	15-Feb-06	<0.10	0.0245	0.0245	0.0665	0.0665					<0.00050	0.000123	0.000123	0.000333	0.000333	0.13	0.13	99.74	99.74	35.6	17.4	17.4	100	100	28100	28100	99.65	99.65
3	22-Feb-06	<0.10	0.0223	0.0223	0.0888	0.0888					<0.00050	0.000111	0.000111	0.000444	0.000444	0.13	0.13	99.66	99.66	31.1	13.8	13.8	114	114	28090	28090	99.6	99.6
4	1-Mar-06	<0.10	0.0255	0.0255	0.114	0.114					<0.00050	0.000128	0.000128	0.000572	0.000572	0.129	0.129	99.56	99.56	25.4	13	13	127	127	28070	28070	99.55	99.55
5	8-Mar-06	<0.10	0.0228	0.0228	0.137	0.137					<0.00050	0.000114	0.000114	0.000686	0.000686	0.129	0.129	99.47	99.47	24.2	11	11	138	138	28060	28060	99.51	99.51
6	15-Mar-06	<0.10	0.0223	0.0223	0.159	0.159					<0.00050	0.000111	0.000111	0.000797	0.000797	0.129	0.129	99.39	99.39	25.5	11.3	11.3	149	149	28050	28050	99.47	99.47
7	22-Mar-06	<0.10	0.0223	0.0223	0.181	0.181					<0.00050	0.000111	0.000111	0.000908	0.000908	0.129	0.129	99.3	99.3	30	13.4	13.4	162	162	28040	28040	99.43	99.43
8	29-Mar-06	<0.10	0.0225	0.0225	0.204	0.204					<0.00050	0.000113	0.000113	0.00102	0.00102	0.129	0.129	99.22	99.22	26.5	11.9	11.9	174	174	28030	28030	99.38	99.38
9	5-Apr-06	<0.10	0.0235	0.0235	0.228	0.228					<0.00050	0.000118	0.000118	0.00114	0.00114	0.129	0.129	99.12	99.12	24.5	11.5	11.5	186	186	28010	28010	99.34	99.34
10	12-Apr-06	<0.10	0.0223	0.0223	0.25	0.25					<0.00050	0.000111	0.000111	0.00125	0.00125	0.129	0.129	99.04	99.04	27.4	12.2	12.2	198	198	28000	28000	99.3	99.3
11	19-Apr-06	<0.10	0.0243	0.0243	0.274	0.274					<0.00050	0.000121	0.000121	0.00137	0.00137	0.129	0.129	98.95	98.95	31.6	15.3	15.3	213	213	27990	27990	99.24	99.24
12	26-Apr-06	<0.10	0.025	0.025	0.299	0.299					<0.00050	0.000125	0.000125	0.0015	0.0015	0.129	0.129	98.85	98.85	26	13	13	226	226	27970	27970	99.2	99.2
13	3-May-06	<0.10	0.023	0.023	0.322	0.322					<0.00050	0.000115	0.000115	0.00162	0.00162	0.128	0.128	98.75	98.75	23.3	10.7	10.7	237	237	27960	27960	99.16	99.16
14	10-May-06	<0.10	0.022	0.022	0.344	0.344					<0.00050	0.00011	0.00011	0.00173	0.00173	0.128	0.128	98.67	98.67	27.9	12.3	12.3	249	249	27950	27950	99.12	99.12
15	17-May-06	<0.10	0.0243	0.0243	0.368	0.368					<0.00050	0.000121	0.000121	0.00185	0.00185	0.128	0.128	98.58	98.58	23.7	11.5	11.5	261	261	27940	27940	99.07	99.07
16	24-May-06	<0.10	0.022	0.022	0.39	0.39					<0.00050	0.00011	0.00011	0.00196	0.00196	0.128	0.128	98.49	98.49	25.3	11.1	11.1	272	272	27930	27930	99.04	99.04
17	31-May-06	<0.10	0.0235	0.0235	0.414	0.414					<0.00050	0.000118	0.000118	0.00208	0.00208	0.128	0.128	98.4	98.4	24.5	11.5	11.5	284	284	27920	27920	98.99	98.99
18	7-Jun-06	<0.10	0.0223	0.0223	0.436	0.436					<0.00050	0.000111	0.000111	0.00219	0.00219	0.128	0.128	98.32	98.32	23.9	10.6	10.6	295	295	27910	27910	98.95	98.95
19	14-Jun-06	<0.10	0.0253	0.0253	0.461	0.461					<0.00050	0.000126	0.000126	0.00232	0.00232	0.128	0.128	98.22	98.22	22.3	11.3	11.3	306	306	27890	27890	98.91	98.91
20	21-Jun-06	<0.10	0.021	0.021	0.482	0.482					<0.00050	0.000105	0.000105	0.00243	0.00243	0.128	0.128	98.13	98.13	24.1	10.1	10.1	316	316	27880	27880	98.88	98.88
21	28-Jun-06	<0.10	0.0225	0.0225	0.505	0.505					<0.00050	0.000113	0.000113	0.00254	0.00254	0.127	0.127	98.05	98.05	20.7	9.32	9.32	325	325	27880	27880	98.85	98.85
22	5-Jul-06	<0.10	0.024	0.024	0.529	0.529					<0.00050	0.00012	0.00012	0.00266	0.00266	0.127	0.127	97.95	97.95	19.1	9.17	9.17	334	334	27870	27870	98.82	98.82
23	12-Jul-06	<0.10	0.0225	0.0225	0.552	0.552					<0.00050	0.000113	0.000113	0.00277	0.00277	0.127	0.127	97.87	97.87	22.5	10.1	10.1	344	344	27860	27860	98.78	98.78
24	19-Jul-06	<0.10	0.0235	0.0235	0.576	0.576					<0.00050	0.000118	0.000118	0.00289	0.00289	0.127	0.127	97.78	97.78	16.9	7.94	7.94	352	352	27850	27850	98.75	98.75
25	26-Jul-06	<0.10	0.024	0.024	0.6	0.6					<0.00050	0.00012	0.00012	0.00301	0.00301	0.127	0.127	97.68	97.68	21	10.1	10.1	362	362	27840	27840	98.72	98.72
26	2-Aug-06	<0.10	0.0213	0.0213	0.621	0.621					<0.00050	0.000106	0.000106	0.00312	0.00312	0.127	0.127	97.6	97.6	21.4	9.1	9.1	371	371	27830	27830	98.68	98.68
27	9-Aug-06	<0.10	0.0225	0.0225	0.644	0.644					<0.00050	0.000113	0.000113	0.00323	0.00323	0.127	0.127	97.52	97.52	18.6	8.37	8.37	379	379	27820	27820	98.66	98.66
28	16-Aug-06	<0.10	0.0225	0.0225	0.667	0.667					<0.00050	0.000113	0.000113	0.00334	0.00334	0.127	0.127	97.43	97.43	18.4	8.28	8.28	387	387	27810	27810	98.63	98.63
29	23-Aug-06	<0.10	0.026	0.026	0.693	0.693					<0.00050	0.00013	0.00013	0.00347	0.00347	0.127	0.127	97.33	97.33	17.7	9.2	9.2	396	396	27800	27800	98.6	98.6
30	30-Aug-06	<0.10	0.026	0.026	0.719	0.719					<0.00050	0.00013	0.00013	0.0036	0.0036	0.126	0.126	97.23	97.23	15.4	8.01	8.01	404	404	27800	27800	98.57	98.57
31	6-Sep-06	<0.10	0.025	0.025	0.744	0.744					<0.00050	0.000125	0.000125	0.00373	0.00373	0.126	0.126	97.13	97.13	20.9	10.5	10.5	415	415	27790	27790	98.53	98.53
32	13-Sep-06	<0.10	0.0218	0.0218	0.766	0.766					<0.00050	0.000109	0.000109	0.00384	0.00384	0.126	0.126	97.05	97.05	20.3	8.83	8.83	424	424	27780	27780	98.5	98.5
33	20-Sep-06	<0.10	0.02	0.02	0.786	0.786					<0.00050	0.0001	0.0001	0.00394	0.00394	0.126	0.126	96.97	96.97	12	4.8	4.8	429	429	27770	27770	98.48	98.48
34	27-Sep-06	<0.10	0.02	0.02	0.806	0.806					<0.00050	0.0001	0.0001	0.00404	0.00404	0.126	0.126	96.89	96.89	16.4	6.56	6.56	436	436	27760	27760	98.45	98.45
35	4-Oct-06	<0.10	0.0245	0.0245	0.831	0.831					<0.00050	0.000123	0.000123	0.00416	0.00416	0.126	0.126	96.8	96.8	17.9	8.77	8.77	445	445	27760	27760	98.42	98.42
36	11-Oct-06	<0.10	0.026	0.026	0.857	0.857					<0.00050	0.00013	0.00013	0.00429	0.00429	0.126	0.126	96.7	96.7	20	10.4	10.4	455	455	27750	27750	98.39	98.39
37	18-Oct-06	<0.10	0.0213	0.0213	0.878	0.878					<0.00050	0.000106	0.000106	0.0044	0.0044	0.126	0.126	96.62	96.62	17.3	7.35	7.35	462	462	27740	27740	98.36	98.36
38	25-Oct-06	<0.10	0.0238	0.0238	0.902	0.902					<0.00050	0.000119	0.000119	0.00452	0.00452	0.125	0.125	96.52	96.52	18.5	8.79	8.79	471	471	27730	27730	98.33	98.33
39	1-Nov-06	<0.10	0.0228	0.0228	0.925	0.925					<0.00050	0.000114	0.000114	0.00463	0.00463	0.125	0.125	96.44	96.44	17.9	8.14	8.14	479	479	27720	27720	98.3	98.3
40	8-Nov-06	<0.10	0.02	0.02	0.945	0.945					<0.00050	0.0001	0.0001	0.00473	0.00473	0.125	0.125	96.36	96.36	18.3	7.32	7.32	486	486	27710	27710	98.28	98.28
41	15-Nov-06	<0.10	0.0225	0.0225	0.968	0.968					<0.00050	0.000113	0.000113	0.00484	0.00484	0.125	0.125	96.28	96.28	17.5	7.88	7.88	494	494	27710	27710	98.25	98.25
42	22-Nov-06	<0.10	0.0188	0.0188	0.987	0.987					<0.00050	9.38E-05	0.0000938	0.00493	0.00493	0.125	0.125	96.21	96.21	17.9	6.71	6.71	501	501	27700	27700	98.22	98.22
43	29-Nov-06	<0.10	0.0225	0.0225	1.01	1.01					<0.00050	0.000113	0.000113	0.00504	0.00504	0.125	0.125	96.12	96.12	17.8	8.01	8.01	509	509	27690	27690	98.2	98.2
44	6-Dec-06	<0.10	0.021	0.021	1.03	1.03					<0.00050	0.000105	0.000105	0.00515	0.00515	0.125	0.125	96.04	96.04	26.7	11.2	11.2	520	520	27680	27680	98.16	98.16
45	13-Dec-06	<0.10	0.026	0.026	1.06	1.06					<0.00050	0.00013	0.00013	0.00528	0.00528	0.125	0.125	95.94	95.94	31.6	16.4	16.4	536	536	27660	27660	98.1	98.1
46	20-Dec-06	<0.10	0.0225	0.0225	1.08	1.08					<0.00050	0.000113	0.000113	0.00539	0.00539	0.125	0.125	95.85	95.85	28.3	12.7	12.7	549	549	27650	27650	98.05	98.05
47	28-Dec-06	<0.10	0.0197	0.0197	1.1	1.1					<0.00050	9.84E-05	0.0000984	0.00549	0.00549	0.125	0.125	95.78	95.78	17.5	6.89	6.89	556	556	27640	27640	98.03	98.03
48	3-Jan-07	<0.10	0.023	0.023	1.12	1.12					<0.00050	0.000115	0.000115	0.00561	0.00561	0.124	0.124	95.68	95.68	31.1	14.3	14.3	570	570	27630	27630	97.98	97.98
49	10-Jan-07	<0.10	0.0225	0.0225	1.14	1.14					<0.00050	0.000113	0.000113	0.00572	0.00572	0.124	0.124	95.6	95.6	16.9	7.61	7.61	578	578	27620	27620	97.95	97.95
50	17-Jan-07	<0.10	0.021	0.021	1.16	1.16					<0.00050	0.000105	0.000105	0.00583	0.00583	0.124	0.124	95.52	95.52	18.3	7.69	7.69	586	586	27610	27610	97.92	97.92
51	24-Jan-07		0.0215	0.0215	1.18	1.18						0.000108	0.000108	0.00594	0.00594	0.124	0.124	95.43	95.43		7.87	7.87	594	594	27610	27610	97.89	97.89
52	31-Jan-07	<0.10	0.0223	0.0223	1.2	1.2					<0.00050	0.000111	0.000111	0.00605	0.00605	0.124	0.124	95.35	95.35	16.3	7.25	7.25	601	601	27600	27600	97.87	97.87
53	7-Feb-07		0.0215	0.0215	1.22	1.22						0.000108	0.000108	0.00616	0.00616	0.124	0.124	95.26	95.26		7.01	7.01	608	608	27590	27590	97.84	97.84
54	14-Feb-07	<0.10	0.0218	0.0218	1.24	1.24					<0.00050	0.000109	0.000109	0.00627	0.00627	0.124	0.124	95.18	95.18	16.7	7.26	7.26	615	615	27590	27590	97.82	97.82
Maximum		0.05	0.026	0.026	1.24	1.24	NA	NA	NA	NA	0.00025	0.00013	0.00013	0.00627	0.00627	0.13	0.13	99.92	99.92	149	62.6	62.6	615	615	28140	28140	99.78	99.78
Minimum		0.05	0.0188	0.0188	0.021	0.021	NA	NA	NA	NA	0.00025	9.38E-05	0.0000938	0.000105	0.000105	0.124	0.124	95.18	95.18	12	4.8	4.8	62.6	62.6	27590	27590	97.82	97.82
Mean		0.05	0.0227	0.0227	0.642	0.642	NA	NA	NA	NA	0.00025	0.000114	0.000114	0.00322	0.00322	0.127	0.127	97.52	97.52	24.8	11.2	11.2	366	366	27830	27830	98.7	98.7
Median		0.05	0.0225	0.0225	0.644	0.644	NA	NA	NA	NA	0.00025	0.000113	0.000113	0.00323	0.00323	0.127	0.127	97.52	97.52	21	10.1	10.1	379	379	27820	27820	98.66	98.66
Mean Initial 5 Wk Flush		0.05	0.0229	0.0229	0.0665	0.0665	NA	NA	NA	NA	0.00025	0.000114	0.000114	0.000333	0.000333	0.13	0.13	99.74	99.74	57.7	25.4	25.4	97.2	97.2	28100	28100	99.66	99.66
Mean Last 5 Weeks		0.05	0.0216	0.0216	1.2	1.2	NA	NA	NA	NA	0.00025	0.000108	0.000108	0.00605	0.00605	0.124	0.124	95.35	95.35	17.2	7.42	7.42	601	601	27600	27600	97.87	97.87
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									NA	NA								298	298								922	922
50% Remaining (Wks)									NA	NA								599	599								1872	1872
25% Remaining (Wks)									NA	NA								900	900								2823	2823
0% Remaining (Wks)									NA	NA								1201	1201								3773	3773
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all week:																											

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Copper	Copper	Copper	Copper	Copper	Copper	Copper	Copper	Copper
Week No.	Date	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Co	Co	Co	Co	Co	Co	Co	Co	Co	Co	Cu	Cu	Cu	Cu	Cu	Cu	Cu	Cu	Cu
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	
		Original Chromium (ppm) =			**205**						**Original Cobalt (ppm) =**			**11.5**							**Original Copper (ppm) =**			**539**						
0	1-Feb-06	<0.0050	0.00105	0.00105	0.00105	0.00105	205	205	100	100	<0.0010	0.00021	0.00021	0.00021	0.00021	11.5	11.5	100	100		<0.0080	0.00168	0.00168	0.00168	0.00168	539	539	100	100
1	8-Feb-06	<0.0050	0.00105	0.00105	0.0021	0.0021	205	205	100	100	<0.0010	0.00021	0.00021	0.00042	0.00042	11.5	11.5	100	100		0.0034	0.00143	0.00143	0.00311	0.00311	539	539	100	100
2	15-Feb-06	<0.0050	0.00123	0.00123	0.00333	0.00333	205	205	100	100	<0.0010	0.000245	0.000245	0.000665	0.000665	11.5	11.5	99.99	99.99		0.0033	0.00162	0.00162	0.00473	0.00473	539	539	100	100
3	22-Feb-06	<0.0050	0.00111	0.00111	0.00444	0.00444	205	205	100	100	<0.0010	0.000223	0.000223	0.000888	0.000888	11.5	11.5	99.99	99.99		0.0034	0.00151	0.00151	0.00624	0.00624	539	539	100	100
4	1-Mar-06	<0.0050	0.00128	0.00128	0.00572	0.00572	205	205	100	100	<0.0010	0.000255	0.000255	0.00114	0.00114	11.5	11.5	99.99	99.99		0.0022	0.00112	0.00112	0.00736	0.00736	539	539	100	100
5	8-Mar-06	<0.0050	0.00114	0.00114	0.00686	0.00686	205	205	100	100	<0.0010	0.000228	0.000228	0.00137	0.00137	11.5	11.5	99.99	99.99		0.0025	0.00114	0.00114	0.0085	0.0085	539	539	100	100
6	15-Mar-06	<0.0050	0.00111	0.00111	0.00797	0.00797	205	205	100	100	<0.0010	0.000223	0.000223	0.00159	0.00159	11.5	11.5	99.99	99.99		0.0032	0.00142	0.00142	0.00992	0.00992	539	539	100	100
7	22-Mar-06	<0.0050	0.00111	0.00111	0.00908	0.00908	205	205	100	100	<0.0010	0.000223	0.000223	0.00181	0.00181	11.5	11.5	99.98	99.98		0.0035	0.00156	0.00156	0.0115	0.0115	539	539	100	100
8	29-Mar-06	<0.0050	0.00113	0.00113	0.0102	0.0102	205	205	100	100	<0.0010	0.000225	0.000225	0.00204	0.00204	11.5	11.5	99.98	99.98		0.0027	0.00122	0.00122	0.0127	0.0127	539	539	100	100
9	5-Apr-06	<0.0050	0.00118	0.00118	0.0114	0.0114	205	205	99.99	99.99	<0.0010	0.000235	0.000235	0.00228	0.00228	11.5	11.5	99.98	99.98		0.005	0.00235	0.00235	0.0151	0.0151	539	539	100	100
10	12-Apr-06	<0.0050	0.00111	0.00111	0.0125	0.0125	205	205	99.99	99.99	<0.0010	0.000223	0.000223	0.0025	0.0025	11.5	11.5	99.98	99.98		0.0048	0.00214	0.00214	0.0172	0.0172	539	539	100	100
11	19-Apr-06	<0.0050	0.00121	0.00121	0.0137	0.0137	205	205	99.99	99.99	<0.0010	0.000243	0.000243	0.00274	0.00274	11.5	11.5	99.98	99.98		0.0045	0.00218	0.00218	0.0194	0.0194	539	539	100	100
12	26-Apr-06	<0.0050	0.00125	0.00125	0.015	0.015	205	205	99.99	99.99	<0.0010	0.00025	0.00025	0.00299	0.00299	11.5	11.5	99.97	99.97		0.0043	0.00215	0.00215	0.0216	0.0216	539	539	100	100
13	3-May-06	<0.0050	0.00115	0.00115	0.0162	0.0162	205	205	99.99	99.99	<0.0010	0.00023	0.00023	0.00322	0.00322	11.5	11.5	99.97	99.97		0.0038	0.00175	0.00175	0.0234	0.0234	539	539	100	100
14	10-May-06	<0.0050	0.0011	0.0011	0.0173	0.0173	205	205	99.99	99.99	<0.0010	0.00022	0.00022	0.00344	0.00344	11.5	11.5	99.97	99.97		0.0041	0.0018	0.0018	0.0252	0.0252	539	539	100	100
15	17-May-06	<0.0050	0.00121	0.00121	0.0185	0.0185	205	205	99.99	99.99	<0.0010	0.000243	0.000243	0.00368	0.00368	11.5	11.5	99.97	99.97		0.0034	0.00165	0.00165	0.0269	0.0269	539	539	100	100
16	24-May-06	<0.0050	0.0011	0.0011	0.0196	0.0196	205	205	99.99	99.99	<0.0010	0.00022	0.00022	0.0039	0.0039	11.5	11.5	99.97	99.97		0.0037	0.00163	0.00163	0.0285	0.0285	539	539	99.99	99.99
17	31-May-06	<0.0050	0.00118	0.00118	0.0208	0.0208	205	205	99.99	99.99	<0.0010	0.000235	0.000235	0.00414	0.00414	11.5	11.5	99.96	99.96		0.0074	0.00348	0.00348	0.032	0.032	539	539	99.99	99.99
18	7-Jun-06	<0.0050	0.00111	0.00111	0.0219	0.0219	205	205	99.99	99.99	<0.0010	0.000223	0.000223	0.00436	0.00436	11.5	11.5	99.96	99.96		0.0058	0.00258	0.00258	0.0346	0.0346	539	539	99.99	99.99
19	14-Jun-06	<0.0050	0.00126	0.00126	0.0232	0.0232	205	205	99.99	99.99	<0.0010	0.000253	0.000253	0.00461	0.00461	11.5	11.5	99.96	99.96		0.0033	0.00167	0.00167	0.0363	0.0363	539	539	99.99	99.99
20	21-Jun-06	<0.0050	0.00105	0.00105	0.0243	0.0243	205	205	99.99	99.99	<0.0010	0.00021	0.00021	0.00482	0.00482	11.5	11.5	99.96	99.96		0.004	0.00168	0.00168	0.038	0.038	539	539	99.99	99.99
21	28-Jun-06	<0.0050	0.00113	0.00113	0.0254	0.0254	205	205	99.99	99.99	<0.0010	0.000225	0.000225	0.00505	0.00505	11.49	11.49	99.96	99.96		0.0034	0.00153	0.00153	0.0395	0.0395	539	539	99.99	99.99
22	5-Jul-06	<0.0050	0.0012	0.0012	0.0266	0.0266	205	205	99.99	99.99	<0.0010	0.00024	0.00024	0.00529	0.00529	11.49	11.49	99.95	99.95		0.0041	0.00197	0.00197	0.0415	0.0415	539	539	99.99	99.99
23	12-Jul-06	<0.0050	0.00113	0.00113	0.0277	0.0277	205	205	99.99	99.99	<0.0010	0.000225	0.000225	0.00552	0.00552	11.49	11.49	99.95	99.95		0.0029	0.00131	0.00131	0.0428	0.0428	539	539	99.99	99.99
24	19-Jul-06	<0.0050	0.00118	0.00118	0.0289	0.0289	205	205	99.99	99.99	<0.0010	0.000235	0.000235	0.00576	0.00576	11.49	11.49	99.95	99.95		0.003	0.00141	0.00141	0.0442	0.0442	539	539	99.99	99.99
25	26-Jul-06	<0.0050	0.0012	0.0012	0.0301	0.0301	205	205	99.99	99.99	<0.0010	0.00024	0.00024	0.006	0.006	11.49	11.49	99.95	99.95		0.0026	0.00125	0.00125	0.0455	0.0455	539	539	99.99	99.99
26	2-Aug-06	<0.0050	0.00106	0.00106	0.0312	0.0312	205	205	99.98	99.98	<0.0010	0.000213	0.000213	0.00621	0.00621	11.49	11.49	99.95	99.95		0.0037	0.00157	0.00157	0.0471	0.0471	539	539	99.99	99.99
27	9-Aug-06	<0.0050	0.00113	0.00113	0.0323	0.0323	205	205	99.98	99.98	<0.0010	0.000225	0.000225	0.00644	0.00644	11.49	11.49	99.94	99.94		0.0028	0.00126	0.00126	0.0484	0.0484	539	539	99.99	99.99
28	16-Aug-06	<0.0050	0.00113	0.00113	0.0334	0.0334	205	205	99.98	99.98	<0.0010	0.000225	0.000225	0.00667	0.00667	11.49	11.49	99.94	99.94		0.0023	0.00104	0.00104	0.0494	0.0494	539	539	99.99	99.99
29	23-Aug-06	<0.0050	0.0013	0.0013	0.0347	0.0347	205	205	99.98	99.98	<0.0010	0.00026	0.00026	0.00693	0.00693	11.49	11.49	99.94	99.94		0.0023	0.0012	0.0012	0.0506	0.0506	539	539	99.99	99.99
30	30-Aug-06	<0.0050	0.0013	0.0013	0.036	0.036	205	205	99.98	99.98	<0.0010	0.00026	0.00026	0.00719	0.00719	11.49	11.49	99.94	99.94		0.0029	0.00151	0.00151	0.0521	0.0521	539	539	99.99	99.99
31	6-Sep-06	<0.0050	0.00125	0.00125	0.0373	0.0373	205	205	99.98	99.98	<0.0010	0.00025	0.00025	0.00744	0.00744	11.49	11.49	99.94	99.94		0.0024	0.0012	0.0012	0.0533	0.0533	539	539	99.99	99.99
32	13-Sep-06	<0.0050	0.00109	0.00109	0.0384	0.0384	205	205	99.98	99.98	<0.0010	0.000218	0.000218	0.00766	0.00766	11.49	11.49	99.93	99.93		0.0022	0.000957	0.000957	0.0543	0.0543	539	539	99.99	99.99
33	20-Sep-06	<0.0050	0.001	0.001	0.0394	0.0394	205	205	99.98	99.98	<0.0010	0.0002	0.0002	0.00786	0.00786	11.49	11.49	99.93	99.93		0.0052	0.00208	0.00208	0.0564	0.0564	539	539	99.99	99.99
34	27-Sep-06	<0.0050	0.001	0.001	0.0404	0.0404	205	205	99.98	99.98	<0.0010	0.0002	0.0002	0.00806	0.00806	11.49	11.49	99.93	99.93		0.0021	0.00084	0.00084	0.0572	0.0572	539	539	99.99	99.99
35	4-Oct-06	<0.0050	0.00123	0.00123	0.0416	0.0416	205	205	99.98	99.98	<0.0010	0.000245	0.000245	0.00831	0.00831	11.49	11.49	99.93	99.93		0.0024	0.00118	0.00118	0.0584	0.0584	539	539	99.99	99.99
36	11-Oct-06	<0.0050	0.0013	0.0013	0.0429	0.0429	205	205	99.98	99.98	<0.0010	0.00026	0.00026	0.00857	0.00857	11.49	11.49	99.93	99.93		0.002	0.00104	0.00104	0.0594	0.0594	539	539	99.99	99.99
37	18-Oct-06	<0.0050	0.00106	0.00106	0.044	0.044	205	205	99.98	99.98	<0.0010	0.000213	0.000213	0.00878	0.00878	11.49	11.49	99.92	99.92		0.002	0.00085	0.00085	0.0603	0.0603	539	539	99.99	99.99
38	25-Oct-06	<0.0050	0.00119	0.00119	0.0452	0.0452	205	205	99.98	99.98	<0.0010	0.000238	0.000238	0.00902	0.00902	11.49	11.49	99.92	99.92		0.0024	0.00114	0.00114	0.0614	0.0614	539	539	99.99	99.99
39	1-Nov-06	<0.0050	0.00114	0.00114	0.0463	0.0463	205	205	99.98	99.98	<0.0010	0.000228	0.000228	0.00925	0.00925	11.49	11.49	99.92	99.92		0.0023	0.00105	0.00105	0.0625	0.0625	539	539	99.99	99.99
40	8-Nov-06	<0.0050	0.001	0.001	0.0473	0.0473	205	205	99.98	99.98	<0.0010	0.0002	0.0002	0.00945	0.00945	11.49	11.49	99.92	99.92		0.0021	0.00084	0.00084	0.0633	0.0633	539	539	99.99	99.99
41	15-Nov-06	<0.0050	0.00113	0.00113	0.0484	0.0484	205	205	99.98	99.98	<0.0010	0.000225	0.000225	0.00968	0.00968	11.49	11.49	99.92	99.92		0.0019	0.000855	0.000855	0.0642	0.0642	539	539	99.99	99.99
42	22-Nov-06	<0.0050	0.000938	0.000938	0.0493	0.0493	205	205	99.98	99.98	<0.0010	0.000188	0.000188	0.00987	0.00987	11.49	11.49	99.91	99.91		0.0017	0.000638	0.000638	0.0648	0.0648	539	539	99.99	99.99
43	29-Nov-06	<0.0050	0.00113	0.00113	0.0504	0.0504	204.9	204.9	99.98	99.98	<0.0010	0.000225	0.000225	0.0101	0.0101	11.49	11.49	99.91	99.91		0.0019	0.000855	0.000855	0.0657	0.0657	539	539	99.99	99.99
44	6-Dec-06	<0.0050	0.00105	0.00105	0.0515	0.0515	204.9	204.9	99.97	99.97	<0.0010	0.00021	0.00021	0.0103	0.0103	11.49	11.49	99.91	99.91		0.0011	0.000462	0.000462	0.0662	0.0662	539	539	99.99	99.99
45	13-Dec-06	<0.0050	0.0013	0.0013	0.0528	0.0528	204.9	204.9	99.97	99.97	<0.0010	0.00026	0.00026	0.0106	0.0106	11.49	11.49	99.91	99.91		0.0021	0.00109	0.00109	0.0673	0.0673	539	539	99.99	99.99
46	20-Dec-06	<0.0050	0.00113	0.00113	0.0539	0.0539	204.9	204.9	99.97	99.97	<0.0010	0.000225	0.000225	0.0108	0.0108	11.49	11.49	99.91	99.91		0.002	0.0009	0.0009	0.0682	0.0682	539	539	99.99	99.99
47	28-Dec-06	<0.0050	0.000984	0.000984	0.0549	0.0549	204.9	204.9	99.97	99.97	<0.0010	0.000197	0.000197	0.011	0.011	11.49	11.49	99.9	99.9		0.0023	0.000906	0.000906	0.0691	0.0691	539	539	99.99	99.99
48	3-Jan-07	<0.0050	0.00115	0.00115	0.0561	0.0561	204.9	204.9	99.97	99.97	<0.0010	0.00023	0.00023	0.0112	0.0112	11.49	11.49	99.9	99.9		0.0016	0.000737	0.000737	0.0698	0.0698	539	539	99.99	99.99
49	10-Jan-07	<0.0050	0.00113	0.00113	0.0572	0.0572	204.9	204.9	99.97	99.97	<0.0010	0.000225	0.000225	0.0114	0.0114	11.49	11.49	99.9	99.9		0.0032	0.00144	0.00144	0.0712	0.0712	539	539	99.99	99.99
50	17-Jan-07	<0.0050	0.00105	0.00105	0.0583	0.0583	204.9	204.9	99.97	99.97	<0.0010	0.00021	0.00021	0.0116	0.0116	11.49	11.49	99.9	99.9		0.0015	0.00063	0.00063	0.0718	0.0718	539	539	99.99	99.99
51	24-Jan-07		0.00108	0.00108	0.0594	0.0594	204.9	204.9	99.97	99.97		0.000215	0.000215	0.0118	0.0118	11.49	11.49	99.9	99.9			0.000645	0.000645	0.0724	0.0724	539	539	99.99	99.99
52	31-Jan-07	<0.0050	0.00111	0.00111	0.0605	0.0605	204.9	204.9	99.97	99.97	<0.0010	0.000223	0.000223	0.012	0.012	11.49	11.49	99.9	99.9		0.0013	0.000579	0.000579	0.073	0.073	539	539	99.99	99.99
53	7-Feb-07		0.00108	0.00108	0.0616	0.0616	204.9	204.9	99.97	99.97		0.000215	0.000215	0.0122	0.0122	11.49	11.49	99.89	99.89			0.000559	0.000559	0.0736	0.0736	539	539	99.99	99.99
54	14-Feb-07	<0.0050	0.00109	0.00109	0.0627	0.0627	204.9	204.9	99.97	99.97	<0.0010	0.000218	0.000218	0.0124	0.0124	11.49	11.49	99.89	99.89		0.0014	0.000609	0.000609	0.0742	0.0742	539	539	99.99	99.99
Maximum		0.0025	0.0013	0.0013	0.0627	0.0627	205	205	100	100	0.0005	0.00026	0.00026	0.0124	0.0124	11.5	11.5	100	100		0.0074	0.00348	0.00348	0.0742	0.0742	539	539	100	100
Minimum		0.0025	0.000938	0.000938	0.00105	0.00105	204.9	204.9	99.97	99.97	0.0005	0.000188	0.000188	0.00021	0.00021	11.49	11.49	99.89	99.89		0.0011	0.000462	0.000462	0.00168	0.00168	539	539	99.99	99.99
Mean		0.0025	0.00114	0.00114	0.0322	0.0322	205	205	99.98	99.98	0.0005	0.000227	0.000227	0.00642	0.00642	11.49	11.49	99.94	99.94		0.00295	0.00134	0.00134	0.0437	0.0437	539	539	99.99	99.99
Median		0.0025	0.00113	0.00113	0.0323	0.0323	205	205	99.98	99.98	0.0005	0.000225	0.000225	0.00644	0.00644	11.49	11.49	99.94	99.94		0.0027	0.00125	0.00125	0.0484	0.0484	539	539	99.99	99.99
Mean Initial 5 Wk Flush		0.0025	0.00114	0.00114	0.00333	0.00333	205	205	100	100	0.0005	0.000229	0.000229	0.000665	0.000665	11.5	11.5	99.99	99.99		0.00326	0.00147	0.00147	0.00462	0.00462	539	539	100	100
Mean Last 5 Weeks		0.0025	0.00108	0.00108	0.0605	0.0605	204.9	204.9	99.97	99.97	0.0005	0.000216	0.000216	0.012	0.012	11.49	11.49	99.9	99.9		0.0014	0.000604	0.000604	0.073	0.073	539	539	99.99	99.99
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54		54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									47452	47452								13307	13307									223062	223062
50% Remaining (Wks)									94905	94905								26617	26617									446158	446158
25% Remaining (Wks)									142359	142359								39927	39927									669254	669254
0% Remaining (Wks)									189813	189813								53237	53237									892350	892350

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																										
Sample:		**F46 (Tailings)**																										
		Low-Sulphide Tailings Composite																										
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																										
					Cumulative	Cumulative	Remaining		Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Gallium	Gallium	Gallium	Gallium	Gallium	Gallium	Gallium	Gallium	Gallium	Indium	Indium	Indium	Indium	Indium	Indium	Indium	Indium	Indium	Iron	Iron	Iron	Iron	Iron	Iron	Iron	Iron	Iron
Week No.	Date	Ga	Ga	Ga	Ga	Ga	Ga	Ga	Ga	Ga	In	In	In	In	In	In	In	In	In	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Gallium (ppm) =			**19.45**						**Original Indium (ppm) =**			**0.089**						**Original Iron (ppm) =**			**28800**					
0	1-Feb-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0063	0.0063	0.0063	0.0063	28800	28800	100	100
1	8-Feb-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0063	0.0063	0.0126	0.0126	28800	28800	100	100
2	15-Feb-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00735	0.00735	0.02	0.02	28800	28800	100	100
3	22-Feb-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00668	0.00668	0.0267	0.0267	28800	28800	100	100
4	1-Mar-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00765	0.00765	0.0344	0.0344	28800	28800	100	100
5	8-Mar-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00683	0.00683	0.0412	0.0412	28800	28800	100	100
6	15-Mar-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00668	0.00668	0.0479	0.0479	28800	28800	100	100
7	22-Mar-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00668	0.00668	0.0546	0.0546	28800	28800	100	100
8	29-Mar-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.0614	0.0614	28800	28800	100	100
9	5-Apr-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00705	0.00705	0.0685	0.0685	28800	28800	100	100
10	12-Apr-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00668	0.00668	0.0752	0.0752	28800	28800	100	100
11	19-Apr-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00728	0.00728	0.0825	0.0825	28800	28800	100	100
12	26-Apr-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0075	0.0075	0.09	0.09	28800	28800	100	100
13	3-May-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0069	0.0069	0.0969	0.0969	28800	28800	100	100
14	10-May-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0066	0.0066	0.104	0.104	28800	28800	100	100
15	17-May-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00728	0.00728	0.111	0.111	28800	28800	100	100
16	24-May-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0066	0.0066	0.118	0.118	28800	28800	100	100
17	31-May-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00705	0.00705	0.125	0.125	28800	28800	100	100
18	7-Jun-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00668	0.00668	0.132	0.132	28800	28800	100	100
19	14-Jun-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00758	0.00758	0.14	0.14	28800	28800	100	100
20	21-Jun-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0063	0.0063	0.146	0.146	28800	28800	100	100
21	28-Jun-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.153	0.153	28800	28800	100	100
22	5-Jul-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0072	0.0072	0.16	0.16	28800	28800	100	100
23	12-Jul-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.167	0.167	28800	28800	100	100
24	19-Jul-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00705	0.00705	0.174	0.174	28800	28800	100	100
25	26-Jul-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0072	0.0072	0.181	0.181	28800	28800	100	100
26	2-Aug-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00638	0.00638	0.187	0.187	28800	28800	100	100
27	9-Aug-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.194	0.194	28800	28800	100	100
28	16-Aug-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.201	0.201	28800	28800	100	100
29	23-Aug-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	0.041	0.0213	0.0213	0.222	0.222	28800	28800	100	100
30	30-Aug-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0078	0.0078	0.23	0.23	28800	28800	100	100
31	6-Sep-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0075	0.0075	0.238	0.238	28800	28800	100	100
32	13-Sep-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00653	0.00653	0.245	0.245	28800	28800	100	100
33	20-Sep-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	0.055	0.022	0.022	0.267	0.267	28800	28800	100	100
34	27-Sep-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.006	0.006	0.273	0.273	28800	28800	100	100
35	4-Oct-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00735	0.00735	0.28	0.28	28800	28800	100	100
36	11-Oct-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0078	0.0078	0.288	0.288	28800	28800	100	100
37	18-Oct-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00638	0.00638	0.294	0.294	28800	28800	100	100
38	25-Oct-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00713	0.00713	0.301	0.301	28800	28800	100	100
39	1-Nov-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00683	0.00683	0.308	0.308	28800	28800	100	100
40	8-Nov-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.006	0.006	0.314	0.314	28800	28800	100	100
41	15-Nov-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.321	0.321	28800	28800	100	100
42	22-Nov-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00563	0.00563	0.327	0.327	28800	28800	100	100
43	29-Nov-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.334	0.334	28800	28800	100	100
44	6-Dec-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0063	0.0063	0.34	0.34	28800	28800	100	100
45	13-Dec-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0078	0.0078	0.348	0.348	28800	28800	100	100
46	20-Dec-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.355	0.355	28800	28800	100	100
47	28-Dec-06		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00591	0.00591	0.361	0.361	28800	28800	100	100
48	3-Jan-07		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00691	0.00691	0.368	0.368	28800	28800	100	100
49	10-Jan-07		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00675	0.00675	0.375	0.375	28800	28800	100	100
50	17-Jan-07		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.0063	0.0063	0.381	0.381	28800	28800	100	100
51	24-Jan-07		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100		0.00645	0.00645	0.387	0.387	28800	28800	100	100
52	31-Jan-07		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00668	0.00668	0.394	0.394	28800	28800	100	100
53	7-Feb-07		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100		0.00645	0.00645	0.4	0.4	28800	28800	100	100
54	14-Feb-07		0	0	0	0	19.45	19.45	100	100		0	0	0	0	0.089	0.089	100	100	<0.030	0.00653	0.00653	0.407	0.407	28800	28800	100	100
Maximum		0	0	0	0	0	19.45	19.45	100	100	0	0	0	0	0	0.089	0.089	100	100	0.055	0.022	0.022	0.407	0.407	28800	28800	100	100
Minimum		0	0	0	0	0	19.45	19.45	100	100	0	0	0	0	0	0.089	0.089	100	100	0.015	0.00563	0.00563	0.0063	0.0063	28800	28800	100	100
Mean		0	0	0	0	0	19.45	19.45	100	100	0	0	0	0	0	0.089	0.089	100	100	0.0162	0.00735	0.00735	0.207	0.207	28800	28800	100	100
Median		0	0	0	0	0	19.45	19.45	100	100	0	0	0	0	0	0.089	0.089	100	100	0.015	0.00675	0.00675	0.194	0.194	28800	28800	100	100
Mean Initial 5 Wk Flush		0	0	0	0	0	19.45	19.45	100	100	0	0	0	0	0	0.089	0.089	100	100	0.015	0.00686	0.00686	0.02	0.02	28800	28800	100	100
Mean Last 5 Weeks		0	0	0	0	0	19.45	19.45	100	100	0	0	0	0	0	0.089	0.089	100	100	0.015	0.00648	0.00648	0.394	0.394	28800	28800	100	100
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									NA	NA								NA	NA								1111166	1111166
50% Remaining (Wks)									NA	NA								NA	NA								2222277	2222277
25% Remaining (Wks)									NA	NA								NA	NA								3333388	3333388
0% Remaining (Wks)									NA	NA								NA	NA								4444499	4444499

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium
Week No.	Date	Pb	Pb	Pb	Pb	Pb	Pb	Pb	Pb	Pb	Li	Li	Li	Li	Li	Li	Li	Li	Li	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Lead (ppm) =			**10.2**						**Original Lithium (ppm) =**			**17.6**						**Original Magnesium (ppm) =**			**15900**						
0	1-Feb-06	<0.0010	0.00021	0.00021	0.00021	0.00021	10.2	10.2	100	100	0.034	0.0143	0.0143	0.0143	0.0143	17.59	17.59	99.92	99.92	28.9	12.1	12.1	12.1	12.1	15890	15890	99.92	99.92
1	8-Feb-06	<0.0010	0.00021	0.00021	0.00042	0.00042	10.2	10.2	100	100	0.018	0.00756	0.00756	0.0219	0.0219	17.58	17.58	99.88	99.88	9.96	4.18	4.18	16.3	16.3	15880	15880	99.9	99.9
2	15-Feb-06	<0.0010	0.000245	0.000245	0.000665	0.000665	10.2	10.2	99.99	99.99	0.012	0.00588	0.00588	0.0278	0.0278	17.57	17.57	99.84	99.84	8.46	4.15	4.15	20.5	20.5	15880	15880	99.87	99.87
3	22-Feb-06	<0.0010	0.000223	0.000223	0.000888	0.000888	10.2	10.2	99.99	99.99	<0.010	0.00223	0.00223	0.03	0.03	17.57	17.57	99.83	99.83	8.43	3.75	3.75	24.3	24.3	15880	15880	99.85	99.85
4	1-Mar-06	<0.0010	0.000255	0.000255	0.00114	0.00114	10.2	10.2	99.99	99.99	<0.010	0.00255	0.00255	0.0326	0.0326	17.57	17.57	99.81	99.81	6.46	3.29	3.29	27.6	27.6	15870	15870	99.83	99.83
5	8-Mar-06	<0.0010	0.000228	0.000228	0.00137	0.00137	10.2	10.2	99.99	99.99	<0.010	0.00228	0.00228	0.0349	0.0349	17.57	17.57	99.8	99.8	6.52	2.97	2.97	30.6	30.6	15870	15870	99.81	99.81
6	15-Mar-06	<0.0010	0.000223	0.000223	0.00159	0.00159	10.2	10.2	99.98	99.98	<0.010	0.00223	0.00223	0.0371	0.0371	17.56	17.56	99.79	99.79	6.63	2.95	2.95	33.6	33.6	15870	15870	99.79	99.79
7	22-Mar-06	<0.0010	0.000223	0.000223	0.00181	0.00181	10.2	10.2	99.98	99.98	<0.010	0.00223	0.00223	0.0393	0.0393	17.56	17.56	99.78	99.78	7.53	3.35	3.35	37	37	15860	15860	99.77	99.77
8	29-Mar-06	<0.0010	0.000225	0.000225	0.00204	0.00204	10.2	10.2	99.98	99.98	<0.010	0.00225	0.00225	0.0416	0.0416	17.56	17.56	99.76	99.76	6.15	2.77	2.77	39.8	39.8	15860	15860	99.75	99.75
9	5-Apr-06	<0.0010	0.000235	0.000235	0.00228	0.00228	10.2	10.2	99.98	99.98	<0.010	0.00235	0.00235	0.044	0.044	17.56	17.56	99.75	99.75	7.14	3.36	3.36	43.2	43.2	15860	15860	99.73	99.73
10	12-Apr-06	<0.0010	0.000223	0.000223	0.0025	0.0025	10.2	10.2	99.98	99.98	<0.010	0.00223	0.00223	0.0462	0.0462	17.55	17.55	99.74	99.74	6.91	3.07	3.07	46.3	46.3	15850	15850	99.71	99.71
11	19-Apr-06	<0.0010	0.000243	0.000243	0.00274	0.00274	10.2	10.2	99.97	99.97	<0.010	0.00243	0.00243	0.0486	0.0486	17.55	17.55	99.72	99.72	7.66	3.72	3.72	50	50	15850	15850	99.69	99.69
12	26-Apr-06	<0.0010	0.00025	0.00025	0.00299	0.00299	10.2	10.2	99.97	99.97	<0.010	0.0025	0.0025	0.0511	0.0511	17.55	17.55	99.71	99.71	6.94	3.47	3.47	53.5	53.5	15850	15850	99.66	99.66
13	3-May-06	<0.0010	0.00023	0.00023	0.00322	0.00322	10.2	10.2	99.97	99.97	<0.010	0.0023	0.0023	0.0534	0.0534	17.55	17.55	99.7	99.7	5.59	2.57	2.57	56.1	56.1	15840	15840	99.65	99.65
14	10-May-06	<0.0010	0.00022	0.00022	0.00344	0.00344	10.2	10.2	99.97	99.97	<0.010	0.0022	0.0022	0.0556	0.0556	17.54	17.54	99.68	99.68	7.58	3.34	3.34	59.4	59.4	15840	15840	99.63	99.63
15	17-May-06	<0.0010	0.000243	0.000243	0.00368	0.00368	10.2	10.2	99.96	99.96	<0.010	0.00243	0.00243	0.058	0.058	17.54	17.54	99.67	99.67	5.92	2.87	2.87	62.3	62.3	15840	15840	99.61	99.61
16	24-May-06	<0.0010	0.00022	0.00022	0.0039	0.0039	10.2	10.2	99.96	99.96	<0.010	0.0022	0.0022	0.0602	0.0602	17.54	17.54	99.66	99.66	6.38	2.81	2.81	65.1	65.1	15830	15830	99.59	99.59
17	31-May-06	<0.0010	0.000235	0.000235	0.00414	0.00414	10.2	10.2	99.96	99.96	<0.010	0.00235	0.00235	0.0626	0.0626	17.54	17.54	99.64	99.64	6.33	2.98	2.98	68.1	68.1	15830	15830	99.57	99.57
18	7-Jun-06	<0.0010	0.000223	0.000223	0.00436	0.00436	10.2	10.2	99.96	99.96	<0.010	0.00223	0.00223	0.0648	0.0648	17.54	17.54	99.63	99.63	5.88	2.62	2.62	70.7	70.7	15830	15830	99.56	99.56
19	14-Jun-06	<0.0010	0.000253	0.000253	0.00461	0.00461	10.2	10.2	99.95	99.95	<0.010	0.00253	0.00253	0.0673	0.0673	17.53	17.53	99.62	99.62	6.02	3.04	3.04	73.7	73.7	15830	15830	99.54	99.54
20	21-Jun-06	<0.0010	0.00021	0.00021	0.00482	0.00482	10.2	10.2	99.95	99.95	<0.010	0.0021	0.0021	0.0694	0.0694	17.53	17.53	99.61	99.61	6.37	2.68	2.68	76.4	76.4	15820	15820	99.52	99.52
21	28-Jun-06	<0.0010	0.000225	0.000225	0.00505	0.00505	10.19	10.19	99.95	99.95	<0.010	0.00225	0.00225	0.0717	0.0717	17.53	17.53	99.59	99.59	5.41	2.43	2.43	78.8	78.8	15820	15820	99.5	99.5
22	5-Jul-06	<0.0010	0.00024	0.00024	0.00529	0.00529	10.19	10.19	99.95	99.95	<0.010	0.0024	0.0024	0.0741	0.0741	17.53	17.53	99.58	99.58	4.42	2.12	2.12	80.9	80.9	15820	15820	99.49	99.49
23	12-Jul-06	<0.0010	0.000225	0.000225	0.00552	0.00552	10.19	10.19	99.95	99.95	<0.010	0.00225	0.00225	0.0764	0.0764	17.52	17.52	99.57	99.57	6.09	2.74	2.74	83.6	83.6	15820	15820	99.47	99.47
24	19-Jul-06	<0.0010	0.000235	0.000235	0.00576	0.00576	10.19	10.19	99.94	99.94	<0.010	0.00235	0.00235	0.0788	0.0788	17.52	17.52	99.55	99.55	4.43	2.08	2.08	85.7	85.7	15810	15810	99.46	99.46
25	26-Jul-06	<0.0010	0.00024	0.00024	0.006	0.006	10.19	10.19	99.94	99.94	<0.010	0.0024	0.0024	0.0812	0.0812	17.52	17.52	99.54	99.54	5.22	2.51	2.51	88.2	88.2	15810	15810	99.45	99.45
26	2-Aug-06	<0.0010	0.000213	0.000213	0.00621	0.00621	10.19	10.19	99.94	99.94	<0.010	0.00213	0.00213	0.0833	0.0833	17.52	17.52	99.53	99.53	5.7	2.42	2.42	90.6	90.6	15810	15810	99.43	99.43
27	9-Aug-06	<0.0010	0.000225	0.000225	0.00644	0.00644	10.19	10.19	99.94	99.94	<0.010	0.00225	0.00225	0.0856	0.0856	17.51	17.51	99.51	99.51	4.78	2.15	2.15	92.8	92.8	15810	15810	99.42	99.42
28	16-Aug-06	<0.0010	0.000225	0.000225	0.00667	0.00667	10.19	10.19	99.93	99.93	<0.010	0.00225	0.00225	0.0879	0.0879	17.51	17.51	99.5	99.5	4.6	2.07	2.07	94.9	94.9	15810	15810	99.4	99.4
29	23-Aug-06	<0.0010	0.00026	0.00026	0.00693	0.00693	10.19	10.19	99.93	99.93	<0.010	0.0026	0.0026	0.0905	0.0905	17.51	17.51	99.49	99.49	5.01	2.61	2.61	97.5	97.5	15800	15800	99.39	99.39
30	30-Aug-06	<0.0010	0.00026	0.00026	0.00719	0.00719	10.19	10.19	99.93	99.93	<0.010	0.0026	0.0026	0.0931	0.0931	17.51	17.51	99.47	99.47	3.77	1.96	1.96	99.5	99.5	15800	15800	99.37	99.37
31	6-Sep-06	<0.0010	0.00025	0.00025	0.00744	0.00744	10.19	10.19	99.93	99.93	<0.010	0.0025	0.0025	0.0956	0.0956	17.5	17.5	99.46	99.46	5.56	2.78	2.78	102	102	15800	15800	99.36	99.36
32	13-Sep-06	<0.0010	0.000218	0.000218	0.00766	0.00766	10.19	10.19	99.92	99.92	<0.010	0.00218	0.00218	0.0978	0.0978	17.5	17.5	99.44	99.44	4.95	2.15	2.15	104	104	15800	15800	99.35	99.35
33	20-Sep-06	<0.0010	0.0002	0.0002	0.00786	0.00786	10.19	10.19	99.92	99.92	<0.010	0.002	0.002	0.0998	0.0998	17.5	17.5	99.43	99.43	2.81	1.12	1.12	105	105	15800	15800	99.34	99.34
34	27-Sep-06	<0.0010	0.0002	0.0002	0.00806	0.00806	10.19	10.19	99.92	99.92	<0.010	0.002	0.002	0.102	0.102	17.5	17.5	99.42	99.42	4.19	1.68	1.68	107	107	15790	15790	99.33	99.33
35	4-Oct-06	<0.0010	0.000245	0.000245	0.00831	0.00831	10.19	10.19	99.92	99.92	<0.010	0.00245	0.00245	0.104	0.104	17.5	17.5	99.41	99.41	4.41	2.16	2.16	109	109	15790	15790	99.31	99.31
36	11-Oct-06	<0.0010	0.00026	0.00026	0.00857	0.00857	10.19	10.19	99.92	99.92	<0.010	0.0026	0.0026	0.107	0.107	17.49	17.49	99.39	99.39	5.19	2.7	2.7	112	112	15790	15790	99.3	99.3
37	18-Oct-06	<0.0010	0.000213	0.000213	0.00878	0.00878	10.19	10.19	99.91	99.91	<0.010	0.00213	0.00213	0.109	0.109	17.49	17.49	99.38	99.38	4.38	1.86	1.86	114	114	15790	15790	99.28	99.28
38	25-Oct-06	<0.0010	0.000238	0.000238	0.00902	0.00902	10.19	10.19	99.91	99.91	<0.010	0.00238	0.00238	0.111	0.111	17.49	17.49	99.37	99.37	4.61	2.19	2.19	116	116	15780	15780	99.27	99.27
39	1-Nov-06	<0.0010	0.000228	0.000228	0.00925	0.00925	10.19	10.19	99.91	99.91	<0.010	0.00228	0.00228	0.113	0.113	17.49	17.49	99.36	99.36	4.8	2.18	2.18	118	118	15780	15780	99.26	99.26
40	8-Nov-06	<0.0010	0.0002	0.0002	0.00945	0.00945	10.19	10.19	99.91	99.91	<0.010	0.002	0.002	0.115	0.115	17.49	17.49	99.35	99.35	4.9	1.96	1.96	120	120	15780	15780	99.25	99.25
41	15-Nov-06	<0.0010	0.000225	0.000225	0.00968	0.00968	10.19	10.19	99.91	99.91	<0.010	0.00225	0.00225	0.117	0.117	17.48	17.48	99.34	99.34	4.66	2.1	2.1	122	122	15780	15780	99.23	99.23
42	22-Nov-06	<0.0010	0.000188	0.000188	0.00987	0.00987	10.19	10.19	99.9	99.9	<0.010	0.00188	0.00188	0.119	0.119	17.48	17.48	99.32	99.32	4.32	1.62	1.62	124	124	15780	15780	99.22	99.22
43	29-Nov-06	<0.0010	0.000225	0.000225	0.0101	0.0101	10.19	10.19	99.9	99.9	<0.010	0.00225	0.00225	0.121	0.121	17.48	17.48	99.31	99.31	4.32	1.94	1.94	126	126	15770	15770	99.21	99.21
44	6-Dec-06	<0.0010	0.00021	0.00021	0.0103	0.0103	10.19	10.19	99.9	99.9	<0.010	0.0021	0.0021	0.123	0.123	17.48	17.48	99.3	99.3	10.7	4.49	4.49	130	130	15770	15770	99.18	99.18
45	13-Dec-06	<0.0010	0.00026	0.00026	0.0106	0.0106	10.19	10.19	99.9	99.9	<0.010	0.0026	0.0026	0.126	0.126	17.47	17.47	99.28	99.28	13.9	7.23	7.23	137	137	15760	15760	99.14	99.14
46	20-Dec-06	<0.0010	0.000225	0.000225	0.0108	0.0108	10.19	10.19	99.89	99.89	<0.010	0.00225	0.00225	0.128	0.128	17.47	17.47	99.27	99.27	11	4.95	4.95	142	142	15760	15760	99.11	99.11
47	28-Dec-06	<0.0010	0.000197	0.000197	0.011	0.011	10.19	10.19	99.89	99.89	<0.010	0.00197	0.00197	0.13	0.13	17.47	17.47	99.26	99.26	4.5	1.77	1.77	144	144	15760	15760	99.09	99.09
48	3-Jan-07	<0.0010	0.00023	0.00023	0.0112	0.0112	10.19	10.19	99.89	99.89	<0.010	0.0023	0.0023	0.132	0.132	17.47	17.47	99.25	99.25	12.2	5.62	5.62	150	150	15750	15750	99.06	99.06
49	10-Jan-07	<0.0010	0.000225	0.000225	0.0114	0.0114	10.19	10.19	99.89	99.89	<0.010	0.00225	0.00225	0.134	0.134	17.47	17.47	99.24	99.24	4.25	1.91	1.91	152	152	15750	15750	99.04	99.04
50	17-Jan-07	<0.00050	0.000105	0.000105	0.0115	0.0115	10.19	10.19	99.89	99.89	<0.010	0.0021	0.0021	0.136	0.136	17.46	17.46	99.23	99.23	4.73	1.99	1.99	154	154	15750	15750	99.03	99.03
51	24-Jan-07		0.000108	0.000108	0.0116	0.0116	10.19	10.19	99.89	99.89		0.00215	0.00215	0.138	0.138	17.46	17.46	99.22	99.22		2.03	2.03	156	156	15740	15740	99.02	99.02
52	31-Jan-07	<0.00050	0.000111	0.000111	0.0117	0.0117	10.19	10.19	99.89	99.89	<0.010	0.00223	0.00223	0.14	0.14	17.46	17.46	99.2	99.2	4.16	1.85	1.85	158	158	15740	15740	99.01	99.01
53	7-Feb-07		0.000108	0.000108	0.0118	0.0118	10.19	10.19	99.88	99.88		0.00215	0.00215	0.142	0.142	17.46	17.46	99.19	99.19		1.79	1.79	160	160	15740	15740	98.99	98.99
54	14-Feb-07	<0.00050	0.000109	0.000109	0.0119	0.0119	10.19	10.19	99.88	99.88	<0.010	0.00218	0.00218	0.144	0.144	17.46	17.46	99.18	99.18	4.25	1.85	1.85	162	162	15740	15740	98.98	98.98
Maximum		0.0005	0.00026	0.00026	0.0119	0.0119	10.2	10.2	100	100	0.034	0.0143	0.0143	0.144	0.144	17.59	17.59	99.92	99.92	28.9	12.1	12.1	162	162	15890	15890	99.92	99.92
Minimum		0.00025	0.000105	0.000105	0.00021	0.00021	10.19	10.19	99.88	99.88	0.005	0.00188	0.00188	0.0143	0.0143	17.46	17.46	99.18	99.18	2.81	1.12	1.12	12.1	12.1	15740	15740	98.98	98.98
Mean		0.000477	0.000217	0.000217	0.00639	0.00639	10.19	10.19	99.94	99.94	0.00589	0.00265	0.00265	0.0849	0.0849	17.52	17.52	99.52	99.52	6.45	2.93	2.93	90.6	90.6	15810	15810	99.43	99.43
Median		0.0005	0.000225	0.000225	0.00644	0.00644	10.19	10.19	99.94	99.94	0.005	0.00225	0.00225	0.0856	0.0856	17.51	17.51	99.51	99.51	5.56	2.61	2.61	92.8	92.8	15810	15810	99.42	99.42
Mean Initial 5 Wk Flush		0.0005	0.000229	0.000229	0.000665	0.000665	10.2	10.2	99.99	99.99	0.0148	0.0065	0.0065	0.0253	0.0253	17.58	17.58	99.86	99.86	12.4	5.49	5.49	20.2	20.2	15880	15880	99.87	99.87
Mean Last 5 Weeks		0.00025	0.000108	0.000108	0.0117	0.0117	10.19	10.19	99.89	99.89	0.005	0.00216	0.00216	0.14	0.14	17.46	17.46	99.2	99.2	4.41	1.9	1.9	158	158	15740	15740	99.01	99.01
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									23553	23553								2025	2025								2062	2062
50% Remaining (Wks)									47164	47164								4062	4062								4154	4154
25% Remaining (Wks)									70775	70775								6099	6099								6246	6246
0% Remaining (Wks)									94386	94386								8136	8136								8338	8338

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum
Week No.	Date	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Hg	Hg	Hg	Hg	Hg	Hg	Hg	Hg	Hg	Mo	Mo	Mo	Mo	Mo	Mo	Mo	Mo	Mo
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Manganese (ppm) =			**322**						**Original Mercury (ppm) =**			**0.1**						**Original Molybdenum (ppm) =**			**13.8**					
0	1-Feb-06	0.0424	0.0178	0.0178	0.0178	0.0178	322	322	99.99	99.99	<0.0010	0.00021	0.00021	0.00021	0.00021	0.0998	0.0998	99.79	99.79	0.0571	0.024	0.024	0.024	0.024	13.78	13.78	99.83	99.83
1	8-Feb-06	0.0178	0.00748	0.00748	0.0253	0.0253	322	322	99.99	99.99	<0.0010	0.00021	0.00021	0.00042	0.00042	0.0996	0.0996	99.58	99.58	0.0215	0.00903	0.00903	0.033	0.033	13.77	13.77	99.76	99.76
2	15-Feb-06	0.0186	0.00911	0.00911	0.0344	0.0344	322	322	99.99	99.99	<0.0010	0.000245	0.000245	0.000665	0.000665	0.0993	0.0993	99.34	99.34	0.0148	0.00725	0.00725	0.0403	0.0403	13.76	13.76	99.71	99.71
3	22-Feb-06	0.0195	0.00868	0.00868	0.0431	0.0431	322	322	99.99	99.99	<0.0010	0.000223	0.000223	0.000888	0.000888	0.0991	0.0991	99.11	99.11	0.0099	0.00441	0.00441	0.0447	0.0447	13.76	13.76	99.68	99.68
4	1-Mar-06	0.013	0.00663	0.00663	0.0497	0.0497	322	322	99.98	99.98	<0.0010	0.000255	0.000255	0.00114	0.00114	0.0989	0.0989	98.86	98.86	0.0044	0.00224	0.00224	0.0469	0.0469	13.75	13.75	99.66	99.66
5	8-Mar-06	0.0138	0.00628	0.00628	0.056	0.056	321.9	321.9	99.98	99.98	<0.0010	0.000228	0.000228	0.00137	0.00137	0.0986	0.0986	98.63	98.63	0.004	0.00182	0.00182	0.0487	0.0487	13.75	13.75	99.65	99.65
6	15-Mar-06	0.0162	0.00721	0.00721	0.0632	0.0632	321.9	321.9	99.98	99.98	<0.0010	0.000223	0.000223	0.00159	0.00159	0.0984	0.0984	98.41	98.41	0.0036	0.0016	0.0016	0.0503	0.0503	13.75	13.75	99.64	99.64
7	22-Mar-06	0.0174	0.00774	0.00774	0.0709	0.0709	321.9	321.9	99.98	99.98	<0.0010	0.000223	0.000223	0.00181	0.00181	0.0982	0.0982	98.19	98.19	0.004	0.00178	0.00178	0.0521	0.0521	13.75	13.75	99.62	99.62
8	29-Mar-06	0.0136	0.00612	0.00612	0.077	0.077	321.9	321.9	99.98	99.98	<0.0010	0.000225	0.000225	0.00204	0.00204	0.098	0.098	97.96	97.96	0.0029	0.00131	0.00131	0.0534	0.0534	13.75	13.75	99.61	99.61
9	5-Apr-06	0.0212	0.00996	0.00996	0.087	0.087	321.9	321.9	99.97	99.97	<0.0010	0.000235	0.000235	0.00228	0.00228	0.0977	0.0977	97.72	97.72	0.0028	0.00132	0.00132	0.0547	0.0547	13.75	13.75	99.6	99.6
10	12-Apr-06	0.0181	0.00805	0.00805	0.0951	0.0951	321.9	321.9	99.97	99.97	<0.0010	0.000223	0.000223	0.0025	0.0025	0.0975	0.0975	97.5	97.5	0.0029	0.00129	0.00129	0.056	0.056	13.74	13.74	99.59	99.59
11	19-Apr-06	0.0201	0.00975	0.00975	0.105	0.105	321.9	321.9	99.97	99.97	<0.0010	0.000243	0.000243	0.00274	0.00274	0.0973	0.0973	97.26	97.26	0.003	0.00146	0.00146	0.0575	0.0575	13.74	13.74	99.58	99.58
12	26-Apr-06	0.02	0.01	0.01	0.115	0.115	321.9	321.9	99.96	99.96	<0.0010	0.00025	0.00025	0.00299	0.00299	0.097	0.097	97.01	97.01	0.0027	0.00135	0.00135	0.0589	0.0589	13.74	13.74	99.57	99.57
13	3-May-06	0.0164	0.00754	0.00754	0.123	0.123	321.9	321.9	99.96	99.96	<0.0010	0.00023	0.00023	0.00322	0.00322	0.0968	0.0968	96.78	96.78	0.0022	0.00101	0.00101	0.0599	0.0599	13.74	13.74	99.57	99.57
14	10-May-06	0.0196	0.00862	0.00862	0.132	0.132	321.9	321.9	99.96	99.96	<0.0010	0.00022	0.00022	0.00344	0.00344	0.0966	0.0966	96.56	96.56	0.003	0.00132	0.00132	0.0612	0.0612	13.74	13.74	99.56	99.56
15	17-May-06	0.018	0.00873	0.00873	0.141	0.141	321.9	321.9	99.96	99.96	<0.0010	0.000243	0.000243	0.00368	0.00368	0.0963	0.0963	96.32	96.32	0.0027	0.00131	0.00131	0.0625	0.0625	13.74	13.74	99.55	99.55
16	24-May-06	0.0187	0.00823	0.00823	0.149	0.149	321.9	321.9	99.95	99.95	<0.0010	0.00022	0.00022	0.0039	0.0039	0.0961	0.0961	96.1	96.1	0.0029	0.00128	0.00128	0.0638	0.0638	13.74	13.74	99.54	99.54
17	31-May-06	0.0181	0.00851	0.00851	0.158	0.158	321.8	321.8	99.95	99.95	<0.0010	0.000235	0.000235	0.00414	0.00414	0.0959	0.0959	95.86	95.86	0.0027	0.00127	0.00127	0.0651	0.0651	13.73	13.73	99.53	99.53
18	7-Jun-06	0.0189	0.00841	0.00841	0.166	0.166	321.8	321.8	99.95	99.95	<0.0010	0.000223	0.000223	0.00436	0.00436	0.0956	0.0956	95.64	95.64	0.0029	0.00129	0.00129	0.0664	0.0664	13.73	13.73	99.52	99.52
19	14-Jun-06	0.0168	0.00848	0.00848	0.174	0.174	321.8	321.8	99.95	99.95	<0.0010	0.000253	0.000253	0.00461	0.00461	0.0954	0.0954	95.39	95.39	0.0026	0.00131	0.00131	0.0677	0.0677	13.73	13.73	99.51	99.51
20	21-Jun-06	0.0182	0.00764	0.00764	0.182	0.182	321.8	321.8	99.94	99.94	<0.0010	0.00021	0.00021	0.00482	0.00482	0.0952	0.0952	95.18	95.18	0.0028	0.00118	0.00118	0.0689	0.0689	13.73	13.73	99.5	99.5
21	28-Jun-06	0.0157	0.00707	0.00707	0.189	0.189	321.8	321.8	99.94	99.94	<0.0010	0.000225	0.000225	0.00505	0.00505	0.095	0.095	94.95	94.95	0.0025	0.00113	0.00113	0.07	0.07	13.73	13.73	99.49	99.49
22	5-Jul-06	0.013	0.00624	0.00624	0.195	0.195	321.8	321.8	99.94	99.94	<0.0010	0.00024	0.00024	0.00529	0.00529	0.0947	0.0947	94.71	94.71	0.0021	0.00101	0.00101	0.071	0.071	13.73	13.73	99.49	99.49
23	12-Jul-06	0.0163	0.00734	0.00734	0.202	0.202	321.8	321.8	99.94	99.94	<0.0010	0.000225	0.000225	0.00552	0.00552	0.0945	0.0945	94.48	94.48	0.0033	0.00149	0.00149	0.0725	0.0725	13.73	13.73	99.47	99.47
24	19-Jul-06	0.0129	0.00606	0.00606	0.208	0.208	321.8	321.8	99.94	99.94	<0.0010	0.000235	0.000235	0.00576	0.00576	0.0942	0.0942	94.24	94.24	0.0021	0.000987	0.000987	0.0735	0.0735	13.73	13.73	99.47	99.47
25	26-Jul-06	0.0131	0.00629	0.00629	0.214	0.214	321.8	321.8	99.93	99.93	<0.0010	0.00024	0.00024	0.006	0.006	0.094	0.094	94	94	0.0032	0.00154	0.00154	0.075	0.075	13.73	13.73	99.46	99.46
26	2-Aug-06	0.0163	0.00693	0.00693	0.221	0.221	321.8	321.8	99.93	99.93	<0.0010	0.000213	0.000213	0.00621	0.00621	0.0938	0.0938	93.79	93.79	0.0034	0.00145	0.00145	0.0765	0.0765	13.72	13.72	99.45	99.45
27	9-Aug-06	0.0143	0.00644	0.00644	0.227	0.227	321.8	321.8	99.93	99.93	<0.0010	0.000225	0.000225	0.00644	0.00644	0.0936	0.0936	93.56	93.56	0.0032	0.00144	0.00144	0.0779	0.0779	13.72	13.72	99.44	99.44
28	16-Aug-06	0.0124	0.00558	0.00558	0.233	0.233	321.8	321.8	99.93	99.93	<0.0010	0.000225	0.000225	0.00667	0.00667	0.0933	0.0933	93.33	93.33	0.0029	0.00131	0.00131	0.0792	0.0792	13.72	13.72	99.43	99.43
29	23-Aug-06	0.0107	0.00556	0.00556	0.239	0.239	321.8	321.8	99.93	99.93	<0.0010	0.00026	0.00026	0.00693	0.00693	0.0931	0.0931	93.07	93.07	0.0031	0.00161	0.00161	0.0808	0.0808	13.72	13.72	99.41	99.41
30	30-Aug-06	0.0087	0.00452	0.00452	0.244	0.244	321.8	321.8	99.92	99.92	<0.0010	0.00026	0.00026	0.00719	0.00719	0.0928	0.0928	92.81	92.81	0.0022	0.00114	0.00114	0.0819	0.0819	13.72	13.72	99.41	99.41
31	6-Sep-06	0.0152	0.0076	0.0076	0.252	0.252	321.7	321.7	99.92	99.92	<0.0010	0.00025	0.00025	0.00744	0.00744	0.0926	0.0926	92.56	92.56	0.004	0.002	0.002	0.0839	0.0839	13.72	13.72	99.39	99.39
32	13-Sep-06	0.0138	0.006	0.006	0.258	0.258	321.7	321.7	99.92	99.92	<0.0010	0.000218	0.000218	0.00766	0.00766	0.0923	0.0923	92.34	92.34	0.0033	0.00144	0.00144	0.0853	0.0853	13.71	13.71	99.38	99.38
33	20-Sep-06	0.0058	0.00232	0.00232	0.26	0.26	321.7	321.7	99.92	99.92	<0.0010	0.0002	0.0002	0.00786	0.00786	0.0921	0.0921	92.14	92.14	0.0012	0.00048	0.00048	0.0858	0.0858	13.71	13.71	99.38	99.38
34	27-Sep-06	0.0106	0.00424	0.00424	0.264	0.264	321.7	321.7	99.92	99.92	<0.0010	0.0002	0.0002	0.00806	0.00806	0.0919	0.0919	91.94	91.94	0.0029	0.00116	0.00116	0.087	0.087	13.71	13.71	99.37	99.37
35	4-Oct-06	0.0126	0.00617	0.00617	0.27	0.27	321.7	321.7	99.92	99.92	<0.0010	0.000245	0.000245	0.00831	0.00831	0.0917	0.0917	91.69	91.69	0.0031	0.00152	0.00152	0.0885	0.0885	13.71	13.71	99.36	99.36
36	11-Oct-06	0.0169	0.00879	0.00879	0.279	0.279	321.7	321.7	99.91	99.91	<0.0010	0.00026	0.00026	0.00857	0.00857	0.0914	0.0914	91.43	91.43	0.0036	0.00187	0.00187	0.0904	0.0904	13.71	13.71	99.34	99.34
37	18-Oct-06	0.0127	0.0054	0.0054	0.284	0.284	321.7	321.7	99.91	99.91	<0.0010	0.000213	0.000213	0.00878	0.00878	0.0912	0.0912	91.22	91.22	0.002	0.00085	0.00085	0.0913	0.0913	13.71	13.71	99.34	99.34
38	25-Oct-06	0.0157	0.00746	0.00746	0.291	0.291	321.7	321.7	99.91	99.91	<0.0010	0.000238	0.000238	0.00902	0.00902	0.091	0.091	90.98	90.98	0.0022	0.00105	0.00105	0.0924	0.0924	13.71	13.71	99.33	99.33
39	1-Nov-06	0.0149	0.00678	0.00678	0.298	0.298	321.7	321.7	99.91	99.91	<0.0010	0.000228	0.000228	0.00925	0.00925	0.0908	0.0908	90.75	90.75	0.0021	0.000956	0.000956	0.0934	0.0934	13.71	13.71	99.32	99.32
40	8-Nov-06	0.016	0.0064	0.0064	0.304	0.304	321.7	321.7	99.91	99.91	<0.0010	0.0002	0.0002	0.00945	0.00945	0.0906	0.0906	90.55	90.55	0.0024	0.00096	0.00096	0.0944	0.0944	13.71	13.71	99.32	99.32
41	15-Nov-06	0.0133	0.00599	0.00599	0.31	0.31	321.7	321.7	99.9	99.9	<0.0010	0.000225	0.000225	0.00968	0.00968	0.0903	0.0903	90.32	90.32	0.0023	0.00104	0.00104	0.0954	0.0954	13.7	13.7	99.31	99.31
42	22-Nov-06	0.0124	0.00465	0.00465	0.315	0.315	321.7	321.7	99.9	99.9	<0.0010	0.000188	0.000188	0.00987	0.00987	0.0901	0.0901	90.13	90.13	0.0023	0.000863	0.000863	0.0963	0.0963	13.7	13.7	99.3	99.3
43	29-Nov-06	0.0134	0.00603	0.00603	0.321	0.321	321.7	321.7	99.9	99.9	<0.0010	0.000225	0.000225	0.0101	0.0101	0.0899	0.0899	89.9	89.9	0.0026	0.00117	0.00117	0.0975	0.0975	13.7	13.7	99.29	99.29
44	6-Dec-06	0.108	0.0454	0.0454	0.366	0.366	321.6	321.6	99.89	99.89	<0.0010	0.00021	0.00021	0.0103	0.0103	0.0897	0.0897	89.7	89.7	0.0014	0.000588	0.000588	0.0981	0.0981	13.7	13.7	99.29	99.29
45	13-Dec-06	0.134	0.0697	0.0697	0.436	0.436	321.6	321.6	99.86	99.86	<0.0010	0.00026	0.00026	0.0106	0.0106	0.0894	0.0894	89.4	89.4	0.0017	0.000884	0.000884	0.099	0.099	13.7	13.7	99.28	99.28
46	20-Dec-06	0.123	0.0554	0.0554	0.491	0.491	321.5	321.5	99.85	99.85	<0.0010	0.000225	0.000225	0.0108	0.0108	0.0892	0.0892	89.2	89.2	0.0016	0.00072	0.00072	0.0997	0.0997	13.7	13.7	99.28	99.28
47	28-Dec-06	0.0133	0.00524	0.00524	0.496	0.496	321.5	321.5	99.85	99.85	<0.0010	0.000197	0.000197	0.011	0.011	0.089	0.089	89	89	0.0034	0.00134	0.00134	0.101	0.101	13.7	13.7	99.27	99.27
48	3-Jan-07	0.137	0.0631	0.0631	0.559	0.559	321.4	321.4	99.83	99.83	<0.0010	0.00023	0.00023	0.0112	0.0112	0.0888	0.0888	88.8	88.8	0.0015	0.000691	0.000691	0.102	0.102	13.7	13.7	99.26	99.26
49	10-Jan-07	0.0128	0.00576	0.00576	0.565	0.565	321.4	321.4	99.82	99.82	<0.0010	0.000225	0.000225	0.0114	0.0114	0.0886	0.0886	88.6	88.6	0.0027	0.00122	0.00122	0.103	0.103	13.7	13.7	99.25	99.25
50	17-Jan-07	0.0136	0.00571	0.00571	0.571	0.571	321.4	321.4	99.82	99.82	<0.0010	0.00021	0.00021	0.0116	0.0116	0.0884	0.0884	88.4	88.4	0.00273	0.00115	0.00115	0.104	0.104	13.7	13.7	99.25	99.25
51	24-Jan-07		0.00585	0.00585	0.577	0.577	321.4	321.4	99.82	99.82		0.000215	0.000215	0.0118	0.0118	0.0882	0.0882	88.2	88.2		0.00117	0.00117	0.105	0.105	13.7	13.7	99.24	99.24
52	31-Jan-07	0.0124	0.00552	0.00552	0.583	0.583	321.4	321.4	99.82	99.82	<0.0010	0.000223	0.000223	0.012	0.012	0.088	0.088	88	88	0.00226	0.00101	0.00101	0.106	0.106	13.69	13.69	99.23	99.23
53	7-Feb-07		0.00533	0.00533	0.588	0.588	321.4	321.4	99.82	99.82		0.000215	0.000215	0.0122	0.0122	0.0878	0.0878	87.8	87.8		0.000972	0.000972	0.107	0.107	13.69	13.69	99.22	99.22
54	14-Feb-07	0.0125	0.00544	0.00544	0.593	0.593	321.4	321.4	99.82	99.82	<0.0010	0.000218	0.000218	0.0124	0.0124	0.0876	0.0876	87.6	87.6	0.00265	0.00115	0.00115	0.108	0.108	13.69	13.69	99.22	99.22
Maximum		0.137	0.0697	0.0697	0.593	0.593	322	322	99.99	99.99	0.0005	0.00026	0.00026	0.0124	0.0124	0.0998	0.0998	99.79	99.79	0.0571	0.024	0.024	0.108	0.108	13.78	13.78	99.83	99.83
Minimum		0.0058	0.00232	0.00232	0.0178	0.0178	321.4	321.4	99.82	99.82	0.0005	0.000188	0.000188	0.00021	0.00021	0.0876	0.0876	87.6	87.6	0.0012	0.00048	0.00048	0.024	0.024	13.69	13.69	99.22	99.22
Mean		0.0236	0.0108	0.0108	0.25	0.25	321.7	321.7	99.92	99.92	0.0005	0.000227	0.000227	0.00642	0.00642	0.0936	0.0936	93.58	93.58	0.00441	0.00197	0.00197	0.0765	0.0765	13.72	13.72	99.45	99.45
Median		0.0157	0.00693	0.00693	0.227	0.227	321.8	321.8	99.93	99.93	0.0005	0.000225	0.000225	0.00644	0.00644	0.0936	0.0936	93.56	93.56	0.0028	0.00129	0.00129	0.0779	0.0779	13.72	13.72	99.44	99.44
Mean Initial 5 Wk Flush		0.0223	0.00994	0.00994	0.0341	0.0341	322	322	99.99	99.99	0.0005	0.000229	0.000229	0.000665	0.000665	0.0993	0.0993	99.34	99.34	0.0215	0.00939	0.00939	0.0378	0.0378	13.76	13.76	99.73	99.73
Mean Last 5 Weeks		0.0129	0.00557	0.00557	0.582	0.582	321.4	321.4	99.82	99.82	0.0005	0.000216	0.000216	0.012	0.012	0.088	0.088	88	88	0.00253	0.00109	0.00109	0.106	0.106	13.69	13.69	99.23	99.23
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									14403	14403								113	113								3121	3121
50% Remaining (Wks)									28856	28856								229	229								6287	6287
25% Remaining (Wks)									43308	43308								345	345								9452	9452
0% Remaining (Wks)									57761	57761								461	461								12617	12617

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium
Week No.	Date	Ni	Ni	Ni	Ni	Ni	Ni	Ni	Ni	Ni	P	P	P	P	P	P	P	P	P	K	K	K	K	K	K	K	K	K
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Nickel (ppm) =			**151.5**						**Original Phosphorus (ppm) =**			**1130**						**Original Potassium (ppm) =**			**13800**					
0	1-Feb-06	<0.0050	0.00105	0.00105	0.00105	0.00105	151	151	100	100	<0.30	0.063	0.063	0.063	0.063	1130	1130	99.99	99.99	58	24.4	24.4	24.4	24.4	13776	13776	99.82	99.82
1	8-Feb-06	<0.0050	0.00105	0.00105	0.0021	0.0021	151	151	100	100	<0.30	0.063	0.063	0.126	0.126	1130	1130	99.99	99.99	26.6	11.2	11.2	35.6	35.6	13764	13764	99.74	99.74
2	15-Feb-06	<0.0050	0.00123	0.00123	0.00333	0.00333	151	151	100	100	<0.30	0.0735	0.0735	0.2	0.2	1130	1130	99.98	99.98	26.6	13	13	48.6	48.6	13751	13751	99.65	99.65
3	22-Feb-06	<0.0050	0.00111	0.00111	0.00444	0.00444	151	151	100	100	<0.30	0.0668	0.0668	0.267	0.267	1130	1130	99.98	99.98	21.4	9.52	9.52	58.1	58.1	13742	13742	99.58	99.58
4	1-Mar-06	<0.0050	0.00128	0.00128	0.00572	0.00572	151	151	100	100	<0.30	0.0765	0.0765	0.344	0.344	1130	1130	99.97	99.97	15.6	7.96	7.96	66.1	66.1	13734	13734	99.52	99.52
5	8-Mar-06	<0.0050	0.00114	0.00114	0.00686	0.00686	151	151	100	100	<0.30	0.0683	0.0683	0.412	0.412	1130	1130	99.96	99.96	14.3	6.51	6.51	72.6	72.6	13727	13727	99.47	99.47
6	15-Mar-06	<0.0050	0.00111	0.00111	0.00797	0.00797	151	151	99.99	99.99	<0.30	0.0668	0.0668	0.479	0.479	1130	1130	99.96	99.96	13.5	6.01	6.01	78.6	78.6	13721	13721	99.43	99.43
7	22-Mar-06	<0.0050	0.00111	0.00111	0.00908	0.00908	151	151	99.99	99.99	<0.30	0.0668	0.0668	0.546	0.546	1129	1129	99.95	99.95	15.3	6.81	6.81	85.4	85.4	13715	13715	99.38	99.38
8	29-Mar-06	<0.0050	0.00113	0.00113	0.0102	0.0102	151	151	99.99	99.99	<0.30	0.0675	0.0675	0.614	0.614	1129	1129	99.95	99.95	12.4	5.58	5.58	91	91	13709	13709	99.34	99.34
9	5-Apr-06	<0.0050	0.00118	0.00118	0.0114	0.0114	151	151	99.99	99.99	<0.30	0.0705	0.0705	0.685	0.685	1129	1129	99.94	99.94	12.6	5.92	5.92	96.9	96.9	13703	13703	99.3	99.3
10	12-Apr-06	<0.0050	0.00111	0.00111	0.0125	0.0125	151	151	99.99	99.99	<0.30	0.0668	0.0668	0.752	0.752	1129	1129	99.93	99.93	12.2	5.43	5.43	102	102	13698	13698	99.26	99.26
11	19-Apr-06	<0.0050	0.00121	0.00121	0.0137	0.0137	151	151	99.99	99.99	<0.30	0.0728	0.0728	0.825	0.825	1129	1129	99.93	99.93	12.6	6.11	6.11	108	108	13692	13692	99.22	99.22
12	26-Apr-06	<0.0050	0.00125	0.00125	0.015	0.015	151	151	99.99	99.99	<0.30	0.075	0.075	0.9	0.9	1129	1129	99.92	99.92	11.5	5.75	5.75	114	114	13686	13686	99.17	99.17
13	3-May-06	<0.0050	0.00115	0.00115	0.0162	0.0162	151	151	99.99	99.99	<0.30	0.069	0.069	0.969	0.969	1129	1129	99.91	99.91	9.51	4.37	4.37	118	118	13682	13682	99.14	99.14
14	10-May-06	<0.0050	0.0011	0.0011	0.0173	0.0173	151	151	99.99	99.99	<0.30	0.066	0.066	1.04	1.04	1129	1129	99.91	99.91	12	5.28	5.28	123	123	13677	13677	99.11	99.11
15	17-May-06	<0.0050	0.00121	0.00121	0.0185	0.0185	151	151	99.99	99.99	<0.30	0.0728	0.0728	1.11	1.11	1129	1129	99.9	99.9	10.2	4.95	4.95	128	128	13672	13672	99.07	99.07
16	24-May-06	<0.0050	0.0011	0.0011	0.0196	0.0196	151	151	99.99	99.99	<0.30	0.066	0.066	1.18	1.18	1129	1129	99.9	99.9	10.1	4.44	4.44	132	132	13668	13668	99.04	99.04
17	31-May-06	<0.0050	0.00118	0.00118	0.0208	0.0208	151	151	99.99	99.99	<0.30	0.0705	0.0705	1.25	1.25	1129	1129	99.89	99.89	9.31	4.38	4.38	136	136	13664	13664	99.01	99.01
18	7-Jun-06	<0.0050	0.00111	0.00111	0.0219	0.0219	151	151	99.99	99.99	<0.30	0.0668	0.0668	1.32	1.32	1129	1129	99.88	99.88	9.13	4.06	4.06	140	140	13660	13660	98.99	98.99
19	14-Jun-06	<0.0050	0.00126	0.00126	0.0232	0.0232	151	151	99.98	99.98	<0.30	0.0758	0.0758	1.4	1.4	1129	1129	99.88	99.88	8.47	4.28	4.28	144	144	13656	13656	98.96	98.96
20	21-Jun-06	<0.0050	0.00105	0.00105	0.0243	0.0243	151	151	99.98	99.98	<0.30	0.063	0.063	1.46	1.46	1129	1129	99.87	99.87	9.35	3.93	3.93	148	148	13652	13652	98.93	98.93
21	28-Jun-06	<0.0050	0.00113	0.00113	0.0254	0.0254	151	151	99.98	99.98	<0.30	0.0675	0.0675	1.53	1.53	1128	1128	99.86	99.86	8.14	3.66	3.66	152	152	13648	13648	98.9	98.9
22	5-Jul-06	<0.0050	0.0012	0.0012	0.0266	0.0266	151	151	99.98	99.98	<0.30	0.072	0.072	1.6	1.6	1128	1128	99.86	99.86	6.79	3.26	3.26	155	155	13645	13645	98.88	98.88
23	12-Jul-06	<0.0050	0.00113	0.00113	0.0277	0.0277	151	151	99.98	99.98	<0.30	0.0675	0.0675	1.67	1.67	1128	1128	99.85	99.85	8.87	3.99	3.99	159	159	13641	13641	98.85	98.85
24	19-Jul-06	<0.0050	0.00118	0.00118	0.0289	0.0289	151	151	99.98	99.98	<0.30	0.0705	0.0705	1.74	1.74	1128	1128	99.85	99.85	6.84	3.21	3.21	162	162	13638	13638	98.83	98.83
25	26-Jul-06	<0.0050	0.0012	0.0012	0.0301	0.0301	151	151	99.98	99.98	<0.30	0.072	0.072	1.81	1.81	1128	1128	99.84	99.84	7.56	3.63	3.63	166	166	13634	13634	98.8	98.8
26	2-Aug-06	<0.0050	0.00106	0.00106	0.0312	0.0312	151	151	99.98	99.98	<0.30	0.0638	0.0638	1.87	1.87	1128	1128	99.83	99.83	8.39	3.57	3.57	170	170	13630	13630	98.77	98.77
27	9-Aug-06	<0.0050	0.00113	0.00113	0.0323	0.0323	151	151	99.98	99.98	<0.30	0.0675	0.0675	1.94	1.94	1128	1128	99.83	99.83	7.49	3.37	3.37	173	173	13627	13627	98.75	98.75
28	16-Aug-06	<0.0050	0.00113	0.00113	0.0334	0.0334	151	151	99.98	99.98	<0.30	0.0675	0.0675	2.01	2.01	1128	1128	99.82	99.82	6.93	3.12	3.12	176	176	13624	13624	98.72	98.72
29	23-Aug-06	<0.0050	0.0013	0.0013	0.0347	0.0347	151	151	99.98	99.98	<0.30	0.078	0.078	2.09	2.09	1128	1128	99.82	99.82	6.6	3.43	3.43	179	179	13621	13621	98.7	98.7
30	30-Aug-06	<0.0050	0.0013	0.0013	0.036	0.036	151	151	99.98	99.98	<0.30	0.078	0.078	2.17	2.17	1128	1128	99.81	99.81	5.13	2.67	2.67	182	182	13618	13618	98.68	98.68
31	6-Sep-06	<0.0050	0.00125	0.00125	0.0373	0.0373	151	151	99.98	99.98	<0.30	0.075	0.075	2.25	2.25	1128	1128	99.8	99.8	7.74	3.87	3.87	186	186	13614	13614	98.65	98.65
32	13-Sep-06	<0.0050	0.00109	0.00109	0.0384	0.0384	151	151	99.97	99.97	<0.30	0.0653	0.0653	2.32	2.32	1128	1128	99.79	99.79	7.47	3.25	3.25	189	189	13611	13611	98.63	98.63
33	20-Sep-06	<0.0050	0.001	0.001	0.0394	0.0394	151	151	99.97	99.97	<0.30	0.06	0.06	2.38	2.38	1128	1128	99.79	99.79	4.12	1.65	1.65	191	191	13609	13609	98.62	98.62
34	27-Sep-06	<0.0050	0.001	0.001	0.0404	0.0404	151	151	99.97	99.97	<0.30	0.06	0.06	2.44	2.44	1128	1128	99.78	99.78	5.9	2.36	2.36	193	193	13607	13607	98.6	98.6
35	4-Oct-06	<0.0050	0.00123	0.00123	0.0416	0.0416	151	151	99.97	99.97	<0.30	0.0735	0.0735	2.51	2.51	1127	1127	99.78	99.78	6.04	2.96	2.96	196	196	13604	13604	98.58	98.58
36	11-Oct-06	<0.0050	0.0013	0.0013	0.0429	0.0429	151	151	99.97	99.97	<0.30	0.078	0.078	2.59	2.59	1127	1127	99.77	99.77	7.08	3.68	3.68	200	200	13600	13600	98.55	98.55
37	18-Oct-06	<0.0050	0.00106	0.00106	0.044	0.044	151	151	99.97	99.97	<0.30	0.0638	0.0638	2.65	2.65	1127	1127	99.77	99.77	6.16	2.62	2.62	203	203	13597	13597	98.53	98.53
38	25-Oct-06	<0.0050	0.00119	0.00119	0.0452	0.0452	151	151	99.97	99.97	<0.30	0.0713	0.0713	2.72	2.72	1127	1127	99.76	99.76	6.4	3.04	3.04	206	206	13594	13594	98.51	98.51
39	1-Nov-06	<0.0050	0.00114	0.00114	0.0463	0.0463	151	151	99.97	99.97	<0.30	0.0683	0.0683	2.79	2.79	1127	1127	99.75	99.75	6.37	2.9	2.9	209	209	13591	13591	98.49	98.49
40	8-Nov-06	<0.0050	0.001	0.001	0.0473	0.0473	151	151	99.97	99.97	<0.30	0.06	0.06	2.85	2.85	1127	1127	99.75	99.75	6.41	2.56	2.56	212	212	13588	13588	98.46	98.46
41	15-Nov-06	<0.0050	0.00113	0.00113	0.0484	0.0484	151	151	99.97	99.97	<0.30	0.0675	0.0675	2.92	2.92	1127	1127	99.74	99.74	6.25	2.81	2.81	215	215	13585	13585	98.44	98.44
42	22-Nov-06	<0.0050	0.000938	0.000938	0.0493	0.0493	151	151	99.97	99.97	<0.30	0.0563	0.0563	2.98	2.98	1127	1127	99.74	99.74	5.79	2.17	2.17	217	217	13583	13583	98.43	98.43
43	29-Nov-06	<0.0050	0.00113	0.00113	0.0504	0.0504	151	151	99.97	99.97	<0.30	0.0675	0.0675	3.05	3.05	1127	1127	99.73	99.73	5.82	2.62	2.62	220	220	13580	13580	98.41	98.41
44	6-Dec-06	<0.0050	0.00105	0.00105	0.0515	0.0515	151	151	99.97	99.97	<0.30	0.063	0.063	3.11	3.11	1127	1127	99.72	99.72	3.23	1.36	1.36	221	221	13579	13579	98.4	98.4
45	13-Dec-06	<0.0050	0.0013	0.0013	0.0528	0.0528	151	151	99.97	99.97	<0.30	0.078	0.078	3.19	3.19	1127	1127	99.72	99.72	4.03	2.1	2.1	223	223	13577	13577	98.38	98.38
46	20-Dec-06	<0.0050	0.00113	0.00113	0.0539	0.0539	151	151	99.96	99.96	<0.30	0.0675	0.0675	3.26	3.26	1127	1127	99.71	99.71	3.57	1.61	1.61	225	225	13575	13575	98.37	98.37
47	28-Dec-06	<0.0050	0.000984	0.000984	0.0549	0.0549	151	151	99.96	99.96	<0.30	0.0591	0.0591	3.32	3.32	1127	1127	99.71	99.71	6.14	2.42	2.42	227	227	13573	13573	98.36	98.36
48	3-Jan-07	<0.0050	0.00115	0.00115	0.0561	0.0561	151	151	99.96	99.96	<0.30	0.0691	0.0691	3.39	3.39	1127	1127	99.7	99.7	3.63	1.67	1.67	229	229	13571	13571	98.34	98.34
49	10-Jan-07	<0.0050	0.00113	0.00113	0.0572	0.0572	151	151	99.96	99.96	<0.30	0.0675	0.0675	3.46	3.46	1127	1127	99.69	99.69	6.08	2.74	2.74	232	232	13568	13568	98.32	98.32
50	17-Jan-07	<0.0050	0.00105	0.00105	0.0583	0.0583	151	151	99.96	99.96	<0.30	0.063	0.063	3.52	3.52	1126	1126	99.69	99.69	5.97	2.51	2.51	235	235	13565	13565	98.3	98.3
51	24-Jan-07		0.00108	0.00108	0.0594	0.0594	151	151	99.96	99.96		0.0645	0.0645	3.58	3.58	1126	1126	99.68	99.68		2.57	2.57	238	238	13562	13562	98.28	98.28
52	31-Jan-07	<0.0050	0.00111	0.00111	0.0605	0.0605	151	151	99.96	99.96	<0.30	0.0668	0.0668	3.65	3.65	1126	1126	99.68	99.68	5.48	2.44	2.44	240	240	13560	13560	98.26	98.26
53	7-Feb-07		0.00108	0.00108	0.0616	0.0616	151	151	99.96	99.96		0.0645	0.0645	3.71	3.71	1126	1126	99.67	99.67		2.36	2.36	242	242	13558	13558	98.25	98.25
54	14-Feb-07	<0.0050	0.00109	0.00109	0.0627	0.0627	151	151	99.96	99.96	<0.30	0.0653	0.0653	3.78	3.78	1126	1126	99.67	99.67	5.55	2.41	2.41	244	244	13556	13556	98.23	98.23
Maximum		0.0025	0.0013	0.0013	0.0627	0.0627	151	151	100	100	0.15	0.078	0.078	3.78	3.78	1130	1130	99.99	99.99	58	24.4	24.4	244	244	13776	13776	99.82	99.82
Minimum		0.0025	0.000938	0.000938	0.00105	0.00105	151	151	99.96	99.96	0.15	0.0563	0.0563	0.063	0.063	1126	1126	99.67	99.67	3.23	1.36	1.36	24.4	24.4	13556	13556	98.23	98.23
Mean		0.0025	0.00114	0.00114	0.0322	0.0322	151	151	99.98	99.98	0.15	0.0681	0.0681	1.94	1.94	1128	1128	99.83	99.83	9.82	4.45	4.45	162	162	13638	13638	98.83	98.83
Median		0.0025	0.00113	0.00113	0.0323	0.0323	151	151	99.98	99.98	0.15	0.0675	0.0675	1.94	1.94	1128	1128	99.83	99.83	7.47	3.43	3.43	173	173	13627	13627	98.75	98.75
Mean Initial 5 Wk Flush		0.0025	0.00114	0.00114	0.00333	0.00333	151	151	100	100	0.15	0.0686	0.0686	0.2	0.2	1130	1130	99.98	99.98	29.6	13.2	13.2	46.6	46.6	13753	13753	99.66	99.66
Mean Last 5 Weeks		0.0025	0.00108	0.00108	0.0605	0.0605	151	151	99.96	99.96	0.15	0.0648	0.0648	3.65	3.65	1126	1126	99.68	99.68	5.69	2.46	2.46	240	240	13560	13560	98.26	98.26
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									35068	35068								4357	4357								1358	1358
50% Remaining (Wks)									70138	70138								8717	8717								2761	2761
25% Remaining (Wks)									105207	105207								13076	13076								4163	4163
0% Remaining (Wks)									140277	140277								17436	17436								5565	5565

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Selenium	Selenium	Selenium	Selenium	Selenium	Selenium	Selenium	Selenium	Selenium	Silicon	Silicon	Silicon	Silicon	Silicon	Silicon	Silicon	Silicon	Silicon	Silver	Silver	Silver	Silver	Silver	Silver	Silver	Silver	Silver	Silver
Week No.	Date	Se	Se	Se	Se	Se	Se	Se	Se	Se	Si	Si	Si	Si	Si	Si	Si	Si	Si	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Selenium (ppm) =			**2**						**Original Silicon (ppm) =**			**292119.17**						**Original Silver (ppm) =**			**0.6**						
0	1-Feb-06	0.015	0.0063	0.0063	0.0063	0.0063	1.99	1.99	99.69	99.69	4.44	1.86	1.86	1.86	1.86	292000	292000	100	100	<0.00010	0.000021	0.000021	0.000021	0.000021	0.6	0.6	100	100
1	8-Feb-06	<0.010	0.0021	0.0021	0.0084	0.0084	1.99	1.99	99.58	99.58	4.38	1.84	1.84	3.7	3.7	292000	292000	100	100	<0.00010	0.000021	0.000021	0.000042	0.000042	0.6	0.6	99.99	99.99
2	15-Feb-06	<0.010	0.00245	0.00245	0.0109	0.0109	1.99	1.99	99.46	99.46	4.18	2.05	2.05	5.75	5.75	292000	292000	100	100	<0.00010	0.0000245	0.0000245	0.0000665	0.0000665	0.5999	0.5999	99.99	99.99
3	22-Feb-06	<0.010	0.00223	0.00223	0.0131	0.0131	1.99	1.99	99.35	99.35	3.6	1.6	1.6	7.35	7.35	292000	292000	100	100	<0.00010	0.0000223	0.0000223	0.0000888	0.0000888	0.5999	0.5999	99.99	99.99
4	1-Mar-06	<0.010	0.00255	0.00255	0.0157	0.0157	1.98	1.98	99.22	99.22	3.61	1.84	1.84	9.19	9.19	292000	292000	100	100	<0.00010	0.0000255	0.0000255	0.000114	0.000114	0.5999	0.5999	99.98	99.98
5	8-Mar-06	<0.010	0.00228	0.00228	0.018	0.018	1.98	1.98	99.1	99.1	3.16	1.44	1.44	10.6	10.6	292000	292000	100	100	<0.00010	0.0000228	0.0000228	0.000137	0.000137	0.5999	0.5999	99.98	99.98
6	15-Mar-06	<0.010	0.00223	0.00223	0.0202	0.0202	1.98	1.98	98.99	98.99	2.72	1.21	1.21	11.8	11.8	292000	292000	100	100	<0.00010	0.0000223	0.0000223	0.000159	0.000159	0.5998	0.5998	99.97	99.97
7	22-Mar-06	<0.010	0.00223	0.00223	0.0224	0.0224	1.98	1.98	98.88	98.88	3.39	1.51	1.51	13.3	13.3	292000	292000	100	100	<0.00010	0.0000223	0.0000223	0.000181	0.000181	0.5998	0.5998	99.97	99.97
8	29-Mar-06	<0.010	0.00225	0.00225	0.0247	0.0247	1.98	1.98	98.77	98.77	3.16	1.42	1.42	14.7	14.7	292000	292000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.000204	0.000204	0.5998	0.5998	99.97	99.97
9	5-Apr-06	<0.010	0.00235	0.00235	0.0271	0.0271	1.97	1.97	98.65	98.65	2.96	1.39	1.39	16.1	16.1	292000	292000	99.99	99.99	<0.00010	0.0000235	0.0000235	0.000228	0.000228	0.5998	0.5998	99.96	99.96
10	12-Apr-06	<0.010	0.00223	0.00223	0.0293	0.0293	1.97	1.97	98.54	98.54	3	1.34	1.34	17.4	17.4	292000	292000	99.99	99.99	<0.00010	0.0000223	0.0000223	0.00025	0.00025	0.5998	0.5998	99.96	99.96
11	19-Apr-06	<0.010	0.00243	0.00243	0.0317	0.0317	1.97	1.97	98.42	98.42	2.74	1.33	1.33	18.7	18.7	292000	292000	99.99	99.99	<0.00010	0.0000243	0.0000243	0.000274	0.000274	0.5997	0.5997	99.95	99.95
12	26-Apr-06	<0.010	0.0025	0.0025	0.0342	0.0342	1.97	1.97	98.29	98.29	2.66	1.33	1.33	20	20	292000	292000	99.99	99.99	<0.00010	0.000025	0.000025	0.000299	0.000299	0.5997	0.5997	99.95	99.95
13	3-May-06	<0.010	0.0023	0.0023	0.0365	0.0365	1.96	1.96	98.18	98.18	2.54	1.17	1.17	21.2	21.2	292000	292000	99.99	99.99	<0.00010	0.000023	0.000023	0.000322	0.000322	0.5997	0.5997	99.95	99.95
14	10-May-06	<0.010	0.0022	0.0022	0.0387	0.0387	1.96	1.96	98.07	98.07	3.41	1.5	1.5	22.7	22.7	292000	292000	99.99	99.99	<0.00010	0.000022	0.000022	0.000344	0.000344	0.5997	0.5997	99.94	99.94
15	17-May-06	<0.010	0.00243	0.00243	0.0411	0.0411	1.96	1.96	97.95	97.95	2.96	1.44	1.44	24.1	24.1	292000	292000	99.99	99.99	<0.00010	0.0000243	0.0000243	0.000368	0.000368	0.5996	0.5996	99.94	99.94
16	24-May-06	<0.010	0.0022	0.0022	0.0433	0.0433	1.96	1.96	97.84	97.84	3.07	1.35	1.35	25.5	25.5	292000	292000	99.99	99.99	<0.00010	0.000022	0.000022	0.00039	0.00039	0.5996	0.5996	99.94	99.94
17	31-May-06	<0.010	0.00235	0.00235	0.0457	0.0457	1.95	1.95	97.72	97.72	2.96	1.39	1.39	26.9	26.9	292000	292000	99.99	99.99	<0.00010	0.0000235	0.0000235	0.000414	0.000414	0.5996	0.5996	99.93	99.93
18	7-Jun-06	<0.010	0.00223	0.00223	0.0479	0.0479	1.95	1.95	97.61	97.61	2.89	1.29	1.29	28.2	28.2	292000	292000	99.99	99.99	<0.00010	0.0000223	0.0000223	0.000436	0.000436	0.5996	0.5996	99.93	99.93
19	14-Jun-06	<0.010	0.00253	0.00253	0.0504	0.0504	1.95	1.95	97.48	97.48	2.61	1.32	1.32	29.5	29.5	292000	292000	99.99	99.99	<0.00010	0.0000253	0.0000253	0.000461	0.000461	0.5995	0.5995	99.92	99.92
20	21-Jun-06	<0.010	0.0021	0.0021	0.0525	0.0525	1.95	1.95	97.38	97.38	2.84	1.19	1.19	30.7	30.7	292000	292000	99.99	99.99	<0.00010	0.000021	0.000021	0.000482	0.000482	0.5995	0.5995	99.92	99.92
21	28-Jun-06	<0.010	0.00225	0.00225	0.0548	0.0548	1.95	1.95	97.26	97.26	2.73	1.23	1.23	31.9	31.9	292000	292000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.000505	0.000505	0.5995	0.5995	99.92	99.92
22	5-Jul-06	<0.010	0.0024	0.0024	0.0572	0.0572	1.94	1.94	97.14	97.14	2.37	1.14	1.14	33	33	292000	292000	99.99	99.99	<0.00010	0.000024	0.000024	0.000529	0.000529	0.5995	0.5995	99.91	99.91
23	12-Jul-06	<0.010	0.00225	0.00225	0.0595	0.0595	1.94	1.94	97.03	97.03	2.87	1.29	1.29	34.3	34.3	292000	292000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.000552	0.000552	0.5994	0.5994	99.91	99.91
24	19-Jul-06	<0.010	0.00235	0.00235	0.0619	0.0619	1.94	1.94	96.91	96.91	2.21	1.04	1.04	35.3	35.3	292000	292000	99.99	99.99	<0.00010	0.0000235	0.0000235	0.000576	0.000576	0.5994	0.5994	99.9	99.9
25	26-Jul-06	<0.010	0.0024	0.0024	0.0643	0.0643	1.94	1.94	96.79	96.79	2.73	1.31	1.31	36.6	36.6	292000	292000	99.99	99.99	<0.00010	0.000024	0.000024	0.0006	0.0006	0.5994	0.5994	99.9	99.9
26	2-Aug-06	<0.010	0.00213	0.00213	0.0664	0.0664	1.93	1.93	96.68	96.68	2.72	1.16	1.16	37.8	37.8	292000	292000	99.99	99.99	<0.00010	0.0000213	0.0000213	0.000621	0.000621	0.5994	0.5994	99.9	99.9
27	9-Aug-06	<0.010	0.00225	0.00225	0.0687	0.0687	1.93	1.93	96.57	96.57	2.67	1.2	1.2	39	39	292000	292000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.000644	0.000644	0.5994	0.5994	99.89	99.89
28	16-Aug-06	<0.010	0.00225	0.00225	0.071	0.071	1.93	1.93	96.45	96.45	2.47	1.11	1.11	40.1	40.1	292000	292000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.000667	0.000667	0.5993	0.5993	99.89	99.89
29	23-Aug-06	<0.010	0.0026	0.0026	0.0736	0.0736	1.93	1.93	96.32	96.32	2.59	1.35	1.35	41.5	41.5	292000	292000	99.99	99.99	<0.00010	0.000026	0.000026	0.000693	0.000693	0.5993	0.5993	99.88	99.88
30	30-Aug-06	<0.010	0.0026	0.0026	0.0762	0.0762	1.92	1.92	96.19	96.19	2.22	1.15	1.15	42.7	42.7	292000	292000	99.99	99.99	<0.00010	0.000026	0.000026	0.000719	0.000719	0.5993	0.5993	99.88	99.88
31	6-Sep-06	<0.010	0.0025	0.0025	0.0787	0.0787	1.92	1.92	96.07	96.07	2.94	1.47	1.47	44.2	44.2	292000	292000	99.98	99.98	<0.00010	0.000025	0.000025	0.000744	0.000744	0.5993	0.5993	99.88	99.88
32	13-Sep-06	<0.010	0.00218	0.00218	0.0809	0.0809	1.92	1.92	95.96	95.96	3.03	1.32	1.32	45.5	45.5	292000	292000	99.98	99.98	<0.00010	0.0000218	0.0000218	0.000766	0.000766	0.5992	0.5992	99.87	99.87
33	20-Sep-06	<0.010	0.002	0.002	0.0829	0.0829	1.92	1.92	95.86	95.86	1.92	0.768	0.768	46.3	46.3	292000	292000	99.98	99.98	<0.00010	0.00002	0.00002	0.000786	0.000786	0.5992	0.5992	99.87	99.87
34	27-Sep-06	<0.010	0.002	0.002	0.0849	0.0849	1.92	1.92	95.76	95.76	2.66	1.06	1.06	47.4	47.4	292000	292000	99.98	99.98	<0.00010	0.00002	0.00002	0.000806	0.000806	0.5992	0.5992	99.87	99.87
35	4-Oct-06	<0.010	0.00245	0.00245	0.0874	0.0874	1.91	1.91	95.63	95.63	2.67	1.31	1.31	48.7	48.7	292000	292000	99.98	99.98	<0.00010	0.0000245	0.0000245	0.000831	0.000831	0.5992	0.5992	99.86	99.86
36	11-Oct-06	<0.010	0.0026	0.0026	0.09	0.09	1.91	1.91	95.5	95.5	3.07	1.6	1.6	50.3	50.3	292000	292000	99.98	99.98	<0.00010	0.000026	0.000026	0.000857	0.000857	0.5991	0.5991	99.86	99.86
37	18-Oct-06	<0.010	0.00213	0.00213	0.0921	0.0921	1.91	1.91	95.4	95.4	2.83	1.2	1.2	51.5	51.5	292000	292000	99.98	99.98	<0.00010	0.0000213	0.0000213	0.000878	0.000878	0.5991	0.5991	99.85	99.85
38	25-Oct-06	<0.010	0.00238	0.00238	0.0945	0.0945	1.91	1.91	95.28	95.28	2.76	1.31	1.31	52.8	52.8	292000	292000	99.98	99.98	<0.00010	0.0000238	0.0000238	0.000902	0.000902	0.5991	0.5991	99.85	99.85
39	1-Nov-06	<0.010	0.00228	0.00228	0.0968	0.0968	1.9	1.9	95.16	95.16	2.61	1.19	1.19	54	54	292000	292000	99.98	99.98	<0.00010	0.0000228	0.0000228	0.000925	0.000925	0.5991	0.5991	99.85	99.85
40	8-Nov-06	<0.010	0.002	0.002	0.0988	0.0988	1.9	1.9	95.06	95.06	2.58	1.03	1.03	55	55	292000	292000	99.98	99.98	<0.00010	0.00002	0.00002	0.000945	0.000945	0.5991	0.5991	99.84	99.84
41	15-Nov-06	<0.010	0.00225	0.00225	0.101	0.101	1.9	1.9	94.95	94.95	2.62	1.18	1.18	56.2	56.2	292000	292000	99.98	99.98	<0.00010	0.0000225	0.0000225	0.000968	0.000968	0.599	0.599	99.84	99.84
42	22-Nov-06	<0.010	0.00188	0.00188	0.103	0.103	1.9	1.9	94.85	94.85	2.62	0.983	0.983	57.2	57.2	292000	292000	99.98	99.98	<0.00010	0.0000188	0.0000188	0.000987	0.000987	0.599	0.599	99.84	99.84
43	29-Nov-06	<0.010	0.00225	0.00225	0.105	0.105	1.9	1.9	94.75	94.75	2.54	1.14	1.14	58.3	58.3	292000	292000	99.98	99.98	<0.00010	0.0000225	0.0000225	0.00101	0.00101	0.599	0.599	99.83	99.83
44	6-Dec-06	<0.010	0.0021	0.0021	0.107	0.107	1.89	1.89	94.65	94.65	0.844	0.354	0.354	58.7	58.7	292000	292000	99.98	99.98	<0.00010	0.000021	0.000021	0.00103	0.00103	0.599	0.599	99.83	99.83
45	13-Dec-06	<0.010	0.0026	0.0026	0.11	0.11	1.89	1.89	94.5	94.5	1.19	0.619	0.619	59.3	59.3	292000	292000	99.98	99.98	<0.00010	0.000026	0.000026	0.00106	0.00106	0.5989	0.5989	99.82	99.82
46	20-Dec-06	<0.010	0.00225	0.00225	0.112	0.112	1.89	1.89	94.4	94.4	0.939	0.423	0.423	59.7	59.7	292000	292000	99.98	99.98	<0.00010	0.0000225	0.0000225	0.00108	0.00108	0.5989	0.5989	99.82	99.82
47	28-Dec-06	<0.010	0.00197	0.00197	0.114	0.114	1.89	1.89	94.3	94.3	2.79	1.1	1.1	60.8	60.8	292000	292000	99.98	99.98	<0.00010	0.0000197	0.0000197	0.0011	0.0011	0.5989	0.5989	99.82	99.82
48	3-Jan-07	<0.010	0.0023	0.0023	0.116	0.116	1.88	1.88	94.2	94.2	1.11	0.512	0.512	61.3	61.3	292000	292000	99.98	99.98	<0.00010	0.000023	0.000023	0.00112	0.00112	0.5989	0.5989	99.81	99.81
49	10-Jan-07	<0.010	0.00225	0.00225	0.118	0.118	1.88	1.88	94.1	94.1	2.64	1.19	1.19	62.5	62.5	292000	292000	99.98	99.98	<0.00010	0.0000225	0.0000225	0.00114	0.00114	0.5989	0.5989	99.81	99.81
50	17-Jan-07	<0.010	0.0021	0.0021	0.12	0.12	1.88	1.88	94	94	2.6	1.09	1.09	63.6	63.6	292000	292000	99.98	99.98	<0.00010	0.000021	0.000021	0.00116	0.00116	0.5988	0.5988	99.81	99.81
51	24-Jan-07		0.00215	0.00215	0.122	0.122	1.88	1.88	93.9	93.9		1.12	1.12	64.7	64.7	292000	292000	99.98	99.98		0.0000215	0.0000215	0.00118	0.00118	0.5988	0.5988	99.8	99.8
52	31-Jan-07	<0.010	0.00223	0.00223	0.124	0.124	1.88	1.88	93.8	93.8	2.38	1.06	1.06	65.8	65.8	292000	292000	99.98	99.98	<0.00010	0.0000223	0.0000223	0.0012	0.0012	0.5988	0.5988	99.8	99.8
53	7-Feb-07		0.00215	0.00215	0.126	0.126	1.87	1.87	93.7	93.7		1.02	1.02	66.8	66.8	292000	292000	99.98	99.98		0.0000215	0.0000215	0.00122	0.00122	0.5988	0.5988	99.8	99.8
54	14-Feb-07	<0.010	0.00218	0.00218	0.128	0.128	1.87	1.87	93.6	93.6	2.63	1.14	1.14	67.9	67.9	292000	292000	99.98	99.98	<0.00010	0.0000218	0.0000218	0.00124	0.00124	0.5988	0.5988	99.79	99.79
Maximum		0.015	0.0063	0.0063	0.128	0.128	1.99	1.99	99.69	99.69	4.44	2.05	2.05	67.9	67.9	292000	292000	100	100	0.00005	0.000026	0.000026	0.00124	0.00124	0.6	0.6	100	100
Minimum		0.005	0.00188	0.00188	0.0063	0.0063	1.87	1.87	93.6	93.6	0.844	0.354	0.354	1.86	1.86	292000	292000	99.98	99.98	0.00005	0.0000188	0.0000188	0.000021	0.000021	0.5988	0.5988	99.79	99.79
Mean		0.00518	0.00235	0.00235	0.0684	0.0684	1.93	1.93	96.58	96.58	2.72	1.24	1.24	38	38	292000	292000	99.99	99.99	0.00005	0.0000227	0.0000227	0.000642	0.000642	0.5994	0.5994	99.89	99.89
Median		0.005	0.00225	0.00225	0.0687	0.0687	1.93	1.93	96.57	96.57	2.72	1.21	1.21	39	39	292000	292000	99.99	99.99	0.00005	0.0000225	0.0000225	0.000644	0.000644	0.5994	0.5994	99.89	99.89
Mean Initial 5 Wk Flush		0.007	0.00313	0.00313	0.0109	0.0109	1.99	1.99	99.46	99.46	4.04	1.84	1.84	5.57	5.57	292000	292000	100	100	0.00005	0.0000229	0.0000229	0.0000665	0.0000665	0.5999	0.5999	99.99	99.99
Mean Last 5 Weeks		0.005	0.00216	0.00216	0.124	0.124	1.88	1.88	93.8	93.8	2.52	1.09	1.09	65.8	65.8	292000	292000	99.98	99.98	0.00005	0.0000216	0.0000216	0.0012	0.0012	0.5988	0.5988	99.8	99.8
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									227	227								67001	67001								6941	6941
50% Remaining (Wks)									459	459								134001	134001								13886	13886
25% Remaining (Wks)									690	690								201001	201001								20830	20830
0% Remaining (Wks)									922	922								268001	268001								27774	27774
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all weeks																											

Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium
Week No.	Date	Na	Na	Na	Na	Na	Na	Na	Na	Na	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Tl	Tl	Tl	Tl	Tl	Tl	Tl	Tl	Tl
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Sodium (ppm) =			**28000**						**Original Strontium (ppm) =**			**708**						**Original Thallium (ppm) =**			**0.39**					
0	1-Feb-06	65.6	27.6	27.6	27.6	27.6	27972	27972	99.9	99.9	8.81	3.7	3.7	3.7	3.7	704.3	704.3	99.48	99.48	<0.0010	0.00021	0.00021	0.00021	0.00021	0.3898	0.3898	99.95	99.95
1	8-Feb-06	19.5	8.19	8.19	35.8	35.8	27964	27964	99.87	99.87	2.9	1.22	1.22	4.92	4.92	703.1	703.1	99.31	99.31	<0.0010	0.00021	0.00021	0.00042	0.00042	0.3896	0.3896	99.89	99.89
2	15-Feb-06	14.5	7.11	7.11	42.9	42.9	27957	27957	99.85	99.85	2.27	1.11	1.11	6.03	6.03	702	702	99.15	99.15	<0.0010	0.000245	0.000245	0.000665	0.000665	0.3893	0.3893	99.83	99.83
3	22-Feb-06	9.73	4.33	4.33	47.2	47.2	27953	27953	99.83	99.83	2.34	1.04	1.04	7.07	7.07	700.9	700.9	99	99	<0.0010	0.000223	0.000223	0.000888	0.000888	0.3891	0.3891	99.77	99.77
4	1-Mar-06	5.21	2.66	2.66	49.9	49.9	27950	27950	99.82	99.82	1.54	0.785	0.785	7.86	7.86	700.1	700.1	98.89	98.89	<0.0010	0.000255	0.000255	0.00114	0.00114	0.3889	0.3889	99.71	99.71
5	8-Mar-06	4	1.82	1.82	51.7	51.7	27948	27948	99.82	99.82	1.59	0.723	0.723	8.58	8.58	699.4	699.4	98.79	98.79	<0.0010	0.000228	0.000228	0.00137	0.00137	0.3886	0.3886	99.65	99.65
6	15-Mar-06	3.32	1.48	1.48	53.2	53.2	27947	27947	99.81	99.81	1.61	0.716	0.716	9.3	9.3	698.7	698.7	98.69	98.69	<0.0010	0.000223	0.000223	0.00159	0.00159	0.3884	0.3884	99.59	99.59
7	22-Mar-06	3.14	1.4	1.4	54.6	54.6	27945	27945	99.81	99.81	1.82	0.81	0.81	10.1	10.1	697.9	697.9	98.57	98.57	<0.0010	0.000223	0.000223	0.00181	0.00181	0.3882	0.3882	99.54	99.54
8	29-Mar-06	2.24	1.01	1.01	55.6	55.6	27944	27944	99.8	99.8	1.47	0.662	0.662	10.8	10.8	697.2	697.2	98.47	98.47	<0.0010	0.000225	0.000225	0.00204	0.00204	0.388	0.388	99.48	99.48
9	5-Apr-06	2.17	1.02	1.02	56.6	56.6	27943	27943	99.8	99.8	1.54	0.724	0.724	11.5	11.5	696.5	696.5	98.38	98.38	<0.0010	0.000235	0.000235	0.00228	0.00228	0.3877	0.3877	99.42	99.42
10	12-Apr-06	1.95	0.868	0.868	57.5	57.5	27943	27943	99.79	99.79	1.57	0.699	0.699	12.2	12.2	695.8	695.8	98.28	98.28	<0.0010	0.000223	0.000223	0.0025	0.0025	0.3875	0.3875	99.36	99.36
11	19-Apr-06	1.96	0.951	0.951	58.5	58.5	27942	27942	99.79	99.79	1.64	0.795	0.795	13	13	695	695	98.16	98.16	<0.0010	0.000243	0.000243	0.00274	0.00274	0.3873	0.3873	99.3	99.3
12	26-Apr-06	1.68	0.84	0.84	59.3	59.3	27941	27941	99.79	99.79	1.52	0.76	0.76	13.8	13.8	694.2	694.2	98.05	98.05	<0.0010	0.00025	0.00025	0.00299	0.00299	0.387	0.387	99.23	99.23
13	3-May-06	1.31	0.603	0.603	59.9	59.9	27940	27940	99.79	99.79	1.26	0.58	0.58	14.4	14.4	693.6	693.6	97.97	97.97	<0.0010	0.00023	0.00023	0.00322	0.00322	0.3868	0.3868	99.17	99.17
14	10-May-06	1.71	0.752	0.752	60.7	60.7	27939	27939	99.78	99.78	1.54	0.678	0.678	15.1	15.1	692.9	692.9	97.87	97.87	<0.0010	0.00022	0.00022	0.00344	0.00344	0.3866	0.3866	99.12	99.12
15	17-May-06	1.39	0.674	0.674	61.4	61.4	27939	27939	99.78	99.78	1.31	0.635	0.635	15.7	15.7	692.3	692.3	97.78	97.78	<0.0010	0.000243	0.000243	0.00368	0.00368	0.3863	0.3863	99.06	99.06
16	24-May-06	1.43	0.629	0.629	62	62	27938	27938	99.78	99.78	1.34	0.59	0.59	16.3	16.3	691.7	691.7	97.7	97.7	<0.0010	0.00022	0.00022	0.0039	0.0039	0.3861	0.3861	99	99
17	31-May-06	1.32	0.62	0.62	62.6	62.6	27937	27937	99.78	99.78	1.28	0.602	0.602	16.9	16.9	691.1	691.1	97.61	97.61	<0.0010	0.000235	0.000235	0.00414	0.00414	0.3859	0.3859	98.94	98.94
18	7-Jun-06	1.26	0.561	0.561	63.2	63.2	27937	27937	99.77	99.77	1.3	0.579	0.579	17.5	17.5	690.5	690.5	97.53	97.53	<0.0010	0.000223	0.000223	0.00436	0.00436	0.3856	0.3856	98.88	98.88
19	14-Jun-06	1.16	0.586	0.586	63.8	63.8	27936	27936	99.77	99.77	1.22	0.616	0.616	18.1	18.1	689.9	689.9	97.44	97.44	<0.0010	0.000253	0.000253	0.00461	0.00461	0.3854	0.3854	98.82	98.82
20	21-Jun-06	1.42	0.596	0.596	64.4	64.4	27936	27936	99.77	99.77	1.2	0.504	0.504	18.6	18.6	689.4	689.4	97.37	97.37	<0.0010	0.00021	0.00021	0.00482	0.00482	0.3852	0.3852	98.76	98.76
21	28-Jun-06	1.14	0.513	0.513	64.9	64.9	27935	27935	99.77	99.77	1.07	0.482	0.482	19.1	19.1	688.9	688.9	97.3	97.3	<0.0010	0.000225	0.000225	0.00505	0.00505	0.385	0.385	98.71	98.71
22	5-Jul-06	0.878	0.421	0.421	65.3	65.3	27935	27935	99.77	99.77	0.908	0.436	0.436	19.5	19.5	688.5	688.5	97.25	97.25	<0.0010	0.00024	0.00024	0.00529	0.00529	0.3847	0.3847	98.64	98.64
23	12-Jul-06	1.31	0.59	0.59	65.9	65.9	27934	27934	99.76	99.76	1.18	0.531	0.531	20	20	688	688	97.18	97.18	<0.0010	0.000225	0.000225	0.00552	0.00552	0.3845	0.3845	98.58	98.58
24	19-Jul-06	0.939	0.441	0.441	66.3	66.3	27934	27934	99.76	99.76	0.849	0.399	0.399	20.4	20.4	687.6	687.6	97.12	97.12	<0.0010	0.000235	0.000235	0.00576	0.00576	0.3842	0.3842	98.52	98.52
25	26-Jul-06	1.17	0.562	0.562	66.9	66.9	27933	27933	99.76	99.76	0.981	0.471	0.471	20.9	20.9	687.1	687.1	97.05	97.05	<0.0010	0.00024	0.00024	0.006	0.006	0.384	0.384	98.46	98.46
26	2-Aug-06	1.37	0.582	0.582	67.5	67.5	27933	27933	99.76	99.76	1.03	0.438	0.438	21.3	21.3	686.7	686.7	96.99	96.99	<0.0010	0.000213	0.000213	0.00621	0.00621	0.3838	0.3838	98.41	98.41
27	9-Aug-06	1.17	0.527	0.527	68	68	27932	27932	99.76	99.76	0.956	0.43	0.43	21.7	21.7	686.3	686.3	96.94	96.94	<0.0010	0.000225	0.000225	0.00644	0.00644	0.3836	0.3836	98.35	98.35
28	16-Aug-06	1.09	0.491	0.491	68.5	68.5	27932	27932	99.76	99.76	0.87	0.392	0.392	22.1	22.1	685.9	685.9	96.88	96.88	<0.0010	0.000225	0.000225	0.00667	0.00667	0.3833	0.3833	98.29	98.29
29	23-Aug-06	1.13	0.588	0.588	69.1	69.1	27931	27931	99.75	99.75	0.91	0.473	0.473	22.6	22.6	685.4	685.4	96.81	96.81	<0.0010	0.00026	0.00026	0.00693	0.00693	0.3831	0.3831	98.22	98.22
30	30-Aug-06	0.853	0.444	0.444	69.5	69.5	27931	27931	99.75	99.75	0.705	0.367	0.367	23	23	685	685	96.75	96.75	<0.0010	0.00026	0.00026	0.00719	0.00719	0.3828	0.3828	98.16	98.16
31	6-Sep-06	1.45	0.725	0.725	70.2	70.2	27930	27930	99.75	99.75	1	0.5	0.5	23.5	23.5	684.5	684.5	96.68	96.68	<0.0010	0.00025	0.00025	0.00744	0.00744	0.3826	0.3826	98.09	98.09
32	13-Sep-06	1.32	0.574	0.574	70.8	70.8	27929	27929	99.75	99.75	0.914	0.398	0.398	23.9	23.9	684.1	684.1	96.62	96.62	<0.0010	0.000218	0.000218	0.00766	0.00766	0.3823	0.3823	98.04	98.04
33	20-Sep-06	0.633	0.253	0.253	71.1	71.1	27929	27929	99.75	99.75	0.553	0.221	0.221	24.1	24.1	683.9	683.9	96.6	96.6	<0.0010	0.0002	0.0002	0.00786	0.00786	0.3821	0.3821	97.98	97.98
34	27-Sep-06	1.07	0.428	0.428	71.5	71.5	27929	27929	99.74	99.74	0.753	0.301	0.301	24.4	24.4	683.6	683.6	96.55	96.55	<0.0010	0.0002	0.0002	0.00806	0.00806	0.3819	0.3819	97.93	97.93
35	4-Oct-06	1.17	0.573	0.573	72.1	72.1	27928	27928	99.74	99.74	0.763	0.374	0.374	24.8	24.8	683.2	683.2	96.5	96.5	<0.0010	0.000245	0.000245	0.00831	0.00831	0.3817	0.3817	97.87	97.87
36	11-Oct-06	1.43	0.744	0.744	72.8	72.8	27927	27927	99.74	99.74	0.899	0.467	0.467	25.3	25.3	682.7	682.7	96.43	96.43	<0.0010	0.00026	0.00026	0.00857	0.00857	0.3814	0.3814	97.8	97.8
37	18-Oct-06	1.12	0.476	0.476	73.3	73.3	27927	27927	99.74	99.74	0.743	0.316	0.316	25.6	25.6	682.4	682.4	96.38	96.38	<0.0010	0.000213	0.000213	0.00878	0.00878	0.3812	0.3812	97.75	97.75
38	25-Oct-06	1.11	0.527	0.527	73.8	73.8	27926	27926	99.74	99.74	0.787	0.374	0.374	26	26	682	682	96.33	96.33	<0.0010	0.000238	0.000238	0.00902	0.00902	0.381	0.381	97.69	97.69
39	1-Nov-06	1.11	0.505	0.505	74.3	74.3	27926	27926	99.73	99.73	0.786	0.358	0.358	26.4	26.4	681.6	681.6	96.27	96.27	<0.0010	0.000228	0.000228	0.00925	0.00925	0.3808	0.3808	97.63	97.63
40	8-Nov-06	1.12	0.448	0.448	74.7	74.7	27925	27925	99.73	99.73	0.803	0.321	0.321	26.7	26.7	681.3	681.3	96.23	96.23	<0.0010	0.0002	0.0002	0.00945	0.00945	0.3806	0.3806	97.58	97.58
41	15-Nov-06	1.16	0.522	0.522	75.2	75.2	27925	27925	99.73	99.73	0.763	0.343	0.343	27	27	681	681	96.19	96.19	<0.0010	0.000225	0.000225	0.00968	0.00968	0.3803	0.3803	97.52	97.52
42	22-Nov-06	1	0.375	0.375	75.6	75.6	27924	27924	99.73	99.73	0.704	0.264	0.264	27.3	27.3	680.7	680.7	96.14	96.14	<0.0010	0.000188	0.000188	0.00987	0.00987	0.3801	0.3801	97.47	97.47
43	29-Nov-06	1.16	0.522	0.522	76.1	76.1	27924	27924	99.73	99.73	0.736	0.331	0.331	27.6	27.6	680.4	680.4	96.1	96.1	<0.0010	0.000225	0.000225	0.0101	0.0101	0.3799	0.3799	97.41	97.41
44	6-Dec-06	0.2	0.084	0.084	76.2	76.2	27924	27924	99.73	99.73	0.266	0.112	0.112	27.7	27.7	680.3	680.3	96.09	96.09	<0.0010	0.00021	0.00021	0.0103	0.0103	0.3797	0.3797	97.36	97.36
45	13-Dec-06	0.299	0.155	0.155	76.4	76.4	27924	27924	99.73	99.73	0.321	0.167	0.167	27.9	27.9	680.1	680.1	96.06	96.06	<0.0010	0.00026	0.00026	0.0106	0.0106	0.3794	0.3794	97.28	97.28
46	20-Dec-06	0.215	0.0968	0.0968	76.5	76.5	27924	27924	99.73	99.73	0.265	0.119	0.119	28	28	680	680	96.05	96.05	<0.0010	0.000225	0.000225	0.0108	0.0108	0.3792	0.3792	97.23	97.23
47	28-Dec-06	1.27	0.5	0.5	77	77	27923	27923	99.73	99.73	0.724	0.285	0.285	28.3	28.3	679.7	679.7	96	96	<0.0010	0.000197	0.000197	0.011	0.011	0.379	0.379	97.18	97.18
48	3-Jan-07	0.228	0.105	0.105	77.1	77.1	27923	27923	99.72	99.72	0.274	0.126	0.126	28.4	28.4	679.6	679.6	95.99	95.99	<0.0010	0.00023	0.00023	0.0112	0.0112	0.3788	0.3788	97.13	97.13
49	10-Jan-07	1.19	0.536	0.536	77.6	77.6	27922	27922	99.72	99.72	0.672	0.302	0.302	28.7	28.7	679.3	679.3	95.95	95.95	<0.0010	0.000225	0.000225	0.0114	0.0114	0.3786	0.3786	97.08	97.08
50	17-Jan-07	1.15	0.483	0.483	78.1	78.1	27922	27922	99.72	99.72	0.717	0.301	0.301	29	29	679	679	95.9	95.9	<0.0010	0.00021	0.00021	0.0116	0.0116	0.3784	0.3784	97.03	97.03
51	24-Jan-07		0.495	0.495	78.6	78.6	27921	27921	99.72	99.72		0.308	0.308	29.3	29.3	678.7	678.7	95.86	95.86		0.000215	0.000215	0.0118	0.0118	0.3782	0.3782	96.97	96.97
52	31-Jan-07	1.06	0.472	0.472	79.1	79.1	27921	27921	99.72	99.72	0.611	0.272	0.272	29.6	29.6	678.4	678.4	95.82	95.82	<0.0010	0.000223	0.000223	0.012	0.012	0.378	0.378	96.92	96.92
53	7-Feb-07		0.456	0.456	79.6	79.6	27920	27920	99.72	99.72		0.263	0.263	29.9	29.9	678.1	678.1	95.78	95.78		0.000215	0.000215	0.0122	0.0122	0.3778	0.3778	96.87	96.87
54	14-Feb-07	1.06	0.461	0.461	80.1	80.1	27920	27920	99.71	99.71	0.639	0.278	0.278	30.2	30.2	677.8	677.8	95.73	95.73	<0.0010	0.000218	0.000218	0.0124	0.0124	0.3776	0.3776	96.82	96.82
Maximum		65.6	27.6	27.6	80.1	80.1	27972	27972	99.9	99.9	8.81	3.7	3.7	30.2	30.2	704.3	704.3	99.48	99.48	0.0005	0.00026	0.00026	0.0124	0.0124	0.3898	0.3898	99.95	99.95
Minimum		0.2	0.084	0.084	27.6	27.6	27920	27920	99.71	99.71	0.265	0.112	0.112	3.7	3.7	677.8	677.8	95.73	95.73	0.0005	0.000188	0.000188	0.00021	0.00021	0.3776	0.3776	96.82	96.82
Mean		3.29	1.45	1.45	66	66	27934	27934	99.76	99.76	1.21	0.546	0.546	20.2	20.2	687.8	687.8	97.15	97.15	0.0005	0.000227	0.000227	0.00642	0.00642	0.3836	0.3836	98.35	98.35
Median		1.17	0.562	0.562	68	68	27932	27932	99.76	99.76	0.914	0.438	0.438	21.7	21.7	686.3	686.3	96.94	96.94	0.0005	0.000225	0.000225	0.00644	0.00644	0.3836	0.3836	98.35	98.35
Mean Initial 5 Wk Flush		22.9	9.98	9.98	40.7	40.7	27959	27959	99.85	99.85	3.57	1.57	1.57	5.92	5.92	702.1	702.1	99.17	99.17	0.0005	0.000229	0.000229	0.000665	0.000665	0.3893	0.3893	99.83	99.83
Mean Last 5 Weeks		1.1	0.473	0.473	79.1	79.1	27921	27921	99.72	99.72	0.659	0.284	0.284	29.6	29.6	678.4	678.4	95.82	95.82	0.0005	0.000216	0.000216	0.012	0.012	0.378	0.378	96.92	96.92
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									14682	14682								572	572								449	449
50% Remaining (Wks)									29482	29482								1195	1195								900	900
25% Remaining (Wks)									44281	44281								1818	1818								1352	1352
0% Remaining (Wks)									59080	59080								2442	2442								1803	1803

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																												
Sample:		**F46 (Tailings)**																												
		Low-Sulphide Tailings Composite																												
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																												
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Tin	Tin	Tin	Tin	Tin	Tin	Tin	Tin	Tin	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium
Week No.	Date	Sn	Sn	Sn	Sn	Sn	Sn	Sn	Sn	Sn	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	U	U	U	U	U	U	U	U	U	U
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Tin (ppm) =			**2**						**Original Titanium (ppm) =**			**4130**							**Original Uranium (ppm) =**			**1.3**						
0	1-Feb-06	0.0018	0.000756	0.000756	0.000756	0.000756	1.999	1.999	99.96	99.96	<0.010	0.0021	0.0021	0.0021	0.0021	4130	4130	100	100	0.00687	0.00289	0.00289	0.00289	0.00289	1.297	1.297	99.78	99.78		
1	8-Feb-06	<0.0010	0.00021	0.00021	0.000966	0.000966	1.999	1.999	99.95	99.95	<0.010	0.0021	0.0021	0.0042	0.0042	4130	4130	100	100	0.00326	0.00137	0.00137	0.00426	0.00426	1.296	1.296	99.67	99.67		
2	15-Feb-06	0.0011	0.000539	0.000539	0.00151	0.00151	1.998	1.998	99.92	99.92	<0.010	0.00245	0.00245	0.00665	0.00665	4130	4130	100	100	0.00256	0.00125	0.00125	0.00551	0.00551	1.294	1.294	99.58	99.58		
3	22-Feb-06	<0.0010	0.000223	0.000223	0.00173	0.00173	1.998	1.998	99.91	99.91	<0.010	0.00223	0.00223	0.00888	0.00888	4130	4130	100	100	0.00217	0.000966	0.000966	0.00648	0.00648	1.294	1.294	99.5	99.5		
4	1-Mar-06	<0.0010	0.000255	0.000255	0.00199	0.00199	1.998	1.998	99.9	99.9	<0.010	0.00255	0.00255	0.0114	0.0114	4130	4130	100	100	0.00116	0.000592	0.000592	0.00707	0.00707	1.293	1.293	99.46	99.46		
5	8-Mar-06	<0.0010	0.000228	0.000228	0.00222	0.00222	1.998	1.998	99.89	99.89	<0.010	0.00228	0.00228	0.0137	0.0137	4130	4130	100	100	0.0012	0.000546	0.000546	0.00762	0.00762	1.292	1.292	99.41	99.41		
6	15-Mar-06	<0.0010	0.000223	0.000223	0.00244	0.00244	1.998	1.998	99.88	99.88	<0.010	0.00223	0.00223	0.0159	0.0159	4130	4130	100	100	0.00121	0.000538	0.000538	0.00816	0.00816	1.292	1.292	99.37	99.37		
7	22-Mar-06	<0.0010	0.000223	0.000223	0.00266	0.00266	1.997	1.997	99.87	99.87	<0.010	0.00223	0.00223	0.0181	0.0181	4130	4130	100	100	0.00168	0.000748	0.000748	0.00891	0.00891	1.291	1.291	99.31	99.31		
8	29-Mar-06	<0.0010	0.000225	0.000225	0.00289	0.00289	1.997	1.997	99.86	99.86	<0.010	0.00225	0.00225	0.0204	0.0204	4130	4130	100	100	0.0012	0.00054	0.00054	0.00945	0.00945	1.291	1.291	99.27	99.27		
9	5-Apr-06	<0.0010	0.000235	0.000235	0.00313	0.00313	1.997	1.997	99.84	99.84	<0.010	0.00235	0.00235	0.0228	0.0228	4130	4130	100	100	0.00118	0.000555	0.000555	0.01	0.01	1.29	1.29	99.23	99.23		
10	12-Apr-06	<0.0010	0.000223	0.000223	0.00335	0.00335	1.997	1.997	99.83	99.83	<0.010	0.00223	0.00223	0.025	0.025	4130	4130	100	100	0.00132	0.000587	0.000587	0.0106	0.0106	1.289	1.289	99.18	99.18		
11	19-Apr-06	<0.0010	0.000243	0.000243	0.00359	0.00359	1.996	1.996	99.82	99.82	<0.010	0.00243	0.00243	0.0274	0.0274	4130	4130	100	100	0.00144	0.000698	0.000698	0.0113	0.0113	1.289	1.289	99.13	99.13		
12	26-Apr-06	<0.0010	0.00025	0.00025	0.00384	0.00384	1.996	1.996	99.81	99.81	<0.010	0.0025	0.0025	0.0299	0.0299	4130	4130	100	100	0.0013	0.00065	0.00065	0.012	0.012	1.288	1.288	99.08	99.08		
13	3-May-06	<0.0010	0.00023	0.00023	0.00407	0.00407	1.996	1.996	99.8	99.8	<0.010	0.0023	0.0023	0.0322	0.0322	4130	4130	100	100	0.00108	0.000497	0.000497	0.0125	0.0125	1.288	1.288	99.04	99.04		
14	10-May-06	<0.0010	0.00022	0.00022	0.00429	0.00429	1.996	1.996	99.79	99.79	<0.010	0.0022	0.0022	0.0344	0.0344	4130	4130	100	100	0.00134	0.00059	0.00059	0.0131	0.0131	1.287	1.287	98.99	98.99		
15	17-May-06	<0.0010	0.000243	0.000243	0.00453	0.00453	1.995	1.995	99.77	99.77	<0.010	0.00243	0.00243	0.0368	0.0368	4130	4130	100	100	0.00101	0.00049	0.00049	0.0136	0.0136	1.286	1.286	98.95	98.95		
16	24-May-06	<0.0010	0.00022	0.00022	0.00475	0.00475	1.995	1.995	99.76	99.76	<0.010	0.0022	0.0022	0.039	0.039	4130	4130	100	100	0.00098	0.000431	0.000431	0.014	0.014	1.286	1.286	98.92	98.92		
17	31-May-06	<0.0010	0.000235	0.000235	0.00499	0.00499	1.995	1.995	99.75	99.75	<0.010	0.00235	0.00235	0.0414	0.0414	4130	4130	100	100	0.00091	0.000428	0.000428	0.0144	0.0144	1.286	1.286	98.89	98.89		
18	7-Jun-06	<0.0010	0.000223	0.000223	0.00521	0.00521	1.995	1.995	99.74	99.74	<0.010	0.00223	0.00223	0.0436	0.0436	4130	4130	100	100	0.00085	0.000378	0.000378	0.0148	0.0148	1.285	1.285	98.86	98.86		
19	14-Jun-06	<0.0010	0.000253	0.000253	0.00546	0.00546	1.995	1.995	99.73	99.73	<0.010	0.00253	0.00253	0.0461	0.0461	4130	4130	100	100	0.00092	0.000465	0.000465	0.0153	0.0153	1.285	1.285	98.82	98.82		
20	21-Jun-06	<0.0010	0.00021	0.00021	0.00567	0.00567	1.994	1.994	99.72	99.72	<0.010	0.0021	0.0021	0.0482	0.0482	4130	4130	100	100	0.00088	0.00037	0.00037	0.0157	0.0157	1.284	1.284	98.79	98.79		
21	28-Jun-06	<0.0010	0.000225	0.000225	0.0059	0.0059	1.994	1.994	99.71	99.71	<0.010	0.00225	0.00225	0.0505	0.0505	4130	4130	100	100	0.00073	0.000329	0.000329	0.016	0.016	1.284	1.284	98.77	98.77		
22	5-Jul-06	<0.0010	0.00024	0.00024	0.00614	0.00614	1.994	1.994	99.69	99.69	<0.010	0.0024	0.0024	0.0529	0.0529	4130	4130	100	100	0.00061	0.000293	0.000293	0.0163	0.0163	1.284	1.284	98.75	98.75		
23	12-Jul-06	<0.0010	0.000225	0.000225	0.00637	0.00637	1.994	1.994	99.68	99.68	<0.010	0.00225	0.00225	0.0552	0.0552	4130	4130	100	100	0.00085	0.000383	0.000383	0.0167	0.0167	1.283	1.283	98.72	98.72		
24	19-Jul-06	<0.0010	0.000235	0.000235	0.00661	0.00661	1.993	1.993	99.67	99.67	<0.010	0.00235	0.00235	0.0576	0.0576	4130	4130	100	100	0.00055	0.000259	0.000259	0.017	0.017	1.283	1.283	98.69	98.69		
25	26-Jul-06	<0.0010	0.00024	0.00024	0.00685	0.00685	1.993	1.993	99.66	99.66	<0.010	0.0024	0.0024	0.06	0.06	4130	4130	100	100	0.00069	0.000331	0.000331	0.0173	0.0173	1.283	1.283	98.67	98.67		
26	2-Aug-06	<0.0010	0.000213	0.000213	0.00706	0.00706	1.993	1.993	99.65	99.65	<0.010	0.00213	0.00213	0.0621	0.0621	4130	4130	100	100	0.00073	0.00031	0.00031	0.0176	0.0176	1.282	1.282	98.65	98.65		
27	9-Aug-06	<0.0010	0.000225	0.000225	0.00729	0.00729	1.993	1.993	99.64	99.64	<0.010	0.00225	0.00225	0.0644	0.0644	4130	4130	100	100	0.00063	0.000284	0.000284	0.0179	0.0179	1.282	1.282	98.62	98.62		
28	16-Aug-06	<0.0010	0.000225	0.000225	0.00752	0.00752	1.992	1.992	99.62	99.62	<0.010	0.00225	0.00225	0.0667	0.0667	4130	4130	100	100	0.0006	0.00027	0.00027	0.0182	0.0182	1.282	1.282	98.6	98.6		
29	23-Aug-06	<0.0010	0.00026	0.00026	0.00778	0.00778	1.992	1.992	99.61	99.61	<0.010	0.0026	0.0026	0.0693	0.0693	4130	4130	100	100	0.00069	0.000359	0.000359	0.0186	0.0186	1.281	1.281	98.57	98.57		
30	30-Aug-06	<0.0010	0.00026	0.00026	0.00804	0.00804	1.992	1.992	99.6	99.6	<0.010	0.0026	0.0026	0.0719	0.0719	4130	4130	100	100	0.00048	0.00025	0.00025	0.0189	0.0189	1.281	1.281	98.55	98.55		
31	6-Sep-06	<0.0010	0.00025	0.00025	0.00829	0.00829	1.992	1.992	99.59	99.59	<0.010	0.0025	0.0025	0.0744	0.0744	4130	4130	100	100	0.00086	0.00043	0.00043	0.0193	0.0193	1.281	1.281	98.52	98.52		
32	13-Sep-06	<0.0010	0.000218	0.000218	0.00851	0.00851	1.991	1.991	99.57	99.57	<0.010	0.00218	0.00218	0.0766	0.0766	4130	4130	100	100	0.00079	0.000344	0.000344	0.0196	0.0196	1.28	1.28	98.49	98.49		
33	20-Sep-06	<0.0010	0.0002	0.0002	0.00871	0.00871	1.991	1.991	99.56	99.56	<0.010	0.002	0.002	0.0786	0.0786	4130	4130	100	100	0.00027	0.000108	0.000108	0.0197	0.0197	1.28	1.28	98.48	98.48		
34	27-Sep-06	<0.0010	0.0002	0.0002	0.00891	0.00891	1.991	1.991	99.55	99.55	<0.010	0.002	0.002	0.0806	0.0806	4130	4130	100	100	0.00053	0.000212	0.000212	0.0199	0.0199	1.28	1.28	98.47	98.47		
35	4-Oct-06	<0.0010	0.000245	0.000245	0.00916	0.00916	1.991	1.991	99.54	99.54	<0.010	0.00245	0.00245	0.0831	0.0831	4130	4130	100	100	0.00053	0.00026	0.00026	0.0202	0.0202	1.28	1.28	98.45	98.45		
36	11-Oct-06	<0.0010	0.00026	0.00026	0.00942	0.00942	1.991	1.991	99.53	99.53	<0.010	0.0026	0.0026	0.0857	0.0857	4130	4130	100	100	0.00069	0.000359	0.000359	0.0206	0.0206	1.279	1.279	98.42	98.42		
37	18-Oct-06	<0.0010	0.000213	0.000213	0.00963	0.00963	1.99	1.99	99.52	99.52	<0.010	0.00213	0.00213	0.0878	0.0878	4130	4130	100	100	0.00051	0.000217	0.000217	0.0208	0.0208	1.279	1.279	98.4	98.4		
38	25-Oct-06	<0.0010	0.000238	0.000238	0.00987	0.00987	1.99	1.99	99.51	99.51	<0.010	0.00238	0.00238	0.0902	0.0902	4130	4130	100	100	0.00049	0.000233	0.000233	0.021	0.021	1.279	1.279	98.38	98.38		
39	1-Nov-06	<0.0010	0.000228	0.000228	0.0101	0.0101	1.99	1.99	99.5	99.5	<0.010	0.00228	0.00228	0.0925	0.0925	4130	4130	100	100	0.00048	0.000218	0.000218	0.0212	0.0212	1.279	1.279	98.37	98.37		
40	8-Nov-06	<0.0010	0.0002	0.0002	0.0103	0.0103	1.99	1.99	99.49	99.49	<0.010	0.002	0.002	0.0945	0.0945	4130	4130	100	100	0.0004	0.00016	0.00016	0.0214	0.0214	1.279	1.279	98.35	98.35		
41	15-Nov-06	<0.0010	0.000225	0.000225	0.0105	0.0105	1.99	1.99	99.48	99.48	<0.010	0.00225	0.00225	0.0968	0.0968	4130	4130	100	100	0.00042	0.000189	0.000189	0.0216	0.0216	1.278	1.278	98.34	98.34		
42	22-Nov-06	<0.0010	0.000188	0.000188	0.0107	0.0107	1.989	1.989	99.47	99.47	<0.010	0.00188	0.00188	0.0987	0.0987	4130	4130	100	100	0.00039	0.000146	0.000146	0.0217	0.0217	1.278	1.278	98.33	98.33		
43	29-Nov-06	<0.0010	0.000225	0.000225	0.0109	0.0109	1.989	1.989	99.46	99.46	<0.010	0.00225	0.00225	0.101	0.101	4130	4130	100	100	0.00042	0.000189	0.000189	0.0219	0.0219	1.278	1.278	98.32	98.32		
44	6-Dec-06	<0.0010	0.00021	0.00021	0.0111	0.0111	1.989	1.989	99.45	99.45	<0.010	0.0021	0.0021	0.103	0.103	4130	4130	100	100	<0.00010	0.000021	0.000021	0.0219	0.0219	1.278	1.278	98.32	98.32		
45	13-Dec-06	<0.0010	0.00026	0.00026	0.0114	0.0114	1.989	1.989	99.43	99.43	<0.010	0.0026	0.0026	0.106	0.106	4130	4130	100	100	0.00012	6.24E-05	0.0000624	0.022	0.022	1.278	1.278	98.31	98.31		
46	20-Dec-06	<0.0010	0.000225	0.000225	0.0116	0.0116	1.988	1.988	99.42	99.42	<0.010	0.00225	0.00225	0.108	0.108	4130	4130	100	100	<0.00010	2.25E-05	0.0000225	0.022	0.022	1.278	1.278	98.31	98.31		
47	28-Dec-06	<0.0010	0.000197	0.000197	0.0118	0.0118	1.988	1.988	99.41	99.41	<0.010	0.00197	0.00197	0.11	0.11	4130	4130	100	100	0.00046	0.000181	0.000181	0.0222	0.0222	1.278	1.278	98.29	98.29		
48	3-Jan-07	<0.0010	0.00023	0.00023	0.012	0.012	1.988	1.988	99.4	99.4	<0.010	0.0023	0.0023	0.112	0.112	4130	4130	100	100	0.0001	4.61E-05	0.0000461	0.0222	0.0222	1.278	1.278	98.29	98.29		
49	10-Jan-07	<0.0010	0.000225	0.000225	0.0122	0.0122	1.988	1.988	99.39	99.39	<0.010	0.00225	0.00225	0.114	0.114	4130	4130	100	100	0.00043	0.000194	0.000194	0.0224	0.0224	1.278	1.278	98.28	98.28		
50	17-Jan-07	<0.0010	0.00021	0.00021	0.0124	0.0124	1.988	1.988	99.38	99.38	<0.010	0.0021	0.0021	0.116	0.116	4130	4130	100	100	0.00045	0.000189	0.000189	0.0226	0.0226	1.277	1.277	98.26	98.26		
51	24-Jan-07		0.000215	0.000215	0.0126	0.0126	1.987	1.987	99.37	99.37		0.00215	0.00215	0.118	0.118	4130	4130	100	100		0.000194	0.000194	0.0228	0.0228	1.277	1.277	98.25	98.25		
52	31-Jan-07	<0.0010	0.000223	0.000223	0.0128	0.0128	1.987	1.987	99.36	99.36	<0.010	0.00223	0.00223	0.12	0.12	4130	4130	100	100	0.00037	0.000165	0.000165	0.023	0.023	1.277	1.277	98.23	98.23		
53	7-Feb-07		0.000215	0.000215	0.013	0.013	1.987	1.987	99.35	99.35		0.00215	0.00215	0.122	0.122	4130	4130	100	100		0.000159	0.000159	0.0232	0.0232	1.277	1.277	98.22	98.22		
54	14-Feb-07	<0.0010	0.000218	0.000218	0.0132	0.0132	1.987	1.987	99.34	99.34	<0.010	0.00218	0.00218	0.124	0.124	4130	4130	100	100	0.0004	0.000174	0.000174	0.0234	0.0234	1.277	1.277	98.2	98.2		
Maximum		0.0018	0.000756	0.000756	0.0132	0.0132	1.999	1.999	99.96	99.96	0.005	0.0026	0.0026	0.124	0.124	4130	4130	100	100	0.00687	0.00289	0.00289	0.0234	0.0234	1.297	1.297	99.78	99.78		
Minimum		0.0005	0.000188	0.000188	0.000756	0.000756	1.987	1.987	99.34	99.34	0.005	0.00188	0.00188	0.0021	0.0021	4130	4130	100	100	0.00005	0.000021	0.000021	0.00289	0.00289	1.277	1.277	98.2	98.2		
Mean		0.000535	0.000242	0.000242	0.00725	0.00725	1.993	1.993	99.64	99.64	0.005	0.00227	0.00227	0.0642	0.0642	4130	4130	100	100	0.000929	0.00042	0.00042	0.0165	0.0165	1.283	1.283	98.73	98.73		
Median		0.0005	0.000225	0.000225	0.00729	0.00729	1.993	1.993	99.64	99.64	0.005	0.00225	0.00225	0.0644	0.0644	4130	4130	100	100	0.00069	0.000329	0.000329	0.0179	0.0179	1.282	1.282	98.62	98.62		
Mean Initial 5 Wk Flush		0.00088	0.000397	0.000397	0.00139	0.00139	1.998	1.998	99.93	99.93	0.005	0.00229	0.00229	0.00665	0.00665	4130	4130	100	100	0.0032	0.00141	0.00141	0.00524	0.00524	1.295	1.295	99.6	99.6		
Mean Last 5 Weeks		0.0005	0.000216	0.000216	0.0128	0.0128	1.987	1.987	99.36	99.36	0.005	0.00216	0.00216	0.12	0.12	4130	4130	100	100	0.000408	0.000176	0.000176	0.023	0.023	1.277	1.277	98.23	98.23		
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54		
75% Remaining (Wks)									2309	2309									478064	478064							1769	1769		
50% Remaining (Wks)									4624	4624									956074	956074							3615	3615		
25% Remaining (Wks)									6938	6938									1434083	1434083							5462	5462		
0% Remaining (Wks)									9253	9253									1912092	1912092							7308	7308		
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																												
		[1] Includes Final Leach data distributed evenly over all weeks																												

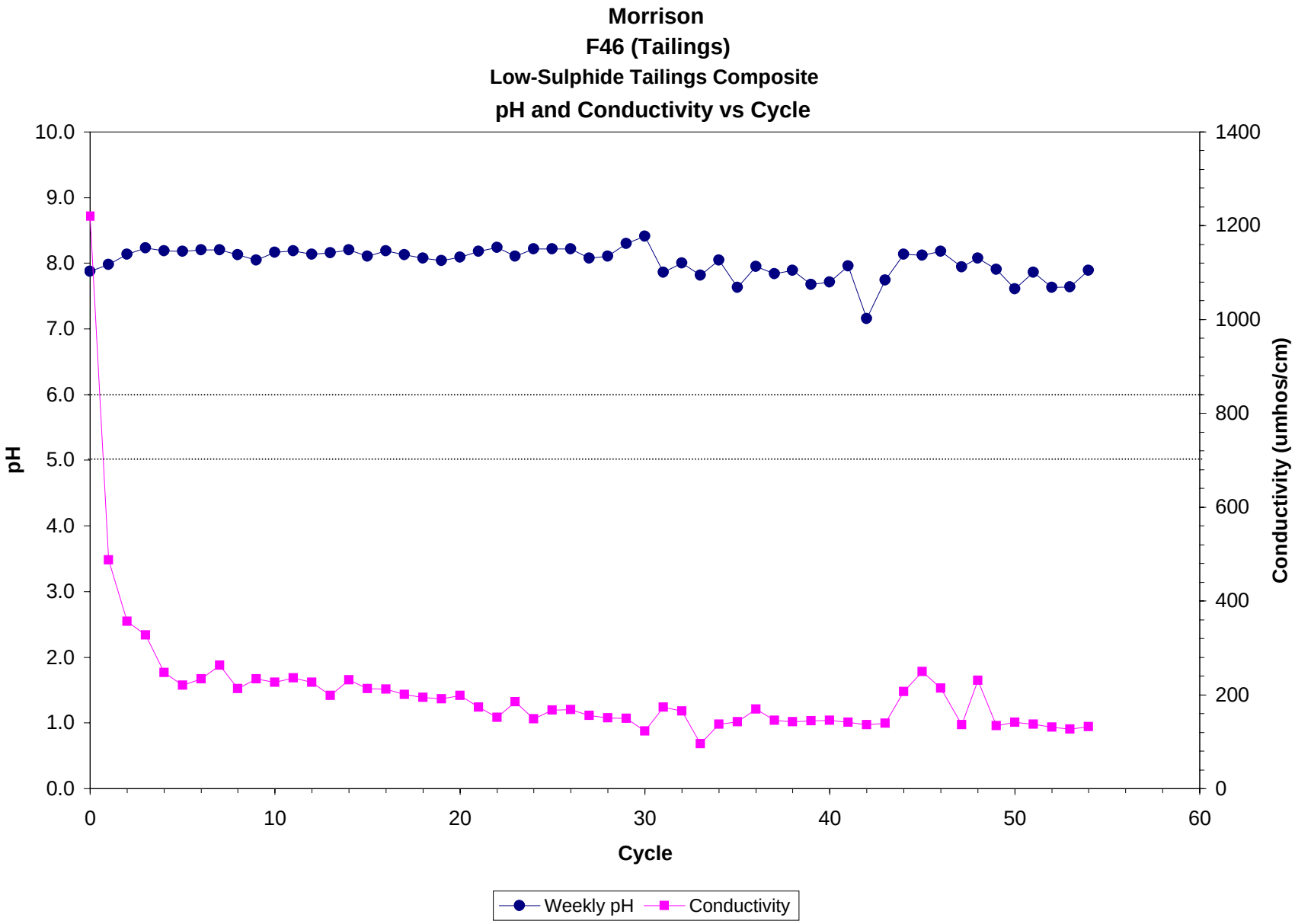
Project:		Morrison																											
Sample:		**F46 (Tailings)**																											
		Low-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium
Week No.	Date	V	V	V	V	V	V	V	V	V	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zr	Zr	Zr	Zr	Zr	Zr	Zr	Zr	Zr
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	
			Original Vanadium (ppm) =		**124**							**Original Zinc (ppm) =**			**75**							**Original Zirconium (ppm) =**			**19.2**					
0	1-Feb-06	<0.010	0.0021	0.0021	0.0021	0.0021	124	124	100	100	<0.0050	0.00105	0.00105	0.00105	0.00105	75	75	100	100			0	0	0	0	0	19.2	19.2	100	100
1	8-Feb-06	<0.010	0.0021	0.0021	0.0042	0.0042	124	124	100	100	<0.0050	0.00105	0.00105	0.0021	0.0021	75	75	100	100			0	0	0	0	0	19.2	19.2	100	100
2	15-Feb-06	<0.010	0.00245	0.00245	0.00665	0.00665	124	124	99.99	99.99	<0.0050	0.00123	0.00123	0.00333	0.00333	75	75	100	100			0	0	0	0	0	19.2	19.2	100	100
3	22-Feb-06	<0.010	0.00223	0.00223	0.00888	0.00888	124	124	99.99	99.99	<0.0050	0.00111	0.00111	0.00444	0.00444	75	75	99.99	99.99			0	0	0	0	0	19.2	19.2	100	100
4	1-Mar-06	<0.010	0.00255	0.00255	0.0114	0.0114	124	124	99.99	99.99	<0.0050	0.00128	0.00128	0.00572	0.00572	74.99	74.99	99.99	99.99			0	0	0	0	0	19.2	19.2	100	100
5	8-Mar-06	<0.010	0.00228	0.00228	0.0137	0.0137	124	124	99.99	99.99	<0.0050	0.00114	0.00114	0.00686	0.00686	74.99	74.99	99.99	99.99			0	0	0	0	0	19.2	19.2	100	100
6	15-Mar-06	<0.010	0.00223	0.00223	0.0159	0.0159	124	124	99.99	99.99	<0.0050	0.00111	0.00111	0.00797	0.00797	74.99	74.99	99.99	99.99			0	0	0	0	0	19.2	19.2	100	100
7	22-Mar-06	<0.010	0.00223	0.00223	0.0181	0.0181	124	124	99.99	99.99	<0.0050	0.00111	0.00111	0.00908	0.00908	74.99	74.99	99.99	99.99			0	0	0	0	0	19.2	19.2	100	100
8	29-Mar-06	<0.010	0.00225	0.00225	0.0204	0.0204	124	124	99.98	99.98	<0.0050	0.00113	0.00113	0.0102	0.0102	74.99	74.99	99.99	99.99			0	0	0	0	0	19.2	19.2	100	100
9	5-Apr-06	<0.010	0.00235	0.00235	0.0228	0.0228	124	124	99.98	99.98	<0.0050	0.00118	0.00118	0.0114	0.0114	74.99	74.99	99.98	99.98			0	0	0	0	0	19.2	19.2	100	100
10	12-Apr-06	<0.010	0.00223	0.00223	0.025	0.025	124	124	99.98	99.98	<0.0050	0.00111	0.00111	0.0125	0.0125	74.99	74.99	99.98	99.98			0	0	0	0	0	19.2	19.2	100	100
11	19-Apr-06	<0.010	0.00243	0.00243	0.0274	0.0274	124	124	99.98	99.98	<0.0050	0.00121	0.00121	0.0137	0.0137	74.99	74.99	99.98	99.98			0	0	0	0	0	19.2	19.2	100	100
12	26-Apr-06	<0.010	0.0025	0.0025	0.0299	0.0299	124	124	99.98	99.98	<0.0050	0.00125	0.00125	0.015	0.015	74.99	74.99	99.98	99.98			0	0	0	0	0	19.2	19.2	100	100
13	3-May-06	<0.010	0.0023	0.0023	0.0322	0.0322	124	124	99.97	99.97	<0.0050	0.00115	0.00115	0.0162	0.0162	74.98	74.98	99.98	99.98			0	0	0	0	0	19.2	19.2	100	100
14	10-May-06	<0.010	0.0022	0.0022	0.0344	0.0344	124	124	99.97	99.97	<0.0050	0.0011	0.0011	0.0173	0.0173	74.98	74.98	99.98	99.98			0	0	0	0	0	19.2	19.2	100	100
15	17-May-06	<0.010	0.00243	0.00243	0.0368	0.0368	124	124	99.97	99.97	<0.0050	0.00121	0.00121	0.0185	0.0185	74.98	74.98	99.98	99.98			0	0	0	0	0	19.2	19.2	100	100
16	24-May-06	<0.010	0.0022	0.0022	0.039	0.039	124	124	99.97	99.97	<0.0050	0.0011	0.0011	0.0196	0.0196	74.98	74.98	99.97	99.97			0	0	0	0	0	19.2	19.2	100	100
17	31-May-06	<0.010	0.00235	0.00235	0.0414	0.0414	124	124	99.97	99.97	<0.0050	0.00118	0.00118	0.0208	0.0208	74.98	74.98	99.97	99.97			0	0	0	0	0	19.2	19.2	100	100
18	7-Jun-06	<0.010	0.00223	0.00223	0.0436	0.0436	124	124	99.96	99.96	<0.0050	0.00111	0.00111	0.0219	0.0219	74.98	74.98	99.97	99.97			0	0	0	0	0	19.2	19.2	100	100
19	14-Jun-06	<0.010	0.00253	0.00253	0.0461	0.0461	124	124	99.96	99.96	<0.0050	0.00126	0.00126	0.0232	0.0232	74.98	74.98	99.97	99.97			0	0	0	0	0	19.2	19.2	100	100
20	21-Jun-06	<0.010	0.0021	0.0021	0.0482	0.0482	124	124	99.96	99.96	<0.0050	0.00105	0.00105	0.0243	0.0243	74.98	74.98	99.97	99.97			0	0	0	0	0	19.2	19.2	100	100
21	28-Jun-06	<0.010	0.00225	0.00225	0.0505	0.0505	123.9	123.9	99.96	99.96	<0.0050	0.00113	0.00113	0.0254	0.0254	74.97	74.97	99.97	99.97			0	0	0	0	0	19.2	19.2	100	100
22	5-Jul-06	<0.010	0.0024	0.0024	0.0529	0.0529	123.9	123.9	99.96	99.96	<0.0050	0.0012	0.0012	0.0266	0.0266	74.97	74.97	99.96	99.96			0	0	0	0	0	19.2	19.2	100	100
23	12-Jul-06	<0.010	0.00225	0.00225	0.0552	0.0552	123.9	123.9	99.96	99.96	<0.0050	0.00113	0.00113	0.0277	0.0277	74.97	74.97	99.96	99.96			0	0	0	0	0	19.2	19.2	100	100
24	19-Jul-06	<0.010	0.00235	0.00235	0.0576	0.0576	123.9	123.9	99.95	99.95	<0.0050	0.00118	0.00118	0.0289	0.0289	74.97	74.97	99.96	99.96			0	0	0	0	0	19.2	19.2	100	100
25	26-Jul-06	<0.010	0.0024	0.0024	0.06	0.06	123.9	123.9	99.95	99.95	<0.0050	0.0012	0.0012	0.0301	0.0301	74.97	74.97	99.96	99.96			0	0	0	0	0	19.2	19.2	100	100
26	2-Aug-06	<0.010	0.00213	0.00213	0.0621	0.0621	123.9	123.9	99.95	99.95	<0.0050	0.00106	0.00106	0.0312	0.0312	74.97	74.97	99.96	99.96			0	0	0	0	0	19.2	19.2	100	100
27	9-Aug-06	<0.010	0.00225	0.00225	0.0644	0.0644	123.9	123.9	99.95	99.95	<0.0050	0.00113	0.00113	0.0323	0.0323	74.97	74.97	99.96	99.96			0	0	0	0	0	19.2	19.2	100	100
28	16-Aug-06	<0.010	0.00225	0.00225	0.0667	0.0667	123.9	123.9	99.95	99.95	<0.0050	0.00113	0.00113	0.0334	0.0334	74.97	74.97	99.96	99.96			0	0	0	0	0	19.2	19.2	100	100
29	23-Aug-06	<0.010	0.0026	0.0026	0.0693	0.0693	123.9	123.9	99.94	99.94	<0.0050	0.0013	0.0013	0.0347	0.0347	74.97	74.97	99.95	99.95			0	0	0	0	0	19.2	19.2	100	100
30	30-Aug-06	<0.010	0.0026	0.0026	0.0719	0.0719	123.9	123.9	99.94	99.94	<0.0050	0.0013	0.0013	0.036	0.036	74.96	74.96	99.95	99.95			0	0	0	0	0	19.2	19.2	100	100
31	6-Sep-06	<0.010	0.0025	0.0025	0.0744	0.0744	123.9	123.9	99.94	99.94	<0.0050	0.00125	0.00125	0.0373	0.0373	74.96	74.96	99.95	99.95			0	0	0	0	0	19.2	19.2	100	100
32	13-Sep-06	<0.010	0.00218	0.00218	0.0766	0.0766	123.9	123.9	99.94	99.94	<0.0050	0.00109	0.00109	0.0384	0.0384	74.96	74.96	99.95	99.95			0	0	0	0	0	19.2	19.2	100	100
33	20-Sep-06	<0.010	0.002	0.002	0.0786	0.0786	123.9	123.9	99.94	99.94	<0.0050	0.001	0.001	0.0394	0.0394	74.96	74.96	99.95	99.95			0	0	0	0	0	19.2	19.2	100	100
34	27-Sep-06	<0.010	0.002	0.002	0.0806	0.0806	123.9	123.9	99.94	99.94	<0.0050	0.001	0.001	0.0404	0.0404	74.96	74.96	99.95	99.95			0	0	0	0	0	19.2	19.2	100	100
35	4-Oct-06	<0.010	0.00245	0.00245	0.0831	0.0831	123.9	123.9	99.93	99.93	<0.0050	0.00123	0.00123	0.0416	0.0416	74.96	74.96	99.94	99.94			0	0	0	0	0	19.2	19.2	100	100
36	11-Oct-06	<0.010	0.0026	0.0026	0.0857	0.0857	123.9	123.9	99.93	99.93	<0.0050	0.0013	0.0013	0.0429	0.0429	74.96	74.96	99.94	99.94			0	0	0	0	0	19.2	19.2	100	100
37	18-Oct-06	<0.010	0.00213	0.00213	0.0878	0.0878	123.9	123.9	99.93	99.93	<0.0050	0.00106	0.00106	0.044	0.044	74.96	74.96	99.94	99.94			0	0	0	0	0	19.2	19.2	100	100
38	25-Oct-06	<0.010	0.00238	0.00238	0.0902	0.0902	123.9	123.9	99.93	99.93	<0.0050	0.00119	0.00119	0.0452	0.0452	74.95	74.95	99.94	99.94			0	0	0	0	0	19.2	19.2	100	100
39	1-Nov-06	<0.010	0.00228	0.00228	0.0925	0.0925	123.9	123.9	99.93	99.93	<0.0050	0.00114	0.00114	0.0463	0.0463	74.95	74.95	99.94	99.94			0	0	0	0	0	19.2	19.2	100	100
40	8-Nov-06	<0.010	0.002	0.002	0.0945	0.0945	123.9	123.9	99.92	99.92	<0.0050	0.001	0.001	0.0473	0.0473	74.95	74.95	99.94	99.94			0	0	0	0	0	19.2	19.2	100	100
41	15-Nov-06	<0.010	0.00225	0.00225	0.0968	0.0968	123.9	123.9	99.92	99.92	<0.0050	0.00113	0.00113	0.0484	0.0484	74.95	74.95	99.94	99.94			0	0	0	0	0	19.2	19.2	100	100
42	22-Nov-06	<0.010	0.00188	0.00188	0.0987	0.0987	123.9	123.9	99.92	99.92	<0.0050	0.000938	0.000938	0.0493	0.0493	74.95	74.95	99.93	99.93			0	0	0	0	0	19.2	19.2	100	100
43	29-Nov-06	<0.010	0.00225	0.00225	0.101	0.101	123.9	123.9	99.92	99.92	<0.0050	0.00113	0.00113	0.0504	0.0504	74.95	74.95	99.93	99.93			0	0	0	0	0	19.2	19.2	100	100
44	6-Dec-06	<0.010	0.0021	0.0021	0.103	0.103	123.9	123.9	99.92	99.92	<0.0050	0.00105	0.00105	0.0515	0.0515	74.95	74.95	99.93	99.93			0	0	0	0	0	19.2	19.2	100	100
45	13-Dec-06	<0.010	0.0026	0.0026	0.106	0.106	123.9	123.9	99.91	99.91	<0.0050	0.0013	0.0013	0.0528	0.0528	74.95	74.95	99.93	99.93			0	0	0	0	0	19.2	19.2	100	100
46	20-Dec-06	<0.010	0.00225	0.00225	0.108	0.108	123.9	123.9	99.91	99.91	<0.0050	0.00113	0.00113	0.0539	0.0539	74.95	74.95	99.93	99.93			0	0	0	0	0	19.2	19.2	100	100
47	28-Dec-06	<0.010	0.00197	0.00197	0.11	0.11	123.9	123.9	99.91	99.91	<0.0050	0.000984	0.000984	0.0549	0.0549	74.95	74.95	99.93	99.93			0	0	0	0	0	19.2	19.2	100	100
48	3-Jan-07	<0.010	0.0023	0.0023	0.112	0.112	123.9	123.9	99.91	99.91	<0.0050	0.00115	0.00115	0.0561	0.0561	74.94	74.94	99.93	99.93			0	0	0	0	0	19.2	19.2	100	100
49	10-Jan-07	<0.010	0.00225	0.00225	0.114	0.114	123.9	123.9	99.91	99.91	<0.0050	0.00113	0.00113	0.0572	0.0572	74.94	74.94	99.92	99.92			0	0	0	0	0	19.2	19.2	100	100
50	17-Jan-07	<0.010	0.0021	0.0021	0.116	0.116	123.9	123.9	99.91	99.91	<0.0050	0.00105	0.00105	0.0583	0.0583	74.94	74.94	99.92	99.92			0	0	0	0	0	19.2	19.2	100	100
51	24-Jan-07		0.00215	0.00215	0.118	0.118	123.9	123.9	99.9	99.9		0.00108	0.00108	0.0594	0.0594	74.94	74.94	99.92	99.92			0	0	0	0	0	19.2	19.2	100	100
52	31-Jan-07	<0.010	0.00223	0.00223	0.12	0.12	123.9	123.9	99.9	99.9	<0.0050	0.00111	0.00111	0.0605	0.0605	74.94	74.94	99.92	99.92			0	0	0	0	0	19.2	19.2	100	100
53	7-Feb-07		0.00215	0.00215	0.122	0.122	123.9	123.9	99.9	99.9		0.00108	0.00108	0.0616	0.0616	74.94	74.94	99.92	99.92			0	0	0	0	0	19.2	19.2	100	100
54	14-Feb-07	<0.010	0.00218	0.00218	0.124	0.124	123.9	123.9	99.9	99.9	<0.0050	0.00109	0.00109	0.0627	0.0627	74.94	74.94	99.92	99.92			0	0	0	0	0	19.2	19.2	100	100
Maximum		0.005	0.0026	0.0026	0.124	0.124	124	124	100	100	0.0025	0.0013	0.0013	0.0627	0.0627	75	75	100	100		0	0	0	0	0	19.2	19.2	100	100
Minimum		0.005	0.00188	0.00188	0.0021	0.0021	123.9	123.9	99.9	99.9	0.0025	0.000938	0.000938	0.00105	0.00105	74.94	74.94	99.92	99.92		0	0	0	0	0	19.2	19.2	100	100
Mean		0.005	0.00227	0.00227	0.0642	0.0642	123.9	123.9	99.95	99.95	0.0025	0.00114	0.00114	0.0322	0.0322	74.97	74.97	99.96	99.96		0	0	0	0	0	19.2	19.2	100	100
Median		0.005	0.00225	0.00225	0.0644	0.0644	123.9	123.9	99.95	99.95	0.0025	0.00113	0.00113	0.0323	0.0323	74.97	74.97	99.96	99.96		0	0	0	0	0	19.2	19.2	100	100
Mean Initial 5 Wk Flush		0.005	0.00229	0.00229	0.00665	0.00665	124	124	99.99	99.99	0.0025	0.00114	0.00114	0.00333	0.00333	75	75	100	100		0	0	0	0	0	19.2	19.2	100	100
Mean Last 5 Weeks		0.005	0.00216	0.00216	0.12	0.12	123.9	123.9	99.9	99.9	0.0025	0.00108	0.00108	0.0605	0.0605	74.94	74.94	99.92	99.92		0	0	0	0	0	19.2	19.2	100	100
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54		54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									14349	14349								17361	17361									NA	NA
50% Remaining (Wks)									28701	28701								34722	34722									NA	NA
25% Remaining (Wks)									43053	43053								52083	52083									NA	NA
0% Remaining (Wks)									57405	57405								69444	69444									NA	NA

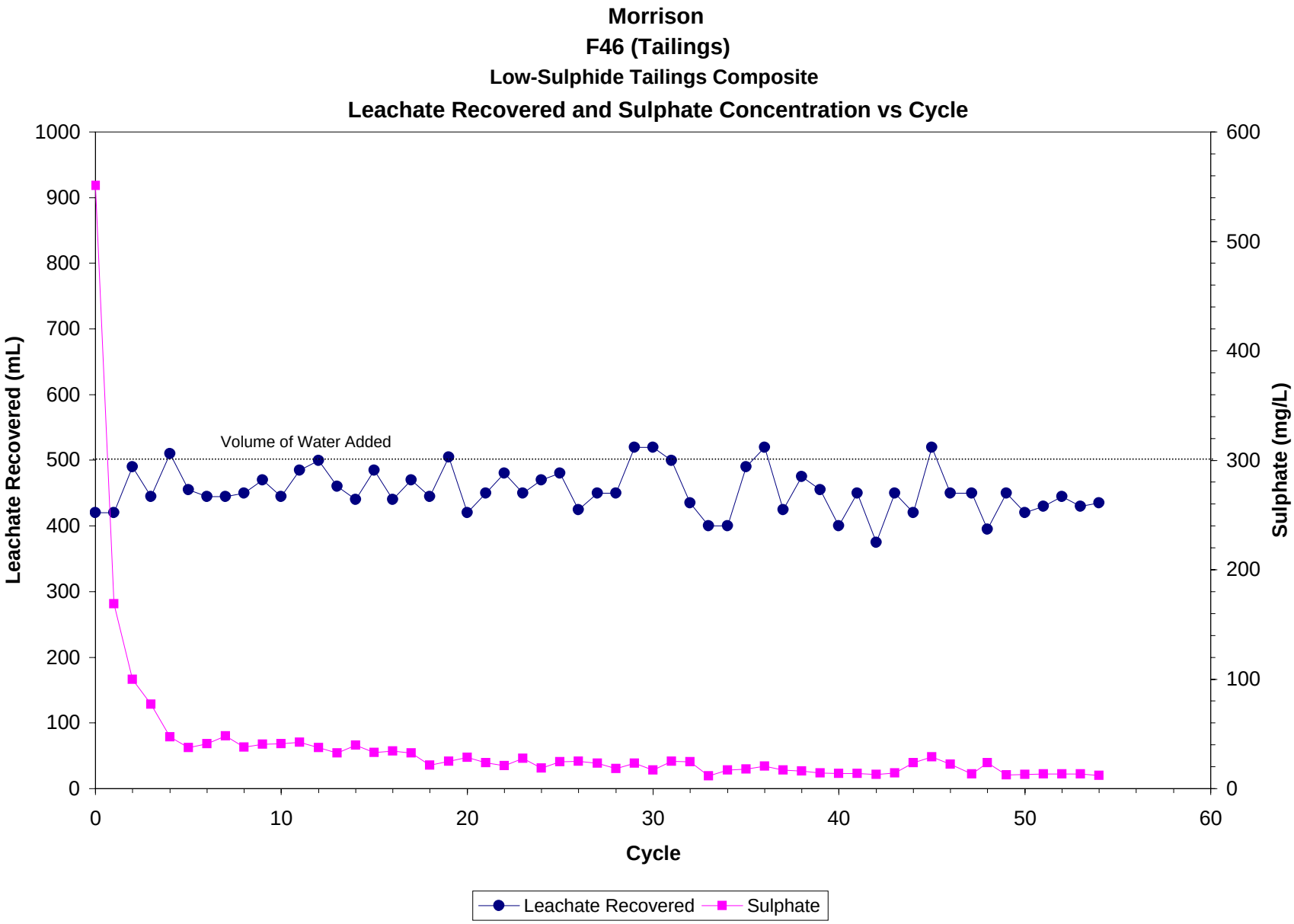
NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

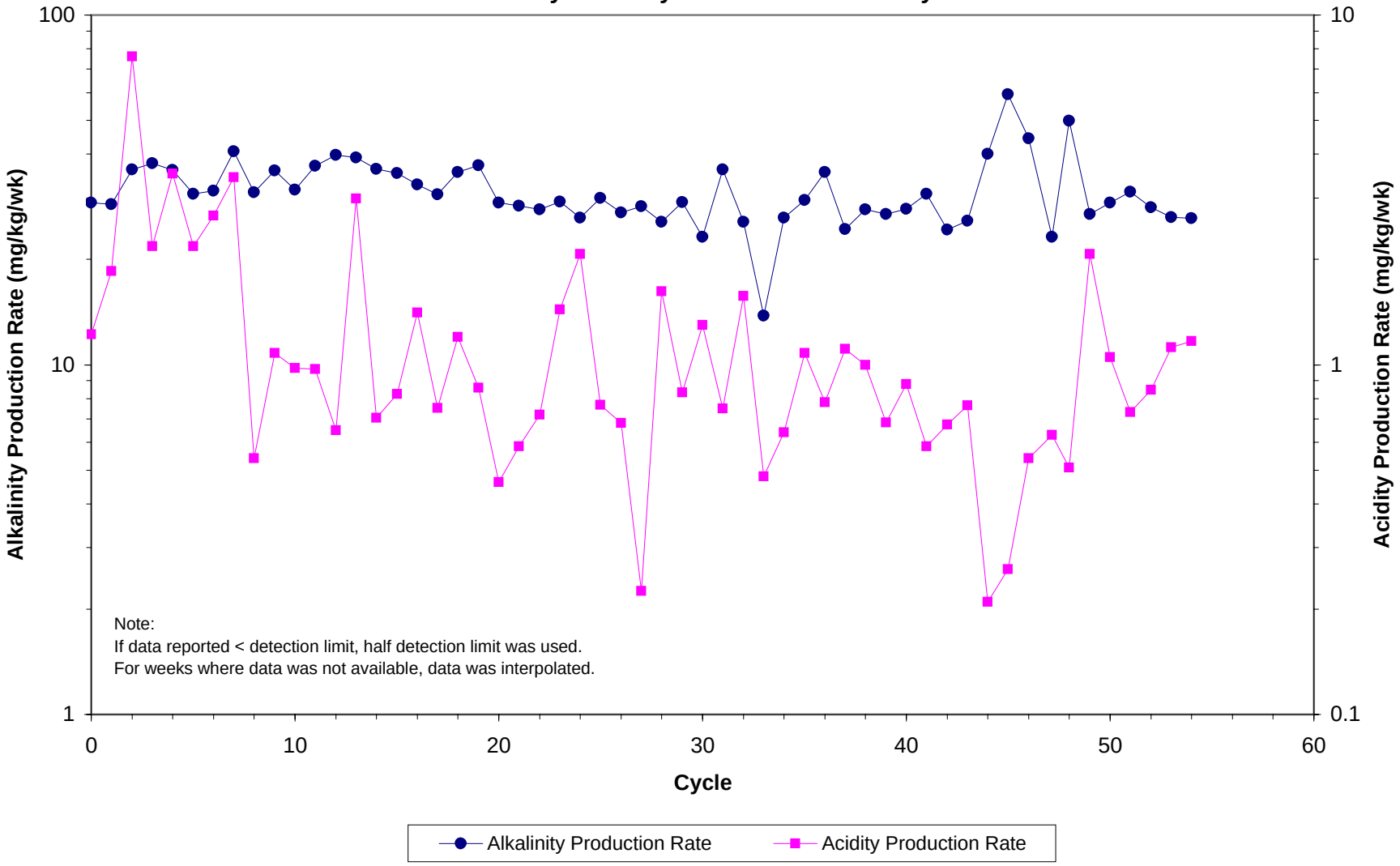
Project: Morrison
Sample: F46 (Tailings)
Low-Sulphide Tailings Composite
Data: Ion Balances Claculations

Week No.	Date	Dissolved Sum of Cations	Dissolved Sum of Anions	**Dissolved Charge Balance Error (%)**	
0	01-Feb-06	14.36	-12.89	5.42	
1	08-Feb-06	4.79	-4.92	-1.29	
2	15-Feb-06	3.85	-3.58	3.55	
3	22-Feb-06	3.28	-3.33	-0.80	
4	01-Mar-06	2.47	-2.42	0.89	
5	08-Mar-06	2.33	-2.15	3.96	
6	15-Mar-06	2.35	-2.29	1.31	
7	22-Mar-06	2.70	-2.86	-2.97	
8	29-Mar-06	2.29	-2.20	1.98	
9	05-Apr-06	2.27	-2.40	-2.68	
10	12-Apr-06	2.38	-2.31	1.53	
11	19-Apr-06	2.66	-2.44	4.44	
12	26-Apr-06	2.28	-2.40	-2.50	
13	03-May-06	1.96	-2.40	**-10.02**	
14	10-May-06	2.44	-2.50	-1.19	
15	17-May-06	2.03	-2.17	-3.23	
16	24-May-06	2.15	-2.23	-1.90	
17	31-May-06	2.08	-2.01	1.56	
18	07-Jun-06	2.00	-2.07	-1.69	
19	14-Jun-06	1.91	-2.02	-2.64	
20	21-Jun-06	2.07	-2.00	1.52	
21	28-Jun-06	1.77	-1.79	-0.41	
22	05-Jul-06	1.56	-1.62	-1.73	
23	12-Jul-06	1.95	-1.90	1.13	
24	19-Jul-06	1.46	-1.54	-2.69	
25	26-Jul-06	1.76	-1.78	-0.75	
26	02-Aug-06	1.85	-1.83	0.50	
27	09-Aug-06	1.60	-1.78	-5.31	
28	16-Aug-06	1.55	-1.55	0.20	
29	23-Aug-06	1.55	-1.64	-2.76	
30	30-Aug-06	1.28	-1.27	0.41	
31	06-Sep-06	1.80	-1.99	-5.08	
32	13-Sep-06	1.70	-1.71	-0.26	
33	20-Sep-06	1.00	-0.96	2.22	
34	27-Sep-06	1.39	-1.69	-9.73	
35	04-Oct-06	1.49	-1.61	-3.73	
36	11-Oct-06	1.70	-1.82	-3.44	
37	18-Oct-06	1.46	-1.53	-2.32	
38	25-Oct-06	1.54	-1.53	0.32	
39	01-Nov-06	1.53	-1.51	0.66	
40	08-Nov-06	1.56	-1.71	-4.74	
41	15-Nov-06	1.50	-1.68	-5.81	
42	22-Nov-06	1.47	-1.60	-4.24	
43	29-Nov-06	1.47	-1.47	-0.06	
44	06-Dec-06	2.32	-2.42	-2.15	
45	13-Dec-06	2.85	-2.91	-0.90	
46	20-Dec-06	2.43	-2.46	-0.56	
47	28-Dec-06	1.49	-1.49	-0.10	
48	03-Jan-07	2.67	-2.68	-0.14	
49	10-Jan-07	1.43	-1.49	-1.76	
50	17-Jan-07	1.53	-1.69	-4.77	
51	24-Jan-07	1.53	-1.75	-6.68	Not all parameters analyzed, interpolated data used
52	31-Jan-07	1.37	-1.58	-7.05	
53	07-Feb-07	1.37	-1.53	-5.70	Not all parameters analyzed, interpolated data used
54	14-Feb-07	1.40	-1.49	-3.07	

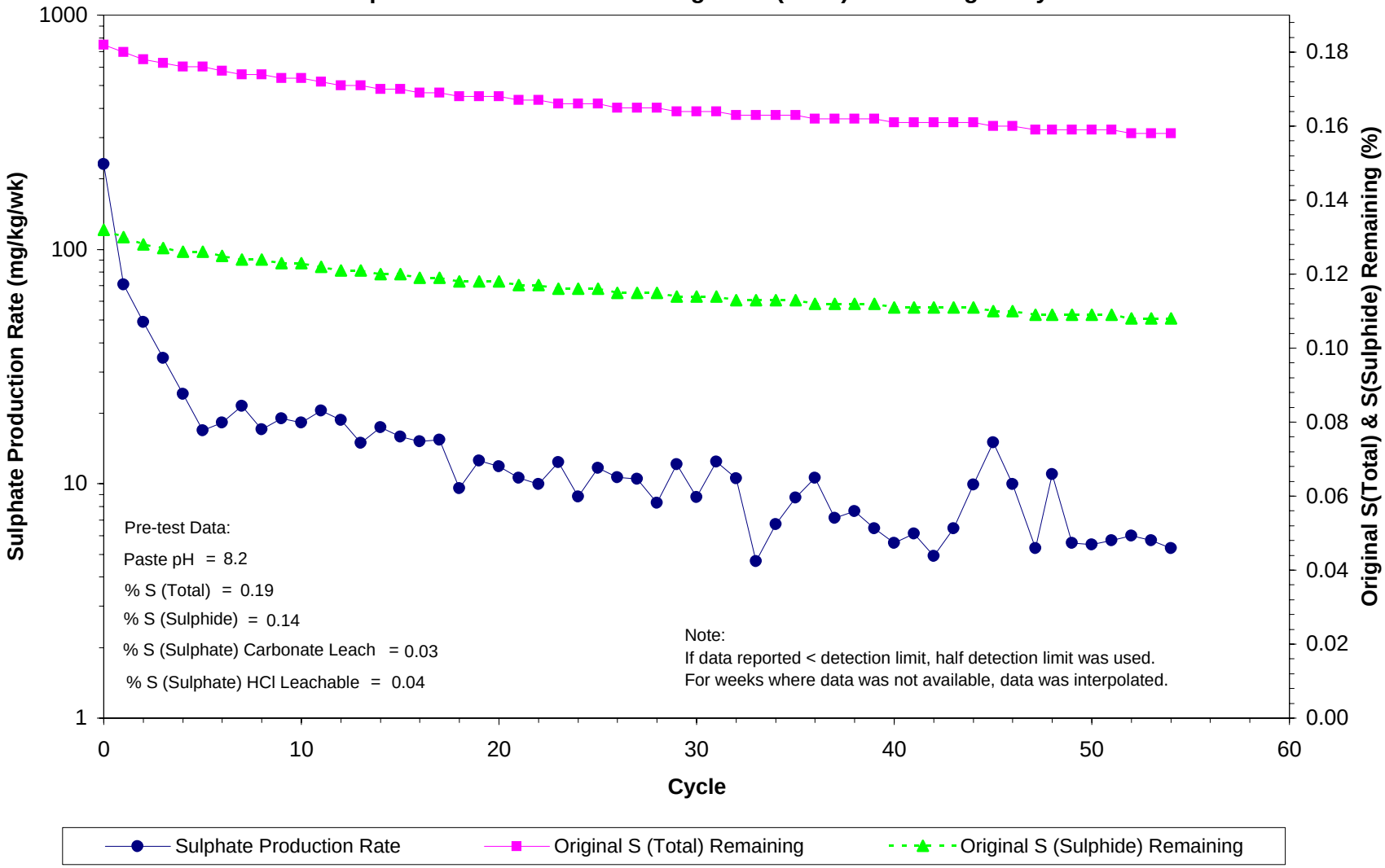

Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite
pH and Conductivity vs Cycle
pH
Conductivity (umhos/cm)
Cycle
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1400
1200
1000
800
600
400
200
0
0
10
20
30
40
50
60
Weekly pH
Conductivity


Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite
Leachate Recovered and Sulphate Concentration vs Cycle
Leachate Recovered (mL)
Sulphate (mg/L)
Cycle
Volume of Water Added
Leachate Recovered
Sulphate
0
100
200
300
400
500
600
700
800
900
1000
0
10
20
30
40
50
60

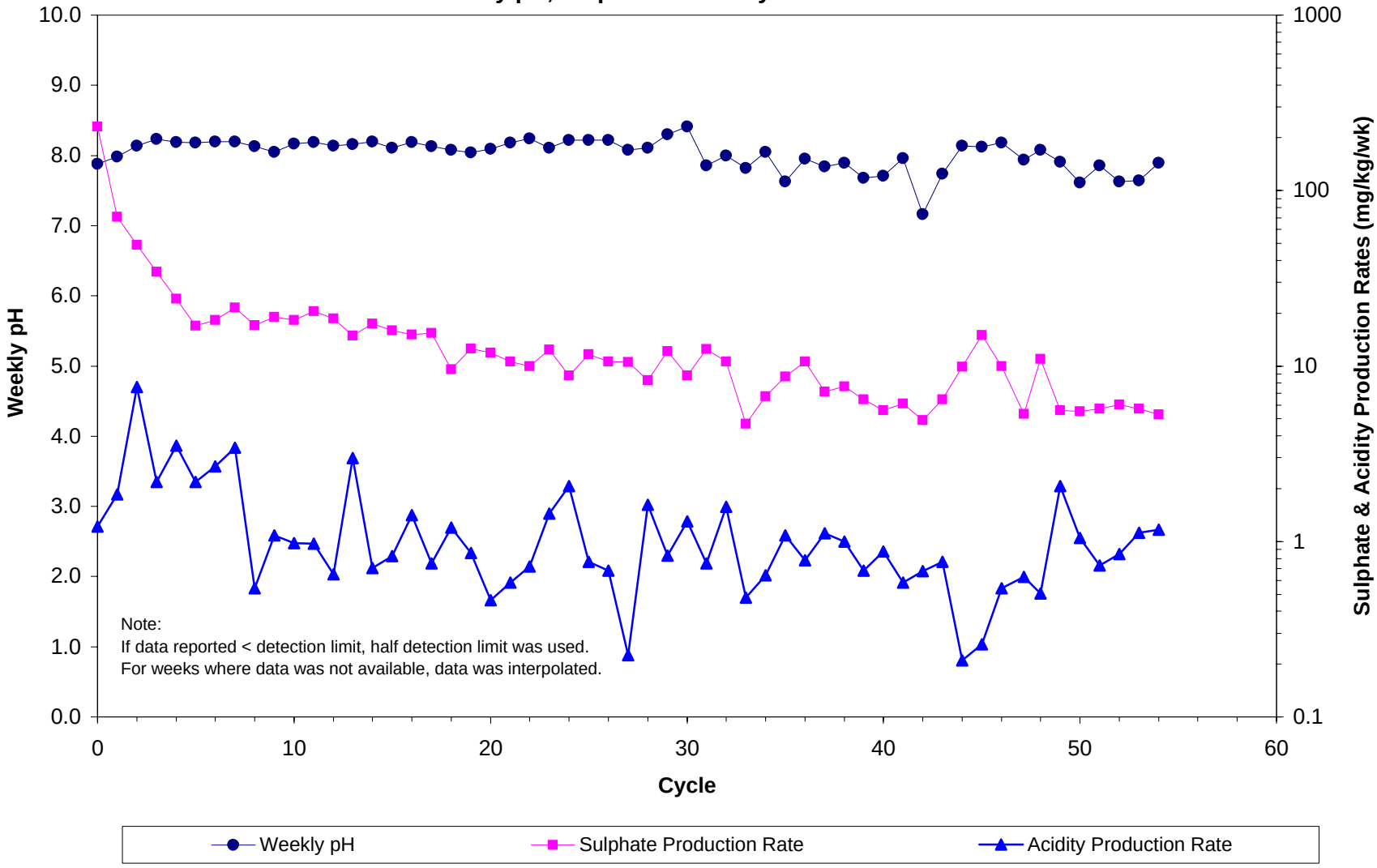
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite
Alkalinity & Acidity Production Rate vs Cycle



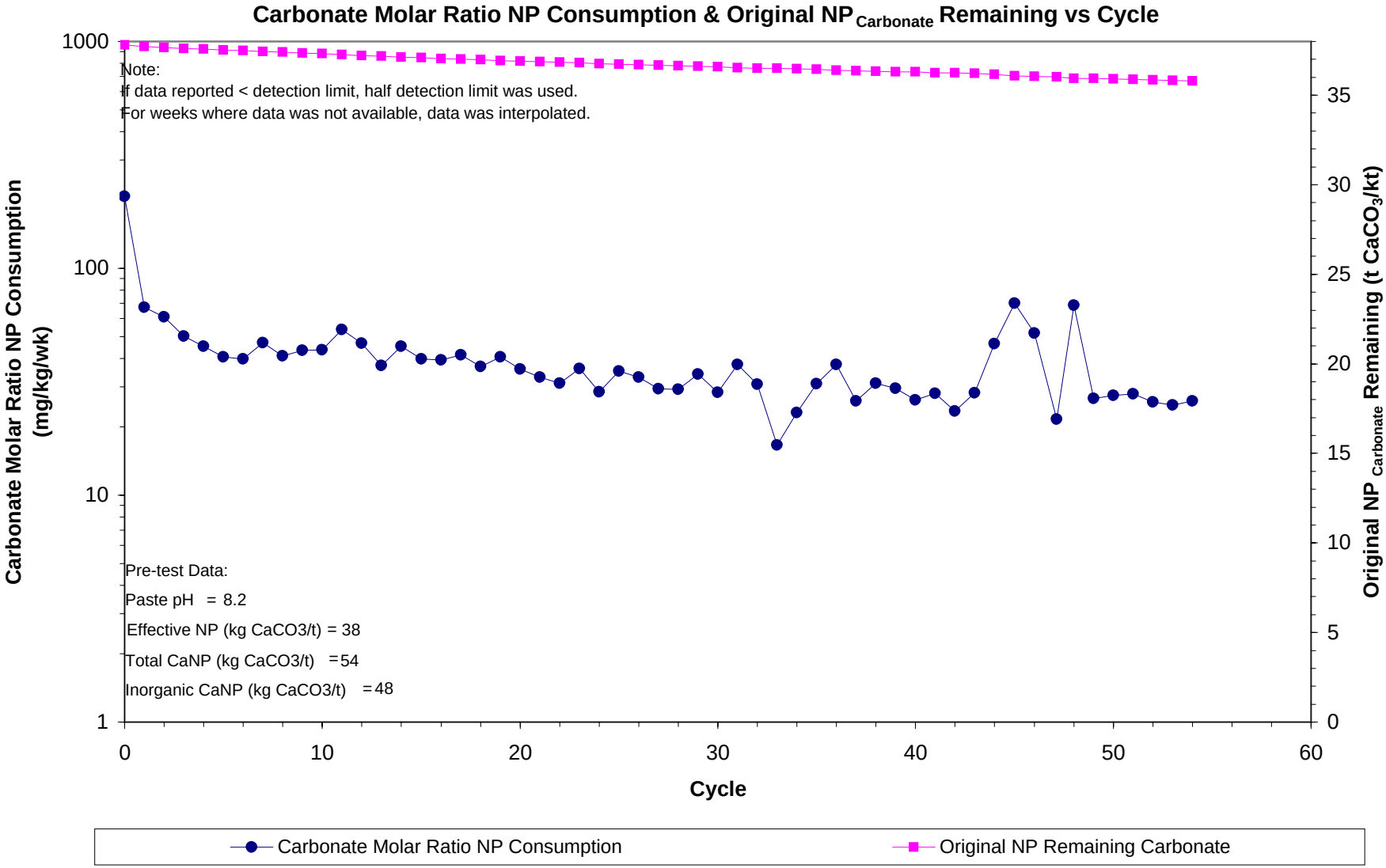
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite
Sulphate Production Rate & Original S (Total) Remaining vs Cycle



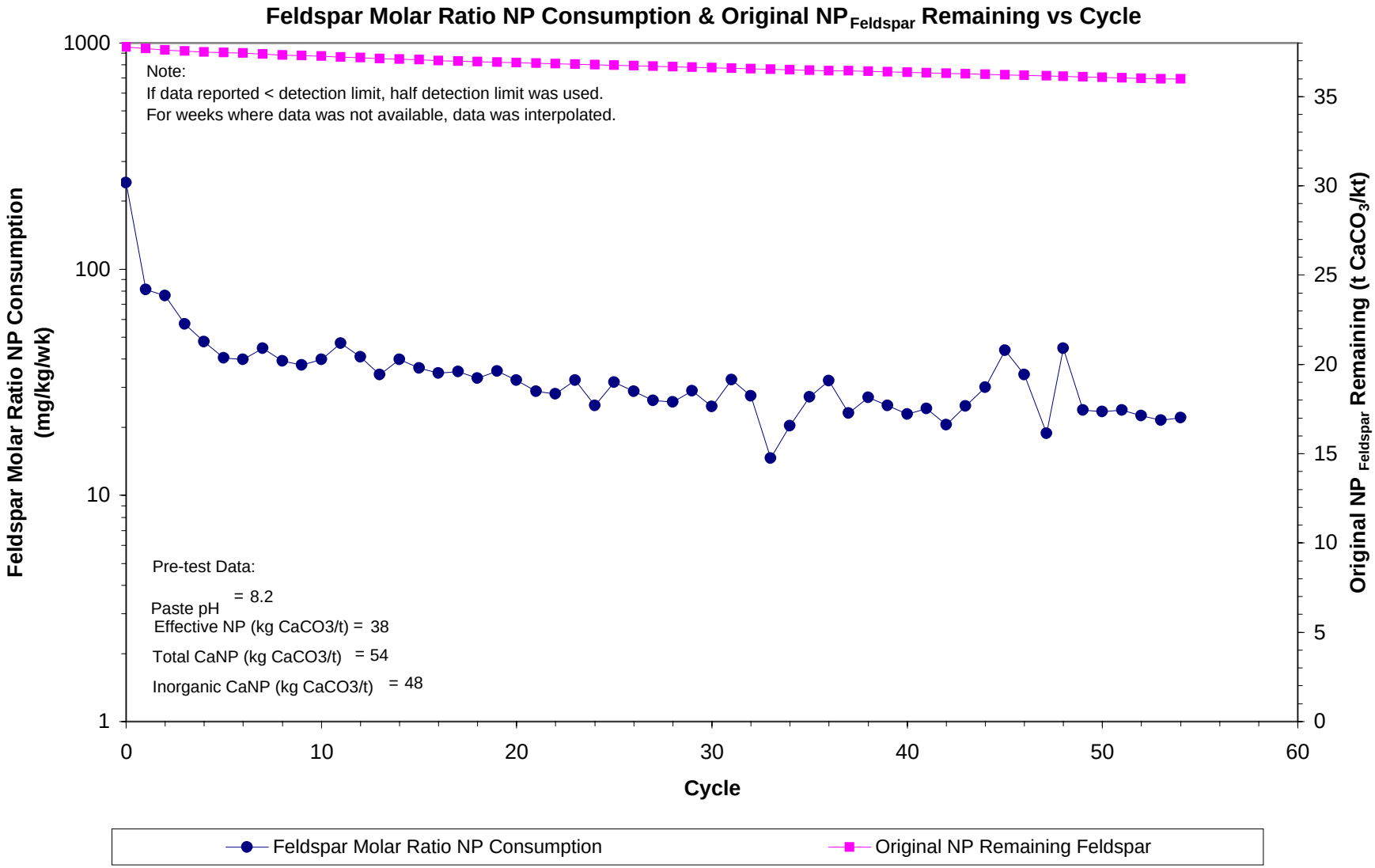
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite
Weekly pH, Sulphate & Acidity Production Rates



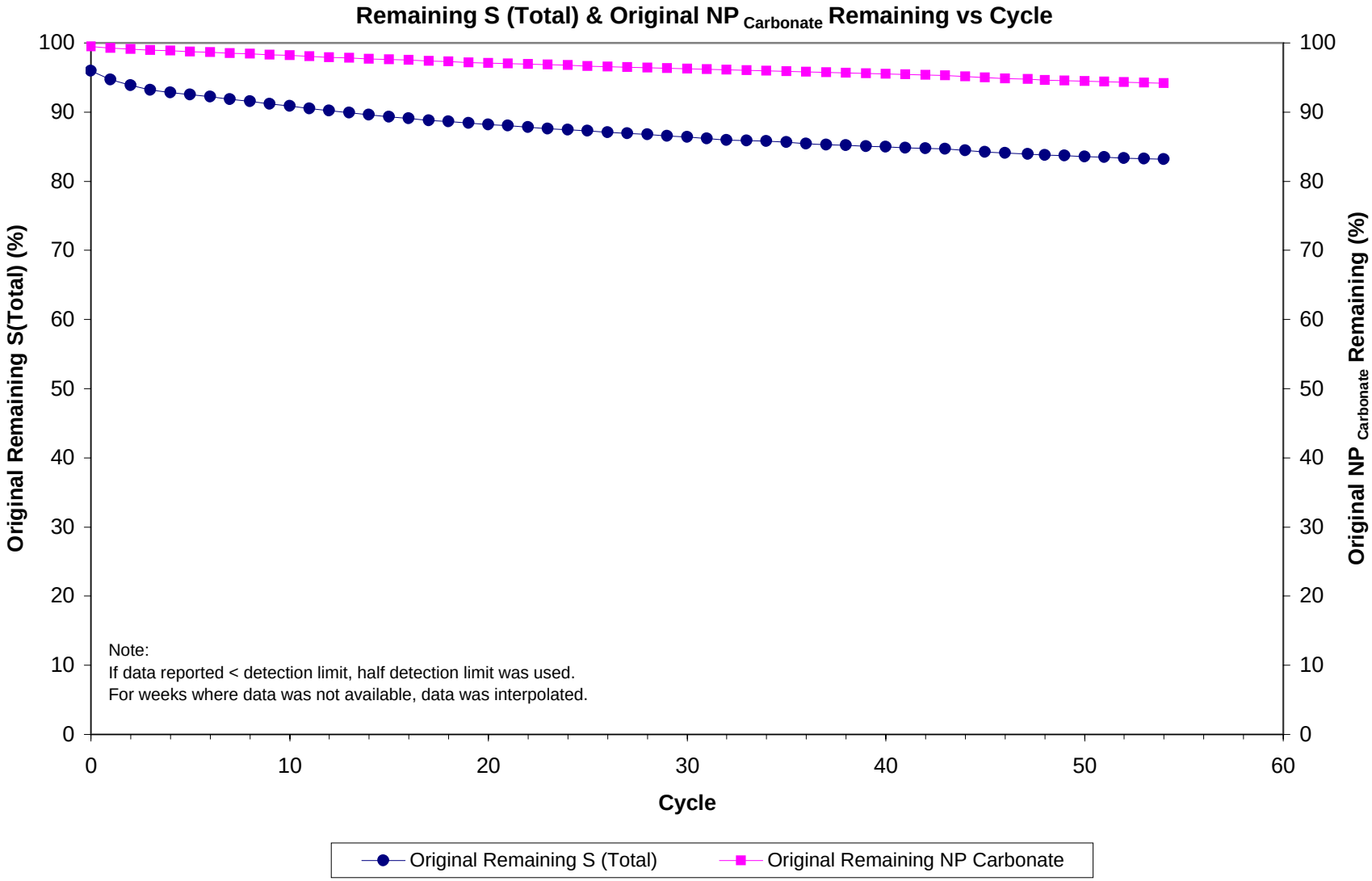
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite



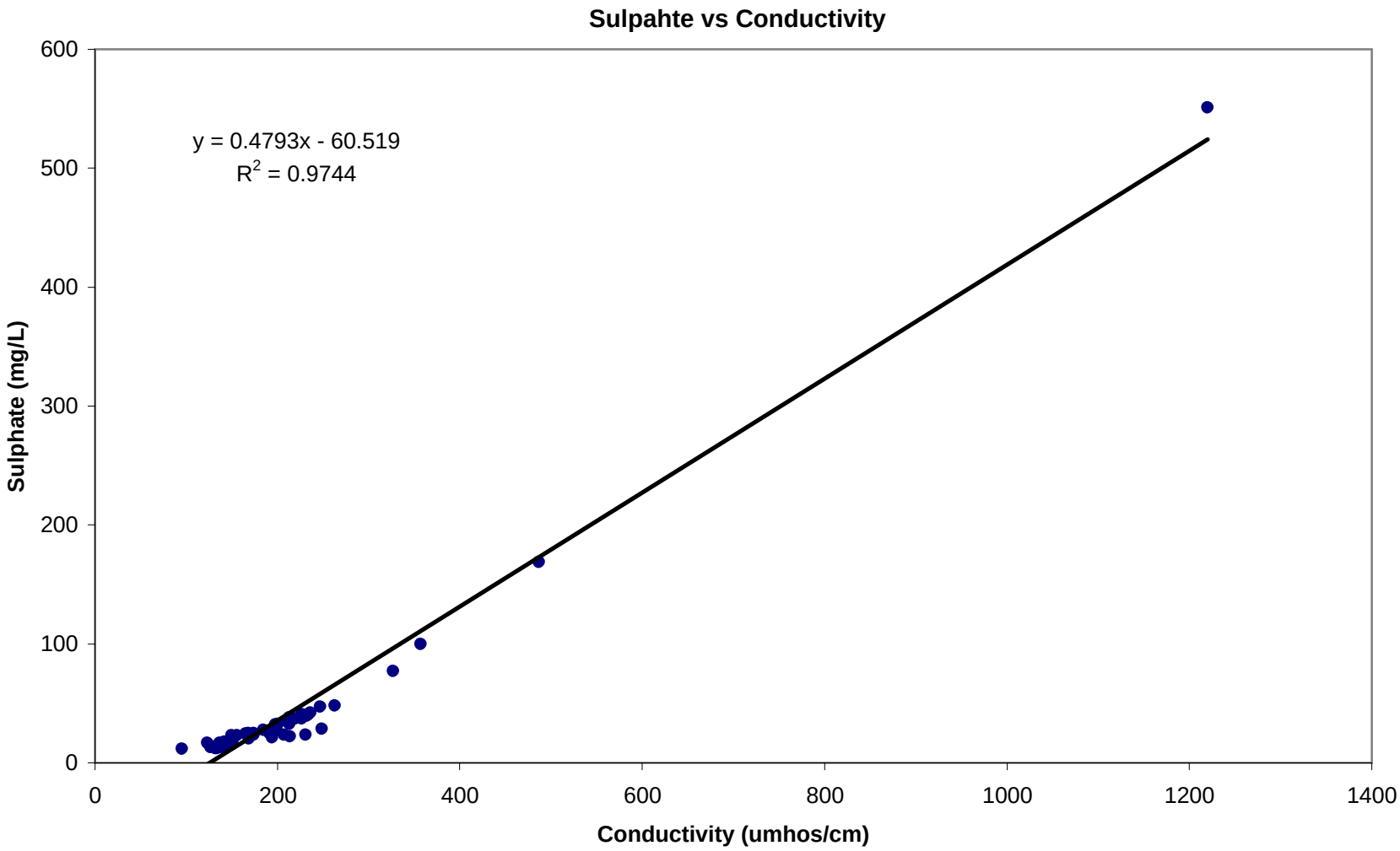
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite



Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

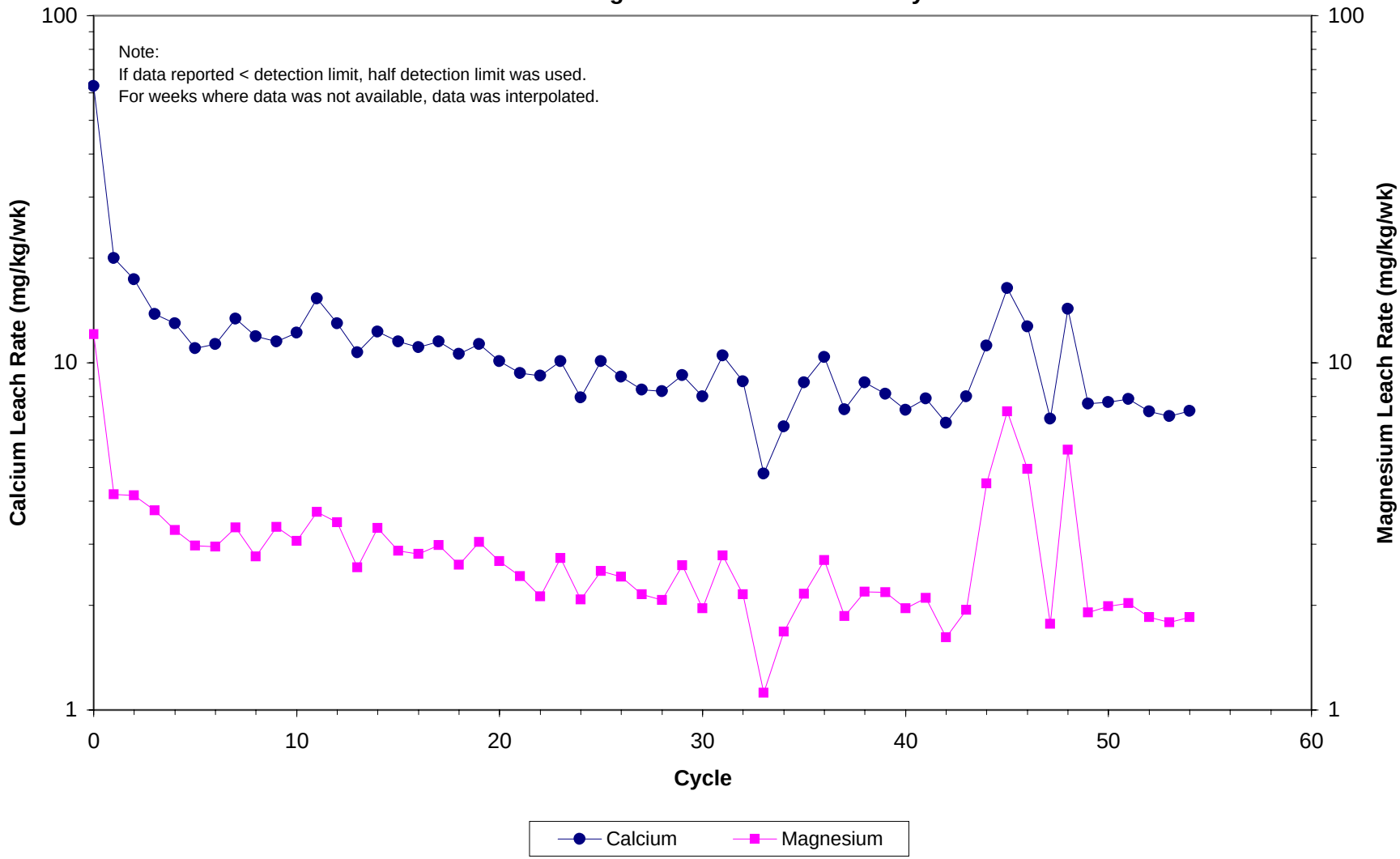


Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite



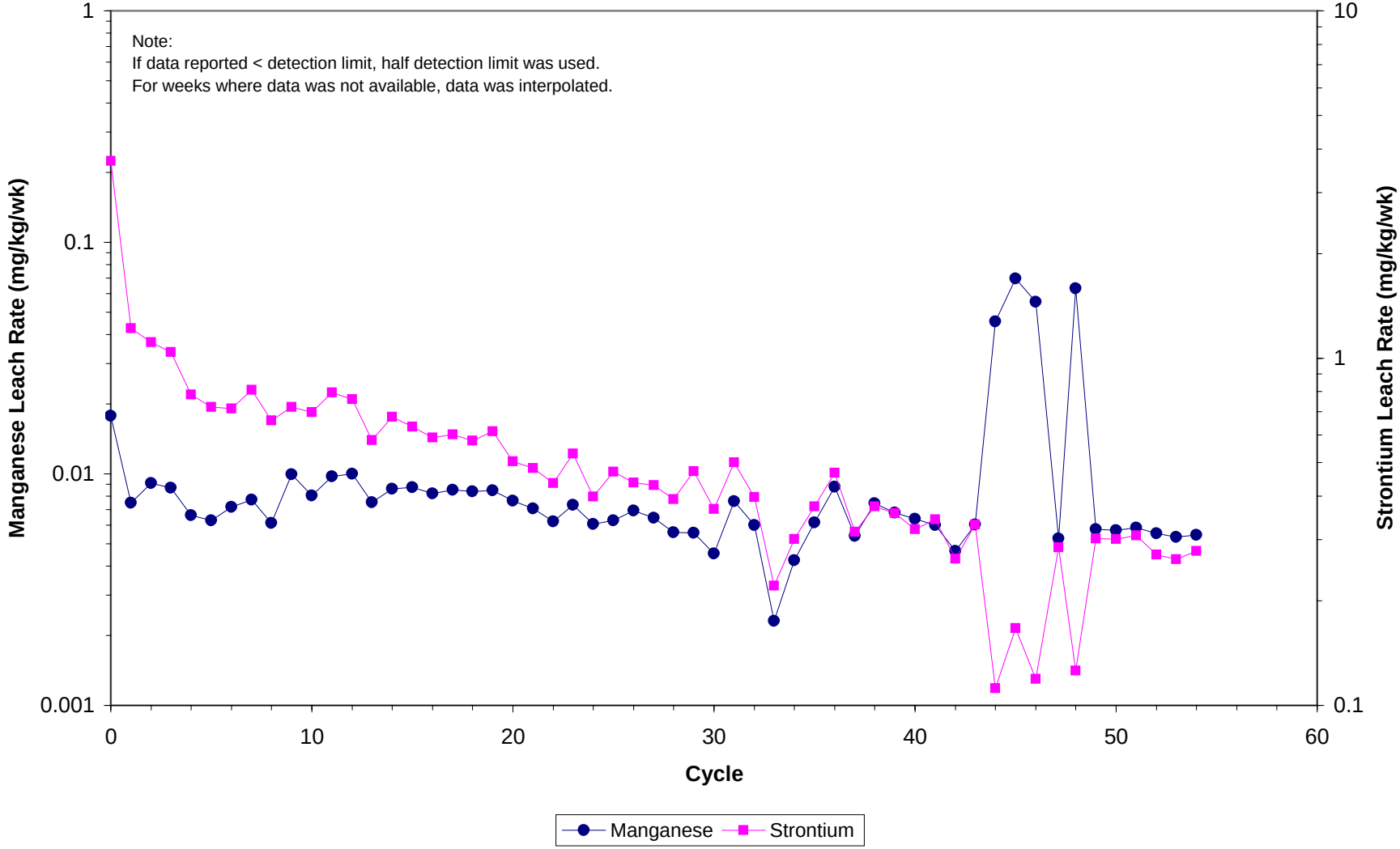
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

Calcium & Magnesium Leach Rates vs Cycle

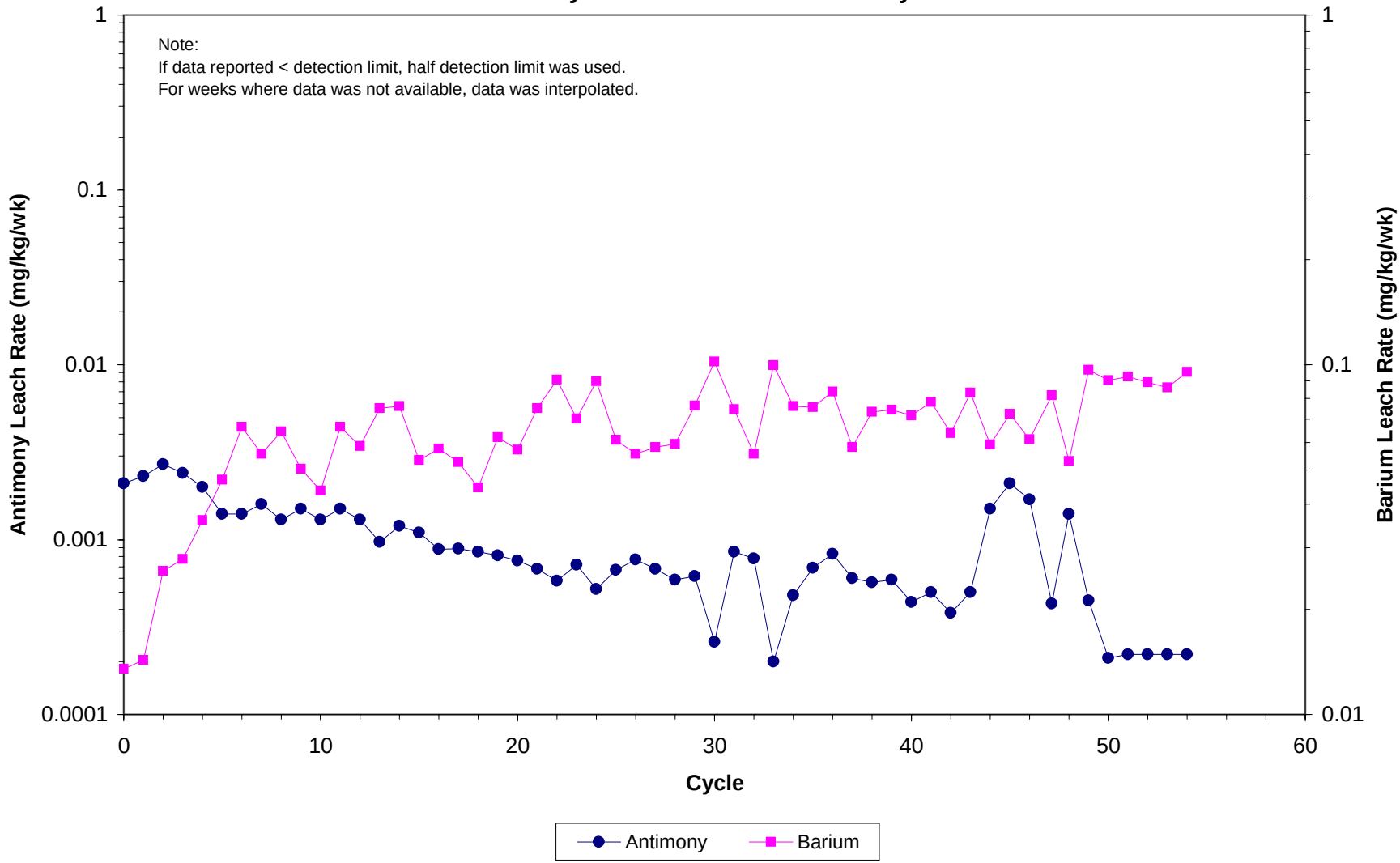


Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

Manganese & Strontium Leach Rates vs Cycle

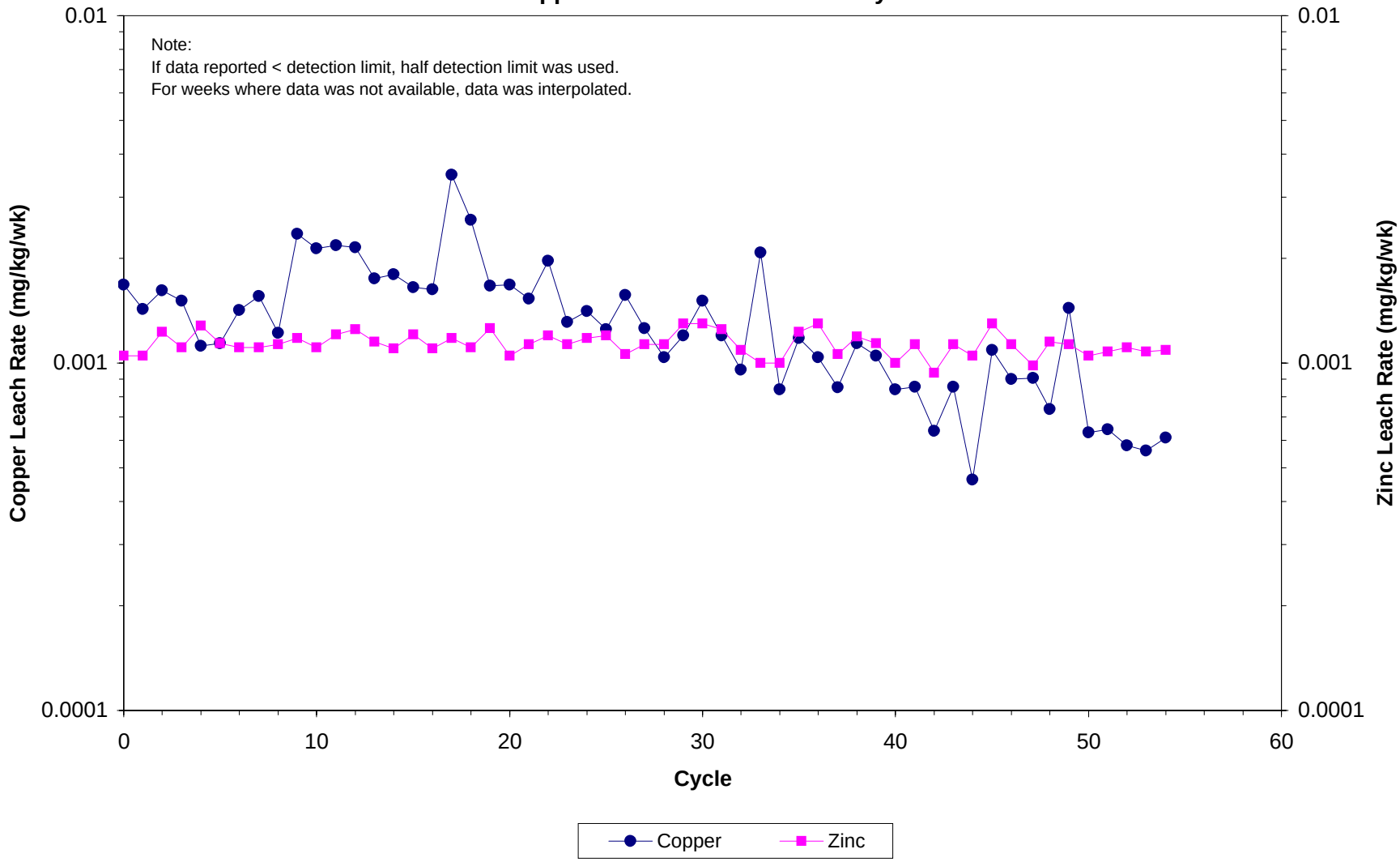


Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite
Antimony & Barium Leach Rates vs Cycle



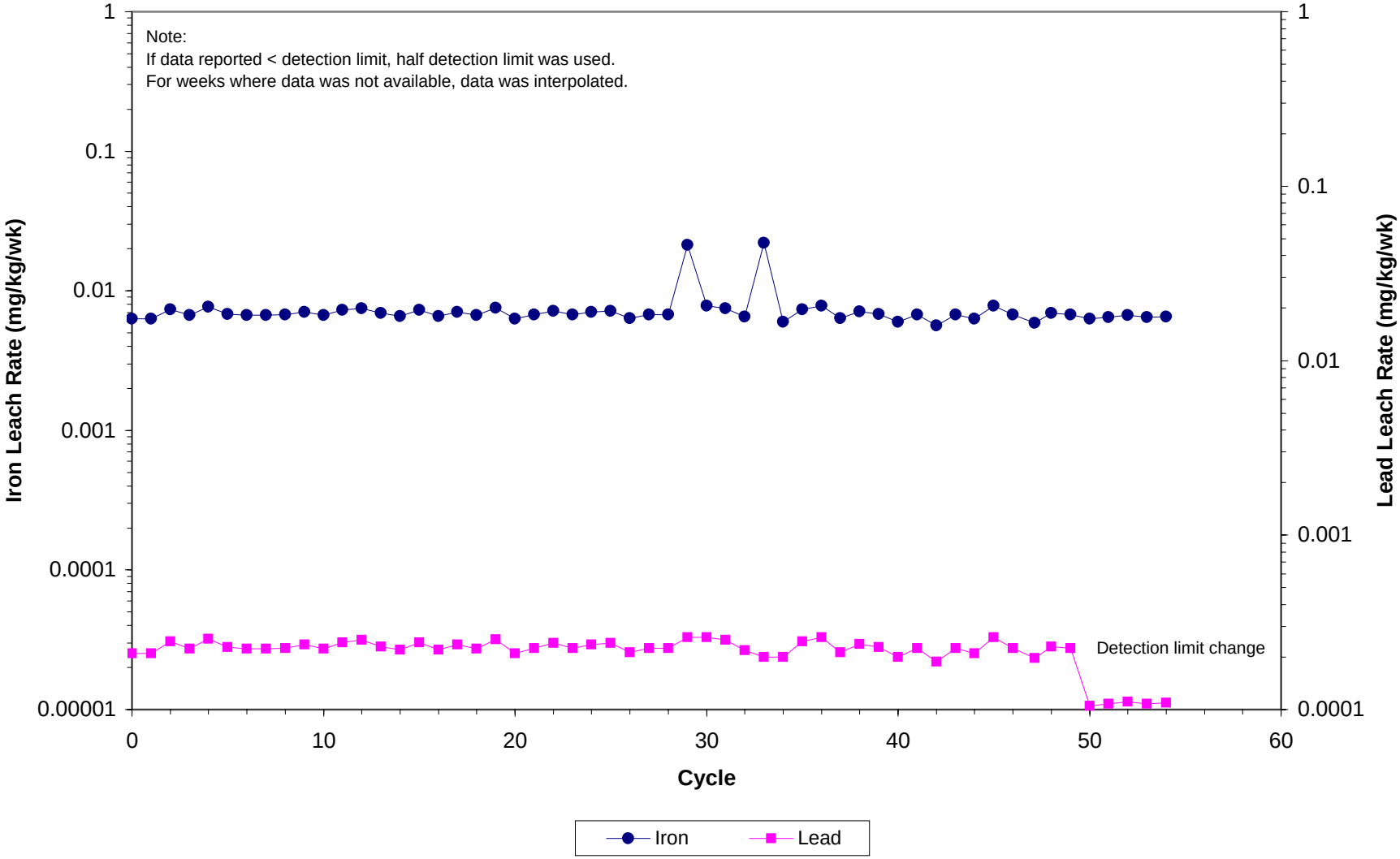
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

Copper & Zinc Leach Rates vs Cycle



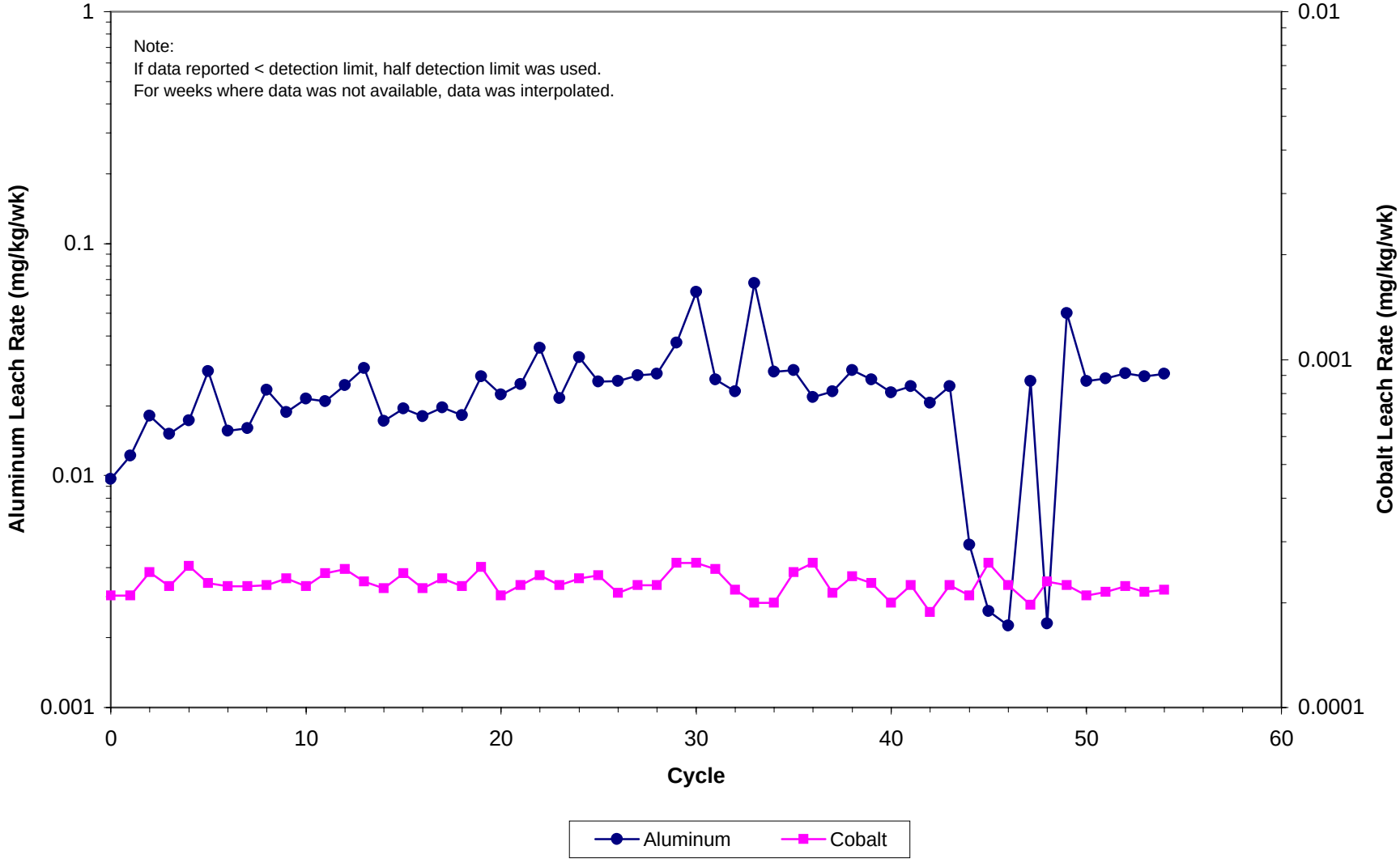
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

Iron & Lead Leach Rates vs Cycle

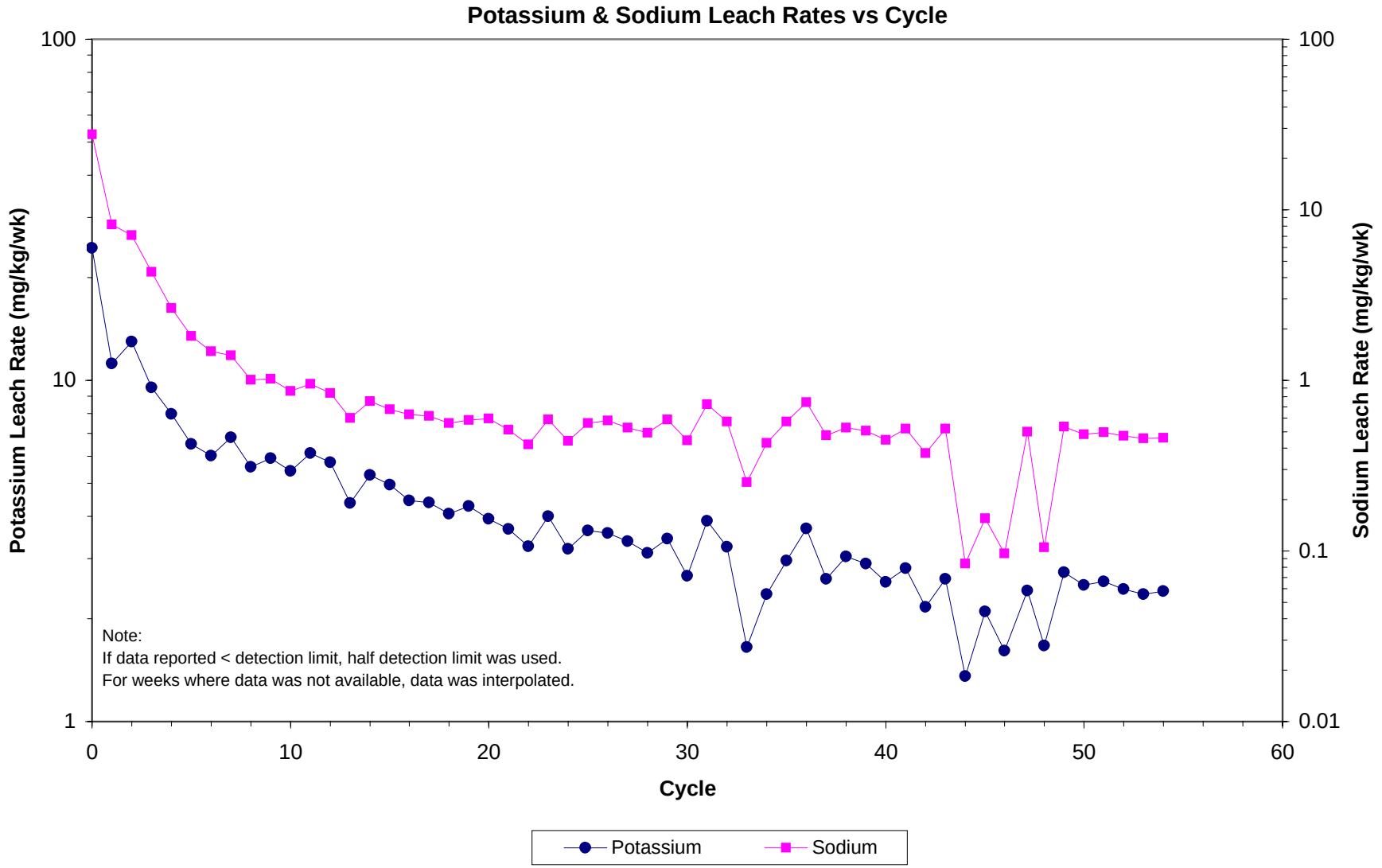


Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

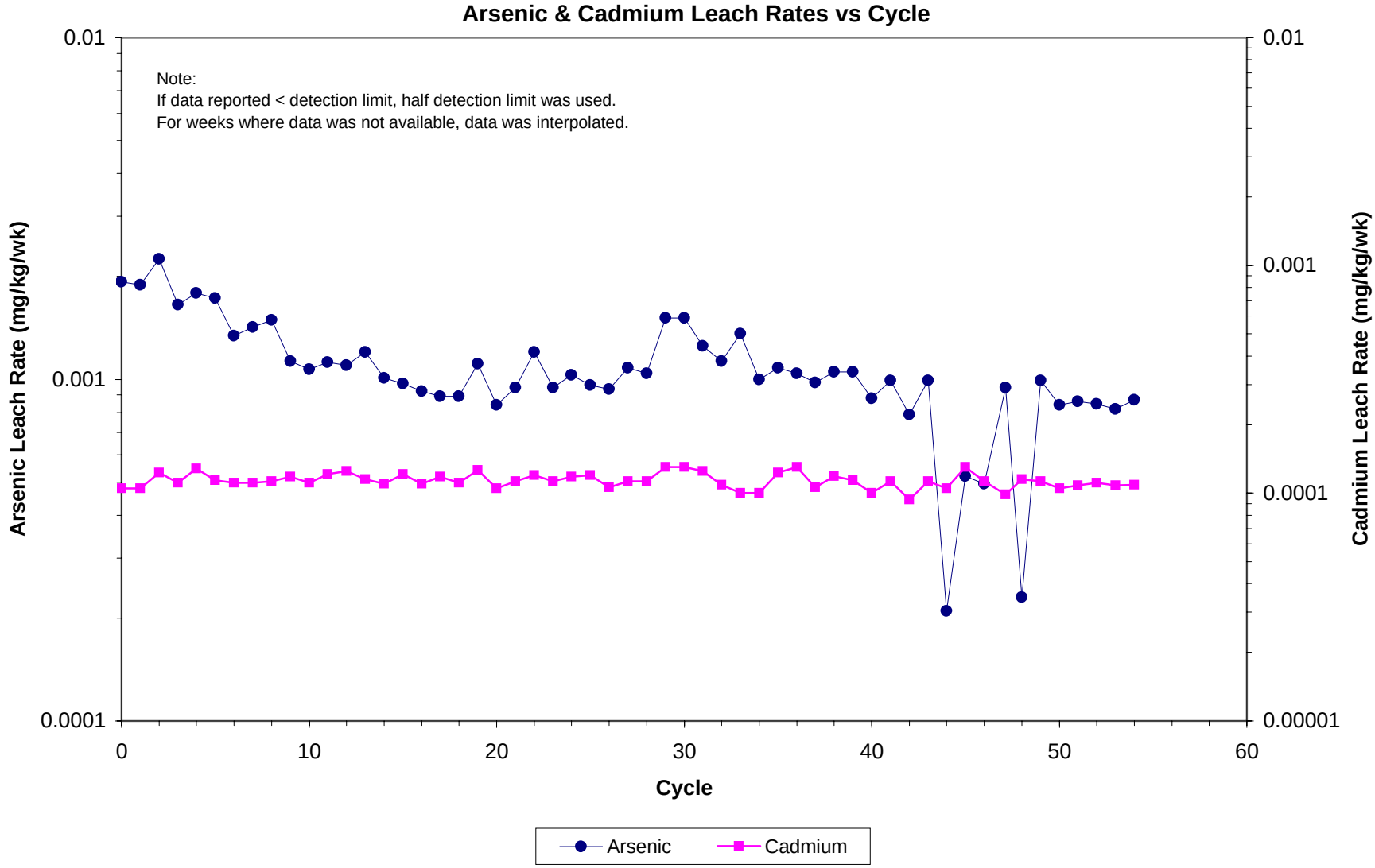
Aluminum & Cobalt Leach Rates vs Cycle



Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite



Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

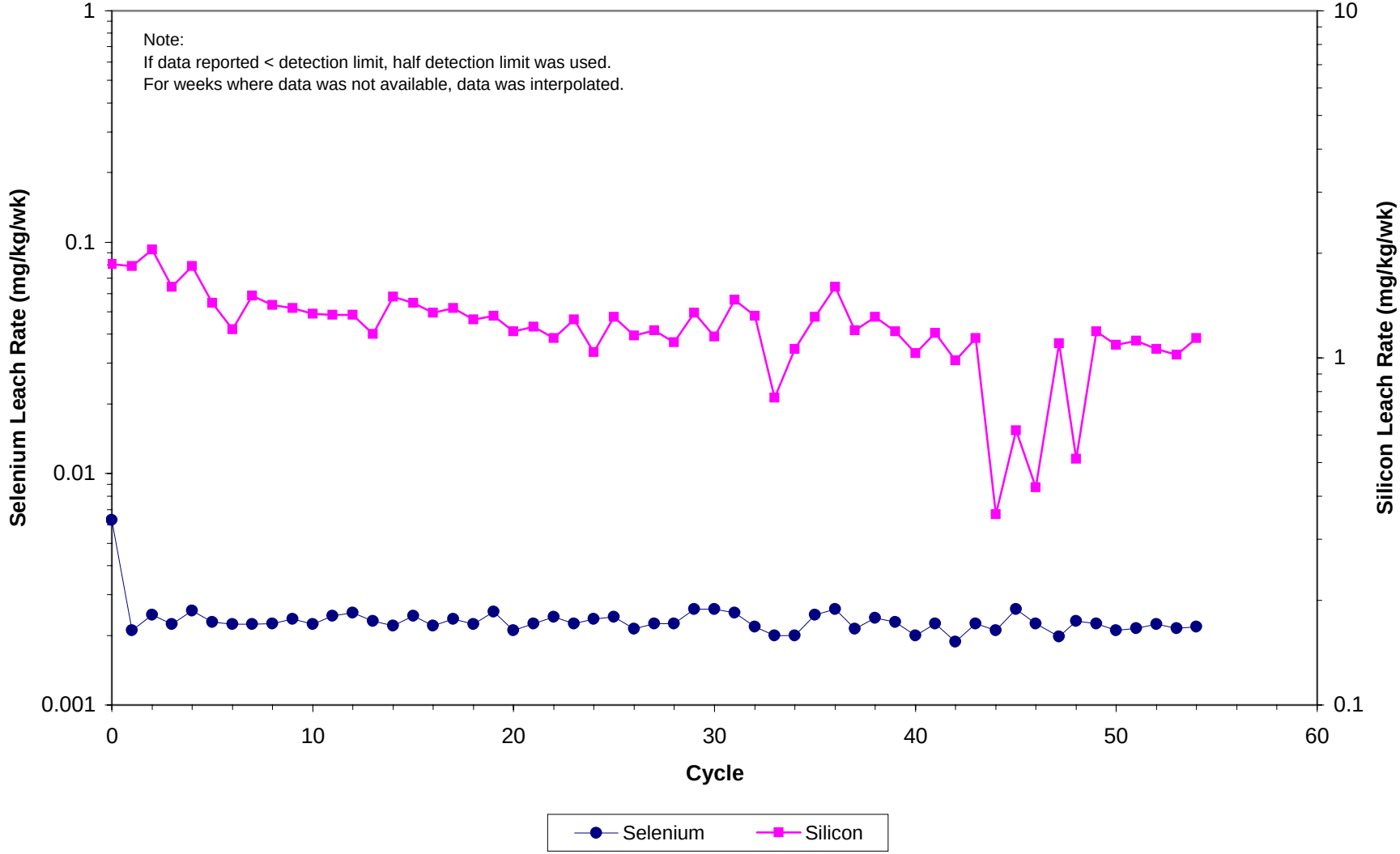


Morrison

F46 (Tailings)

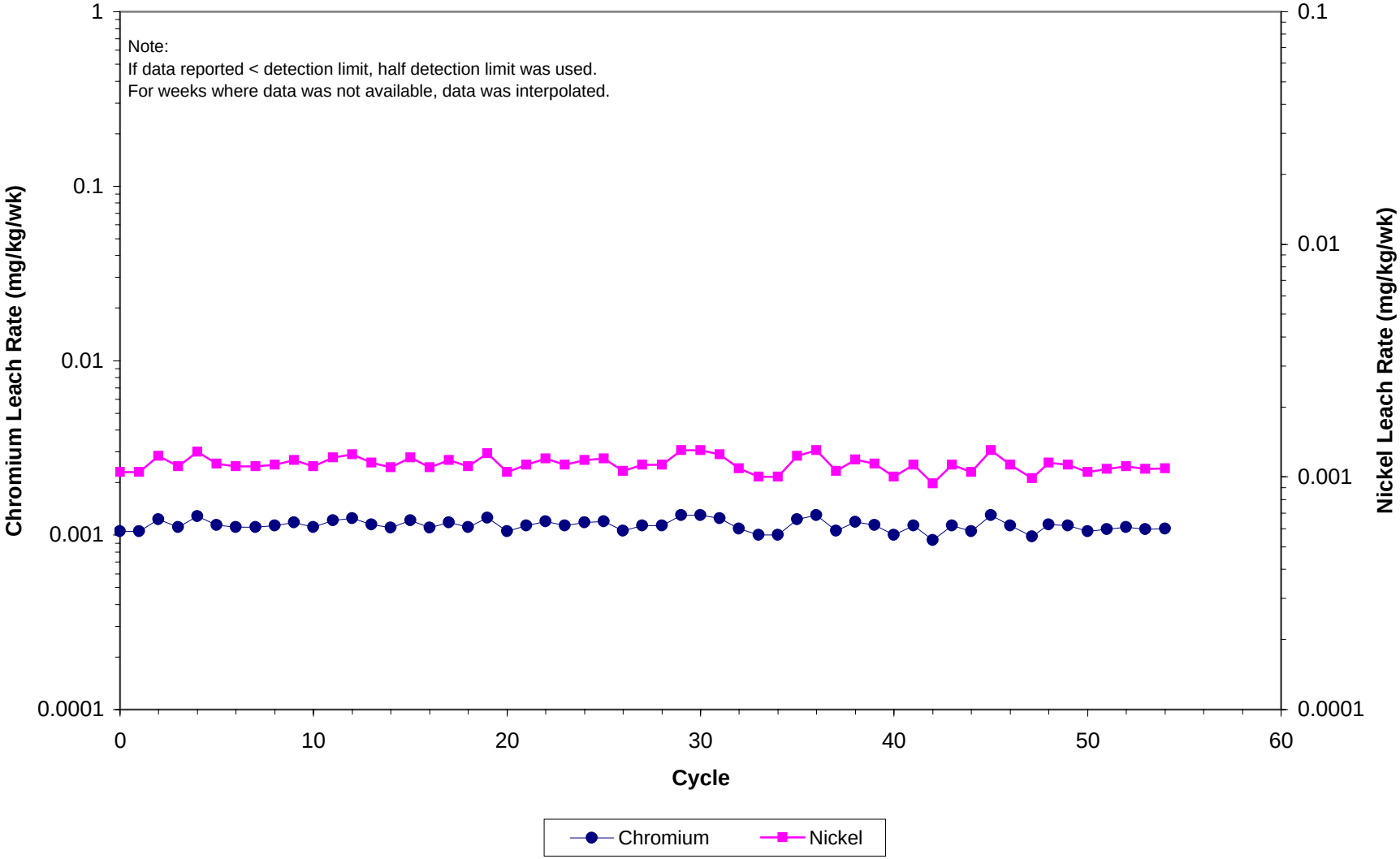
Low-Sulphide Tailings Composite

Selenium & Silicon Leach Rates vs Cycle



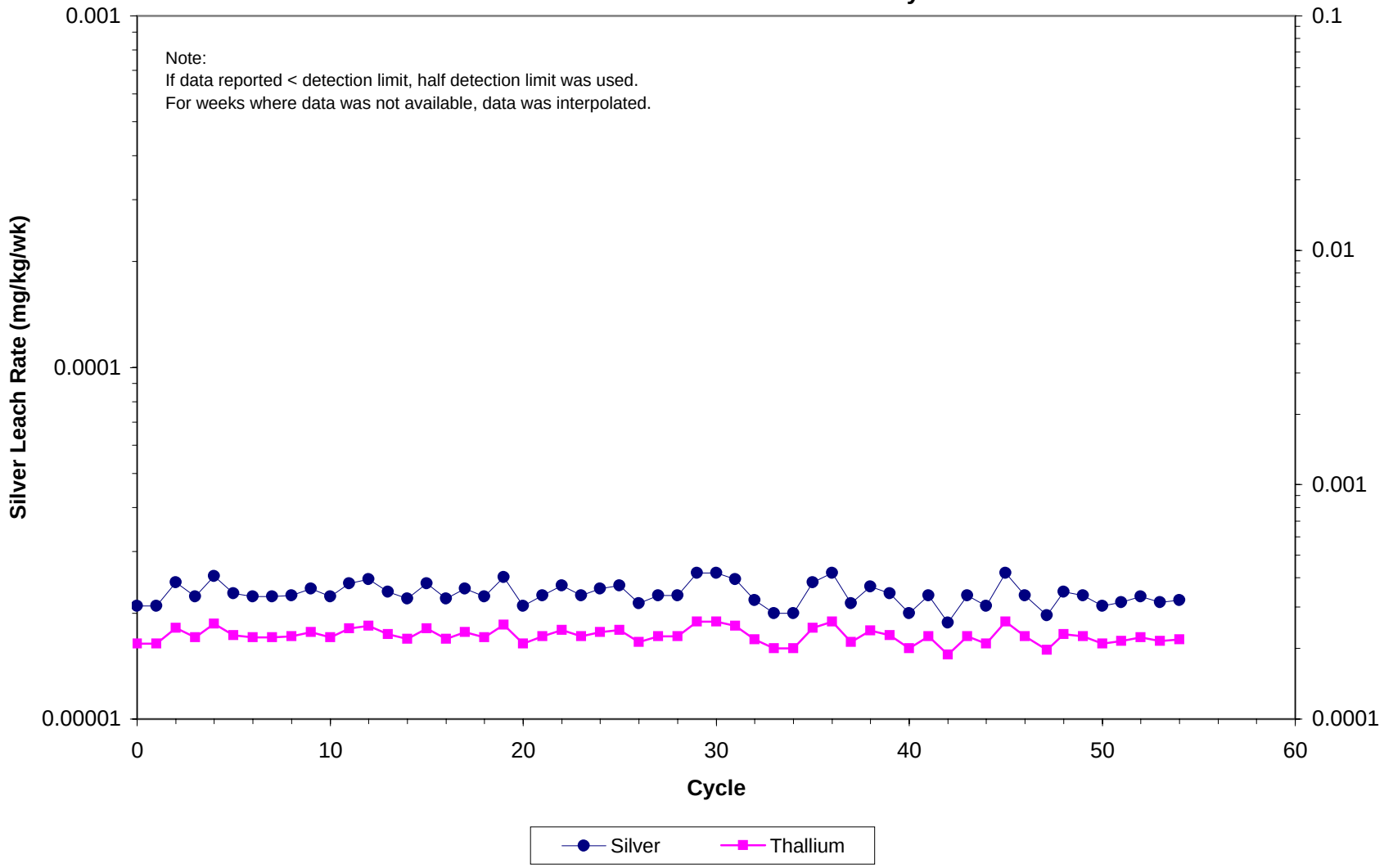
Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

Chromium & Nickel Leach Rates vs Cycle

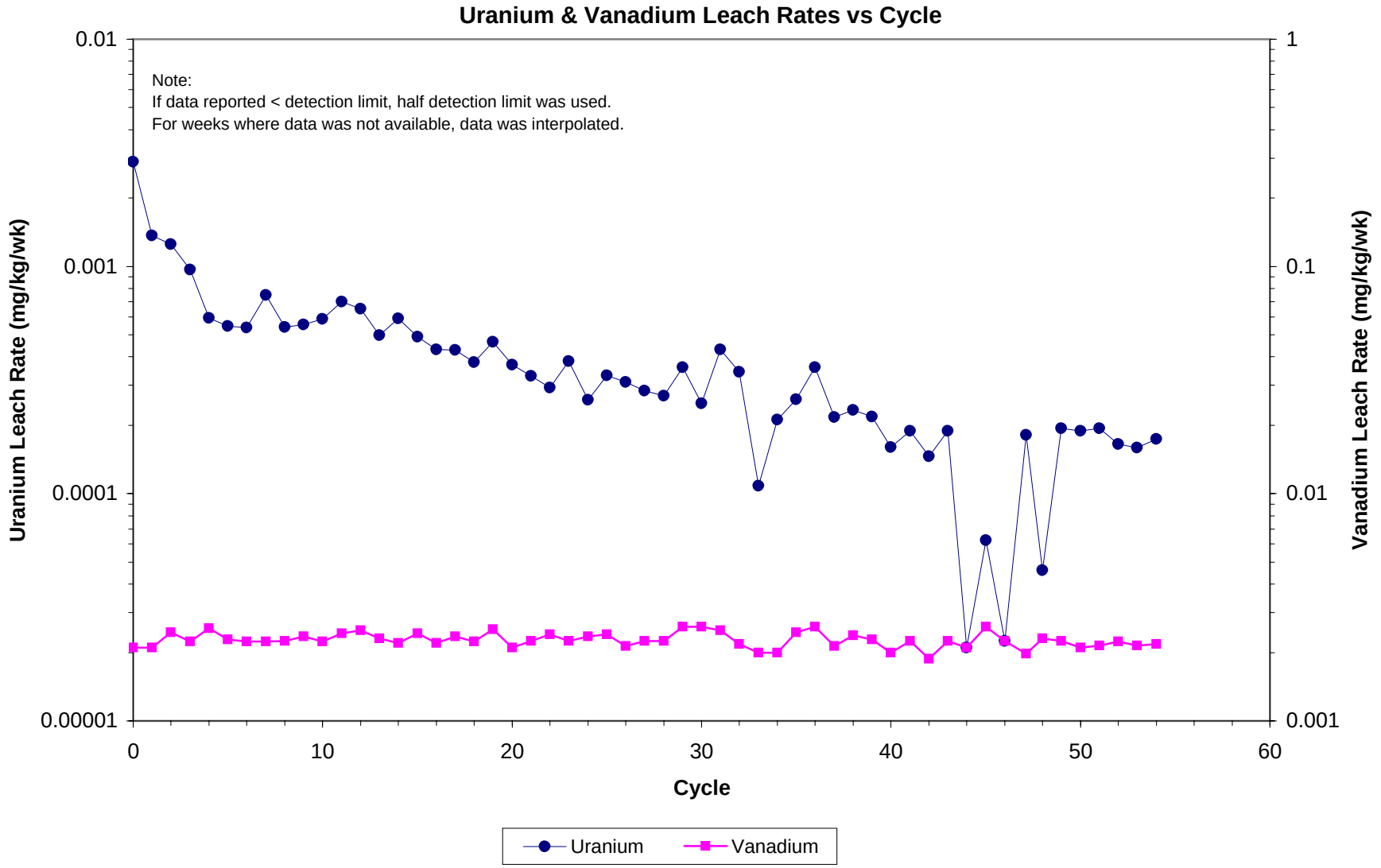


Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite

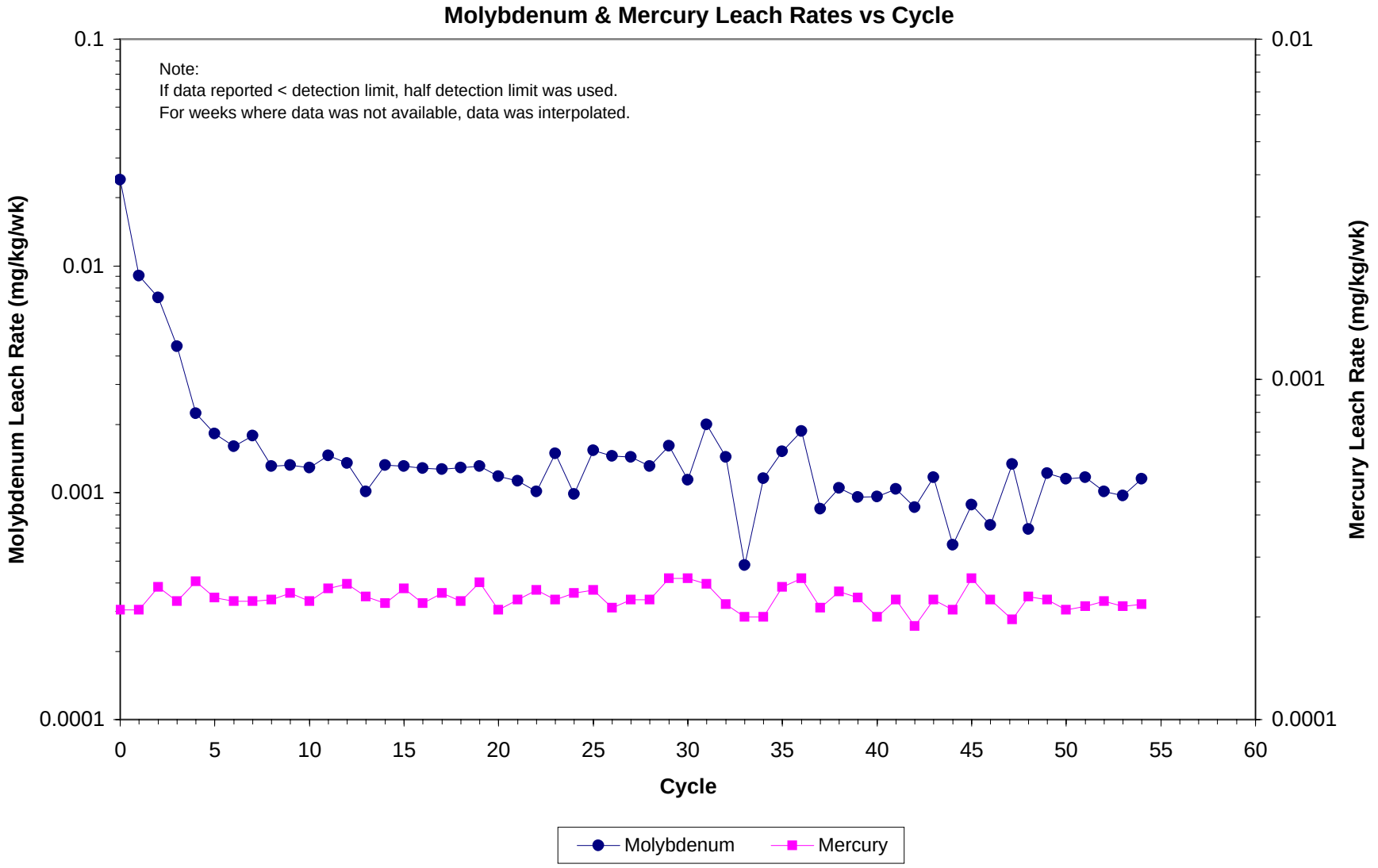
Silver & Thallium Leach Rates vs Cycle



Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite



Morrison
F46 (Tailings)
Low-Sulphide Tailings Composite



C7. F47 Tailings Composite

Project: Morrison
Sample: **F47 (Tailings)**
Scavenger Tailings High-Sulphide Tailings Composite
Data: ABA Data

	Pre-test	Post-test	% Difference
Analysis Date	04-Feb-06		
Lab Certificate No.	Sobek		
Method	VA05112854	Sobek	
Sample Weight (dry) (g)	1000		
Rinse pH	7.6		
Paste pH	7.7		
Sulphur Species			
% S (Total)	1.07		
% S (Sulphide)	0.99		
% S (Sulphide) Calc	1.02		
% S (Sulphate) Carbonate Leach	0.06		
% S (Sulphate) HCl Leachable	0.05		
% S ($BaSO_4$)	0.0182		
% S (del $_{actual}$)	0.0118		
% S (del)	0.0118		
Neutralization Potential			
Measured NP (kg $CaCO_3$/t)	86		
Unavailable NP (kg $CaCO_3$/t)	10		
Effective NP (kg $CaCO_3$/t)	76		
Total C (%)	1.72		
Inorganic C (%)	1.6		
Inorganic CO_2 (%)	5.8		
Organic C (%)	0.12		
Total CaNP (kg $CaCO_3$/t)	143		
Inorganic CaNP (kg $CaCO_3$/t)	132		
Fizz Test	3		
Comparison of Fizz Rating & NP	Disagree		
Calculated Parameters			
TAP (kg $CaCO_3$/t)	33		
SAP (kg $CaCO_3$/t)	31		
TNNP (kg $CaCO_3$/t)	53		
Adjusted TNNP (kg $CaCO_3$/t)	43		
SNNP (kg $CaCO_3$/t)	55		
Adjusted SNNP (kg $CaCO_3$/t)	45		
CNNP (kg $CaCO_3$/t)	112		
RNNP (kg $CaCO_3$/t)	101		
TNPR	2.6		
Adjusted TNPR	2.3		
SNPR	2.7		
Adjusted SNPR	2.4		
CNPR	4.58		
RNPR	4.2		

% Remaining Taken From Calculated Weekly Data

	Not Including Final Flush	Including Final Flush
% S (Total)	94.91	94.91
% S (Sulphide)	94.49	94.49
% S (Sulphate) Total	-9.03	-9.03
NP (kg $CaCO_3$/t)	95.05	95.05

Notes:
When data were reported as < detection limit,
half the value of the detection limit was used in subsequent calculations.

% Difference = ((Post-test - Pre-test) *100) / Pre-test

If % S (Sulphate) HCl Leachable is available
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) HCl Leachable
Otherwise,
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) Carbonate Leach

$\%S(BaSO_4)$ = Ba (ppm) * 0.0001 * 32.06 / 137.37
% S (del $_{actual}$) = %S(Total) - %S(Sulphide) - %S(Sulphate) - $\%S(BaSO_4)$
% S (del) = if % S (del $_{actual}$) >0 then % S (del) = % S (del $_{actual}$) otherwise % S (del) = 0

Unavailable NP = estimated amount of NP that is not available for neutralization
Effective NP = Measured NP - Unavailable NP

Organic C (%) = Total C (%) - Inorganic C (%)
Total CaNP = % CO_2 * 10 * 100.09 / 12.01
Inorganic CaNP = % CO_2 * 10 * 100.09 / 44.01

TAP = % S (Total) * 31.25
SAP = % S (Sulphide + del) * 31.25
TNNP = NP - TAP
Adjusted TNNP = (NP - Unavailable NP) - TAP
SNNP = NP - SAP
Adjusted SNNP = (NP - Unavailable NP) - SAP
CNNP = Total CaNP - SAP
RNNP = Carbonate CaNP - SAP

NPR Upper Range = 200
NPR Lower Range = 0.001

TNPR = NP / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but NP <0 then TNPR = NPR Lower Range
Adjusted TNPR = (NP - Unavailable NP) / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but (NP - Unavailable NP) <0 then TNPR = NPR Lower Range
SNPR = NP / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but NP <0 then SNPR = NPR Lower Range
Adjusted SNPR = (NP - Unavailable NP) / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but (NP - Unavailable NP) <0 then SNPR = NPR Lower Range
CNPR = Total CaNP / SAP
RNPR = Carbonate CaNP / SAP

Project: Morrison
Sample: **F47 (Tailings)**
Scavenger Tailings High-Sulphide Tailings Composite
Data: ABA Data on Size Fractions

	Whole Sample	-2 mm to +850 µm	-250 µm to +180 µm	-45 µm
Analysis Date	04-Feb-06	02-May-06	02-May-06	02-May-06
Method	Sobek	Sobek	Sobek	Sobek
Lab Certificate No.	VA05112854	VA06032586	VA06032586	VA06032586
Rinse pH	7.6			
Paste pH	7.7	7.5	7.6	7.6
Sulphur Species				
% S (Total)	1.07	1.20	0.73	2.04
% S (Sulphide)	0.99	1.07	0.60	1.96
% S (Sulphide) Calc	1.02	1.15	0.70	1.99
% S (Sulphate) Carbonate Leach	0.06	0.06	0.02	0.05
% S (Sulphate) HCl Leachable	0.05	0.05	0.03	0.05
% S ($BaSO_4$)				
% S (del $_{actual}$)	0.0118	0.0800	0.1000	0.0300
% S (del)	0.0118	0.0800	0.1000	0.0300
Neutralization Potential				
Measured NP (kg $CaCO_3$/t)	86	65	62	71
Unavailable NP (kg $CaCO_3$/t)	10	10	10	10
Effective NP (kg $CaCO_3$/t)	76	55	52	61
Total C (%)	1.72	1.66	1.62	1.9
Inorganic C (%)	1.6	1.63	1.6	1.81
Inorganic CO_2 (%)	5.8	6	5.9	6.6
Organic C (%)	0.12	0.03	0.02	0.09
Total CaNP (kg $CaCO_3$/t)	143	138	135	158
Inorganic CaNP (kg $CaCO_3$/t)	132	136	134	150
Fizz Test	3	2	2	2
Comparison of Fizz Rating & NP	Disagree	Agree	Agree	Agree
Calculated Parameters				
TAP (kg $CaCO_3$/t)	33	38	23	64
SAP (kg $CaCO_3$/t)	31	36	22	62
TNNP (kg $CaCO_3$/t)	53	28	39	7
Adjusted TNNP (kg $CaCO_3$/t)	43	18	29	-3
SNNP (kg $CaCO_3$/t)	55	29	40	9
Adjusted SNNP (kg $CaCO_3$/t)	45	19	30	-1
CNNP (kg $CaCO_3$/t)	112	102	113	96
RNNP (kg $CaCO_3$/t)	101	101	112	88
TNPR	2.57	1.73	2.72	1.11
Adjusted TNPR	2.273	1.467	2.279	0.957
SNPR	2.75	1.81	2.83	1.14
Adjusted SNPR	2.428	1.530	2.377	0.981
CNPR	4.58	3.85	6.17	2.55
RNPR	4.21	3.80	6.13	2.41

Notes:
When data were reported as < detection limit,
half the value of the detection limit was used in subsequent calculations.

% Difference = ((Post-test - Pre-test) *100) / Pre-test

If % S (Sulphate) HCl Leachable is available
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) HCl Leachable
Otherwise,
% S (Sulphide) Calc = % S (Total) - % S (Sulphate) Carbonate Leach

%S($BaSO_4$) = Ba (ppm) * 0.0001 * 32.06 / 137.37
% S (del $_{actual}$) = %S(Total) - %S(Sulphide) - %S(Sulphate) - %S($BaSO_4$)
% S (del) = if % S (del $_{actual}$) >0 then % S (del) = % S (del $_{actual}$) otherwise % S (del) = 0

Unavailable NP = estimated amount of NP that is not available for neutralization
Effective NP = Measured NP - Unavailable NP

Organic C (%) = Total C (%) - Inorganic C (%)
Total CaNP = % CO_2 * 10 * 100.09 / 12.01
Inorganic CaNP = % CO_2 * 10 * 100.09 / 44.01

TAP = % S (Total) * 31.25
SAP = % S (Sulphide + del) * 31.25
TNNP = NP - TAP
Adjusted TNNP = (NP - Unavailable NP) - TAP
SNNP = NP - SAP
Adjusted SNNP = (NP - Unavailable NP) - SAP
CNNP = Total CaNP - SAP
RNNP = Carbonate CaNP - SAP

NPR Upper Range = 200
NPR Lower Range = 0.001

TNPR = NP / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but NP <0 then TNPR = NPR Lower Range
Adjusted TNPR = (NP - Unavailable NP) / TAP
If % S (Total) <0.01 then TNPR = NPR Upper Range, if % S (Total) >0.01 but (NP - Unavailable NP) <0 then TNPR = NPR Lower Range
SNPR = NP / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but NP <0 then SNPR = NPR Lower Range
Adjusted SNPR = (NP - Unavailable NP) / SAP
If % S (Sulphide + del) <0.01 then SNPR = NPR Upper Range, if % S (Sulphide + del) >0.01 but (NP - Unavailable NP) <0 then SNPR = NPR Lower Range
CNPR = Total CaNP / SAP
RNPR = Carbonate CaNP / SAP

Project: Morrison
Sample: F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite
Data: ICP Solid-Phase Metals

Analysis Date			Pre-test 04-Feb-06	Post-test	% Difference	% Remaining Taken From Calculated Weekly Data	
Lab Certificate No.			VA05112854				
Analytical Method			ICP-MS	ICP-MS		Not Including	Including
Digestion Method			4-Acid	4-Acid	4-Acid	Final Flush	Final Flush
Silver	Ag	ppm	1.79			99.93	99.93
Aluminum	Al	%	7.1			100.00	100.00
Arsenic	As	ppm	211			99.98	99.98
Boron	B	ppm				99.65	99.65
Barium	Ba	ppm	780			99.65	99.65
Beryllium	Be	ppm	0.72			91.33	91.33
Bismuth	Bi	ppm	1.75			96.43	96.43
Calcium	Ca	%	1.87			94.92	94.92
Cadmium	Cd	ppm	1.08			99.42	99.42
Cerium	Ce	ppm	35.6			NA	NA
Cobalt	Co	ppm	12.6			99.89	99.89
Chromium	Cr	ppm	166			99.96	99.96
Cesium	Cs	ppm	1.71			NA	NA
Copper	Cu	ppm	828			99.99	99.99
Iron	Fe	%	4.95			100.00	100.00
Gallium	Ga	ppm	17.95			100.00	100.00
Germanium	Ge	ppm	0.12			NA	NA
Hafnium	Hf	ppm	0.6			NA	NA
Mercury	Hg	ppm	0.98			98.74	98.74
Indium	In	ppm	0.145			100.00	100.00
Potassium	K	%	0.65			97.91	97.91
Lanthanum	La	ppm	17.3			NA	NA
Lithium	Li	ppm	24.8			99.45	99.45
Magnesium	Mg	%	0.81			95.85	95.85
Manganese	Mn	ppm	2290			99.81	99.81
Molybdenum	Mo	ppm	10.45			99.29	99.29
Sodium	Na	%	0.22			98.80	98.80
Niobium	Nb	ppm	5.5			NA	NA
Nickel	Ni	ppm	112.5			99.93	99.93
Phosphorus	P	ppm	1240			99.70	99.70
Lead	Pb	ppm	65.1			99.98	99.98
Rubidium	Rb	ppm	19.4			NA	NA
Rhenium	Re	ppm	0.014			NA	NA
Sulphur	S	%	1.09			NA	NA
Antimony	Sb	ppm	9.15			98.13	98.13
Scandium	Sc	ppm				NA	NA
Selenium	Se	ppm	3			NA	NA
Silicon	Si	ppm				99.99	99.99
Tin	Sn	ppm	1.8			99.27	99.27
Strontium	Sr	ppm	325			96.52	96.52
Tantalum	Ta	ppm	0.36			NA	NA
Tellurium	Te	ppm	0.17			NA	NA
Thorium	Th	ppm	5			NA	NA
Titanium	Ti	%	0.367			100.00	100.00
Thallium	Tl	ppm	0.5			97.54	97.54
Uranium	U	ppm	1.2			99.38	99.38
Vanadium	V	ppm	105			99.88	99.88
Tungsten	W	ppm	4.1			NA	NA
Yttrium	Y	ppm	9.4			NA	NA
Zinc	Zn	ppm	413			99.98	99.98
Zirconium	Zr	ppm	16.6			100.00	100.00

Notes:
When data were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test

Project: Morrison
Sample: F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite
Data: ICP Solid-Phase Metals on Size Fractions

Analysis Date			Whole Sample 04-Feb-06	-2 mm to +850 µm 02-May-06	-250 µm to +180 µm 02-May-06	-45 µm 02-May-06
Lab Certificate No.			VA05112854	VA06032586	VA06032586	VA06032586
Analytical Method			ICP-MS	ICP-MS	ICP-MS	ICP-MS
Digestion Method			4-Acid	4-Acid	4-Acid	4-Acid
Silver	Ag	ppm	1.79	1.55	2.63	1.79
Aluminum	Al	%	7.1	9.58	6.78	9.62
Arsenic	As	ppm	211	228	174	416
Boron	B	ppm				
Barium	Ba	ppm	780	1020	550	1190
Beryllium	Be	ppm	0.72	1.11	0.85	1.08
Bismuth	Bi	ppm	1.75	1.91	1.21	3.82
Calcium	Ca	%	1.87	2.11	2.1	2.29
Cadmium	Cd	ppm	1.08	0.43	1.6	0.31
Cerium	Ce	ppm	35.6	41	38.9	50
Cobalt	Co	ppm	12.6	16.9	10.5	23.9
Chromium	Cr	ppm	166	230	74	320
Cesium	Cs	ppm	1.71	2.5	1.63	2.66
Copper	Cu	ppm	828	537	1650	459
Iron	Fe	%	4.95	5.5	4.85	6.98
Gallium	Ga	ppm	17.95	25.4	15.95	26.6
Germanium	Ge	ppm	0.12	0.11	0.1	0.1
Hafnium	Hf	ppm	0.6	0.7	0.7	0.8
Mercury	Hg	ppm	0.98	0.57	1.610	0.530
Indium	In	ppm	0.145	0.162	0.172	0.202
Potassium	K	%	0.65	0.81	0.55	0.85
Lanthanum	La	ppm	17.3	19.2	18.9	23.9
Lithium	Li	ppm	24.8	29.6	23.6	27.5
Magnesium	Mg	%	0.81	0.91	0.91	1.01
Manganese	Mn	ppm	2290	2230	2650	2710
Molybdenum	Mo	ppm	10.45	11.65	10.8	16.2
Sodium	Na	%	0.22	0.21	0.27	0.22
Niobium	Nb	ppm	5.5	6.7	5.8	7.2
Nickel	Ni	ppm	112.5	179.5	56.8	249
Phosphorus	P	ppm	1240	1260	1170	1450
Lead	Pb	ppm	65.1	55	100.5	63.4
Rubidium	Rb	ppm	19.4	25.4	23.7	28.9
Rhenium	Re	ppm	0.014	0.011	0.024	0.009
Sulphur	S	%	1.09	1.34	0.82	2.33
Antimony	Sb	ppm	9.15	10.7	14.1	12.2
Scandium	Sc	ppm				
Selenium	Se	ppm	3	1	1	<1
Silicon	Si	ppm				
Tin	Sn	ppm	1.8	2.7	2.3	10
Strontium	Sr	ppm	325	360	379	385
Tantalum	Ta	ppm	0.36	0.44	0.39	0.45
Tellurium	Te	ppm	0.17	0.1	0.06	0.21
Thorium	Th	ppm	5	5.4	5.2	5.9
Titanium	Ti	%	0.367	0.4	0.369	0.428
Thallium	Tl	ppm	0.5	0.61	0.60	0.64
Uranium	U	ppm	1.2	1.4	1.3	1.5
Vanadium	V	ppm	105	130	96	137
Tungsten	W	ppm	4.1	6.7	4.2	11.5
Yttrium	Y	ppm	9.4	11.7	10.6	13.9
Zinc	Zn	ppm	413	184	665	140
Zirconium	Zr	ppm	16.6	21.3	20.9	22.6

Notes:
When data were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test

Project: Morrison
Sample: F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite
Data: Whole Rock

Analysis Date:		Pre-test 04-Feb-06	Post-test	% Difference	RPD (%)
Lab Certificate No.		VA05112854			
Method:		XRF	XRF		
Al_2O_3	(%)	14.34			
BaO	(%)	0.10			
CaO	(%)	2.78			
Cr_2O_3	(%)	0.02			
Fe_2O_3	(%)	7.65			
K_2O	(%)	0.86			
MgO	(%)	1.58			
MnO	(%)	0.32			
Na_2O	(%)	0.25			
P_2O_5	(%)	0.27			
SiO_2	(%)	59.66			
SrO	(%)	0.04			
TiO_2	(%)	0.71			
LOI	(%)	9.72			
Total	(%)	98.3			

Pre-test Metal		Calculated From Whole Rock Analysis (ppm)	ICP Metal Analysis (ppm)	% Difference	RPD (%)
Aluminum	Al	75891	71000	-6.44	6.66
Barium	Ba	896	780	-12.91	13.80
Calcium	Ca	19868	18700	-5.88	6.06
Chromium	Cr	137	166	21.31	19.26
Iron	Fe	53507	49500	-7.49	7.78
Potassium	K	7139	6500	-8.95	9.37
Magnesium	Mg	9529	8100	-14.99	16.21
Manganese	Mn	2478	2290	-7.60	7.90
Sodium	Na	1855	2200	18.62	17.04
Phosphorus	P	1178	1240	5.24	5.11
Silicon	Si	278890		NA	
Strontium	Sr	338	325	-3.91	3.99
Titanium	Ti	4256	3670	-13.78	14.80

Post-test Metal		Calculated From Whole Rock Analysis (ppm)	ICP Metal Analysis (ppm)	% Difference	RPD (%)
Aluminum	Al			NA	
Barium	Ba			NA	
Calcium	Ca			NA	
Chromium	Cr			NA	
Iron	Fe			NA	
Potassium	K			NA	
Magnesium	Mg			NA	
Manganese	Mn			NA	
Sodium	Na			NA	
Phosphorus	P			NA	
Silicon	Si			NA	
Strontium	Sr			NA	
Titanium	Ti			NA	

Notes:
When metals were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test
RPD (Relative Percent Difference) (%) = ABS ((x1-x2)/((x1+x2)/2))*100

Project: Morrison
Sample: F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite
Data: Whole Rock on Size Fractions

Analysis Date:		Whole Sample 04-Feb-06	-2 mm to +850 µm 02-May-06	-250 µm to +180 µm 02-May-06	-45 µm 02-May-06
Lab Certificate No.		VA05112854	VA06032586	VA06032586	VA06032586
Method:		XRF	XRF	XRF	XRF
Al_2O_3	(%)	14.34	18	10.89	18.23
BaO	(%)	0.10	0.11	0.06	0.14
CaO	(%)	2.78	2.75	2.54	3.06
Cr_2O_3	(%)	0.02	0.03	0.01	0.05
Fe_2O_3	(%)	7.65	7.66	6.3	9.95
K_2O	(%)	0.86	1.03	0.66	1.08
MgO	(%)	1.58	1.59	1.43	1.78
MnO	(%)	0.32	0.28	0.31	0.35
Na_2O	(%)	0.25	0.31	0.38	0.33
P_2O_5	(%)	0.27	0.24	0.22	0.29
SiO_2	(%)	59.66	54.35	67.01	50.34
SrO	(%)	0.04	0.04	0.04	0.04
TiO_2	(%)	0.71	0.76	0.67	0.81
LOI	(%)	9.72	11.15	8.01	11.9
Total	(%)	98.3	98.3	98.53	98.35

Pre-test Metal		Calculated From Whole Rock Analysis			
		Whole Sample (ppm)	-2 mm to +850 µm (ppm)	-250 µm to +180 µm	-45 µm
Aluminum	Al	75891	95261	57633	96478
Barium	Ba	896	985	537	1254
Calcium	Ca	19868	19654	18153	21870
Chromium	Cr	137	205	68	342
Iron	Fe	53507	53577	44064	69594
Potassium	K	7139	8550	5479	8965
Magnesium	Mg	9529	9589	8624	10735
Manganese	Mn	2478	2168	2401	2711
Sodium	Na	1855	2300	2819	2448
Phosphorus	P	1178	1047	960	1266
Silicon	Si	278890	254067	313249	235322
Strontium	Sr	338	338	338	338
Titanium	Ti	4256	4556	4017	4856

Post-test Metal		ICP Metala Analysis			
		Whole Sample (ppm)	-2 mm to +850 µm (ppm)	-250 µm to +180 µm (ppm)	-45 µm (ppm)
Aluminum	Al	71000	95800	67800	96200
Barium	Ba	780	1020	550	1190
Calcium	Ca	18700	21100	21000	22900
Chromium	Cr	166	230	74	320
Iron	Fe	49500	55000	48500	69800
Potassium	K	6500	8100	5500	8500
Magnesium	Mg	8100	9100	9100	10100
Manganese	Mn	2290	2230	2650	2710
Sodium	Na	2200	2100	2700	2200
Phosphorus	P	1240	1260	1170	1450
Silicon	Si				
Strontium	Sr	325	360	379	385
Titanium	Ti	3670	4000	3690	4280

Notes:
When metals were reported as < detection limit, half the value of the detection limit was used in subsequent calculations.
% Difference = ((Post-test - Pre-test) *100) / Pre-test
RPD (Relative Percent Difference) (%) = ABS ((x1-x2)/((x1+x2)/2))*100

Project: Morrison
Sample: **F47 (Tailings)**
Scavenger Tailings High-Sulphide Tailings Composite
Data: Particle Size

GRAIN 3.0©,TM

A Spreadsheet to calculate grain-surface area from sieve analyses.
(from MDAG Publishing, www.mdag.com)

Data: Pre-test analysis
Analysis Date: 04-Feb-06
Lab Certificate No. VA06010664
Comment:

Sieve/Screen Data:

Mesh Size #	Sieve Diameter (mm)	Wt. Retained On Sieve (g)	Calculated Grain-Surface Area (m^2)
20	0.850	109.80	0.144
35	0.500	32.40	0.107
40	0.425	12.10	0.058
60	0.250	61.40	0.404
80	0.180	106.80	1.104
100	0.150	76.60	1.032
150	0.106	97.50	1.693
200	0.075	65.80	1.616
270	0.053	48.80	1.694
325	0.044	7.30	0.334
Passing Finest Mesh (set Diameter = 0)	0.000	144.70	14.616

Total Sample Weight (g) = 763.20

Specific Gravity of -200 Mesh Fraction = NA
Specific Gravity of Sample Solids = 2.7

Surface Area (m^2):

Area for Total Sample Weight (m^2) = 22.802
Surface Area for 1000 g (m^2 / kg) = 29.876

GRAIN 3.0©,TM

A Spreadsheet to calculate grain-surface area from sieve analyses.
(from MDAG Publishing, www.mdag.com)

Data: Post-test analysis
Analysis Date:
Lab Certificate No.
Comment:

Sieve/Screen Data:

Mesh Size #	Sieve Diameter (mm)	Wt. Retained On Sieve (g)	Calculated Grain-Surface Area (m^2)
20	0.840	0.00	0.000
35	0.500	0.00	0.000
40	0.420	0.00	0.000
60	0.250	0.00	0.000
80	0.177	0.00	0.000
100	0.149	0.00	0.000
150	0.106	0.00	0.000
200	0.074	0.00	0.000
270	0.053	0.00	0.000
325	0.044	0.00	0.000
Passing Finest Mesh (set Diameter = 0)	0.000	0.00	0.000

Total Sample Weight (g) = 0.00

Specific Gravity of -200 Mesh Fraction = NA
Specific Gravity of Sample Solids = 2.7

Surface Area (m^2):

Area for Total Sample Weight (m^2) = 0.000
Surface Area for 1000 g (m^2 / kg) = 0.000

NOTES:

1) Be sure to adjust specific gravity to your particular sample
2) Sieve diameters can be changed to your particular set of sieves
3) Rows can be inserted between other rows, but be careful**!!!**) to adjust all equations so that they refer to the current or previous row as appropriate; a simple approach is to a any rows AFTER the first row and then copy the equations from the first row down to all underlying rows
4) The sieve diameter of the Passing Finest Mesh can be set to 0 so that the equations will use 1/2 of the diameter of your finest mesh used, or to any value you want which would then be averaged with your finest mesh used
5) If you used coarse screens which did not collect any sample, resulting calculations for the coarsest grains will be more accurate if you enter some small weight (e.g., 0.001 g) for the screen just coarser than the first screen retaining sample; for example, if your 13 mm screen retained sample which passed through your 19 mm screen, then enter 0.001 for a retained weight for the 19 mm screen; this constrains the calculated grain diameter for the coarsest grains to the average of 13 and 19 mm (16 mm).

Project:		Morrison																			
Sample:		**F47 (Tailings)**																			
		Scavenger Tailings High-Sulphide Tailings Composite																			
Data:		Weekly Data, Alkalinity, Acidity and Sulphate Production Rates																			
						Acidity Production				**Alkalinity Production**			**Sulphate Production**					**Sulphate Production By Surface Area:**			
							Acidity	Acidity		Alkalinity	Alkalinity		Sulphate	Sulphate	Cumulative	Cumulative	Sulphate	Sulphate	Cumulative	Cumulative
		Water	Leachate	Weekly		Acidity	Production	Production	Total	Production	Production	Sulphate	Production	Production	Sulphate	Sulphate	Production	Production	Sulphate	Sulphate
Week No.	Date	Added	Recovered	pH	Conductivity	(to pH 8.3)	Rate	Rate	Alkalinity	Rate	Rate	Sulphate	Rate	Rate	Production	Production	Rate	Rate	Production	Production
		(mL)	(mL)	(pH units)	(uS/cm)	($CaCO_3$ mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	($CaCO_3$ mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(SO_4 mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(mg/m^2/wk)	(mg/m^2/wk)[1]	(mg/m^2)	(mg/m^2)[1]
							(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
0	1-Feb-06	750	315	7.8	1650	3.3	1.04	1.04	58.4	18.4	18.4	955	300.8	300.8	300.8	300.8	10.1	10.1	10.1	10.1
1	8-Feb-06	500	410	7.87	1320	4.9	2.01	2.01	90.9	37.3	37.3	716	293.6	293.6	594.4	594.4	9.83	9.83	19.93	19.93
2	15-Feb-06	500	495	8.08	743	11.2	5.54	5.54	86.5	42.8	42.8	294	145.5	145.5	739.9	739.9	4.87	4.87	24.8	24.8
3	22-Feb-06	500	445	8.22	638	4.9	2.18	2.18	124	55.2	55.2	251	111.7	111.7	851.6	851.6	3.74	3.74	28.54	28.54
4	1-Mar-06	500	460	8.22	488	6.2	2.85	2.85	110	50.6	50.6	157	72.22	72.22	923.82	923.82	2.42	2.42	30.96	30.96
5	8-Mar-06	500	410	8.25	396	4	1.64	1.64	112	45.9	45.9	102	41.82	41.82	965.64	965.64	1.4	1.4	32.36	32.36
6	15-Mar-06	500	420	8.27	398	5.1	2.14	2.14	111	46.6	46.6	98.8	41.5	41.5	1007.1	1007.1	1.39	1.39	33.75	33.75
7	22-Mar-06	500	445	8.21	329	5.8	2.58	2.58	102	45.4	45.4	76.8	34.18	34.18	1041.3	1041.3	1.14	1.14	34.89	34.89
8	29-Mar-06	500	490	8.19	294	1.2	0.588	0.588	100	49	49	60.7	29.74	29.74	1071	1071	0.995	0.995	35.89	35.89
9	5-Apr-06	500	480	8.15	313	1.9	0.912	0.912	109	52.3	52.3	60.4	28.99	28.99	1100	1100	0.97	0.97	36.86	36.86
10	12-Apr-06	500	440	8.19	289	2	0.88	0.88	100	44	44	53	23.32	23.32	1123.3	1123.3	0.781	0.781	37.64	37.64
11	19-Apr-06	500	505	8.17	271	1.8	0.909	0.909	95.1	48	48	49.2	24.85	24.85	1148.2	1148.2	0.832	0.832	38.47	38.47
12	26-Apr-06	500	485	8.19	267	1.2	0.582	0.582	98.2	47.6	47.6	49	23.77	23.77	1172	1172	0.796	0.796	39.27	39.27
13	3-May-06	500	420	8.1	250	5.8	2.44	2.44	96	40.3	40.3	45.9	19.28	19.28	1191.3	1191.3	0.645	0.645	39.92	39.92
14	10-May-06	500	425	8.19	278	1.3	0.553	0.553	115	48.9	48.9	48.8	20.74	20.74	1212	1212	0.694	0.694	40.61	40.61
15	17-May-06	500	475	8.17	250	1.4	0.665	0.665	88.1	41.8	41.8	39.5	18.76	18.76	1230.8	1230.8	0.628	0.628	41.24	41.24
16	24-May-06	500	450	8.2	260	2.3	1.04	1.04	97.2	43.7	43.7	37.9	17.06	17.06	1247.9	1247.9	0.571	0.571	41.81	41.81
17	31-May-06	500	465	8.19	250	1.4	0.651	0.651	112	52.1	52.1	36.1	16.79	16.79	1264.7	1264.7	0.562	0.562	42.37	42.37
18	7-Jun-06	500	425	8.17	229	2.1	0.893	0.893	103	43.8	43.8	20.9	8.883	8.883	1273.6	1273.6	0.297	0.297	42.67	42.67
19	14-Jun-06	500	495	8.13	181	1.4	0.693	0.693	72.8	36	36	18.8	9.306	9.306	1282.9	1282.9	0.311	0.311	42.98	42.98
20	21-Jun-06	500	490	8.15	212	<1.0	0.245	0.245	90.7	44.4	44.4	25.9	12.69	12.69	1295.6	1295.6	0.425	0.425	43.41	43.41
21	28-Jun-06	500	420	8.16	206	1.1	0.462	0.462	86.5	36.3	36.3	23.6	9.912	9.912	1305.5	1305.5	0.332	0.332	43.74	43.74
22	5-Jul-06	500	450	8.16	188	<1.0	0.225	0.225	78.8	35.5	35.5	22.9	10.31	10.31	1315.8	1315.8	0.345	0.345	44.09	44.09
23	12-Jul-06	500	460	8.2	227	2.3	1.06	1.06	95.6	44	44	27.8	12.79	12.79	1328.6	1328.6	0.428	0.428	44.52	44.52
24	19-Jul-06	500	485	8.15	174	3.1	1.5	1.5	80.7	39.1	39.1	19.6	9.506	9.506	1338.1	1338.1	0.318	0.318	44.84	44.84
25	26-Jul-06	500	430	8.18	186	<1.0	0.215	0.215	82.1	35.3	35.3	21.3	9.159	9.159	1347.3	1347.3	0.307	0.307	45.15	45.15
26	2-Aug-06	500	480	8.16	187	<1.0	0.24	0.24	92	44.2	44.2	27.4	13.15	13.15	1360.5	1360.5	0.44	0.44	45.59	45.59
27	9-Aug-06	500	425	8.16	166	<1.0	0.213	0.213	76.9	32.7	32.7	19.7	8.373	8.373	1368.9	1368.9	0.28	0.28	45.87	45.87
28	16-Aug-06	500	520	8.01	202	3	1.56	1.56	67.3	35	35	21	10.92	10.92	1379.8	1379.8	0.366	0.366	46.24	46.24
29	23-Aug-06	500	520	8.15	167	1.4	0.728	0.728	86.5	45	45	21.3	11.08	11.08	1390.9	1390.9	0.371	0.371	46.61	46.61
30	30-Aug-06	500	520	8.38	127	1.5	0.78	0.78	61.1	31.8	31.8	15.1	7.852	7.852	1398.8	1398.8	0.263	0.263	46.87	46.87
31	6-Sep-06	500	480	8.16	267	<1.0	0.24	0.24	106	50.9	50.9	33.6	16.13	16.13	1414.9	1414.9	0.54	0.54	47.41	47.41
32	13-Sep-06	500	520	8.12	252	1.8	0.936	0.936	103	53.6	53.6	31.5	16.38	16.38	1431.3	1431.3	0.548	0.548	47.96	47.96
33	20-Sep-06	500	400	7.84	155	1.2	0.48	0.48	56.6	22.6	22.6	19.6	7.84	7.84	1439.1	1439.1	0.262	0.262	48.22	48.22
34	27-Sep-06	500	430	7.84	168	1.6	0.688	0.688	73.5	31.6	31.6	20	8.6	8.6	1447.7	1447.7	0.288	0.288	48.51	48.51
35	4-Oct-06	500	470	8.04	176	1.7	0.799	0.799	72.2	33.9	33.9	21.4	10.06	10.06	1457.8	1457.8	0.337	0.337	48.85	48.85
36	11-Oct-06	500	510	7.9	133	1.5	0.765	0.765	54.9	28	28	17.9	9.129	9.129	1466.9	1466.9	0.306	0.306	49.16	49.16
37	18-Oct-06	500	450	8.13	274	1.6	0.72	0.72	117	52.7	52.7	36.7	16.52	16.52	1483.4	1483.4	0.553	0.553	49.71	49.71
38	25-Oct-06	500	355	8.1	184	2.3	0.817	0.817	81	28.8	28.8	23.6	8.378	8.378	1491.8	1491.8	0.28	0.28	49.99	49.99
39	1-Nov-06	500	515	7.98	177	1.2	0.618	0.618	86.1	44.3	44.3	19.3	9.94	9.94	1501.7	1501.7	0.333	0.333	50.32	50.32
40	8-Nov-06	500	415	8.09	193	1.7	0.706	0.706	95.6	39.7	39.7	23.4	9.711	9.711	1511.4	1511.4	0.325	0.325	50.65	50.65
41	15-Nov-06	500	450	8.12	187	<1.0	0.225	0.225	89	40.1	40.1	21.5	9.675	9.675	1521.1	1521.1	0.324	0.324	50.97	50.97
42	22-Nov-06	500	410	7.71	216	<1.0	0.205	0.205	99.8	40.9	40.9	24.5	10.05	10.05	1531.2	1531.2	0.336	0.336	51.31	51.31
43	29-Nov-06	500	520	8.14	209	<1.0	0.26	0.26	87.7	45.6	45.6	26.2	13.62	13.62	1544.8	1544.8	0.456	0.456	51.77	51.77
44	6-Dec-06	500	400	7.88	136	<1.0	0.2	0.2	61	24.4	24.4	13.6	5.44	5.44	1550.2	1550.2	0.182	0.182	51.95	51.95
45	13-Dec-06	500	425	7.95	136	1.8	0.765	0.765	62.2	26.4	26.4	13.5	5.738	5.738	1555.9	1555.9	0.192	0.192	52.14	52.14
46	20-Dec-06	500	425	7.8	127	1.6	0.68	0.68	60.2	25.6	25.6	11.5	4.888	4.888	1560.8	1560.8	0.164	0.164	52.3	52.3
47	28-Dec-06	500	425	8.16	247	<1.0	0.186	0.186	124	46.1	46.1	26	9.669	9.669	1571.9	1571.9	0.324	0.324	52.67	52.67
48	3-Jan-07	500	410	7.79	137	1.7	0.813	0.813	60.8	29.1	29.1	13.6	6.505	6.505	1577.5	1577.5	0.218	0.218	52.86	52.86
49	10-Jan-07	500	450	8.08	238	2.9	1.31	1.31	112	50.4	50.4	22.5	10.13	10.13	1587.6	1587.6	0.339	0.339	53.2	53.2
50	17-Jan-07	500	450	8.05	230	1.4	0.63	0.63	115	51.8	51.8	21.9	9.855	9.855	1597.5	1597.5	0.33	0.33	53.53	53.53
51	24-Jan-07	500	455	8.04	213	1.3	0.592	0.592	106	48.2	48.2	19.8	9.009	9.009	1606.5	1606.5	0.302	0.302	53.83	53.83
52	31-Jan-07	500	420	8.04	233	<1.0	0.21	0.21	115	48.3	48.3	20.8	8.736	8.736	1615.2	1615.2	0.292	0.292	54.12	54.12
53	7-Feb-07	500	450	8.24	232	1.4	0.63	0.63	117	52.7	52.7	23.4	10.53	10.53	1625.7	1625.7	0.352	0.352	54.47	54.47
54	14-Feb-07	500	490	8.06	211	1.5	0.735	0.735	106	51.9	51.9	19.7	9.653	9.653	1635.4	1635.4	0.323	0.323	54.79	54.79
Maximum		750	520	8.38	1650	11.2	5.54	5.54	124	55.2	55.2	955	300.8	300.8	1635.4	1635.4	10.1	10.1	54.79	54.79
Minimum		500	315	7.71	127	0.5	0.186	0.186	54.9	18.4	18.4	11.5	4.888	4.888	300.8	300.8	0.164	0.164	10.1	10.1
Mean		505	452	8.09	288	2.11	0.95	0.95	91.7	41.5	41.5	71.7	29.72	29.72	1314.5	1314.5	0.996	0.996	44.05	44.05
Median		500	450	8.15	227	1.5	0.72	0.72	95.1	44	44	23.6	10.53	10.53	1368.9	1368.9	0.352	0.352	45.87	45.87
Mean Initial 5 Wk Flush		550	425	8.04	968	6.1	2.72	2.72	94	40.9	40.9	475	184.8	184.8	682.1	682.1	6.19	6.19	22.87	22.87
Mean Last 5 Weeks		500	453	8.09	224	1.22	0.559	0.559	112	50.6	50.6	21.1	9.557	9.557	1616.1	1616.1	0.32	0.32	54.15	54.15
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)																				
50% Remaining (Wks)																				
25% Remaining (Wks)																				
0% Remaining (Wks)																				

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison															
Sample:		**F47 (Tailings)**															
		Scavenger Tailings High-Sulphide Tailings Composite															
Data:		Molar Ratios, Remaining Total Sulphur, Sulphide and Sulphate															
		Remaining % S (Total)				**Remaining % S (Sulphide)**				**Remaining % S (Sulphate) HCl Leachable**				**Remaining % S (Sulphate) Carbonate Leach**			
		Original	Original			Original	Original			Original	Original			Original	Original		
		S (Total)	S (Total)	Remaining	Remaining	S (Sulphide)	S (Sulphide)	Remaining	Remaining	S (Sulphate)	S (Sulphate)	Remaining	Remaining	S (Sulphate)	S (Sulphate)	Remaining	Remaining
Week No.	Date	Remaining	Remaining	S (Total)	S (Total)	Remaining	Remaining	S (Sulphide)	S (Sulphide)	Remaining	Remaining	S (Sulphate)	S (Sulphate)	Remaining	Remaining	S (Sulphate)	S (Sulphate)
		(%)	(%) [1]	(% of original)	(% of original) [1]	(%)	(%) [1]	(% of original)	(% of original) [1]	(%)	(%) [1]	(% of original)	(% of original) [1]	(%)	(%) [1]	(% of original)	(% of original) [1]
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when avaelable)	(does not include final leach data)	(includes final leach data when avaelable)
		Original % S (Total) =			**1.07**	**Original % S (Sulphide) =**			**0.99**	**Original % S (Sulphate) =**			**0.05**	**Original % S (Sulphate) =**			**0.06**
0	1-Feb-06	1.06	1.06	99.06	99.06	0.98	0.98	98.99	98.99	0.04	0.04	79.95	79.95	0.05	0.05	83.29	83.29
1	8-Feb-06	1.05	1.05	98.15	98.15	0.97	0.97	98	98	0.03	0.03	60.37	60.37	0.04	0.04	66.98	66.98
2	15-Feb-06	1.05	1.05	97.7	97.7	0.965	0.965	97.51	97.51	0.025	0.025	50.67	50.67	0.035	0.035	58.89	58.89
3	22-Feb-06	1.04	1.04	97.35	97.35	0.962	0.962	97.13	97.13	0.022	0.022	43.23	43.23	0.032	0.032	52.69	52.69
4	1-Mar-06	1.04	1.04	97.12	97.12	0.959	0.959	96.89	96.89	0.019	0.019	38.41	38.41	0.029	0.029	48.68	48.68
5	8-Mar-06	1.04	1.04	96.99	96.99	0.958	0.958	96.75	96.75	0.018	0.018	35.62	35.62	0.028	0.028	46.35	46.35
6	15-Mar-06	1.04	1.04	96.86	96.86	0.956	0.956	96.61	96.61	0.016	0.016	32.86	32.86	0.026	0.026	44.05	44.05
7	22-Mar-06	1.04	1.04	96.76	96.76	0.955	0.955	96.49	96.49	0.015	0.015	30.58	30.58	0.025	0.025	42.15	42.15
8	29-Mar-06	1.03	1.03	96.66	96.66	0.954	0.954	96.39	96.39	0.014	0.014	28.6	28.6	0.024	0.024	40.5	40.5
9	5-Apr-06	1.03	1.03	96.57	96.57	0.953	0.953	96.3	96.3	0.013	0.013	26.67	26.67	0.023	0.023	38.89	38.89
10	12-Apr-06	1.03	1.03	96.5	96.5	0.953	0.953	96.22	96.22	0.013	0.013	25.11	25.11	0.023	0.023	37.59	37.59
11	19-Apr-06	1.03	1.03	96.42	96.42	0.952	0.952	96.13	96.13	0.012	0.012	23.45	23.45	0.022	0.022	36.21	36.21
12	26-Apr-06	1.03	1.03	96.35	96.35	0.951	0.951	96.05	96.05	0.011	0.011	21.87	21.87	0.021	0.021	34.89	34.89
13	3-May-06	1.03	1.03	96.29	96.29	0.95	0.95	95.99	95.99	0.01	0.01	20.58	20.58	0.02	0.02	33.82	33.82
14	10-May-06	1.03	1.03	96.22	96.22	0.95	0.95	95.92	95.92	0.0096	0.0096	19.2	19.2	0.02	0.02	32.67	32.67
15	17-May-06	1.03	1.03	96.17	96.17	0.949	0.949	95.86	95.86	0.009	0.009	17.95	17.95	0.019	0.019	31.62	31.62
16	24-May-06	1.03	1.03	96.11	96.11	0.948	0.948	95.8	95.8	0.0084	0.0084	16.81	16.81	0.018	0.018	30.67	30.67
17	31-May-06	1.03	1.03	96.06	96.06	0.948	0.948	95.74	95.74	0.0078	0.0078	15.69	15.69	0.018	0.018	29.74	29.74
18	7-Jun-06	1.03	1.03	96.03	96.03	0.948	0.948	95.71	95.71	0.0075	0.0075	15.09	15.09	0.018	0.018	29.24	29.24
19	14-Jun-06	1.03	1.03	96	96	0.947	0.947	95.68	95.68	0.0072	0.0072	14.47	14.47	0.017	0.017	28.73	28.73
20	21-Jun-06	1.03	1.03	95.96	95.96	0.947	0.947	95.64	95.64	0.0068	0.0068	13.63	13.63	0.017	0.017	28.02	28.02
21	28-Jun-06	1.03	1.03	95.93	95.93	0.946	0.946	95.6	95.6	0.0065	0.0065	12.97	12.97	0.016	0.016	27.47	27.47
22	5-Jul-06	1.03	1.03	95.9	95.9	0.946	0.946	95.57	95.57	0.0061	0.0061	12.28	12.28	0.016	0.016	26.9	26.9
23	12-Jul-06	1.03	1.03	95.86	95.86	0.946	0.946	95.53	95.53	0.0057	0.0057	11.43	11.43	0.016	0.016	26.19	26.19
24	19-Jul-06	1.03	1.03	95.83	95.83	0.945	0.945	95.49	95.49	0.0054	0.0054	10.79	10.79	0.015	0.015	25.66	25.66
25	26-Jul-06	1.03	1.03	95.8	95.8	0.945	0.945	95.46	95.46	0.0051	0.0051	10.18	10.18	0.015	0.015	25.15	25.15
26	2-Aug-06	1.02	1.02	95.76	95.76	0.945	0.945	95.42	95.42	0.0047	0.0047	9.3	9.3	0.015	0.015	24.42	24.42
27	9-Aug-06	1.02	1.02	95.74	95.74	0.944	0.944	95.39	95.39	0.0044	0.0044	8.74	8.74	0.014	0.014	23.95	23.95
28	16-Aug-06	1.02	1.02	95.7	95.7	0.944	0.944	95.35	95.35	0.004	0.004	8.013	8.013	0.014	0.014	23.34	23.34
29	23-Aug-06	1.02	1.02	95.67	95.67	0.944	0.944	95.32	95.32	0.0036	0.0036	7.273	7.273	0.014	0.014	22.73	22.73
30	30-Aug-06	1.02	1.02	95.64	95.64	0.943	0.943	95.29	95.29	0.0034	0.0034	6.747	6.747	0.013	0.013	22.29	22.29
31	6-Sep-06	1.02	1.02	95.59	95.59	0.943	0.943	95.24	95.24	0.0028	0.0028	5.673	5.673	0.013	0.013	21.39	21.39
32	13-Sep-06	1.02	1.02	95.54	95.54	0.942	0.942	95.18	95.18	0.0023	0.0023	4.58	4.58	0.012	0.012	20.48	20.48
33	20-Sep-06	1.02	1.02	95.52	95.52	0.942	0.942	95.15	95.15	0.002	0.002	4.06	4.06	0.012	0.012	20.05	20.05
34	27-Sep-06	1.02	1.02	95.49	95.49	0.942	0.942	95.13	95.13	0.0017	0.0017	3.487	3.487	0.012	0.012	19.57	19.57
35	4-Oct-06	1.02	1.02	95.46	95.46	0.941	0.941	95.09	95.09	0.0014	0.0014	2.813	2.813	0.011	0.011	19.01	19.01
36	11-Oct-06	1.02	1.02	95.43	95.43	0.941	0.941	95.06	95.06	0.0011	0.0011	2.207	2.207	0.011	0.011	18.51	18.51
37	18-Oct-06	1.02	1.02	95.38	95.38	0.941	0.941	95.01	95.01	0.00055	0.00055	1.107	1.107	0.011	0.011	17.59	17.59
38	25-Oct-06	1.02	1.02	95.35	95.35	0.94	0.94	94.98	94.98	0.00027	0.00027	0.5467	0.5467	0.01	0.01	17.12	17.12
39	1-Nov-06	1.02	1.02	95.32	95.32	0.94	0.94	94.94	94.94	-0.000057	-0.000057	-0.1133	-0.1133	0.0099	0.0099	16.57	16.57
40	8-Nov-06	1.02	1.02	95.29	95.29	0.94	0.94	94.91	94.91	-0.00038	-0.00038	-0.76	-0.76	0.0096	0.0096	16.03	16.03
41	15-Nov-06	1.02	1.02	95.26	95.26	0.939	0.939	94.88	94.88	-0.0007	-0.0007	-1.407	-1.407	0.0093	0.0093	15.49	15.49
42	22-Nov-06	1.02	1.02	95.23	95.23	0.939	0.939	94.84	94.84	-0.001	-0.001	-2.08	-2.08	0.009	0.009	14.93	14.93
43	29-Nov-06	1.02	1.02	95.19	95.19	0.939	0.939	94.8	94.8	-0.0015	-0.0015	-2.987	-2.987	0.0085	0.0085	14.18	14.18
44	6-Dec-06	1.02	1.02	95.17	95.17	0.938	0.938	94.78	94.78	-0.0017	-0.0017	-3.347	-3.347	0.0083	0.0083	13.88	13.88
45	13-Dec-06	1.02	1.02	95.15	95.15	0.938	0.938	94.76	94.76	-0.0019	-0.0019	-3.727	-3.727	0.0081	0.0081	13.56	13.56
46	20-Dec-06	1.02	1.02	95.14	95.14	0.938	0.938	94.74	94.74	-0.002	-0.002	-4.053	-4.053	0.008	0.008	13.29	13.29
47	28-Dec-06	1.02	1.02	95.1	95.1	0.938	0.938	94.71	94.71	-0.0024	-0.0024	-4.793	-4.793	0.0076	0.0076	12.67	12.67
48	3-Jan-07	1.02	1.02	95.09	95.09	0.937	0.937	94.69	94.69	-0.0026	-0.0026	-5.167	-5.167	0.0074	0.0074	12.36	12.36
49	10-Jan-07	1.02	1.02	95.05	95.05	0.937	0.937	94.65	94.65	-0.0029	-0.0029	-5.84	-5.84	0.0071	0.0071	11.8	11.8
50	17-Jan-07	1.02	1.02	95.02	95.02	0.937	0.937	94.62	94.62	-0.0033	-0.0033	-6.5	-6.5	0.0067	0.0067	11.25	11.25
51	24-Jan-07	1.02	1.02	95	95	0.936	0.936	94.59	94.59	-0.0036	-0.0036	-7.1	-7.1	0.0065	0.0065	10.75	10.75
52	31-Jan-07	1.02	1.02	94.97	94.97	0.936	0.936	94.56	94.56	-0.0038	-0.0038	-7.68	-7.68	0.0062	0.0062	10.27	10.27
53	7-Feb-07	1.02	1.02	94.94	94.94	0.936	0.936	94.53	94.53	-0.0042	-0.0042	-8.38	-8.38	0.0058	0.0058	9.683	9.683
54	14-Feb-07	1.02	1.02	94.91	94.91	0.935	0.935	94.49	94.49	-0.0045	-0.0045	-9.027	-9.027	0.0055	0.0055	9.144	9.144
Maximum		1.06	1.06	99.06	99.06	0.98	0.98	98.99	98.99	0.04	0.04	79.95	79.95	0.05	0.05	83.29	83.29
Minimum		1.02	1.02	94.91	94.91	0.935	0.935	94.49	94.49	-0.0045	-0.0045	-9.027	-9.027	0.0055	0.0055	9.144	9.144
Mean		1.03	1.03	95.9	95.9	0.946	0.946	95.57	95.57	0.0062	0.0062	12.36	12.36	0.016	0.016	26.97	26.97
Median		1.02	1.02	95.74	95.74	0.944	0.944	95.39	95.39	0.0044	0.0044	8.74	8.74	0.014	0.014	23.95	23.95
Mean Initial 5 Wk Flush		1.05	1.05	97.88	97.88	0.967	0.967	97.7	97.7	0.027	0.027	54.53	54.53	0.037	0.037	62.11	62.11
Mean Last 5 Weeks		1.02	1.02	94.97	94.97	0.936	0.936	94.56	94.56	-0.0039	-0.0039	-7.737	-7.737	0.0061	0.0061	10.22	10.22
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)				723	723			660	660			1	1			1	1
50% Remaining (Wks)				1561	1561			1436	1436			3	3			4	4
25% Remaining (Wks)				2400	2400			2212	2212			11	11			26	26
0% Remaining (Wks)				3239	3239			2988	2988			41	41			72	72

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																			
Sample:		**F47 (Tailings)**																			
		Scavenger Tailings High-Sulphide Tailings Composite																			
Data:		Molar Ratios, NP Consumption and Remaining NP																			
		Molar Ratios:												**Theoretical Open-System Below pH 6**							
										Feldspar	Feldspar	Feldspar	Feldspar	NP	NP	Cumulative	Cumulative	Original	Original		
								Carbonate	Carbonate	(Ca+(K/2)	(Ca+(K/2)	((K/2)+	((K/2)+	Consumption	Consumption	NP	NP	NP	NP	Remaining	Remaining
Week No.	Date	Alk	Alk	Ca+Mg	Ca+Mg			(Ca+Mg)	(Ca+Mg)	+(Na/2))	+(Na/2))	(Na/2))	(Na/2))	At pH 6	At pH 6	Consumption	Consumption	Remaining	Remaining	NP	NP
		/SO_4	/SO_4 [1]	/Alk	/Alk [1]	Ca/SO_4	Ca/SO_4 [1]	/SO_4	/SO_4 [1]	/SO_4	/SO_4 [1]	/SO_4	/SO_4 [1]	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t) [1]	(% of original)	(% of original) [1]
		(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final	(does not	(includes final
		include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data	include final	leach data
		leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)	leach data)	when available)
														Original Effective NP (kg CaCO3/t) =			**76**				
0	1-Feb-06	0.059	0.059	18	18	0.73	0.73	1.1	1.1	0.82	0.82	0.0848	0.0848	313.4	313.4	313.4	313.4	75.69	75.69	99.59	99.59
1	8-Feb-06	0.12	0.12	9	9	0.75	0.75	1.1	1.1	0.83	0.83	0.0767	0.0767	305.9	305.9	619.3	619.3	75.38	75.38	99.19	99.19
2	15-Feb-06	0.28	0.28	4.69	4.69	0.83	0.83	1.3	1.3	0.95	0.95	0.123	0.123	151.6	151.6	770.9	770.9	75.23	75.23	98.99	98.99
3	22-Feb-06	0.47	0.47	2.64	2.64	0.8	0.8	1.3	1.3	0.9	0.9	0.093	0.093	116.4	116.4	887.3	887.3	75.11	75.11	98.83	98.83
4	1-Mar-06	0.67	0.67	2.37	2.37	1	1	1.6	1.6	1.1	1.1	0.114	0.114	75.25	75.25	962.6	962.6	75.04	75.04	98.73	98.73
5	8-Mar-06	1.1	1.1	1.93	1.93	1.2	1.2	2	2	1.4	1.4	0.143	0.143	43.57	43.57	1006	1006	74.99	74.99	98.68	98.68
6	15-Mar-06	1.1	1.1	1.94	1.94	1.3	1.3	2.1	2.1	1.4	1.4	0.132	0.132	43.24	43.24	1049	1049	74.95	74.95	98.62	98.62
7	22-Mar-06	1.3	1.3	1.62	1.62	1.3	1.3	2.1	2.1	1.4	1.4	0.137	0.137	35.61	35.61	1085	1085	74.92	74.92	98.57	98.57
8	29-Mar-06	1.6	1.6	1.56	1.56	1.5	1.5	2.5	2.5	1.7	1.7	0.152	0.152	30.99	30.99	1116	1116	74.88	74.88	98.53	98.53
9	5-Apr-06	1.7	1.7	1.41	1.41	1.4	1.4	2.4	2.4	1.6	1.6	0.151	0.151	30.21	30.21	1146	1146	74.85	74.85	98.49	98.49
10	12-Apr-06	1.8	1.8	1.46	1.46	1.6	1.6	2.7	2.7	1.8	1.8	0.154	0.154	24.3	24.3	1170	1170	74.83	74.83	98.46	98.46
11	19-Apr-06	1.9	1.9	1.54	1.54	1.8	1.8	2.9	2.9	2	2	0.149	0.149	25.89	25.89	1196	1196	74.8	74.8	98.43	98.43
12	26-Apr-06	1.9	1.9	1.31	1.31	1.5	1.5	2.5	2.5	1.7	1.7	0.145	0.145	24.77	24.77	1221	1221	74.78	74.78	98.39	98.39
13	3-May-06	2	2	1.31	1.31	1.7	1.7	2.6	2.6	1.8	1.8	0.147	0.147	20.09	20.09	1241	1241	74.76	74.76	98.37	98.37
14	10-May-06	2.3	2.3	1.25	1.25	1.7	1.7	2.8	2.8	1.9	1.9	0.149	0.149	21.61	21.61	1263	1263	74.74	74.74	98.34	98.34
15	17-May-06	2.1	2.1	1.42	1.42	2	2	3	3	2.1	2.1	0.157	0.157	19.55	19.55	1283	1283	74.72	74.72	98.31	98.31
16	24-May-06	2.5	2.5	1.37	1.37	2.1	2.1	3.4	3.4	2.3	2.3	0.176	0.176	17.78	17.78	1301	1301	74.7	74.7	98.29	98.29
17	31-May-06	3	3	1.15	1.15	2.1	2.1	3.4	3.4	2.3	2.3	0.167	0.167	17.49	17.49	1318	1318	74.68	74.68	98.27	98.27
18	7-Jun-06	4.7	4.7	1.15	1.15	3.4	3.4	5.4	5.4	3.7	3.7	0.29	0.29	9.256	9.256	1327	1327	74.67	74.67	98.25	98.25
19	14-Jun-06	3.7	3.7	1.2	1.2	2.8	2.8	4.5	4.5	3	3	0.233	0.233	9.696	9.696	1337	1337	74.66	74.66	98.24	98.24
20	21-Jun-06	3.4	3.4	1.19	1.19	2.5	2.5	4	4	2.7	2.7	0.205	0.205	13.22	13.22	1350	1350	74.65	74.65	98.22	98.22
21	28-Jun-06	3.5	3.5	1.22	1.22	2.6	2.6	4.3	4.3	2.9	2.9	0.23	0.23	10.33	10.33	1360	1360	74.64	74.64	98.21	98.21
22	5-Jul-06	3.3	3.3	1.22	1.22	2.6	2.6	4	4	2.8	2.8	0.21	0.21	10.74	10.74	1371	1371	74.63	74.63	98.2	98.2
23	12-Jul-06	3.3	3.3	1.25	1.25	2.5	2.5	4.1	4.1	2.7	2.7	0.211	0.211	13.33	13.33	1384	1384	74.62	74.62	98.18	98.18
24	19-Jul-06	4	4	1.1	1.1	2.6	2.6	4.3	4.3	2.9	2.9	0.236	0.236	9.905	9.905	1394	1394	74.61	74.61	98.17	98.17
25	26-Jul-06	3.7	3.7	1.2	1.2	2.8	2.8	4.4	4.4	3	3	0.213	0.213	9.543	9.543	1404	1404	74.6	74.6	98.15	98.15
26	2-Aug-06	3.2	3.2	1.25	1.25	2.4	2.4	4	4	2.6	2.6	0.204	0.204	13.7	13.7	1418	1418	74.58	74.58	98.13	98.13
27	9-Aug-06	3.7	3.7	1.08	1.08	2.5	2.5	4	4	2.7	2.7	0.217	0.217	8.724	8.724	1427	1427	74.57	74.57	98.12	98.12
28	16-Aug-06	3.1	3.1	1.56	1.56	3	3	4.8	4.8	3.2	3.2	0.236	0.236	11.38	11.38	1438	1438	74.56	74.56	98.11	98.11
29	23-Aug-06	3.9	3.9	0.999	0.999	2.4	2.4	3.9	3.9	2.6	2.6	0.183	0.183	11.54	11.54	1450	1450	74.55	74.55	98.09	98.09
30	30-Aug-06	3.9	3.9	1.08	1.08	2.6	2.6	4.2	4.2	2.8	2.8	0.207	0.207	8.181	8.181	1458	1458	74.54	74.54	98.08	98.08
31	6-Sep-06	3	3	1.31	1.31	2.3	2.3	4	4	2.5	2.5	0.187	0.187	16.81	16.81	1475	1475	74.53	74.53	98.06	98.06
32	13-Sep-06	3.1	3.1	1.25	1.25	2.4	2.4	3.9	3.9	2.6	2.6	0.186	0.186	17.07	17.07	1492	1492	74.51	74.51	98.04	98.04
33	20-Sep-06	2.8	2.8	1.41	1.41	2.4	2.4	3.9	3.9	2.6	2.6	0.184	0.184	8.169	8.169	1500	1500	74.5	74.5	98.03	98.03
34	27-Sep-06	3.5	3.5	1.14	1.14	2.5	2.5	4	4	2.7	2.7	0.186	0.186	8.961	8.961	1509	1509	74.49	74.49	98.01	98.01
35	4-Oct-06	3.2	3.2	1.25	1.25	2.5	2.5	4.1	4.1	2.7	2.7	0.187	0.187	10.48	10.48	1519	1519	74.48	74.48	98	98
36	11-Oct-06	2.9	2.9	1.17	1.17	2.1	2.1	3.4	3.4	2.3	2.3	0.172	0.172	9.512	9.512	1529	1529	74.47	74.47	97.99	97.99
37	18-Oct-06	3.1	3.1	1.19	1.19	2.1	2.1	3.6	3.6	2.3	2.3	0.158	0.158	17.21	17.21	1546	1546	74.45	74.45	97.97	97.97
38	25-Oct-06	3.3	3.3	1.24	1.24	2.5	2.5	4.1	4.1	2.7	2.7	0.174	0.174	8.729	8.729	1555	1555	74.45	74.45	97.95	97.95
39	1-Nov-06	4.3	4.3	1.1	1.1	2.8	2.8	4.7	4.7	3	3	0.203	0.203	10.36	10.36	1565	1565	74.44	74.44	97.94	97.94
40	8-Nov-06	3.9	3.9	1.07	1.07	2.5	2.5	4.2	4.2	2.7	2.7	0.182	0.182	10.12	10.12	1575	1575	74.43	74.43	97.93	97.93
41	15-Nov-06	4	4	1.11	1.11	2.6	2.6	4.4	4.4	2.8	2.8	0.193	0.193	10.08	10.08	1585	1585	74.42	74.42	97.91	97.91
42	22-Nov-06	3.9	3.9	1.21	1.21	2.9	2.9	4.7	4.7	3.1	3.1	0.193	0.193	10.47	10.47	1595	1595	74.41	74.41	97.9	97.9
43	29-Nov-06	3.2	3.2	1.27	1.27	2.5	2.5	4.1	4.1	2.7	2.7	0.166	0.166	14.19	14.19	1609	1609	74.39	74.39	97.88	97.88
44	6-Dec-06	4.3	4.3	1	1	3	3	4.3	4.3	3.8	3.8	0.702	0.702	5.668	5.668	1615	1615	74.39	74.39	97.88	97.88
45	13-Dec-06	4.4	4.4	0.963	0.963	3	3	4.3	4.3	3.7	3.7	0.761	0.761	5.979	5.979	1621	1621	74.38	74.38	97.87	97.87
46	20-Dec-06	5	5	0.944	0.944	3.4	3.4	4.7	4.7	4.2	4.2	0.83	0.83	5.093	5.093	1626	1626	74.37	74.37	97.86	97.86
47	28-Dec-06	4	4	0.982	0.982	2.7	2.7	4.5	4.5	2.8	2.8	0.184	0.184	10.07	10.07	1638	1638	74.36	74.36	97.84	97.84
48	3-Jan-07	5	5	1.19	1.19	3.7	3.7	5.1	5.1	4.5	4.5	0.822	0.822	6.778	6.778	1644	1644	74.36	74.36	97.84	97.84
49	10-Jan-07	4.8	4.8	1.12	1.12	3.2	3.2	5.3	5.3	3.4	3.4	0.233	0.233	10.55	10.55	1655	1655	74.35	74.35	97.82	97.82
50	17-Jan-07	5	5	1.1	1.1	3.3	3.3	5.6	5.6	3.5	3.5	0.22	0.22	10.27	10.27	1665	1665	74.34	74.34	97.81	97.81
51	24-Jan-07	5.1	5.1	1.2	1.2	3.6	3.6	6.2	6.2	3.9	3.9	0.244	0.244	9.387	9.387	1674	1674	74.33	74.33	97.8	97.8
52	31-Jan-07	5.3	5.3	1.11	1.11	3.4	3.4	5.9	5.9	3.6	3.6	0.235	0.235	9.103	9.103	1683	1683	74.32	74.32	97.79	97.79
53	7-Feb-07	4.8	4.8	1.09	1.09	3	3	5.2	5.2	3.2	3.2	0.209	0.209	10.97	10.97	1694	1694	74.31	74.31	97.77	97.77
54	14-Feb-07	5.2	5.2	1.09	1.09	3.3	3.3	5.6	5.6	3.6	3.6	0.227	0.227	10.06	10.06	1704	1704	74.3	74.3	97.76	97.76
Maximum		5.3	5.3	18	18	3.7	3.7	6.2	6.2	4.5	4.5	0.83	0.83	313.4	313.4	1704	1704	75.69	75.69	99.59	99.59
Minimum		0.059	0.059	0.944	0.944	0.73	0.73	1.1	1.1	0.82	0.82	0.0767	0.0767	5.093	5.093	313.4	313.4	74.3	74.3	97.76	97.76
Mean		3.1	3.1	1.8	1.8	2.3	2.3	3.8	3.8	2.6	2.6	0.225	0.225	30.97	30.97	1370	1370	74.63	74.63	98.2	98.2
Median		3.3	3.3	1.22	1.22	2.5	2.5	4	4	2.7	2.7	0.186	0.186	10.97	10.97	1427	1427	74.57	74.57	98.12	98.12
Mean Initial 5 Wk Flush		0.32	0.32	7.34	7.34	0.82	0.82	1.3	1.3	0.92	0.92	0.0983	0.0983	192.5	192.5	710.7	710.7	75.29	75.29	99.07	99.07
Mean Last 5 Weeks		5.1	5.1	1.12	1.12	3.3	3.3	5.7	5.7	3.6	3.6	0.227	0.227	9.958	9.958	1684	1684	74.32	74.32	97.79	97.79
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)																				1792	1792
50% Remaining (Wks)																				3700	3700
25% Remaining (Wks)																				5608	5608
0% Remaining (Wks)																				7516	7516
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																			
		[1] Includes Final Leach data distributed evenly over all weeks																			

Project:		Morrison																
Sample:		**F47 (Tailings)**																
		Scavenger Tailings High-Sulphide Tailings Composite																
Data:		NP Consumption and Remaining NP																
		Empirical Open System								**Carbonate Molar Ratio**								
										Carbonate	Carbonate	Cumulative	Cumulative	Original	Original			
		NP	NP	Cumulative	Cumulative	Original	Original			Molar Ratio	Molar Ratio	NP Consumption	NP Consumption	NP Remaining	NP Remaining	Remaining	Remaining	
		Consumption	Consumption at	NP	NP	NP	NP	Remaining	Remaining	NP	NP	Carbonate	Carbonate	Carbonate	Carbonate	NP	NP	
Week No.	Date	At Measured pH	Measured pH	Consumption	Consumption	Remaining	Remaining	NP	NP	Consumption	Consumption	Molar Ratio	Molar Ratio	Molar Ratio	Molar Ratio	Carbonate	Carbonate	
		(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]	
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	
		Original Effective NP (kg CaCO3/t) =			**76**					**Original Effective NP (kg CaCO3/t) =**			**76**					
0	1-Feb-06	331	331	331	331	75.67	75.67	99.56	99.56	345	345	345	345	75.66	75.66	99.55	99.55	
1	8-Feb-06	341	341	672	672	75.33	75.33	99.12	99.12	336	336	681	681	75.32	75.32	99.1	99.1	
2	15-Feb-06	189	189	861	861	75.14	75.14	98.87	98.87	197	197	878	878	75.12	75.12	98.84	98.84	
3	22-Feb-06	169	169	1030	1030	74.97	74.97	98.64	98.64	151	151	1029	1029	74.97	74.97	98.65	98.65	
4	1-Mar-06	123	123	1153	1153	74.85	74.85	98.48	98.48	120	120	1149	1149	74.85	74.85	98.49	98.49	
5	8-Mar-06	87.8	87.8	1241	1241	74.76	74.76	98.37	98.37	87.1	87.1	1236	1236	74.76	74.76	98.37	98.37	
6	15-Mar-06	87.7	87.7	1329	1329	74.67	74.67	98.25	98.25	90.8	90.8	1327	1327	74.67	74.67	98.25	98.25	
7	22-Mar-06	78.4	78.4	1407	1407	74.59	74.59	98.15	98.15	74.8	74.8	1402	1402	74.6	74.6	98.16	98.16	
8	29-Mar-06	79.4	79.4	1486	1486	74.51	74.51	98.04	98.04	77.5	77.5	1480	1480	74.52	74.52	98.05	98.05	
9	5-Apr-06	81.6	81.6	1568	1568	74.43	74.43	97.94	97.94	72.5	72.5	1553	1553	74.45	74.45	97.96	97.96	
10	12-Apr-06	67.4	67.4	1635	1635	74.37	74.37	97.85	97.85	65.6	65.6	1619	1619	74.38	74.38	97.87	97.87	
11	19-Apr-06	73	73	1708	1708	74.29	74.29	97.75	97.75	75.1	75.1	1694	1694	74.31	74.31	97.77	97.77	
12	26-Apr-06	71.8	71.8	1780	1780	74.22	74.22	97.66	97.66	61.9	61.9	1756	1756	74.24	74.24	97.69	97.69	
13	3-May-06	58	58	1838	1838	74.16	74.16	97.58	97.58	52.2	52.2	1808	1808	74.19	74.19	97.62	97.62	
14	10-May-06	70	70	1908	1908	74.09	74.09	97.49	97.49	60.5	60.5	1869	1869	74.13	74.13	97.54	97.54	
15	17-May-06	60.7	60.7	1969	1969	74.03	74.03	97.41	97.41	58.7	58.7	1928	1928	74.07	74.07	97.46	97.46	
16	24-May-06	60.4	60.4	2029	2029	73.97	73.97	97.33	97.33	60.5	60.5	1989	1989	74.01	74.01	97.38	97.38	
17	31-May-06	68.9	68.9	2098	2098	73.9	73.9	97.24	97.24	59.5	59.5	2049	2049	73.95	73.95	97.3	97.3	
18	7-Jun-06	52.2	52.2	2150	2150	73.85	73.85	97.17	97.17	50	50	2099	2099	73.9	73.9	97.24	97.24	
19	14-Jun-06	45	45	2195	2195	73.81	73.81	97.11	97.11	43.6	43.6	2143	2143	73.86	73.86	97.18	97.18	
20	21-Jun-06	57.4	57.4	2252	2252	73.75	73.75	97.04	97.04	52.9	52.9	2196	2196	73.8	73.8	97.11	97.11	
21	28-Jun-06	46.2	46.2	2298	2298	73.7	73.7	96.98	96.98	44.4	44.4	2240	2240	73.76	73.76	97.05	97.05	
22	5-Jul-06	46	46	2344	2344	73.66	73.66	96.92	96.92	43	43	2283	2283	73.72	73.72	97	97	
23	12-Jul-06	56.3	56.3	2400	2400	73.6	73.6	96.84	96.84	54.7	54.7	2338	2338	73.66	73.66	96.92	96.92	
24	19-Jul-06	47.5	47.5	2448	2448	73.55	73.55	96.78	96.78	42.6	42.6	2381	2381	73.62	73.62	96.87	96.87	
25	26-Jul-06	44.6	44.6	2493	2493	73.51	73.51	96.72	96.72	42	42	2423	2423	73.58	73.58	96.81	96.81	
26	2-Aug-06	57.7	57.7	2551	2551	73.45	73.45	96.64	96.64	54.8	54.8	2478	2478	73.52	73.52	96.74	96.74	
27	9-Aug-06	41.2	41.2	2592	2592	73.41	73.41	96.59	96.59	34.9	34.9	2513	2513	73.49	73.49	96.69	96.69	
28	16-Aug-06	44.8	44.8	2637	2637	73.36	73.36	96.53	96.53	54.6	54.6	2568	2568	73.43	73.43	96.62	96.62	
29	23-Aug-06	55.8	55.8	2693	2693	73.31	73.31	96.46	96.46	45	45	2613	2613	73.39	73.39	96.56	96.56	
30	30-Aug-06	39.2	39.2	2732	2732	73.27	73.27	96.41	96.41	34.4	34.4	2647	2647	73.35	73.35	96.52	96.52	
31	6-Sep-06	67.5	67.5	2800	2800	73.2	73.2	96.32	96.32	67.2	67.2	2714	2714	73.29	73.29	96.43	96.43	
32	13-Sep-06	69.7	69.7	2870	2870	73.13	73.13	96.22	96.22	66.6	66.6	2781	2781	73.22	73.22	96.34	96.34	
33	20-Sep-06	30.3	30.3	2900	2900	73.1	73.1	96.18	96.18	31.9	31.9	2813	2813	73.19	73.19	96.3	96.3	
34	27-Sep-06	39.9	39.9	2940	2940	73.06	73.06	96.13	96.13	35.8	35.8	2849	2849	73.15	73.15	96.25	96.25	
35	4-Oct-06	43.6	43.6	2984	2984	73.02	73.02	96.07	96.07	43	43	2892	2892	73.11	73.11	96.19	96.19	
36	11-Oct-06	36.7	36.7	3021	3021	72.98	72.98	96.03	96.03	32.3	32.3	2924	2924	73.08	73.08	96.15	96.15	
37	18-Oct-06	69.2	69.2	3090	3090	72.91	72.91	95.93	95.93	62	62	2986	2986	73.01	73.01	96.07	96.07	
38	25-Oct-06	36.7	36.7	3127	3127	72.87	72.87	95.89	95.89	35.8	35.8	3022	3022	72.98	72.98	96.02	96.02	
39	1-Nov-06	54	54	3181	3181	72.82	72.82	95.81	95.81	48.7	48.7	3071	3071	72.93	72.93	95.96	95.96	
40	8-Nov-06	49.1	49.1	3230	3230	72.77	72.77	95.75	95.75	42.5	42.5	3114	3114	72.89	72.89	95.9	95.9	
41	15-Nov-06	50	50	3280	3280	72.72	72.72	95.68	95.68	44.4	44.4	3158	3158	72.84	72.84	95.84	95.84	
42	22-Nov-06	51.2	51.2	3331	3331	72.67	72.67	95.62	95.62	49.2	49.2	3207	3207	72.79	72.79	95.78	95.78	
43	29-Nov-06	59.5	59.5	3391	3391	72.61	72.61	95.54	95.54	58.2	58.2	3265	3265	72.74	72.74	95.7	95.7	
44	6-Dec-06	29.9	29.9	3421	3421	72.58	72.58	95.5	95.5	24.4	24.4	3289	3289	72.71	72.71	95.67	95.67	
45	13-Dec-06	31.6	31.6	3453	3453	72.55	72.55	95.46	95.46	25.7	25.7	3315	3315	72.69	72.69	95.64	95.64	
46	20-Dec-06	30	30	3483	3483	72.52	72.52	95.42	95.42	23.9	23.9	3339	3339	72.66	72.66	95.61	95.61	
47	28-Dec-06	56	56	3547	3547	72.45	72.45	95.33	95.33	45.3	45.3	3391	3391	72.61	72.61	95.54	95.54	
48	3-Jan-07	35.1	35.1	3577	3577	72.42	72.42	95.29	95.29	34.6	34.6	3421	3421	72.58	72.58	95.5	95.5	
49	10-Jan-07	59.6	59.6	3637	3637	72.36	72.36	95.21	95.21	55.9	55.9	3477	3477	72.52	72.52	95.43	95.43	
50	17-Jan-07	61.4	61.4	3698	3698	72.3	72.3	95.13	95.13	57.5	57.5	3535	3535	72.47	72.47	95.35	95.35	
51	24-Jan-07	57	57	3755	3755	72.25	72.25	95.06	95.06	58.2	58.2	3593	3593	72.41	72.41	95.27	95.27	
52	31-Jan-07	57.2	57.2	3812	3812	72.19	72.19	94.98	94.98	53.7	53.7	3647	3647	72.35	72.35	95.2	95.2	
53	7-Feb-07	63	63	3875	3875	72.13	72.13	94.9	94.9	57	57	3704	3704	72.3	72.3	95.13	95.13	
54	14-Feb-07	61.2	61.2	3936	3936	72.06	72.06	94.82	94.82	56.3	56.3	3760	3760	72.24	72.24	95.05	95.05	
Maximum		341	341	3936	3936	75.67	75.67	99.56	99.56	345	345	3760	3760	75.66	75.66	99.55	99.55	
Minimum		29.9	29.9	331	331	72.06	72.06	94.82	94.82	23.9	23.9	345	345	72.24	72.24	95.05	95.05	
Mean		71.5	71.5	2512	2512	73.49	73.49	96.69	96.69	68.2	68.2	2436	2436	73.56	73.56	96.79	96.79	
Median		57.4	57.4	2592	2592	73.41	73.41	96.59	96.59	54.7	54.7	2513	2513	73.49	73.49	96.69	96.69	
Mean Initial 5 Wk Flush		231	231	809.4	809.4	75.19	75.19	98.93	98.93	230	230	816.4	816.4	75.18	75.18	98.93	98.93	
Mean Last 5 Weeks		60	60	3815	3815	72.19	72.19	94.98	94.98	56.5	56.5	3648	3648	72.35	72.35	95.2	95.2	
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
75% Remaining (Wks)								306	306							325	325	
50% Remaining (Wks)								623	623							661	661	
25% Remaining (Wks)								939	939							997	997	
0% Remaining (Wks)								1256	1256							1334	1334	

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison															
Sample:		**F47 (Tailings)**															
		Scavenger Tailings High-Sulphide Tailings Composite															
Data:		NP Consumption and Remaining NP															
		Feldspar Molar Ratio								**Feldspar Molar Ratio (without calcium contribution)**							
		Feldspar	Feldspar	Cumulative	Cumulative	Original	Original			Feldspar (no Ca)	Feldspar (no Ca)	Cumulative	Cumulative	Original	Original		
		Molar Ratio	Molar Ratio	NP Consumption	NP Consumption	NP Remaining	NP Remaining	Remaining	Remaining	Molar Ratio	Molar Ratio	NP Consumption	NP Consumption	NP Remaining	NP Remaining	Remaining	Remaining
		NP	NP	Feldspar	Feldspar	Feldspar	Feldspar	NP	NP	NP	NP	Feldspar (no Ca)	Feldspar (no Ca)	Feldspar (no Ca)	Feldspar (no Ca)	NP	NP
Week No.	Date	Consumption	Consumption	Molar Ratio	Molar Ratio	Molar Ratio	Molar Ratio	Feldspar	Feldspar	Consumption	Consumption	Molar Ratio	Molar Ratio	Molar Ratio	Molar Ratio	Feldspar (no Ca)	Feldspar (no Ca)
		(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t)[1]	(% of original)	(% of original)[1]
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Effective NP (kg CaCO3/t) =			**76**					**Original Effective NP (kg CaCO3/t) =**			**76**				
0	1-Feb-06	257	257	257	257	75.74	75.74	99.66	99.66	26.6	26.6	26.6	26.6	75.97	75.97	99.97	99.97
1	8-Feb-06	254	254	511	511	75.49	75.49	99.33	99.33	23.5	23.5	50.1	50.1	75.95	75.95	99.93	99.93
2	15-Feb-06	144	144	655	655	75.35	75.35	99.14	99.14	18.6	18.6	68.7	68.7	75.93	75.93	99.91	99.91
3	22-Feb-06	105	105	760	760	75.24	75.24	99	99	10.8	10.8	79.5	79.5	75.92	75.92	99.9	99.9
4	1-Mar-06	82.8	82.8	842.8	842.8	75.16	75.16	98.89	98.89	8.58	8.58	88.1	88.1	75.91	75.91	99.88	99.88
5	8-Mar-06	61	61	903.8	903.8	75.1	75.1	98.81	98.81	6.23	6.23	94.3	94.3	75.91	75.91	99.88	99.88
6	15-Mar-06	60.5	60.5	964.3	964.3	75.04	75.04	98.73	98.73	5.71	5.71	100	100	75.9	75.9	99.87	99.87
7	22-Mar-06	49.9	49.9	1014	1014	74.99	74.99	98.67	98.67	4.88	4.88	105	105	75.9	75.9	99.86	99.86
8	29-Mar-06	52.7	52.7	1067	1067	74.93	74.93	98.6	98.6	4.71	4.71	110	110	75.89	75.89	99.86	99.86
9	5-Apr-06	48.3	48.3	1115	1115	74.89	74.89	98.53	98.53	4.56	4.56	115	115	75.89	75.89	99.85	99.85
10	12-Apr-06	43.7	43.7	1159	1159	74.84	74.84	98.48	98.48	3.74	3.74	119	119	75.88	75.88	99.84	99.84
11	19-Apr-06	51.8	51.8	1211	1211	74.79	74.79	98.41	98.41	3.86	3.86	123	123	75.88	75.88	99.84	99.84
12	26-Apr-06	42.1	42.1	1253	1253	74.75	74.75	98.35	98.35	3.59	3.59	127	127	75.87	75.87	99.83	99.83
13	3-May-06	36.2	36.2	1289	1289	74.71	74.71	98.3	98.3	2.95	2.95	130	130	75.87	75.87	99.83	99.83
14	10-May-06	41.1	41.1	1330	1330	74.67	74.67	98.25	98.25	3.22	3.22	133	133	75.87	75.87	99.83	99.83
15	17-May-06	41.1	41.1	1371	1371	74.63	74.63	98.2	98.2	3.07	3.07	136	136	75.86	75.86	99.82	99.82
16	24-May-06	40.9	40.9	1412	1412	74.59	74.59	98.14	98.14	3.13	3.13	139	139	75.86	75.86	99.82	99.82
17	31-May-06	40.2	40.2	1452	1452	74.55	74.55	98.09	98.09	2.92	2.92	142	142	75.86	75.86	99.81	99.81
18	7-Jun-06	34.2	34.2	1486	1486	74.51	74.51	98.04	98.04	2.68	2.68	145	145	75.86	75.86	99.81	99.81
19	14-Jun-06	29.1	29.1	1515	1515	74.49	74.49	98.01	98.01	2.26	2.26	147	147	75.85	75.85	99.81	99.81
20	21-Jun-06	35.7	35.7	1551	1551	74.45	74.45	97.96	97.96	2.71	2.71	150	150	75.85	75.85	99.8	99.8
21	28-Jun-06	30	30	1581	1581	74.42	74.42	97.92	97.92	2.38	2.38	152	152	75.85	75.85	99.8	99.8
22	5-Jul-06	30.1	30.1	1611	1611	74.39	74.39	97.88	97.88	2.26	2.26	154	154	75.85	75.85	99.8	99.8
23	12-Jul-06	36	36	1647	1647	74.35	74.35	97.83	97.83	2.81	2.81	157	157	75.84	75.84	99.79	99.79
24	19-Jul-06	28.7	28.7	1676	1676	74.32	74.32	97.79	97.79	2.34	2.34	159	159	75.84	75.84	99.79	99.79
25	26-Jul-06	28.6	28.6	1705	1705	74.3	74.3	97.76	97.76	2.03	2.03	161	161	75.84	75.84	99.79	99.79
26	2-Aug-06	35.6	35.6	1741	1741	74.26	74.26	97.71	97.71	2.79	2.79	164	164	75.84	75.84	99.78	99.78
27	9-Aug-06	23.6	23.6	1765	1765	74.24	74.24	97.68	97.68	1.89	1.89	166	166	75.83	75.83	99.78	99.78
28	16-Aug-06	36.4	36.4	1801	1801	74.2	74.2	97.63	97.63	2.69	2.69	169	169	75.83	75.83	99.78	99.78
29	23-Aug-06	30	30	1831	1831	74.17	74.17	97.59	97.59	2.11	2.11	171	171	75.83	75.83	99.78	99.78
30	30-Aug-06	22.9	22.9	1854	1854	74.15	74.15	97.56	97.56	1.69	1.69	173	173	75.83	75.83	99.77	99.77
31	6-Sep-06	42	42	1896	1896	74.1	74.1	97.51	97.51	3.14	3.14	176	176	75.82	75.82	99.77	99.77
32	13-Sep-06	44.4	44.4	1940	1940	74.06	74.06	97.45	97.45	3.18	3.18	179	179	75.82	75.82	99.76	99.76
33	20-Sep-06	21.2	21.2	1961	1961	74.04	74.04	97.42	97.42	1.5	1.5	181	181	75.82	75.82	99.76	99.76
34	27-Sep-06	24.2	24.2	1985	1985	74.02	74.02	97.39	97.39	1.67	1.67	183	183	75.82	75.82	99.76	99.76
35	4-Oct-06	28.3	28.3	2013	2013	73.99	73.99	97.35	97.35	1.96	1.96	185	185	75.82	75.82	99.76	99.76
36	11-Oct-06	21.9	21.9	2035	2035	73.97	73.97	97.32	97.32	1.64	1.64	187	187	75.81	75.81	99.75	99.75
37	18-Oct-06	39.6	39.6	2075	2075	73.93	73.93	97.27	97.27	2.72	2.72	190	190	75.81	75.81	99.75	99.75
38	25-Oct-06	23.6	23.6	2099	2099	73.9	73.9	97.24	97.24	1.52	1.52	192	192	75.81	75.81	99.75	99.75
39	1-Nov-06	31.1	31.1	2130	2130	73.87	73.87	97.2	97.2	2.1	2.1	194	194	75.81	75.81	99.74	99.74
40	8-Nov-06	27.3	27.3	2157	2157	73.84	73.84	97.16	97.16	1.84	1.84	196	196	75.8	75.8	99.74	99.74
41	15-Nov-06	28.2	28.2	2185	2185	73.82	73.82	97.13	97.13	1.95	1.95	198	198	75.8	75.8	99.74	99.74
42	22-Nov-06	32.5	32.5	2218	2218	73.78	73.78	97.08	97.08	2.02	2.02	200	200	75.8	75.8	99.74	99.74
43	29-Nov-06	38.3	38.3	2256	2256	73.74	73.74	97.03	97.03	2.36	2.36	202	202	75.8	75.8	99.73	99.73
44	6-Dec-06	21.5	21.5	2278	2278	73.72	73.72	97	97	3.98	3.98	206	206	75.79	75.79	99.73	99.73
45	13-Dec-06	22.1	22.1	2300	2300	73.7	73.7	96.97	96.97	4.55	4.55	211	211	75.79	75.79	99.72	99.72
46	20-Dec-06	21.4	21.4	2321	2321	73.68	73.68	96.95	96.95	4.23	4.23	215	215	75.79	75.79	99.72	99.72
47	28-Dec-06	28.2	28.2	2353	2353	73.65	73.65	96.9	96.9	1.85	1.85	217	217	75.78	75.78	99.71	99.71
48	3-Jan-07	30.5	30.5	2379	2379	73.62	73.62	96.87	96.87	5.57	5.57	222	222	75.78	75.78	99.71	99.71
49	10-Jan-07	35.9	35.9	2415	2415	73.59	73.59	96.82	96.82	2.46	2.46	224	224	75.78	75.78	99.71	99.71
50	17-Jan-07	35.9	35.9	2451	2451	73.55	73.55	96.78	96.78	2.26	2.26	226	226	75.77	75.77	99.7	99.7
51	24-Jan-07	36.6	36.6	2488	2488	73.51	73.51	96.73	96.73	2.29	2.29	228	228	75.77	75.77	99.7	99.7
52	31-Jan-07	32.8	32.8	2521	2521	73.48	73.48	96.68	96.68	2.14	2.14	230	230	75.77	75.77	99.7	99.7
53	7-Feb-07	35.1	35.1	2556	2556	73.44	73.44	96.64	96.64	2.29	2.29	232	232	75.77	75.77	99.69	99.69
54	14-Feb-07	36.2	36.2	2592	2592	73.41	73.41	96.59	96.59	2.28	2.28	234	234	75.77	75.77	99.69	99.69
Maximum		257	257	2592	2592	75.74	75.74	99.66	99.66	26.6	26.6	234	234	75.97	75.97	99.97	99.97
Minimum		21.2	21.2	257	257	73.41	73.41	96.59	96.59	1.5	1.5	26.6	26.6	75.77	75.77	99.69	99.69
Mean		47.1	47.1	1708	1708	74.29	74.29	97.75	97.75	4.23	4.23	161	161	75.84	75.84	99.79	99.79
Median		35.9	35.9	1765	1765	74.24	74.24	97.68	97.68	2.71	2.71	166	166	75.83	75.83	99.78	99.78
Mean Initial 5 Wk Flush		169	169	605.2	605.2	75.4	75.4	99.2	99.2	17.6	17.6	62.6	62.6	75.94	75.94	99.92	99.92
Mean Last 5 Weeks		35.3	35.3	2522	2522	73.48	73.48	96.68	96.68	2.25	2.25	230	230	75.77	75.77	99.7	99.7
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)								520	520							8395	8395
50% Remaining (Wks)								1058	1058							16839	16839
25% Remaining (Wks)								1596	1596							25284	25284
0% Remaining (Wks)								2135	2135							33728	33728
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.															
		[1] Includes Final Leach data distributed evenly over all weeks															

Project:		Morrison										
Sample:		**F47 (Tailings)**										
		Scavenger Tailings High-Sulphide Tailings Composite										
Data:		NP Consumption and Remaining NP										
		Theoretical Closed-System										
		Theoretical	Theoretical	Cumulative	Cumulative	Original	Original					
		Closed-System	Closed-System	NP	NP	NP	NP	Remaining	Remaining			
		NP Consumption	NP Consumption	Consumption	Consumption	Remaining	Remaining	NP	NP			
Week No.	Date	Above pH 6.5	Above pH 6.5	Closed-System	Closed-System	Closed-System	Closed-System	Closed-System	Closed-System			
		(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(kg $CaCO_3$/t)	(kg $CaCO_3$/t) [1]	(% of original)	(% of original) [1]			
		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			
		Original Effective NP (kg CaCO3/t) =			**76**							
0	1-Feb-06	626	626	626	626	75.4	75.4	99.18	99.18			
1	8-Feb-06	610	610	1236	1236	74.8	74.8	98.37	98.37			
2	15-Feb-06	298	298	1534	1534	74.5	74.5	97.98	97.98			
3	22-Feb-06	231	231	1765	1765	74.2	74.2	97.68	97.68			
4	1-Mar-06	148	148	1913	1913	74.1	74.1	97.48	97.48			
5	8-Mar-06	85.5	85.5	1999	1999	74	74	97.37	97.37			
6	15-Mar-06	84.3	84.3	2083	2083	73.9	73.9	97.26	97.26			
7	22-Mar-06	68.6	68.6	2152	2152	73.8	73.8	97.17	97.17			
8	29-Mar-06	61.4	61.4	2213	2213	73.8	73.8	97.09	97.09			
9	5-Apr-06	59.5	59.5	2273	2273	73.7	73.7	97.01	97.01			
10	12-Apr-06	47.7	47.7	2321	2321	73.7	73.7	96.95	96.95			
11	19-Apr-06	50.9	50.9	2372	2372	73.6	73.6	96.88	96.88			
12	26-Apr-06	49	49	2421	2421	73.6	73.6	96.81	96.81			
13	3-May-06	37.7	37.7	2459	2459	73.5	73.5	96.76	96.76			
14	10-May-06	42.7	42.7	2502	2502	73.5	73.5	96.71	96.71			
15	17-May-06	38.4	38.4	2540	2540	73.5	73.5	96.66	96.66			
16	24-May-06	34.5	34.5	2575	2575	73.4	73.4	96.61	96.61			
17	31-May-06	34.3	34.3	2609	2609	73.4	73.4	96.57	96.57			
18	7-Jun-06	17.6	17.6	2627	2627	73.4	73.4	96.54	96.54			
19	14-Jun-06	18.7	18.7	2646	2646	73.4	73.4	96.52	96.52			
20	21-Jun-06	26.2	26.2	2672	2672	73.3	73.3	96.48	96.48			
21	28-Jun-06	20.2	20.2	2692	2692	73.3	73.3	96.46	96.46			
22	5-Jul-06	21.3	21.3	2713	2713	73.3	73.3	96.43	96.43			
23	12-Jul-06	25.6	25.6	2739	2739	73.3	73.3	96.4	96.4			
24	19-Jul-06	18.3	18.3	2757	2757	73.2	73.2	96.37	96.37			
25	26-Jul-06	18.9	18.9	2776	2776	73.2	73.2	96.35	96.35			
26	2-Aug-06	27.2	27.2	2803	2803	73.2	73.2	96.31	96.31			
27	9-Aug-06	17.2	17.2	2820	2820	73.2	73.2	96.29	96.29			
28	16-Aug-06	21.2	21.2	2841	2841	73.2	73.2	96.26	96.26			
29	23-Aug-06	22.4	22.4	2863	2863	73.1	73.1	96.23	96.23			
30	30-Aug-06	15.6	15.6	2879	2879	73.1	73.1	96.21	96.21			
31	6-Sep-06	33.4	33.4	2912	2912	73.1	73.1	96.17	96.17			
32	13-Sep-06	33.2	33.2	2945	2945	73.1	73.1	96.13	96.13			
33	20-Sep-06	15.9	15.9	2961	2961	73	73	96.1	96.1			
34	27-Sep-06	17.2	17.2	2978	2978	73	73	96.08	96.08			
35	4-Oct-06	20.2	20.2	2998	2998	73	73	96.06	96.06			
36	11-Oct-06	18.3	18.3	3016	3016	73	73	96.03	96.03			
37	18-Oct-06	33.7	33.7	3050	3050	73	73	95.99	95.99			
38	25-Oct-06	16.6	16.6	3067	3067	72.9	72.9	95.96	95.96			
39	1-Nov-06	20.1	20.1	3087	3087	72.9	72.9	95.94	95.94			
40	8-Nov-06	19.5	19.5	3107	3107	72.9	72.9	95.91	95.91			
41	15-Nov-06	19.9	19.9	3127	3127	72.9	72.9	95.89	95.89			
42	22-Nov-06	20.7	20.7	3148	3148	72.9	72.9	95.86	95.86			
43	29-Nov-06	28.1	28.1	3176	3176	72.8	72.8	95.82	95.82			
44	6-Dec-06	11.1	11.1	3187	3187	72.8	72.8	95.81	95.81			
45	13-Dec-06	11.2	11.2	3198	3198	72.8	72.8	95.79	95.79			
46	20-Dec-06	9.51	9.51	3208	3208	72.8	72.8	95.78	95.78			
47	28-Dec-06	20	20	3231	3231	72.8	72.8	95.75	95.75			
48	3-Jan-07	12.7	12.7	3242	3242	72.8	72.8	95.73	95.73			
49	10-Jan-07	19.8	19.8	3262	3262	72.7	72.7	95.71	95.71			
50	17-Jan-07	19.9	19.9	3282	3282	72.7	72.7	95.68	95.68			
51	24-Jan-07	18.2	18.2	3300	3300	72.7	72.7	95.66	95.66			
52	31-Jan-07	18	18	3318	3318	72.7	72.7	95.63	95.63			
53	7-Feb-07	21.3	21.3	3339	3339	72.7	72.7	95.61	95.61			
54	14-Feb-07	19.4	19.4	3358	3358	72.6	72.6	95.58	95.58			
Maximum		626	626	3358	3358	75.4	75.4	99.18	99.18			
Minimum		9.51	9.51	626	626	72.6	72.6	95.58	95.58			
Mean		61	61	2708	2708	73.3	73.3	96.44	96.44			
Median		21.3	21.3	2820	2820	73.2	73.2	96.29	96.29			
Mean Initial 5 Wk Flush		383	383	1415	1415	74.6	74.6	98.14	98.14			
Mean Last 5 Weeks		19.4	19.4	3319	3319	72.7	72.7	95.63	95.63			
Number of Weeks		54	54	54	54	54	54	54	54			
75% Remaining (Wks)								861	861			
50% Remaining (Wks)								1841	1841			
25% Remaining (Wks)								2820	2820			
0% Remaining (Wks)								3799	3799			

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Antimony	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	Arsenic
Week No.	Date	Al	Al	Al	Al	Al	Al	Al	Al	Al	Sb	Sb	Sb	Sb	Sb	Sb	Sb	Sb	Sb	As	As	As	As	As	As	As	As	As	As
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Aluminum (ppm) =			**71000**						**Original Antimony (ppm) =**			**9.15**						**Original Arsenic (ppm) =**			**211**						
0	1-Feb-06	0.018	0.00567	0.00567	0.00567	0.00567	71000	71000	100	100	0.0195	0.0061	0.0061	0.0061	0.0061	9.144	9.144	99.93	99.93	0.0047	0.00148	0.00148	0.00148	0.00148	211	211	100	100		
1	8-Feb-06	<0.010	0.00205	0.00205	0.00772	0.00772	71000	71000	100	100	0.0174	0.0071	0.0071	0.0132	0.0132	9.137	9.137	99.86	99.86	0.0055	0.00226	0.00226	0.00374	0.00374	211	211	100	100		
2	15-Feb-06	0.846	0.419	0.419	0.427	0.427	71000	71000	100	100	0.0146	0.0072	0.0072	0.0204	0.0204	9.13	9.13	99.78	99.78	0.004	0.00198	0.00198	0.00572	0.00572	211	211	100	100		
3	22-Feb-06	<0.010	0.00223	0.00223	0.429	0.429	71000	71000	100	100	0.0124	0.0055	0.0055	0.0259	0.0259	9.124	9.124	99.72	99.72	0.0025	0.00111	0.00111	0.00683	0.00683	211	211	100	100		
4	1-Mar-06	<0.010	0.0023	0.0023	0.431	0.431	71000	71000	100	100	0.0131	0.006	0.006	0.0319	0.0319	9.118	9.118	99.65	99.65	0.0021	0.000966	0.000966	0.0078	0.0078	211	211	100	100		
5	8-Mar-06	0.013	0.00533	0.00533	0.436	0.436	71000	71000	100	100	0.0112	0.0046	0.0046	0.0365	0.0365	9.114	9.114	99.6	99.6	0.0021	0.000861	0.000861	0.00866	0.00866	211	211	100	100		
6	15-Mar-06	<0.010	0.0021	0.0021	0.438	0.438	71000	71000	100	100	0.0113	0.0047	0.0047	0.0412	0.0412	9.109	9.109	99.55	99.55	0.0018	0.000756	0.000756	0.00942	0.00942	211	211	100	100		
7	22-Mar-06	0.025	0.0111	0.0111	0.449	0.449	71000	71000	100	100	0.0105	0.0047	0.0047	0.0459	0.0459	9.104	9.104	99.5	99.5	0.002	0.00089	0.00089	0.0103	0.0103	211	211	100	100		
8	29-Mar-06	0.011	0.00539	0.00539	0.454	0.454	71000	71000	100	100	0.0109	0.0053	0.0053	0.0512	0.0512	9.099	9.099	99.44	99.44	0.0019	0.000931	0.000931	0.0112	0.0112	211	211	99.99	99.99		
9	5-Apr-06	0.016	0.00768	0.00768	0.462	0.462	71000	71000	100	100	0.0125	0.006	0.006	0.0572	0.0572	9.093	9.093	99.37	99.37	0.0017	0.000816	0.000816	0.012	0.012	211	211	99.99	99.99		
10	12-Apr-06	0.012	0.00528	0.00528	0.467	0.467	71000	71000	100	100	0.0131	0.0058	0.0058	0.063	0.063	9.087	9.087	99.31	99.31	0.0017	0.000748	0.000748	0.0127	0.0127	211	211	99.99	99.99		
11	19-Apr-06	0.01	0.00505	0.00505	0.472	0.472	71000	71000	100	100	0.0126	0.0064	0.0064	0.0694	0.0694	9.081	9.081	99.24	99.24	0.0016	0.000808	0.000808	0.0135	0.0135	211	211	99.99	99.99		
12	26-Apr-06	0.011	0.00534	0.00534	0.477	0.477	71000	71000	100	100	0.0121	0.0059	0.0059	0.0753	0.0753	9.075	9.075	99.18	99.18	0.0017	0.000825	0.000825	0.0143	0.0143	211	211	99.99	99.99		
13	3-May-06	0.015	0.0063	0.0063	0.483	0.483	71000	71000	100	100	0.0122	0.0051	0.0051	0.0804	0.0804	9.07	9.07	99.12	99.12	0.0018	0.000756	0.000756	0.0151	0.0151	211	211	99.99	99.99		
14	10-May-06	0.011	0.00468	0.00468	0.488	0.488	71000	71000	100	100	0.0129	0.0055	0.0055	0.0859	0.0859	9.064	9.064	99.06	99.06	0.0016	0.00068	0.00068	0.0158	0.0158	211	211	99.99	99.99		
15	17-May-06	0.011	0.00523	0.00523	0.493	0.493	71000	71000	100	100	0.0105	0.005	0.005	0.0909	0.0909	9.059	9.059	99.01	99.01	0.0017	0.000808	0.000808	0.0166	0.0166	211	211	99.99	99.99		
16	24-May-06	<0.010	0.00225	0.00225	0.495	0.495	71000	71000	100	100	0.0106	0.0048	0.0048	0.0957	0.0957	9.054	9.054	98.95	98.95	0.0016	0.00072	0.00072	0.0173	0.0173	211	211	99.99	99.99		
17	31-May-06	<0.010	0.00233	0.00233	0.497	0.497	71000	71000	100	100	0.01	0.0047	0.0047	0.1	0.1	9.05	9.05	98.91	98.91	0.0014	0.000651	0.000651	0.018	0.018	211	211	99.99	99.99		
18	7-Jun-06	0.01	0.00425	0.00425	0.501	0.501	70999	70999	100	100	0.0101	0.0043	0.0043	0.104	0.104	9.046	9.046	98.86	98.86	0.0014	0.000595	0.000595	0.0186	0.0186	211	211	99.99	99.99		
19	14-Jun-06	0.017	0.00842	0.00842	0.509	0.509	70999	70999	100	100	0.0066	0.0033	0.0033	0.107	0.107	9.043	9.043	98.83	98.83	0.0015	0.000743	0.000743	0.0193	0.0193	211	211	99.99	99.99		
20	21-Jun-06	0.012	0.00588	0.00588	0.515	0.515	70999	70999	100	100	0.0076	0.0037	0.0037	0.111	0.111	9.039	9.039	98.79	98.79	0.0015	0.000735	0.000735	0.02	0.02	211	211	99.99	99.99		
21	28-Jun-06	0.016	0.00672	0.00672	0.522	0.522	70999	70999	100	100	0.0078	0.0033	0.0033	0.114	0.114	9.036	9.036	98.75	98.75	0.0014	0.000588	0.000588	0.0206	0.0206	211	211	99.99	99.99		
22	5-Jul-06	0.011	0.00495	0.00495	0.527	0.527	70999	70999	100	100	0.0069	0.0031	0.0031	0.117	0.117	9.033	9.033	98.72	98.72	0.0015	0.000675	0.000675	0.0213	0.0213	211	211	99.99	99.99		
23	12-Jul-06	<0.010	0.0023	0.0023	0.529	0.529	70999	70999	100	100	0.0074	0.0034	0.0034	0.12	0.12	9.03	9.03	98.69	98.69	0.0014	0.000644	0.000644	0.0219	0.0219	211	211	99.99	99.99		
24	19-Jul-06	0.013	0.00631	0.00631	0.535	0.535	70999	70999	100	100	0.0057	0.0028	0.0028	0.123	0.123	9.027	9.027	98.66	98.66	0.001	0.000485	0.000485	0.0224	0.0224	211	211	99.99	99.99		
25	26-Jul-06	0.011	0.00473	0.00473	0.54	0.54	70999	70999	100	100	0.0054	0.0023	0.0023	0.125	0.125	9.025	9.025	98.63	98.63	0.001	0.00043	0.00043	0.0228	0.0228	211	211	99.99	99.99		
26	2-Aug-06	0.012	0.00576	0.00576	0.546	0.546	70999	70999	100	100	0.007	0.0034	0.0034	0.128	0.128	9.022	9.022	98.6	98.6	0.0013	0.000624	0.000624	0.0234	0.0234	211	211	99.99	99.99		
27	9-Aug-06	0.014	0.00595	0.00595	0.552	0.552	70999	70999	100	100	0.0053	0.0023	0.0023	0.13	0.13	9.02	9.02	98.58	98.58	<0.0010	0.000213	0.000213	0.0236	0.0236	211	211	99.99	99.99		
28	16-Aug-06	<0.010	0.0026	0.0026	0.555	0.555	70999	70999	100	100	0.0055	0.0029	0.0029	0.133	0.133	9.017	9.017	98.55	98.55	<0.0010	0.00026	0.00026	0.0239	0.0239	211	211	99.99	99.99		
29	23-Aug-06	0.014	0.00728	0.00728	0.562	0.562	70999	70999	100	100	0.004	0.0021	0.0021	0.135	0.135	9.015	9.015	98.52	98.52	0.0012	0.000624	0.000624	0.0245	0.0245	211	211	99.99	99.99		
30	30-Aug-06	0.032	0.0166	0.0166	0.579	0.579	70999	70999	100	100	0.0029	0.0015	0.0015	0.137	0.137	9.013	9.013	98.5	98.5	0.0013	0.000676	0.000676	0.0252	0.0252	211	211	99.99	99.99		
31	6-Sep-06	<0.010	0.0024	0.0024	0.581	0.581	70999	70999	100	100	0.0056	0.0027	0.0027	0.14	0.14	9.01	9.01	98.47	98.47	0.0013	0.000624	0.000624	0.0258	0.0258	211	211	99.99	99.99		
32	13-Sep-06	<0.010	0.0026	0.0026	0.584	0.584	70999	70999	100	100	0.0059	0.0031	0.0031	0.143	0.143	9.007	9.007	98.44	98.44	<0.0010	0.00026	0.00026	0.0261	0.0261	211	211	99.99	99.99		
33	20-Sep-06	0.014	0.0056	0.0056	0.59	0.59	70999	70999	100	100	0.0035	0.0014	0.0014	0.144	0.144	9.006	9.006	98.43	98.43	<0.0010	0.0002	0.0002	0.0263	0.0263	211	211	99.99	99.99		
34	27-Sep-06	0.012	0.00516	0.00516	0.595	0.595	70999	70999	100	100	0.0036	0.0015	0.0015	0.146	0.146	9.004	9.004	98.4	98.4	<0.0010	0.000215	0.000215	0.0265	0.0265	211	211	99.99	99.99		
35	4-Oct-06	0.011	0.00517	0.00517	0.6	0.6	70999	70999	100	100	0.0039	0.0018	0.0018	0.148	0.148	9.002	9.002	98.38	98.38	<0.0010	0.000235	0.000235	0.0267	0.0267	211	211	99.99	99.99		
36	11-Oct-06	0.016	0.00816	0.00816	0.608	0.608	70999	70999	100	100	0.0026	0.0013	0.0013	0.149	0.149	9.001	9.001	98.37	98.37	<0.0010	0.000255	0.000255	0.027	0.027	211	211	99.99	99.99		
37	18-Oct-06	<0.010	0.00225	0.00225	0.61	0.61	70999	70999	100	100	0.0047	0.0021	0.0021	0.151	0.151	8.999	8.999	98.35	98.35	<0.0010	0.000225	0.000225	0.0272	0.0272	211	211	99.99	99.99		
38	25-Oct-06	<0.010	0.00178	0.00178	0.612	0.612	70999	70999	100	100	0.0038	0.0013	0.0013	0.152	0.152	8.998	8.998	98.34	98.34	<0.0010	0.000178	0.000178	0.0274	0.0274	211	211	99.99	99.99		
39	1-Nov-06	0.016	0.00824	0.00824	0.62	0.62	70999	70999	100	100	0.0034	0.0018	0.0018	0.154	0.154	8.996	8.996	98.32	98.32	<0.0010	0.000258	0.000258	0.0277	0.0277	211	211	99.99	99.99		
40	8-Nov-06	0.012	0.00498	0.00498	0.625	0.625	70999	70999	100	100	0.0037	0.0015	0.0015	0.156	0.156	8.994	8.994	98.3	98.3	<0.0010	0.000208	0.000208	0.0279	0.0279	211	211	99.99	99.99		
41	15-Nov-06	0.012	0.0054	0.0054	0.63	0.63	70999	70999	100	100	0.0033	0.0015	0.0015	0.158	0.158	8.992	8.992	98.27	98.27	<0.0010	0.000225	0.000225	0.0281	0.0281	211	211	99.99	99.99		
42	22-Nov-06	<0.010	0.00205	0.00205	0.632	0.632	70999	70999	100	100	0.0037	0.0015	0.0015	0.16	0.16	8.99	8.99	98.25	98.25	0.0011	0.000451	0.000451	0.0286	0.0286	211	211	99.99	99.99		
43	29-Nov-06	0.011	0.00572	0.00572	0.638	0.638	70999	70999	100	100	0.0034	0.0018	0.0018	0.162	0.162	8.988	8.988	98.23	98.23	<0.0010	0.00026	0.00026	0.0289	0.0289	211	211	99.99	99.99		
44	6-Dec-06	0.061	0.0244	0.0244	0.662	0.662	70999	70999	100	100	0.0011	0.00044	0.00044	0.162	0.162	8.988	8.988	98.23	98.23	0.0022	0.00088	0.00088	0.0298	0.0298	211	211	99.99	99.99		
45	13-Dec-06	0.066	0.0281	0.0281	0.69	0.69	70999	70999	100	100	0.0012	0.00051	0.00051	0.163	0.163	8.987	8.987	98.22	98.22	0.0024	0.00102	0.00102	0.0308	0.0308	211	211	99.99	99.99		
46	20-Dec-06	0.07	0.0298	0.0298	0.72	0.72	70999	70999	100	100	0.0011	0.00047	0.00047	0.163	0.163	8.987	8.987	98.22	98.22	0.0026	0.00111	0.00111	0.0319	0.0319	211	211	99.98	99.98		
47	28-Dec-06	<0.010	0.00186	0.00186	0.722	0.722	70999	70999	100	100	0.0035	0.0013	0.0013	0.164	0.164	8.986	8.986	98.21	98.21	<0.0010	0.000186	0.000186	0.0321	0.0321	211	211	99.98	99.98		
48	3-Jan-07	0.061	0.0292	0.0292	0.751	0.751	70999	70999	100	100	0.0011	0.00053	0.00053	0.165	0.165	8.985	8.985	98.2	98.2	0.0021	0.001	0.001	0.0331	0.0331	211	211	99.98	99.98		
49	10-Jan-07	<0.010	0.00225	0.00225	0.753	0.753	70999	70999	100	100	0.0032	0.0014	0.0014	0.166	0.166	8.984	8.984	98.19	98.19	<0.0010	0.000225	0.000225	0.0333	0.0333	211	211	99.98	99.98		
50	17-Jan-07	<0.010	0.00225	0.00225	0.755	0.755	70999	70999	100	100	0.0028	0.0013	0.0013	0.167	0.167	8.983	8.983	98.17	98.17	<0.0010	0.000225	0.000225	0.0335	0.0335	211	211	99.98	99.98		
51	24-Jan-07		0.00228	0.00228	0.757	0.757	70999	70999	100	100		0.0013	0.0013	0.168	0.168	8.982	8.982	98.16	98.16		0.000228	0.000228	0.0337	0.0337	211	211	99.98	99.98		
52	31-Jan-07	<0.010	0.0021	0.0021	0.759	0.759	70999	70999	100	100	0.0028	0.0012	0.0012	0.169	0.169	8.981	8.981	98.15	98.15	<0.0010	0.00021	0.00021	0.0339	0.0339	211	211	99.98	99.98		
53	7-Feb-07		0.00225	0.00225	0.761	0.761	70999	70999	100	100		0.0013	0.0013	0.17	0.17	8.98	8.98	98.14	98.14		0.000225	0.000225	0.0341	0.0341	211	211	99.98	99.98		
54	14-Feb-07	<0.010	0.00245	0.00245	0.763	0.763	70999	70999	100	100	0.0026	0.0013	0.0013	0.171	0.171	8.979	8.979	98.13	98.13	<0.0010	0.000245	0.000245	0.0343	0.0343	211	211	99.98	99.98		
Maximum		0.846	0.419	0.419	0.763	0.763	71000	71000	100	100	0.0195	0.0072	0.0072	0.171	0.171	9.144	9.144	99.93	99.93	0.0055	0.00226	0.00226	0.0343	0.0343	211	211	100	100		
Minimum		0.005	0.00178	0.00178	0.00567	0.00567	70999	70999	100	100	0.0011	0.00044	0.00044	0.0061	0.0061	8.979	8.979	98.13	98.13	0.0005	0.000178	0.000178	0.00148	0.00148	211	211	99.98	99.98		
Mean		0.0295	0.014	0.014	0.553	0.553	70999	70999	100	100	0.00701	0.0031	0.0031	0.116	0.116	9.034	9.034	98.74	98.74	0.00141	0.000627	0.000627	0.0219	0.0219	211	211	99.99	99.99		
Median		0.011	0.00517	0.00517	0.552	0.552	70999	70999	100	100	0.0056	0.0028	0.0028	0.13	0.13	9.02	9.02	98.58	98.58	0.0014	0.000624	0.000624	0.0236	0.0236	211	211	99.99	99.99		
Mean Initial 5 Wk Flush		0.176	0.0863	0.0863	0.26	0.26	71000	71000	100	100	0.0154	0.0064	0.0064	0.0195	0.0195	9.131	9.131	99.79	99.79	0.00376	0.00156	0.00156	0.00511	0.00511	211	211	100	100		
Mean Last 5 Weeks		0.005	0.00227	0.00227	0.759	0.759	70999	70999	100	100	0.00276	0.0013	0.0013	0.169	0.169	8.981	8.981	98.15	98.15	0.0005	0.000227	0.000227	0.0339	0.0339	211	211	99.98	99.98		
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54		
75% Remaining (Wks)									7819438	7819438								1683	1683								232248	232248	
50% Remaining (Wks)									15638822	15638822								3443	3443								464627	464627	
25% Remaining (Wks)									23458205	23458205								5202	5202								697006	697006	
0% Remaining (Wks)									31277588	31277588								6962	6962								929385	929385	
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all weeks																											

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Barium	Barium	Barium	Barium	Barium	Barium	Barium	Barium	Barium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Beryllium	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth	Bismuth
Week No.	Date	Ba	Ba	Ba	Ba	Ba	Ba	Ba	Ba	Ba	Be	Be	Be	Be	Be	Be	Be	Be	Be	Bi	Bi	Bi	Bi	Bi	Bi	Bi	Bi	Bi	Bi
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Barium (ppm) =			**780**						**Original Beryllium (ppm) =**			**0.72**						**Original Bismuth (ppm) =**			**1.75**						
0	1-Feb-06	0.0308	0.0097	0.0097	0.0097	0.0097	780	780	100	100	<0.0050	0.000788	0.000788	0.000788	0.000788	0.7192	0.7192	99.89	99.89	<0.0050	0.000788	0.000788	0.000788	0.000788	1.749	1.749	99.95	99.95
1	8-Feb-06	0.0198	0.00812	0.00812	0.0178	0.0178	780	780	100	100	<0.0050	0.00103	0.00103	0.00182	0.00182	0.7182	0.7182	99.75	99.75	<0.0050	0.00103	0.00103	0.00182	0.00182	1.748	1.748	99.9	99.9
2	15-Feb-06	0.0277	0.0137	0.0137	0.0315	0.0315	780	780	100	100	<0.0050	0.00124	0.00124	0.00306	0.00306	0.7169	0.7169	99.58	99.58	<0.0050	0.00124	0.00124	0.00306	0.00306	1.747	1.747	99.83	99.83
3	22-Feb-06	0.0304	0.0135	0.0135	0.045	0.045	780	780	99.99	99.99	<0.0050	0.00111	0.00111	0.00417	0.00417	0.7158	0.7158	99.42	99.42	<0.0050	0.00111	0.00111	0.00417	0.00417	1.746	1.746	99.76	99.76
4	1-Mar-06	0.0306	0.0141	0.0141	0.0591	0.0591	779.9	779.9	99.99	99.99	<0.0050	0.00115	0.00115	0.00532	0.00532	0.7147	0.7147	99.26	99.26	<0.0050	0.00115	0.00115	0.00532	0.00532	1.745	1.745	99.7	99.7
5	8-Mar-06	0.0439	0.018	0.018	0.0771	0.0771	779.9	779.9	99.99	99.99	<0.0050	0.00103	0.00103	0.00635	0.00635	0.7137	0.7137	99.12	99.12	<0.0050	0.00103	0.00103	0.00635	0.00635	1.744	1.744	99.64	99.64
6	15-Mar-06	0.0392	0.0165	0.0165	0.0936	0.0936	779.9	779.9	99.99	99.99	<0.0050	0.00105	0.00105	0.0074	0.0074	0.7126	0.7126	98.97	98.97	<0.0050	0.00105	0.00105	0.0074	0.0074	1.743	1.743	99.58	99.58
7	22-Mar-06	0.0552	0.0246	0.0246	0.118	0.118	779.9	779.9	99.98	99.98	<0.0050	0.00111	0.00111	0.00851	0.00851	0.7115	0.7115	98.82	98.82	<0.0050	0.00111	0.00111	0.00851	0.00851	1.741	1.741	99.51	99.51
8	29-Mar-06	0.0558	0.0273	0.0273	0.145	0.145	779.9	779.9	99.98	99.98	<0.0050	0.00123	0.00123	0.00974	0.00974	0.7103	0.7103	98.65	98.65	<0.0050	0.00123	0.00123	0.00974	0.00974	1.74	1.74	99.44	99.44
9	5-Apr-06	0.0696	0.0334	0.0334	0.178	0.178	779.8	779.8	99.98	99.98	<0.0050	0.0012	0.0012	0.0109	0.0109	0.7091	0.7091	98.49	98.49	<0.0050	0.0012	0.0012	0.0109	0.0109	1.739	1.739	99.38	99.38
10	12-Apr-06	0.0745	0.0328	0.0328	0.211	0.211	779.8	779.8	99.97	99.97	<0.0050	0.0011	0.0011	0.012	0.012	0.708	0.708	98.33	98.33	<0.0050	0.0011	0.0011	0.012	0.012	1.738	1.738	99.31	99.31
11	19-Apr-06	0.0841	0.0425	0.0425	0.254	0.254	779.7	779.7	99.97	99.97	<0.0050	0.00126	0.00126	0.0133	0.0133	0.7067	0.7067	98.15	98.15	<0.0050	0.00126	0.00126	0.0133	0.0133	1.737	1.737	99.24	99.24
12	26-Apr-06	0.0866	0.042	0.042	0.296	0.296	779.7	779.7	99.96	99.96	<0.0050	0.00121	0.00121	0.0145	0.0145	0.7055	0.7055	97.99	97.99	<0.0050	0.00121	0.00121	0.0145	0.0145	1.736	1.736	99.17	99.17
13	3-May-06	0.0965	0.0405	0.0405	0.337	0.337	779.7	779.7	99.96	99.96	<0.0050	0.00105	0.00105	0.0156	0.0156	0.7044	0.7044	97.83	97.83	<0.0050	0.00105	0.00105	0.0156	0.0156	1.734	1.734	99.11	99.11
14	10-May-06	0.0869	0.0369	0.0369	0.374	0.374	779.6	779.6	99.95	99.95	<0.0050	0.00106	0.00106	0.0167	0.0167	0.7033	0.7033	97.68	97.68	<0.0050	0.00106	0.00106	0.0167	0.0167	1.733	1.733	99.05	99.05
15	17-May-06	0.0786	0.0373	0.0373	0.411	0.411	779.6	779.6	99.95	99.95	<0.0050	0.00119	0.00119	0.0179	0.0179	0.7021	0.7021	97.51	97.51	<0.0050	0.00119	0.00119	0.0179	0.0179	1.732	1.732	98.98	98.98
16	24-May-06	0.101	0.0455	0.0455	0.457	0.457	779.5	779.5	99.94	99.94	<0.0050	0.00113	0.00113	0.019	0.019	0.701	0.701	97.36	97.36	<0.0050	0.00113	0.00113	0.019	0.019	1.731	1.731	98.91	98.91
17	31-May-06	0.106	0.0493	0.0493	0.506	0.506	779.5	779.5	99.94	99.94	<0.0050	0.00116	0.00116	0.0202	0.0202	0.6998	0.6998	97.19	97.19	<0.0050	0.00116	0.00116	0.0202	0.0202	1.73	1.73	98.85	98.85
18	7-Jun-06	0.11	0.0468	0.0468	0.553	0.553	779.4	779.4	99.93	99.93	<0.0050	0.00106	0.00106	0.0213	0.0213	0.6987	0.6987	97.04	97.04	<0.0050	0.00106	0.00106	0.0213	0.0213	1.729	1.729	98.78	98.78
19	14-Jun-06	0.118	0.0584	0.0584	0.611	0.611	779.4	779.4	99.92	99.92	<0.0050	0.00124	0.00124	0.0225	0.0225	0.6975	0.6975	96.88	96.88	<0.0050	0.00124	0.00124	0.0225	0.0225	1.728	1.728	98.71	98.71
20	21-Jun-06	0.12	0.0588	0.0588	0.67	0.67	779.3	779.3	99.91	99.91	<0.0050	0.00123	0.00123	0.0237	0.0237	0.6963	0.6963	96.71	96.71	<0.0050	0.00123	0.00123	0.0237	0.0237	1.726	1.726	98.65	98.65
21	28-Jun-06	0.169	0.071	0.071	0.741	0.741	779.3	779.3	99.91	99.91	<0.0050	0.00105	0.00105	0.0248	0.0248	0.6952	0.6952	96.56	96.56	<0.0050	0.00105	0.00105	0.0248	0.0248	1.725	1.725	98.58	98.58
22	5-Jul-06	0.155	0.0698	0.0698	0.811	0.811	779.2	779.2	99.9	99.9	<0.0050	0.00113	0.00113	0.0259	0.0259	0.6941	0.6941	96.4	96.4	<0.0050	0.00113	0.00113	0.0259	0.0259	1.724	1.724	98.52	98.52
23	12-Jul-06	0.14	0.0644	0.0644	0.875	0.875	779.1	779.1	99.89	99.89	<0.0050	0.00115	0.00115	0.0271	0.0271	0.6929	0.6929	96.24	96.24	<0.0050	0.00115	0.00115	0.0271	0.0271	1.723	1.723	98.45	98.45
24	19-Jul-06	0.145	0.0703	0.0703	0.945	0.945	779.1	779.1	99.88	99.88	<0.0050	0.00121	0.00121	0.0283	0.0283	0.6917	0.6917	96.07	96.07	<0.0050	0.00121	0.00121	0.0283	0.0283	1.722	1.722	98.38	98.38
25	26-Jul-06	0.124	0.0533	0.0533	0.998	0.998	779	779	99.87	99.87	<0.0050	0.00108	0.00108	0.0294	0.0294	0.6906	0.6906	95.92	95.92	<0.0050	0.00108	0.00108	0.0294	0.0294	1.721	1.721	98.32	98.32
26	2-Aug-06	0.12	0.0576	0.0576	1.06	1.06	778.9	778.9	99.86	99.86	<0.0050	0.0012	0.0012	0.0306	0.0306	0.6894	0.6894	95.75	95.75	<0.0050	0.0012	0.0012	0.0306	0.0306	1.719	1.719	98.25	98.25
27	9-Aug-06	0.106	0.0451	0.0451	1.11	1.11	778.9	778.9	99.86	99.86	<0.0050	0.00106	0.00106	0.0317	0.0317	0.6883	0.6883	95.6	95.6	<0.0050	0.00106	0.00106	0.0317	0.0317	1.718	1.718	98.19	98.19
28	16-Aug-06	0.092	0.0478	0.0478	1.16	1.16	778.8	778.8	99.85	99.85	<0.0050	0.0013	0.0013	0.033	0.033	0.687	0.687	95.42	95.42	<0.0050	0.0013	0.0013	0.033	0.033	1.717	1.717	98.11	98.11
29	23-Aug-06	0.123	0.064	0.064	1.22	1.22	778.8	778.8	99.84	99.84	<0.0050	0.0013	0.0013	0.0343	0.0343	0.6857	0.6857	95.24	95.24	<0.0050	0.0013	0.0013	0.0343	0.0343	1.716	1.716	98.04	98.04
30	30-Aug-06	0.103	0.0536	0.0536	1.27	1.27	778.7	778.7	99.84	99.84	<0.0050	0.0013	0.0013	0.0356	0.0356	0.6844	0.6844	95.06	95.06	<0.0050	0.0013	0.0013	0.0356	0.0356	1.714	1.714	97.97	97.97
31	6-Sep-06	0.101	0.0485	0.0485	1.32	1.32	778.7	778.7	99.83	99.83	<0.0050	0.0012	0.0012	0.0368	0.0368	0.6832	0.6832	94.89	94.89	<0.0050	0.0012	0.0012	0.0368	0.0368	1.713	1.713	97.9	97.9
32	13-Sep-06	0.0977	0.0508	0.0508	1.37	1.37	778.6	778.6	99.82	99.82	<0.0050	0.0013	0.0013	0.0381	0.0381	0.6819	0.6819	94.71	94.71	<0.0050	0.0013	0.0013	0.0381	0.0381	1.712	1.712	97.82	97.82
33	20-Sep-06	0.112	0.0448	0.0448	1.41	1.41	778.6	778.6	99.82	99.82	<0.0050	0.001	0.001	0.0391	0.0391	0.6809	0.6809	94.57	94.57	<0.0050	0.001	0.001	0.0391	0.0391	1.711	1.711	97.77	97.77
34	27-Sep-06	0.101	0.0434	0.0434	1.45	1.45	778.6	778.6	99.81	99.81	<0.0050	0.00108	0.00108	0.0402	0.0402	0.6798	0.6798	94.42	94.42	<0.0050	0.00108	0.00108	0.0402	0.0402	1.71	1.71	97.7	97.7
35	4-Oct-06	0.0912	0.0429	0.0429	1.49	1.49	778.5	778.5	99.81	99.81	<0.0050	0.00118	0.00118	0.0414	0.0414	0.6786	0.6786	94.25	94.25	<0.0050	0.00118	0.00118	0.0414	0.0414	1.709	1.709	97.63	97.63
36	11-Oct-06	0.11	0.0561	0.0561	1.55	1.55	778.5	778.5	99.8	99.8	<0.0050	0.00128	0.00128	0.0427	0.0427	0.6773	0.6773	94.07	94.07	<0.0050	0.00128	0.00128	0.0427	0.0427	1.707	1.707	97.56	97.56
37	18-Oct-06	0.0819	0.0369	0.0369	1.59	1.59	778.4	778.4	99.8	99.8	<0.0050	0.00113	0.00113	0.0438	0.0438	0.6762	0.6762	93.92	93.92	<0.0050	0.00113	0.00113	0.0438	0.0438	1.706	1.706	97.5	97.5
38	25-Oct-06	0.11	0.0391	0.0391	1.63	1.63	778.4	778.4	99.79	99.79	<0.0050	0.000888	0.000888	0.0447	0.0447	0.6753	0.6753	93.79	93.79	<0.0050	0.000888	0.000888	0.0447	0.0447	1.705	1.705	97.45	97.45
39	1-Nov-06	0.116	0.0597	0.0597	1.69	1.69	778.3	778.3	99.78	99.78	<0.0050	0.00129	0.00129	0.046	0.046	0.674	0.674	93.61	93.61	<0.0050	0.00129	0.00129	0.046	0.046	1.704	1.704	97.37	97.37
40	8-Nov-06	0.142	0.0589	0.0589	1.75	1.75	778.3	778.3	99.78	99.78	<0.0050	0.00104	0.00104	0.047	0.047	0.673	0.673	93.47	93.47	<0.0050	0.00104	0.00104	0.047	0.047	1.703	1.703	97.31	97.31
41	15-Nov-06	0.115	0.0518	0.0518	1.8	1.8	778.2	778.2	99.77	99.77	<0.0050	0.00113	0.00113	0.0481	0.0481	0.6719	0.6719	93.32	93.32	<0.0050	0.00113	0.00113	0.0481	0.0481	1.702	1.702	97.25	97.25
42	22-Nov-06	0.11	0.0451	0.0451	1.85	1.85	778.2	778.2	99.76	99.76	<0.0050	0.00103	0.00103	0.0491	0.0491	0.6709	0.6709	93.18	93.18	<0.0050	0.00103	0.00103	0.0491	0.0491	1.701	1.701	97.19	97.19
43	29-Nov-06	0.124	0.0645	0.0645	1.91	1.91	778.1	778.1	99.76	99.76	<0.0050	0.0013	0.0013	0.0504	0.0504	0.6696	0.6696	93	93	<0.0050	0.0013	0.0013	0.0504	0.0504	1.7	1.7	97.12	97.12
44	6-Dec-06	0.193	0.0772	0.0772	1.99	1.99	778	778	99.74	99.74	<0.0050	0.001	0.001	0.0514	0.0514	0.6686	0.6686	92.86	92.86	<0.0050	0.001	0.001	0.0514	0.0514	1.699	1.699	97.06	97.06
45	13-Dec-06	0.191	0.0812	0.0812	2.07	2.07	777.9	777.9	99.73	99.73	<0.0050	0.00106	0.00106	0.0525	0.0525	0.6675	0.6675	92.71	92.71	<0.0050	0.00106	0.00106	0.0525	0.0525	1.698	1.698	97	97
46	20-Dec-06	0.186	0.0791	0.0791	2.15	2.15	777.9	777.9	99.72	99.72	<0.0050	0.00106	0.00106	0.0536	0.0536	0.6664	0.6664	92.56	92.56	<0.0050	0.00106	0.00106	0.0536	0.0536	1.696	1.696	96.94	96.94
47	28-Dec-06	0.126	0.0469	0.0469	2.2	2.2	777.8	777.8	99.72	99.72	<0.0050	0.00093	0.00093	0.0545	0.0545	0.6655	0.6655	92.43	92.43	<0.0050	0.00093	0.00093	0.0545	0.0545	1.696	1.696	96.89	96.89
48	3-Jan-07	0.197	0.0942	0.0942	2.29	2.29	777.7	777.7	99.71	99.71	<0.0050	0.0012	0.0012	0.0557	0.0557	0.6643	0.6643	92.26	92.26	<0.0050	0.0012	0.0012	0.0557	0.0557	1.694	1.694	96.82	96.82
49	10-Jan-07	0.127	0.0572	0.0572	2.35	2.35	777.7	777.7	99.7	99.7	<0.0050	0.00113	0.00113	0.0568	0.0568	0.6632	0.6632	92.11	92.11	<0.0050	0.00113	0.00113	0.0568	0.0568	1.693	1.693	96.75	96.75
50	17-Jan-07	0.17	0.0765	0.0765	2.43	2.43	777.6	777.6	99.69	99.69	<0.0050	0.00113	0.00113	0.0579	0.0579	0.6621	0.6621	91.96	91.96	<0.0050	0.00113	0.00113	0.0579	0.0579	1.692	1.692	96.69	96.69
51	24-Jan-07		0.0774	0.0774	2.51	2.51	777.5	777.5	99.68	99.68		0.00114	0.00114	0.059	0.059	0.661	0.661	91.81	91.81		0.00114	0.00114	0.059	0.059	1.691	1.691	96.63	96.63
52	31-Jan-07	0.144	0.0605	0.0605	2.57	2.57	777.4	777.4	99.67	99.67	<0.0050	0.00105	0.00105	0.0601	0.0601	0.6599	0.6599	91.65	91.65	<0.0050	0.00105	0.00105	0.0601	0.0601	1.69	1.69	96.57	96.57
53	7-Feb-07		0.0648	0.0648	2.63	2.63	777.4	777.4	99.66	99.66		0.00113	0.00113	0.0612	0.0612	0.6588	0.6588	91.5	91.5		0.00113	0.00113	0.0612	0.0612	1.689	1.689	96.5	96.5
54	14-Feb-07	0.157	0.0769	0.0769	2.71	2.71	777.3	777.3	99.65	99.65	<0.0050	0.00123	0.00123	0.0624	0.0624	0.6576	0.6576	91.33	91.33	<0.0050	0.00123	0.00123	0.0624	0.0624	1.688	1.688	96.43	96.43
Maximum		0.197	0.0942	0.0942	2.71	2.71	780	780	100	100	0.0025	0.0013	0.0013	0.0624	0.0624	0.7192	0.7192	99.89	99.89	0.0025	0.0013	0.0013	0.0624	0.0624	1.749	1.749	99.95	99.95
Minimum		0.0198	0.00812	0.00812	0.0097	0.0097	777.3	777.3	99.65	99.65	0.0025	0.000788	0.000788	0.000788	0.000788	0.6576	0.6576	91.33	91.33	0.0025	0.000788	0.000788	0.000788	0.000788	1.688	1.688	96.43	96.43
Mean		0.108	0.0491	0.0491	1.13	1.13	778.9	778.9	99.85	99.85	0.0025	0.00113	0.00113	0.0318	0.0318	0.6882	0.6882	95.59	95.59	0.0025	0.00113	0.00113	0.0318	0.0318	1.718	1.718	98.18	98.18
Median		0.11	0.0485	0.0485	1.11	1.11	778.9	778.9	99.86	99.86	0.0025	0.00113	0.00113	0.0317	0.0317	0.6883	0.6883	95.6	95.6	0.0025	0.00113	0.00113	0.0317	0.0317	1.718	1.718	98.19	98.19
Mean Initial 5 Wk Flush		0.0279	0.0118	0.0118	0.0326	0.0326	780	780	100	100	0.0025	0.00106	0.00106	0.00303	0.00303	0.717	0.717	99.58	99.58	0.0025	0.00106	0.00106	0.00303	0.00303	1.747	1.747	99.83	99.83
Mean Last 5 Weeks		0.157	0.0712	0.0712	2.57	2.57	777.4	777.4	99.67	99.67	0.0025	0.00114	0.00114	0.0601	0.0601	0.6599	0.6599	91.65	91.65	0.0025	0.00114	0.00114	0.0601	0.0601	1.69	1.69	96.56	96.56
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									2755	2755								158	158								384	384
50% Remaining (Wks)									5494	5494								316	316								768	768
25% Remaining (Wks)									8233	8233								474	474								1152	1152
0% Remaining (Wks)									10972	10972								632	632								1535	1535
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all weeks																											

Project:		Morrison																												
Sample:		**F47 (Tailings)**																												
		Scavenger Tailings High-Sulphide Tailings Composite																												
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																												
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Boron	Boron	Boron	Boron	Boron	Boron	Boron	Boron	Boron	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Cadmium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium	Calcium
Week No.	Date	B	B	B	B	B	B	B	B	B	Cd	Cd	Cd	Cd	Cd	Cd	Cd	Cd	Cd	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Boron (ppm) =			**NA**						**Original Cadmium (ppm) =**			**1.08**						**Original Calcium (ppm) =**			**18700**					
0	1-Feb-06	<0.10	0.0158	0.0158	0.0158	0.0158					<0.00050	7.88E-05	0.0000788	0.0000788	0.0000788	1.08	1.08	99.99	99.99	291	91.7	91.7	91.7	91.7	18610	18610	99.51	99.51
1	8-Feb-06	<0.10	0.0205	0.0205	0.0363	0.0363					<0.00050	0.000103	0.000103	0.000182	0.000182	1.08	1.08	99.98	99.98	225	92.3	92.3	184	184	18520	18520	99.02	99.02
2	15-Feb-06	<0.10	0.0248	0.0248	0.0611	0.0611					<0.00050	0.000124	0.000124	0.000306	0.000306	1.08	1.08	99.97	99.97	102	50.5	50.5	235	235	18470	18470	98.74	98.74
3	22-Feb-06	<0.10	0.0223	0.0223	0.0834	0.0834					<0.00050	0.000111	0.000111	0.000417	0.000417	1.08	1.08	99.96	99.96	84.2	37.5	37.5	273	273	18430	18430	98.54	98.54
4	1-Mar-06	<0.10	0.023	0.023	0.106	0.106					<0.00050	0.000115	0.000115	0.000532	0.000532	1.08	1.08	99.95	99.95	66.1	30.4	30.4	303	303	18400	18400	98.38	98.38
5	8-Mar-06	<0.10	0.0205	0.0205	0.127	0.127					<0.00050	0.000103	0.000103	0.000635	0.000635	1.08	1.08	99.94	99.94	52.4	21.5	21.5	325	325	18380	18380	98.26	98.26
6	15-Mar-06	<0.10	0.021	0.021	0.148	0.148					<0.00050	0.000105	0.000105	0.00074	0.00074	1.08	1.08	99.93	99.93	54	22.7	22.7	348	348	18350	18350	98.14	98.14
7	22-Mar-06	<0.10	0.0223	0.0223	0.17	0.17					<0.00050	0.000111	0.000111	0.000851	0.000851	1.08	1.08	99.92	99.92	40.4	18	18	366	366	18330	18330	98.04	98.04
8	29-Mar-06	<0.10	0.0245	0.0245	0.195	0.195					<0.00050	0.000123	0.000123	0.000974	0.000974	1.08	1.08	99.91	99.91	39.1	19.2	19.2	385	385	18320	18320	97.94	97.94
9	5-Apr-06	<0.10	0.024	0.024	0.219	0.219					<0.00050	0.00012	0.00012	0.00109	0.00109	1.08	1.08	99.9	99.9	35.7	17.1	17.1	402	402	18300	18300	97.85	97.85
10	12-Apr-06	<0.10	0.022	0.022	0.241	0.241					<0.00050	0.00011	0.00011	0.0012	0.0012	1.08	1.08	99.89	99.89	36.4	16	16	418	418	18280	18280	97.76	97.76
11	19-Apr-06	<0.10	0.0253	0.0253	0.266	0.266					<0.00050	0.000126	0.000126	0.00133	0.00133	1.08	1.08	99.88	99.88	37.5	18.9	18.9	437	437	18260	18260	97.66	97.66
12	26-Apr-06	<0.10	0.0243	0.0243	0.29	0.29					<0.00050	0.000121	0.000121	0.00145	0.00145	1.08	1.08	99.87	99.87	31.3	15.2	15.2	452	452	18250	18250	97.58	97.58
13	3-May-06	<0.10	0.021	0.021	0.311	0.311					<0.00050	0.000105	0.000105	0.00156	0.00156	1.08	1.08	99.86	99.86	31.8	13.4	13.4	465	465	18240	18240	97.51	97.51
14	10-May-06	<0.10	0.0213	0.0213	0.332	0.332					<0.00050	0.000106	0.000106	0.00167	0.00167	1.08	1.08	99.85	99.85	34.7	14.7	14.7	480	480	18220	18220	97.43	97.43
15	17-May-06	<0.10	0.0238	0.0238	0.356	0.356					<0.00050	0.000119	0.000119	0.00179	0.00179	1.08	1.08	99.83	99.83	32.6	15.5	15.5	496	496	18200	18200	97.35	97.35
16	24-May-06	<0.10	0.0225	0.0225	0.379	0.379					<0.00050	0.000113	0.000113	0.0019	0.0019	1.08	1.08	99.82	99.82	33.4	15	15	511	511	18190	18190	97.27	97.27
17	31-May-06	<0.10	0.0233	0.0233	0.402	0.402					<0.00050	0.000116	0.000116	0.00202	0.00202	1.08	1.08	99.81	99.81	32.2	15	15	526	526	18170	18170	97.19	97.19
18	7-Jun-06	<0.10	0.0213	0.0213	0.423	0.423					<0.00050	0.000106	0.000106	0.00213	0.00213	1.08	1.08	99.8	99.8	29.7	12.6	12.6	539	539	18160	18160	97.12	97.12
19	14-Jun-06	<0.10	0.0248	0.0248	0.448	0.448					<0.00050	0.000124	0.000124	0.00225	0.00225	1.08	1.08	99.79	99.79	21.6	10.7	10.7	550	550	18150	18150	97.06	97.06
20	21-Jun-06	<0.10	0.0245	0.0245	0.473	0.473					<0.00050	0.000123	0.000123	0.00237	0.00237	1.08	1.08	99.78	99.78	27.1	13.3	13.3	563	563	18140	18140	96.99	96.99
21	28-Jun-06	<0.10	0.021	0.021	0.494	0.494					<0.00050	0.000105	0.000105	0.00248	0.00248	1.08	1.08	99.77	99.77	26	10.9	10.9	574	574	18130	18130	96.93	96.93
22	5-Jul-06	<0.10	0.0225	0.0225	0.517	0.517					<0.00050	0.000113	0.000113	0.00259	0.00259	1.08	1.08	99.76	99.76	24.8	11.2	11.2	585	585	18120	18120	96.87	96.87
23	12-Jul-06	<0.10	0.023	0.023	0.54	0.54					<0.00050	0.000115	0.000115	0.00271	0.00271	1.08	1.08	99.75	99.75	29.1	13.4	13.4	598	598	18100	18100	96.8	96.8
24	19-Jul-06	<0.10	0.0243	0.0243	0.564	0.564					<0.00050	0.000121	0.000121	0.00283	0.00283	1.08	1.08	99.74	99.74	21.6	10.5	10.5	609	609	18090	18090	96.74	96.74
25	26-Jul-06	<0.10	0.0215	0.0215	0.586	0.586					<0.00050	0.000108	0.000108	0.00294	0.00294	1.08	1.08	99.73	99.73	25	10.8	10.8	620	620	18080	18080	96.68	96.68
26	2-Aug-06	<0.10	0.024	0.024	0.61	0.61					<0.00050	0.00012	0.00012	0.00306	0.00306	1.08	1.08	99.72	99.72	27.9	13.4	13.4	633	633	18070	18070	96.61	96.61
27	9-Aug-06	<0.10	0.0213	0.0213	0.631	0.631					<0.00050	0.000106	0.000106	0.00317	0.00317	1.08	1.08	99.71	99.71	20.5	8.71	8.71	642	642	18060	18060	96.57	96.57
28	16-Aug-06	<0.10	0.026	0.026	0.657	0.657					<0.00050	0.00013	0.00013	0.0033	0.0033	1.08	1.08	99.69	99.69	26	13.5	13.5	656	656	18040	18040	96.49	96.49
29	23-Aug-06	<0.10	0.026	0.026	0.683	0.683					<0.00050	0.00013	0.00013	0.00343	0.00343	1.08	1.08	99.68	99.68	21.1	11	11	667	667	18030	18030	96.43	96.43
30	30-Aug-06	<0.10	0.026	0.026	0.709	0.709					<0.00050	0.00013	0.00013	0.00356	0.00356	1.08	1.08	99.67	99.67	16.6	8.63	8.63	676	676	18020	18020	96.39	96.39
31	6-Sep-06	<0.10	0.024	0.024	0.733	0.733					<0.00050	0.00012	0.00012	0.00368	0.00368	1.08	1.08	99.66	99.66	32.7	15.7	15.7	692	692	18010	18010	96.3	96.3
32	13-Sep-06	<0.10	0.026	0.026	0.759	0.759					<0.00050	0.00013	0.00013	0.00381	0.00381	1.08	1.08	99.65	99.65	31.8	16.5	16.5	709	709	17990	17990	96.21	96.21
33	20-Sep-06	<0.10	0.02	0.02	0.779	0.779					<0.00050	0.0001	0.0001	0.00391	0.00391	1.08	1.08	99.64	99.64	20	8	8	717	717	17980	17980	96.17	96.17
34	27-Sep-06	<0.10	0.0215	0.0215	0.801	0.801					<0.00050	0.000108	0.000108	0.00402	0.00402	1.08	1.08	99.63	99.63	20.9	8.99	8.99	726	726	17970	17970	96.12	96.12
35	4-Oct-06	<0.10	0.0235	0.0235	0.825	0.825					<0.00050	0.000118	0.000118	0.00414	0.00414	1.08	1.08	99.62	99.62	22.3	10.5	10.5	737	737	17960	17960	96.06	96.06
36	11-Oct-06	<0.10	0.0255	0.0255	0.851	0.851					<0.00050	0.000128	0.000128	0.00427	0.00427	1.08	1.08	99.6	99.6	15.9	8.11	8.11	745	745	17960	17960	96.02	96.02
37	18-Oct-06	<0.10	0.0225	0.0225	0.874	0.874					<0.00050	0.000113	0.000113	0.00438	0.00438	1.08	1.08	99.59	99.59	32.4	14.6	14.6	760	760	17940	17940	95.94	95.94
38	25-Oct-06	<0.10	0.0178	0.0178	0.892	0.892					<0.00050	8.88E-05	0.0000888	0.00447	0.00447	1.08	1.08	99.59	99.59	24.6	8.73	8.73	769	769	17930	17930	95.89	95.89
39	1-Nov-06	<0.10	0.0258	0.0258	0.918	0.918					<0.00050	0.000129	0.000129	0.0046	0.0046	1.08	1.08	99.57	99.57	22.7	11.7	11.7	781	781	17920	17920	95.82	95.82
40	8-Nov-06	<0.10	0.0208	0.0208	0.939	0.939					<0.00050	0.000104	0.000104	0.0047	0.0047	1.08	1.08	99.56	99.56	24.8	10.3	10.3	791	791	17910	17910	95.77	95.77
41	15-Nov-06	<0.10	0.0225	0.0225	0.962	0.962					<0.00050	0.000113	0.000113	0.00481	0.00481	1.08	1.08	99.55	99.55	23.7	10.7	10.7	802	802	17900	17900	95.71	95.71
42	22-Nov-06	<0.10	0.0205	0.0205	0.983	0.983					<0.00050	0.000103	0.000103	0.00491	0.00491	1.08	1.08	99.55	99.55	29.3	12	12	814	814	17890	17890	95.65	95.65
43	29-Nov-06	<0.10	0.026	0.026	1.01	1.01					<0.00050	0.00013	0.00013	0.00504	0.00504	1.07	1.07	99.53	99.53	27.3	14.2	14.2	828	828	17870	17870	95.57	95.57
44	6-Dec-06	<0.10	0.02	0.02	1.03	1.03					<0.00050	0.0001	0.0001	0.00514	0.00514	1.07	1.07	99.52	99.52	17.3	6.92	6.92	835	835	17870	17870	95.53	95.53
45	13-Dec-06	<0.10	0.0213	0.0213	1.05	1.05					<0.00050	0.000106	0.000106	0.00525	0.00525	1.07	1.07	99.51	99.51	16.7	7.1	7.1	842	842	17860	17860	95.5	95.5
46	20-Dec-06	<0.10	0.0213	0.0213	1.07	1.07					<0.00050	0.000106	0.000106	0.00536	0.00536	1.07	1.07	99.5	99.5	16.2	6.89	6.89	849	849	17850	17850	95.46	95.46
47	28-Dec-06	<0.10	0.0186	0.0186	1.09	1.09					<0.00050	0.000093	0.000093	0.00545	0.00545	1.07	1.07	99.5	99.5	33	12.3	12.3	861	861	17840	17840	95.4	95.4
48	3-Jan-07	<0.10	0.0239	0.0239	1.11	1.11					<0.00050	0.00012	0.00012	0.00557	0.00557	1.07	1.07	99.48	99.48	17.8	8.51	8.51	870	870	17830	17830	95.35	95.35
49	10-Jan-07	<0.10	0.0225	0.0225	1.13	1.13					<0.00050	0.000113	0.000113	0.00568	0.00568	1.07	1.07	99.47	99.47	29.7	13.4	13.4	883	883	17820	17820	95.28	95.28
50	17-Jan-07	<0.10	0.0225	0.0225	1.15	1.15					<0.00050	0.000113	0.000113	0.00579	0.00579	1.07	1.07	99.46	99.46	30.1	13.5	13.5	897	897	17800	17800	95.2	95.2
51	24-Jan-07		0.0228	0.0228	1.17	1.17						0.000114	0.000114	0.0059	0.0059	1.07	1.07	99.45	99.45		13.7	13.7	911	911	17790	17790	95.13	95.13
52	31-Jan-07	<0.10	0.021	0.021	1.19	1.19					<0.00050	0.000105	0.000105	0.00601	0.00601	1.07	1.07	99.44	99.44	29.6	12.4	12.4	923	923	17780	17780	95.06	95.06
53	7-Feb-07		0.0225	0.0225	1.21	1.21						0.000113	0.000113	0.00612	0.00612	1.07	1.07	99.43	99.43		13.3	13.3	936	936	17760	17760	94.99	94.99
54	14-Feb-07	<0.10	0.0245	0.0245	1.23	1.23					<0.00050	0.000123	0.000123	0.00624	0.00624	1.07	1.07	99.42	99.42	27.5	13.5	13.5	950	950	17750	17750	94.92	94.92
Maximum		0.05	0.026	0.026	1.23	1.23	NA	NA	NA	NA	0.00025	0.00013	0.00013	0.00624	0.00624	1.08	1.08	99.99	99.99	291	92.3	92.3	950	950	18610	18610	99.51	99.51
Minimum		0.05	0.0158	0.0158	0.0158	0.0158	NA	NA	NA	NA	0.00025	7.88E-05	0.0000788	0.0000788	0.0000788	1.07	1.07	99.42	99.42	15.9	6.89	6.89	91.7	91.7	17750	17750	94.92	94.92
Mean		0.05	0.0226	0.0226	0.633	0.633	NA	NA	NA	NA	0.00025	0.000113	0.000113	0.00318	0.00318	1.08	1.08	99.7	99.7	39.7	17.2	17.2	623	623	18080	18080	96.67	96.67
Median		0.05	0.0225	0.0225	0.631	0.631	NA	NA	NA	NA	0.00025	0.000113	0.000113	0.00317	0.00317	1.08	1.08	99.71	99.71	29.6	13.4	13.4	642	642	18060	18060	96.57	96.57
Mean Initial 5 Wk Flush		0.05	0.0213	0.0213	0.0605	0.0605	NA	NA	NA	NA	0.00025	0.000106	0.000106	0.000303	0.000303	1.08	1.08	99.97	99.97	154	60.5	60.5	217	217	18490	18490	98.84	98.84
Mean Last 5 Weeks		0.05	0.0227	0.0227	1.19	1.19	NA	NA	NA	NA	0.00025	0.000114	0.000114	0.00601	0.00601	1.07	1.07	99.44	99.44	29.4	13.3	13.3	923	923	17780	17780	95.06	95.06
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									NA	NA								2368	2368									335	335
50% Remaining (Wks)									NA	NA								4737	4737									687	687
25% Remaining (Wks)									NA	NA								7105	7105									1038	1038
0% Remaining (Wks)									NA	NA								9474	9474									1390	1390
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																												
		[1] Includes Final Leach data distributed evenly over all week:																												

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Chromium	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Copper	Copper	Copper	Copper	Copper	Copper	Copper	Copper	Copper
Week No.	Date	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Co	Co	Co	Co	Co	Co	Co	Co	Co	Co	Cu	Cu	Cu	Cu	Cu	Cu	Cu	Cu	Cu
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Chromium (ppm) =			**166**						**Original Cobalt (ppm) =**			**12.6**							**Original Copper (ppm) =**			**828**						
0	1-Feb-06	<0.0050	0.000788	0.000788	0.000788	0.000788	166	166	100	100	0.0011	0.000347	0.000347	0.000347	0.000347	12.6	12.6	100	100	0.0053	0.00167	0.00167	0.00167	0.00167	828	828	100	100	
1	8-Feb-06	<0.0050	0.00103	0.00103	0.00182	0.00182	166	166	100	100	0.0017	0.000697	0.000697	0.00104	0.00104	12.6	12.6	99.99	99.99	0.0031	0.00127	0.00127	0.00294	0.00294	828	828	100	100	
2	15-Feb-06	<0.0050	0.00124	0.00124	0.00306	0.00306	166	166	100	100	0.0014	0.000693	0.000693	0.00173	0.00173	12.6	12.6	99.99	99.99	0.0021	0.00104	0.00104	0.00398	0.00398	828	828	100	100	
3	22-Feb-06	<0.0050	0.00111	0.00111	0.00417	0.00417	166	166	100	100	<0.0010	0.000223	0.000223	0.00195	0.00195	12.6	12.6	99.98	99.98	0.0016	0.000712	0.000712	0.00469	0.00469	828	828	100	100	
4	1-Mar-06	<0.0050	0.00115	0.00115	0.00532	0.00532	166	166	100	100	<0.0010	0.00023	0.00023	0.00218	0.00218	12.6	12.6	99.98	99.98	0.0014	0.000644	0.000644	0.00533	0.00533	828	828	100	100	
5	8-Mar-06	<0.0050	0.00103	0.00103	0.00635	0.00635	166	166	100	100	<0.0010	0.000205	0.000205	0.00239	0.00239	12.6	12.6	99.98	99.98	0.0013	0.000533	0.000533	0.00586	0.00586	828	828	100	100	
6	15-Mar-06	<0.0050	0.00105	0.00105	0.0074	0.0074	166	166	100	100	<0.0010	0.00021	0.00021	0.0026	0.0026	12.6	12.6	99.98	99.98	0.0014	0.000588	0.000588	0.00645	0.00645	828	828	100	100	
7	22-Mar-06	<0.0050	0.00111	0.00111	0.00851	0.00851	166	166	99.99	99.99	<0.0010	0.000223	0.000223	0.00282	0.00282	12.6	12.6	99.98	99.98	0.0011	0.00049	0.00049	0.00694	0.00694	828	828	100	100	
8	29-Mar-06	<0.0050	0.00123	0.00123	0.00974	0.00974	166	166	99.99	99.99	<0.0010	0.000245	0.000245	0.00307	0.00307	12.6	12.6	99.98	99.98	<0.0010	0.000245	0.000245	0.00719	0.00719	828	828	100	100	
9	5-Apr-06	<0.0050	0.0012	0.0012	0.0109	0.0109	166	166	99.99	99.99	<0.0010	0.00024	0.00024	0.00331	0.00331	12.6	12.6	99.97	99.97	0.0018	0.000864	0.000864	0.00805	0.00805	828	828	100	100	
10	12-Apr-06	<0.0050	0.0011	0.0011	0.012	0.012	166	166	99.99	99.99	<0.0010	0.00022	0.00022	0.00353	0.00353	12.6	12.6	99.97	99.97	0.0014	0.000616	0.000616	0.00867	0.00867	828	828	100	100	
11	19-Apr-06	<0.0050	0.00126	0.00126	0.0133	0.0133	166	166	99.99	99.99	<0.0010	0.000253	0.000253	0.00378	0.00378	12.6	12.6	99.97	99.97	0.0018	0.000909	0.000909	0.00958	0.00958	828	828	100	100	
12	26-Apr-06	<0.0050	0.00121	0.00121	0.0145	0.0145	166	166	99.99	99.99	<0.0010	0.000243	0.000243	0.00402	0.00402	12.6	12.6	99.97	99.97	0.0014	0.000679	0.000679	0.0103	0.0103	828	828	100	100	
13	3-May-06	<0.0050	0.00105	0.00105	0.0156	0.0156	166	166	99.99	99.99	<0.0010	0.00021	0.00021	0.00423	0.00423	12.6	12.6	99.97	99.97	0.0015	0.00063	0.00063	0.0109	0.0109	828	828	100	100	
14	10-May-06	<0.0050	0.00106	0.00106	0.0167	0.0167	166	166	99.99	99.99	<0.0010	0.000213	0.000213	0.00444	0.00444	12.6	12.6	99.96	99.96	0.002	0.00085	0.00085	0.0118	0.0118	828	828	100	100	
15	17-May-06	<0.0050	0.00119	0.00119	0.0179	0.0179	166	166	99.99	99.99	<0.0010	0.000238	0.000238	0.00468	0.00468	12.6	12.6	99.96	99.96	0.0019	0.000903	0.000903	0.0127	0.0127	828	828	100	100	
16	24-May-06	<0.0050	0.00113	0.00113	0.019	0.019	166	166	99.99	99.99	<0.0010	0.000225	0.000225	0.00491	0.00491	12.6	12.6	99.96	99.96	0.0019	0.000855	0.000855	0.0136	0.0136	828	828	100	100	
17	31-May-06	<0.0050	0.00116	0.00116	0.0202	0.0202	166	166	99.99	99.99	<0.0010	0.000233	0.000233	0.00514	0.00514	12.59	12.59	99.96	99.96	0.0032	0.00149	0.00149	0.0151	0.0151	828	828	100	100	
18	7-Jun-06	<0.0050	0.00106	0.00106	0.0213	0.0213	166	166	99.99	99.99	<0.0010	0.000213	0.000213	0.00535	0.00535	12.59	12.59	99.96	99.96	0.0019	0.000808	0.000808	0.0159	0.0159	828	828	100	100	
19	14-Jun-06	<0.0050	0.00124	0.00124	0.0225	0.0225	166	166	99.99	99.99	<0.0010	0.000248	0.000248	0.0056	0.0056	12.59	12.59	99.96	99.96	0.0014	0.000693	0.000693	0.0166	0.0166	828	828	100	100	
20	21-Jun-06	<0.0050	0.00123	0.00123	0.0237	0.0237	166	166	99.99	99.99	<0.0010	0.000245	0.000245	0.00585	0.00585	12.59	12.59	99.95	99.95	0.0025	0.00123	0.00123	0.0178	0.0178	828	828	100	100	
21	28-Jun-06	<0.0050	0.00105	0.00105	0.0248	0.0248	166	166	99.99	99.99	<0.0010	0.00021	0.00021	0.00606	0.00606	12.59	12.59	99.95	99.95	0.0019	0.000798	0.000798	0.0186	0.0186	828	828	100	100	
22	5-Jul-06	<0.0050	0.00113	0.00113	0.0259	0.0259	166	166	99.98	99.98	<0.0010	0.000225	0.000225	0.00629	0.00629	12.59	12.59	99.95	99.95	0.0014	0.00063	0.00063	0.0192	0.0192	828	828	100	100	
23	12-Jul-06	<0.0050	0.00115	0.00115	0.0271	0.0271	166	166	99.98	99.98	<0.0010	0.00023	0.00023	0.00652	0.00652	12.59	12.59	99.95	99.95	0.0016	0.000736	0.000736	0.0199	0.0199	828	828	100	100	
24	19-Jul-06	<0.0050	0.00121	0.00121	0.0283	0.0283	166	166	99.98	99.98	<0.0010	0.000243	0.000243	0.00676	0.00676	12.59	12.59	99.95	99.95	0.0011	0.000534	0.000534	0.0204	0.0204	828	828	100	100	
25	26-Jul-06	<0.0050	0.00108	0.00108	0.0294	0.0294	166	166	99.98	99.98	<0.0010	0.000215	0.000215	0.00698	0.00698	12.59	12.59	99.94	99.94	0.0013	0.000559	0.000559	0.021	0.021	828	828	100	100	
26	2-Aug-06	<0.0050	0.0012	0.0012	0.0306	0.0306	166	166	99.98	99.98	<0.0010	0.00024	0.00024	0.00722	0.00722	12.59	12.59	99.94	99.94	0.0019	0.000912	0.000912	0.0219	0.0219	828	828	100	100	
27	9-Aug-06	<0.0050	0.00106	0.00106	0.0317	0.0317	166	166	99.98	99.98	<0.0010	0.000213	0.000213	0.00743	0.00743	12.59	12.59	99.94	99.94	0.0016	0.00068	0.00068	0.0226	0.0226	828	828	100	100	
28	16-Aug-06	<0.0050	0.0013	0.0013	0.033	0.033	166	166	99.98	99.98	<0.0010	0.00026	0.00026	0.00769	0.00769	12.59	12.59	99.94	99.94	0.0019	0.000988	0.000988	0.0236	0.0236	828	828	100	100	
29	23-Aug-06	<0.0050	0.0013	0.0013	0.0343	0.0343	166	166	99.98	99.98	<0.0010	0.00026	0.00026	0.00795	0.00795	12.59	12.59	99.94	99.94	0.0013	0.000676	0.000676	0.0243	0.0243	828	828	100	100	
30	30-Aug-06	<0.0050	0.0013	0.0013	0.0356	0.0356	166	166	99.98	99.98	<0.0010	0.00026	0.00026	0.00821	0.00821	12.59	12.59	99.93	99.93	<0.0010	0.00026	0.00026	0.0246	0.0246	828	828	100	100	
31	6-Sep-06	<0.0050	0.0012	0.0012	0.0368	0.0368	166	166	99.98	99.98	<0.0010	0.00024	0.00024	0.00845	0.00845	12.59	12.59	99.93	99.93	0.0024	0.00115	0.00115	0.0258	0.0258	828	828	100	100	
32	13-Sep-06	<0.0050	0.0013	0.0013	0.0381	0.0381	166	166	99.98	99.98	<0.0010	0.00026	0.00026	0.00871	0.00871	12.59	12.59	99.93	99.93	0.0025	0.0013	0.0013	0.0271	0.0271	828	828	100	100	
33	20-Sep-06	<0.0050	0.001	0.001	0.0391	0.0391	166	166	99.98	99.98	<0.0010	0.0002	0.0002	0.00891	0.00891	12.59	12.59	99.93	99.93	0.0015	0.0006	0.0006	0.0277	0.0277	828	828	100	100	
34	27-Sep-06	<0.0050	0.00108	0.00108	0.0402	0.0402	166	166	99.98	99.98	<0.0010	0.000215	0.000215	0.00913	0.00913	12.59	12.59	99.93	99.93	0.0014	0.000602	0.000602	0.0283	0.0283	828	828	100	100	
35	4-Oct-06	<0.0050	0.00118	0.00118	0.0414	0.0414	166	166	99.98	99.98	<0.0010	0.000235	0.000235	0.00937	0.00937	12.59	12.59	99.93	99.93	0.0013	0.000611	0.000611	0.0289	0.0289	828	828	100	100	
36	11-Oct-06	<0.0050	0.00128	0.00128	0.0427	0.0427	166	166	99.97	99.97	<0.0010	0.000255	0.000255	0.00963	0.00963	12.59	12.59	99.92	99.92	<0.0010	0.000255	0.000255	0.0292	0.0292	828	828	100	100	
37	18-Oct-06	<0.0050	0.00113	0.00113	0.0438	0.0438	166	166	99.97	99.97	<0.0010	0.000225	0.000225	0.00986	0.00986	12.59	12.59	99.92	99.92	0.0023	0.00104	0.00104	0.0302	0.0302	828	828	100	100	
38	25-Oct-06	<0.0050	0.000888	0.000888	0.0447	0.0447	166	166	99.97	99.97	<0.0010	0.000178	0.000178	0.01	0.01	12.59	12.59	99.92	99.92	0.0011	0.000391	0.000391	0.0306	0.0306	828	828	100	100	
39	1-Nov-06	<0.0050	0.00129	0.00129	0.046	0.046	166	166	99.97	99.97	<0.0010	0.000258	0.000258	0.0103	0.0103	12.59	12.59	99.92	99.92	0.0012	0.000618	0.000618	0.0312	0.0312	828	828	100	100	
40	8-Nov-06	<0.0050	0.00104	0.00104	0.047	0.047	166	166	99.97	99.97	<0.0010	0.000208	0.000208	0.0105	0.0105	12.59	12.59	99.92	99.92	0.0015	0.000623	0.000623	0.0318	0.0318	828	828	100	100	
41	15-Nov-06	<0.0050	0.00113	0.00113	0.0481	0.0481	166	166	99.97	99.97	<0.0010	0.000225	0.000225	0.0107	0.0107	12.59	12.59	99.92	99.92	0.0013	0.000585	0.000585	0.0324	0.0324	828	828	100	100	
42	22-Nov-06	<0.0050	0.00103	0.00103	0.0491	0.0491	166	166	99.97	99.97	<0.0010	0.000205	0.000205	0.0109	0.0109	12.59	12.59	99.91	99.91	0.0014	0.000574	0.000574	0.033	0.033	828	828	100	100	
43	29-Nov-06	<0.0050	0.0013	0.0013	0.0504	0.0504	165.9	165.9	99.97	99.97	<0.0010	0.00026	0.00026	0.0112	0.0112	12.59	12.59	99.91	99.91	0.0014	0.000728	0.000728	0.0337	0.0337	828	828	100	100	
44	6-Dec-06	<0.0050	0.001	0.001	0.0514	0.0514	165.9	165.9	99.97	99.97	<0.0010	0.0002	0.0002	0.0114	0.0114	12.59	12.59	99.91	99.91	0.0016	0.00064	0.00064	0.0343	0.0343	828	828	100	100	
45	13-Dec-06	<0.0050	0.00106	0.00106	0.0525	0.0525	165.9	165.9	99.97	99.97	<0.0010	0.000213	0.000213	0.0116	0.0116	12.59	12.59	99.91	99.91	0.002	0.00085	0.00085	0.0352	0.0352	828	828	100	100	
46	20-Dec-06	<0.0050	0.00106	0.00106	0.0536	0.0536	165.9	165.9	99.97	99.97	<0.0010	0.000213	0.000213	0.0118	0.0118	12.59	12.59	99.91	99.91	0.0016	0.00068	0.00068	0.0359	0.0359	828	828	100	100	
47	28-Dec-06	<0.0050	0.00093	0.00093	0.0545	0.0545	165.9	165.9	99.97	99.97	<0.0010	0.000186	0.000186	0.012	0.012	12.59	12.59	99.9	99.9	0.0021	0.000781	0.000781	0.0367	0.0367	828	828	100	100	
48	3-Jan-07	<0.0050	0.0012	0.0012	0.0557	0.0557	165.9	165.9	99.97	99.97	<0.0010	0.000239	0.000239	0.0122	0.0122	12.59	12.59	99.9	99.9	0.0015	0.000718	0.000718	0.0374	0.0374	828	828	100	100	
49	10-Jan-07	<0.0050	0.00113	0.00113	0.0568	0.0568	165.9	165.9	99.97	99.97	<0.0010	0.000225	0.000225	0.0124	0.0124	12.59	12.59	99.9	99.9	0.0016	0.00072	0.00072	0.0381	0.0381	828	828	100	100	
50	17-Jan-07	<0.0050	0.00113	0.00113	0.0579	0.0579	165.9	165.9	99.97	99.97	<0.0010	0.000225	0.000225	0.0126	0.0126	12.59	12.59	99.9	99.9	0.0016	0.00072	0.00072	0.0388	0.0388	828	828	100	100	
51	24-Jan-07		0.00114	0.00114	0.059	0.059	165.9	165.9	99.96	99.96		0.000228	0.000228	0.0128	0.0128	12.59	12.59	99.9	99.9		0.000728	0.000728	0.0395	0.0395	828	828	100	100	
52	31-Jan-07	<0.0050	0.00105	0.00105	0.0601	0.0601	165.9	165.9	99.96	99.96	<0.0010	0.00021	0.00021	0.013	0.013	12.59	12.59	99.9	99.9	0.0019	0.000798	0.000798	0.0403	0.0403	828	828	100	100	
53	7-Feb-07		0.00113	0.00113	0.0612	0.0612	165.9	165.9	99.96	99.96		0.000225	0.000225	0.0132	0.0132	12.59	12.59	99.9	99.9		0.000855	0.000855	0.0412	0.0412	828	828	100	100	
54	14-Feb-07	<0.0050	0.00123	0.00123	0.0624	0.0624	165.9	165.9	99.96	99.96	<0.0010	0.000245	0.000245	0.0134	0.0134	12.59	12.59	99.89	99.89	0.0021	0.00103	0.00103	0.0422	0.0422	828	828	99.99	99.99	
Maximum		0.0025	0.0013	0.0013	0.0624	0.0624	166	166	100	100	0.0017	0.000697	0.000697	0.0134	0.0134	12.6	12.6	100	100	0.0053	0.00167	0.00167	0.0422	0.0422	828	828	100	100	
Minimum		0.0025	0.000788	0.000788	0.000788	0.000788	165.9	165.9	99.96	99.96	0.0005	0.000178	0.000178	0.000347	0.000347	12.59	12.59	99.89	99.89	0.0005	0.000245	0.000245	0.00167	0.00167	828	828	99.99	99.99	
Mean		0.0025	0.00113	0.00113	0.0318	0.0318	166	166	99.98	99.98	0.000549	0.000247	0.000247	0.00742	0.00742	12.59	12.59	99.94	99.94	0.00171	0.000765	0.000765	0.0222	0.0222	828	828	100	100	
Median		0.0025	0.00113	0.00113	0.0317	0.0317	166	166	99.98	99.98	0.0005	0.000225	0.000225	0.00743	0.00743	12.59	12.59	99.94	99.94	0.0016	0.000718	0.000718	0.0226	0.0226	828	828	100	100	
Mean Initial 5 Wk Flush		0.0025	0.00106	0.00106	0.00303	0.00303	166	166	100	100	0.00104	0.000438	0.000438	0.00145	0.00145	12.6	12.6	99.99	99.99	0.0027	0.00107	0.00107	0.00372	0.00372	828	828	100	100	
Mean Last 5 Weeks		0.0025	0.00114	0.00114	0.0601	0.0601	165.9	165.9	99.96	99.96	0.0005	0.000227	0.000227	0.013	0.013	12.59	12.59	99.9	99.9	0.00182	0.000826	0.000826	0.0404	0.0404	828	828	100	100	
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
75% Remaining (Wks)									36400	36400								13871	13871								250560	250560	
50% Remaining (Wks)									72804	72804								27747	27747								501165	501165	
25% Remaining (Wks)									109207	109207								41624	41624								751771	751771	
0% Remaining (Wks)									145611	145611								55501	55501								1002376	1002376	
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all weeks																											

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
		Gallium	Gallium	Gallium	Cumulative Gallium	Cumulative Gallium	Remaining Gallium	Remaining Gallium	Remaining Gallium	Remaining Gallium		Indium	Indium	Indium	Cumulative Indium	Cumulative Indium	Remaining Indium	Remaining Indium	Remaining Indium	Remaining Indium		Iron	Iron	Iron	Cumulative Iron	Cumulative Iron	Remaining Iron	Remaining Iron	Remaining Iron	Remaining Iron	
Week No.	Date	Ga	Ga	Ga	Ga	Ga	Ga	Ga	Ga	Ga		In	In	In	In	In	In	In	In	In		Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	
		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	
		Original Gallium (ppm) =			**17.95**							**Original Indium (ppm) =**			**0.145**							**Original Iron (ppm) =**			**49500**					
0	1-Feb-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00473	0.00473	0.00473	0.00473	49500	49500	100	100	
1	8-Feb-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00615	0.00615	0.0109	0.0109	49500	49500	100	100	
2	15-Feb-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00743	0.00743	0.0183	0.0183	49500	49500	100	100	
3	22-Feb-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00668	0.00668	0.025	0.025	49500	49500	100	100	
4	1-Mar-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0069	0.0069	0.0319	0.0319	49500	49500	100	100	
5	8-Mar-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00615	0.00615	0.0381	0.0381	49500	49500	100	100	
6	15-Mar-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0063	0.0063	0.0444	0.0444	49500	49500	100	100	
7	22-Mar-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00668	0.00668	0.0511	0.0511	49500	49500	100	100	
8	29-Mar-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00735	0.00735	0.0585	0.0585	49500	49500	100	100	
9	5-Apr-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0072	0.0072	0.0657	0.0657	49500	49500	100	100	
10	12-Apr-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0066	0.0066	0.0723	0.0723	49500	49500	100	100	
11	19-Apr-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00758	0.00758	0.0799	0.0799	49500	49500	100	100	
12	26-Apr-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00728	0.00728	0.0872	0.0872	49500	49500	100	100	
13	3-May-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0063	0.0063	0.0935	0.0935	49500	49500	100	100	
14	10-May-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00638	0.00638	0.0999	0.0999	49500	49500	100	100	
15	17-May-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00713	0.00713	0.107	0.107	49500	49500	100	100	
16	24-May-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00675	0.00675	0.114	0.114	49500	49500	100	100	
17	31-May-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00698	0.00698	0.121	0.121	49500	49500	100	100	
18	7-Jun-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00638	0.00638	0.127	0.127	49500	49500	100	100	
19	14-Jun-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00743	0.00743	0.134	0.134	49500	49500	100	100	
20	21-Jun-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00735	0.00735	0.141	0.141	49500	49500	100	100	
21	28-Jun-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0063	0.0063	0.147	0.147	49500	49500	100	100	
22	5-Jul-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00675	0.00675	0.154	0.154	49500	49500	100	100	
23	12-Jul-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0069	0.0069	0.161	0.161	49500	49500	100	100	
24	19-Jul-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00728	0.00728	0.168	0.168	49500	49500	100	100	
25	26-Jul-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00645	0.00645	0.174	0.174	49500	49500	100	100	
26	2-Aug-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0072	0.0072	0.181	0.181	49500	49500	100	100	
27	9-Aug-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00638	0.00638	0.187	0.187	49500	49500	100	100	
28	16-Aug-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0078	0.0078	0.195	0.195	49500	49500	100	100	
29	23-Aug-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0078	0.0078	0.203	0.203	49500	49500	100	100	
30	30-Aug-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0078	0.0078	0.211	0.211	49500	49500	100	100	
31	6-Sep-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0072	0.0072	0.218	0.218	49500	49500	100	100	
32	13-Sep-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0078	0.0078	0.226	0.226	49500	49500	100	100	
33	20-Sep-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.006	0.006	0.232	0.232	49500	49500	100	100	
34	27-Sep-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00645	0.00645	0.238	0.238	49500	49500	100	100	
35	4-Oct-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00705	0.00705	0.245	0.245	49500	49500	100	100	
36	11-Oct-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00765	0.00765	0.253	0.253	49500	49500	100	100	
37	18-Oct-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00675	0.00675	0.26	0.26	49500	49500	100	100	
38	25-Oct-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00533	0.00533	0.265	0.265	49500	49500	100	100	
39	1-Nov-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00773	0.00773	0.273	0.273	49500	49500	100	100	
40	8-Nov-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00623	0.00623	0.279	0.279	49500	49500	100	100	
41	15-Nov-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00675	0.00675	0.286	0.286	49500	49500	100	100	
42	22-Nov-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00615	0.00615	0.292	0.292	49500	49500	100	100	
43	29-Nov-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0078	0.0078	0.3	0.3	49500	49500	100	100	
44	6-Dec-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.006	0.006	0.306	0.306	49500	49500	100	100	
45	13-Dec-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00638	0.00638	0.312	0.312	49500	49500	100	100	
46	20-Dec-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00638	0.00638	0.318	0.318	49500	49500	100	100	
47	28-Dec-06		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00558	0.00558	0.324	0.324	49500	49500	100	100	
48	3-Jan-07		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00718	0.00718	0.331	0.331	49500	49500	100	100	
49	10-Jan-07		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00675	0.00675	0.338	0.338	49500	49500	100	100	
50	17-Jan-07		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00675	0.00675	0.345	0.345	49500	49500	100	100	
51	24-Jan-07		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100			0.00683	0.00683	0.352	0.352	49500	49500	100	100	
52	31-Jan-07		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.0063	0.0063	0.358	0.358	49500	49500	100	100	
53	7-Feb-07		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100			0.00675	0.00675	0.365	0.365	49500	49500	100	100	
54	14-Feb-07		0	0	0	0	17.95	17.95	100	100			0	0	0	0	0.145	0.145	100	100		<0.030	0.00735	0.00735	0.372	0.372	49500	49500	100	100	
Maximum		0	0	0	0	0	17.95	17.95	100	100		0	0	0	0	0	0.145	0.145	100	100		0.015	0.0078	0.0078	0.372	0.372	49500	49500	100	100	
Minimum		0	0	0	0	0	17.95	17.95	100	100		0	0	0	0	0	0.145	0.145	100	100		0.015	0.00473	0.00473	0.00473	0.00473	49500	49500	100	100	
Mean		0	0	0	0	0	17.95	17.95	100	100		0	0	0	0	0	0.145	0.145	100	100		0.015	0.00679	0.00679	0.189	0.189	49500	49500	100	100	
Median		0	0	0	0	0	17.95	17.95	100	100		0	0	0	0	0	0.145	0.145	100	100		0.015	0.00675	0.00675	0.187	0.187	49500	49500	100	100	
Mean Initial 5 Wk Flush		0	0	0	0	0	17.95	17.95	100	100		0	0	0	0	0	0.145	0.145	100	100		0.015	0.00638	0.00638	0.0182	0.0182	49500	49500	100	100	
Mean Last 5 Weeks		0	0	0	0	0	17.95	17.95	100	100		0	0	0	0	0	0.145	0.145	100	100		0.015	0.0068	0.0068	0.358	0.358	49500	49500	100	100	
Number of Weeks		54	54	54	54	54	54	54	54	54		54	54	54	54	54	54	54	54	54		54	54	54	54	54	54	54	54	54	
75% Remaining (Wks)									NA	NA									NA	NA									1819908	1819908	
50% Remaining (Wks)									NA	NA									NA	NA									3639761	3639761	
25% Remaining (Wks)									NA	NA									NA	NA									5459614	5459614	
0% Remaining (Wks)									NA	NA									NA	NA									7279467	7279467	
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																													
		[1] Includes Final Leach data distributed evenly over all weeks																													

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium	Magnesium
Week No.	Date	Pb	Pb	Pb	Pb	Pb	Pb	Pb	Pb	Pb	Li	Li	Li	Li	Li	Li	Li	Li	Li	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg	Mg
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Lead (ppm) =			**65.1**						**Original Lithium (ppm) =**			**24.8**						**Original Magnesium (ppm) =**			**8100**						
0	1-Feb-06	0.001	0.000315	0.000315	0.000315	0.000315	65.1	65.1	100	100	0.026	0.00819	0.00819	0.00819	0.00819	24.79	24.79	99.97	99.97	79.5	25	25	25	25	8075	8075	99.69	99.69
1	8-Feb-06	<0.0010	0.000205	0.000205	0.00052	0.00052	65.1	65.1	100	100	0.022	0.00902	0.00902	0.0172	0.0172	24.78	24.78	99.93	99.93	62.2	25.5	25.5	50.5	50.5	8050	8050	99.38	99.38
2	15-Feb-06	<0.0010	0.000248	0.000248	0.000768	0.000768	65.1	65.1	100	100	<0.010	0.00248	0.00248	0.0197	0.0197	24.78	24.78	99.92	99.92	36.7	18.2	18.2	68.7	68.7	8031	8031	99.15	99.15
3	22-Feb-06	<0.0010	0.000223	0.000223	0.000991	0.000991	65.1	65.1	100	100	<0.010	0.00223	0.00223	0.0219	0.0219	24.78	24.78	99.91	99.91	28.4	12.6	12.6	81.3	81.3	8019	8019	99	99
4	1-Mar-06	<0.0010	0.00023	0.00023	0.00122	0.00122	65.1	65.1	100	100	<0.010	0.0023	0.0023	0.0242	0.0242	24.78	24.78	99.9	99.9	23.1	10.6	10.6	91.9	91.9	8008	8008	98.87	98.87
5	8-Mar-06	<0.0010	0.000205	0.000205	0.00143	0.00143	65.1	65.1	100	100	<0.010	0.00205	0.00205	0.0263	0.0263	24.77	24.77	99.89	99.89	20.7	8.49	8.49	100	100	8000	8000	98.77	98.77
6	15-Mar-06	<0.0010	0.00021	0.00021	0.00164	0.00164	65.1	65.1	100	100	<0.010	0.0021	0.0021	0.0284	0.0284	24.77	24.77	99.89	99.89	19.6	8.23	8.23	108	108	7992	7992	98.67	98.67
7	22-Mar-06	<0.0010	0.000223	0.000223	0.00186	0.00186	65.1	65.1	100	100	<0.010	0.00223	0.00223	0.0306	0.0306	24.77	24.77	99.88	99.88	15.7	6.99	6.99	115	115	7985	7985	98.58	98.58
8	29-Mar-06	<0.0010	0.000245	0.000245	0.00211	0.00211	65.1	65.1	100	100	<0.010	0.00245	0.00245	0.0331	0.0331	24.77	24.77	99.87	99.87	14.1	6.91	6.91	122	122	7978	7978	98.49	98.49
9	5-Apr-06	<0.0010	0.00024	0.00024	0.00235	0.00235	65.1	65.1	100	100	<0.010	0.0024	0.0024	0.0355	0.0355	24.76	24.76	99.86	99.86	15.6	7.49	7.49	129	129	7971	7971	98.41	98.41
10	12-Apr-06	<0.0010	0.00022	0.00022	0.00257	0.00257	65.1	65.1	100	100	<0.010	0.0022	0.0022	0.0377	0.0377	24.76	24.76	99.85	99.85	13.5	5.94	5.94	135	135	7965	7965	98.33	98.33
11	19-Apr-06	<0.0010	0.000253	0.000253	0.00282	0.00282	65.1	65.1	100	100	<0.010	0.00253	0.00253	0.0402	0.0402	24.76	24.76	99.84	99.84	12.9	6.51	6.51	142	142	7958	7958	98.25	98.25
12	26-Apr-06	<0.0010	0.000243	0.000243	0.00306	0.00306	65.1	65.1	100	100	<0.010	0.00243	0.00243	0.0426	0.0426	24.76	24.76	99.83	99.83	12.3	5.97	5.97	148	148	7952	7952	98.17	98.17
13	3-May-06	<0.0010	0.00021	0.00021	0.00327	0.00327	65.1	65.1	99.99	99.99	<0.010	0.0021	0.0021	0.0447	0.0447	24.76	24.76	99.82	99.82	11.3	4.75	4.75	153	153	7947	7947	98.11	98.11
14	10-May-06	<0.0010	0.000213	0.000213	0.00348	0.00348	65.1	65.1	99.99	99.99	<0.010	0.00213	0.00213	0.0468	0.0468	24.75	24.75	99.81	99.81	13.8	5.87	5.87	159	159	7941	7941	98.04	98.04
15	17-May-06	<0.0010	0.000238	0.000238	0.00372	0.00372	65.1	65.1	99.99	99.99	<0.010	0.00238	0.00238	0.0492	0.0492	24.75	24.75	99.8	99.8	10.7	5.08	5.08	164	164	7936	7936	97.98	97.98
16	24-May-06	<0.0010	0.000225	0.000225	0.00395	0.00395	65.1	65.1	99.99	99.99	<0.010	0.00225	0.00225	0.0515	0.0515	24.75	24.75	99.79	99.79	12.2	5.49	5.49	169	169	7931	7931	97.91	97.91
17	31-May-06	<0.0010	0.000233	0.000233	0.00418	0.00418	65.1	65.1	99.99	99.99	<0.010	0.00233	0.00233	0.0538	0.0538	24.75	24.75	99.78	99.78	11.7	5.44	5.44	174	174	7926	7926	97.85	97.85
18	7-Jun-06	<0.0010	0.000213	0.000213	0.00439	0.00439	65.1	65.1	99.99	99.99	<0.010	0.00213	0.00213	0.0559	0.0559	24.74	24.74	99.77	99.77	10.8	4.59	4.59	179	179	7921	7921	97.79	97.79
19	14-Jun-06	<0.0010	0.000248	0.000248	0.00464	0.00464	65.1	65.1	99.99	99.99	<0.010	0.00248	0.00248	0.0584	0.0584	24.74	24.74	99.76	99.76	8.2	4.06	4.06	183	183	7917	7917	97.74	97.74
20	21-Jun-06	<0.0010	0.000245	0.000245	0.00489	0.00489	65.1	65.1	99.99	99.99	<0.010	0.00245	0.00245	0.0609	0.0609	24.74	24.74	99.75	99.75	9.78	4.79	4.79	188	188	7912	7912	97.68	97.68
21	28-Jun-06	<0.0010	0.00021	0.00021	0.0051	0.0051	65.09	65.09	99.99	99.99	<0.010	0.0021	0.0021	0.063	0.063	24.74	24.74	99.75	99.75	9.96	4.18	4.18	192	192	7908	7908	97.63	97.63
22	5-Jul-06	<0.0010	0.000225	0.000225	0.00533	0.00533	65.09	65.09	99.99	99.99	<0.010	0.00225	0.00225	0.0653	0.0653	24.73	24.73	99.74	99.74	8.34	3.75	3.75	196	196	7904	7904	97.58	97.58
23	12-Jul-06	<0.0010	0.00023	0.00023	0.00556	0.00556	65.09	65.09	99.99	99.99	<0.010	0.0023	0.0023	0.0676	0.0676	24.73	24.73	99.73	99.73	11.4	5.24	5.24	201	201	7899	7899	97.52	97.52
24	19-Jul-06	<0.0010	0.000243	0.000243	0.0058	0.0058	65.09	65.09	99.99	99.99	<0.010	0.00243	0.00243	0.07	0.07	24.73	24.73	99.72	99.72	8.38	4.06	4.06	205	205	7895	7895	97.47	97.47
25	26-Jul-06	<0.0010	0.000215	0.000215	0.00602	0.00602	65.09	65.09	99.99	99.99	<0.010	0.00215	0.00215	0.0722	0.0722	24.73	24.73	99.71	99.71	8.75	3.76	3.76	209	209	7891	7891	97.42	97.42
26	2-Aug-06	<0.0010	0.00024	0.00024	0.00626	0.00626	65.09	65.09	99.99	99.99	<0.010	0.0024	0.0024	0.0746	0.0746	24.73	24.73	99.7	99.7	10.9	5.23	5.23	214	214	7886	7886	97.36	97.36
27	9-Aug-06	<0.0010	0.000213	0.000213	0.00647	0.00647	65.09	65.09	99.99	99.99	<0.010	0.00213	0.00213	0.0767	0.0767	24.72	24.72	99.69	99.69	7.67	3.26	3.26	217	217	7883	7883	97.32	97.32
28	16-Aug-06	<0.0010	0.00026	0.00026	0.00673	0.00673	65.09	65.09	99.99	99.99	<0.010	0.0026	0.0026	0.0793	0.0793	24.72	24.72	99.68	99.68	9.77	5.08	5.08	222	222	7878	7878	97.26	97.26
29	23-Aug-06	<0.0010	0.00026	0.00026	0.00699	0.00699	65.09	65.09	99.99	99.99	<0.010	0.0026	0.0026	0.0819	0.0819	24.72	24.72	99.67	99.67	8.2	4.26	4.26	226	226	7874	7874	97.21	97.21
30	30-Aug-06	<0.0010	0.00026	0.00026	0.00725	0.00725	65.09	65.09	99.99	99.99	<0.010	0.0026	0.0026	0.0845	0.0845	24.72	24.72	99.66	99.66	5.95	3.09	3.09	229	229	7871	7871	97.17	97.17
31	6-Sep-06	<0.0010	0.00024	0.00024	0.00749	0.00749	65.09	65.09	99.99	99.99	<0.010	0.0024	0.0024	0.0869	0.0869	24.71	24.71	99.65	99.65	13.9	6.67	6.67	236	236	7864	7864	97.09	97.09
32	13-Sep-06	<0.0010	0.00026	0.00026	0.00775	0.00775	65.09	65.09	99.99	99.99	<0.010	0.0026	0.0026	0.0895	0.0895	24.71	24.71	99.64	99.64	12.1	6.29	6.29	242	242	7858	7858	97.01	97.01
33	20-Sep-06	<0.0010	0.0002	0.0002	0.00795	0.00795	65.09	65.09	99.99	99.99	<0.010	0.002	0.002	0.0915	0.0915	24.71	24.71	99.63	99.63	7.23	2.89	2.89	245	245	7855	7855	96.98	96.98
34	27-Sep-06	<0.0010	0.000215	0.000215	0.00817	0.00817	65.09	65.09	99.99	99.99	<0.010	0.00215	0.00215	0.0937	0.0937	24.71	24.71	99.62	99.62	7.59	3.26	3.26	248	248	7852	7852	96.94	96.94
35	4-Oct-06	<0.0010	0.000235	0.000235	0.00841	0.00841	65.09	65.09	99.99	99.99	<0.010	0.00235	0.00235	0.0961	0.0961	24.7	24.7	99.61	99.61	8.48	3.99	3.99	252	252	7848	7848	96.89	96.89
36	11-Oct-06	<0.0010	0.000255	0.000255	0.00867	0.00867	65.09	65.09	99.99	99.99	<0.010	0.00255	0.00255	0.0987	0.0987	24.7	24.7	99.6	99.6	5.91	3.01	3.01	255	255	7845	7845	96.85	96.85
37	18-Oct-06	<0.0010	0.000225	0.000225	0.0089	0.0089	65.09	65.09	99.99	99.99	<0.010	0.00225	0.00225	0.101	0.101	24.7	24.7	99.59	99.59	14.1	6.35	6.35	261	261	7839	7839	96.78	96.78
38	25-Oct-06	<0.0010	0.000178	0.000178	0.00908	0.00908	65.09	65.09	99.99	99.99	<0.010	0.00178	0.00178	0.103	0.103	24.7	24.7	99.58	99.58	9.39	3.33	3.33	264	264	7836	7836	96.74	96.74
39	1-Nov-06	<0.0010	0.000258	0.000258	0.00934	0.00934	65.09	65.09	99.99	99.99	<0.010	0.00258	0.00258	0.106	0.106	24.69	24.69	99.57	99.57	9.15	4.71	4.71	269	269	7831	7831	96.68	96.68
40	8-Nov-06	<0.0010	0.000208	0.000208	0.00955	0.00955	65.09	65.09	99.99	99.99	<0.010	0.00208	0.00208	0.108	0.108	24.69	24.69	99.56	99.56	9.9	4.11	4.11	273	273	7827	7827	96.63	96.63
41	15-Nov-06	<0.0010	0.000225	0.000225	0.00978	0.00978	65.09	65.09	99.98	99.98	<0.010	0.00225	0.00225	0.11	0.11	24.69	24.69	99.56	99.56	9.61	4.32	4.32	277	277	7823	7823	96.58	96.58
42	22-Nov-06	<0.0010	0.000205	0.000205	0.00999	0.00999	65.09	65.09	99.98	99.98	<0.010	0.00205	0.00205	0.112	0.112	24.69	24.69	99.55	99.55	11.6	4.76	4.76	282	282	7818	7818	96.52	96.52
43	29-Nov-06	<0.0010	0.00026	0.00026	0.0103	0.0103	65.09	65.09	99.98	99.98	<0.010	0.0026	0.0026	0.115	0.115	24.69	24.69	99.54	99.54	10.5	5.46	5.46	287	287	7813	7813	96.46	96.46
44	6-Dec-06	<0.0010	0.0002	0.0002	0.0105	0.0105	65.09	65.09	99.98	99.98	<0.010	0.002	0.002	0.117	0.117	24.68	24.68	99.53	99.53	4.33	1.73	1.73	289	289	7811	7811	96.43	96.43
45	13-Dec-06	<0.0010	0.000213	0.000213	0.0107	0.0107	65.09	65.09	99.98	99.98	<0.010	0.00213	0.00213	0.119	0.119	24.68	24.68	99.52	99.52	4.42	1.88	1.88	291	291	7809	7809	96.41	96.41
46	20-Dec-06	<0.0010	0.000213	0.000213	0.0109	0.0109	65.09	65.09	99.98	99.98	<0.010	0.00213	0.00213	0.121	0.121	24.68	24.68	99.51	99.51	3.98	1.69	1.69	293	293	7807	7807	96.38	96.38
47	28-Dec-06	<0.0010	0.000186	0.000186	0.0111	0.0111	65.09	65.09	99.98	99.98	<0.010	0.00186	0.00186	0.123	0.123	24.68	24.68	99.5	99.5	13.8	5.13	5.13	298	298	7802	7802	96.32	96.32
48	3-Jan-07	<0.0010	0.000239	0.000239	0.0113	0.0113	65.09	65.09	99.98	99.98	<0.010	0.00239	0.00239	0.125	0.125	24.68	24.68	99.5	99.5	4.29	2.05	2.05	300	300	7800	7800	96.3	96.3
49	10-Jan-07	<0.0010	0.000225	0.000225	0.0115	0.0115	65.09	65.09	99.98	99.98	<0.010	0.00225	0.00225	0.127	0.127	24.67	24.67	99.49	99.49	12.4	5.58	5.58	306	306	7794	7794	96.22	96.22
50	17-Jan-07	<0.00050	0.000113	0.000113	0.0116	0.0116	65.09	65.09	99.98	99.98	<0.010	0.00225	0.00225	0.129	0.129	24.67	24.67	99.48	99.48	12.6	5.67	5.67	312	312	7788	7788	96.15	96.15
51	24-Jan-07		0.000114	0.000114	0.0117	0.0117	65.09	65.09	99.98	99.98		0.00228	0.00228	0.131	0.131	24.67	24.67	99.47	99.47		5.73	5.73	318	318	7782	7782	96.07	96.07
52	31-Jan-07	<0.00050	0.000105	0.000105	0.0118	0.0118	65.09	65.09	99.98	99.98	<0.010	0.0021	0.0021	0.133	0.133	24.67	24.67	99.46	99.46	13.1	5.5	5.5	324	324	7776	7776	96	96
53	7-Feb-07		0.000113	0.000113	0.0119	0.0119	65.09	65.09	99.98	99.98		0.00225	0.00225	0.135	0.135	24.67	24.67	99.46	99.46		5.9	5.9	330	330	7770	7770	95.93	95.93
54	14-Feb-07	<0.00050	0.000123	0.000123	0.012	0.012	65.09	65.09	99.98	99.98	<0.010	0.00245	0.00245	0.137	0.137	24.66	24.66	99.45	99.45	11.4	5.59	5.59	336	336	7764	7764	95.85	95.85
Maximum		0.001	0.000315	0.000315	0.012	0.012	65.1	65.1	100	100	0.026	0.00902	0.00902	0.137	0.137	24.79	24.79	99.97	99.97	79.5	25.5	25.5	336	336	8075	8075	99.69	99.69
Minimum		0.00025	0.000105	0.000105	0.000315	0.000315	65.09	65.09	99.98	99.98	0.005	0.00178	0.00178	0.00819	0.00819	24.66	24.66	99.45	99.45	3.98	1.69	1.69	25	25	7764	7764	95.85	95.85
Mean		0.000486	0.000219	0.000219	0.00647	0.00647	65.09	65.09	99.99	99.99	0.00569	0.00251	0.00251	0.0769	0.0769	24.72	24.72	99.69	99.69	14	6.11	6.11	211	211	7889	7889	97.4	97.4
Median		0.0005	0.000225	0.000225	0.00647	0.00647	65.09	65.09	99.99	99.99	0.005	0.00225	0.00225	0.0767	0.0767	24.72	24.72	99.69	99.69	11.4	5.23	5.23	217	217	7883	7883	97.32	97.32
Mean Initial 5 Wk Flush		0.0006	0.000244	0.000244	0.000763	0.000763	65.1	65.1	100	100	0.0126	0.00484	0.00484	0.0182	0.0182	24.78	24.78	99.93	99.93	46	18.4	18.4	63.5	63.5	8037	8037	99.22	99.22
Mean Last 5 Weeks		0.00025	0.000114	0.000114	0.0118	0.0118	65.09	65.09	99.98	99.98	0.005	0.00227	0.00227	0.133	0.133	24.67	24.67	99.46	99.46	12.6	5.68	5.68	324	324	7776	7776	96	96
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									142704	142704								2726	2726								352	352
50% Remaining (Wks)									285467	285467								5457	5457								709	709
25% Remaining (Wks)									428230	428230								8189	8189								1065	1065
0% Remaining (Wks)									570993	570993								10920	10920								1422	1422

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Manganese	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Mercury	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum
Week No.	Date	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Mn	Hg	Hg	Hg	Hg	Hg	Hg	Hg	Hg	Hg	Mo	Mo	Mo	Mo	Mo	Mo	Mo	Mo	Mo
		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Manganese (ppm) =			**2290**						**Original Mercury (ppm) =**			**0.98**						**Original Molybdenum (ppm) =**			**10.45**					
0	1-Feb-06	0.386	0.122	0.122	0.122	0.122	2290	2290	99.99	99.99	<0.0010	0.000158	0.000158	0.000158	0.000158	0.98	0.98	99.98	99.98	0.0218	0.00687	0.00687	0.00687	0.00687	10.44	10.44	99.93	99.93
1	8-Feb-06	0.541	0.222	0.222	0.344	0.344	2290	2290	99.98	99.98	<0.0010	0.000205	0.000205	0.000363	0.000363	0.98	0.98	99.96	99.96	0.0177	0.00726	0.00726	0.0141	0.0141	10.44	10.44	99.87	99.87
2	15-Feb-06	0.354	0.175	0.175	0.519	0.519	2289	2289	99.98	99.98	<0.0010	0.000248	0.000248	0.000611	0.000611	0.979	0.979	99.94	99.94	0.0135	0.00668	0.00668	0.0208	0.0208	10.43	10.43	99.8	99.8
3	22-Feb-06	0.33	0.147	0.147	0.666	0.666	2289	2289	99.97	99.97	<0.0010	0.000223	0.000223	0.000834	0.000834	0.979	0.979	99.91	99.91	0.0089	0.00396	0.00396	0.0248	0.0248	10.43	10.43	99.76	99.76
4	1-Mar-06	0.232	0.107	0.107	0.773	0.773	2289	2289	99.97	99.97	<0.0010	0.00023	0.00023	0.00106	0.00106	0.979	0.979	99.89	99.89	0.008	0.00368	0.00368	0.0285	0.0285	10.42	10.42	99.73	99.73
5	8-Mar-06	0.223	0.0914	0.0914	0.864	0.864	2289	2289	99.96	99.96	<0.0010	0.000205	0.000205	0.00127	0.00127	0.979	0.979	99.87	99.87	0.0057	0.00234	0.00234	0.0308	0.0308	10.42	10.42	99.71	99.71
6	15-Mar-06	0.211	0.0886	0.0886	0.953	0.953	2289	2289	99.96	99.96	<0.0010	0.00021	0.00021	0.00148	0.00148	0.979	0.979	99.85	99.85	0.0055	0.00231	0.00231	0.0331	0.0331	10.42	10.42	99.68	99.68
7	22-Mar-06	0.119	0.053	0.053	1.01	1.01	2289	2289	99.96	99.96	<0.0010	0.000223	0.000223	0.0017	0.0017	0.978	0.978	99.83	99.83	0.004	0.00178	0.00178	0.0349	0.0349	10.42	10.42	99.67	99.67
8	29-Mar-06	0.161	0.0789	0.0789	1.09	1.09	2289	2289	99.95	99.95	<0.0010	0.000245	0.000245	0.00195	0.00195	0.978	0.978	99.8	99.8	0.0034	0.00167	0.00167	0.0366	0.0366	10.41	10.41	99.65	99.65
9	5-Apr-06	0.212	0.102	0.102	1.19	1.19	2289	2289	99.95	99.95	<0.0010	0.00024	0.00024	0.00219	0.00219	0.978	0.978	99.78	99.78	0.0037	0.00178	0.00178	0.0384	0.0384	10.41	10.41	99.63	99.63
10	12-Apr-06	0.206	0.0906	0.0906	1.28	1.28	2289	2289	99.94	99.94	<0.0010	0.00022	0.00022	0.00241	0.00241	0.978	0.978	99.75	99.75	0.0033	0.00145	0.00145	0.0399	0.0399	10.41	10.41	99.62	99.62
11	19-Apr-06	0.205	0.104	0.104	1.38	1.38	2289	2289	99.94	99.94	<0.0010	0.000253	0.000253	0.00266	0.00266	0.977	0.977	99.73	99.73	0.0028	0.00141	0.00141	0.0413	0.0413	10.41	10.41	99.6	99.6
12	26-Apr-06	0.2	0.097	0.097	1.48	1.48	2289	2289	99.94	99.94	<0.0010	0.000243	0.000243	0.0029	0.0029	0.977	0.977	99.7	99.7	0.0027	0.00131	0.00131	0.0426	0.0426	10.41	10.41	99.59	99.59
13	3-May-06	0.171	0.0718	0.0718	1.55	1.55	2288	2288	99.93	99.93	<0.0010	0.00021	0.00021	0.00311	0.00311	0.977	0.977	99.68	99.68	0.0025	0.00105	0.00105	0.0437	0.0437	10.41	10.41	99.58	99.58
14	10-May-06	0.23	0.0978	0.0978	1.65	1.65	2288	2288	99.93	99.93	<0.0010	0.000213	0.000213	0.00332	0.00332	0.977	0.977	99.66	99.66	0.0027	0.00115	0.00115	0.0449	0.0449	10.41	10.41	99.57	99.57
15	17-May-06	0.195	0.0926	0.0926	1.74	1.74	2288	2288	99.92	99.92	<0.0010	0.000238	0.000238	0.00356	0.00356	0.976	0.976	99.64	99.64	0.0024	0.00114	0.00114	0.046	0.046	10.4	10.4	99.56	99.56
16	24-May-06	0.236	0.106	0.106	1.85	1.85	2288	2288	99.92	99.92	<0.0010	0.000225	0.000225	0.00379	0.00379	0.976	0.976	99.61	99.61	0.0024	0.00108	0.00108	0.0471	0.0471	10.4	10.4	99.55	99.55
17	31-May-06	0.239	0.111	0.111	1.96	1.96	2288	2288	99.91	99.91	<0.0010	0.000233	0.000233	0.00402	0.00402	0.976	0.976	99.59	99.59	0.0022	0.00102	0.00102	0.0481	0.0481	10.4	10.4	99.54	99.54
18	7-Jun-06	0.206	0.0876	0.0876	2.05	2.05	2288	2288	99.91	99.91	<0.0010	0.000213	0.000213	0.00423	0.00423	0.976	0.976	99.57	99.57	0.0024	0.00102	0.00102	0.0491	0.0491	10.4	10.4	99.53	99.53
19	14-Jun-06	0.158	0.0782	0.0782	2.13	2.13	2288	2288	99.91	99.91	<0.0010	0.000248	0.000248	0.00448	0.00448	0.976	0.976	99.54	99.54	0.0014	0.000693	0.000693	0.0498	0.0498	10.4	10.4	99.52	99.52
20	21-Jun-06	0.153	0.075	0.075	2.21	2.21	2288	2288	99.9	99.9	<0.0010	0.000245	0.000245	0.00473	0.00473	0.975	0.975	99.52	99.52	0.0017	0.000833	0.000833	0.0506	0.0506	10.4	10.4	99.52	99.52
21	28-Jun-06	0.174	0.0731	0.0731	2.28	2.28	2288	2288	99.9	99.9	<0.0010	0.00021	0.00021	0.00494	0.00494	0.975	0.975	99.5	99.5	0.0018	0.000756	0.000756	0.0514	0.0514	10.4	10.4	99.51	99.51
22	5-Jul-06	0.151	0.068	0.068	2.35	2.35	2288	2288	99.9	99.9	<0.0010	0.000225	0.000225	0.00517	0.00517	0.975	0.975	99.47	99.47	0.0015	0.000675	0.000675	0.0521	0.0521	10.4	10.4	99.5	99.5
23	12-Jul-06	0.205	0.0943	0.0943	2.44	2.44	2288	2288	99.89	99.89	<0.0010	0.00023	0.00023	0.0054	0.0054	0.975	0.975	99.45	99.45	0.0019	0.000874	0.000874	0.053	0.053	10.4	10.4	99.49	99.49
24	19-Jul-06	0.157	0.0761	0.0761	2.52	2.52	2287	2287	99.89	99.89	<0.0010	0.000243	0.000243	0.00564	0.00564	0.974	0.974	99.42	99.42	0.0015	0.000728	0.000728	0.0537	0.0537	10.4	10.4	99.49	99.49
25	26-Jul-06	0.166	0.0714	0.0714	2.59	2.59	2287	2287	99.89	99.89	<0.0010	0.000215	0.000215	0.00586	0.00586	0.974	0.974	99.4	99.4	0.0014	0.000602	0.000602	0.0543	0.0543	10.4	10.4	99.48	99.48
26	2-Aug-06	0.159	0.0763	0.0763	2.67	2.67	2287	2287	99.88	99.88	<0.0010	0.00024	0.00024	0.0061	0.0061	0.974	0.974	99.38	99.38	0.0018	0.000864	0.000864	0.0552	0.0552	10.39	10.39	99.47	99.47
27	9-Aug-06	0.164	0.0697	0.0697	2.74	2.74	2287	2287	99.88	99.88	<0.0010	0.000213	0.000213	0.00631	0.00631	0.974	0.974	99.36	99.36	0.0015	0.000638	0.000638	0.0558	0.0558	10.39	10.39	99.47	99.47
28	16-Aug-06	0.206	0.107	0.107	2.85	2.85	2287	2287	99.88	99.88	<0.0010	0.00026	0.00026	0.00657	0.00657	0.973	0.973	99.33	99.33	0.0016	0.000832	0.000832	0.0566	0.0566	10.39	10.39	99.46	99.46
29	23-Aug-06	0.156	0.0811	0.0811	2.93	2.93	2287	2287	99.87	99.87	<0.0010	0.00026	0.00026	0.00683	0.00683	0.973	0.973	99.3	99.3	0.0013	0.000676	0.000676	0.0573	0.0573	10.39	10.39	99.45	99.45
30	30-Aug-06	0.0684	0.0356	0.0356	2.97	2.97	2287	2287	99.87	99.87	<0.0010	0.00026	0.00026	0.00709	0.00709	0.973	0.973	99.28	99.28	<0.0010	0.00026	0.00026	0.0576	0.0576	10.39	10.39	99.45	99.45
31	6-Sep-06	0.312	0.15	0.15	3.12	3.12	2287	2287	99.86	99.86	<0.0010	0.00024	0.00024	0.00733	0.00733	0.973	0.973	99.25	99.25	0.0019	0.000912	0.000912	0.0585	0.0585	10.39	10.39	99.44	99.44
32	13-Sep-06	0.32	0.166	0.166	3.29	3.29	2287	2287	99.86	99.86	<0.0010	0.00026	0.00026	0.00759	0.00759	0.972	0.972	99.23	99.23	0.0018	0.000936	0.000936	0.0594	0.0594	10.39	10.39	99.43	99.43
33	20-Sep-06	0.15	0.06	0.06	3.35	3.35	2287	2287	99.85	99.85	<0.0010	0.0002	0.0002	0.00779	0.00779	0.972	0.972	99.21	99.21	0.0011	0.00044	0.00044	0.0598	0.0598	10.39	10.39	99.43	99.43
34	27-Sep-06	0.159	0.0684	0.0684	3.42	3.42	2287	2287	99.85	99.85	<0.0010	0.000215	0.000215	0.00801	0.00801	0.972	0.972	99.18	99.18	0.0012	0.000516	0.000516	0.0603	0.0603	10.39	10.39	99.42	99.42
35	4-Oct-06	0.132	0.062	0.062	3.48	3.48	2287	2287	99.85	99.85	<0.0010	0.000235	0.000235	0.00825	0.00825	0.972	0.972	99.16	99.16	0.0014	0.000658	0.000658	0.061	0.061	10.39	10.39	99.42	99.42
36	11-Oct-06	0.0838	0.0427	0.0427	3.52	3.52	2286	2286	99.85	99.85	<0.0010	0.000255	0.000255	0.00851	0.00851	0.971	0.971	99.13	99.13	<0.0010	0.000255	0.000255	0.0613	0.0613	10.39	10.39	99.41	99.41
37	18-Oct-06	0.295	0.133	0.133	3.65	3.65	2286	2286	99.84	99.84	<0.0010	0.000225	0.000225	0.00874	0.00874	0.971	0.971	99.11	99.11	0.0018	0.00081	0.00081	0.0621	0.0621	10.39	10.39	99.41	99.41
38	25-Oct-06	0.142	0.0504	0.0504	3.7	3.7	2286	2286	99.84	99.84	<0.0010	0.000178	0.000178	0.00892	0.00892	0.971	0.971	99.09	99.09	0.0014	0.000497	0.000497	0.0626	0.0626	10.39	10.39	99.4	99.4
39	1-Nov-06	0.13	0.067	0.067	3.77	3.77	2286	2286	99.84	99.84	<0.0010	0.000258	0.000258	0.00918	0.00918	0.971	0.971	99.06	99.06	0.0013	0.00067	0.00067	0.0633	0.0633	10.39	10.39	99.39	99.39
40	8-Nov-06	0.115	0.0477	0.0477	3.82	3.82	2286	2286	99.83	99.83	<0.0010	0.000208	0.000208	0.00939	0.00939	0.971	0.971	99.04	99.04	0.0014	0.000581	0.000581	0.0639	0.0639	10.39	10.39	99.39	99.39
41	15-Nov-06	0.0987	0.0444	0.0444	3.86	3.86	2286	2286	99.83	99.83	<0.0010	0.000225	0.000225	0.00962	0.00962	0.97	0.97	99.02	99.02	0.0012	0.00054	0.00054	0.0644	0.0644	10.39	10.39	99.38	99.38
42	22-Nov-06	0.129	0.0529	0.0529	3.91	3.91	2286	2286	99.83	99.83	<0.0010	0.000205	0.000205	0.00983	0.00983	0.97	0.97	99	99	0.0016	0.000656	0.000656	0.0651	0.0651	10.38	10.38	99.38	99.38
43	29-Nov-06	0.12	0.0624	0.0624	3.97	3.97	2286	2286	99.83	99.83	<0.0010	0.00026	0.00026	0.0101	0.0101	0.97	0.97	98.97	98.97	0.0014	0.000728	0.000728	0.0658	0.0658	10.38	10.38	99.37	99.37
44	6-Dec-06	0.012	0.0048	0.0048	3.97	3.97	2286	2286	99.83	99.83	<0.0010	0.0002	0.0002	0.0103	0.0103	0.97	0.97	98.95	98.95	0.0025	0.001	0.001	0.0668	0.0668	10.38	10.38	99.36	99.36
45	13-Dec-06	0.0127	0.0054	0.0054	3.98	3.98	2286	2286	99.83	99.83	<0.0010	0.000213	0.000213	0.0105	0.0105	0.97	0.97	98.93	98.93	0.0028	0.00119	0.00119	0.068	0.068	10.38	10.38	99.35	99.35
46	20-Dec-06	0.0116	0.00493	0.00493	3.98	3.98	2286	2286	99.83	99.83	<0.0010	0.000213	0.000213	0.0107	0.0107	0.969	0.969	98.91	98.91	0.0024	0.00102	0.00102	0.069	0.069	10.38	10.38	99.34	99.34
47	28-Dec-06	0.142	0.0528	0.0528	4.03	4.03	2286	2286	99.82	99.82	<0.0010	0.000186	0.000186	0.0109	0.0109	0.969	0.969	98.89	98.89	0.0017	0.000632	0.000632	0.0696	0.0696	10.38	10.38	99.33	99.33
48	3-Jan-07	0.0126	0.00603	0.00603	4.04	4.04	2286	2286	99.82	99.82	<0.0010	0.000239	0.000239	0.0111	0.0111	0.969	0.969	98.87	98.87	0.0027	0.00129	0.00129	0.0709	0.0709	10.38	10.38	99.32	99.32
49	10-Jan-07	0.135	0.0608	0.0608	4.1	4.1	2286	2286	99.82	99.82	<0.0010	0.000225	0.000225	0.0113	0.0113	0.969	0.969	98.85	98.85	0.0015	0.000675	0.000675	0.0716	0.0716	10.38	10.38	99.31	99.31
50	17-Jan-07	0.135	0.0608	0.0608	4.16	4.16	2286	2286	99.82	99.82	<0.0010	0.000225	0.000225	0.0115	0.0115	0.969	0.969	98.83	98.83	0.00142	0.000639	0.000639	0.0722	0.0722	10.38	10.38	99.31	99.31
51	24-Jan-07		0.0614	0.0614	4.22	4.22	2286	2286	99.82	99.82		0.000228	0.000228	0.0117	0.0117	0.968	0.968	98.81	98.81		0.000646	0.000646	0.0728	0.0728	10.38	10.38	99.3	99.3
52	31-Jan-07	0.132	0.0554	0.0554	4.28	4.28	2286	2286	99.81	99.81	<0.0010	0.00021	0.00021	0.0119	0.0119	0.968	0.968	98.79	98.79	0.00138	0.00058	0.00058	0.0734	0.0734	10.38	10.38	99.3	99.3
53	7-Feb-07		0.0594	0.0594	4.34	4.34	2286	2286	99.81	99.81		0.000225	0.000225	0.0121	0.0121	0.968	0.968	98.77	98.77		0.000621	0.000621	0.074	0.074	10.38	10.38	99.29	99.29
54	14-Feb-07	0.113	0.0554	0.0554	4.4	4.4	2286	2286	99.81	99.81	<0.0010	0.000245	0.000245	0.0123	0.0123	0.968	0.968	98.74	98.74	0.0013	0.000637	0.000637	0.0746	0.0746	10.38	10.38	99.29	99.29
Maximum		0.541	0.222	0.222	4.4	4.4	2290	2290	99.99	99.99	0.0005	0.00026	0.00026	0.0123	0.0123	0.98	0.98	99.98	99.98	0.0218	0.00726	0.00726	0.0746	0.0746	10.44	10.44	99.93	99.93
Minimum		0.0116	0.0048	0.0048	0.122	0.122	2286	2286	99.81	99.81	0.0005	0.000158	0.000158	0.000158	0.000158	0.968	0.968	98.74	98.74	0.0005	0.000255	0.000255	0.00687	0.00687	10.38	10.38	99.29	99.29
Mean		0.177	0.0797	0.0797	2.65	2.65	2287	2287	99.88	99.88	0.0005	0.000226	0.000226	0.00633	0.00633	0.974	0.974	99.35	99.35	0.00313	0.00135	0.00135	0.0529	0.0529	10.4	10.4	99.49	99.49
Median		0.159	0.0731	0.0731	2.74	2.74	2287	2287	99.88	99.88	0.0005	0.000225	0.000225	0.00631	0.00631	0.974	0.974	99.36	99.36	0.0018	0.000833	0.000833	0.0558	0.0558	10.39	10.39	99.47	99.47
Mean Initial 5 Wk Flush		0.369	0.155	0.155	0.485	0.485	2289	2289	99.98	99.98	0.0005	0.000213	0.000213	0.000605	0.000605	0.979	0.979	99.94	99.94	0.014	0.00569	0.00569	0.019	0.019	10.43	10.43	99.82	99.82
Mean Last 5 Weeks		0.129	0.0585	0.0585	4.28	4.28	2286	2286	99.81	99.81	0.0005	0.000227	0.000227	0.0119	0.0119	0.968	0.968	98.79	98.79	0.00138	0.000625	0.000625	0.0734	0.0734	10.38	10.38	99.3	99.3
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									9767	9767								1080	1080								4116	4116
50% Remaining (Wks)									19553	19553								2159	2159								8296	8296
25% Remaining (Wks)									29340	29340								3238	3238								12476	12476
0% Remaining (Wks)									39126	39126								4318	4318								16656	16656
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																											
		[1] Includes Final Leach data distributed evenly over all weeks																											

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Nickel	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Phosphorus	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium	Potassium
Week No.	Date	Ni	Ni	Ni	Ni	Ni	Ni	Ni	Ni	Ni	P	P	P	P	P	P	P	P	P	K	K	K	K	K	K	K	K	K
		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]		(mg/L)	(mg/kg/wk)	(mg/kg/wk) [1]	(mg/kg)	(mg/kg) [1]	(ppm)	(ppm) [1]	(% of orig)	(% of orig) [1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Nickel (ppm) =			**112.5**						**Original Phosphorus (ppm) =**			**1240**							**Original Potassium (ppm) =**			**6500**					
0	1-Feb-06	0.014	0.00441	0.00441	0.00441	0.00441	112	112	100	100	<0.30	0.0473	0.0473	0.0473	0.0473	1240	1240	100	100	31.2	9.83	9.83	9.83	9.83	6490.2	6490.2	99.85	99.85
1	8-Feb-06	0.0184	0.00754	0.00754	0.012	0.012	112	112	99.99	99.99	<0.30	0.0615	0.0615	0.109	0.109	1240	1240	99.99	99.99	24.1	9.88	9.88	19.7	19.7	6480.3	6480.3	99.7	99.7
2	15-Feb-06	0.011	0.00545	0.00545	0.0175	0.0175	112	112	99.98	99.98	<0.30	0.0743	0.0743	0.183	0.183	1240	1240	99.99	99.99	18.5	9.16	9.16	28.9	28.9	6471.1	6471.1	99.56	99.56
3	22-Feb-06	0.0075	0.00334	0.00334	0.0208	0.0208	112	112	99.98	99.98	<0.30	0.0668	0.0668	0.25	0.25	1240	1240	99.98	99.98	12.7	5.65	5.65	34.6	34.6	6465.4	6465.4	99.47	99.47
4	1-Mar-06	<0.0050	0.00115	0.00115	0.022	0.022	112	112	99.98	99.98	<0.30	0.069	0.069	0.319	0.319	1240	1240	99.97	99.97	10.6	4.88	4.88	39.5	39.5	6460.5	6460.5	99.39	99.39
5	8-Mar-06	<0.0050	0.00103	0.00103	0.023	0.023	112	112	99.98	99.98	<0.30	0.0615	0.0615	0.381	0.381	1240	1240	99.97	99.97	9.04	3.71	3.71	43.2	43.2	6456.8	6456.8	99.34	99.34
6	15-Mar-06	<0.0050	0.00105	0.00105	0.0241	0.0241	112	112	99.98	99.98	<0.30	0.063	0.063	0.444	0.444	1240	1240	99.96	99.96	8.43	3.54	3.54	46.7	46.7	6453.3	6453.3	99.28	99.28
7	22-Mar-06	<0.0050	0.00111	0.00111	0.0252	0.0252	112	112	99.98	99.98	<0.30	0.0668	0.0668	0.511	0.511	1239	1239	99.96	99.96	7.06	3.14	3.14	49.8	49.8	6450.2	6450.2	99.23	99.23
8	29-Mar-06	<0.0050	0.00123	0.00123	0.0264	0.0264	112	112	99.98	99.98	<0.30	0.0735	0.0735	0.585	0.585	1239	1239	99.95	99.95	6.37	3.12	3.12	52.9	52.9	6447.1	6447.1	99.19	99.19
9	5-Apr-06	<0.0050	0.0012	0.0012	0.0276	0.0276	112	112	99.98	99.98	<0.30	0.072	0.072	0.657	0.657	1239	1239	99.95	99.95	6.3	3.02	3.02	55.9	55.9	6444.1	6444.1	99.14	99.14
10	12-Apr-06	<0.0050	0.0011	0.0011	0.0287	0.0287	112	112	99.97	99.97	<0.30	0.066	0.066	0.723	0.723	1239	1239	99.94	99.94	5.73	2.52	2.52	58.4	58.4	6441.6	6441.6	99.1	99.1
11	19-Apr-06	<0.0050	0.00126	0.00126	0.03	0.03	112	112	99.97	99.97	<0.30	0.0758	0.0758	0.799	0.799	1239	1239	99.94	99.94	5.21	2.63	2.63	61	61	6439	6439	99.06	99.06
12	26-Apr-06	<0.0050	0.00121	0.00121	0.0312	0.0312	112	112	99.97	99.97	<0.30	0.0728	0.0728	0.872	0.872	1239	1239	99.93	99.93	5.09	2.47	2.47	63.5	63.5	6436.5	6436.5	99.02	99.02
13	3-May-06	<0.0050	0.00105	0.00105	0.0323	0.0323	112	112	99.97	99.97	<0.30	0.063	0.063	0.935	0.935	1239	1239	99.92	99.92	4.83	2.03	2.03	65.5	65.5	6434.5	6434.5	98.99	98.99
14	10-May-06	<0.0050	0.00106	0.00106	0.0334	0.0334	112	112	99.97	99.97	<0.30	0.0638	0.0638	0.999	0.999	1239	1239	99.92	99.92	5.21	2.21	2.21	67.7	67.7	6432.3	6432.3	98.96	98.96
15	17-May-06	<0.0050	0.00119	0.00119	0.0346	0.0346	112	112	99.97	99.97	<0.30	0.0713	0.0713	1.07	1.07	1239	1239	99.91	99.91	4.51	2.14	2.14	69.8	69.8	6430.2	6430.2	98.93	98.93
16	24-May-06	<0.0050	0.00113	0.00113	0.0357	0.0357	112	112	99.97	99.97	<0.30	0.0675	0.0675	1.14	1.14	1239	1239	99.91	99.91	4.84	2.18	2.18	72	72	6428	6428	98.89	98.89
17	31-May-06	<0.0050	0.00116	0.00116	0.0369	0.0369	112	112	99.97	99.97	<0.30	0.0698	0.0698	1.21	1.21	1239	1239	99.9	99.9	4.38	2.04	2.04	74	74	6426	6426	98.86	98.86
18	7-Jun-06	<0.0050	0.00106	0.00106	0.038	0.038	112	112	99.97	99.97	<0.30	0.0638	0.0638	1.27	1.27	1239	1239	99.9	99.9	4.43	1.88	1.88	75.9	75.9	6424.1	6424.1	98.83	98.83
19	14-Jun-06	<0.0050	0.00124	0.00124	0.0392	0.0392	112	112	99.97	99.97	<0.30	0.0743	0.0743	1.34	1.34	1239	1239	99.89	99.89	3.22	1.59	1.59	77.5	77.5	6422.5	6422.5	98.81	98.81
20	21-Jun-06	<0.0050	0.00123	0.00123	0.0404	0.0404	112	112	99.96	99.96	<0.30	0.0735	0.0735	1.41	1.41	1239	1239	99.89	99.89	3.86	1.89	1.89	79.4	79.4	6420.6	6420.6	98.78	98.78
21	28-Jun-06	<0.0050	0.00105	0.00105	0.0415	0.0415	112	112	99.96	99.96	<0.30	0.063	0.063	1.47	1.47	1239	1239	99.88	99.88	3.98	1.67	1.67	81.1	81.1	6418.9	6418.9	98.75	98.75
22	5-Jul-06	<0.0050	0.00113	0.00113	0.0426	0.0426	112	112	99.96	99.96	<0.30	0.0675	0.0675	1.54	1.54	1238	1238	99.88	99.88	3.53	1.59	1.59	82.7	82.7	6417.3	6417.3	98.73	98.73
23	12-Jul-06	<0.0050	0.00115	0.00115	0.0438	0.0438	112	112	99.96	99.96	<0.30	0.069	0.069	1.61	1.61	1238	1238	99.87	99.87	4.31	1.98	1.98	84.7	84.7	6415.3	6415.3	98.7	98.7
24	19-Jul-06	<0.0050	0.00121	0.00121	0.045	0.045	112	112	99.96	99.96	<0.30	0.0728	0.0728	1.68	1.68	1238	1238	99.86	99.86	3.42	1.66	1.66	86.4	86.4	6413.6	6413.6	98.67	98.67
25	26-Jul-06	<0.0050	0.00108	0.00108	0.0461	0.0461	112	112	99.96	99.96	<0.30	0.0645	0.0645	1.74	1.74	1238	1238	99.86	99.86	3.34	1.44	1.44	87.8	87.8	6412.2	6412.2	98.65	98.65
26	2-Aug-06	<0.0050	0.0012	0.0012	0.0473	0.0473	112	112	99.96	99.96	<0.30	0.072	0.072	1.81	1.81	1238	1238	99.85	99.85	4.07	1.95	1.95	89.8	89.8	6410.2	6410.2	98.62	98.62
27	9-Aug-06	<0.0050	0.00106	0.00106	0.0484	0.0484	112	112	99.96	99.96	<0.30	0.0638	0.0638	1.87	1.87	1238	1238	99.85	99.85	3.11	1.32	1.32	91.1	91.1	6408.9	6408.9	98.6	98.6
28	16-Aug-06	<0.0050	0.0013	0.0013	0.0497	0.0497	112	112	99.96	99.96	<0.30	0.078	0.078	1.95	1.95	1238	1238	99.84	99.84	3.62	1.88	1.88	93	93	6407	6407	98.57	98.57
29	23-Aug-06	<0.0050	0.0013	0.0013	0.051	0.051	112	112	99.95	99.95	<0.30	0.078	0.078	2.03	2.03	1238	1238	99.84	99.84	2.87	1.49	1.49	94.5	94.5	6405.5	6405.5	98.55	98.55
30	30-Aug-06	<0.0050	0.0013	0.0013	0.0523	0.0523	112	112	99.95	99.95	<0.30	0.078	0.078	2.11	2.11	1238	1238	99.83	99.83	2.28	1.19	1.19	95.7	95.7	6404.3	6404.3	98.53	98.53
31	6-Sep-06	<0.0050	0.0012	0.0012	0.0535	0.0535	112	112	99.95	99.95	<0.30	0.072	0.072	2.18	2.18	1238	1238	99.82	99.82	4.51	2.16	2.16	97.9	97.9	6402.1	6402.1	98.49	98.49
32	13-Sep-06	<0.0050	0.0013	0.0013	0.0548	0.0548	112	112	99.95	99.95	<0.30	0.078	0.078	2.26	2.26	1238	1238	99.82	99.82	4.29	2.23	2.23	100	100	6400	6400	98.46	98.46
33	20-Sep-06	<0.0050	0.001	0.001	0.0558	0.0558	112	112	99.95	99.95	<0.30	0.06	0.06	2.32	2.32	1238	1238	99.81	99.81	2.65	1.06	1.06	101	101	6399	6399	98.45	98.45
34	27-Sep-06	<0.0050	0.00108	0.00108	0.0569	0.0569	112	112	99.95	99.95	<0.30	0.0645	0.0645	2.38	2.38	1238	1238	99.81	99.81	2.74	1.18	1.18	102	102	6398	6398	98.43	98.43
35	4-Oct-06	<0.0050	0.00118	0.00118	0.0581	0.0581	112	112	99.95	99.95	<0.30	0.0705	0.0705	2.45	2.45	1238	1238	99.8	99.8	2.93	1.38	1.38	103	103	6397	6397	98.42	98.42
36	11-Oct-06	<0.0050	0.00128	0.00128	0.0594	0.0594	112	112	99.95	99.95	<0.30	0.0765	0.0765	2.53	2.53	1237	1237	99.8	99.8	2.26	1.15	1.15	104	104	6396	6396	98.4	98.4
37	18-Oct-06	<0.0050	0.00113	0.00113	0.0605	0.0605	112	112	99.95	99.95	<0.30	0.0675	0.0675	2.6	2.6	1237	1237	99.79	99.79	4.19	1.89	1.89	106	106	6394	6394	98.37	98.37
38	25-Oct-06	<0.0050	0.000888	0.000888	0.0614	0.0614	112	112	99.95	99.95	<0.30	0.0533	0.0533	2.65	2.65	1237	1237	99.79	99.79	3.03	1.08	1.08	107	107	6393	6393	98.35	98.35
39	1-Nov-06	<0.0050	0.00129	0.00129	0.0627	0.0627	112	112	99.94	99.94	<0.30	0.0773	0.0773	2.73	2.73	1237	1237	99.78	99.78	2.9	1.49	1.49	108	108	6392	6392	98.34	98.34
40	8-Nov-06	<0.0050	0.00104	0.00104	0.0637	0.0637	112	112	99.94	99.94	<0.30	0.0623	0.0623	2.79	2.79	1237	1237	99.78	99.78	3.16	1.31	1.31	109	109	6391	6391	98.32	98.32
41	15-Nov-06	<0.0050	0.00113	0.00113	0.0648	0.0648	112	112	99.94	99.94	<0.30	0.0675	0.0675	2.86	2.86	1237	1237	99.77	99.77	3.04	1.37	1.37	110	110	6390	6390	98.31	98.31
42	22-Nov-06	<0.0050	0.00103	0.00103	0.0658	0.0658	112	112	99.94	99.94	<0.30	0.0615	0.0615	2.92	2.92	1237	1237	99.76	99.76	3.49	1.43	1.43	111	111	6389	6389	98.29	98.29
43	29-Nov-06	<0.0050	0.0013	0.0013	0.0671	0.0671	112	112	99.94	99.94	<0.30	0.078	0.078	3	3	1237	1237	99.76	99.76	3.19	1.66	1.66	113	113	6387	6387	98.26	98.26
44	6-Dec-06	<0.0050	0.001	0.001	0.0681	0.0681	112	112	99.94	99.94	<0.30	0.06	0.06	3.06	3.06	1237	1237	99.75	99.75	5.97	2.39	2.39	115	115	6385	6385	98.23	98.23
45	13-Dec-06	<0.0050	0.00106	0.00106	0.0692	0.0692	112	112	99.94	99.94	<0.30	0.0638	0.0638	3.12	3.12	1237	1237	99.75	99.75	6.24	2.65	2.65	118	118	6382	6382	98.18	98.18
46	20-Dec-06	<0.0050	0.00106	0.00106	0.0703	0.0703	112	112	99.94	99.94	<0.30	0.0638	0.0638	3.18	3.18	1237	1237	99.74	99.74	5.97	2.54	2.54	121	121	6379	6379	98.14	98.14
47	28-Dec-06	<0.0050	0.00093	0.00093	0.0712	0.0712	112	112	99.94	99.94	<0.30	0.0558	0.0558	3.24	3.24	1237	1237	99.74	99.74	3.97	1.48	1.48	122	122	6378	6378	98.12	98.12
48	3-Jan-07	<0.0050	0.0012	0.0012	0.0724	0.0724	112	112	99.94	99.94	<0.30	0.0718	0.0718	3.31	3.31	1237	1237	99.73	99.73	5.88	2.81	2.81	125	125	6375	6375	98.08	98.08
49	10-Jan-07	<0.0050	0.00113	0.00113	0.0735	0.0735	112	112	99.93	99.93	<0.30	0.0675	0.0675	3.38	3.38	1237	1237	99.73	99.73	3.83	1.72	1.72	127	127	6373	6373	98.05	98.05
50	17-Jan-07	<0.0050	0.00113	0.00113	0.0746	0.0746	112	112	99.93	99.93	<0.30	0.0675	0.0675	3.45	3.45	1237	1237	99.72	99.72	3.5	1.58	1.58	129	129	6371	6371	98.02	98.02
51	24-Jan-07		0.00114	0.00114	0.0757	0.0757	112	112	99.93	99.93		0.0683	0.0683	3.52	3.52	1236	1236	99.72	99.72		1.59	1.59	131	131	6369	6369	97.98	97.98
52	31-Jan-07	<0.0050	0.00105	0.00105	0.0768	0.0768	112	112	99.93	99.93	<0.30	0.063	0.063	3.58	3.58	1236	1236	99.71	99.71	3.55	1.49	1.49	132	132	6368	6368	97.97	97.97
53	7-Feb-07		0.00113	0.00113	0.0779	0.0779	112	112	99.93	99.93		0.0675	0.0675	3.65	3.65	1236	1236	99.71	99.71		1.6	1.6	134	134	6366	6366	97.94	97.94
54	14-Feb-07	<0.0050	0.00123	0.00123	0.0791	0.0791	112	112	99.93	99.93	<0.30	0.0735	0.0735	3.72	3.72	1236	1236	99.7	99.7	3.22	1.58	1.58	136	136	6364	6364	97.91	97.91
Maximum		0.0184	0.00754	0.00754	0.0791	0.0791	112	112	100	100	0.15	0.078	0.078	3.72	3.72	1240	1240	100	100	31.2	9.88	9.88	136	136	6490.2	6490.2	99.85	99.85
Minimum		0.0025	0.000888	0.000888	0.00441	0.00441	112	112	99.93	99.93	0.15	0.0473	0.0473	0.0473	0.0473	1236	1236	99.7	99.7	2.26	1.06	1.06	9.83	9.83	6364	6364	97.91	97.91
Mean		0.00324	0.00143	0.00143	0.0481	0.0481	112	112	99.96	99.96	0.15	0.0679	0.0679	1.89	1.89	1238	1238	99.85	99.85	5.67	2.48	2.48	87.2	87.2	6412.8	6412.8	98.66	98.66
Median		0.0025	0.00114	0.00114	0.0484	0.0484	112	112	99.96	99.96	0.15	0.0675	0.0675	1.87	1.87	1238	1238	99.85	99.85	4.07	1.89	1.89	91.1	91.1	6408.9	6408.9	98.6	98.6
Mean Initial 5 Wk Flush		0.0107	0.00438	0.00438	0.0153	0.0153	112	112	99.99	99.99	0.15	0.0638	0.0638	0.182	0.182	1240	1240	99.99	99.99	19.4	7.88	7.88	26.5	26.5	6473.5	6473.5	99.59	99.59
Mean Last 5 Weeks		0.0025	0.00114	0.00114	0.0768	0.0768	112	112	99.93	99.93	0.15	0.068	0.068	3.58	3.58	1236	1236	99.71	99.71	3.46	1.57	1.57	132	132	6367.6	6367.6	97.96	97.96
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									24657	24657								4559	4559								1004	1004
50% Remaining (Wks)									49328	49328								9118	9118								2039	2039
25% Remaining (Wks)									73999	73999								13677	13677								3074	3074
0% Remaining (Wks)									98670	98670								18236	18236								4109	4109

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project: Morrison

Sample: F47 (Tailings)

Scavenger Tailings High-Sulphide Tailings Composite

Data: Metal Concentrations, Leach Rates, and Metal Remaining Calculations

		Selenium	Selenium	Selenium	Cumulative Selenium	Cumulative Selenium	Remaining Selenium	Remaining Selenium	Remaining Selenium	Remaining Selenium	Silicon	Silicon	Silicon	Cumulative Silicon	Cumulative Silicon	Remaining Silicon	Remaining Silicon	Remaining Silicon	Remaining Silicon	Silver	Silver	Silver	Cumulative Silver	Cumulative Silver	Remaining Silver	Remaining Silver	Remaining Silver	Remaining Silver
Week No.	Date	Se	Se	Se	Se	Se	Se	Se	Se	Se	Si	Si	Si	Si	Si	Si	Si	Si	Si	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag	Ag
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Selenium (ppm) =			**3**						**Original Silicon (ppm) =**			**278889.9**						**Original Silver (ppm) =**			**1.79**					
0	1-Feb-06	0.032	0.0101	0.0101	0.0101	0.0101	2.99	2.99	99.66	99.66	1.7	0.536	0.536	0.536	0.536	279000	279000	100	100	<0.00010	0.0000158	0.0000158	0.0000158	0.0000158	1.79	1.79	100	100
1	8-Feb-06	<0.010	0.00205	0.00205	0.0122	0.0122	2.99	2.99	99.59	99.59	2.01	0.824	0.824	1.36	1.36	279000	279000	100	100	<0.00010	0.0000205	0.0000205	0.0000363	0.0000363	1.79	1.79	100	100
2	15-Feb-06	<0.010	0.00248	0.00248	0.0147	0.0147	2.99	2.99	99.51	99.51	1.61	0.797	0.797	2.16	2.16	279000	279000	100	100	<0.00010	0.0000248	0.0000248	0.0000611	0.0000611	1.79	1.79	100	100
3	22-Feb-06	<0.010	0.00223	0.00223	0.0169	0.0169	2.98	2.98	99.44	99.44	1.61	0.716	0.716	2.88	2.88	279000	279000	100	100	<0.00010	0.0000223	0.0000223	0.0000834	0.0000834	1.79	1.79	100	100
4	1-Mar-06	<0.010	0.0023	0.0023	0.0192	0.0192	2.98	2.98	99.36	99.36	1.65	0.759	0.759	3.64	3.64	279000	279000	100	100	<0.00010	0.000023	0.000023	0.000106	0.000106	1.79	1.79	99.99	99.99
5	8-Mar-06	<0.010	0.00205	0.00205	0.0213	0.0213	2.98	2.98	99.29	99.29	1.52	0.623	0.623	4.26	4.26	279000	279000	100	100	<0.00010	0.0000205	0.0000205	0.000127	0.000127	1.79	1.79	99.99	99.99
6	15-Mar-06	<0.010	0.0021	0.0021	0.0234	0.0234	2.98	2.98	99.22	99.22	1.46	0.613	0.613	4.87	4.87	279000	279000	100	100	<0.00010	0.000021	0.000021	0.000148	0.000148	1.79	1.79	99.99	99.99
7	22-Mar-06	<0.010	0.00223	0.00223	0.0256	0.0256	2.97	2.97	99.15	99.15	1.3	0.579	0.579	5.45	5.45	279000	279000	100	100	<0.00010	0.0000223	0.0000223	0.00017	0.00017	1.79	1.79	99.99	99.99
8	29-Mar-06	<0.010	0.00245	0.00245	0.0281	0.0281	2.97	2.97	99.06	99.06	1.3	0.637	0.637	6.09	6.09	279000	279000	100	100	<0.00010	0.0000245	0.0000245	0.000195	0.000195	1.79	1.79	99.99	99.99
9	5-Apr-06	<0.010	0.0024	0.0024	0.0305	0.0305	2.97	2.97	98.98	98.98	1.26	0.605	0.605	6.7	6.7	279000	279000	100	100	<0.00010	0.000024	0.000024	0.000219	0.000219	1.79	1.79	99.99	99.99
10	12-Apr-06	<0.010	0.0022	0.0022	0.0327	0.0327	2.97	2.97	98.91	98.91	1.2	0.528	0.528	7.23	7.23	279000	279000	100	100	<0.00010	0.000022	0.000022	0.000241	0.000241	1.79	1.79	99.99	99.99
11	19-Apr-06	<0.010	0.00253	0.00253	0.0352	0.0352	2.96	2.96	98.83	98.83	1.01	0.51	0.51	7.74	7.74	279000	279000	100	100	<0.00010	0.0000253	0.0000253	0.000266	0.000266	1.79	1.79	99.99	99.99
12	26-Apr-06	<0.010	0.00243	0.00243	0.0376	0.0376	2.96	2.96	98.75	98.75	0.947	0.459	0.459	8.2	8.2	279000	279000	100	100	<0.00010	0.0000243	0.0000243	0.00029	0.00029	1.79	1.79	99.98	99.98
13	3-May-06	<0.010	0.0021	0.0021	0.0397	0.0397	2.96	2.96	98.68	98.68	1.09	0.458	0.458	8.66	8.66	279000	279000	100	100	<0.00010	0.000021	0.000021	0.000311	0.000311	1.79	1.79	99.98	99.98
14	10-May-06	<0.010	0.00213	0.00213	0.0418	0.0418	2.96	2.96	98.61	98.61	1.28	0.544	0.544	9.2	9.2	279000	279000	100	100	<0.00010	0.0000213	0.0000213	0.000332	0.000332	1.79	1.79	99.98	99.98
15	17-May-06	<0.010	0.00238	0.00238	0.0442	0.0442	2.96	2.96	98.53	98.53	1.18	0.561	0.561	9.76	9.76	279000	279000	100	100	<0.00010	0.0000238	0.0000238	0.000356	0.000356	1.79	1.79	99.98	99.98
16	24-May-06	<0.010	0.00225	0.00225	0.0465	0.0465	2.95	2.95	98.45	98.45	1.16	0.522	0.522	10.3	10.3	279000	279000	100	100	<0.00010	0.0000225	0.0000225	0.000379	0.000379	1.79	1.79	99.98	99.98
17	31-May-06	<0.010	0.00233	0.00233	0.0488	0.0488	2.95	2.95	98.37	98.37	1.13	0.525	0.525	10.8	10.8	279000	279000	100	100	<0.00010	0.0000233	0.0000233	0.000402	0.000402	1.79	1.79	99.98	99.98
18	7-Jun-06	<0.010	0.00213	0.00213	0.0509	0.0509	2.95	2.95	98.3	98.3	1.05	0.446	0.446	11.2	11.2	279000	279000	100	100	<0.00010	0.0000213	0.0000213	0.000423	0.000423	1.79	1.79	99.98	99.98
19	14-Jun-06	<0.010	0.00248	0.00248	0.0534	0.0534	2.95	2.95	98.22	98.22	0.764	0.378	0.378	11.6	11.6	279000	279000	100	100	<0.00010	0.0000248	0.0000248	0.000448	0.000448	1.79	1.79	99.97	99.97
20	21-Jun-06	<0.010	0.00245	0.00245	0.0559	0.0559	2.94	2.94	98.14	98.14	0.869	0.426	0.426	12	12	279000	279000	100	100	<0.00010	0.0000245	0.0000245	0.000473	0.000473	1.79	1.79	99.97	99.97
21	28-Jun-06	<0.010	0.0021	0.0021	0.058	0.058	2.94	2.94	98.07	98.07	0.988	0.415	0.415	12.4	12.4	279000	279000	100	100	<0.00010	0.000021	0.000021	0.000494	0.000494	1.79	1.79	99.97	99.97
22	5-Jul-06	<0.010	0.00225	0.00225	0.0603	0.0603	2.94	2.94	97.99	97.99	0.875	0.394	0.394	12.8	12.8	279000	279000	100	100	<0.00010	0.0000225	0.0000225	0.000517	0.000517	1.789	1.789	99.97	99.97
23	12-Jul-06	<0.010	0.0023	0.0023	0.0626	0.0626	2.94	2.94	97.91	97.91	1	0.46	0.46	13.3	13.3	279000	279000	100	100	<0.00010	0.000023	0.000023	0.00054	0.00054	1.789	1.789	99.97	99.97
24	19-Jul-06	<0.010	0.00243	0.00243	0.065	0.065	2.94	2.94	97.83	97.83	0.732	0.355	0.355	13.7	13.7	279000	279000	100	100	<0.00010	0.0000243	0.0000243	0.000564	0.000564	1.789	1.789	99.97	99.97
25	26-Jul-06	<0.010	0.00215	0.00215	0.0672	0.0672	2.93	2.93	97.76	97.76	0.817	0.351	0.351	14.1	14.1	279000	279000	99.99	99.99	<0.00010	0.0000215	0.0000215	0.000586	0.000586	1.789	1.789	99.97	99.97
26	2-Aug-06	<0.010	0.0024	0.0024	0.0696	0.0696	2.93	2.93	97.68	97.68	0.88	0.422	0.422	14.5	14.5	279000	279000	99.99	99.99	<0.00010	0.000024	0.000024	0.00061	0.00061	1.789	1.789	99.97	99.97
27	9-Aug-06	<0.010	0.00213	0.00213	0.0717	0.0717	2.93	2.93	97.61	97.61	0.829	0.352	0.352	14.9	14.9	279000	279000	99.99	99.99	<0.00010	0.0000213	0.0000213	0.000631	0.000631	1.789	1.789	99.96	99.96
28	16-Aug-06	<0.010	0.0026	0.0026	0.0743	0.0743	2.93	2.93	97.52	97.52	0.846	0.44	0.44	15.3	15.3	279000	279000	99.99	99.99	<0.00010	0.000026	0.000026	0.000657	0.000657	1.789	1.789	99.96	99.96
29	23-Aug-06	<0.010	0.0026	0.0026	0.0769	0.0769	2.92	2.92	97.44	97.44	0.731	0.38	0.38	15.7	15.7	279000	279000	99.99	99.99	<0.00010	0.000026	0.000026	0.000683	0.000683	1.789	1.789	99.96	99.96
30	30-Aug-06	<0.010	0.0026	0.0026	0.0795	0.0795	2.92	2.92	97.35	97.35	0.51	0.265	0.265	16	16	279000	279000	99.99	99.99	<0.00010	0.000026	0.000026	0.000709	0.000709	1.789	1.789	99.96	99.96
31	6-Sep-06	<0.010	0.0024	0.0024	0.0819	0.0819	2.92	2.92	97.27	97.27	1.09	0.523	0.523	16.5	16.5	279000	279000	99.99	99.99	<0.00010	0.000024	0.000024	0.000733	0.000733	1.789	1.789	99.96	99.96
32	13-Sep-06	<0.010	0.0026	0.0026	0.0845	0.0845	2.92	2.92	97.18	97.18	1.09	0.567	0.567	17.1	17.1	279000	279000	99.99	99.99	<0.00010	0.000026	0.000026	0.000759	0.000759	1.789	1.789	99.96	99.96
33	20-Sep-06	<0.010	0.002	0.002	0.0865	0.0865	2.91	2.91	97.12	97.12	0.628	0.251	0.251	17.4	17.4	279000	279000	99.99	99.99	<0.00010	0.00002	0.00002	0.000779	0.000779	1.789	1.789	99.96	99.96
34	27-Sep-06	<0.010	0.00215	0.00215	0.0887	0.0887	2.91	2.91	97.04	97.04	0.715	0.307	0.307	17.7	17.7	279000	279000	99.99	99.99	<0.00010	0.0000215	0.0000215	0.000801	0.000801	1.789	1.789	99.96	99.96
35	4-Oct-06	<0.010	0.00235	0.00235	0.0911	0.0911	2.91	2.91	96.96	96.96	0.712	0.335	0.335	18	18	279000	279000	99.99	99.99	<0.00010	0.0000235	0.0000235	0.000825	0.000825	1.789	1.789	99.95	99.95
36	11-Oct-06	<0.010	0.00255	0.00255	0.0937	0.0937	2.91	2.91	96.88	96.88	0.544	0.277	0.277	18.3	18.3	279000	279000	99.99	99.99	<0.00010	0.0000255	0.0000255	0.000851	0.000851	1.789	1.789	99.95	99.95
37	18-Oct-06	<0.010	0.00225	0.00225	0.096	0.096	2.9	2.9	96.8	96.8	1.16	0.522	0.522	18.8	18.8	279000	279000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.000874	0.000874	1.789	1.789	99.95	99.95
38	25-Oct-06	<0.010	0.00178	0.00178	0.0978	0.0978	2.9	2.9	96.74	96.74	0.77	0.273	0.273	19.1	19.1	279000	279000	99.99	99.99	<0.00010	0.0000178	0.0000178	0.000892	0.000892	1.789	1.789	99.95	99.95
39	1-Nov-06	<0.010	0.00258	0.00258	0.1	0.1	2.9	2.9	96.67	96.67	0.671	0.346	0.346	19.4	19.4	279000	279000	99.99	99.99	<0.00010	0.0000258	0.0000258	0.000918	0.000918	1.789	1.789	99.95	99.95
40	8-Nov-06	<0.010	0.00208	0.00208	0.102	0.102	2.9	2.9	96.6	96.6	0.763	0.317	0.317	19.7	19.7	279000	279000	99.99	99.99	<0.00010	0.0000208	0.0000208	0.000939	0.000939	1.789	1.789	99.95	99.95
41	15-Nov-06	<0.010	0.00225	0.00225	0.104	0.104	2.9	2.9	96.53	96.53	0.728	0.328	0.328	20	20	279000	279000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.000962	0.000962	1.789	1.789	99.95	99.95
42	22-Nov-06	<0.010	0.00205	0.00205	0.106	0.106	2.89	2.89	96.47	96.47	0.894	0.367	0.367	20.4	20.4	279000	279000	99.99	99.99	<0.00010	0.0000205	0.0000205	0.000983	0.000983	1.789	1.789	99.95	99.95
43	29-Nov-06	<0.010	0.0026	0.0026	0.109	0.109	2.89	2.89	96.37	96.37	0.836	0.435	0.435	20.8	20.8	279000	279000	99.99	99.99	<0.00010	0.000026	0.000026	0.00101	0.00101	1.789	1.789	99.94	99.94
44	6-Dec-06	<0.010	0.002	0.002	0.111	0.111	2.89	2.89	96.3	96.3	2.67	1.07	1.07	21.9	21.9	279000	279000	99.99	99.99	<0.00010	0.00002	0.00002	0.00103	0.00103	1.789	1.789	99.94	99.94
45	13-Dec-06	<0.010	0.00213	0.00213	0.113	0.113	2.89	2.89	96.23	96.23	3.03	1.29	1.29	23.2	23.2	279000	279000	99.99	99.99	<0.00010	0.0000213	0.0000213	0.00105	0.00105	1.789	1.789	99.94	99.94
46	20-Dec-06	<0.010	0.00213	0.00213	0.115	0.115	2.89	2.89	96.17	96.17	2.75	1.17	1.17	24.4	24.4	279000	279000	99.99	99.99	<0.00010	0.0000213	0.0000213	0.00107	0.00107	1.789	1.789	99.94	99.94
47	28-Dec-06	<0.010	0.00186	0.00186	0.117	0.117	2.88	2.88	96.1	96.1	1.08	0.402	0.402	24.8	24.8	279000	279000	99.99	99.99	<0.00010	0.0000186	0.0000186	0.00109	0.00109	1.789	1.789	99.94	99.94
48	3-Jan-07	<0.010	0.00239	0.00239	0.119	0.119	2.88	2.88	96.03	96.03	2.9	1.39	1.39	26.2	26.2	279000	279000	99.99	99.99	<0.00010	0.0000239	0.0000239	0.00111	0.00111	1.789	1.789	99.94	99.94
49	10-Jan-07	<0.010	0.00225	0.00225	0.121	0.121	2.88	2.88	95.97	95.97	0.958	0.431	0.431	26.6	26.6	279000	279000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.00113	0.00113	1.789	1.789	99.94	99.94
50	17-Jan-07	<0.010	0.00225	0.00225	0.123	0.123	2.88	2.88	95.9	95.9	0.946	0.426	0.426	27	27	279000	279000	99.99	99.99	<0.00010	0.0000225	0.0000225	0.00115	0.00115	1.789	1.789	99.94	99.94
51	24-Jan-07		0.00228	0.00228	0.125	0.125	2.88	2.88	95.83	95.83		0.43	0.43	27.4	27.4	279000	279000	99.99	99.99		0.0000228	0.0000228	0.00117	0.00117	1.789	1.789	99.93	99.93
52	31-Jan-07	<0.010	0.0021	0.0021	0.127	0.127	2.87	2.87	95.77	95.77	0.91	0.382	0.382	27.8	27.8	279000	279000	99.99	99.99	<0.00010	0.000021	0.000021	0.00119	0.00119	1.789	1.789	99.93	99.93
53	7-Feb-07		0.00225	0.00225	0.129	0.129	2.87	2.87	95.7	95.7		0.41	0.41	28.2	28.2	279000	279000	99.99	99.99		0.0000225	0.0000225	0.00121	0.00121	1.789	1.789	99.93	99.93
54	14-Feb-07	<0.010	0.00245	0.00245	0.131	0.131	2.87	2.87	95.63	95.63	0.925	0.453	0.453	28.7	28.7	279000	279000	99.99	99.99	<0.00010	0.0000245	0.0000245	0.00123	0.00123	1.789	1.789	99.93	99.93
Maximum		0.032	0.0101	0.0101	0.131	0.131	2.99	2.99	99.66	99.66	3.03	1.39	1.39	28.7	28.7	279000	279000	100	100	0.00005	0.000026	0.000026	0.00123	0.00123	1.79	1.79	100	100
Minimum		0.005	0.00178	0.00178	0.0101	0.0101	2.87	2.87	95.63	95.63	0.51	0.251	0.251	0.536	0.536	279000	279000	99.99	99.99	0.00005	0.0000158	0.0000158	0.0000158	0.0000158	1.789	1.789	99.93	99.93
Mean		0.00549	0.00242	0.00242	0.0717	0.0717	2.93	2.93	97.61	97.61	1.16	0.52	0.52	14.8	14.8	279000	279000	99.99	99.99	0.00005	0.0000226	0.0000226	0.000633	0.000633	1.789	1.789	99.96	99.96
Median		0.005	0.00225	0.00225	0.0717	0.0717	2.93	2.93	97.61	97.61	0.988	0.446	0.446	14.9	14.9	279000	279000	99.99	99.99	0.00005	0.0000225	0.0000225	0.000631	0.000631	1.789	1.789	99.96	99.96
Mean Initial 5 Wk Flush		0.0104	0.00383	0.00383	0.0146	0.0146	2.99	2.99	99.51	99.51	1.72	0.726	0.726	2.12	2.12	279000	279000	100	100	0.00005	0.0000213	0.0000213	0.0000605	0.0000605	1.79	1.79	100	100
Mean Last 5 Weeks		0.005	0.00227	0.00227	0.127	0.127	2.87	2.87	95.77	95.77	0.927	0.42	0.42	27.8	27.8	279000	279000	99.99	99.99	0.00005	0.0000227	0.0000227	0.00119	0.00119	1.789	1.789	99.93	99.93
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									328	328								165994	165994							19713	19713
50% Remaining (Wks)									658	658								332000	332000							39427	39427
25% Remaining (Wks)									988	988								498006	498006							59141	59141
0% Remaining (Wks)									1319	1319								664012	664012							78854	78854

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Strontium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium	Thallium
Week No.	Date	Na	Na	Na	Na	Na	Na	Na	Na	Na	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Tl	Tl	Tl	Tl	Tl	Tl	Tl	Tl	Tl
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
		Original Sodium (ppm) =			**2200**						**Original Strontium (ppm) =**			**325**						**Original Thallium (ppm) =**			**0.5**					
0	1-Feb-06	20.4	6.43	6.43	6.43	6.43	2193.6	2193.6	99.71	99.71	3.22	1.01	1.01	1.01	1.01	324	324	99.69	99.69	<0.0010	0.000158	0.000158	0.000158	0.000158	0.4998	0.4998	99.97	99.97
1	8-Feb-06	12.1	4.96	4.96	11.4	11.4	2188.6	2188.6	99.48	99.48	2.44	1	1	2.01	2.01	323	323	99.38	99.38	<0.0010	0.000205	0.000205	0.000363	0.000363	0.4996	0.4996	99.93	99.93
2	15-Feb-06	6.44	3.19	3.19	14.6	14.6	2185.4	2185.4	99.34	99.34	1.31	0.648	0.648	2.66	2.66	322.3	322.3	99.18	99.18	<0.0010	0.000248	0.000248	0.000611	0.000611	0.4994	0.4994	99.88	99.88
3	22-Feb-06	3.7	1.65	1.65	16.3	16.3	2183.7	2183.7	99.26	99.26	1.06	0.472	0.472	3.13	3.13	321.9	321.9	99.04	99.04	<0.0010	0.000223	0.000223	0.000834	0.000834	0.4992	0.4992	99.83	99.83
4	1-Mar-06	2.36	1.09	1.09	17.4	17.4	2182.6	2182.6	99.21	99.21	0.738	0.339	0.339	3.47	3.47	321.5	321.5	98.93	98.93	<0.0010	0.00023	0.00023	0.00106	0.00106	0.4989	0.4989	99.79	99.79
5	8-Mar-06	1.66	0.681	0.681	18.1	18.1	2181.9	2181.9	99.18	99.18	0.664	0.272	0.272	3.74	3.74	321.3	321.3	98.85	98.85	<0.0010	0.000205	0.000205	0.00127	0.00127	0.4987	0.4987	99.75	99.75
6	15-Mar-06	1.27	0.533	0.533	18.6	18.6	2181.4	2181.4	99.15	99.15	0.622	0.261	0.261	4	4	321	321	98.77	98.77	<0.0010	0.00021	0.00021	0.00148	0.00148	0.4985	0.4985	99.7	99.7
7	22-Mar-06	0.871	0.388	0.388	19	19	2181	2181	99.14	99.14	0.507	0.226	0.226	4.23	4.23	320.8	320.8	98.7	98.7	<0.0010	0.000223	0.000223	0.0017	0.0017	0.4983	0.4983	99.66	99.66
8	29-Mar-06	0.685	0.336	0.336	19.3	19.3	2180.7	2180.7	99.12	99.12	0.458	0.224	0.224	4.45	4.45	320.6	320.6	98.63	98.63	<0.0010	0.000245	0.000245	0.00195	0.00195	0.4981	0.4981	99.61	99.61
9	5-Apr-06	0.662	0.318	0.318	19.6	19.6	2180.4	2180.4	99.11	99.11	0.489	0.235	0.235	4.69	4.69	320.3	320.3	98.56	98.56	<0.0010	0.00024	0.00024	0.00219	0.00219	0.4978	0.4978	99.56	99.56
10	12-Apr-06	0.53	0.233	0.233	19.8	19.8	2180.2	2180.2	99.1	99.1	0.442	0.194	0.194	4.88	4.88	320.1	320.1	98.5	98.5	<0.0010	0.00022	0.00022	0.00241	0.00241	0.4976	0.4976	99.52	99.52
11	19-Apr-06	0.442	0.223	0.223	20	20	2180	2180	99.09	99.09	0.396	0.2	0.2	5.08	5.08	319.9	319.9	98.44	98.44	<0.0010	0.000253	0.000253	0.00266	0.00266	0.4973	0.4973	99.47	99.47
12	26-Apr-06	0.41	0.199	0.199	20.2	20.2	2179.8	2179.8	99.08	99.08	0.396	0.192	0.192	5.27	5.27	319.7	319.7	98.38	98.38	<0.0010	0.000243	0.000243	0.0029	0.0029	0.4971	0.4971	99.42	99.42
13	3-May-06	0.383	0.161	0.161	20.4	20.4	2179.6	2179.6	99.07	99.07	0.366	0.154	0.154	5.42	5.42	319.6	319.6	98.33	98.33	<0.0010	0.00021	0.00021	0.00311	0.00311	0.4969	0.4969	99.38	99.38
14	10-May-06	0.418	0.178	0.178	20.6	20.6	2179.4	2179.4	99.06	99.06	0.424	0.18	0.18	5.6	5.6	319.4	319.4	98.28	98.28	<0.0010	0.000213	0.000213	0.00332	0.00332	0.4967	0.4967	99.34	99.34
15	17-May-06	0.325	0.154	0.154	20.8	20.8	2179.2	2179.2	99.05	99.05	0.358	0.17	0.17	5.77	5.77	319.2	319.2	98.22	98.22	<0.0010	0.000238	0.000238	0.00356	0.00356	0.4964	0.4964	99.29	99.29
16	24-May-06	0.344	0.155	0.155	21	21	2179	2179	99.05	99.05	0.395	0.178	0.178	5.95	5.95	319.1	319.1	98.17	98.17	<0.0010	0.000225	0.000225	0.00379	0.00379	0.4962	0.4962	99.24	99.24
17	31-May-06	0.307	0.143	0.143	21.1	21.1	2178.9	2178.9	99.04	99.04	0.38	0.177	0.177	6.13	6.13	318.9	318.9	98.11	98.11	<0.0010	0.000233	0.000233	0.00402	0.00402	0.496	0.496	99.2	99.2
18	7-Jun-06	0.294	0.125	0.125	21.2	21.2	2178.8	2178.8	99.04	99.04	0.37	0.157	0.157	6.29	6.29	318.7	318.7	98.06	98.06	<0.0010	0.000213	0.000213	0.00423	0.00423	0.4958	0.4958	99.15	99.15
19	14-Jun-06	0.201	0.0995	0.0995	21.3	21.3	2178.7	2178.7	99.03	99.03	0.276	0.137	0.137	6.43	6.43	318.6	318.6	98.02	98.02	<0.0010	0.000248	0.000248	0.00448	0.00448	0.4955	0.4955	99.1	99.1
20	21-Jun-06	0.27	0.132	0.132	21.4	21.4	2178.6	2178.6	99.03	99.03	0.306	0.15	0.15	6.58	6.58	318.4	318.4	97.98	97.98	<0.0010	0.000245	0.000245	0.00473	0.00473	0.4953	0.4953	99.05	99.05
21	28-Jun-06	0.255	0.107	0.107	21.5	21.5	2178.5	2178.5	99.02	99.02	0.313	0.131	0.131	6.71	6.71	318.3	318.3	97.94	97.94	<0.0010	0.00021	0.00021	0.00494	0.00494	0.4951	0.4951	99.01	99.01
22	5-Jul-06	0.228	0.103	0.103	21.6	21.6	2178.4	2178.4	99.02	99.02	0.276	0.124	0.124	6.83	6.83	318.2	318.2	97.9	97.9	<0.0010	0.000225	0.000225	0.00517	0.00517	0.4948	0.4948	98.97	98.97
23	12-Jul-06	0.277	0.127	0.127	21.7	21.7	2178.3	2178.3	99.01	99.01	0.351	0.161	0.161	6.99	6.99	318	318	97.85	97.85	<0.0010	0.00023	0.00023	0.0054	0.0054	0.4946	0.4946	98.92	98.92
24	19-Jul-06	0.203	0.0985	0.0985	21.8	21.8	2178.2	2178.2	99.01	99.01	0.256	0.124	0.124	7.11	7.11	317.9	317.9	97.81	97.81	<0.0010	0.000243	0.000243	0.00564	0.00564	0.4944	0.4944	98.87	98.87
25	26-Jul-06	0.21	0.0903	0.0903	21.9	21.9	2178.1	2178.1	99	99	0.272	0.117	0.117	7.23	7.23	317.8	317.8	97.78	97.78	<0.0010	0.000215	0.000215	0.00586	0.00586	0.4941	0.4941	98.83	98.83
26	2-Aug-06	0.287	0.138	0.138	22	22	2178	2178	99	99	0.314	0.151	0.151	7.38	7.38	317.6	317.6	97.73	97.73	<0.0010	0.00024	0.00024	0.0061	0.0061	0.4939	0.4939	98.78	98.78
27	9-Aug-06	0.213	0.0905	0.0905	22.1	22.1	2177.9	2177.9	99	99	0.246	0.105	0.105	7.49	7.49	317.5	317.5	97.7	97.7	<0.0010	0.000213	0.000213	0.00631	0.00631	0.4937	0.4937	98.74	98.74
28	16-Aug-06	0.246	0.128	0.128	22.2	22.2	2177.8	2177.8	98.99	98.99	0.283	0.147	0.147	7.64	7.64	317.4	317.4	97.65	97.65	<0.0010	0.00026	0.00026	0.00657	0.00657	0.4934	0.4934	98.69	98.69
29	23-Aug-06	0.177	0.092	0.092	22.3	22.3	2177.7	2177.7	98.99	98.99	0.236	0.123	0.123	7.76	7.76	317.2	317.2	97.61	97.61	<0.0010	0.00026	0.00026	0.00683	0.00683	0.4932	0.4932	98.63	98.63
30	30-Aug-06	0.153	0.0796	0.0796	22.4	22.4	2177.6	2177.6	98.98	98.98	0.175	0.091	0.091	7.85	7.85	317.2	317.2	97.58	97.58	<0.0010	0.00026	0.00026	0.00709	0.00709	0.4929	0.4929	98.58	98.58
31	6-Sep-06	0.357	0.171	0.171	22.6	22.6	2177.4	2177.4	98.97	98.97	0.385	0.185	0.185	8.04	8.04	317	317	97.53	97.53	<0.0010	0.00024	0.00024	0.00733	0.00733	0.4927	0.4927	98.53	98.53
32	13-Sep-06	0.287	0.149	0.149	22.7	22.7	2177.3	2177.3	98.97	98.97	0.345	0.179	0.179	8.22	8.22	316.8	316.8	97.47	97.47	<0.0010	0.00026	0.00026	0.00759	0.00759	0.4924	0.4924	98.48	98.48
33	20-Sep-06	0.165	0.066	0.066	22.8	22.8	2177.2	2177.2	98.96	98.96	0.207	0.0828	0.0828	8.3	8.3	316.7	316.7	97.45	97.45	<0.0010	0.0002	0.0002	0.00779	0.00779	0.4922	0.4922	98.44	98.44
34	27-Sep-06	0.171	0.0735	0.0735	22.9	22.9	2177.1	2177.1	98.96	98.96	0.216	0.0929	0.0929	8.39	8.39	316.6	316.6	97.42	97.42	<0.0010	0.000215	0.000215	0.00801	0.00801	0.492	0.492	98.4	98.4
35	4-Oct-06	0.197	0.0926	0.0926	23	23	2177	2177	98.95	98.95	0.225	0.106	0.106	8.5	8.5	316.5	316.5	97.38	97.38	<0.0010	0.000235	0.000235	0.00825	0.00825	0.4918	0.4918	98.35	98.35
36	11-Oct-06	0.143	0.0729	0.0729	23.1	23.1	2176.9	2176.9	98.95	98.95	0.162	0.0826	0.0826	8.58	8.58	316.4	316.4	97.36	97.36	<0.0010	0.000255	0.000255	0.00851	0.00851	0.4915	0.4915	98.3	98.3
37	18-Oct-06	0.318	0.143	0.143	23.2	23.2	2176.8	2176.8	98.95	98.95	0.348	0.157	0.157	8.74	8.74	316.3	316.3	97.31	97.31	<0.0010	0.000225	0.000225	0.00874	0.00874	0.4913	0.4913	98.25	98.25
38	25-Oct-06	0.187	0.0664	0.0664	23.3	23.3	2176.7	2176.7	98.94	98.94	0.245	0.087	0.087	8.83	8.83	316.2	316.2	97.28	97.28	<0.0010	0.000178	0.000178	0.00892	0.00892	0.4911	0.4911	98.22	98.22
39	1-Nov-06	0.169	0.087	0.087	23.4	23.4	2176.6	2176.6	98.94	98.94	0.231	0.119	0.119	8.95	8.95	316.1	316.1	97.25	97.25	<0.0010	0.000258	0.000258	0.00918	0.00918	0.4908	0.4908	98.16	98.16
40	8-Nov-06	0.186	0.0772	0.0772	23.5	23.5	2176.5	2176.5	98.93	98.93	0.253	0.105	0.105	9.06	9.06	315.9	315.9	97.21	97.21	<0.0010	0.000208	0.000208	0.00939	0.00939	0.4906	0.4906	98.12	98.12
41	15-Nov-06	0.197	0.0887	0.0887	23.6	23.6	2176.4	2176.4	98.93	98.93	0.238	0.107	0.107	9.17	9.17	315.8	315.8	97.18	97.18	<0.0010	0.000225	0.000225	0.00962	0.00962	0.4904	0.4904	98.08	98.08
42	22-Nov-06	0.212	0.0869	0.0869	23.7	23.7	2176.3	2176.3	98.92	98.92	0.275	0.113	0.113	9.28	9.28	315.7	315.7	97.14	97.14	<0.0010	0.000205	0.000205	0.00983	0.00983	0.4902	0.4902	98.03	98.03
43	29-Nov-06	0.2	0.104	0.104	23.8	23.8	2176.2	2176.2	98.92	98.92	0.264	0.137	0.137	9.42	9.42	315.6	315.6	97.1	97.1	<0.0010	0.00026	0.00026	0.0101	0.0101	0.4899	0.4899	97.98	97.98
44	6-Dec-06	1.06	0.424	0.424	24.2	24.2	2175.8	2175.8	98.9	98.9	0.693	0.277	0.277	9.7	9.7	315.3	315.3	97.02	97.02	<0.0010	0.0002	0.0002	0.0103	0.0103	0.4897	0.4897	97.94	97.94
45	13-Dec-06	1.25	0.531	0.531	24.7	24.7	2175.3	2175.3	98.88	98.88	0.713	0.303	0.303	10	10	315	315	96.92	96.92	<0.0010	0.000213	0.000213	0.0105	0.0105	0.4895	0.4895	97.9	97.9
46	20-Dec-06	1.06	0.451	0.451	25.2	25.2	2174.8	2174.8	98.85	98.85	0.655	0.278	0.278	10.3	10.3	314.7	314.7	96.83	96.83	<0.0010	0.000213	0.000213	0.0107	0.0107	0.4893	0.4893	97.86	97.86
47	28-Dec-06	0.289	0.107	0.107	25.3	25.3	2174.7	2174.7	98.85	98.85	0.319	0.119	0.119	10.4	10.4	314.6	314.6	96.8	96.8	<0.0010	0.000186	0.000186	0.0109	0.0109	0.4891	0.4891	97.82	97.82
48	3-Jan-07	1.13	0.541	0.541	25.8	25.8	2174.2	2174.2	98.83	98.83	0.673	0.322	0.322	10.7	10.7	314.3	314.3	96.71	96.71	<0.0010	0.000239	0.000239	0.0111	0.0111	0.4889	0.4889	97.78	97.78
49	10-Jan-07	0.254	0.114	0.114	25.9	25.9	2174.1	2174.1	98.82	98.82	0.286	0.129	0.129	10.8	10.8	314.2	314.2	96.68	96.68	<0.0010	0.000225	0.000225	0.0113	0.0113	0.4887	0.4887	97.74	97.74
50	17-Jan-07	<0.50	0.113	0.113	26	26	2174	2174	98.82	98.82	0.274	0.123	0.123	10.9	10.9	314.1	314.1	96.65	96.65	<0.0010	0.000225	0.000225	0.0115	0.0115	0.4885	0.4885	97.7	97.7
51	24-Jan-07		0.114	0.114	26.1	26.1	2173.9	2173.9	98.81	98.81		0.125	0.125	11	11	314	314	96.62	96.62		0.000228	0.000228	0.0117	0.0117	0.4883	0.4883	97.66	97.66
52	31-Jan-07	<0.50	0.105	0.105	26.2	26.2	2173.8	2173.8	98.81	98.81	0.273	0.115	0.115	11.1	11.1	313.9	313.9	96.58	96.58	<0.0010	0.00021	0.00021	0.0119	0.0119	0.4881	0.4881	97.62	97.62
53	7-Feb-07		0.113	0.113	26.3	26.3	2173.7	2173.7	98.8	98.8		0.123	0.123	11.2	11.2	313.8	313.8	96.55	96.55		0.000225	0.000225	0.0121	0.0121	0.4879	0.4879	97.58	97.58
54	14-Feb-07	<0.50	0.123	0.123	26.4	26.4	2173.6	2173.6	98.8	98.8	0.251	0.123	0.123	11.3	11.3	313.7	313.7	96.52	96.52	<0.0010	0.000245	0.000245	0.0123	0.0123	0.4877	0.4877	97.54	97.54
Maximum		20.4	6.43	6.43	26.4	26.4	2193.6	2193.6	99.71	99.71	3.22	1.01	1.01	11.3	11.3	324	324	99.69	99.69	0.0005	0.00026	0.00026	0.0123	0.0123	0.4998	0.4998	99.97	99.97
Minimum		0.143	0.066	0.066	6.43	6.43	2173.6	2173.6	98.8	98.8	0.162	0.0826	0.0826	1.01	1.01	313.7	313.7	96.52	96.52	0.0005	0.000158	0.000158	0.000158	0.000158	0.4877	0.4877	97.54	97.54
Mean		1.19	0.481	0.481	21.7	21.7	2178.3	2178.3	99.01	99.01	0.48	0.208	0.208	7.28	7.28	317.7	317.7	97.76	97.76	0.0005	0.000226	0.000226	0.00633	0.00633	0.4937	0.4937	98.73	98.73
Median		0.287	0.128	0.128	22.1	22.1	2177.9	2177.9	99	99	0.319	0.151	0.151	7.49	7.49	317.5	317.5	97.7	97.7	0.0005	0.000225	0.000225	0.00631	0.00631	0.4937	0.4937	98.74	98.74
Mean Initial 5 Wk Flush		9	3.46	3.46	13.2	13.2	2186.8	2186.8	99.4	99.4	1.75	0.694	0.694	2.46	2.46	322.5	322.5	99.24	99.24	0.0005	0.000213	0.000213	0.000605	0.000605	0.4994	0.4994	99.88	99.88
Mean Last 5 Weeks		0.25	0.114	0.114	26.2	26.2	2173.8	2173.8	98.81	98.81	0.269	0.122	0.122	11.1	11.1	313.9	313.9	96.58	96.58	0.0005	0.000227	0.000227	0.0119	0.0119	0.4881	0.4881	97.62	97.62
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									4648	4648								628	628								551	551
50% Remaining (Wks)									9473	9473								1294	1294								1102	1102
25% Remaining (Wks)									14297	14297								1960	1960								1653	1653
0% Remaining (Wks)									19122	19122								2626	2626								2203	2203

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

Project:		Morrison																												
Sample:		**F47 (Tailings)**																												
		Scavenger Tailings High-Sulphide Tailings Composite																												
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																												
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Tin	Tin	Tin	Tin	Tin	Tin	Tin	Tin	Tin	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium	Uranium
Week No.	Date	Sn	Sn	Sn	Sn	Sn	Sn	Sn	Sn	Sn	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	U	U	U	U	U	U	U	U	U
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)
			Original Tin (ppm) =		**1.8**							**Original Titanium (ppm) =**			**3670**							**Original Uranium (ppm) =**			**1.2**				
0	1-Feb-06	<0.0010	0.000158	0.000158	0.000158	0.000158	1.8	1.8	99.99	99.99	<0.010	0.00158	0.00158	0.00158	0.00158	3670	3670	100	100	0.00242	0.000762	0.000762	0.000762	0.000762	1.199	1.199	99.94	99.94
1	8-Feb-06	<0.0010	0.000205	0.000205	0.000363	0.000363	1.8	1.8	99.98	99.98	<0.010	0.00205	0.00205	0.00363	0.00363	3670	3670	100	100	0.00305	0.00125	0.00125	0.00201	0.00201	1.198	1.198	99.83	99.83
2	15-Feb-06	0.0024	0.00119	0.00119	0.00155	0.00155	1.798	1.798	99.91	99.91	<0.010	0.00248	0.00248	0.00611	0.00611	3670	3670	100	100	0.00189	0.000936	0.000936	0.00295	0.00295	1.197	1.197	99.75	99.75
3	22-Feb-06	<0.0010	0.000223	0.000223	0.00177	0.00177	1.798	1.798	99.9	99.9	<0.010	0.00223	0.00223	0.00834	0.00834	3670	3670	100	100	0.00142	0.000632	0.000632	0.00358	0.00358	1.196	1.196	99.7	99.7
4	1-Mar-06	<0.0010	0.00023	0.00023	0.002	0.002	1.798	1.798	99.89	99.89	<0.010	0.0023	0.0023	0.0106	0.0106	3670	3670	100	100	0.00082	0.000377	0.000377	0.00396	0.00396	1.196	1.196	99.67	99.67
5	8-Mar-06	<0.0010	0.000205	0.000205	0.00221	0.00221	1.798	1.798	99.88	99.88	<0.010	0.00205	0.00205	0.0127	0.0127	3670	3670	100	100	0.00065	0.000267	0.000267	0.00423	0.00423	1.196	1.196	99.65	99.65
6	15-Mar-06	<0.0010	0.00021	0.00021	0.00242	0.00242	1.798	1.798	99.87	99.87	<0.010	0.0021	0.0021	0.0148	0.0148	3670	3670	100	100	0.00056	0.000235	0.000235	0.00447	0.00447	1.196	1.196	99.63	99.63
7	22-Mar-06	<0.0010	0.000223	0.000223	0.00264	0.00264	1.797	1.797	99.85	99.85	<0.010	0.00223	0.00223	0.017	0.017	3670	3670	100	100	0.00042	0.000187	0.000187	0.00466	0.00466	1.195	1.195	99.61	99.61
8	29-Mar-06	<0.0010	0.000245	0.000245	0.00289	0.00289	1.797	1.797	99.84	99.84	<0.010	0.00245	0.00245	0.0195	0.0195	3670	3670	100	100	0.00029	0.000142	0.000142	0.0048	0.0048	1.195	1.195	99.6	99.6
9	5-Apr-06	<0.0010	0.00024	0.00024	0.00313	0.00313	1.797	1.797	99.83	99.83	<0.010	0.0024	0.0024	0.0219	0.0219	3670	3670	100	100	0.00031	0.000149	0.000149	0.00495	0.00495	1.195	1.195	99.59	99.59
10	12-Apr-06	<0.0010	0.00022	0.00022	0.00335	0.00335	1.797	1.797	99.81	99.81	<0.010	0.0022	0.0022	0.0241	0.0241	3670	3670	100	100	0.00023	0.000101	0.000101	0.00505	0.00505	1.195	1.195	99.58	99.58
11	19-Apr-06	<0.0010	0.000253	0.000253	0.0036	0.0036	1.796	1.796	99.8	99.8	<0.010	0.00253	0.00253	0.0266	0.0266	3670	3670	100	100	0.00022	0.000111	0.000111	0.00516	0.00516	1.195	1.195	99.57	99.57
12	26-Apr-06	<0.0010	0.000243	0.000243	0.00384	0.00384	1.796	1.796	99.79	99.79	<0.010	0.00243	0.00243	0.029	0.029	3670	3670	100	100	0.00023	0.000112	0.000112	0.00527	0.00527	1.195	1.195	99.56	99.56
13	3-May-06	<0.0010	0.00021	0.00021	0.00405	0.00405	1.796	1.796	99.78	99.78	<0.010	0.0021	0.0021	0.0311	0.0311	3670	3670	100	100	0.00021	8.82E-05	0.0000882	0.00536	0.00536	1.195	1.195	99.55	99.55
14	10-May-06	<0.0010	0.000213	0.000213	0.00426	0.00426	1.796	1.796	99.76	99.76	<0.010	0.00213	0.00213	0.0332	0.0332	3670	3670	100	100	0.00023	9.78E-05	0.0000978	0.00546	0.00546	1.195	1.195	99.55	99.55
15	17-May-06	<0.0010	0.000238	0.000238	0.0045	0.0045	1.796	1.796	99.75	99.75	<0.010	0.00238	0.00238	0.0356	0.0356	3670	3670	100	100	0.00018	8.55E-05	0.0000855	0.00555	0.00555	1.194	1.194	99.54	99.54
16	24-May-06	<0.0010	0.000225	0.000225	0.00473	0.00473	1.795	1.795	99.74	99.74	<0.010	0.00225	0.00225	0.0379	0.0379	3670	3670	100	100	0.00015	6.75E-05	0.0000675	0.00562	0.00562	1.194	1.194	99.53	99.53
17	31-May-06	<0.0010	0.000233	0.000233	0.00496	0.00496	1.795	1.795	99.72	99.72	<0.010	0.00233	0.00233	0.0402	0.0402	3670	3670	100	100	0.00013	6.05E-05	0.0000605	0.00568	0.00568	1.194	1.194	99.53	99.53
18	7-Jun-06	<0.0010	0.000213	0.000213	0.00517	0.00517	1.795	1.795	99.71	99.71	<0.010	0.00213	0.00213	0.0423	0.0423	3670	3670	100	100	0.00011	4.68E-05	0.0000468	0.00573	0.00573	1.194	1.194	99.52	99.52
19	14-Jun-06	<0.0010	0.000248	0.000248	0.00542	0.00542	1.795	1.795	99.7	99.7	<0.010	0.00248	0.00248	0.0448	0.0448	3670	3670	100	100	<0.00010	2.48E-05	0.0000248	0.00575	0.00575	1.194	1.194	99.52	99.52
20	21-Jun-06	<0.0010	0.000245	0.000245	0.00567	0.00567	1.794	1.794	99.69	99.69	<0.010	0.00245	0.00245	0.0473	0.0473	3670	3670	100	100	0.00011	5.39E-05	0.0000539	0.0058	0.0058	1.194	1.194	99.52	99.52
21	28-Jun-06	<0.0010	0.00021	0.00021	0.00588	0.00588	1.794	1.794	99.67	99.67	<0.010	0.0021	0.0021	0.0494	0.0494	3670	3670	100	100	0.0001	0.000042	0.000042	0.00584	0.00584	1.194	1.194	99.51	99.51
22	5-Jul-06	<0.0010	0.000225	0.000225	0.00611	0.00611	1.794	1.794	99.66	99.66	<0.010	0.00225	0.00225	0.0517	0.0517	3670	3670	100	100	<0.00010	2.25E-05	0.0000225	0.00586	0.00586	1.194	1.194	99.51	99.51
23	12-Jul-06	<0.0010	0.00023	0.00023	0.00634	0.00634	1.794	1.794	99.65	99.65	<0.010	0.0023	0.0023	0.054	0.054	3670	3670	100	100	0.00012	5.52E-05	0.0000552	0.00592	0.00592	1.194	1.194	99.51	99.51
24	19-Jul-06	<0.0010	0.000243	0.000243	0.00658	0.00658	1.793	1.793	99.63	99.63	<0.010	0.00243	0.00243	0.0564	0.0564	3670	3670	100	100	<0.00010	2.43E-05	0.0000243	0.00594	0.00594	1.194	1.194	99.51	99.51
25	26-Jul-06	<0.0010	0.000215	0.000215	0.0068	0.0068	1.793	1.793	99.62	99.62	<0.010	0.00215	0.00215	0.0586	0.0586	3670	3670	100	100	<0.00010	2.15E-05	0.0000215	0.00596	0.00596	1.194	1.194	99.5	99.5
26	2-Aug-06	<0.0010	0.00024	0.00024	0.00704	0.00704	1.793	1.793	99.61	99.61	<0.010	0.0024	0.0024	0.061	0.061	3670	3670	100	100	0.00011	5.28E-05	0.0000528	0.00601	0.00601	1.194	1.194	99.5	99.5
27	9-Aug-06	<0.0010	0.000213	0.000213	0.00725	0.00725	1.793	1.793	99.6	99.6	<0.010	0.00213	0.00213	0.0631	0.0631	3670	3670	100	100	<0.00010	2.13E-05	0.0000213	0.00603	0.00603	1.194	1.194	99.5	99.5
28	16-Aug-06	<0.0010	0.00026	0.00026	0.00751	0.00751	1.792	1.792	99.58	99.58	<0.010	0.0026	0.0026	0.0657	0.0657	3670	3670	100	100	<0.00010	0.000026	0.000026	0.00606	0.00606	1.194	1.194	99.5	99.5
29	23-Aug-06	<0.0010	0.00026	0.00026	0.00777	0.00777	1.792	1.792	99.57	99.57	<0.010	0.0026	0.0026	0.0683	0.0683	3670	3670	100	100	<0.00010	0.000026	0.000026	0.00609	0.00609	1.194	1.194	99.49	99.49
30	30-Aug-06	<0.0010	0.00026	0.00026	0.00803	0.00803	1.792	1.792	99.55	99.55	<0.010	0.0026	0.0026	0.0709	0.0709	3670	3670	100	100	<0.00010	0.000026	0.000026	0.00612	0.00612	1.194	1.194	99.49	99.49
31	6-Sep-06	<0.0010	0.00024	0.00024	0.00827	0.00827	1.792	1.792	99.54	99.54	<0.010	0.0024	0.0024	0.0733	0.0733	3670	3670	100	100	0.00018	8.64E-05	0.0000864	0.00621	0.00621	1.194	1.194	99.48	99.48
32	13-Sep-06	<0.0010	0.00026	0.00026	0.00853	0.00853	1.791	1.791	99.53	99.53	<0.010	0.0026	0.0026	0.0759	0.0759	3670	3670	100	100	0.00013	6.76E-05	0.0000676	0.00628	0.00628	1.194	1.194	99.48	99.48
33	20-Sep-06	<0.0010	0.0002	0.0002	0.00873	0.00873	1.791	1.791	99.52	99.52	<0.010	0.002	0.002	0.0779	0.0779	3670	3670	100	100	<0.00010	0.00002	0.00002	0.0063	0.0063	1.194	1.194	99.48	99.48
34	27-Sep-06	<0.0010	0.000215	0.000215	0.00895	0.00895	1.791	1.791	99.5	99.5	<0.010	0.00215	0.00215	0.0801	0.0801	3670	3670	100	100	<0.00010	2.15E-05	0.0000215	0.00632	0.00632	1.194	1.194	99.47	99.47
35	4-Oct-06	<0.0010	0.000235	0.000235	0.00919	0.00919	1.791	1.791	99.49	99.49	<0.010	0.00235	0.00235	0.0825	0.0825	3670	3670	100	100	<0.00010	2.35E-05	0.0000235	0.00634	0.00634	1.194	1.194	99.47	99.47
36	11-Oct-06	<0.0010	0.000255	0.000255	0.00945	0.00945	1.791	1.791	99.48	99.48	<0.010	0.00255	0.00255	0.0851	0.0851	3670	3670	100	100	<0.00010	2.55E-05	0.0000255	0.00637	0.00637	1.194	1.194	99.47	99.47
37	18-Oct-06	<0.0010	0.000225	0.000225	0.00968	0.00968	1.79	1.79	99.46	99.46	<0.010	0.00225	0.00225	0.0874	0.0874	3670	3670	100	100	0.00017	7.65E-05	0.0000765	0.00645	0.00645	1.194	1.194	99.46	99.46
38	25-Oct-06	<0.0010	0.000178	0.000178	0.00986	0.00986	1.79	1.79	99.45	99.45	<0.010	0.00178	0.00178	0.0892	0.0892	3670	3670	100	100	<0.00010	1.78E-05	0.0000178	0.00647	0.00647	1.194	1.194	99.46	99.46
39	1-Nov-06	<0.0010	0.000258	0.000258	0.0101	0.0101	1.79	1.79	99.44	99.44	<0.010	0.00258	0.00258	0.0918	0.0918	3670	3670	100	100	<0.00010	2.58E-05	0.0000258	0.0065	0.0065	1.194	1.194	99.46	99.46
40	8-Nov-06	<0.0010	0.000208	0.000208	0.0103	0.0103	1.79	1.79	99.43	99.43	<0.010	0.00208	0.00208	0.0939	0.0939	3670	3670	100	100	<0.00010	2.08E-05	0.0000208	0.00652	0.00652	1.193	1.193	99.46	99.46
41	15-Nov-06	<0.0010	0.000225	0.000225	0.0105	0.0105	1.79	1.79	99.42	99.42	<0.010	0.00225	0.00225	0.0962	0.0962	3670	3670	100	100	<0.00010	2.25E-05	0.0000225	0.00654	0.00654	1.193	1.193	99.46	99.46
42	22-Nov-06	<0.0010	0.000205	0.000205	0.0107	0.0107	1.789	1.789	99.41	99.41	<0.010	0.00205	0.00205	0.0983	0.0983	3670	3670	100	100	0.00011	4.51E-05	0.0000451	0.00659	0.00659	1.193	1.193	99.45	99.45
43	29-Nov-06	<0.0010	0.00026	0.00026	0.011	0.011	1.789	1.789	99.39	99.39	<0.010	0.0026	0.0026	0.101	0.101	3670	3670	100	100	<0.00010	0.000026	0.000026	0.00662	0.00662	1.193	1.193	99.45	99.45
44	6-Dec-06	<0.0010	0.0002	0.0002	0.0112	0.0112	1.789	1.789	99.38	99.38	<0.010	0.002	0.002	0.103	0.103	3670	3670	100	100	0.00039	0.000156	0.000156	0.00678	0.00678	1.193	1.193	99.44	99.44
45	13-Dec-06	<0.0010	0.000213	0.000213	0.0114	0.0114	1.789	1.789	99.37	99.37	<0.010	0.00213	0.00213	0.105	0.105	3670	3670	100	100	0.00041	0.000174	0.000174	0.00695	0.00695	1.193	1.193	99.42	99.42
46	20-Dec-06	<0.0010	0.000213	0.000213	0.0116	0.0116	1.788	1.788	99.36	99.36	<0.010	0.00213	0.00213	0.107	0.107	3670	3670	100	100	0.00038	0.000162	0.000162	0.00711	0.00711	1.193	1.193	99.41	99.41
47	28-Dec-06	<0.0010	0.000186	0.000186	0.0118	0.0118	1.788	1.788	99.34	99.34	<0.010	0.00186	0.00186	0.109	0.109	3670	3670	100	100	0.00013	4.83E-05	0.0000483	0.00716	0.00716	1.193	1.193	99.4	99.4
48	3-Jan-07	<0.0010	0.000239	0.000239	0.012	0.012	1.788	1.788	99.33	99.33	<0.010	0.00239	0.00239	0.111	0.111	3670	3670	100	100	0.00045	0.000215	0.000215	0.00738	0.00738	1.193	1.193	99.39	99.39
49	10-Jan-07	<0.0010	0.000225	0.000225	0.0122	0.0122	1.788	1.788	99.32	99.32	<0.010	0.00225	0.00225	0.113	0.113	3670	3670	100	100	<0.00010	2.25E-05	0.0000225	0.0074	0.0074	1.193	1.193	99.38	99.38
50	17-Jan-07	<0.0010	0.000225	0.000225	0.0124	0.0124	1.788	1.788	99.31	99.31	<0.010	0.00225	0.00225	0.115	0.115	3670	3670	100	100	<0.00010	2.25E-05	0.0000225	0.00742	0.00742	1.193	1.193	99.38	99.38
51	24-Jan-07		0.000228	0.000228	0.0126	0.0126	1.787	1.787	99.3	99.3		0.00228	0.00228	0.117	0.117	3670	3670	100	100		2.28E-05	0.0000228	0.00744	0.00744	1.193	1.193	99.38	99.38
52	31-Jan-07	<0.0010	0.00021	0.00021	0.0128	0.0128	1.787	1.787	99.29	99.29	<0.010	0.0021	0.0021	0.119	0.119	3670	3670	100	100	<0.00010	0.000021	0.000021	0.00746	0.00746	1.193	1.193	99.38	99.38
53	7-Feb-07		0.000225	0.000225	0.013	0.013	1.787	1.787	99.28	99.28		0.00225	0.00225	0.121	0.121	3670	3670	100	100		2.25E-05	0.0000225	0.00748	0.00748	1.193	1.193	99.38	99.38
54	14-Feb-07	<0.0010	0.000245	0.000245	0.0132	0.0132	1.787	1.787	99.27	99.27	<0.010	0.00245	0.00245	0.123	0.123	3670	3670	100	100	<0.00010	2.45E-05	0.0000245	0.0075	0.0075	1.193	1.193	99.38	99.38
Maximum		0.0024	0.00119	0.00119	0.0132	0.0132	1.8	1.8	99.99	99.99	0.005	0.0026	0.0026	0.123	0.123	3670	3670	100	100	0.00305	0.00125	0.00125	0.0075	0.0075	1.199	1.199	99.94	99.94
Minimum		0.0005	0.000158	0.000158	0.000158	0.000158	1.787	1.787	99.27	99.27	0.005	0.00158	0.00158	0.00158	0.00158	3670	3670	100	100	0.00005	1.78E-05	0.0000178	0.000762	0.000762	1.193	1.193	99.38	99.38
Mean		0.000535	0.000244	0.000244	0.00723	0.00723	1.793	1.793	99.6	99.6	0.005	0.00226	0.00226	0.0633	0.0633	3670	3670	100	100	0.000317	0.000136	0.000136	0.00582	0.00582	1.194	1.194	99.52	99.52
Median		0.0005	0.000225	0.000225	0.00725	0.00725	1.793	1.793	99.6	99.6	0.005	0.00225	0.00225	0.0631	0.0631	3670	3670	100	100	0.00011	5.28E-05	0.0000528	0.00603	0.00603	1.194	1.194	99.5	99.5
Mean Initial 5 Wk Flush		0.00088	0.000401	0.000401	0.00117	0.00117	1.799	1.799	99.93	99.93	0.005	0.00213	0.00213	0.00605	0.00605	3670	3670	100	100	0.00192	0.000791	0.000791	0.00265	0.00265	1.197	1.197	99.78	99.78
Mean Last 5 Weeks		0.0005	0.000227	0.000227	0.0128	0.0128	1.787	1.787	99.29	99.29	0.005	0.00227	0.00227	0.119	0.119	3670	3670	100	100	0.00005	2.27E-05	0.0000227	0.00746	0.00746	1.193	1.193	99.38	99.38
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									1979	1979								404240	404240								12943	12943
50% Remaining (Wks)									3962	3962								808425	808425								26159	26159
25% Remaining (Wks)									5944	5944								1212610	1212610								39375	39375
0% Remaining (Wks)									7927	7927								1616795	1616795								52591	52591
		NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.																												
		[1] Includes Final Leach data distributed evenly over all weeks																												

Project:		Morrison																											
Sample:		**F47 (Tailings)**																											
		Scavenger Tailings High-Sulphide Tailings Composite																											
Data:		Metal Concentrations, Leach Rates, and Metal Remaining Calculations																											
					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining					Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining				Cumulative	Cumulative	Remaining	Remaining	Remaining	Remaining
		Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Vanadium	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zinc	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium	Zirconium
Week No.	Date	V	V	V	V	V	V	V	V	V	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zn	Zr	Zr	Zr	Zr	Zr	Zr	Zr	Zr	Zr
		(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]	(mg/L)	(mg/kg/wk)	(mg/kg/wk)[1]	(mg/kg)	(mg/kg)[1]	(ppm)	(ppm)[1]	(% of orig)	(% of orig)[1]		
			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)			(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)	(does not include final leach data)	(includes final leach data when available)		
		Original Vanadium (ppm) =			**105**						**Original Zinc (ppm) =**			**413**							**Original Zirconium (ppm) =**			**16.6**						
0	1-Feb-06	<0.010	0.00158	0.00158	0.00158	0.00158	105	105	100	100	<0.0050	0.000788	0.000788	0.000788	0.000788	413	413	100	100		0	0	0	0	16.6	16.6	100	100
1	8-Feb-06	<0.010	0.00205	0.00205	0.00363	0.00363	105	105	100	100	<0.0050	0.00103	0.00103	0.00182	0.00182	413	413	100	100		0	0	0	0	16.6	16.6	100	100
2	15-Feb-06	<0.010	0.00248	0.00248	0.00611	0.00611	105	105	99.99	99.99	0.0055	0.00272	0.00272	0.00454	0.00454	413	413	100	100		0	0	0	0	16.6	16.6	100	100
3	22-Feb-06	<0.010	0.00223	0.00223	0.00834	0.00834	105	105	99.99	99.99	<0.0050	0.00111	0.00111	0.00565	0.00565	413	413	100	100		0	0	0	0	16.6	16.6	100	100
4	1-Mar-06	<0.010	0.0023	0.0023	0.0106	0.0106	105	105	99.99	99.99	<0.0050	0.00115	0.00115	0.0068	0.0068	413	413	100	100		0	0	0	0	16.6	16.6	100	100
5	8-Mar-06	<0.010	0.00205	0.00205	0.0127	0.0127	105	105	99.99	99.99	<0.0050	0.00103	0.00103	0.00783	0.00783	413	413	100	100		0	0	0	0	16.6	16.6	100	100
6	15-Mar-06	<0.010	0.0021	0.0021	0.0148	0.0148	105	105	99.99	99.99	<0.0050	0.00105	0.00105	0.00888	0.00888	413	413	100	100		0	0	0	0	16.6	16.6	100	100
7	22-Mar-06	<0.010	0.00223	0.00223	0.017	0.017	105	105	99.98	99.98	<0.0050	0.00111	0.00111	0.00999	0.00999	413	413	100	100		0	0	0	0	16.6	16.6	100	100
8	29-Mar-06	<0.010	0.00245	0.00245	0.0195	0.0195	105	105	99.98	99.98	<0.0050	0.00123	0.00123	0.0112	0.0112	413	413	100	100		0	0	0	0	16.6	16.6	100	100
9	5-Apr-06	<0.010	0.0024	0.0024	0.0219	0.0219	105	105	99.98	99.98	<0.0050	0.0012	0.0012	0.0124	0.0124	413	413	100	100		0	0	0	0	16.6	16.6	100	100
10	12-Apr-06	<0.010	0.0022	0.0022	0.0241	0.0241	105	105	99.98	99.98	<0.0050	0.0011	0.0011	0.0135	0.0135	413	413	100	100		0	0	0	0	16.6	16.6	100	100
11	19-Apr-06	<0.010	0.00253	0.00253	0.0266	0.0266	105	105	99.97	99.97	<0.0050	0.00126	0.00126	0.0148	0.0148	413	413	100	100		0	0	0	0	16.6	16.6	100	100
12	26-Apr-06	<0.010	0.00243	0.00243	0.029	0.029	105	105	99.97	99.97	0.005	0.00243	0.00243	0.0172	0.0172	413	413	100	100		0	0	0	0	16.6	16.6	100	100
13	3-May-06	<0.010	0.0021	0.0021	0.0311	0.0311	105	105	99.97	99.97	<0.0050	0.00105	0.00105	0.0183	0.0183	413	413	100	100		0	0	0	0	16.6	16.6	100	100
14	10-May-06	<0.010	0.00213	0.00213	0.0332	0.0332	105	105	99.97	99.97	<0.0050	0.00106	0.00106	0.0194	0.0194	413	413	100	100		0	0	0	0	16.6	16.6	100	100
15	17-May-06	<0.010	0.00238	0.00238	0.0356	0.0356	105	105	99.97	99.97	<0.0050	0.00119	0.00119	0.0206	0.0206	413	413	100	100		0	0	0	0	16.6	16.6	100	100
16	24-May-06	<0.010	0.00225	0.00225	0.0379	0.0379	105	105	99.96	99.96	<0.0050	0.00113	0.00113	0.0217	0.0217	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
17	31-May-06	<0.010	0.00233	0.00233	0.0402	0.0402	105	105	99.96	99.96	<0.0050	0.00116	0.00116	0.0229	0.0229	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
18	7-Jun-06	<0.010	0.00213	0.00213	0.0423	0.0423	105	105	99.96	99.96	<0.0050	0.00106	0.00106	0.024	0.024	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
19	14-Jun-06	<0.010	0.00248	0.00248	0.0448	0.0448	105	105	99.96	99.96	<0.0050	0.00124	0.00124	0.0252	0.0252	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
20	21-Jun-06	<0.010	0.00245	0.00245	0.0473	0.0473	105	105	99.95	99.95	<0.0050	0.00123	0.00123	0.0264	0.0264	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
21	28-Jun-06	<0.010	0.0021	0.0021	0.0494	0.0494	105	105	99.95	99.95	<0.0050	0.00105	0.00105	0.0275	0.0275	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
22	5-Jul-06	<0.010	0.00225	0.00225	0.0517	0.0517	104.9	104.9	99.95	99.95	<0.0050	0.00113	0.00113	0.0286	0.0286	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
23	12-Jul-06	<0.010	0.0023	0.0023	0.054	0.054	104.9	104.9	99.95	99.95	<0.0050	0.00115	0.00115	0.0298	0.0298	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
24	19-Jul-06	<0.010	0.00243	0.00243	0.0564	0.0564	104.9	104.9	99.95	99.95	<0.0050	0.00121	0.00121	0.031	0.031	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
25	26-Jul-06	<0.010	0.00215	0.00215	0.0586	0.0586	104.9	104.9	99.94	99.94	<0.0050	0.00108	0.00108	0.0321	0.0321	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
26	2-Aug-06	<0.010	0.0024	0.0024	0.061	0.061	104.9	104.9	99.94	99.94	<0.0050	0.0012	0.0012	0.0333	0.0333	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
27	9-Aug-06	<0.010	0.00213	0.00213	0.0631	0.0631	104.9	104.9	99.94	99.94	<0.0050	0.00106	0.00106	0.0344	0.0344	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
28	16-Aug-06	<0.010	0.0026	0.0026	0.0657	0.0657	104.9	104.9	99.94	99.94	<0.0050	0.0013	0.0013	0.0357	0.0357	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
29	23-Aug-06	<0.010	0.0026	0.0026	0.0683	0.0683	104.9	104.9	99.93	99.93	<0.0050	0.0013	0.0013	0.037	0.037	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
30	30-Aug-06	<0.010	0.0026	0.0026	0.0709	0.0709	104.9	104.9	99.93	99.93	<0.0050	0.0013	0.0013	0.0383	0.0383	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
31	6-Sep-06	<0.010	0.0024	0.0024	0.0733	0.0733	104.9	104.9	99.93	99.93	<0.0050	0.0012	0.0012	0.0395	0.0395	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
32	13-Sep-06	<0.010	0.0026	0.0026	0.0759	0.0759	104.9	104.9	99.93	99.93	<0.0050	0.0013	0.0013	0.0408	0.0408	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
33	20-Sep-06	<0.010	0.002	0.002	0.0779	0.0779	104.9	104.9	99.93	99.93	<0.0050	0.001	0.001	0.0418	0.0418	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
34	27-Sep-06	<0.010	0.00215	0.00215	0.0801	0.0801	104.9	104.9	99.92	99.92	<0.0050	0.00108	0.00108	0.0429	0.0429	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
35	4-Oct-06	<0.010	0.00235	0.00235	0.0825	0.0825	104.9	104.9	99.92	99.92	<0.0050	0.00118	0.00118	0.0441	0.0441	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
36	11-Oct-06	<0.010	0.00255	0.00255	0.0851	0.0851	104.9	104.9	99.92	99.92	<0.0050	0.00128	0.00128	0.0454	0.0454	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
37	18-Oct-06	<0.010	0.00225	0.00225	0.0874	0.0874	104.9	104.9	99.92	99.92	<0.0050	0.00113	0.00113	0.0465	0.0465	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
38	25-Oct-06	<0.010	0.00178	0.00178	0.0892	0.0892	104.9	104.9	99.92	99.92	<0.0050	0.000888	0.000888	0.0474	0.0474	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
39	1-Nov-06	<0.010	0.00258	0.00258	0.0918	0.0918	104.9	104.9	99.91	99.91	<0.0050	0.00129	0.00129	0.0487	0.0487	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
40	8-Nov-06	<0.010	0.00208	0.00208	0.0939	0.0939	104.9	104.9	99.91	99.91	<0.0050	0.00104	0.00104	0.0497	0.0497	413	413	99.99	99.99		0	0	0	0	16.6	16.6	100	100
41	15-Nov-06	<0.010	0.00225	0.00225	0.0962	0.0962	104.9	104.9	99.91	99.91	<0.0050	0.00113	0.00113	0.0508	0.0508	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
42	22-Nov-06	<0.010	0.00205	0.00205	0.0983	0.0983	104.9	104.9	99.91	99.91	<0.0050	0.00103	0.00103	0.0518	0.0518	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
43	29-Nov-06	<0.010	0.0026	0.0026	0.101	0.101	104.9	104.9	99.9	99.9	<0.0050	0.0013	0.0013	0.0531	0.0531	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
44	6-Dec-06	<0.010	0.002	0.002	0.103	0.103	104.9	104.9	99.9	99.9	<0.0050	0.001	0.001	0.0541	0.0541	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
45	13-Dec-06	<0.010	0.00213	0.00213	0.105	0.105	104.9	104.9	99.9	99.9	<0.0050	0.00106	0.00106	0.0552	0.0552	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
46	20-Dec-06	<0.010	0.00213	0.00213	0.107	0.107	104.9	104.9	99.9	99.9	<0.0050	0.00106	0.00106	0.0563	0.0563	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
47	28-Dec-06	<0.010	0.00186	0.00186	0.109	0.109	104.9	104.9	99.9	99.9	<0.0050	0.00093	0.00093	0.0572	0.0572	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
48	3-Jan-07	<0.010	0.00239	0.00239	0.111	0.111	104.9	104.9	99.89	99.89	<0.0050	0.0012	0.0012	0.0584	0.0584	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
49	10-Jan-07	<0.010	0.00225	0.00225	0.113	0.113	104.9	104.9	99.89	99.89	<0.0050	0.00113	0.00113	0.0595	0.0595	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
50	17-Jan-07	<0.010	0.00225	0.00225	0.115	0.115	104.9	104.9	99.89	99.89	<0.0050	0.00113	0.00113	0.0606	0.0606	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
51	24-Jan-07		0.00228	0.00228	0.117	0.117	104.9	104.9	99.89	99.89		0.00114	0.00114	0.0617	0.0617	412.9	412.9	99.99	99.99		0	0	0	0	16.6	16.6	100	100
52	31-Jan-07	<0.010	0.0021	0.0021	0.119	0.119	104.9	104.9	99.89	99.89	<0.0050	0.00105	0.00105	0.0628	0.0628	412.9	412.9	99.98	99.98		0	0	0	0	16.6	16.6	100	100
53	7-Feb-07		0.00225	0.00225	0.121	0.121	104.9	104.9	99.88	99.88		0.00113	0.00113	0.0639	0.0639	412.9	412.9	99.98	99.98		0	0	0	0	16.6	16.6	100	100
54	14-Feb-07	<0.010	0.00245	0.00245	0.123	0.123	104.9	104.9	99.88	99.88	<0.0050	0.00123	0.00123	0.0651	0.0651	412.9	412.9	99.98	99.98		0	0	0	0	16.6	16.6	100	100
Maximum		0.005	0.0026	0.0026	0.123	0.123	105	105	100	100	0.0055	0.00272	0.00272	0.0651	0.0651	413	413	100	100	0	0	0	0	0	16.6	16.6	100	100
Minimum		0.005	0.00158	0.00158	0.00158	0.00158	104.9	104.9	99.88	99.88	0.0025	0.000788	0.000788	0.000788	0.000788	412.9	412.9	99.98	99.98	0	0	0	0	0	16.6	16.6	100	100
Mean		0.005	0.00226	0.00226	0.0633	0.0633	104.9	104.9	99.94	99.94	0.0026	0.00118	0.00118	0.0342	0.0342	413	413	99.99	99.99	0	0	0	0	0	16.6	16.6	100	100
Median		0.005	0.00225	0.00225	0.0631	0.0631	104.9	104.9	99.94	99.94	0.0025	0.00113	0.00113	0.0344	0.0344	413	413	99.99	99.99	0	0	0	0	0	16.6	16.6	100	100
Mean Initial 5 Wk Flush		0.005	0.00213	0.00213	0.00605	0.00605	105	105	99.99	99.99	0.0031	0.00136	0.00136	0.00392	0.00392	413	413	100	100	0	0	0	0	0	16.6	16.6	100	100
Mean Last 5 Weeks		0.005	0.00227	0.00227	0.119	0.119	104.9	104.9	99.89	99.89	0.0025	0.00114	0.00114	0.0628	0.0628	412.9	412.9	99.98	99.98	0	0	0	0	0	16.6	16.6	100	100
Number of Weeks		54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
75% Remaining (Wks)									11563	11563								90553	90553								NA	NA
50% Remaining (Wks)									23127	23127								181123	181123								NA	NA
25% Remaining (Wks)									34691	34691								271693	271693								NA	NA
0% Remaining (Wks)									46255	46255								362263	362263								NA	NA

NOTE: If measured sulphate, alkalinity and/or acidity data were reported as < detection limit, half the detection limit was used in subsequent equations.

[1] Includes Final Leach data distributed evenly over all weeks

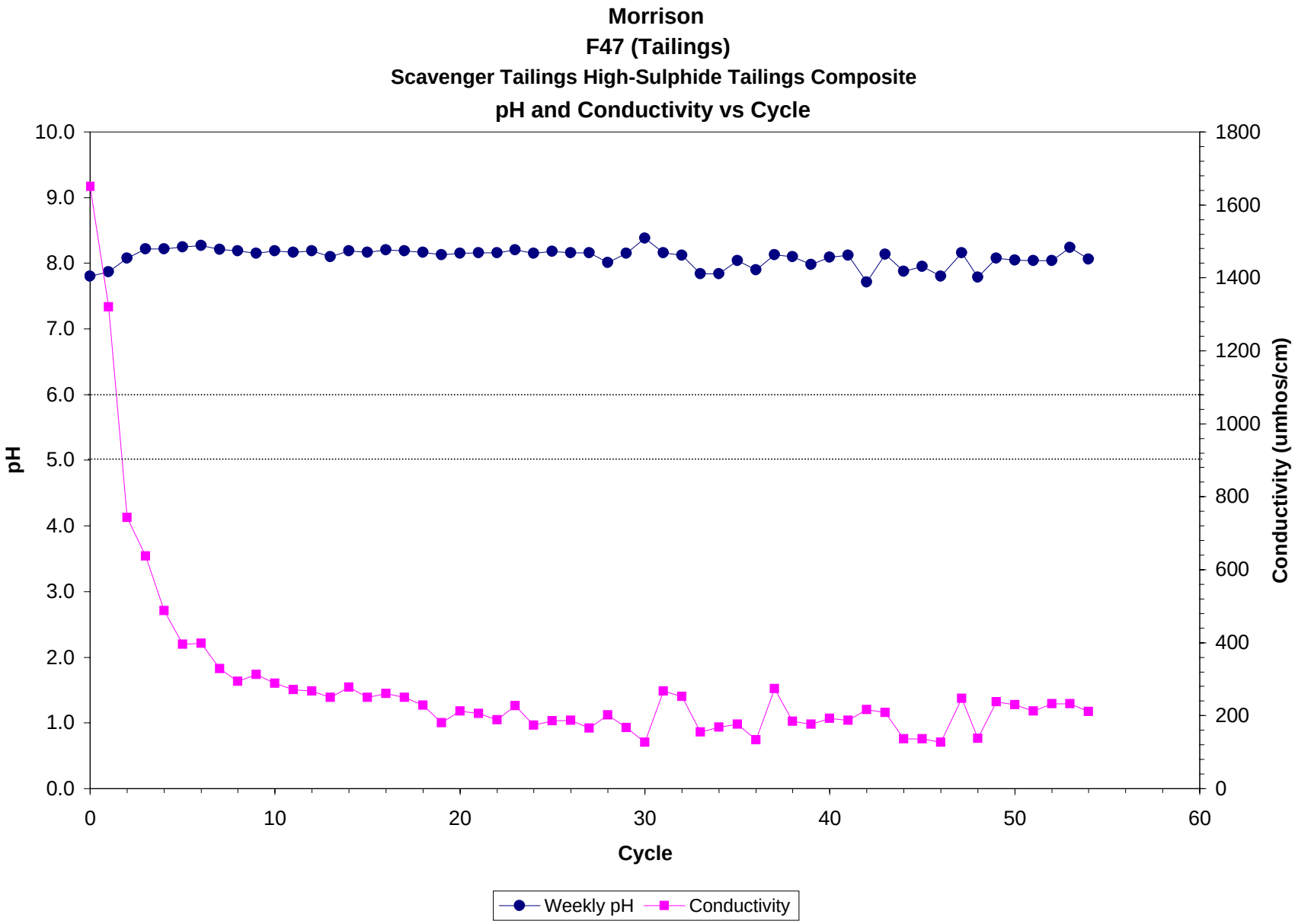
Project: Morrison
Sample: **F47 (Tailings)**
Scavenger Tailings High-Sulphide Tailings Composite
Data: Ion Balances Claculations

Week No.	Date	Dissolved Sum of Cations	Dissolved Sum of Anions	**Dissolved Charge Balance Error (%)**	
0	01-Feb-06	22.84	-21.08	4.01	
1	08-Feb-06	17.57	-16.75	2.38	
2	15-Feb-06	9.00	-7.88	6.66	
3	22-Feb-06	7.06	-7.73	-4.52	
4	01-Mar-06	5.60	-5.50	0.96	
5	08-Mar-06	4.65	-4.39	2.87	
6	15-Mar-06	4.60	-4.30	3.37	
7	22-Mar-06	3.55	-3.67	-1.63	
8	29-Mar-06	3.33	-3.29	0.52	
9	05-Apr-06	3.28	-3.46	-2.74	
10	12-Apr-06	3.12	-3.13	-0.17	
11	19-Apr-06	3.11	-2.95	2.53	
12	26-Apr-06	2.74	-3.01	-4.65	
13	03-May-06	2.68	-2.90	-4.04	
14	10-May-06	3.04	-3.34	-4.71	
15	17-May-06	2.66	-2.61	0.87	
16	24-May-06	2.83	-2.76	1.28	
17	31-May-06	2.72	-3.02	-5.25	
18	07-Jun-06	2.52	-2.52	-0.07	
19	14-Jun-06	1.86	-1.87	-0.34	
20	21-Jun-06	2.29	-2.38	-2.02	
21	28-Jun-06	2.25	-2.25	0.04	
22	05-Jul-06	2.04	-2.08	-0.92	
23	12-Jul-06	2.53	-2.52	0.31	
24	19-Jul-06	1.88	-2.05	-4.27	
25	26-Jul-06	2.08	-2.11	-0.78	
26	02-Aug-06	2.42	-2.44	-0.27	
27	09-Aug-06	1.76	-1.98	-5.76	
28	16-Aug-06	2.22	-1.81	**10.23**	
29	23-Aug-06	1.83	-2.20	-9.31	
30	30-Aug-06	1.40	-1.56	-5.63	
31	06-Sep-06	2.93	-2.85	1.47	
32	13-Sep-06	2.73	-2.74	-0.25	
33	20-Sep-06	1.68	-1.57	3.58	
34	27-Sep-06	1.76	-1.91	-4.15	
35	04-Oct-06	1.91	-1.92	-0.20	
36	11-Oct-06	1.36	-1.50	-4.96	
37	18-Oct-06	2.92	-3.13	-3.46	
38	25-Oct-06	2.10	-2.14	-0.87	
39	01-Nov-06	1.98	-2.15	-4.05	
40	08-Nov-06	2.16	-2.43	-5.87	
41	15-Nov-06	2.07	-2.25	-4.16	
42	22-Nov-06	2.53	-2.53	-0.04	
43	29-Nov-06	2.33	-2.33	0.13	
44	06-Dec-06	1.45	-1.53	-2.81	
45	13-Dec-06	1.44	-1.55	-3.74	
46	20-Dec-06	1.36	-1.47	-3.80	
47	28-Dec-06	2.91	-3.05	-2.25	
48	03-Jan-07	1.47	-1.53	-1.93	
49	10-Jan-07	2.63	-2.74	-2.00	
50	17-Jan-07	2.66	-2.78	-2.33	
51	24-Jan-07	2.66	-2.56	1.86	Not all parameters analyzed, interpolated data used
52	31-Jan-07	2.67	-2.76	-1.59	
53	07-Feb-07	2.67	-2.85	-3.27	Not all parameters analyzed, interpolated data used
54	14-Feb-07	2.42	-2.56	-2.77	

Project: Morrison
Sample: **F47 (Tailings)**
Scavenger Tailings High-Sulphide Tailings Composite
Data: QA/QC Duplicate Data

		Original	Duplicate				Original	Duplicate				Original	Duplicate			
Date		17-Jan-07	17-Jan-07	Difference	ALS RPD	RPD			Difference	ALS RPD	RPD			Difference	ALS RPD	RPD
Week		50	50	(%)	(%)	(%)			(%)	(%)	(%)			(%)	(%)	(%)
Analytical Results:																
pH	(pH units)															
Conductivity	(umohs/cm)															
Alkalinity*	($CaCO_3$ mg/L)															
Acidity*	($CaCO_3$ mg/L)	113	1.2	-98.94		195.80										
Sulphate*	(SO_4 mg/L)															
Dissloved Metals:																
Aluminum	0 (mg/L)															
Antimony	0 (mg/L)															
Arsenic	0 (mg/L)															
Barium	0 (mg/L)															
Beryllium	0 (mg/L)															
Bismuth	0 (mg/L)															
Boron	0 (mg/L)															
Cadmium	0 (mg/L)															
Calcium	0 (mg/L)															
Chromium	0 (mg/L)															
Cobalt	0 (mg/L)															
Copper	0 (mg/L)															
Gallium	0 (mg/L)															
Indium	0 (mg/L)															
Iron	0 (mg/L)															
Lead	0 (mg/L)															
Lithium	0 (mg/L)															
Magnesium	0 (mg/L)															
Manganese	0 (mg/L)															
Mercury	0 (mg/L)															
Molybdenum	0 (mg/L)															
Nickel	0 (mg/L)															
Phosphorus	0 (mg/L)															
Potassium	0 (mg/L)															
Selenium	0 (mg/L)															
Silicon	0 (mg/L)															
Silver	0 (mg/L)															
Sodium	0 (mg/L)															
Strontium	0 (mg/L)															
Thallium	0 (mg/L)															
Tin	0 (mg/L)															
Titanium	0 (mg/L)															
Uranium	0 (mg/L)															
Vanadium	0 (mg/L)															
Zinc	0 (mg/L)															
Zirconium	0 (mg/L)															

RPD (Relative Percent Difference) % = ABS ((x1 - x2) / (x1 + x2) * 100)
Difference (%) = ((Duplicate - Original) * 100) / Original

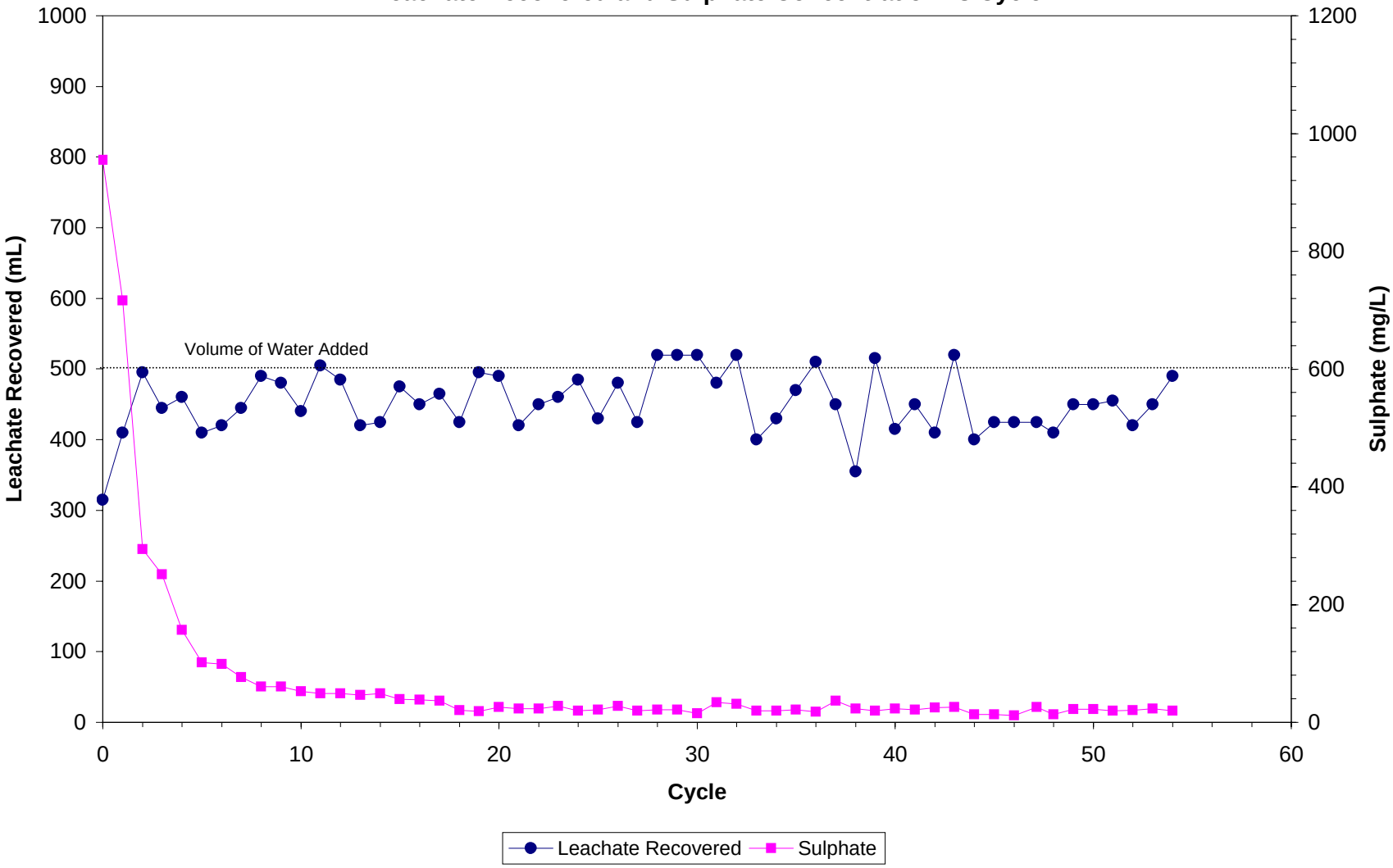

Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite
pH and Conductivity vs Cycle
pH
Conductivity (umhos/cm)
Cycle
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1800
1600
1400
1200
1000
800
600
400
200
0
0
10
20
30
40
50
60
Weekly pH
Conductivity

Morrison

F47 (Tailings)

Scavenger Tailings High-Sulphide Tailings Composite

Leachate Recovered and Sulphate Concentration vs Cycle

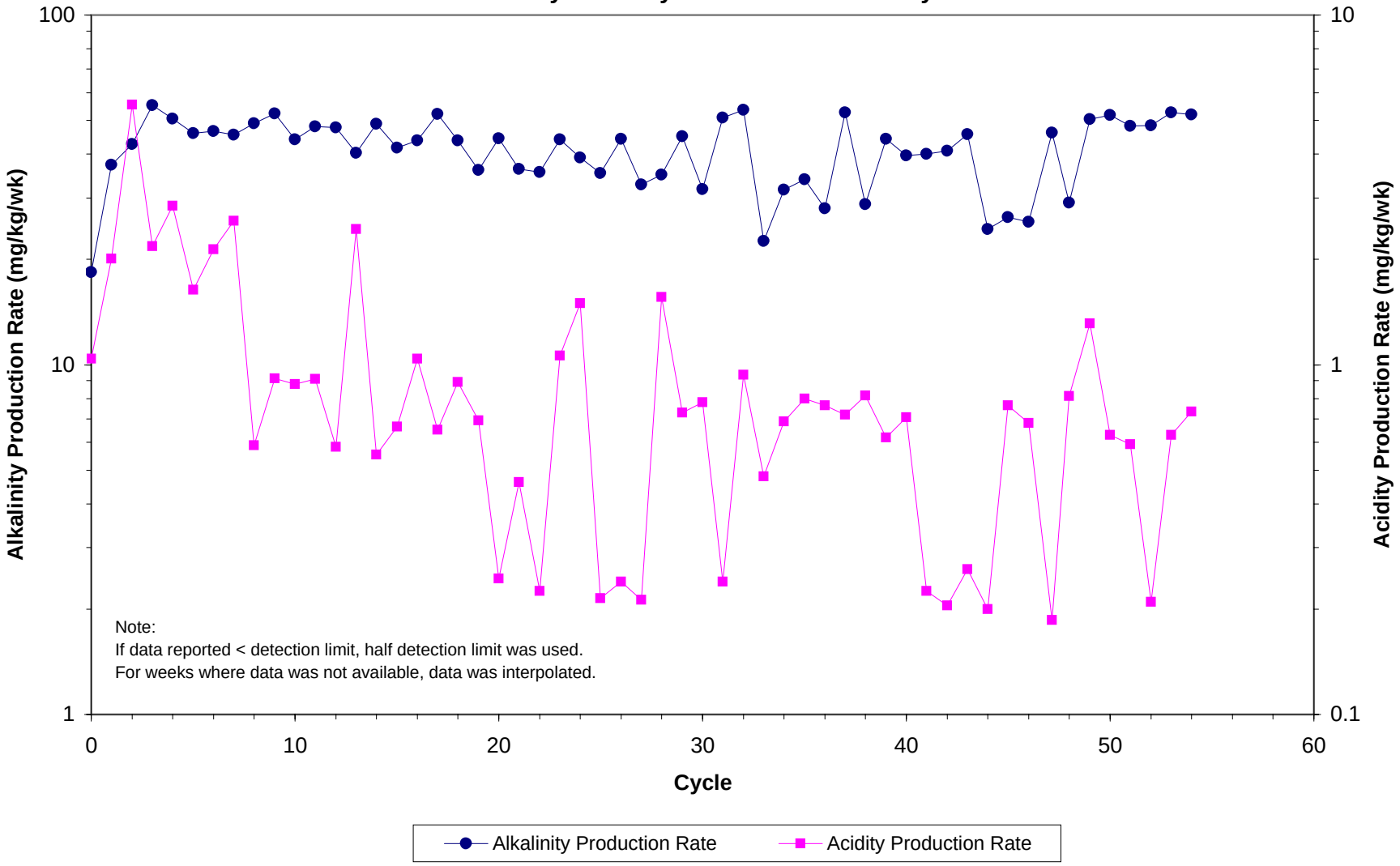


Morrison

F47 (Tailings)

Scavenger Tailings High-Sulphide Tailings Composite

Alkalinity & Acidity Production Rate vs Cycle

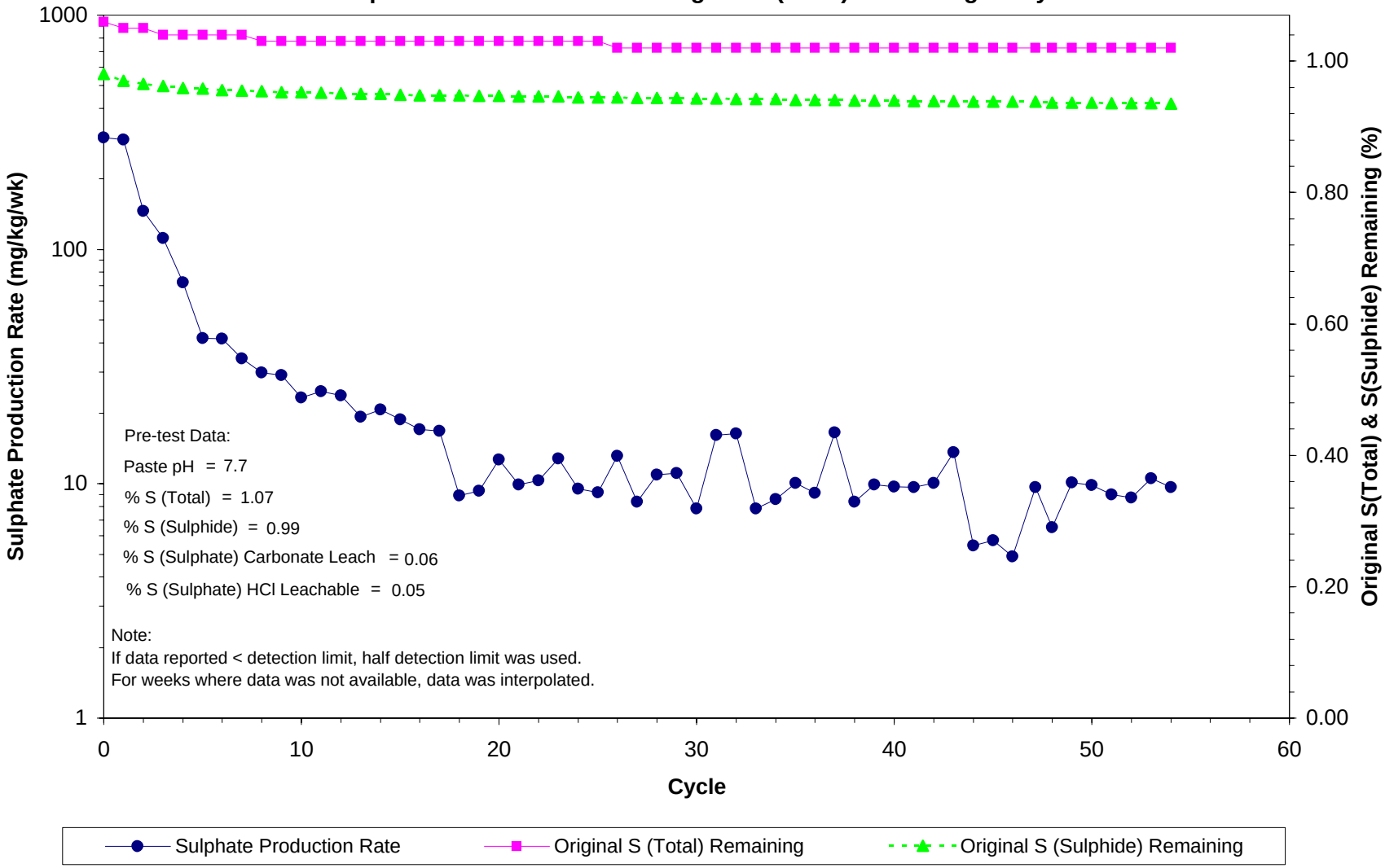


Morrison

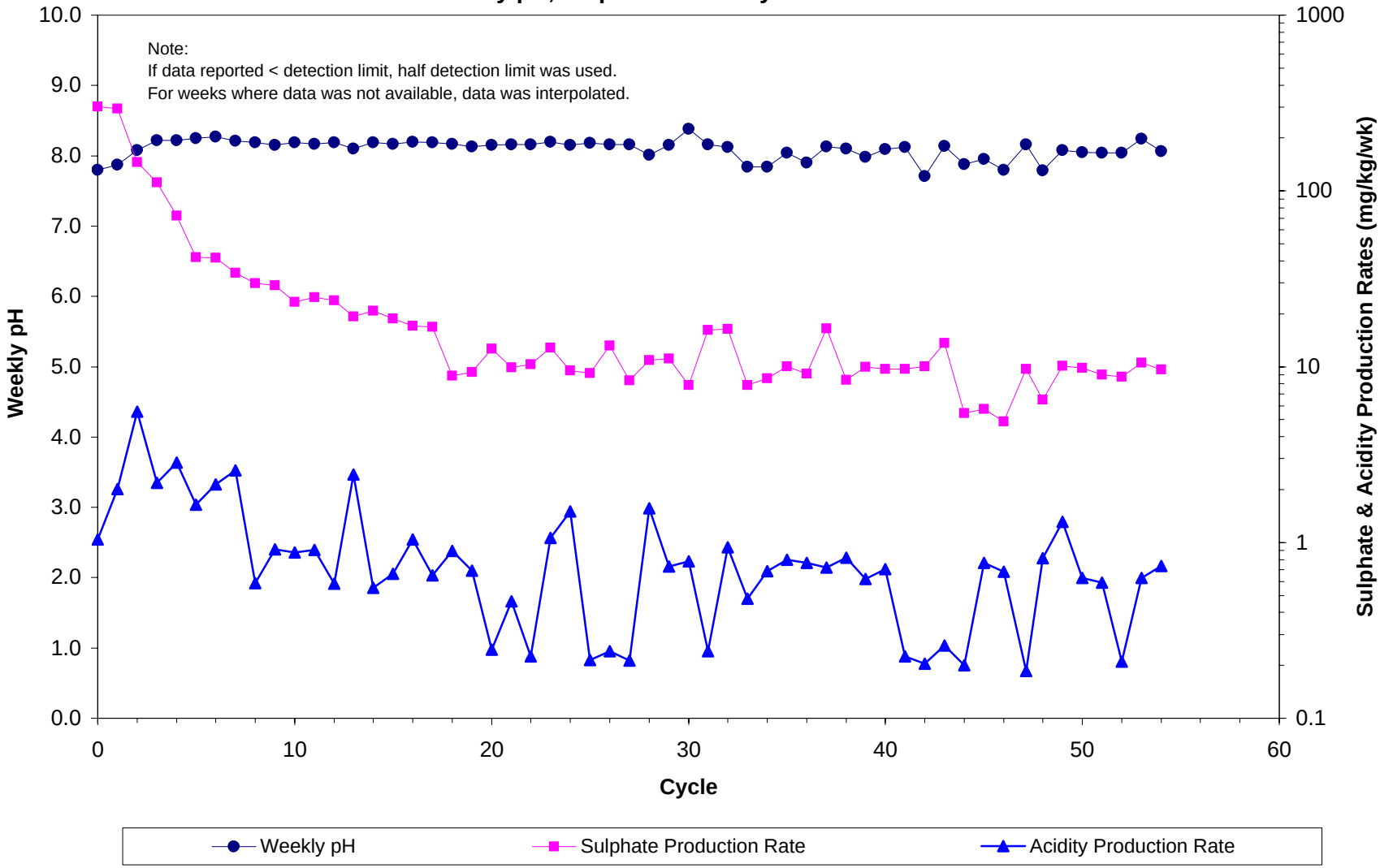
F47 (Tailings)

Scavenger Tailings High-Sulphide Tailings Composite

Sulphate Production Rate & Original S (Total) Remaining vs Cycle

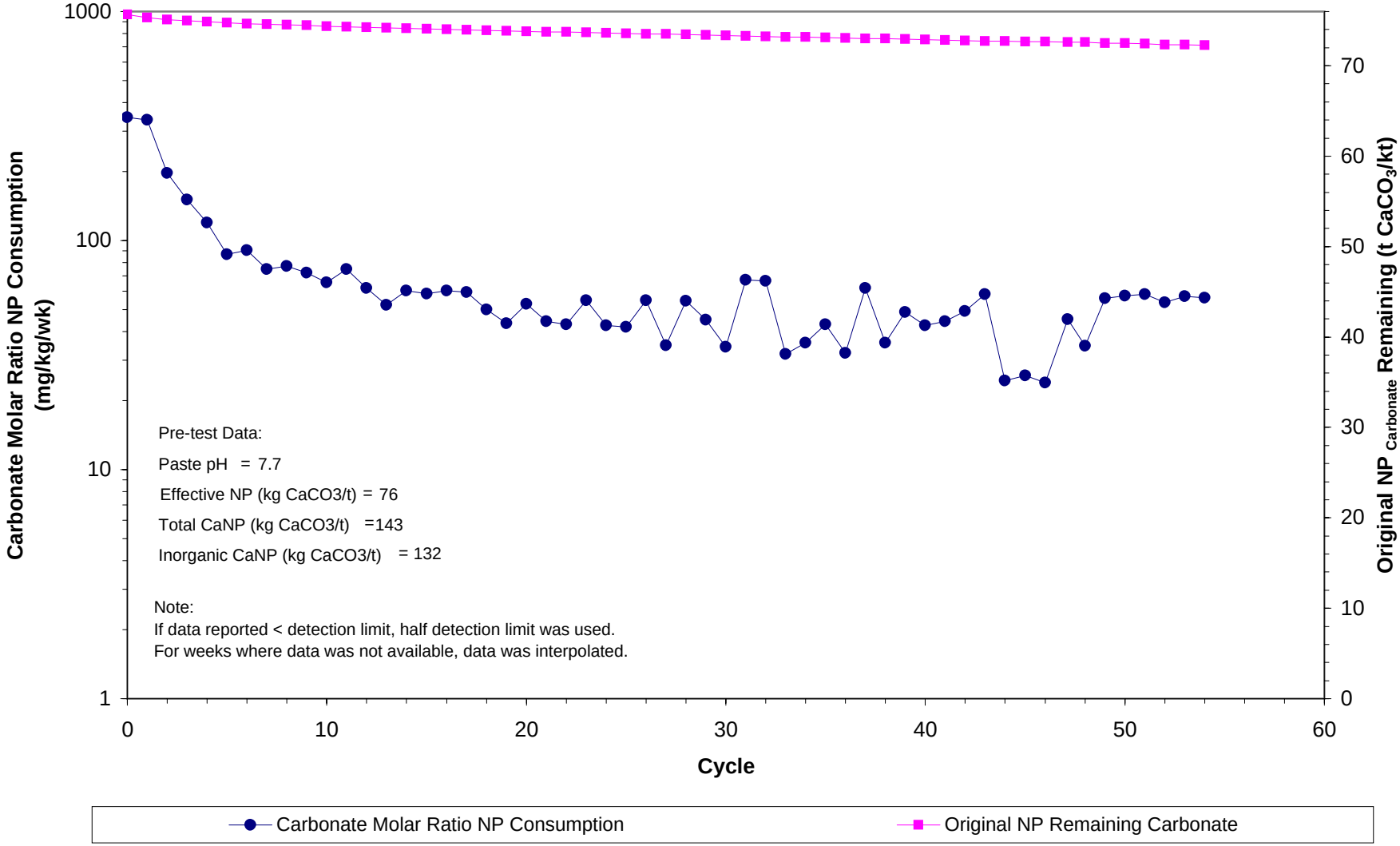


Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite
Weekly pH, Sulphate & Acidity Production Rates

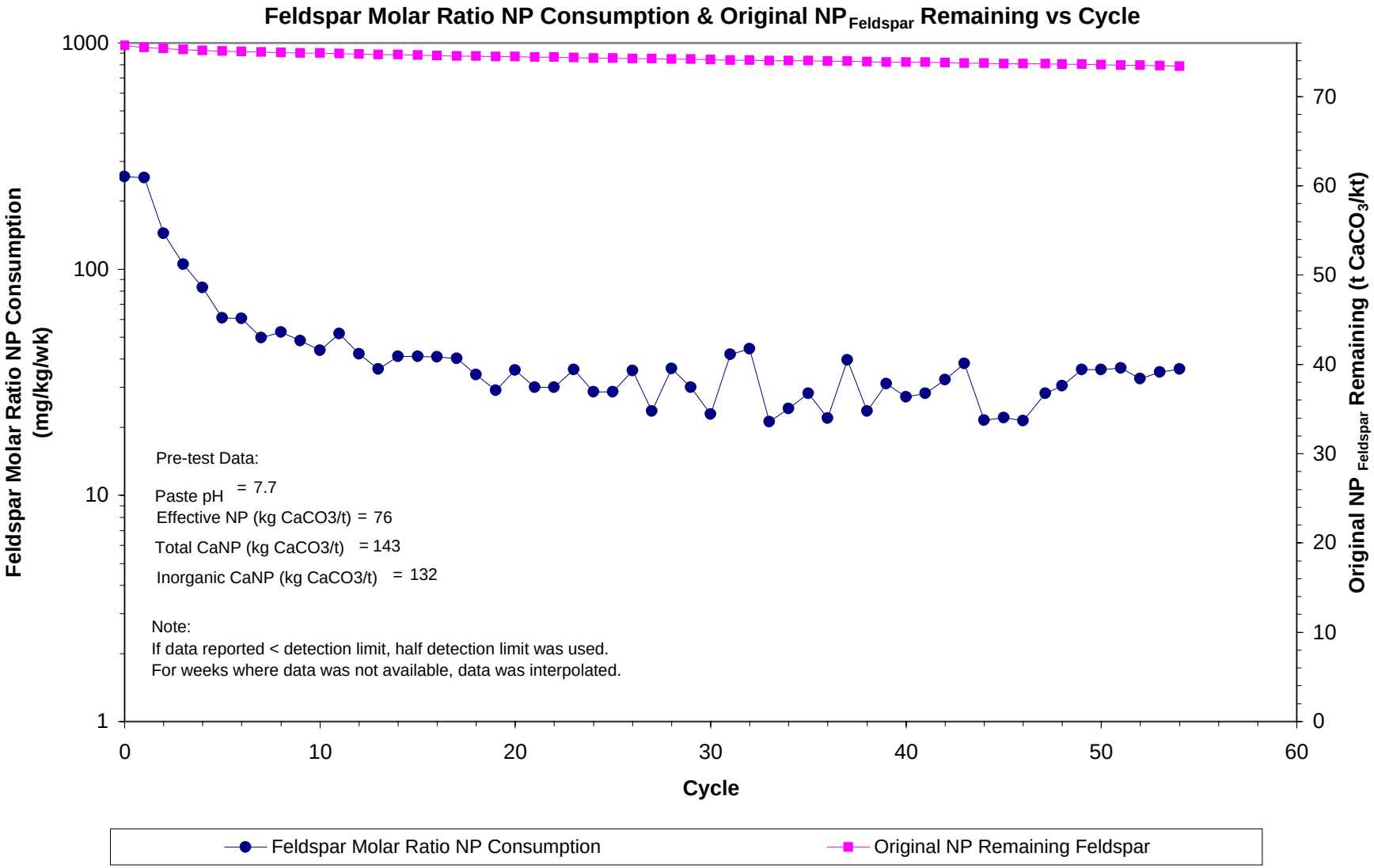


Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

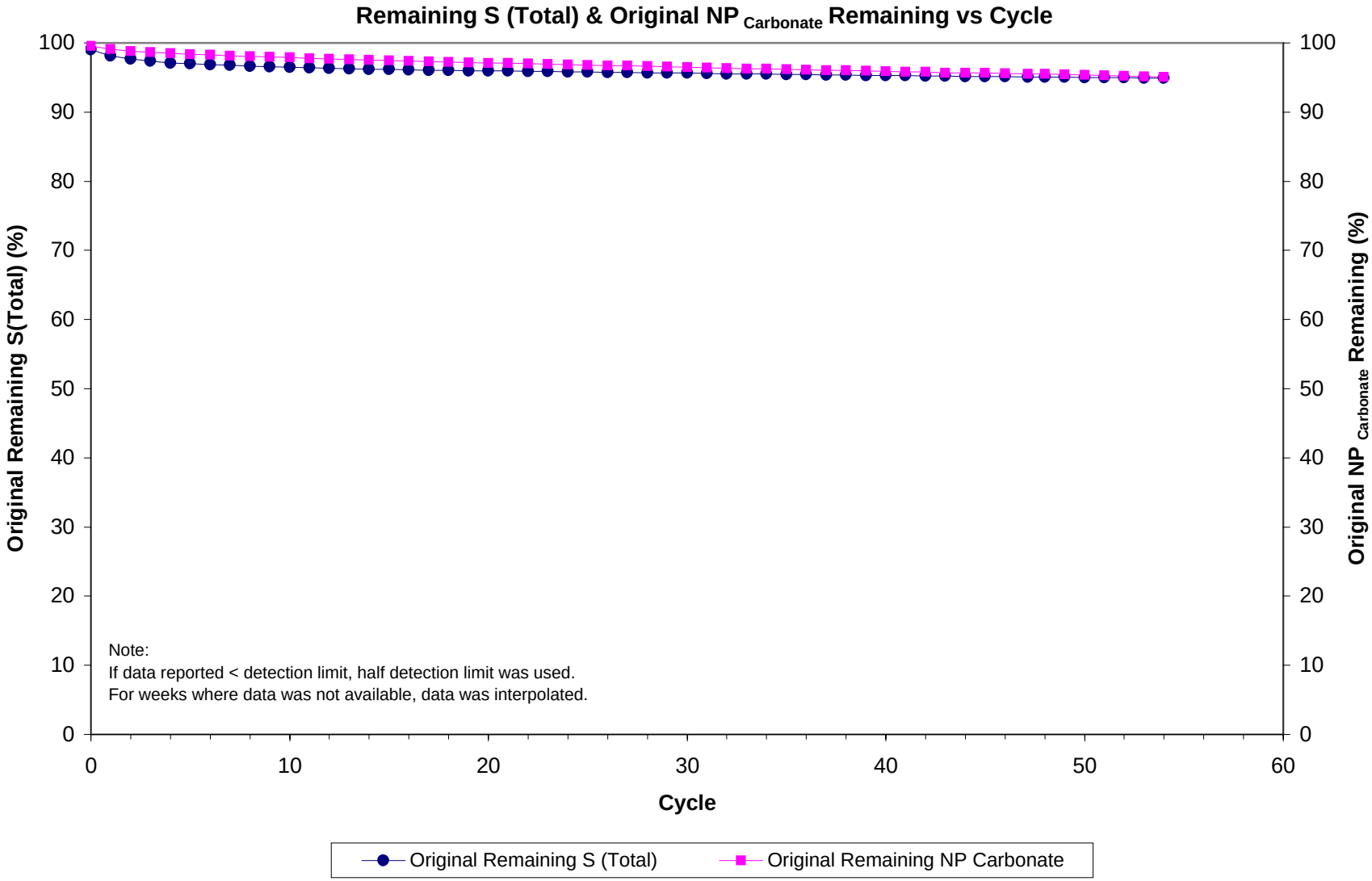
Carbonate Molar Ratio NP Consumption & Original $NP_{Carbonate}$ Remaining vs Cycle



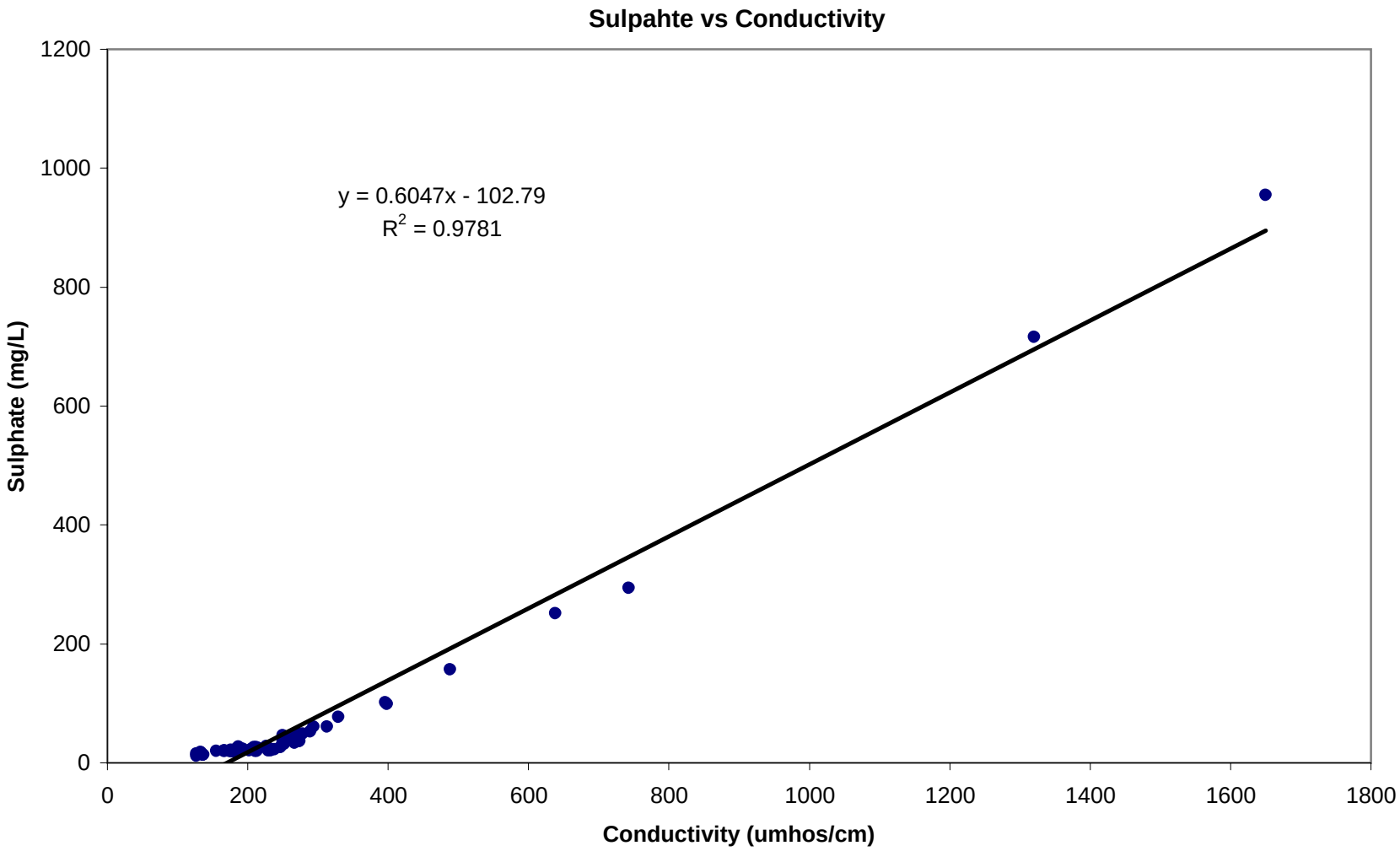
Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite



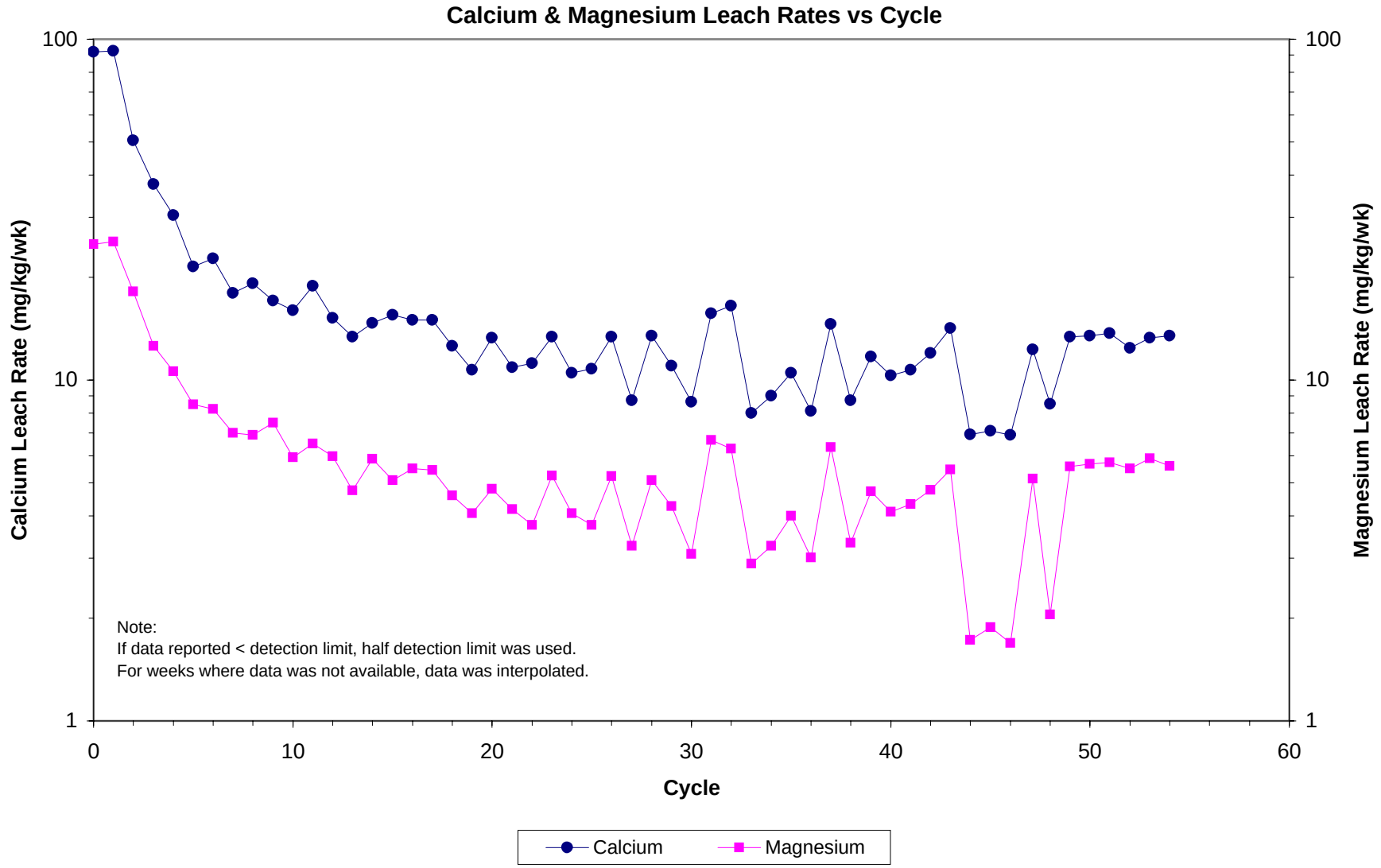
Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite



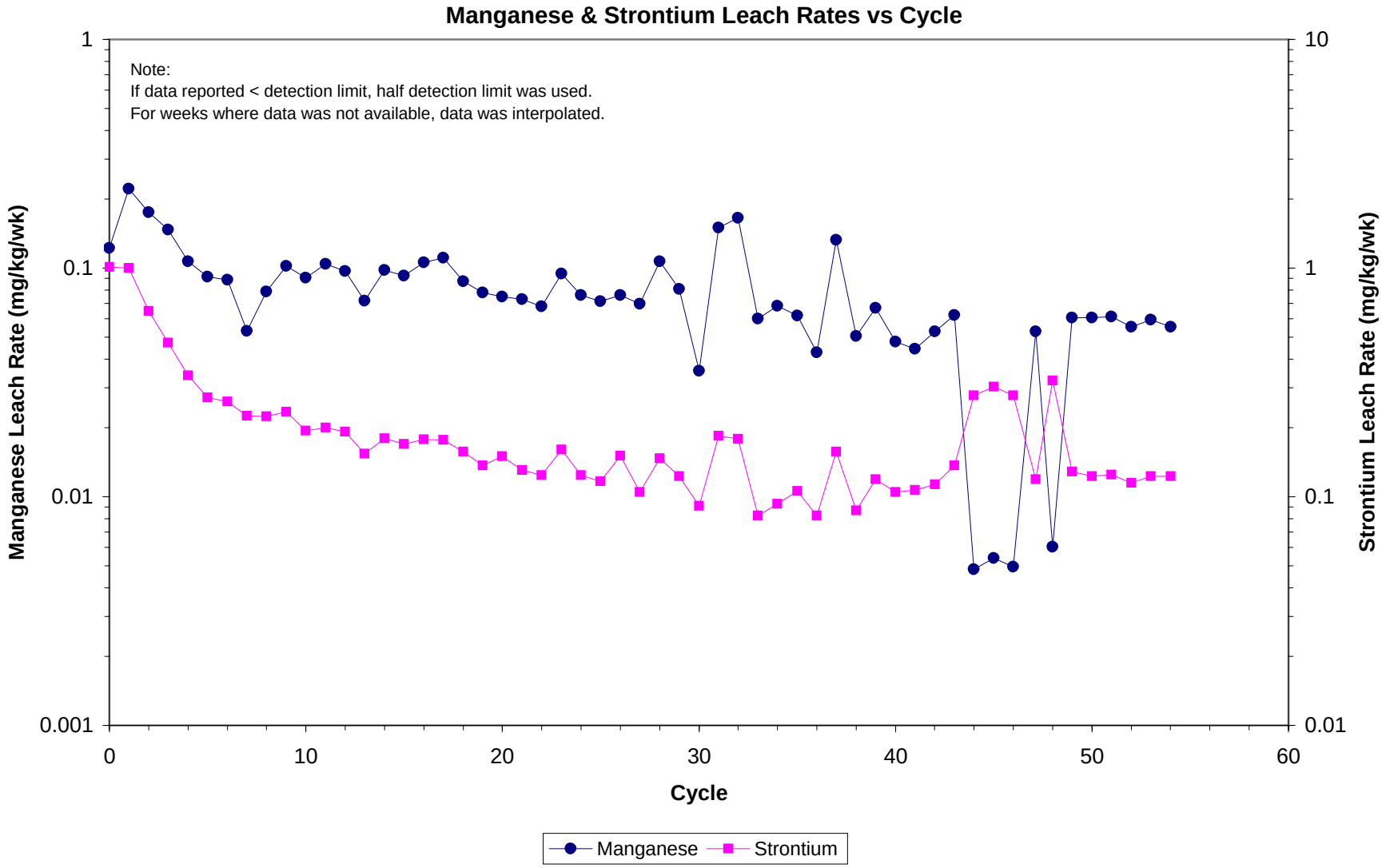
Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite



Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

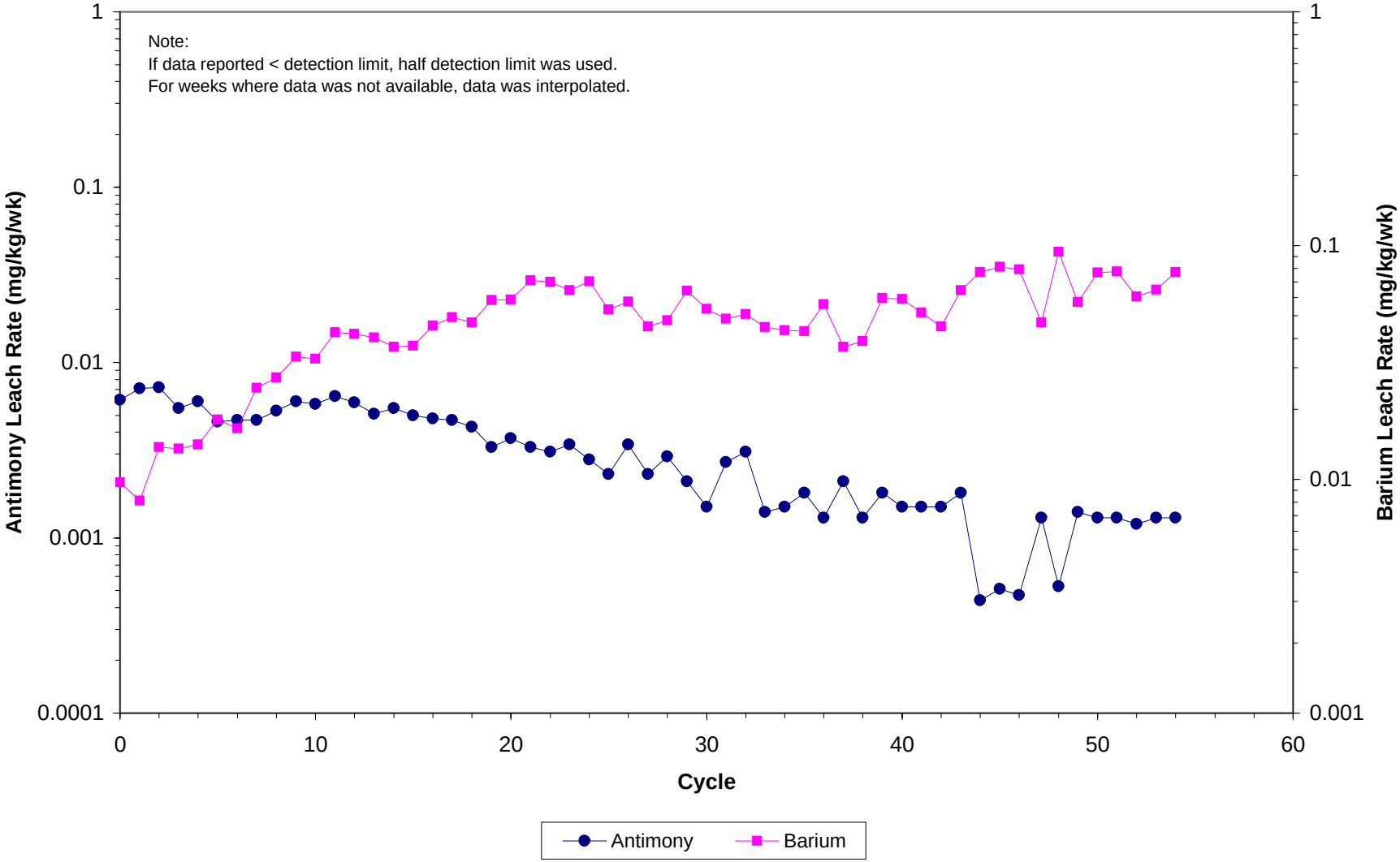


Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite



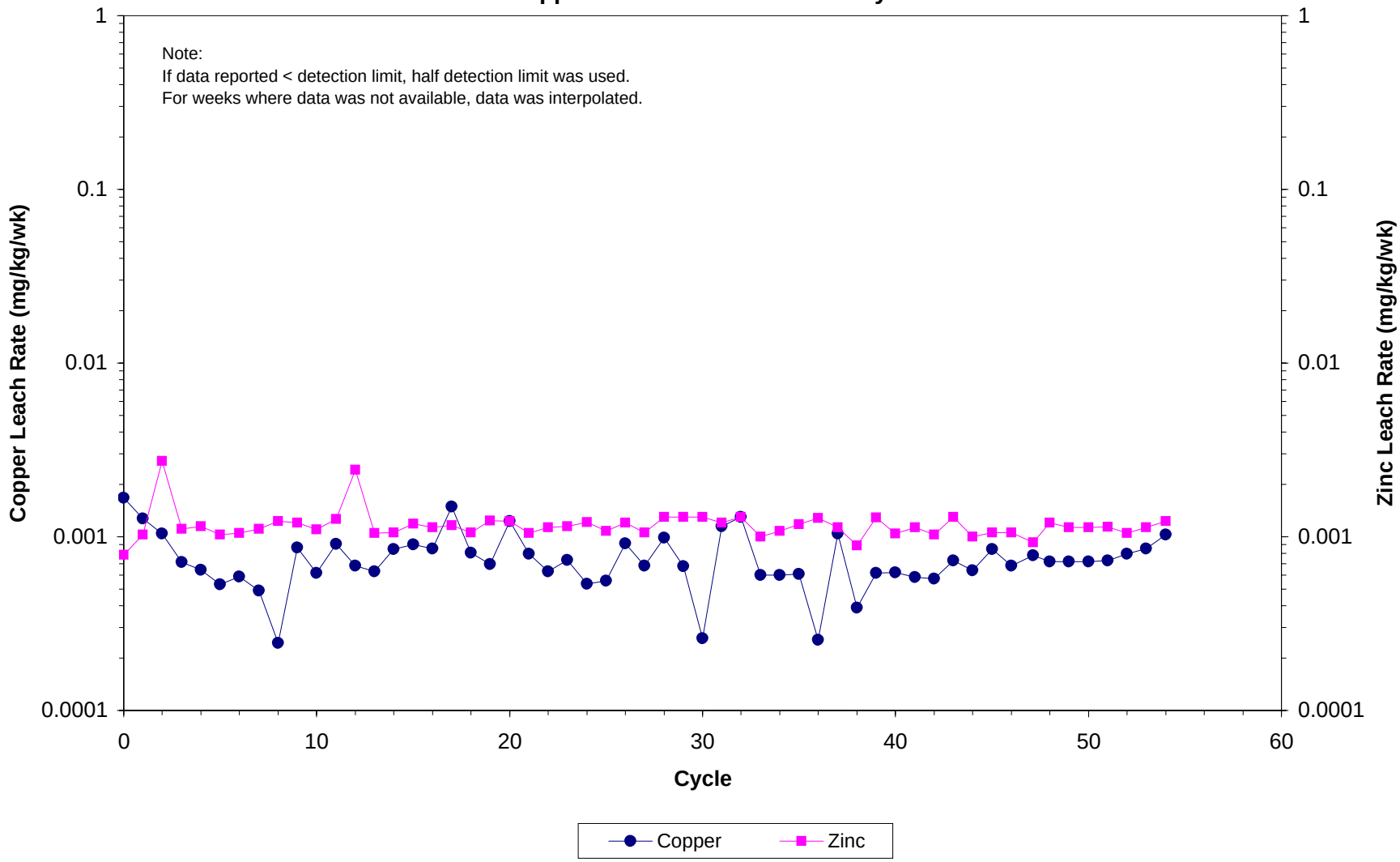
Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

Antimony & Barium Leach Rates vs Cycle



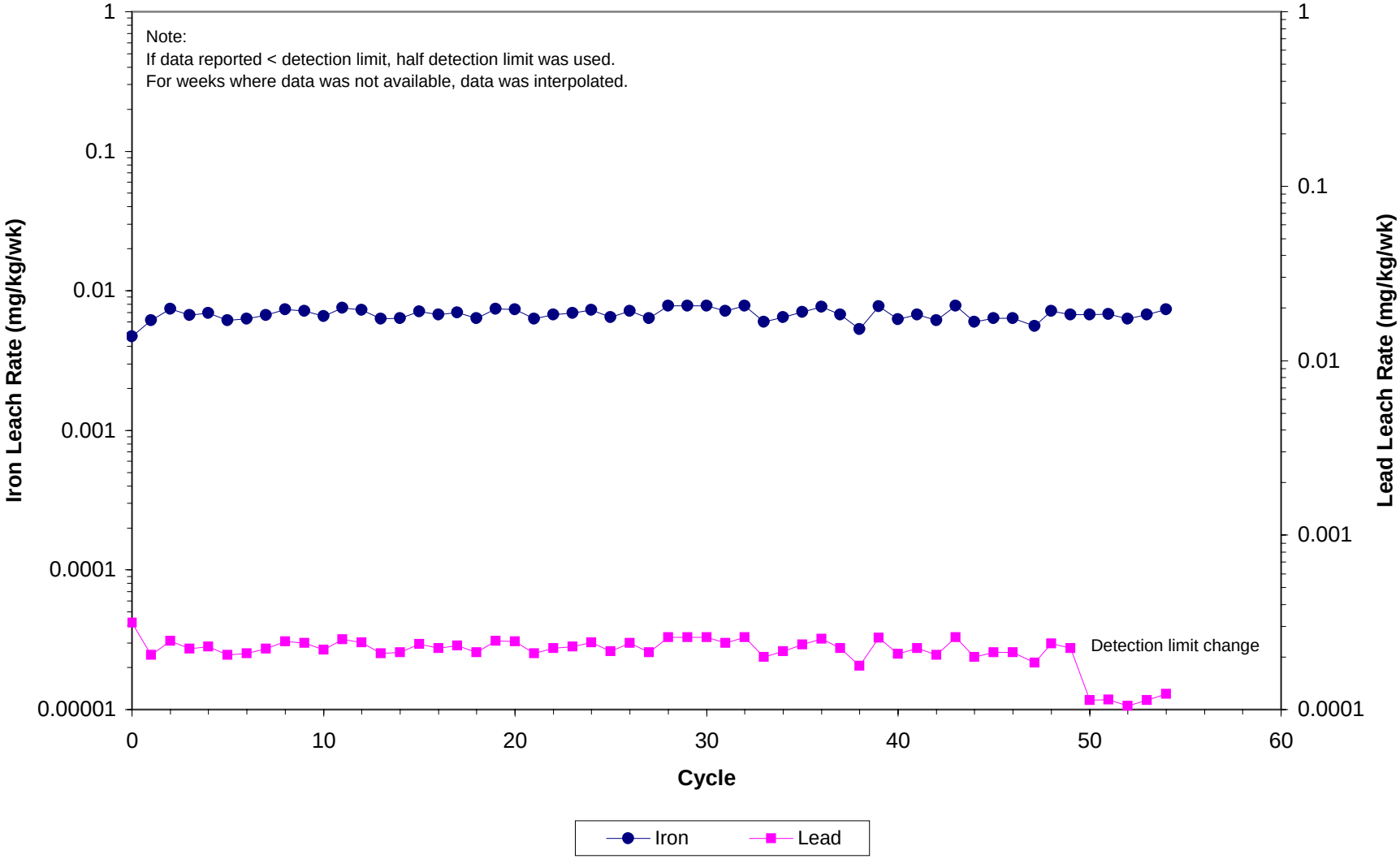
Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

Copper & Zinc Leach Rates vs Cycle



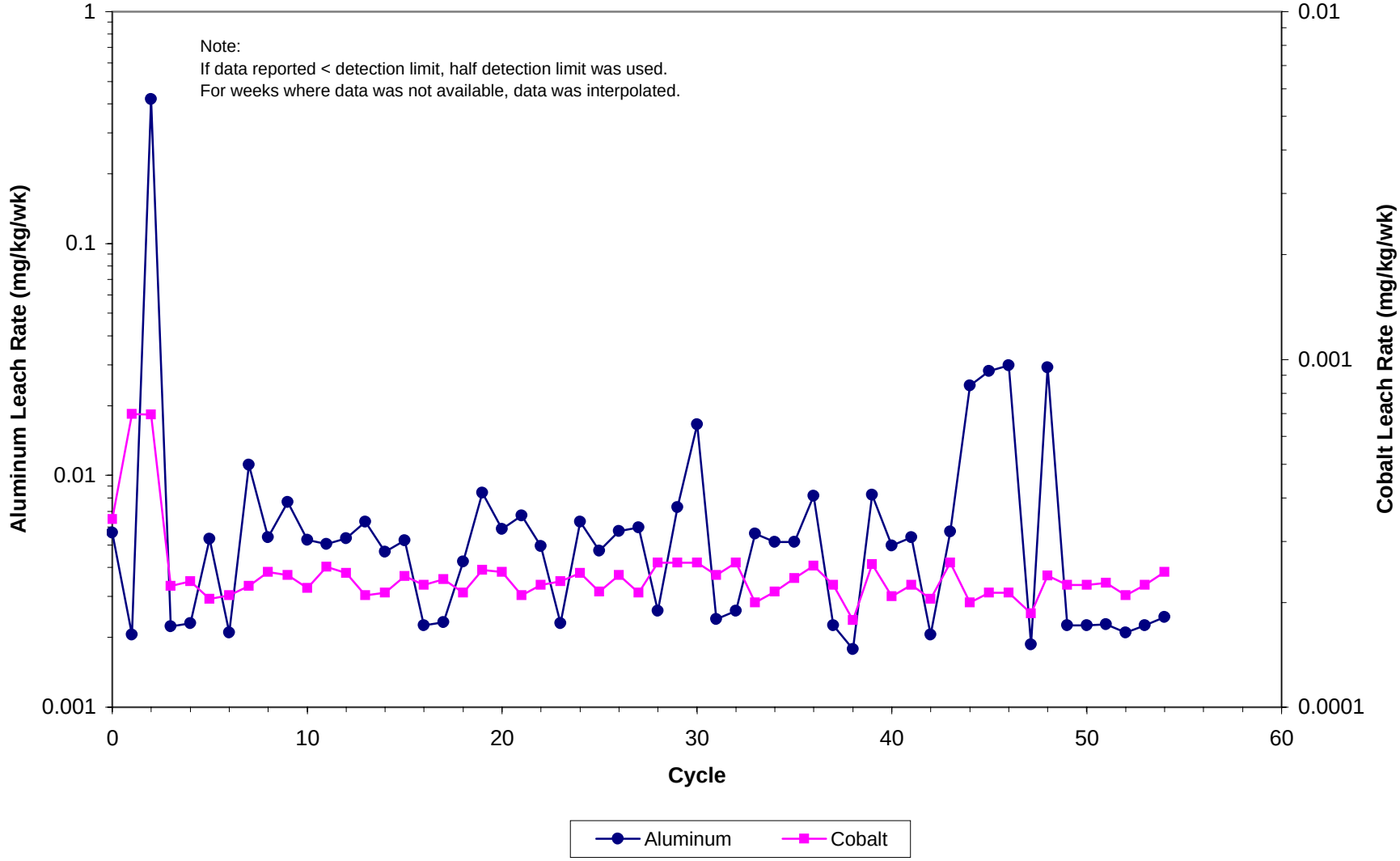
Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

Iron & Lead Leach Rates vs Cycle

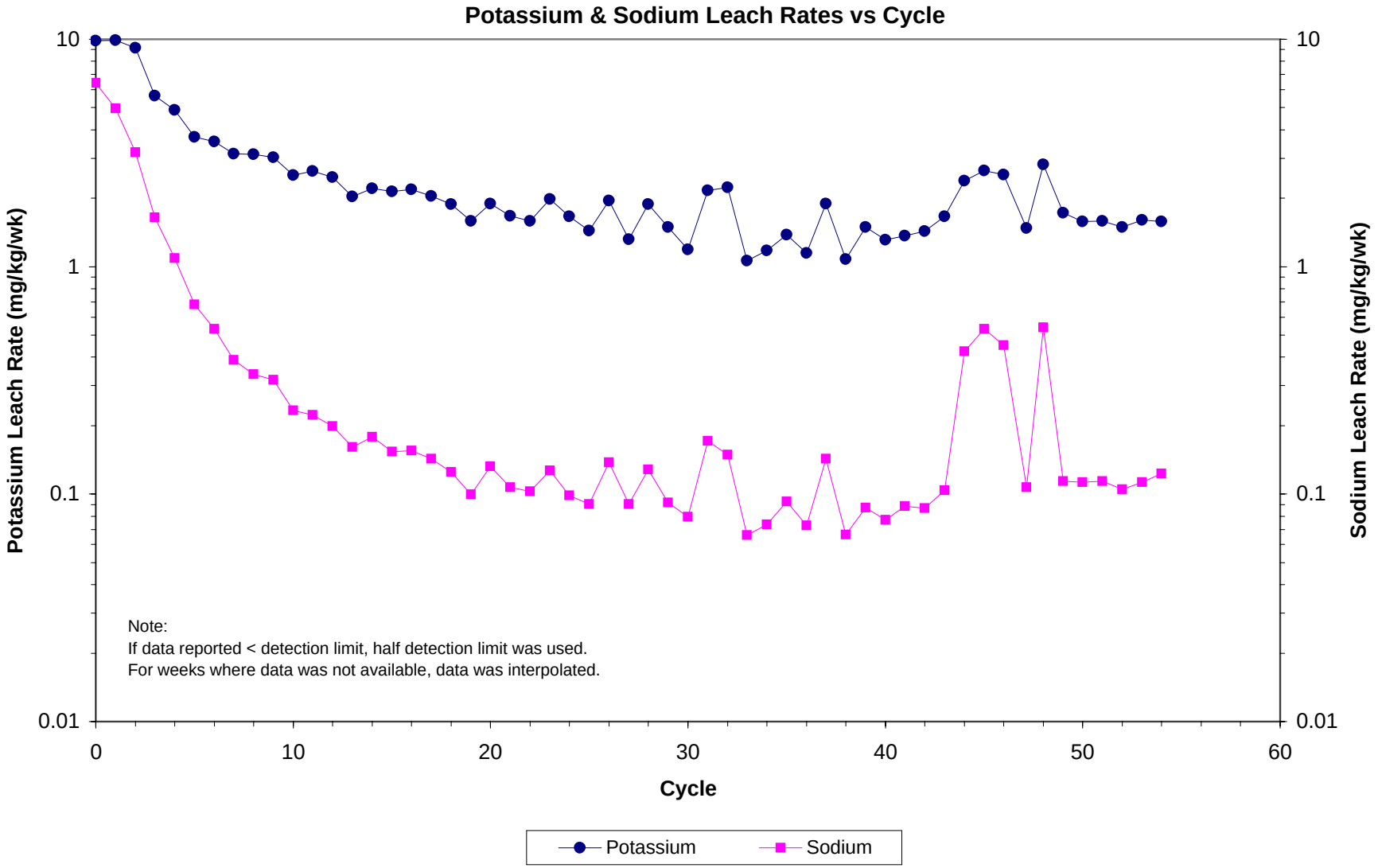


Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

Aluminum & Cobalt Leach Rates vs Cycle

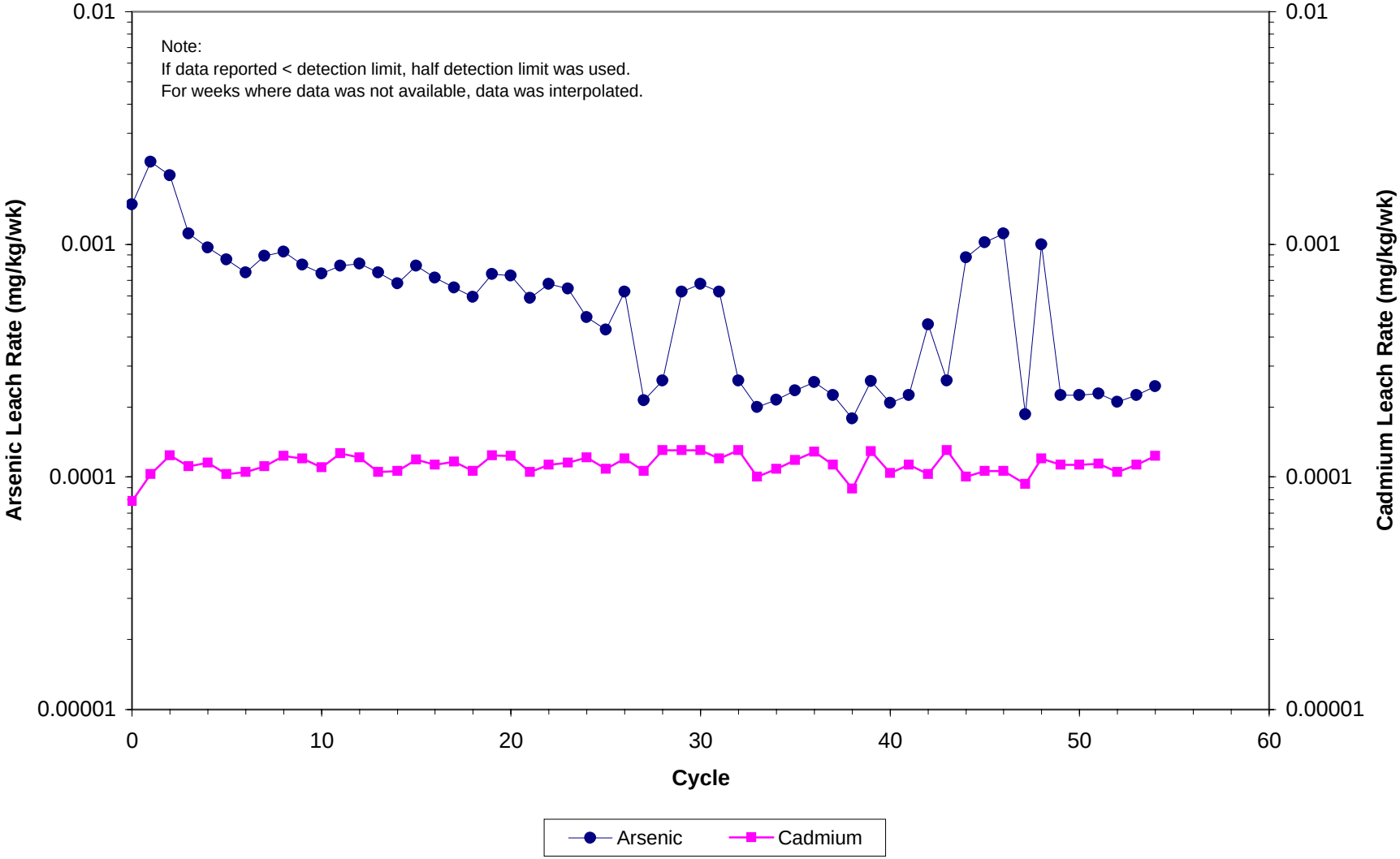


Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite



Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

Arsenic & Cadmium Leach Rates vs Cycle

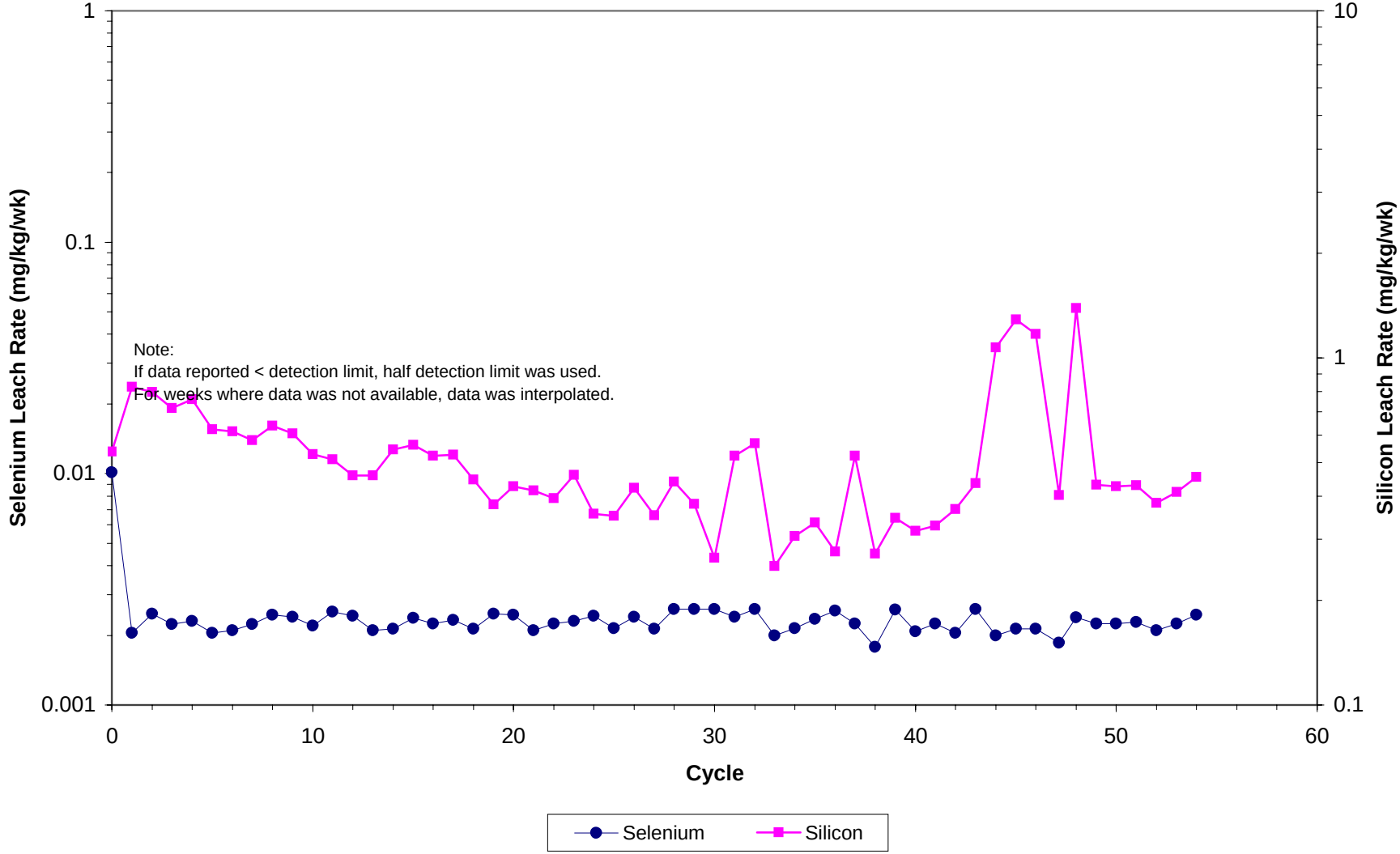


Morrison

F47 (Tailings)

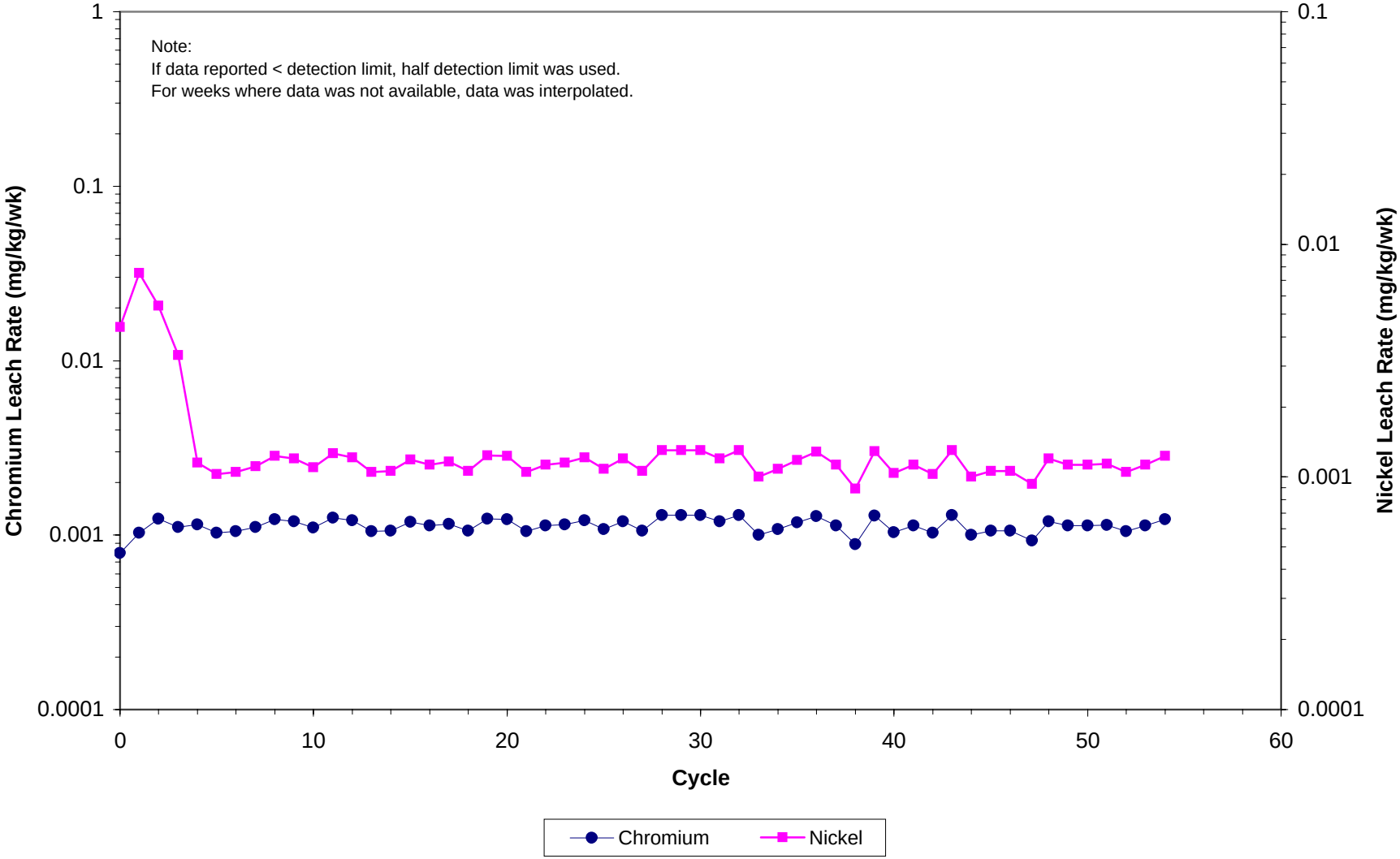
Scavenger Tailings High-Sulphide Tailings Composite

Selenium & Silicon Leach Rates vs Cycle



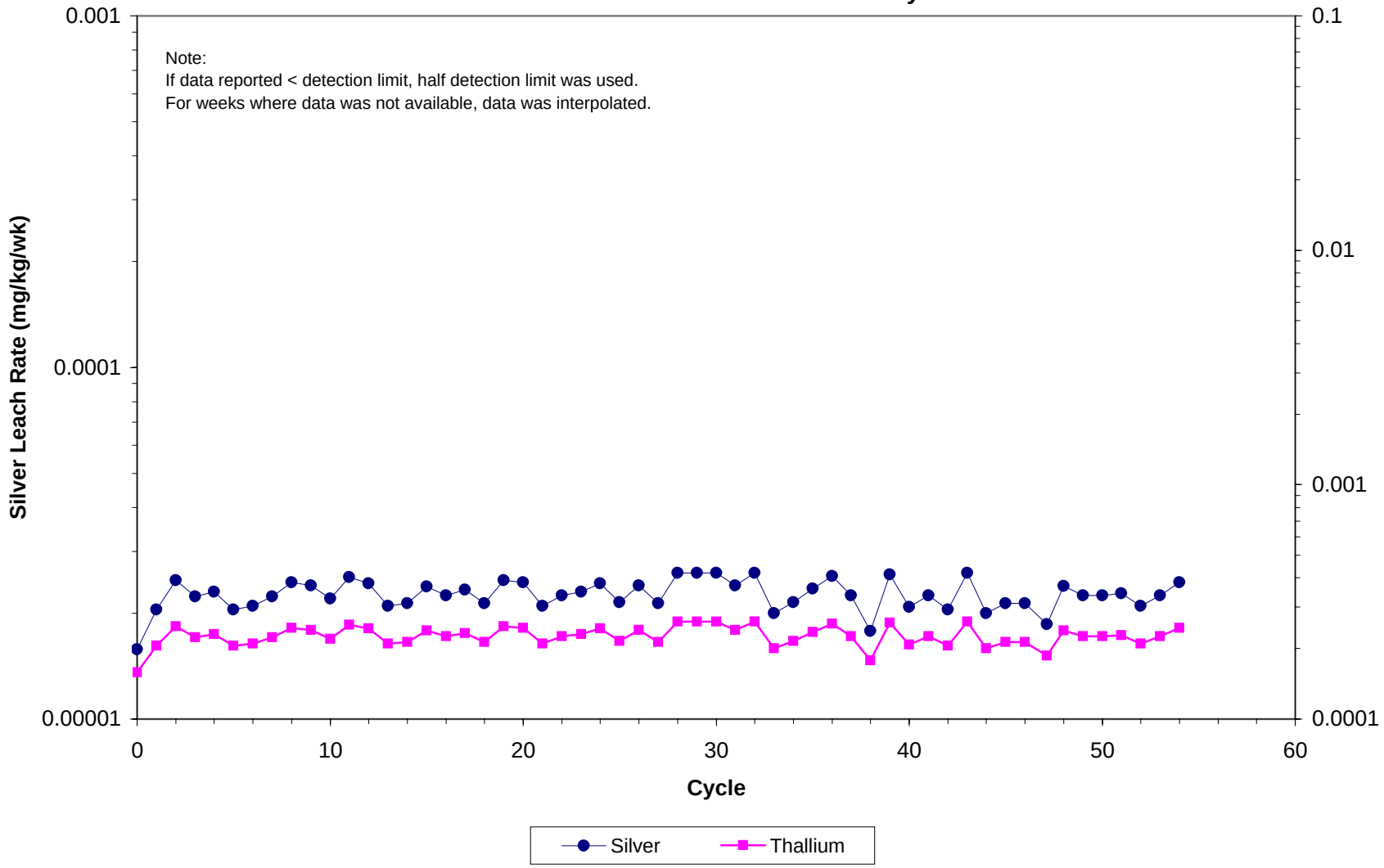
Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

Chromium & Nickel Leach Rates vs Cycle

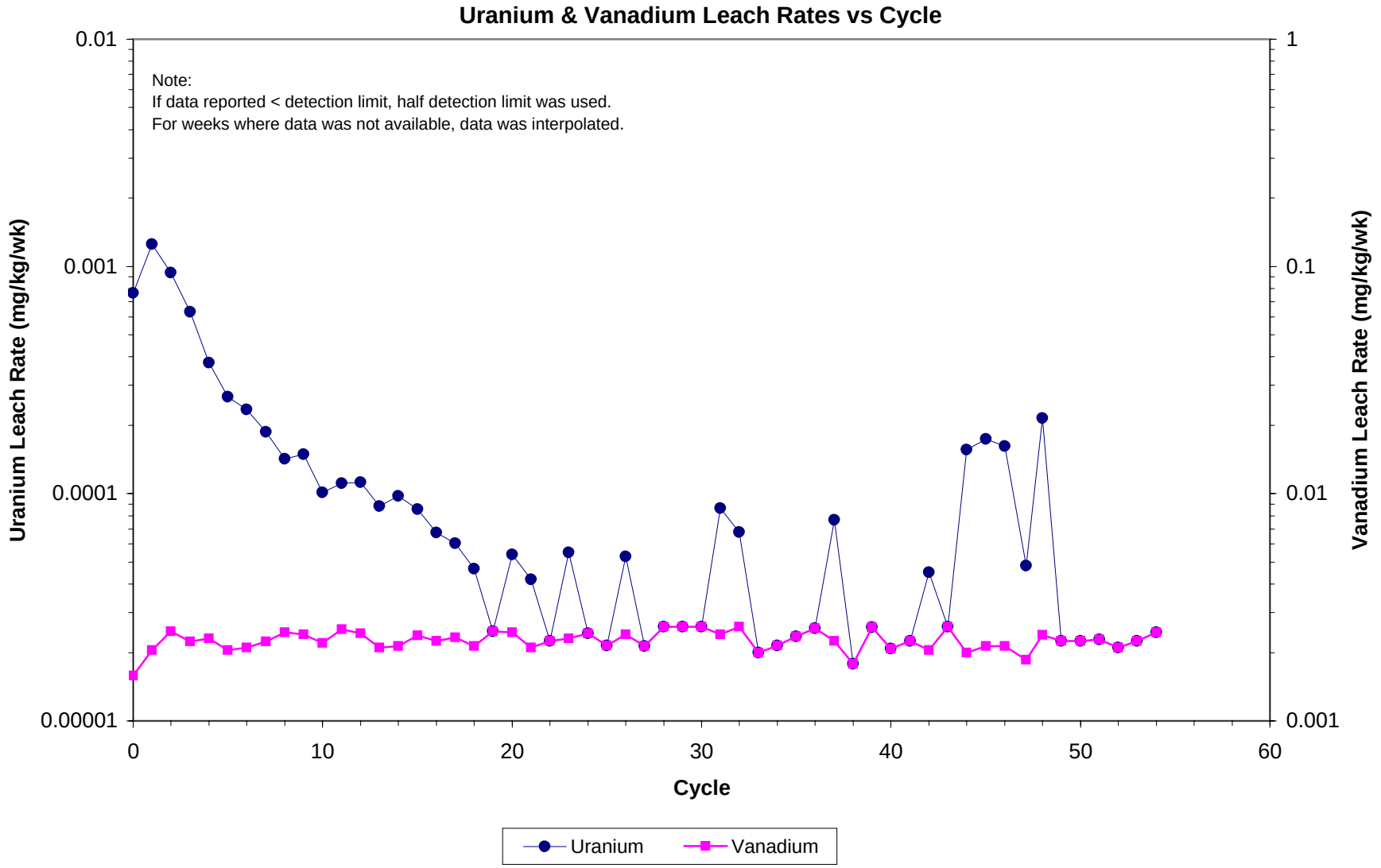


Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite

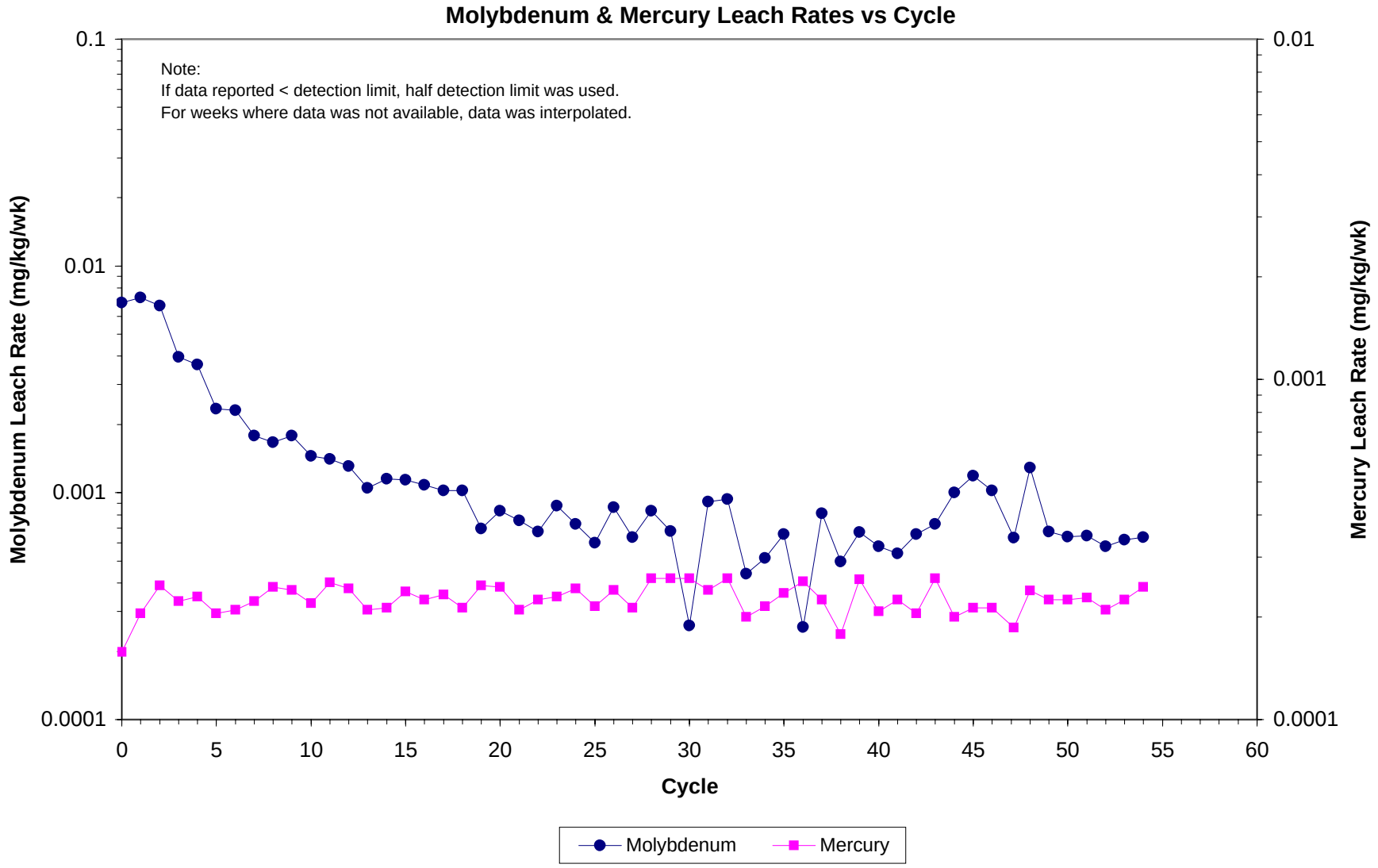
Silver & Thallium Leach Rates vs Cycle



Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite



Morrison
F47 (Tailings)
Scavenger Tailings High-Sulphide Tailings Composite



APPENDIX VII

Stability Analyses

Morrison Copper / Gold Project
M09382A01

Main Dam - Section D-D' - Starter Dam Crest El=968.5m,
3H:1V Down Stream Slope ; 2H:1V Upstream Slope
Static -Undrained Strength Analyses
Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0.5

Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 250 kPa Phi: 0 °
Name: Till Starter Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 250 kPa Phi: 0 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

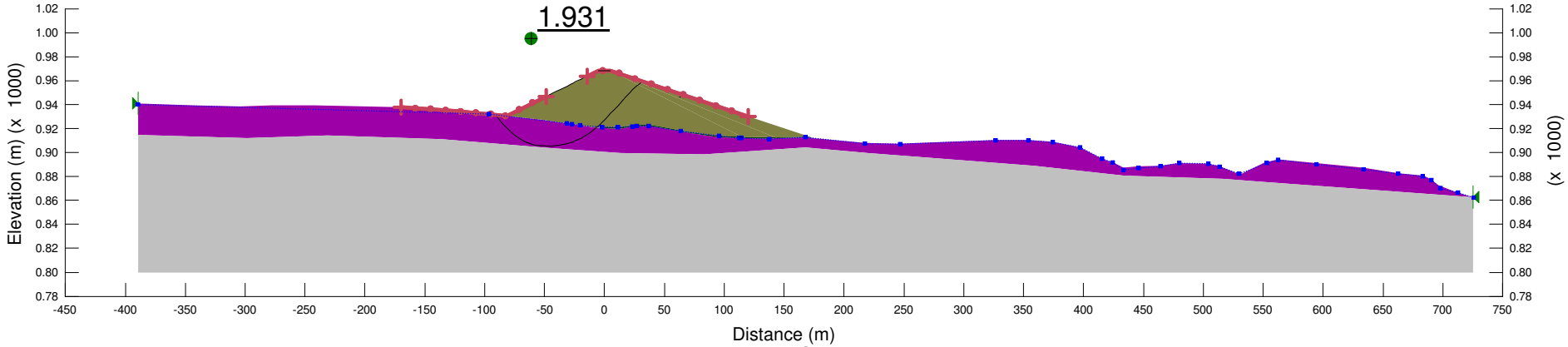


Figure VII-2.1 Section D-D'

Morrison Copper / Gold Project
M09382A01

Main Dam - Section D-D' - Starter Dam Crest El=968.5m
3H:1V Downstream Slope ; 2H:1V Upstream Slope
Static - Undrained Strenght Analyses
Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0.5

Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 250 kPa Phi: 0 °
Name: Till Starter Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 250 kPa Phi: 0 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

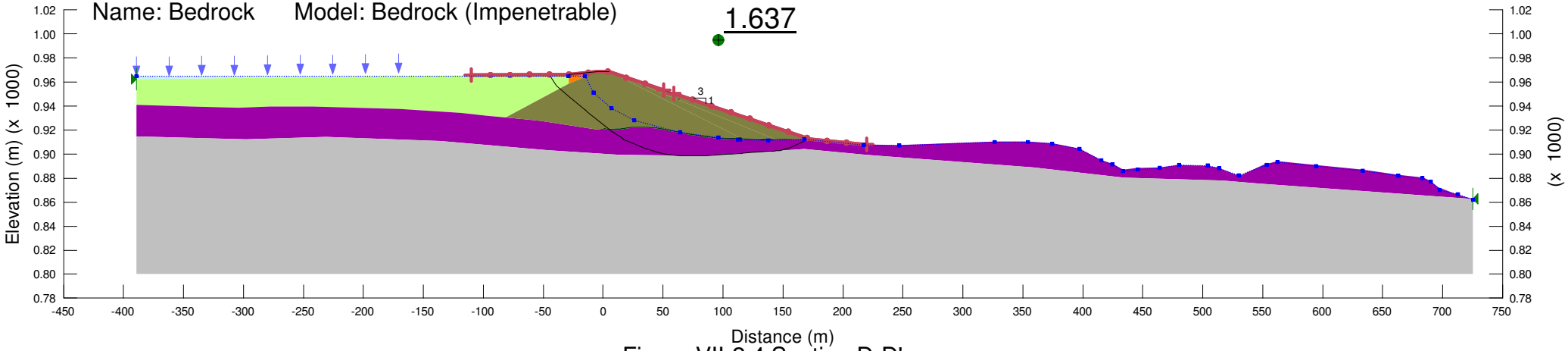


Figure VII-2.4 Section D-D'

Morrison Copper Gold
M09382A01

Main Dam - Section D-D' - Starter Dam Crest El=968.5m
3H:1V Down Stream Slope
Static - Effective Stress Strength Analyses
Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B Bar = 0.5

Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 37 °
Name: Till Starter Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

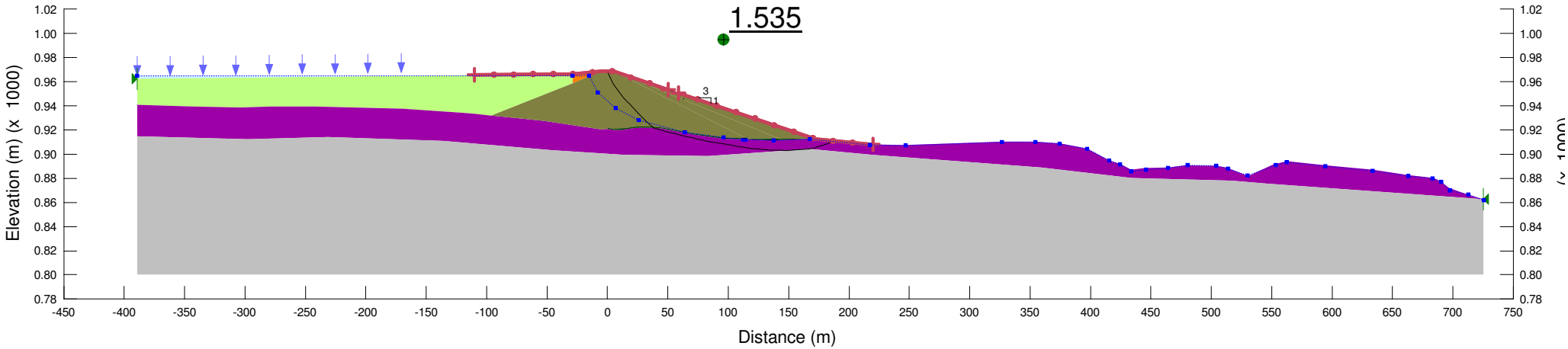


Figure VII-2.5 Section D-D'

Morrison Copper Gold
M09382A01

Main Dam - Section C-C' - Ultimate
Pseudostatic - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0.3

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

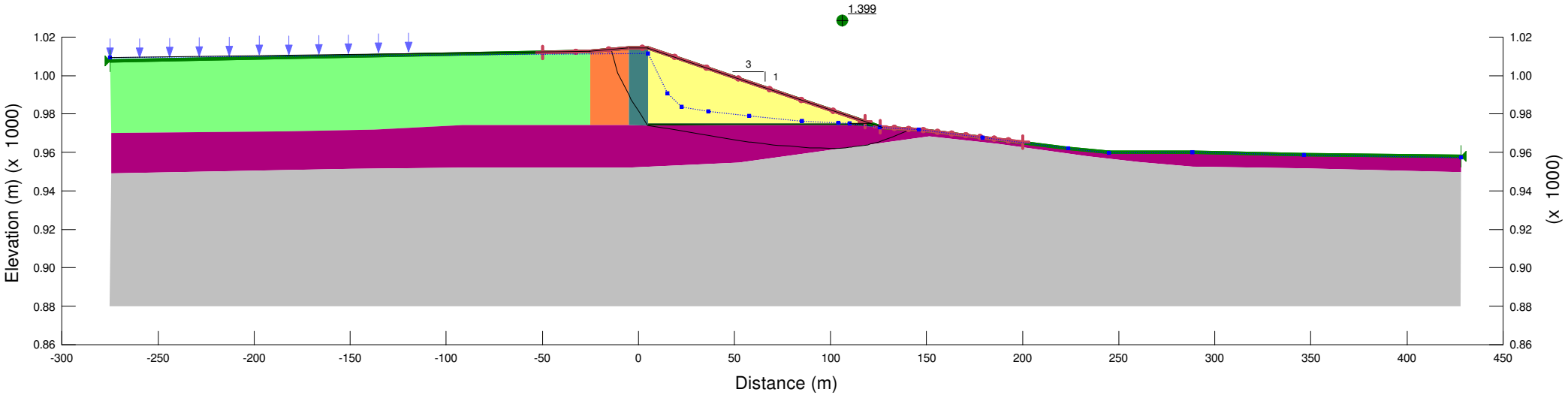


Figure VII-3.1 Section C-C'

Morrison Copper Gold
M09382A01

Main Dam - Section C-C' - Ultimate
Pseudostatic - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B-bar: 0.3

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

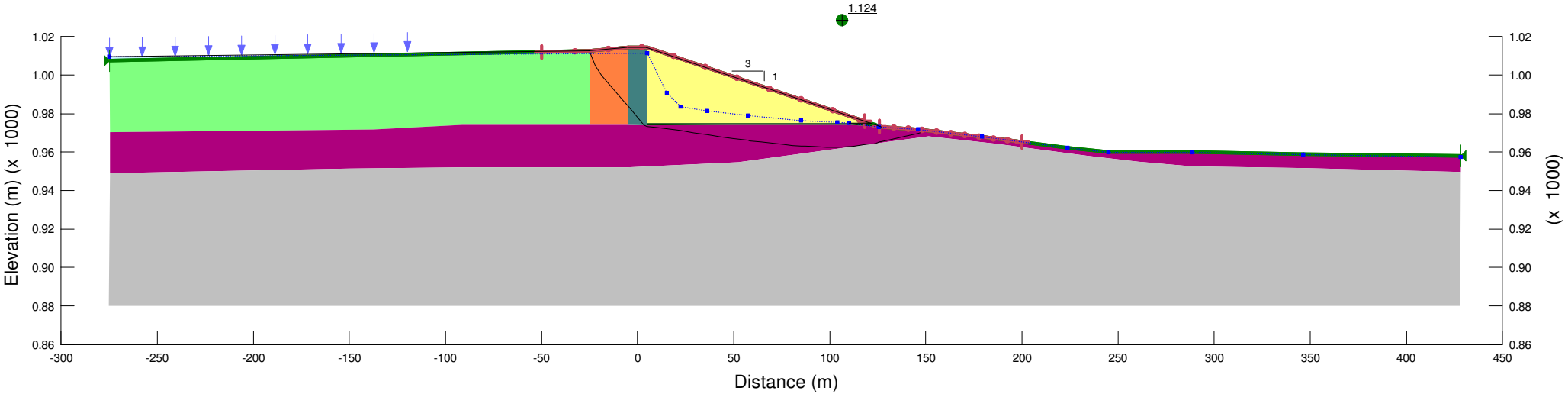


Figure VII-3.2 Section C-C'

Morrison Copper Gold
M09382A01

Main Dam - Section C-C' - Ultimate
Static - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

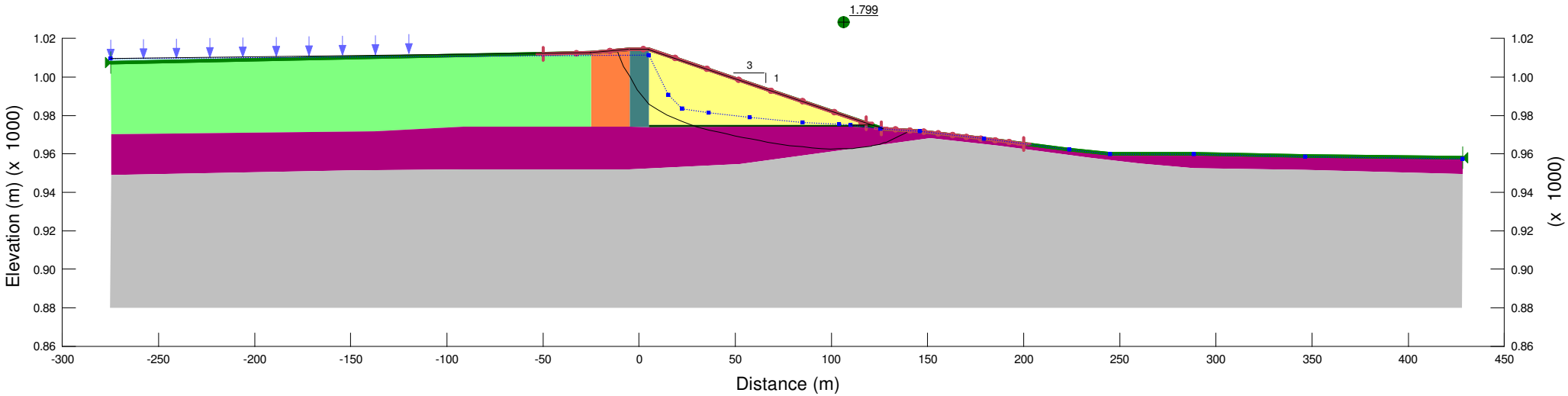


Figure VII-3.3 Section C-C'

Morrison Copper Gold
M09382A01

Main Dam - Section C-C' - Ultimate
Pseudostatic - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B-bar: 0

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

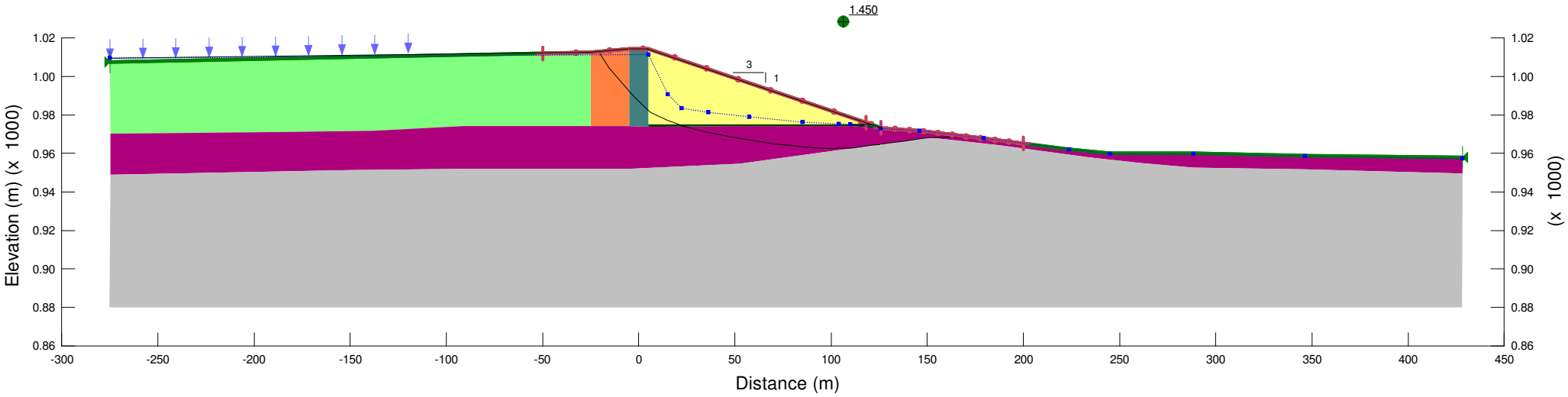


Figure VII-3.4 Section C-C'

Main Dam - Section D-D' - Ultimate Crest El=1014.5m, 3H:1V Down Stream Slope
Static - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B Bar = 0.3

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Starter Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

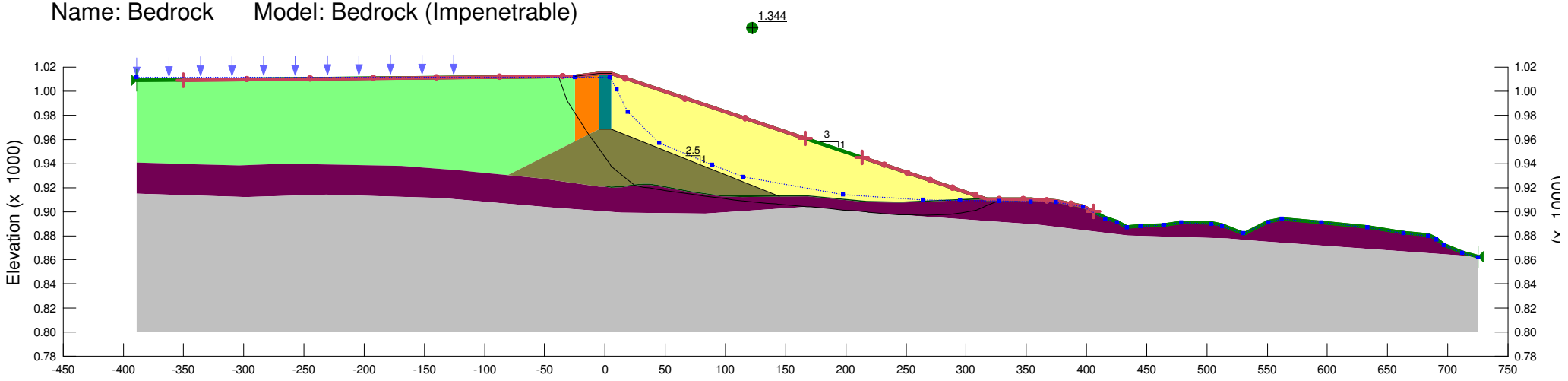


Figure VII-3.5 Section D-D'

M09382A01

Main Dam - Section D-D' - Ultimate Crest El=1014.5m, 3H:1V Down Stream Slope
Static - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B Bar = 0.3

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Starter Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

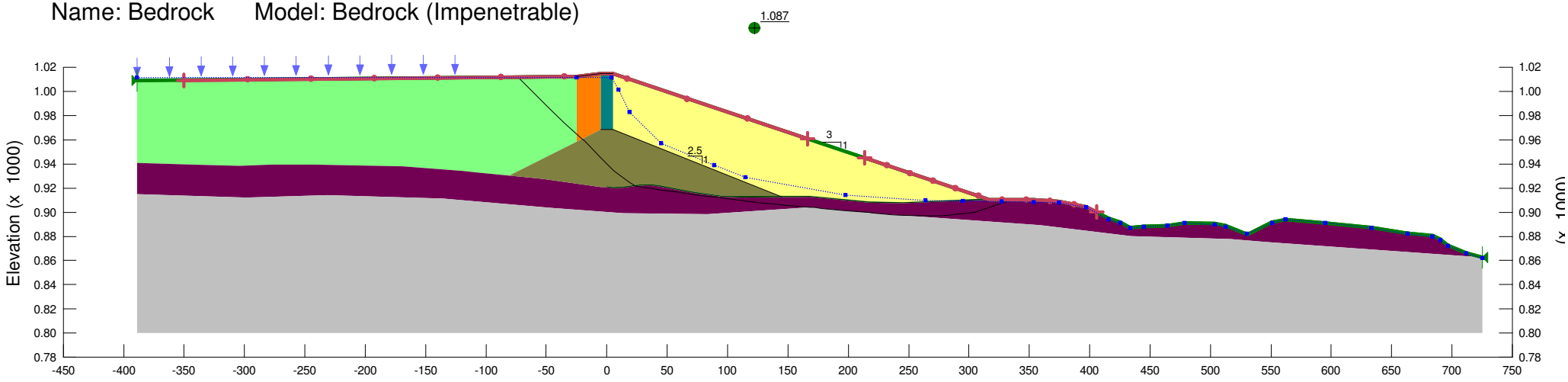


Figure VII-3.6 Section D-D'

Main Dam - Section D-D' - Ultimate Crest El=1014.5m, 3H:1V Down Stream Slope
Static - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: 0

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Starter Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

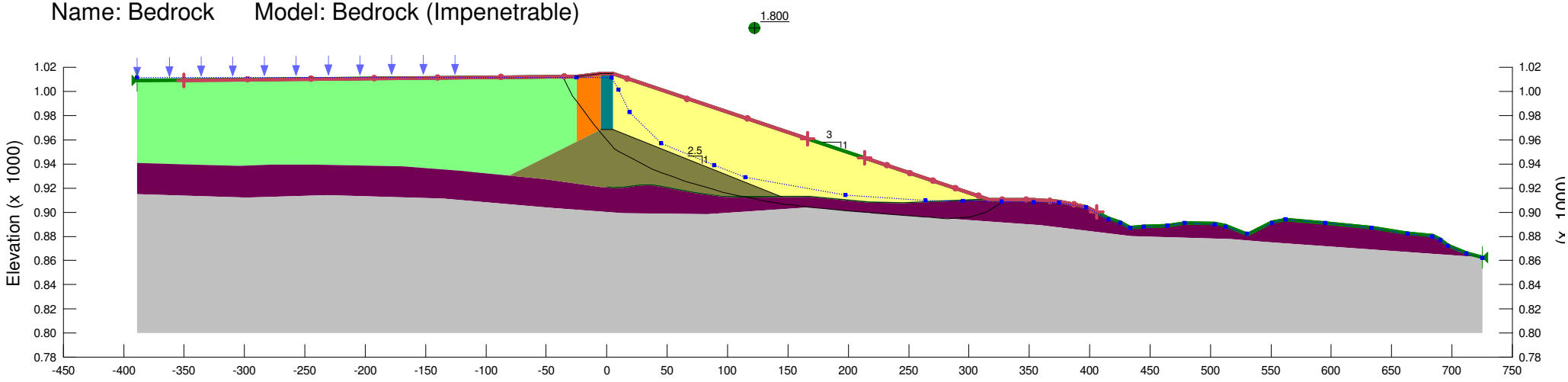


Figure VII-3.7 Section D-D'

M09382A01

Main Dam - Section D-D' - Ultimate Crest El=1014.5m, 3H:1V Down Stream Slope
Pseudostatic - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B-bar: 0

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Starter Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

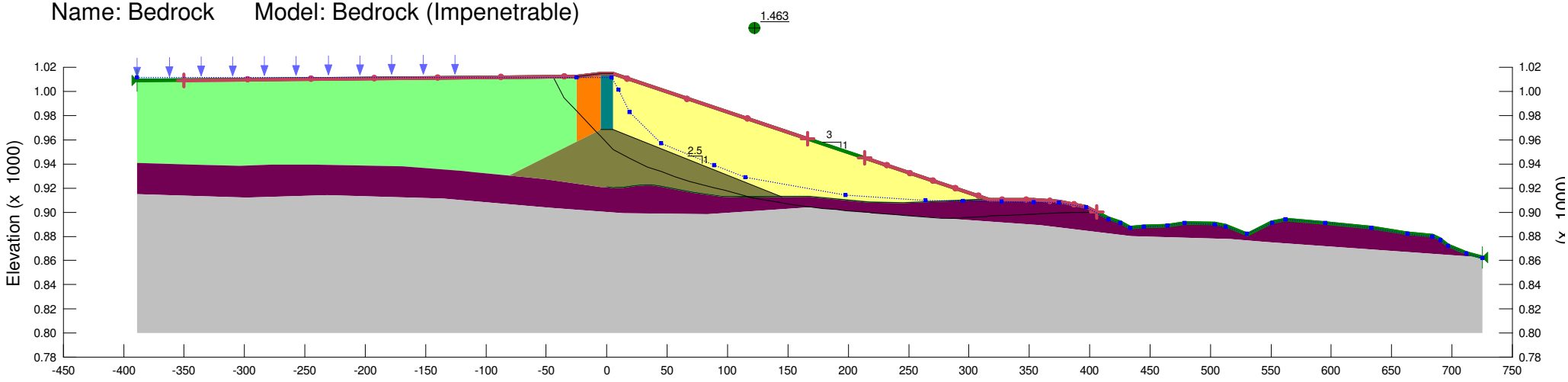


Figure VII-3.8 Section D-D'

Morrison Copper Gold
M09382A01

North Dam - Section E-E' - Ultimate Dam Crest El=1014.5m
Down Stream Slope 3H:1V
Static - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0.3

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

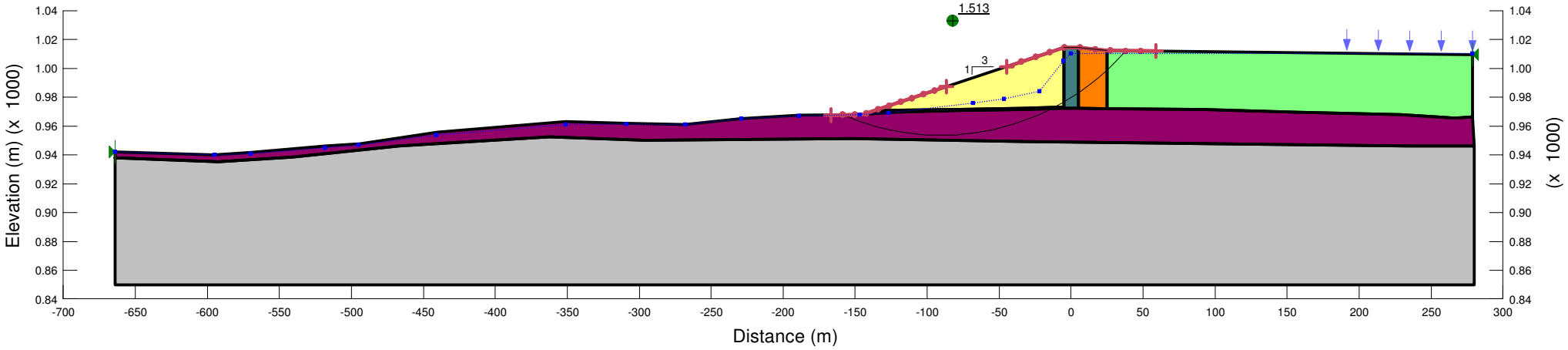


Figure VII-3.9 Section E-E'

Morrison Copper Gold
M09382A01

North Dam - Section E-E' - Ultimate Dam Crest El=1014.5m
Down Stream Slope 3H:1V
Pseudostatic - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B-bar: 0.3

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

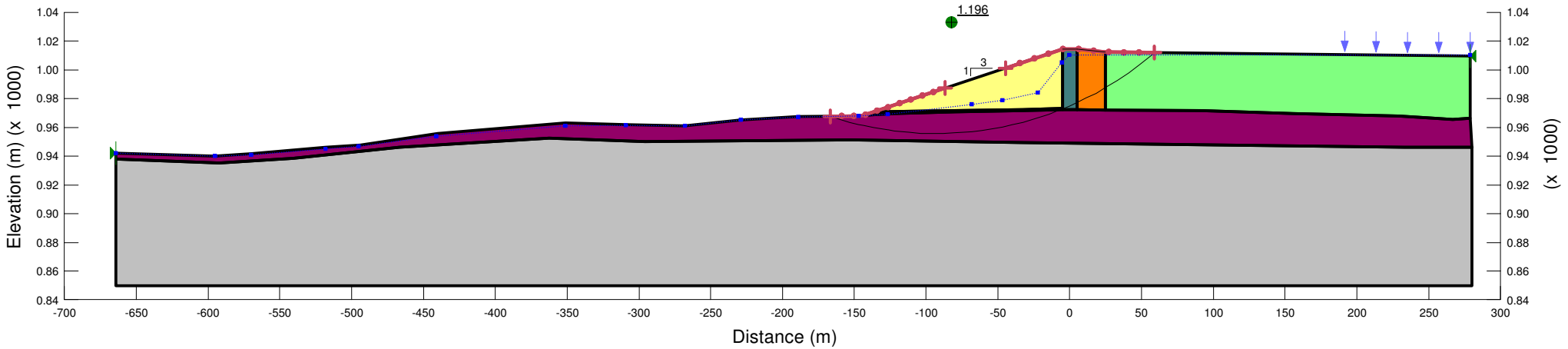


Figure VII-3.10 Section E-E'

Morrison Copper Gold
M09382A01

North Dam - Section E-E' - Ultimate Dam Crest El=1014.5m
Down Stream Slope 3H:1V
Static - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

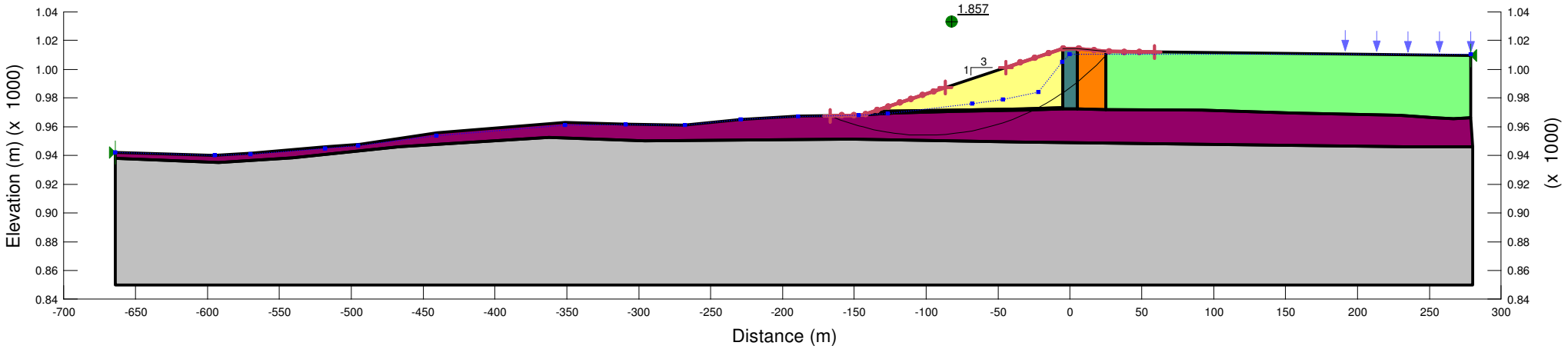


Figure VII-3.11 Section E-E'

Morrison Copper Gold
M09382A01

North Dam - Section E-E' - Ultimate Dam Crest El=1014.5m
Down Stream Slope 3H:1V
Pseudostatic - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B-bar: 0

Name: Downstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Upstream Cycloned Sand Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Core Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

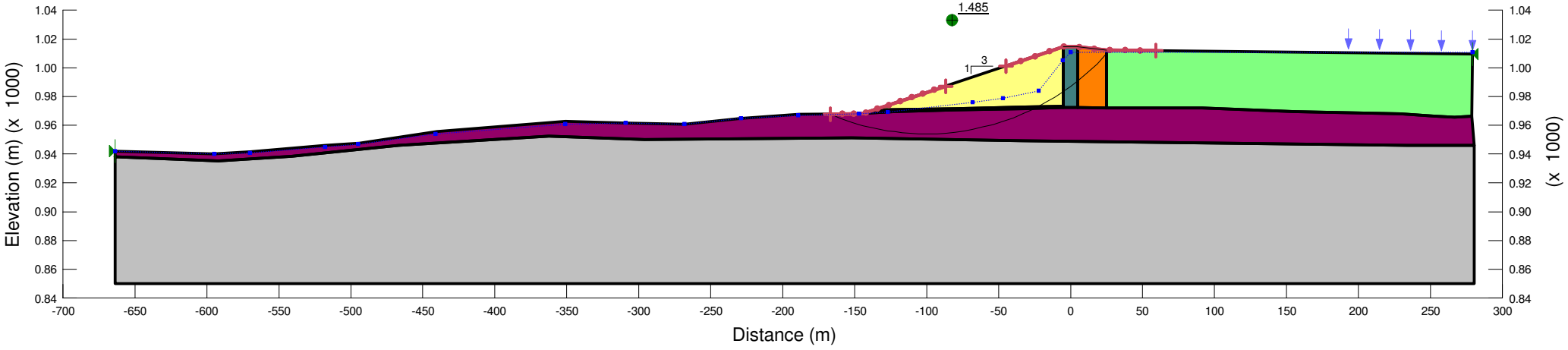


Figure VII-3.12 Section E-E'

Morrison Copper Gold
M09382A01

West Dam - Section G-G' - Ultimate Dam Crest El=1014.5m
Down Stream Slope=2.5H:1V, Up Stream Slope=2H:1V
Static - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0.3

Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

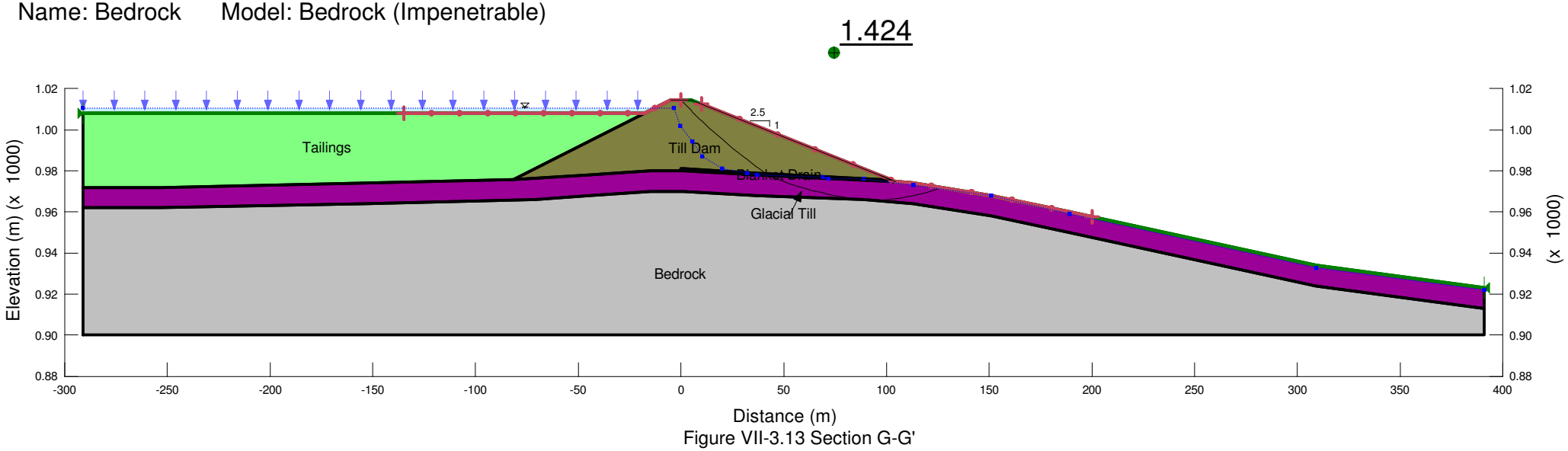


Figure VII-3.13 Section G-G'

Morrison Copper Gold
M09382A01

West Dam - Section G-G' - Ultimate Dam Crest El=1014.5m
Down Stream Slope=2.5H:1V, Up Stream Slope=2H:1V
Pseudostatic - Operations

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B-bar: 0.3

Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

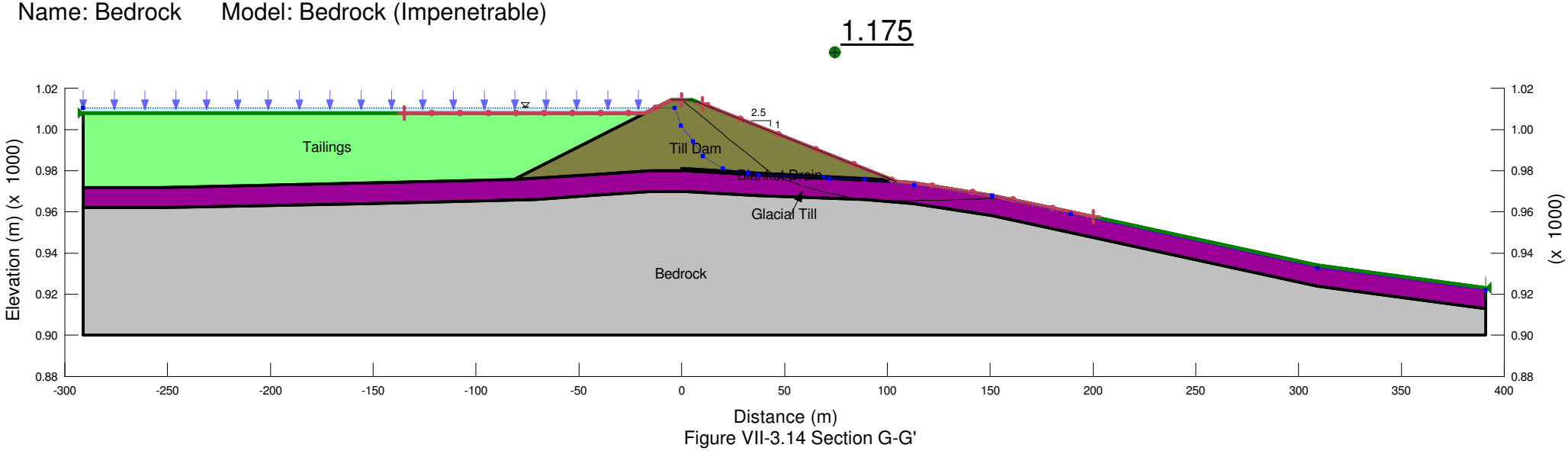


Figure VII-3.14 Section G-G'

Morrison Copper Gold
M09382A01

West Dam - Section G-G' - Ultimate Dam Crest El=1014.5m
Down Stream Slope=2.5H:1V, Up Stream Slope=2H:1V
Static - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0
Glacial Till: B-bar: 0

Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

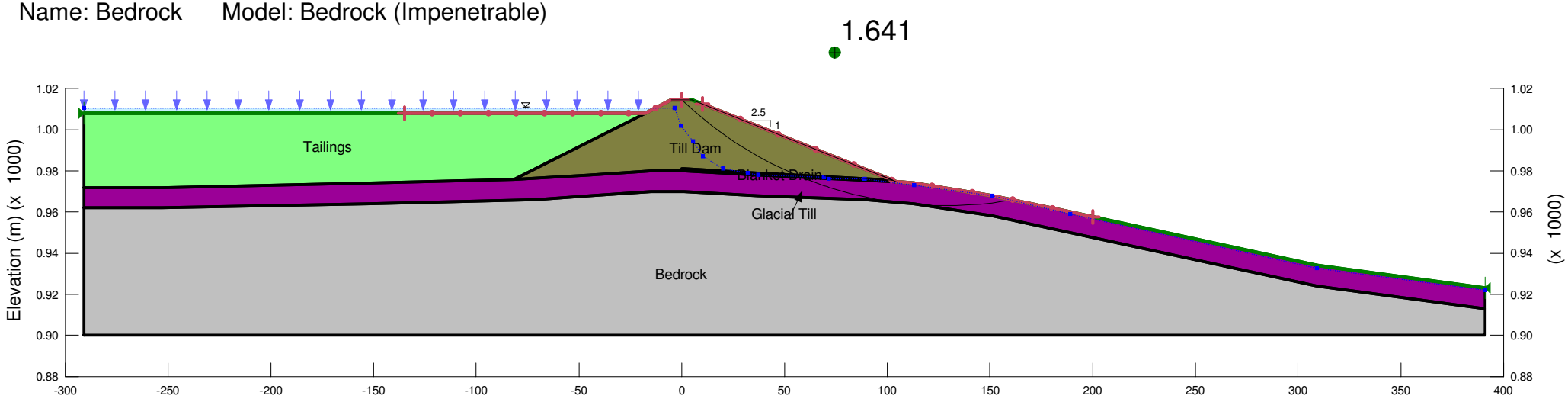


Figure VII-3.15 Section G-G'

Morrison Copper Gold
M09382A01

West Dam - Section G-G' - Ultimate Dam Crest El=1014.5m
Down Stream Slope=2.5H:1V, Up Stream Slope=2H:1V
Pseudostatic - Closure

Method: Morgenstern-Price
Horizontal Seismic Coefficient: 0.065
Glacial Till: B-bar: 0

Name: Tailings Model: Mohr-Coulomb Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 29 °
Name: Glacial Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Till Dam Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 32 °
Name: Blanket Drain Model: Mohr-Coulomb Unit Weight: 18 kN/m³ Cohesion: 0 kPa Phi: 35 °
Name: Bedrock Model: Bedrock (Impenetrable)

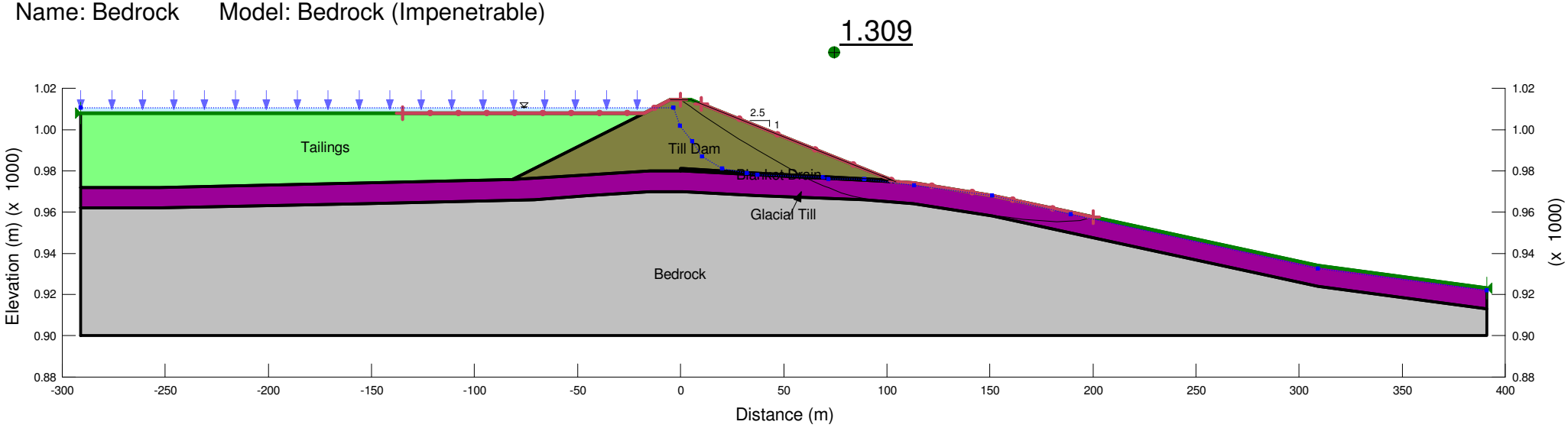


Figure VII-3.16 Section G-G'

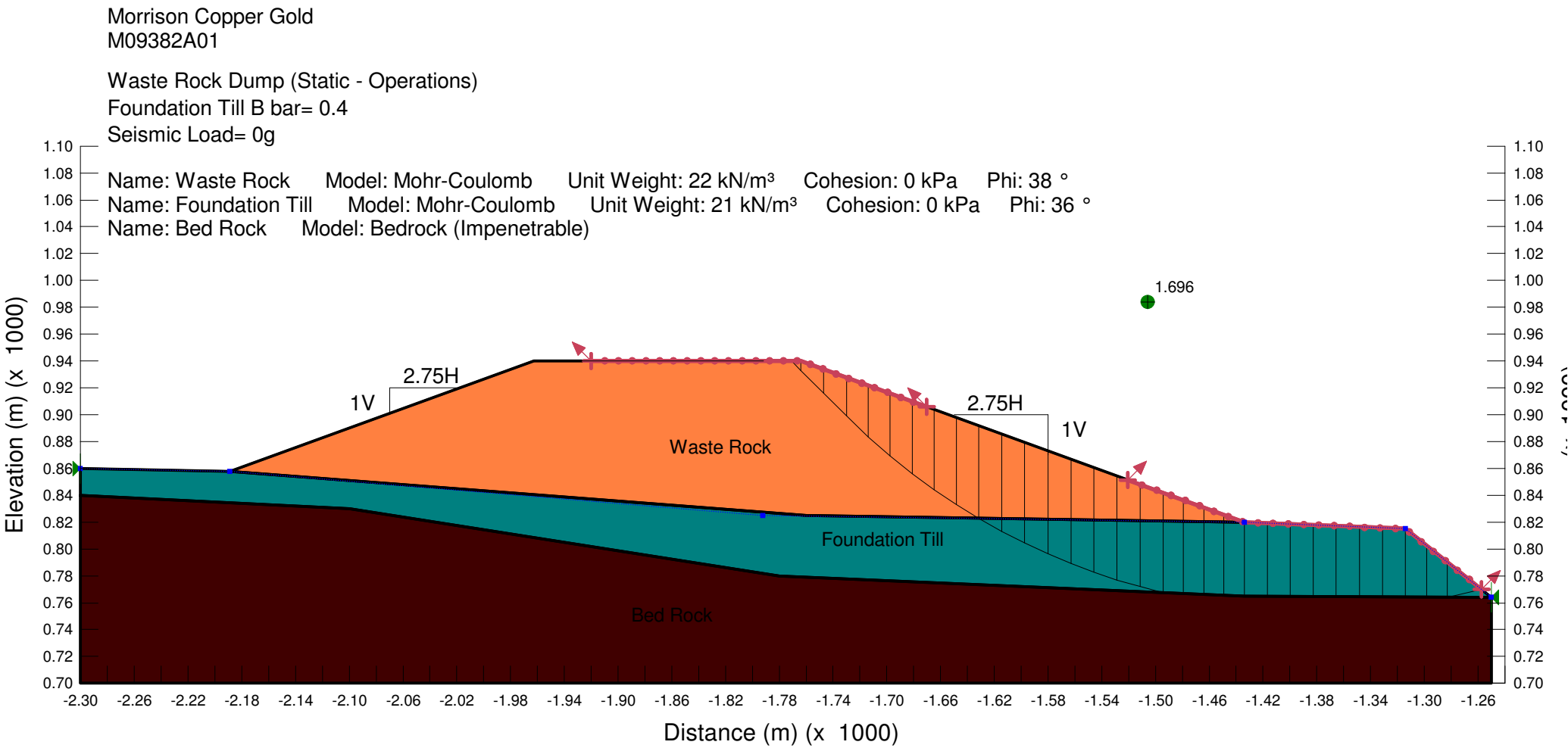


Figure VII-4.1 Section A-A' Right Slope

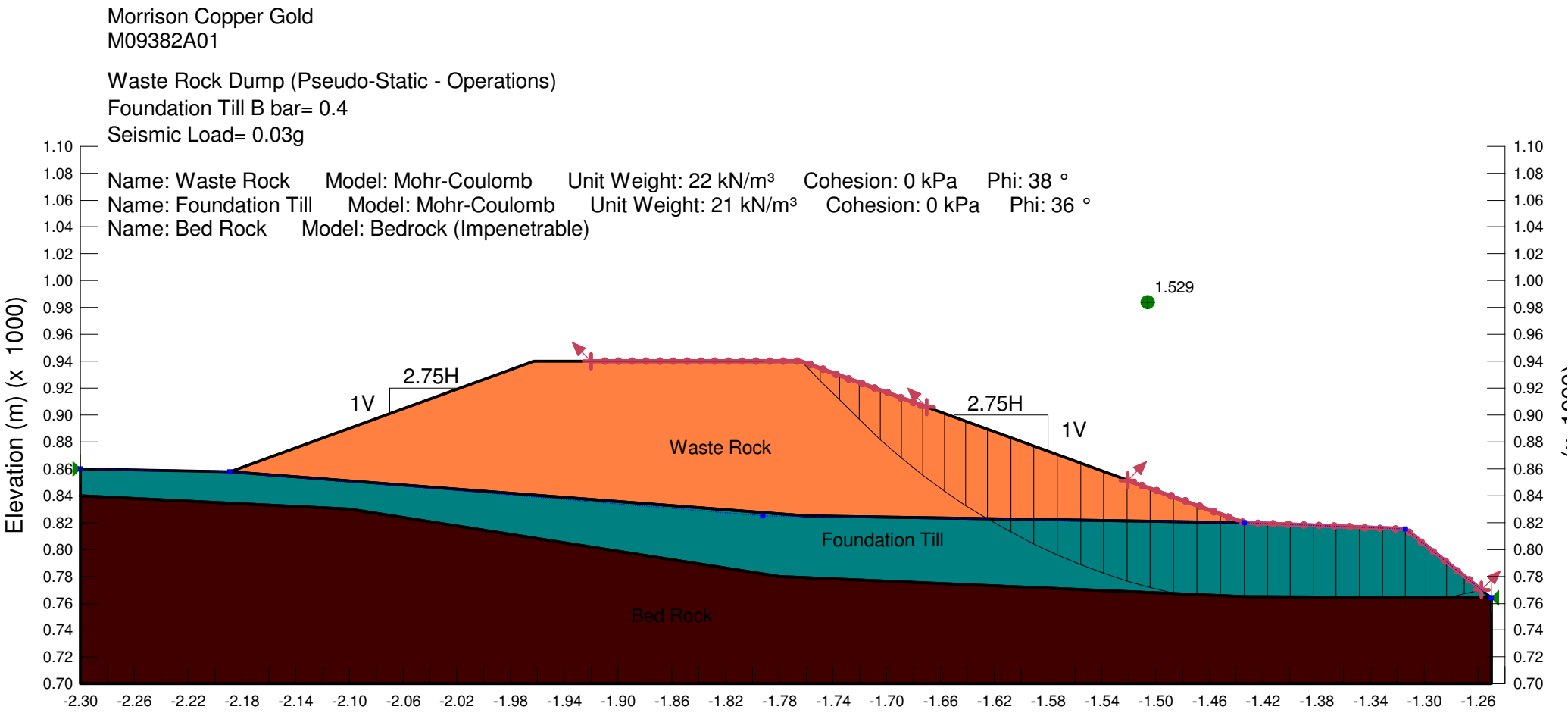


Figure VII-4.2 Section A-A' Right Slope

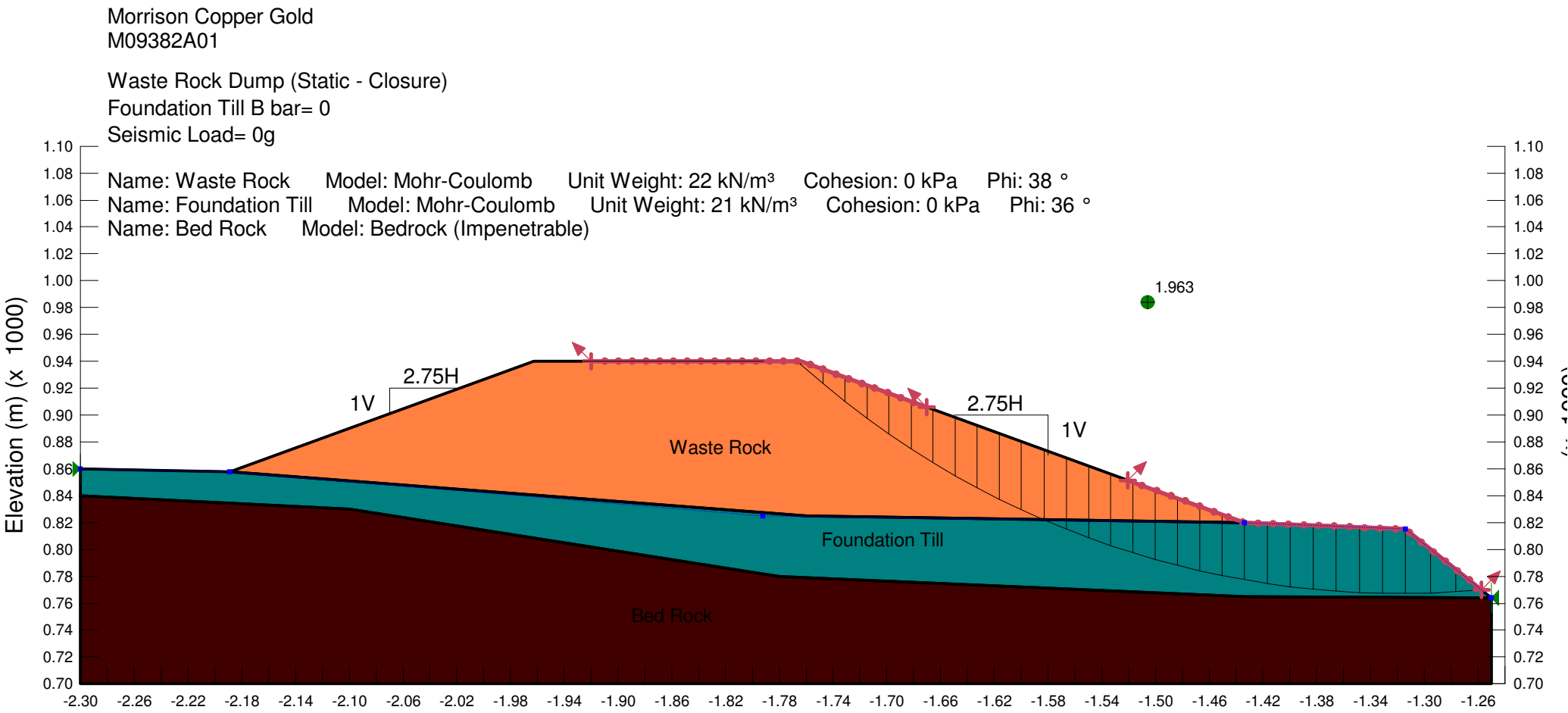


Figure VII-4.3 Section A-A' Right Slope

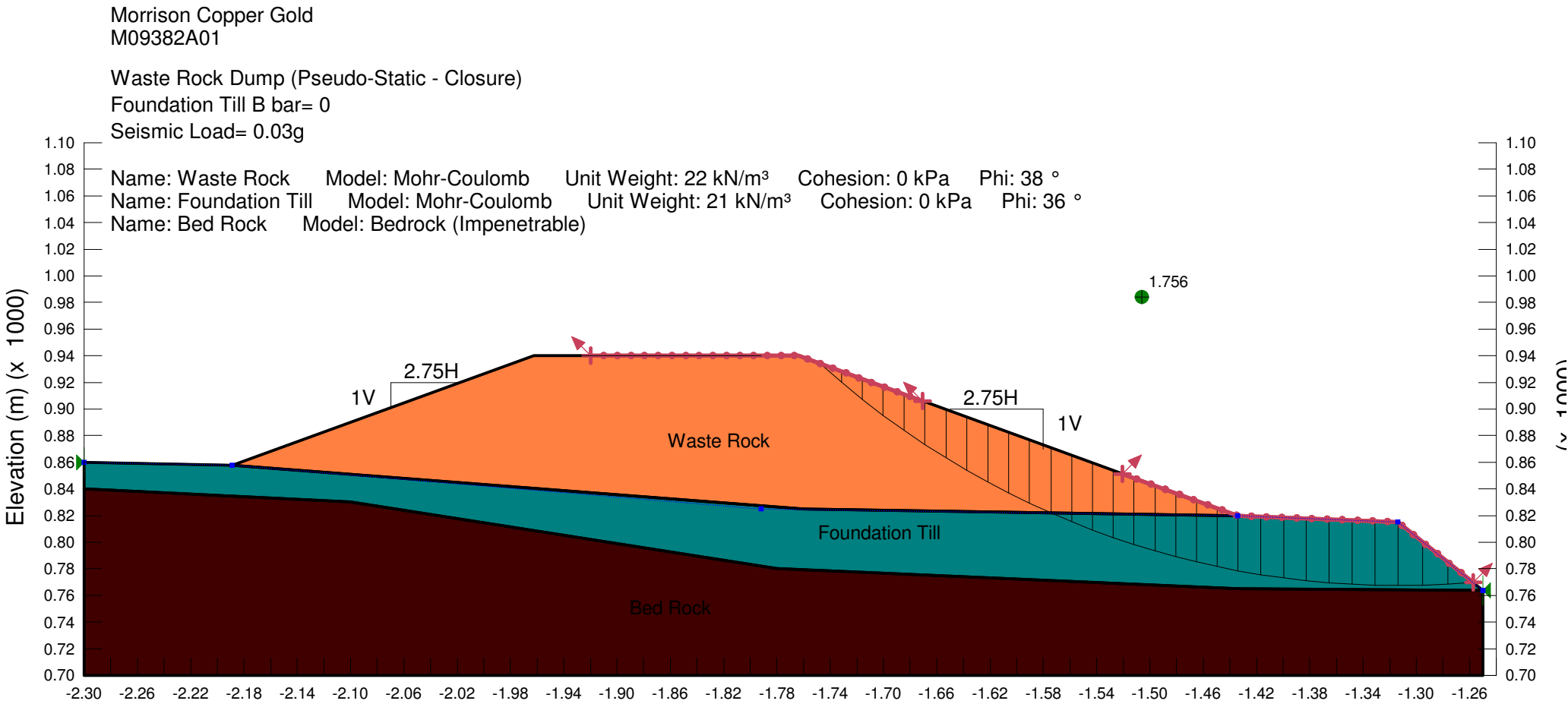


Figure VII-4.4 Section A-A' Right Slope

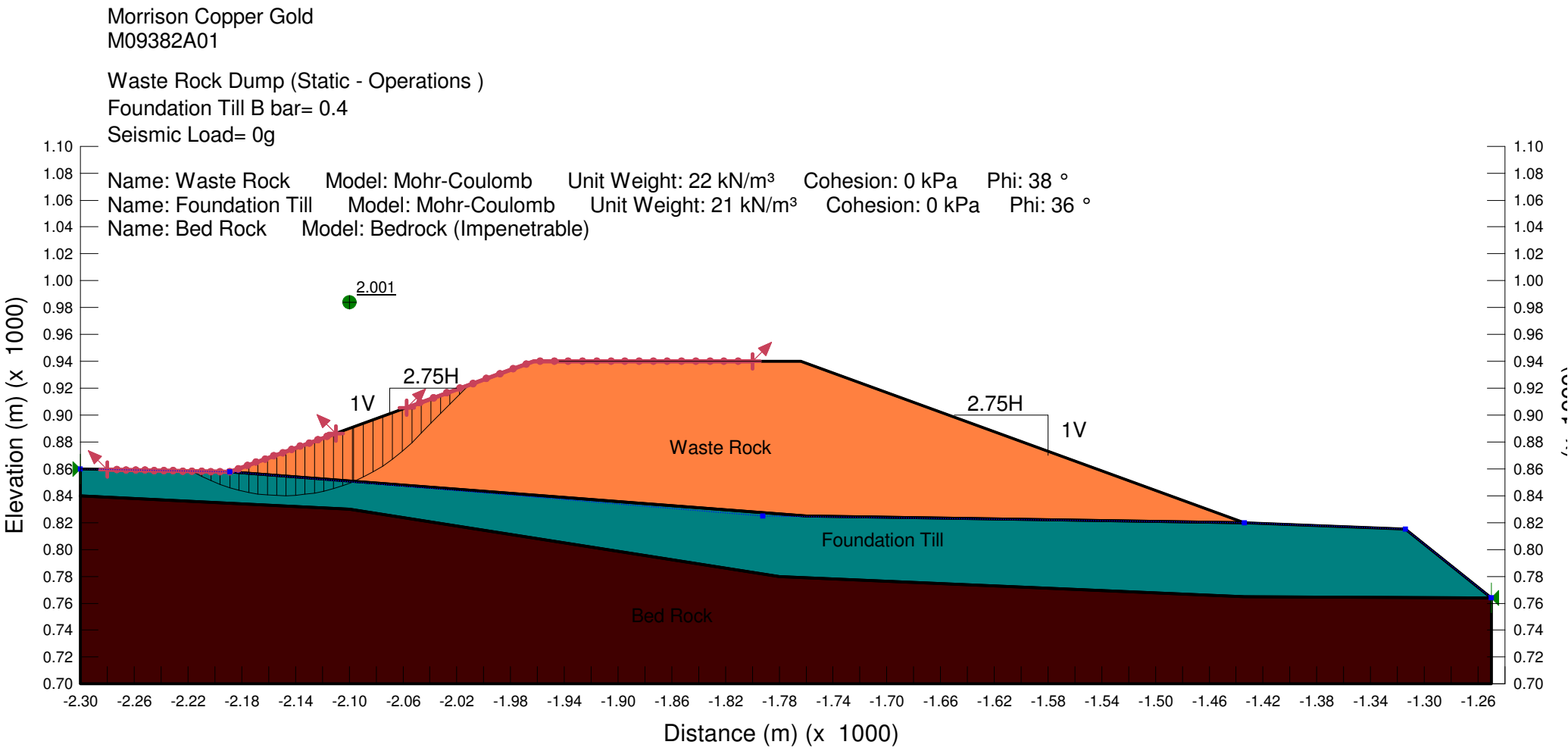


Figure VII-4.5 Section A-A' Left Slope

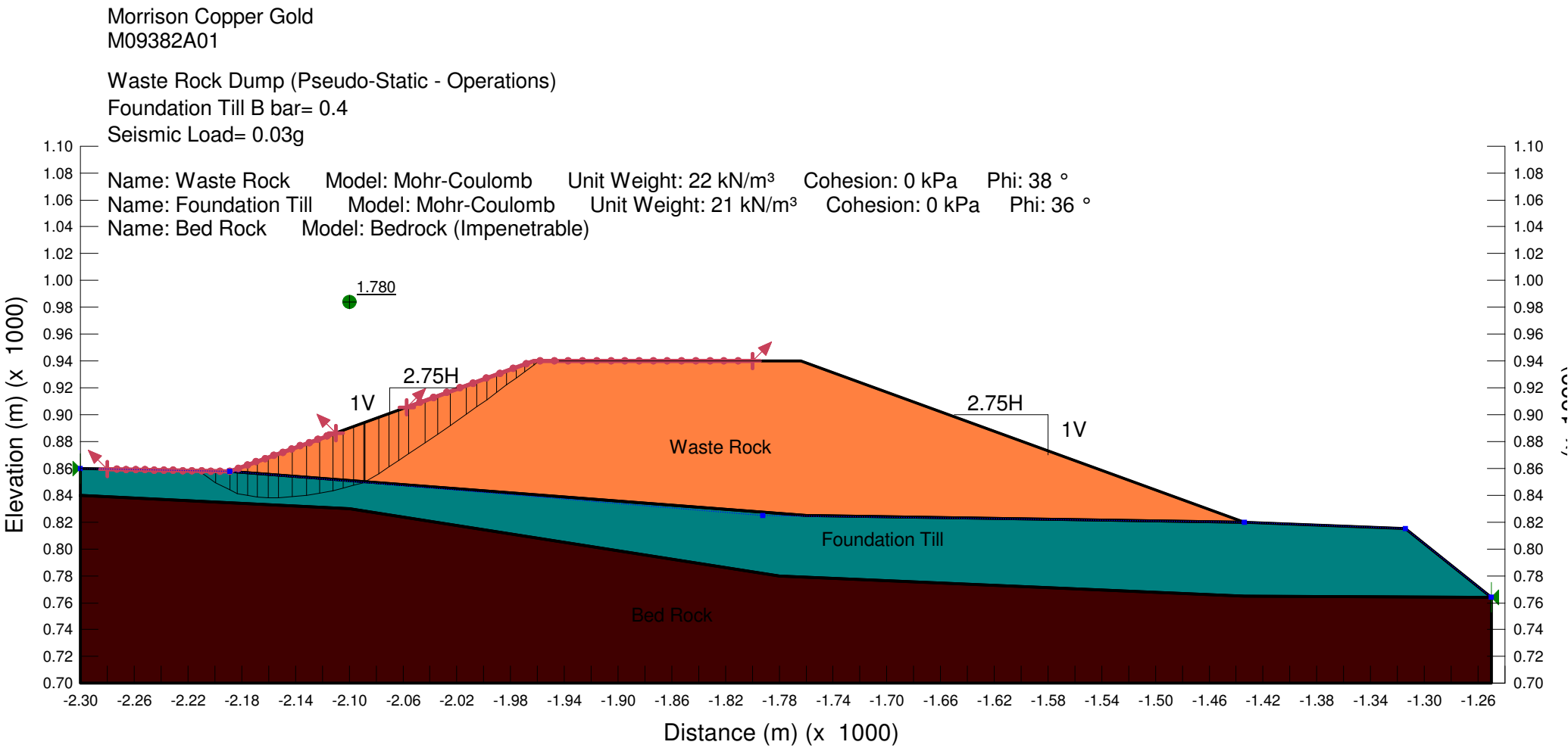


Figure VII-4.6 Section A-A' Left Slope

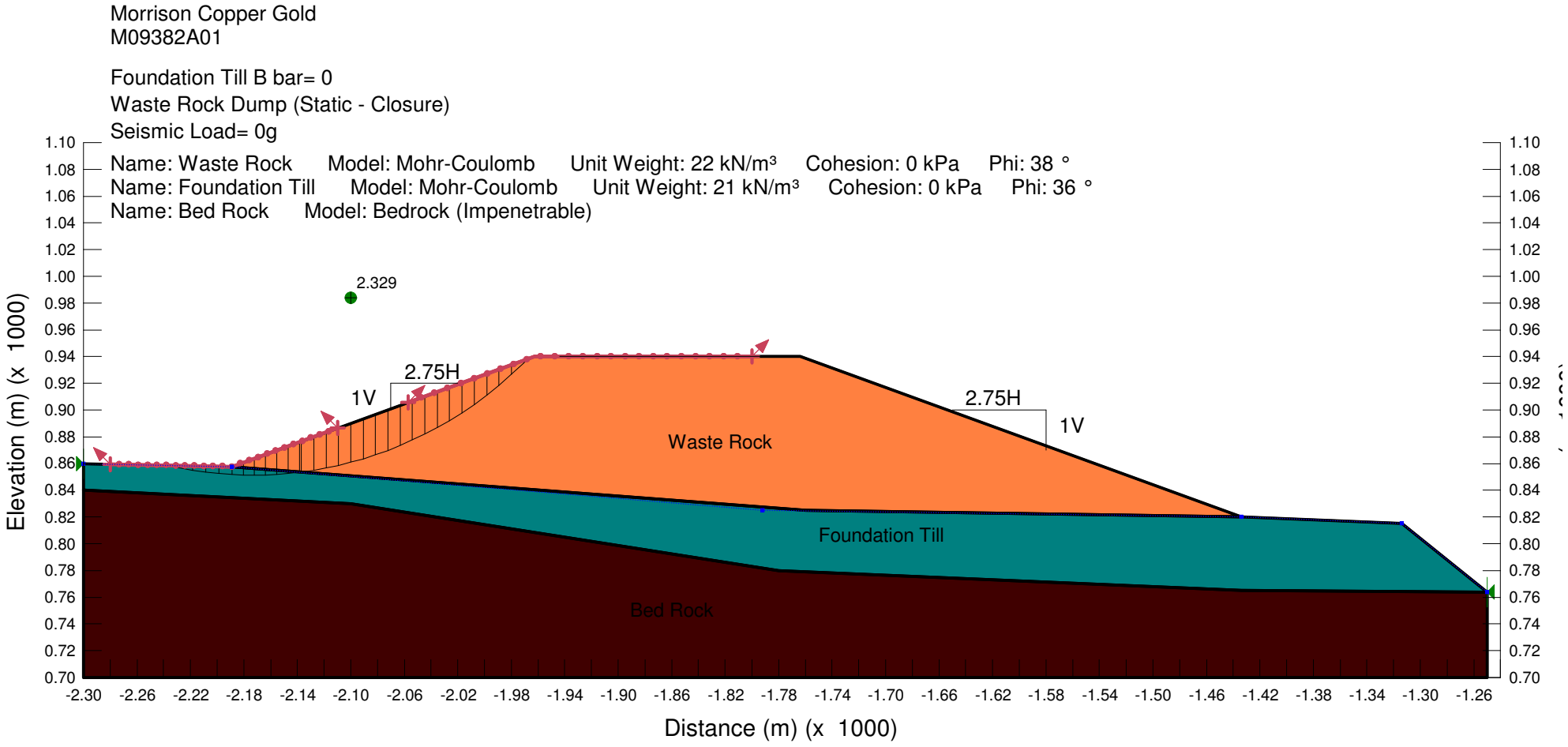


Figure VII-4.7 Section A-A' Left Slope

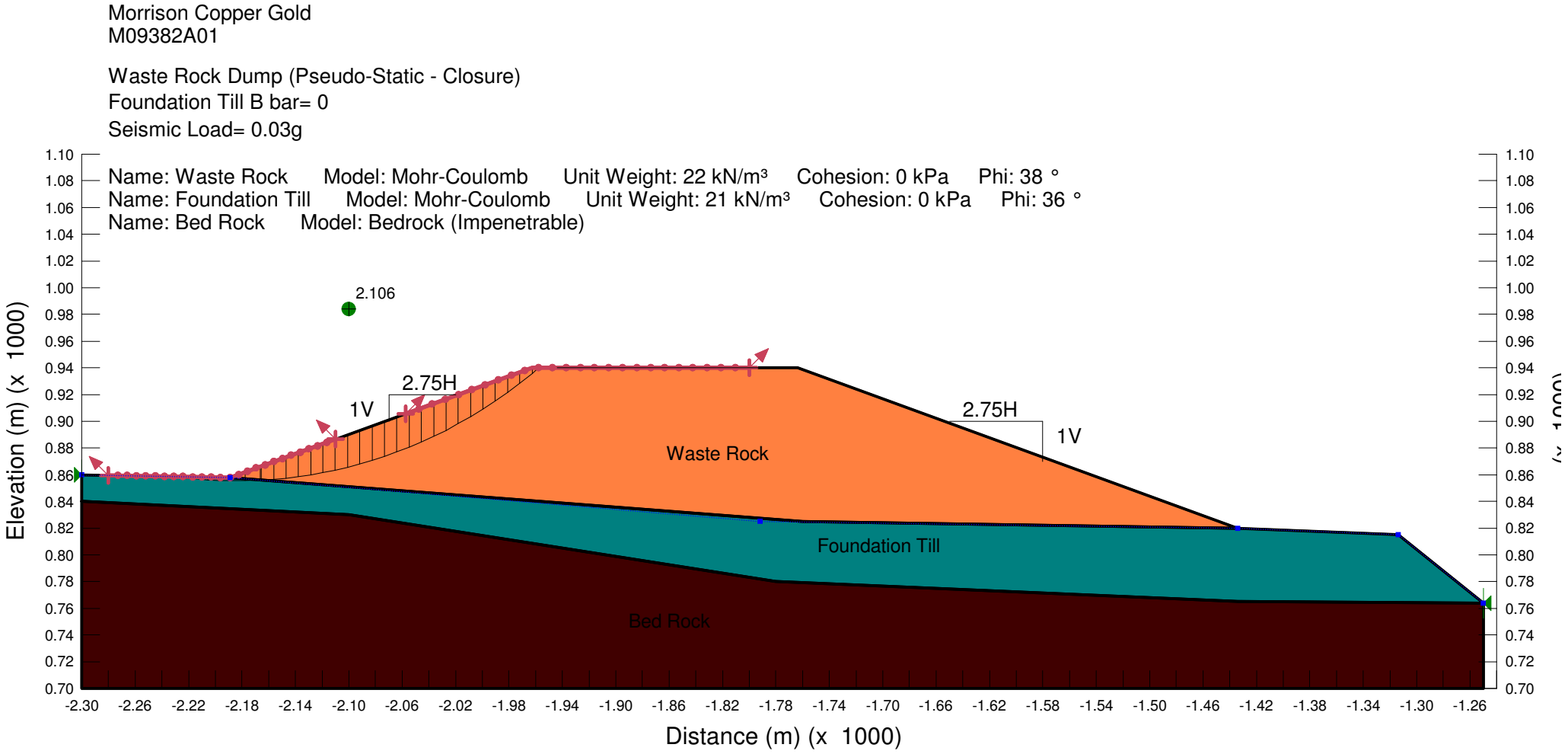


Figure VII-4.8 Section A-A' Left Slope

Morrison Copper Gold
M09382A01

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

Waste Rock Dump (Static - Operations)
Foundation Till B bar = 0.4
Seismic Load = 0 g

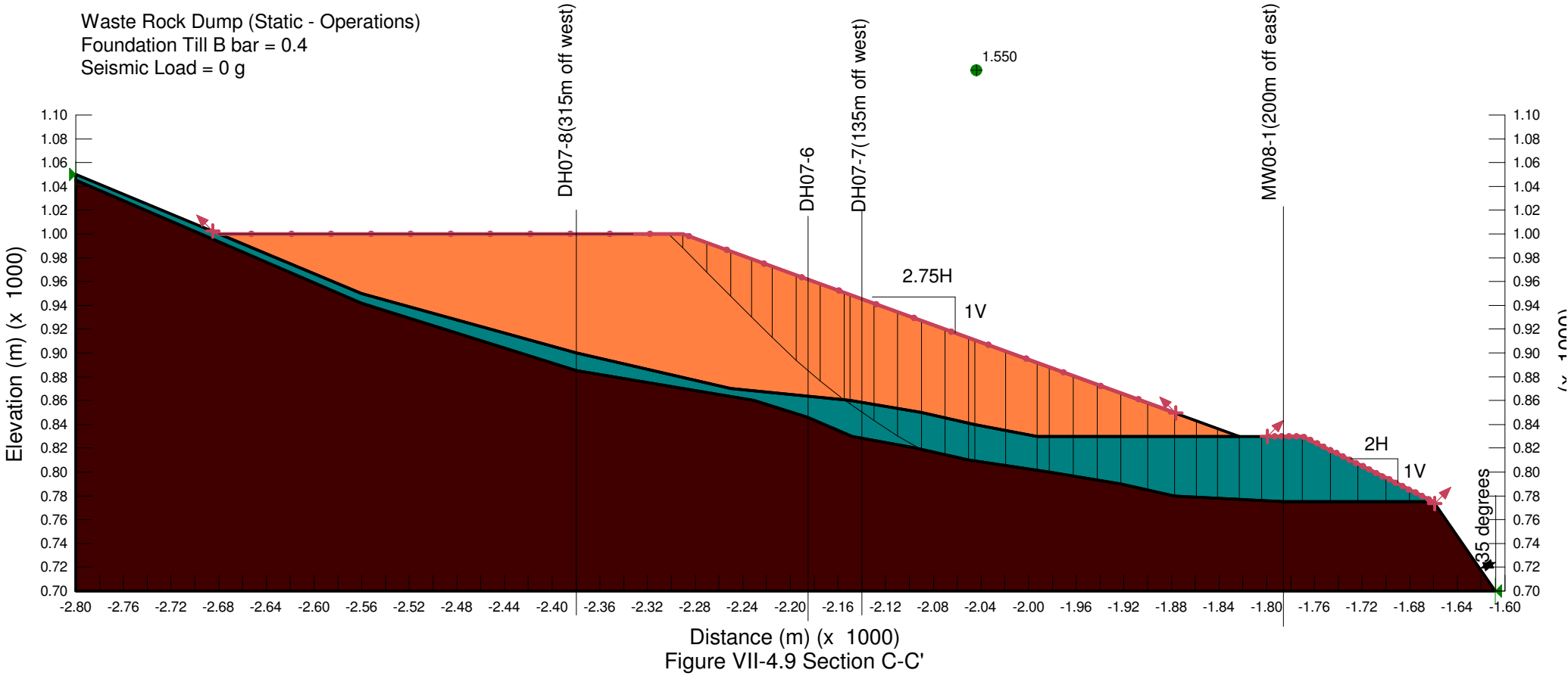


Figure VII-4.9 Section C-C'

Morrison Copper Gold
M09382A01

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

Waste Rock Dump (Pseudo-Static - Operations)
Foundation Till B bar = 0.4
Seismic Load = 0.03 g

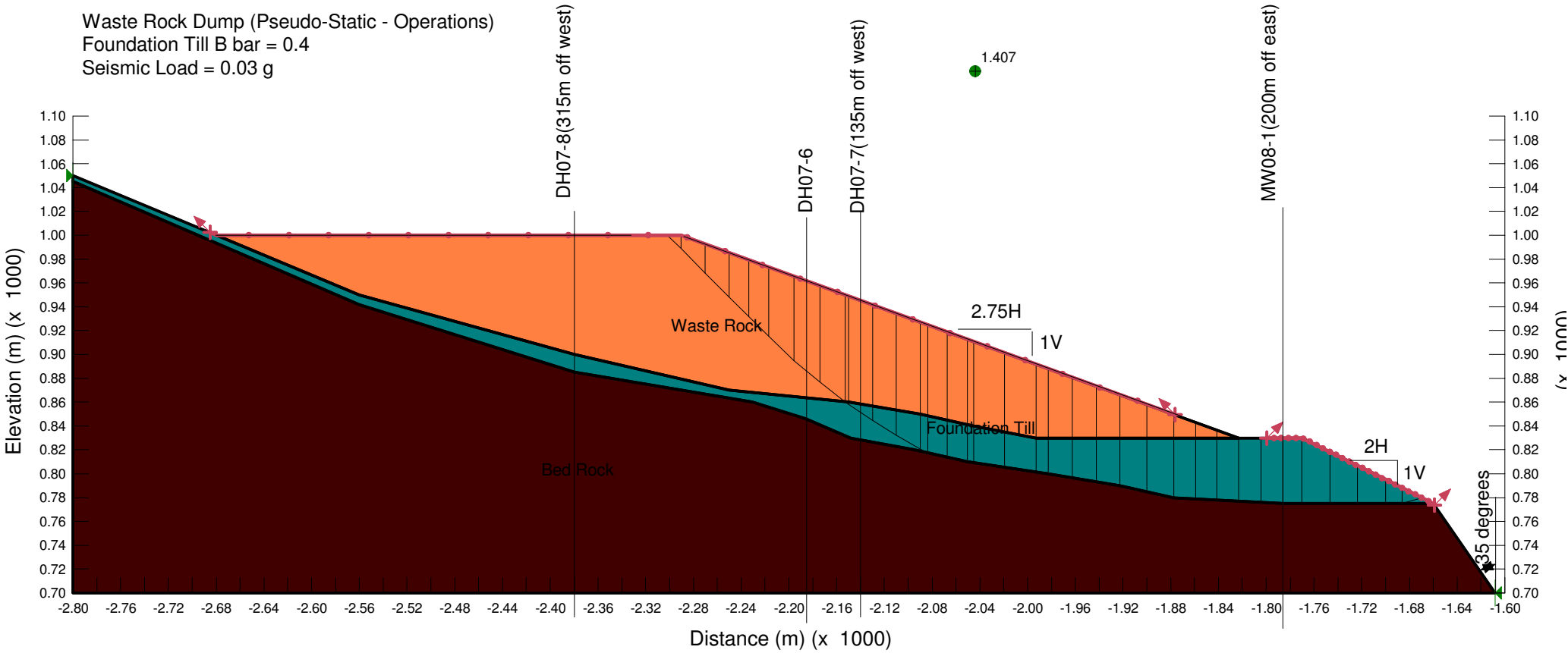


Figure VII-4.10 Section C-C'

Morrison Copper Gold
M09382A01

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

Waste Rock Dump (Static - Closure)
Foundation Till B bar = 0
Seismic Load = 0 g

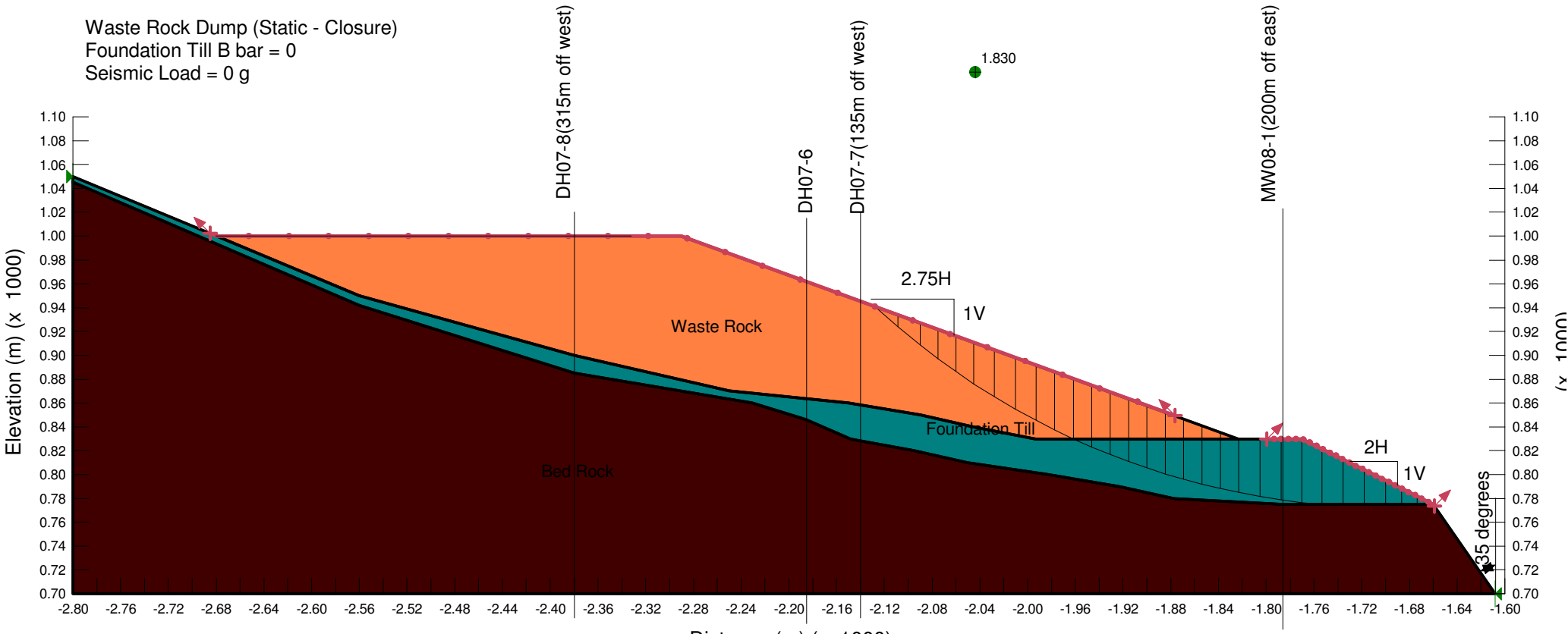


Figure VII-4.11 Section C-C'

Morrison Copper Gold
M09382A01

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

Waste Rock Dump (Pseudo-Static - Closure)
Foundation Till B Bar = 0
Seismic Load = 0.03 g

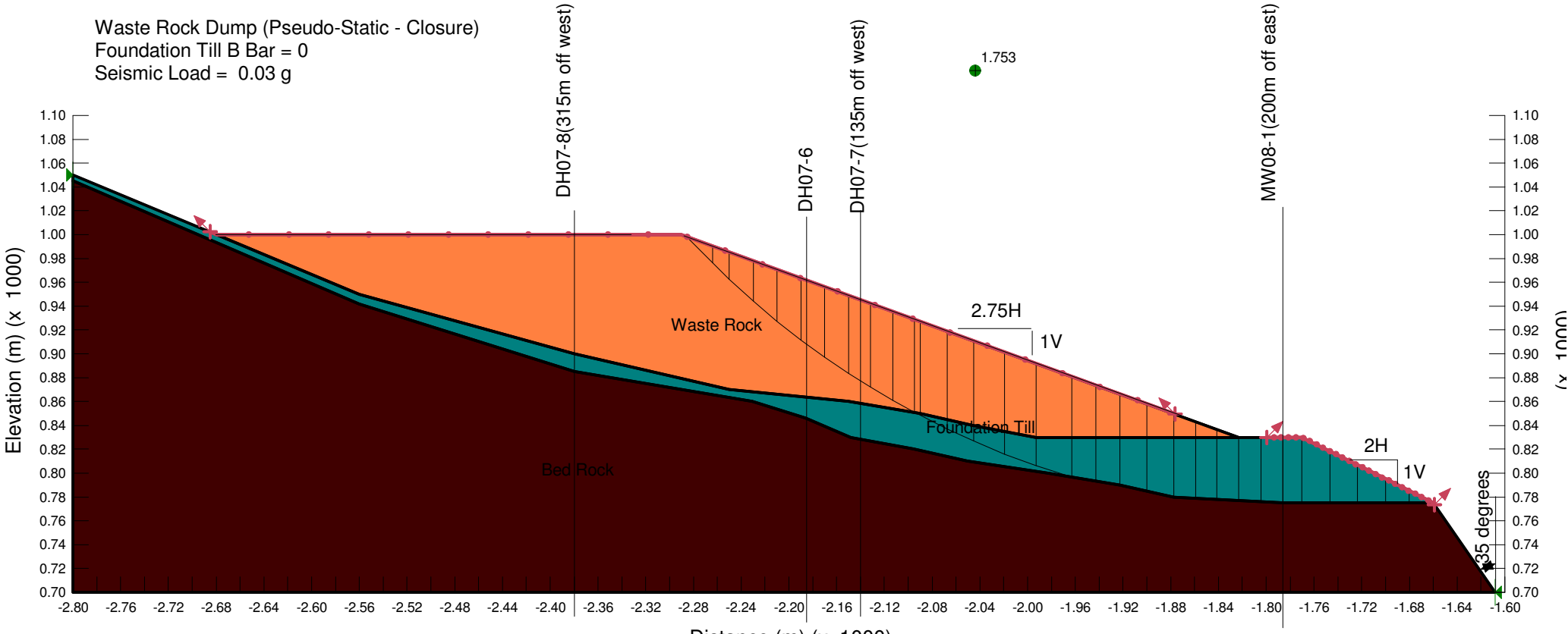


Figure VII-4.12 Section C-C'

Morrison Copper Gold
M09382A01

Waste Rock Dump (Static - Operations)
Foundation Till B bar = 0.4
Seismic Load = 0 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

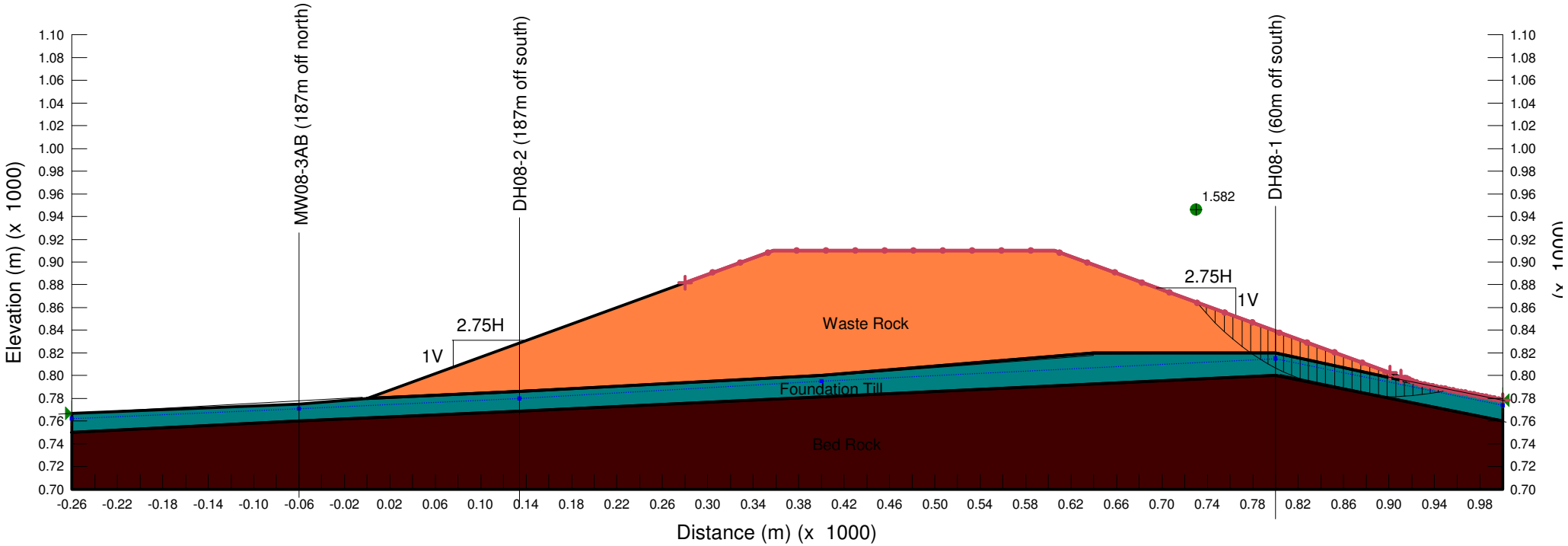


Figure VII-4.13 Section D-D' Right Slope

Morrison Copper Gold
M09382A01

Waste Rock Dump (Pseudo-Static - Operations)
Foundation Till B bar = 0.4
Seismic Load = 0.03 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

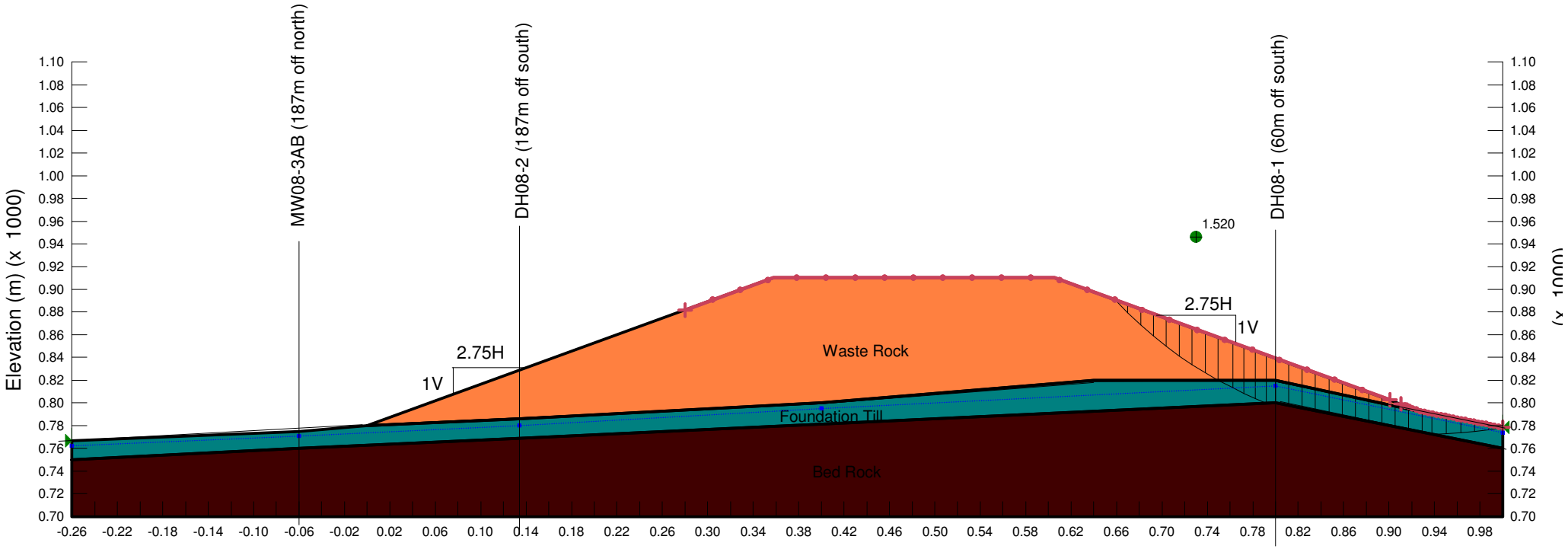


Figure VII-4.14 Section D-D' Right Slope

Morrison Copper Gold
M09382A01

Waste Rock Dump (Static - Closure)
Foundation Till B bar = 0.4
Seismic Load = 0 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

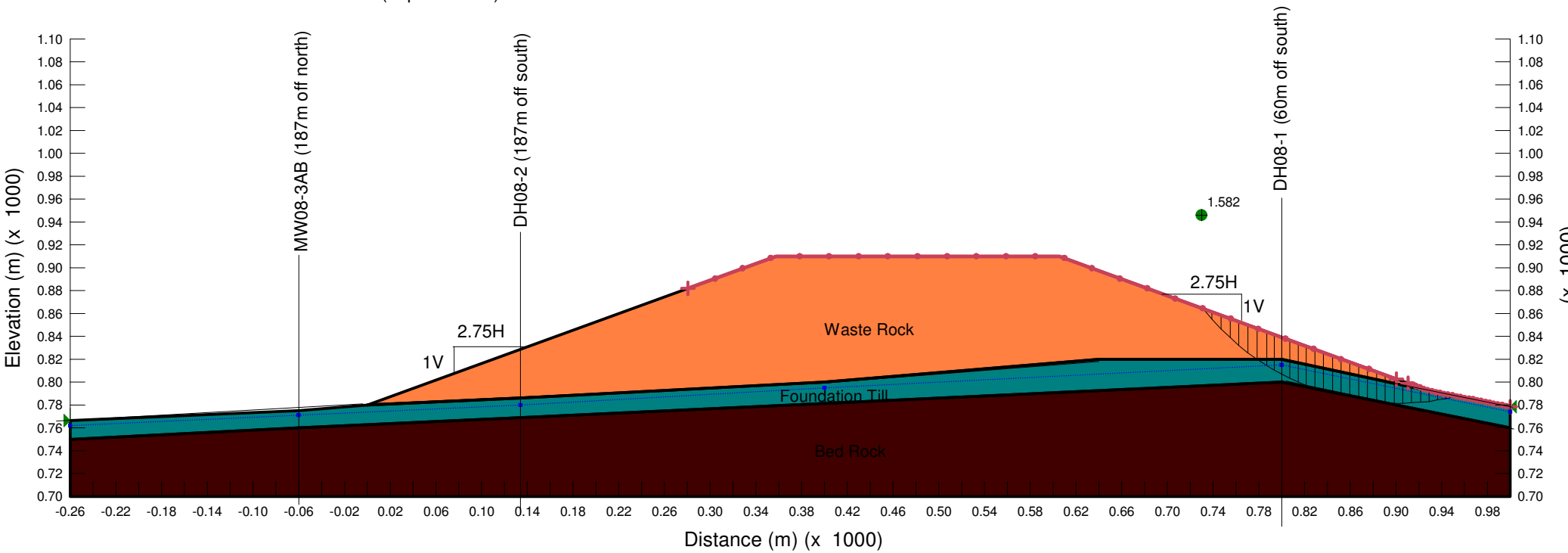


Figure VII-4.15 Section D-D' Right Slope

Morrison Copper Gold
M09382A01

Waste Rock Dump (Pseudo-Static - Closure)
Foundation Till B bar = 0
Seismic Load = 0.03 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

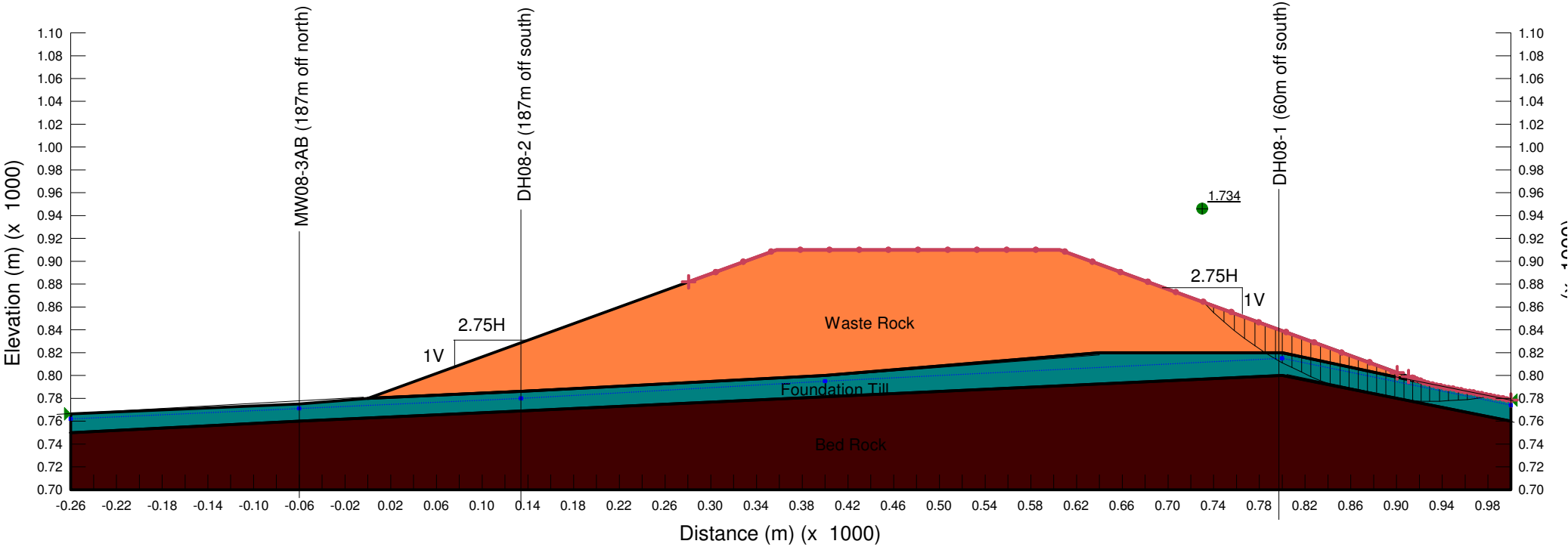


Figure VII-4.16 Section D-D' Right Slope

Morrison Copper Gold
M09382A01

Waste Rock Dump (Static - Operations)
Foundation Till B bar = 0.4
Seismic Load = 0 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

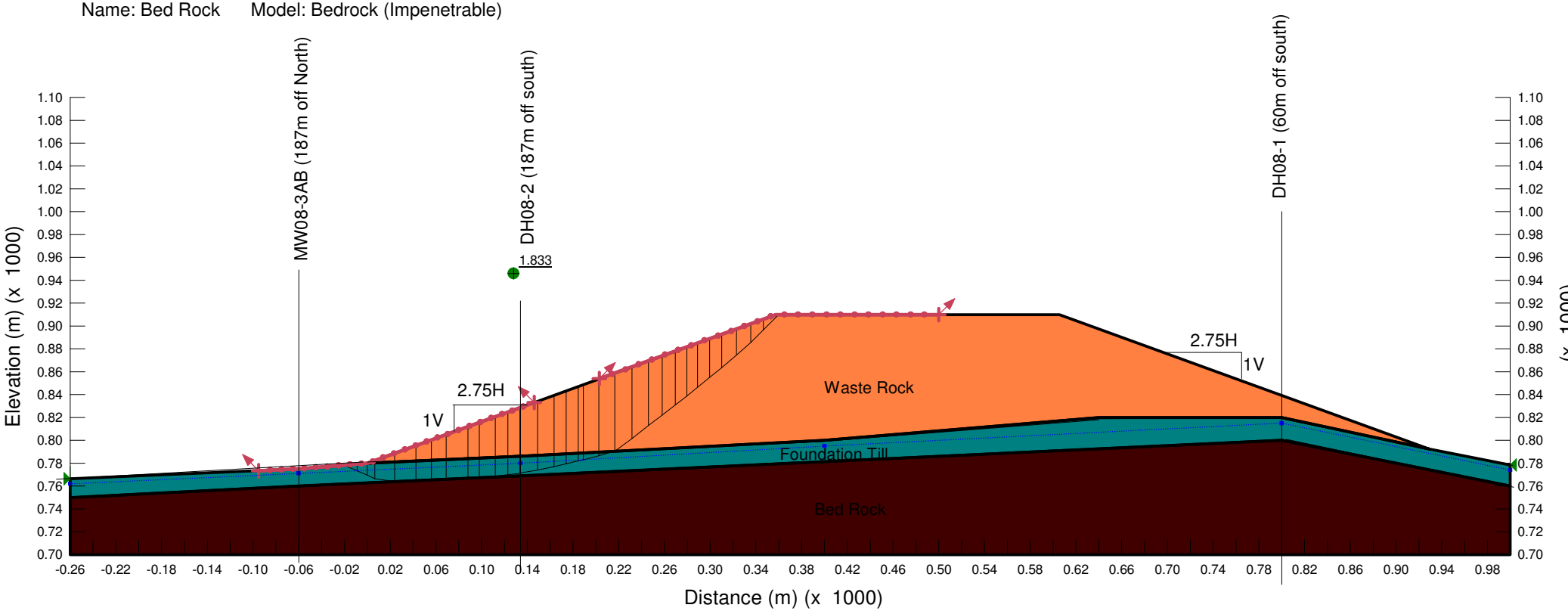


Figure VII-4.17 Section D-D' Left Slope

Morrison Copper Gold
M09382A01

Waste Rock Dump (Pseudo-Static - Operations)
Foundation Till B bar = 0.4
Seismic Load = 0.03 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

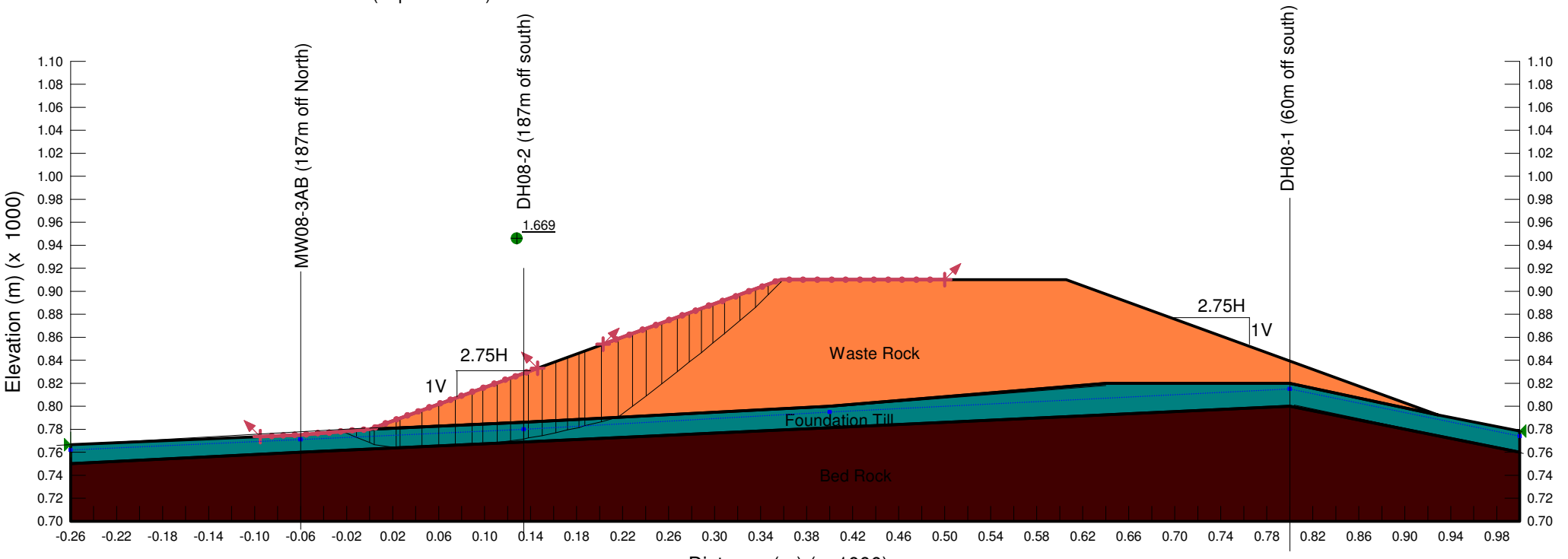


Figure VII-4.18 Section D-D' Left Slope

Morrison Copper Gold
M09382A01

Waste Rock Dump (Static - Closure)
Foundation Till B bar = 0
Seismic Load = 0 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

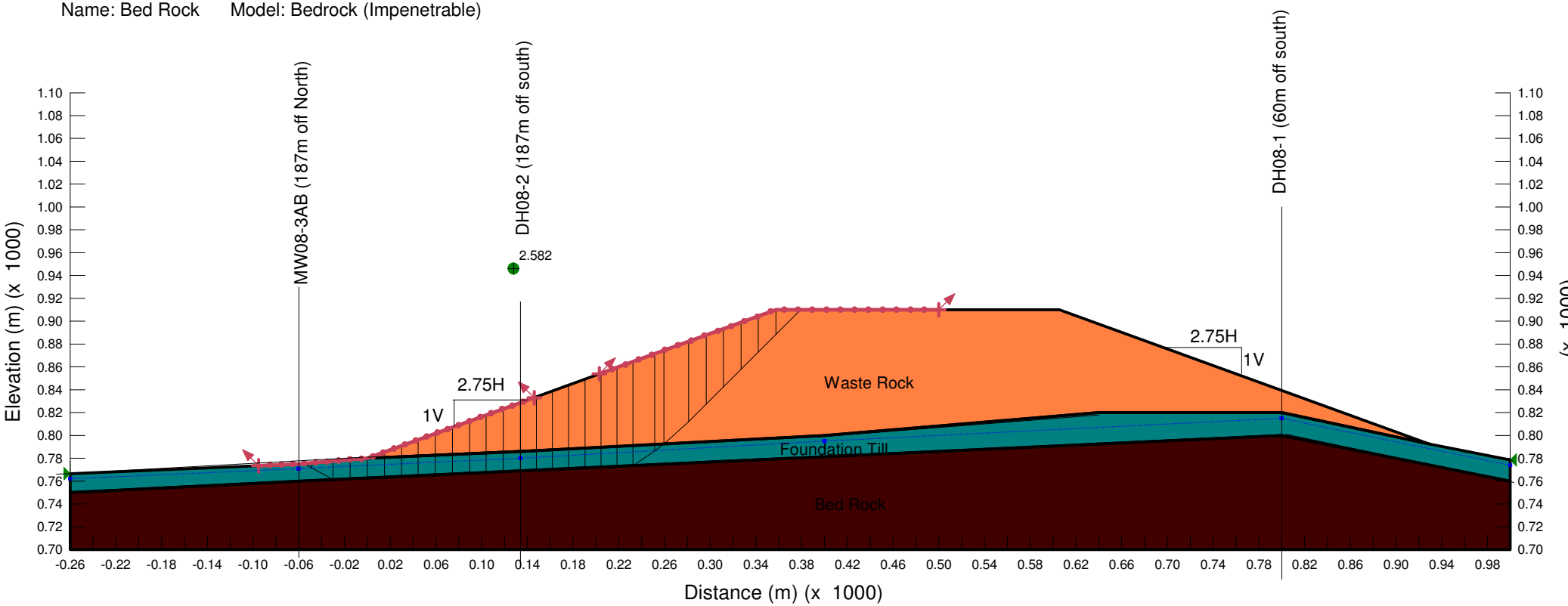


Figure VII-4.19 Section D-D' Left Slope

Morrison Copper Gold
M09382A01

Waste Rock Dump (Pseudo-Static - Closure)
Foundation Till B bar = 0
Seismic Load = 0.03 g

Name: Waste Rock Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 38 °
Name: Foundation Till Model: Mohr-Coulomb Unit Weight: 21 kN/m³ Cohesion: 0 kPa Phi: 36 °
Name: Bed Rock Model: Bedrock (Impenetrable)

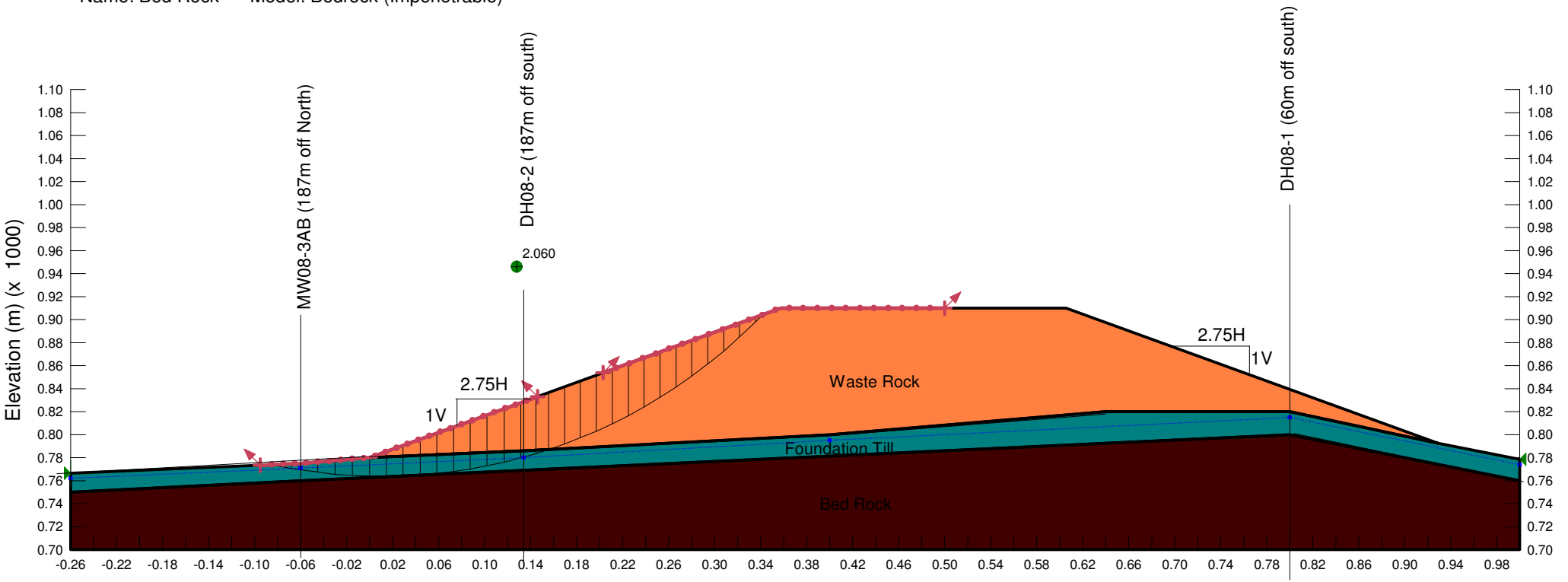


Figure VII-4.20 Section D-D' Left Slope

APPENDIX VIII

Seepage Analyses

(x 1000)

0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 5.0

Figure VIII-2 Seepage Model A: Till layer Present Below main Dam Foundation

1, Tailing(above existing grade) K=1E-6 m/s
2, Glacial Till K=1E-8 m/s
3, Shallow Fractured Bedrock(<35m deep, Easterly Unit) K=6.5E-7 m/s
4, Shallow Fractured Bedrock(<35m deep, South-Westerly Unit) K=9.5 E-7 m/s
5, Deep Fractured Bedrock(35m to 50 m deep) K=3E-7 m/s
6, Deep Bedrock-No Flow Boundary

East

South-West

Unit Flux 1.25E-9m/s/m from Precipitation Across the Surface of the Section

1.3984e-006 (m³/sec)

Constant Head 1015 m in the Tailing Impondment

2.2133e-006 (m³/sec)

Main Dam Crest El =1015m

2.3949e-006 (m³/sec)

Elevation (m) (x 1000)

2.2 2.1 2.0 1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2 1.1 1.0 0.9 0.8 0.7 0.6

Length (m) (x 1000)

Figure VIII-3 Seepage Model B: Till Layer Absent Below Main Dam Foundation

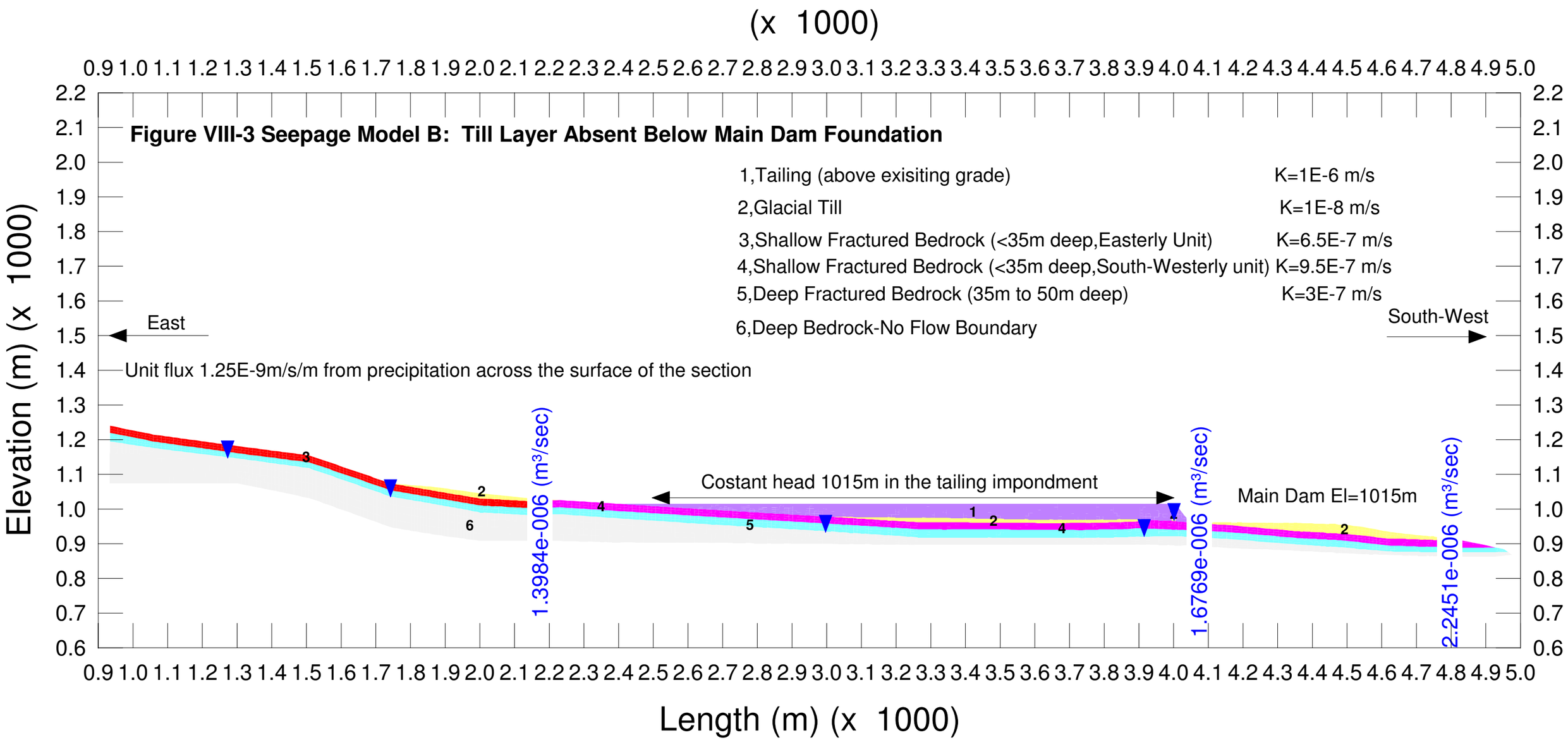


Figure VIII-4 Basiline Model A: Till Layer Present at the Main Dam Location

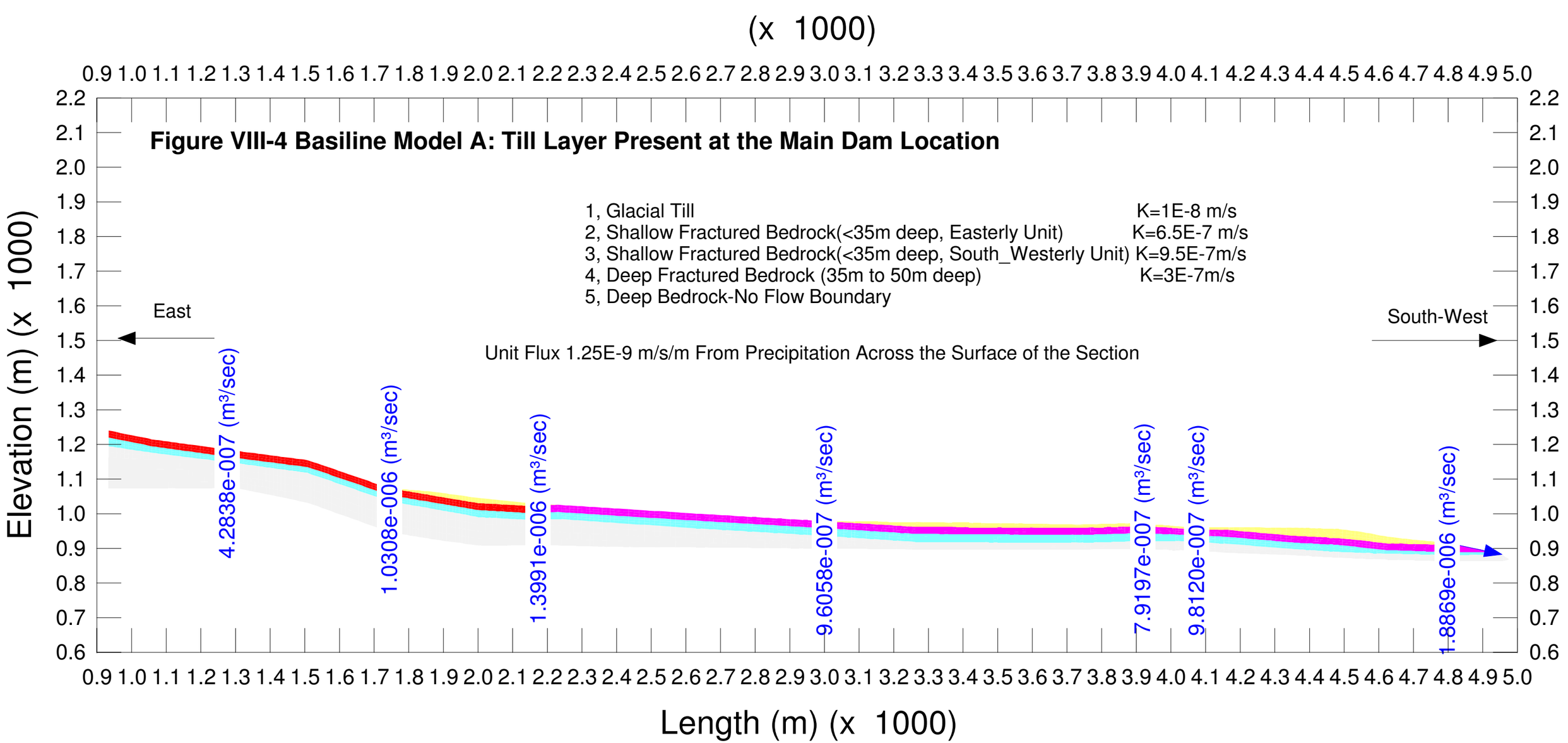
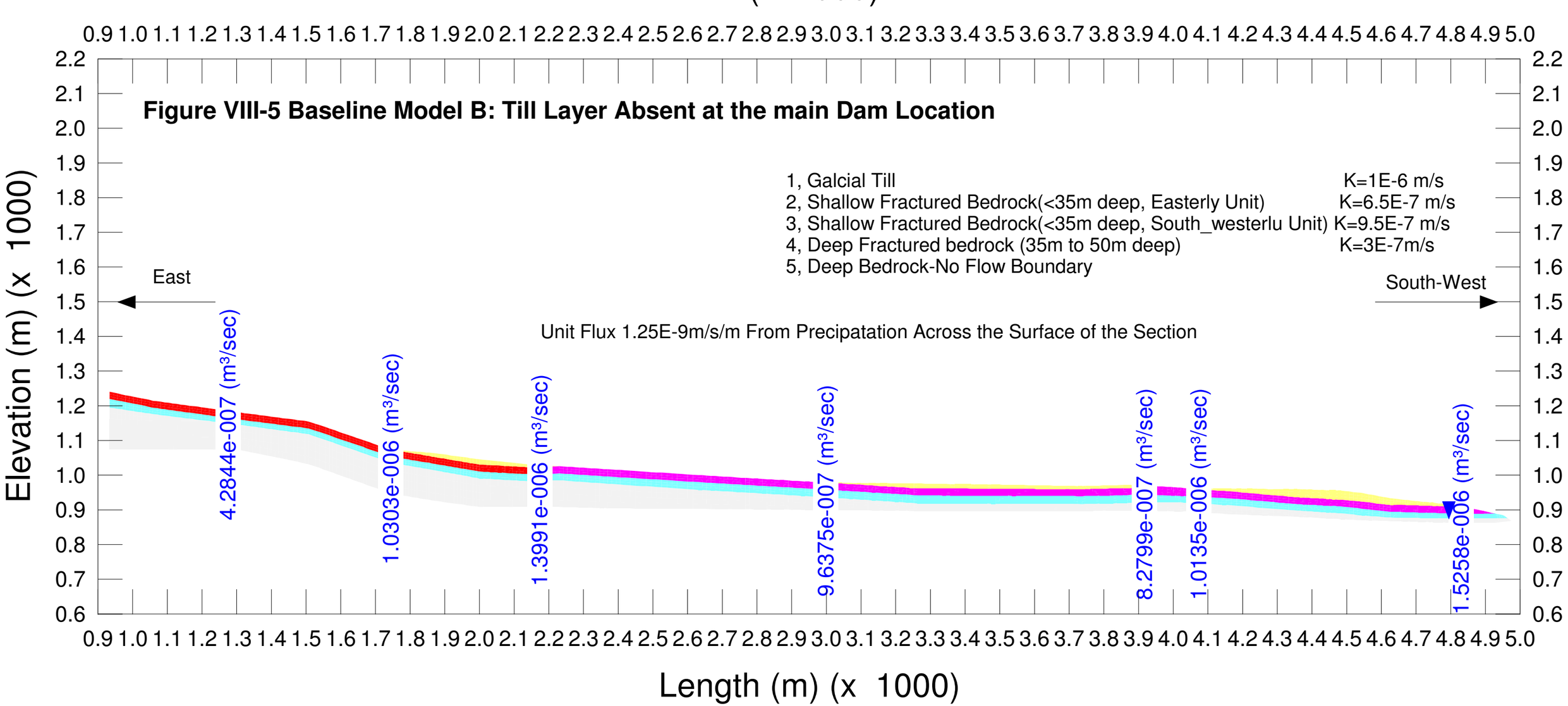


Figure VIII-5 Baseline Model B: Till Layer Absent at the main Dam Location



APPENDIX IX

Water Balance

- Summary Data
- Starter Dam – Average Conditions
- Mid-Operations – Average Conditions
- Pre-Closure – Average Conditions
- Post-Closure – Average Conditions
- Starter Dam – Dry Year Conditions

MORRISON COPPER/GOLD PROJECT - SITE B

WATER BALANCE DATA SUMMARY

Mine Data

Tailings Starter Dry Density	1.3	t/m^3
Tailings Final Dry Density	1.5	t/m^3

*Not used for calculation

Tailings into TSF impoundment	Daily tonnage (tpd)	% Solids Transport	Starter	Year 10	Ultimate
Direct Discharge	30,000	33.9%	72%	74%	76%
Cyclone Underflow	7,248	72.0%	85%	85%	85%
Cyclone Overflow	22,752	27.5%	70%	74%	76%
Expected Mine Life	20	yr			

Meteorlogical Data

30 Day PMF	500	mm
Annual Precipitation	550	mm
Annual Lake Evaporatio	389	mm

Seepage Data

Seepage Rate	0.01	l/s·m
Length of Starter Dam	2100	m
Lenth of Ultimate Dam	5300	m

Cyclone Cyclowash Operation

Cyclone % Underflow Recovery	24.16%
Months of Operation	8
Percent Availability	85%
Annual tonnes cycloned sand produced	1,499,128
(m^3)	967,179

Catchment Area

Runoff Coefficient	0.5	
Final TSF Catchment	4.629	km^2
Ultimate Pond Area	5.132	km^2
Seepage Collection Cat	1.511	km^2

Pit Water

Contaminated pit water m^3/hr	varies

Water Balance Summary

Parameters	Average Annual Flows (m^3/hr) Starter	Operations	Pre-closure	Closure
TSF Water Inputs (m3/hr)				
Whole Tailings Water (direct discharge)	1,062	1,062	1,062	-
Cyclone Overflow Water (85% Operational)	1,416	1,416	1,416	-
Cyclone Underflow (sand) Water (85% Operational)	67	67	67	-
Precipitation on pond	76	261	318	286
Runoff from undiverted catchment	145	19	19	167
Excess Plantsite Catchment runoff	-	-	-	-
Seepage reclaim	4	4	4	-
Subtotal	**2,770**	**2,829**	**2,886**	**454**
TSF Water Losses (m3/hr)				
Pond evapor.	54	184	225	202
Tailing voids	211	190	171	-
Cyclone Overflow Voids	230	189	170	-
Cycloned Sand Voids	30	30	30	-
Seepage	10	10	10	10
Pump to Cyclowash	109	109	109	-
Water reclaim to process plant	2,126	2,031	1,983	-
Subtotal	**2,770**	**2,744**	**2,698**	**212**
Plant Area Water Inputs (m3/hr)				
Water reclaim to process plant (see above)	2,126	2,031	1,983	n/a
Open Pit Dewatering	-	50	100	n/a
Runoff from undiverted catchment	89	134	132	n/a
Seepage from diversion ditch	-	-	-	n/a
Ore Void Water (3% MC)	39	39	39	n/a
Make-up to Freshwater Tank	87	87	87	n/a
Subtotal	**2,409**	**2,409**	**2,409**	**n/a**
Plant Area Water Losses (m3/hr)				
Tailings Transport Water	2,405	2,405	2,405	n/a
Concentrate Load Out	1	1	1	n/a
Freshwater to Potable Water	3	3	3	n/a
Subtotal	**2,409**	**2,409**	**2,409**	**n/a**
Net Balance (m3/hr)	**-**	**84**	**188**	**242**

MORRISON COPPER/GOLD PROJECT
TSF Starter Dam - Average Year Conditions

DATA

Annual Precipitation (mm)	550
Runoff Coefficient	0.5
TSF	
Tailings pond area (sq. km)	1.2
Catchment runoff area (sq.km.)	4.6
Beach area (sq.km)	n/a
Diverted uphill catchment area (sq.km.)	5.5
% Diversion ditch seepage	0
Required Initial Reclaim Pond Volume (m3)	457,000

Process Plant	
Waste Dump/Plant Site Runoff Coefficient	0.7
Processes %Availability	92.0%
Collected Dump/Plant Site Catchement Area (sq.km)	2.0
Collected Open Pit Catchment Area (sq.km)	1.1
Diverted uphill catchment area (sq.km.)	1.7
% Diversion ditch seepage	0
Process Water Tank Volume (cu.m)	2,155
Fresh Water Tank Volume (cu.m)	509

Month	**Jan.**	**Feb**	**March**	**April**	**May**	**June**	**July**	**August**	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Annual**
Mean Monthly Temperature	-12.3	-7.1	-3	2.5	7.7	11.8	14.1	13.4	9.4	3.8	-2.9	-8	
Monthly percent of annual precip.	10%	7%	5%	4%	7%	9%	9%	9%	9%	10%	10%	11%	**100%**
Average Monthly Precipitation (mm)	56.1	38.5	29.7	23.1	37.4	51.7	48.4	46.8	48.4	55.0	56.1	58.9	**550**
Average monthly runoff (% of annual)	5%	4%	4%	3%	10%	20%	16%	12%	8%	6%	6%	6%	**100%**
Monthly Pond Evaporation (mm)	0	0	0	0	77	98	98	79	36	0	0	0	**389**
Incremental ice thickness on pond (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0**
TSF Sand Operating?	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
TSF Water Inputs (m^3/hr)													**Averages**
Whole Tailings Water (direct discharge)	2435	2435	375	375	375	375	375	375	375	375	2435	2435	**1,062**
Cyclone Overflow Water (85% Operational)	0	0	2124	2124	2124	2124	2124	2124	2124	2124	0	0	**1,416**
Cyclone Underflow (sand) Water (85% Operational)	0	0	100	100	100	100	100	100	100	100	0	0	**67**
Precipitation on pond	94	64	50	39	62	86	81	78	81	92	94	98	**76**
Runoff from undiverted catchment	90	76	65	54	176	352	286	203	140	107	96	100	**145**
	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Seepage reclaim	4	4	4	4	4	4	4	4	4	4	4	4	**4**
Subtotal	2623	2580	2717	2696	2842	3041	2970	2884	2823	2802	2629	2637	**2,770**
TSF Water Losses (m^3/hr)													
Pond Evaporation	0	0	0	0	129	164	163	131	60	0	0	0	**54**
Tailing voids	486	486	73	73	73	73	73	73	73	73	486	486	**211**
Cyclone Overflow Voids	0	0	345	345	345	345	345	345	345	345	0	0	**230**
Cycloned Sand Voids	0	0	45	45	45	45	45	45	45	45	0	0	**30**
Seepage	10	10	10	10	10	10	10	10	10	10	10	10	**10**
Pump to Cyclowash	0	0	164	164	164	164	164	164	164	164	0	0	**109**
Water reclaim to process plant 2311	2186	2201	2214	2225	2092	1902	1973	2064	2132	2167	2179	2175	**2,126**
Subtotal	2682	2697	2851	2863	2859	2704	2774	2832	2830	2805	2675	2671	**2,770**
TSF Net water surplus (deficit)	**-59.3**	**-117.1**	**-134.2**	**-167.0**	**-17.2**	**337.5**	**196.2**	**51.1**	**-6.8**	**-3.0**	**-46.3**	**-33.8**	**(0)**
													Net
Incremental Pond Volume Change (m^3)	(42,689)	(84,323)	(96,610)	(120,273)	(12,386)	243,004	141,296	36,789	(4,925)	(2,178)	(33,353)	(24,352)	**(0)**
Reclaim Pond Volume (m^3)	414,311	329,988	233,378	113,105	100,719	343,723	485,019	521,808	516,883	514,705	481,352	457,000	
Process Plant													
Water Inputs (m^3/hr)													**Averages**
Water reclaim to process plant (see above)	2186	2201	2214	2225	2092	1902	1973	2064	2132	2167	2179	2175	**2,126**
Open Pit Groundwater Dewatering	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Precipitation Over Open Pit (Runoff Coef. = 1.0)	43	36	30	26	83	166	135	96	66	51	46	47	**69**
Runoff from undiverted catchment	55	47	40	33	108	216	175	124	86	66	59	61	**89**
Seepage from diversion ditch	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Ore Void Water (3% MC) 42.02	39	39	39	39	39	39	39	39	39	39	39	39	**39**
Make-up to Freshwater Tank 94.18	87	87	87	87	87	87	87	87	87	87	87	87	**87**
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Water Losses (m^3/hr)													
Tailings Transport Water 2613.87	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	**2,405**
Concentrate Load Out 1.58	1	1	1	1	1	1	1	1	1	1	1	1	**1**
Freshwater to Potable Water 3.15	3	3	3	3	3	3	3	3	3	3	3	3	**3**
													-
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Net water surplus (deficit)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**
													Net
Fresh Water to Process Water Tank (m^3/hr)	-	-	-	-	-	-	-	-	-	-	-	-	**-**

MORRISON COPPER/GOLD PROJECT
TSF Main Operation (~Year 10) - Average Year Conditions

DATA

Annual Precipitation (mm)	550
Runoff Coefficient	0.5
TSF	
Tailings pond area (sq. km)	4.1
Catchment runoff area (sq.km.)	0.6
Beach area (sq.km)	n/a
Diverted uphill catchment area (sq.km.)	6.6
% Diversion ditch seepage	0
Initial Reclaim Pond Volume (m3)	527,000

Process Plant	
Waste Dump/Plant Site Runoff Coefficient	0.7
Processes %Availability	92.0%
Collected Dump/Plant Site Catchment Area (sq.km)	3.0
Collected Open Pit Catchement Area (sq.km)	1.1
Diverted uphill catchment area (sq.km.)	1.7
% Diversion ditch seepage	0
Process Water Tank Volume (cu.m)	2,155
Fresh Water Tank Volume (cu.m)	509

Month	**Jan.**	**Feb**	**March**	**April**	**May**	**June**	**July**	**August**	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Annual**
Mean Monthly Temperature	-12.3	-7.1	-3	2.5	7.7	11.8	14.1	13.4	9.4	3.8	-2.9	-8	
Monthly percent of annual precip.	10%	7%	5%	4%	7%	9%	9%	9%	9%	10%	10%	11%	**100%**
Average Monthly Precipitation (mm)	56.1	38.5	29.7	23.1	37.4	51.7	48.4	46.8	48.4	55.0	56.1	58.9	**550**
Average monthly runoff (% of annual)	5%	4%	4%	3%	10%	20%	16%	12%	8%	6%	6%	6%	**100%**
Monthly Pond Evaporation (mm)	0	0	0	0	77	98	98	79	36	0	0	0	**389**
Incremental ice thickness on pond (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0**
TSF Sand Operating?	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
TSF Water Inputs (m^3/hr)													**Averages**
Whole Tailings Water (direct discharge)	2435	2435	375	375	375	375	375	375	375	375	2435	2435	**1,062**
Cyclone Overflow Water (85% Operational)	0	0	2124	2124	2124	2124	2124	2124	2124	2124	0	0	**1,416**
Cyclone Underflow (sand) Water (85% Operational)	0	0	100	100	100	100	100	100	100	100	0	0	**67**
Precipitation on pond	319	219	169	132	213	294	276	266	276	313	319	335	**261**
Runoff from undiverted catchment	12	10	8	7	23	46	38	27	18	14	13	13	**19**
Excess Plantsite Catchment runoff	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Seepage reclaim	4	4	4	4	4	4	4	4	4	4	4	4	**4**
Subtotal	2770	2668	2781	2742	2839	2944	2916	2896	2897	2930	2771	2787	**2,829**
TSF Water Losses (m^3/hr)													
Pond evapor.	0	0	0	0	441	560	558	447	206	0	0	0	**184**
Tailing voids	439	439	66	66	66	66	66	66	66	66	439	439	**190**
Cyclone Overflow Voids	0	0	283	283	283	283	283	283	283	283	0	0	**189**
Cycloned Sand Voids	0	0	45	45	45	45	45	45	45	45	0	0	**30**
Seepage	10	10	10	10	10	10	10	10	10	10	10	10	**10**
Pump to Cyclowash	0	0	164	164	164	164	164	164	164	164	0	0	**109**
Water reclaim to process plant 2208	2108	2127	2144	2159	1988	1744	1835	1952	2040	2085	2100	2094	**2,031**
Subtotal	2558	2577	2712	2727	2997	2873	2962	2968	2814	2653	2549	2544	**2,744**
TSF Net water surplus (deficit)	**212.9**	**91.9**	**68.4**	**14.9**	**-158.3**	**70.8**	**-45.4**	**-71.7**	**83.2**	**277.5**	**222.4**	**243.8**	**84**
													Net
Incremental Pond Volume Change (m^3)	153,284	66,142	49,265	10,707	(113,946)	50,954	(32,710)	(51,654)	59,885	199,788	160,102	175,541	**727,359**
Reclaim Pond Volume (m^3)	680,284	746,426	795,691	806,398	692,452	743,406	710,696	659,043	718,928	918,716	1,078,818	1,254,359	
Process Plant													
Water Inputs (m^3/hr)													**Averages**
Water reclaim to process plant (see above)	2108	2127	2144	2159	1988	1744	1835	1952	2040	2085	2100	2094	**2,031**
Open Pit Groundwater Dewatering	50	50	50	50	50	50	50	50	50	50	50	50	**50**
Precipitation Over Open Pit (Runoff Coef. = 1.0)	43	36	30	26	83	166	135	96	66	51	46	47	**69**
Runoff from undiverted catchment	83	70	59	50	162	323	263	186	128	99	89	92	**134**
Seepage from diversion ditch	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Ore Void Water (3% MC) 42.02	39	39	39	39	39	39	39	39	39	39	39	39	**39**
Make-up to Freshwater Tank 94.18	87	87	87	87	87	87	87	87	87	87	87	87	**87**
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Water Losses (m^3/hr)													
Tailings Transport Water 2613.87	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	**2,405**
Concentrate Load Out 1.58	1	1	1	1	1	1	1	1	1	1	1	1	**1**
Freshwater to Potable Water 3.15	3	3	3	3	3	3	3	3	3	3	3	3	**3**
													-
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Net water surplus (deficit)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**
													Net
Fresh Water to Process Water Tank (m^3/hr)	-	-	-	-	-	-	-	-	-	-	-	-	**-**

MORRISON COPPER/GOLD PROJECT
TSF Prior to Closure (Year 20) - Average Year Conditions

DATA

Annual Precipitation (mm)	550
Runoff Coefficient	0.5
TSF	
Tailings pond area (sq. km)	5.0
Catchment runoff area (sq.km.)	0.6
Beach area (sq.km)	n/a
Diverted uphill catchment area (sq.km.)	5.7
% Diversion ditch seepage	0
Initial Reclaim Pond Volume (m3)	720,000

Process Plant	
Waste Dump/Plant Site Runoff Coefficient	0.7
Processes %Availability	92.0%
Collected Dump/Plant Site Catchement Area (sq.km)	3.0
Collected Open Pit Catchment Area (sq.km)	1.1
Diverted uphill catchment area (sq.km.)	1.7
% Diversion ditch seepage	0
Process Water Tank Volume (cu.m)	2,155
Fresh Water Tank Volume (cu.m)	509

Month	**Jan.**	**Feb**	**March**	**April**	**May**	**June**	**July**	**August**	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Annual**
Mean Monthly Temperature	-12.3	-7.1	-3	2.5	7.7	11.8	14.1	13.4	9.4	3.8	-2.9	-8	
Monthly percent of annual precip.	10%	7%	5%	4%	7%	9%	9%	9%	9%	10%	10%	11%	**100%**
Average Monthly Precipitation (mm)	56.1	38.5	29.7	23.1	37.4	51.7	48.4	46.8	48.4	55.0	56.1	58.9	**550**
Average monthly runoff (% of annual)	5%	4%	4%	3%	10%	20%	16%	12%	8%	6%	6%	6%	**100%**
Monthly Pond Evaporation (mm)	0	0	0	0	77	98	98	79	36	0	0	0	**389**
Incremental ice thickness on pond (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0**
TSF Sand Operating?	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
TSF Water Inputs (m^3/hr)													**Averages**
Whole Tailings Water (direct discharge)	2435	2435	375	375	375	375	375	375	375	375	2435	2435	**1,062**
Cyclone Overflow Water (85% Operational)	0	0	2124	2124	2124	2124	2124	2124	2124	2124	0	0	**1,416**
Cyclone Underflow (sand) Water (85% Operational)	0	0	100	100	100	100	100	100	100	100	0	0	**67**
Precipitation on pond	390	267	206	160	260	359	336	325	336	382	390	409	**318**
Runoff from undiverted catchment	12	10	8	7	23	46	38	27	18	14	13	13	**19**
	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Seepage reclaim	4	4	4	4	4	4	4	4	4	4	4	4	**4**
Subtotal	2841	2717	2818	2771	2886	3008	2977	2954	2958	2999	2841	2861	**2,886**
TSF Water Losses (m^3/hr)													
Pond evapor.	0	0	0	0	538	683	681	546	251	0	0	0	**225**
Tailing voids	395	395	59	59	59	59	59	59	59	59	395	395	**171**
Cyclone Overflow Voids	0	0	254	254	254	254	254	254	254	254	0	0	**170**
Cycloned Sand Voids	0	0	45	45	45	45	45	45	45	45	0	0	**30**
Seepage	10	10	10	10	10	10	10	10	10	10	10	10	**10**
Pump to Cyclowash	0	0	164	164	164	164	164	164	164	164	0	0	**109**
Water reclaim to process plant 2155	2059	2078	2095	2109	1940	1697	1788	1904	1991	2036	2051	2045	**1,983**
Subtotal	2464	2483	2628	2642	3011	2914	3002	2982	2775	2569	2455	2450	**2,698**
TSF Net water surplus (deficit)	**376.6**	**233.7**	**190.3**	**128.6**	**-124.6**	**94.5**	**-24.8**	**-28.1**	**182.5**	**430.6**	**386.1**	**410.9**	**188**
													Net
Incremental Pond Volume Change (m^3)	271,183	168,292	137,001	92,572	(89,690)	68,014	(17,837)	(20,206)	131,396	310,012	277,960	295,849	**1,624,546**
Reclaim Pond Volume (m^3)	991,183	1,159,475	1,296,476	1,389,048	1,299,358	1,367,373	1,349,536	1,329,330	1,460,725	1,770,737	2,048,697	2,344,546	
Process Plant													
Water Inputs (m^3/hr)													**Averages**
Water reclaim to process plant (see above)	2059	2078	2095	2109	1940	1697	1788	1904	1991	2036	2051	2045	**1,983**
Open Pit Groundwater Dewatering	100	100	100	100	100	100	100	100	100	100	100	100	**100**
Precipitation Over Open Pit (Runoff Coef. = 1.0)	43	36	30	26	83	166	135	96	66	51	46	47	**69**
Runoff from undiverted catchment	82	70	59	49	160	320	261	184	127	98	88	91	**132**
Seepage from diversion ditch	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Ore Void Water (3% MC) 42.02	39	39	39	39	39	39	39	39	39	39	39	39	**39**
Make-up to Freshwater Tank 94.18	87	87	87	87	87	87	87	87	87	87	87	87	**87**
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Water Losses (m^3/hr)													
Tailings Transport Water 2613.87	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	**2,405**
Concentrate Load Out 1.58	1	1	1	1	1	1	1	1	1	1	1	1	**1**
Freshwater to Potable Water 3.15	3	3	3	3	3	3	3	3	3	3	3	3	**3**
													-
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Net water surplus (deficit)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**
													Net
Fresh Water to Process Water Tank (m^3/hr)	-	-	-	-	-	-	-	-	-	-	-	-	**-**

MORRISON COPPER/GOLD PROJECT

TSF Closure - Average Year Conditions

DATA

Annual Precipitation (mm)	550
Runoff Coefficient	0.5
TSF	
Tailings pond area (sq. km)	4.5
Catchment runoff area (sq.km.)	5.3
Beach area (sq.km)	n/a
Diverted uphill catchment area (sq.km.)	0.0
% Diversion ditch seepage	0
Initial Reclaim Pond Volume (m3)	0

Process Plant	
Waste Dump/Plant Site Runoff Coefficient	0.7
Processes %Availability	92.0%
Collected Dump/Plant Site Catchement Area (sq.km)	3.0
Collected Open Pit Catchement Area (sq.km)	1.1
Diverted uphill catchment area (sq.km.)	1.7
% Diversion ditch seepage	0
Process Water Tank Volume (cu.m)	2,155
Fresh Water Tank Volume (cu.m)	509

Month	Jan.	Feb	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Annual
Mean Monthly Temperature	-12.3	-7.1	-3	2.5	7.7	11.8	14.1	13.4	9.4	3.8	-2.9	-8	
Monthly percent of annual precip.	10%	7%	5%	4%	7%	9%	9%	9%	9%	10%	10%	11%	**100%**
Average Monthly Precipitation (mm)	56.1	38.5	29.7	23.1	37.4	51.7	48.4	46.8	48.4	55.0	56.1	58.9	**550**
Average monthly runoff (% of annual)	5%	4%	4%	3%	10%	20%	16%	12%	8%	6%	6%	6%	**100%**
Monthly Pond Evaporation (mm)	0	0	0	0	77	98	98	79	36	0	0	0	**389**
Incremental ice thickness on pond (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0**
TSF Sand Operating?	No	No	No	No	No	No	No	No	No	No	No	No	
TSF Water Inputs (m^3/hr)													**Averages**
Whole Tailings Water (direct discharge)	0	0	0	0	0	0	0	0	0	0	0	0	-
Cyclone Overflow Water (85% Operational)	0	0	0	0	0	0	0	0	0	0	0	0	-
Cyclone Underflow (sand) Water (85% Operational)	0	0	0	0	0	0	0	0	0	0	0	0	-
Precipitation on pond	351	241	186	144	234	323	303	292	303	344	351	368	**286**
Runoff from undiverted catchment	104	88	74	62	203	405	330	233	161	123	111	115	**167**
Excess Plantsite Catchment runoff	0	0	0	0	0	0	0	0	0	0	0	0	-
Seepage reclaim	0	0	0	0	0	0	0	0	0	0	0	0	-
Subtotal	454	329	260	207	437	728	632	525	463	467	462	483	**454**
TSF Water Losses (m^3/hr)													
Pond evapor.	0	0	0	0	484	615	613	491	226	0	0	0	**202**
Tailing voids	0	0	0	0	0	0	0	0	0	0	0	0	-
Cyclone Overflow Voids	0	0	0	0	0	0	0	0	0	0	0	0	-
Cycloned Sand Voids	0	0	0	0	0	0	0	0	0	0	0	0	-
Seepage	10	10	10	10	10	10	10	10	10	10	10	10	**10**
Pump to Cyclowash	0	0	0	0	0	0	0	0	0	0	0	0	-
Water reclaim to process plant 0	0	0	0	0	0	0	0	0	0	0	0	0	-
Subtotal	10	10	10	10	494	625	623	501	236	10	10	10	**212**
TSF Net water surplus (deficit)	**444.4**	**318.7**	**249.9**	**196.6**	**-57.1**	**103.0**	**9.5**	**24.2**	**227.0**	**457.2**	**451.6**	**473.1**	**242**
													Net
Incremental Pond Volume Change (m^3)	319,970	229,445	179,928	141,537	(41,096)	74,157	6,838	17,454	163,474	329,149	325,124	340,646	**2,086,626**
Reclaim Pond Volume (m^3)	319,970	549,415	729,343	870,881	829,785	903,942	910,780	928,233	1,091,707	1,420,856	1,745,980	2,086,626	

MORRISON COPPER/GOLD PROJECT
TSF Starter Dam - ~20-year Dry Year Conditions

DATA

Annual Precipitation (mm)	357.5	65%
Runoff Coefficient	0.5	of average
TSF		
Tailings pond area (sq. km)	1.2	
Catchment runoff area (sq.km.)	9.6	
Beach area (sq.km)	n/a	
Diverted uphill catchment area (sq.km.)	0.5	
% Diversion ditch seepage	0	
Initial Reclaim Pond Volume (m3)	443,000	

Process Plant	
Waste Dump/Plant Site Runoff Coefficient	0.7
Processes %Availability	92.0%
Collected Dump/Plant Site Catchement Area (sq.km)	3.0
Collected Open Pit Catchement Area (sq.km)	1.1
Diverted uphill catchment area (sq.km.)	1.7
% Diversion ditch seepage	0
Process Water Tank Volume (cu.m)	2,155
Fresh Water Tank Volume (cu.m)	509

Month	**Jan.**	**Feb**	**March**	**April**	**May**	**June**	**July**	**August**	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Annual**
Mean Monthly Temperature	-12.3	-7.1	-3	2.5	7.7	11.8	14.1	13.4	9.4	3.8	-2.9	-8	
Monthly percent of annual precip.	10%	7%	5%	4%	7%	9%	9%	9%	9%	10%	10%	11%	**100%**
Average Monthly Precipitation (mm)	36.5	25.0	19.3	15.0	24.3	33.6	31.5	30.4	31.5	35.8	36.5	38.3	**358**
Average monthly runoff (% of annual)	5%	4%	4%	3%	10%	20%	16%	12%	8%	6%	6%	6%	**100%**
Monthly Pond Evaporation (mm)	0	0	0	0	77	98	98	79	36	0	0	0	**389**
Incremental ice thickness on pond (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0**
TSF Sand Operating?	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	
TSF Water Inputs (m^3/hr)													**Averages**
Whole Tailings Water (direct discharge)	2435	2435	375	375	375	375	375	375	375	375	2435	2435	**1,062**
Cyclone Overflow Water (85% Operational)	0	0	2124	2124	2124	2124	2124	2124	2124	2124	0	0	
Cyclone Underflow (sand) Water (85% Operational)	0	0	100	100	100	100	100	100	100	100	0	0	**67**
Precipitation on pond	61	42	32	25	41	56	52	51	52	60	61	64	**50**
Runoff from undiverted catchment	123	104	88	74	241	480	391	276	190	146	131	137	**198**
Excess Plantsite Catchment runoff	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Seepage reclaim	4	4	4	4	4	4	4	4	4	4	4	4	**4**
Subtotal	2623	2585	2723	2702	2884	3139	3046	2930	2846	2809	2631	2640	**2,797**
TSF Water Losses (m^3/hr)													
Pond evapor.	0	0	0	0	129	164	163	131	60	0	0	0	**54**
Tailing voids	486	486	73	73	73	73	73	73	73	73	486	486	**211**
Cyclone Overflow Voids	0	0	345	345	345	345	345	345	345	345	0	0	
Cycloned Sand Voids	0	0	45	45	45	45	45	45	45	45	0	0	**30**
Seepage	10	10	10	10	10	10	10	10	10	10	10	10	**10**
Pump to Cyclowash	0	0	164	164	164	164	164	164	164	164	0	0	**109**
Water reclaim to process plant **2339**	2202	2215	2225	2235	2124	1966	2025	2101	2158	2187	2197	2193	**2,152**
Subtotal	2698	2711	2863	2872	2891	2767	2826	2869	2855	2824	2693	2689	**2,797**
TSF Net water surplus (deficit)	**-75.4**	**-125.5**	**-139.6**	**-170.6**	**-6.6**	**372.0**	**220.6**	**61.1**	**-9.4**	**-15.4**	**-61.3**	**-49.7**	**0**
													Net
Incremental Pond Volume Change (m^3)	(54,321)	(90,371)	(100,545)	(122,824)	(4,759)	267,846	158,866	43,958	(6,784)	(11,092)	(44,162)	(35,814)	**0**
Reclaim Pond Volume (m^3)	388,679	298,308	197,763	74,939	70,180	338,027	496,893	540,851	534,067	522,975	478,814	443,000	
Process Plant													
Water Inputs (m^3/hr)													**Averages**
Water reclaim to process plant (see above)	2202	2215	2225	2235	2124	1966	2025	2101	2158	2187	2197	2193	**2,152**
Open Pit Groundwater Dewatering	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Precipitation Over Open Pit (Runoff Coef. = 1.0)	28	23	20	17	54	108	88	62	43	33	30	31	**45**
Runoff from undiverted catchment	54	46	39	32	105	210	171	121	83	64	58	60	**87**
Seepage from diversion ditch	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Ore Void Water (3% MC) 42.02	39	39	39	39	39	39	39	39	39	39	39	39	**39**
Make-up to Freshwater Tank **94.18**	87	87	87	87	87	87	87	87	87	87	87	87	**87**
		0	0	0	0	0	0	0	0	0	0	0	**-**
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Water Losses (m^3/hr)													
Tailings Transport Water 2613.87	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	2405	**2,405**
Concentrate Load Out 1.58	1	1	1	1	1	1	1	1	1	1	1	1	**1**
Freshwater to Potable Water 3.15	3	3	3	3	3	3	3	3	3	3	3	3	**3**
													-
Subtotal	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	2409	**2,409**
Net water surplus (deficit)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**
Fresh Water to Process Water Tank (m^3/hr)	-	-	-	-	-	-	-	-	-	-	-	-	**-**

APPENDIX X

Tailings, Reclaim and Associated Pumping Systems – Feasibility Design Report

Klohn Crippen Berger

December 7, 2008

Pacific Booker Minerals Inc.
#1702 – 1166 Alberni Street
Vancouver, British Columbia
V6E 3Z3

Mr. Erik Tornquist
Executive Director

Dear Mr. Tornquist:

Morrison Copper/Gold Project
Tailings, Reclaim and Associated Pumping Systems
Feasibility Design Report – Rev.0

The attached document is our report summarizing the design for the Tailings, Reclaim and Associated Pumping Systems. This design was completed in conjunction with the geotechnical feasibility design for waste management facilities.

Please contact the undersigned should you require further assistance.

Yours truly,

KLOHN CRIPPEN BERGER LTD.

Terence Jibiki, P.Eng.
Project Manager

081207R-Tailings, Reclaim and Pumping SystemsRev0
M09382A01.500

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1. INTRODUCTION

Pacific Booker Minerals Inc. (PBM) are undertaking a feasibility design of the Morrison Copper/Gold Project near Smithers, BC. The project is a 30,000 tonne per day open pit mine, with on-site crushing and processing.

PBM engaged Klohn Crippen Berger Ltd. (KCBL) to develop a feasibility design for the tailings dam, tailings disposal pump system, reclaim system, and the freshwater make-up system. Wardrop are carrying out design of the processing plant.

This design report will cover the design of:

- Final Tailings Pump System;
- Tailings Pond Reclaim System;
- North and South Seepage Pond Water Reclaim Systems; and
- Fresh/Process Make-up Water System.

KCBL's scope of service is a feasibility level design, including:

1. Final tailings pump system to deliver tailings from the plant site pumpbox to the tailings storage facility, including:
    - Sizing of the pipeline;
    - Determine pipe friction losses;
    - Sizing of pumps, including standby units;
    - Solicit pump quotations;
    - Locate pump stations; and

- General layout of pump stations.

2. Hydrocyclone specification:
   - Solicit cyclone quotations and technical data from Krebs Engineers (Krebs), and
   - Request information on required inlet/outlet pressures.
3. Tailings pond water reclaim pump system:
   - Sizing of return pipe to the plant;
   - Determine pipe friction losses;
   - Size pumps; and
   - Solicit pump barge quotations.

3. North and south seepage pond reclaim pump system.
4. Preparation of Process Flow Diagrams (PFD).
5. Sizing of major electrical equipment such as switchgear, MCCs, VFDs, and transformers and preparation of electrical single line diagrams (SLD).
6. Preparing electrical load list.
7. Preparing equipment list of major equipment.
8. Preparing a cost estimate for the above systems.

A process flow diagram is shown in drawing D-1501.

2. FINAL TAILINGS SYSTEM

2.1 Design Basis

Design Life[2]:	20 years
Plant Elevation[2]:	822.5 m
Main Dam Crest Elevation[1]:	1015 m
Starter Dam Crest Elevation[1]:	969 m
Plant Output[2]:	30,000 tonne per day
Tailings Flow[2]:	1341 tonnes per hour
Solids Specific Gravity[1]:	2.76
Percent Solids[2]:	33.92%
Cyclone Station[1]:	Underflow: 70% solids, 18% fines
Particle Size Distribution[1]:	D50 = 70 µm (See Figure 2.1)

Notes: [1.] Information provided by KCBL MEG
[2.] Information provided by Wardrop/PBM

	Sieve Opening Size		
U.S. Sieve No.[1]	(inches)	(mm)	Total Tailings (% Finer than)
10	0.0787	2	**100**
20	0.0331	0.84	**100.0**
40	0.0165	0.42	**99.9**
60	0.0098	0.25	**99.4**
100	0.0059	0.149	**86.2**
200	0.0029	0.074	**53.1**
270	0.0021	0.0486	**35.9**
		0.0352	**29.5**
		0.025	**26.1**
		0.0178	**22.2**
		0.013	**18.5**
		0.0092	**15.1**
		0.0066	**11.9**
		0.0046	**9.8**
		0.0033	**7.9**
		0.0023	**7.0**
		0.0013	**6.0**

S.G. Solids 2.76

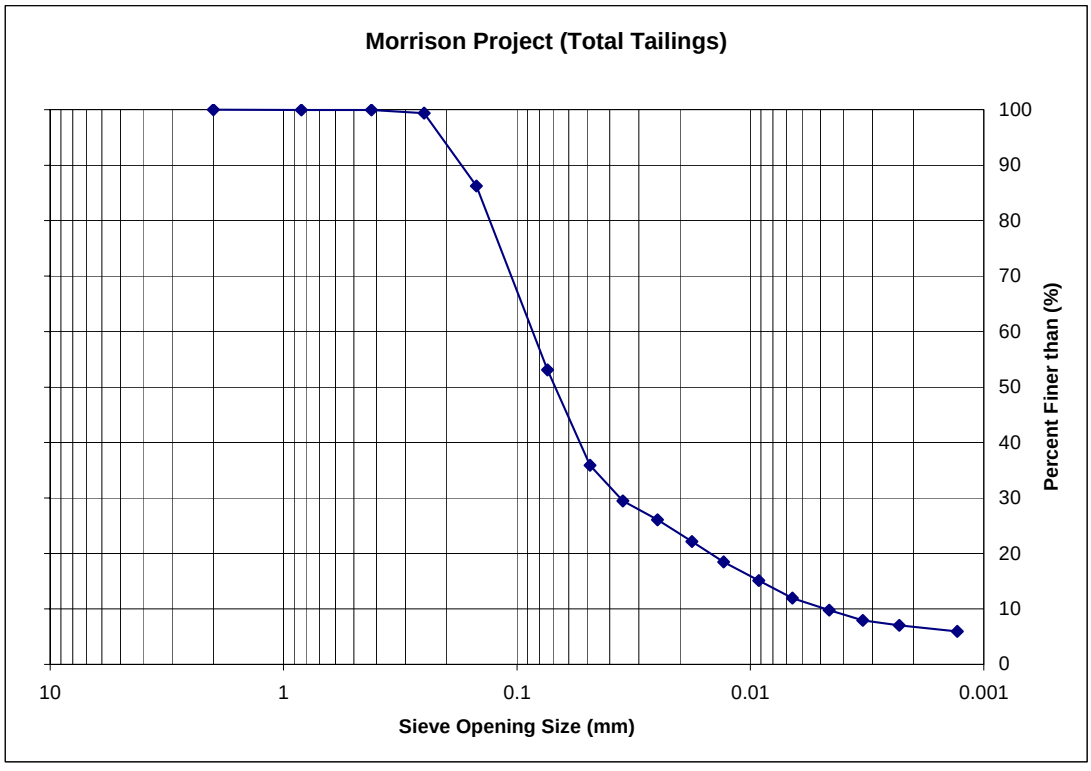


Figure 2.1 Final Tailings Particle Size Distribution

2.2 Tailings Pipeline Concept Design

Final tailings from the crushing plant will feed into a tailings pump box. The tailings is then pumped to the tailings dam via two pump stations, each containing four (4) centrifugal slurry pumps. Pump Station No. 1 is located within the plant site. Pump Station No. 2 is located adjacent to the dam access road along the pipeline route.

The tailings pipeline is routed along the tailings dam access road, where possible, to reduce clearing and preparation of a right-of-way. Once at the tailings dam, the pipe is routed around the north and south side of the TSF via separate branches. Spigots spaced at regular intervals will provide connection for the hydrocyclone system, or discharge directly to the tailings pond. Underflow from the hydrocyclones will be dozed and compacted in "cells" constructed in the shells of the tailings dam. Excess water from the underflow will drain from the sand to the seepage reclaim pond. Salient features of the pipeline are:

Total Length:	13,665 m
Common Delivery Line Length:	3,940 m
North Branch Length:	4,860 m
South Branch Length:	4,830 m
Start Elevation (Plant Site):	822.5 m
Final Elevation (Tailings Dam):	1015 m

2.3 Pipeline Hydraulic Design

The tailings pipeline and pump characteristics are:

Item	Unit	Qty.
Target Availability	%	92
Target Concentration	%	33.92
Slurry Specific Gravity		1.28
Hourly Throughput	t/h	1341
Design Flow Rate	m^3/h	3099
Pipeline Diameter	in OD	Varies – 28 in to 32 in
Pipe Material		HDPE and HDPE Lined Steel
Pressure Rating		Min SDR 17
Minimum Flow Velocity	m/s	Varies – 1.9 to 2.2
Static Lift	m	192.5
Friction Loss	m (slurry)	169
Total Dynamic Head	m (slurry/water)	362/389
Final Pump Discharge Pressure	kPa	3,820
Pump Power @ 83% Efficiency	kW	772 kW x 8
Motor Power	kW	820 kW x 8 (1100 hp x 8)

Refer to Appendix I for a detailed summary of the tailings pipeline friction losses and pump sizing. Appendix II contains the electrical load list and major equipment list.

2.4 Pump Station Design

The total dynamic head is provided by eight (8) centrifugal slurry pumps, four (4) located in each pump station. The pump station includes:

- A pump box with a live capacity of approximately 265 m^3;
- A train of four (4) centrifugal pumps connected in series;

- Isolation valves, pressure safety valves, flush and drain valves (for pump maintenance), couplings, and associated piping;
- Flow, density, and pressure instrumentation;
- Pump control system; and
- Medium voltage (4,160 kV) switchgear (one line diagram shown on drawing number D-1502).

Pump Station No. 1 is located within the plant site and others (Wardrop) are designing all building auxiliaries (crane, heating, ventilation, lighting, and small power).

Pump Station No. 2 is a stand-alone pump station and, in addition to the above items, will also include:

- A structural steel building nominally 23 m long and 13 m wide, equipped with a travelling crane, floor drains, sump pump, oil/water separator, lighting, ventilation, heating, small power, and welding outlets. All switchgear, power distribution equipment, and controls will be housed in a separate electrical room. The building will include:
  - 13 m wide x 23 m long eave gable style pre-engineered steel building with structural steel frame;
  - Exterior wall and roof steel cladding, factory prepared, primed, and finish coated;
  - Full height partition wall with exit doors, for separate electrical room;
  - Aluminium interior liner;
  - Double man door from electrical room;
  - Two single man doors to exterior;
  - Double glazed windows;

  - Ventilation louvers and exhaust fans;
  - 15 Tonne full running electric bridge crane with electric hoist; and
  - R20 insulation in walls and roof.
- 600 V distribution panel.
- Step-down transformer (external to building).
- Power supply to the Pump Station No. 2 will be via an underground cable designed by Wardrop. KCBL's design includes a pad mounted step-down transformer and switchgear. The electrical one line diagram is shown in drawing D-1503.
- Back-up diesel generator and battery bank to provide power to maintain control of the plant in the event of a mains power failure.

2.5 Pipeline Design

The pipeline was designed using HDPE and HDPE lined steel. HDPE is used wherever the pressure is less than a SDR 11 (160 psi) rating. Above this rating HDPE lined steel is used as the required size of HDPE is not available in a pressure rating greater than SDR 11. The HDPE liner is for corrosion and abrasion resistance.

Steel pipe for the tailings pipeline will be designed in accordance with ASME B31.11.

Steel pipe joints will be welded and weld integrity demonstrated by X-radiography. Steel pipe will be welded into approximately 500 m long sections and the HDPE liner pulled in at site.

HDPE pipe joints will be fused using standard HDPE fusing processes.

The tailings pipeline will be surface run and anchored by dumping a load of fill on the line at regular intervals. No heat tracing is provided. In the event of a pump trip, the line will be automatically drained to an emergency ponds and the TSF. The tailings will be left to settle, the water treated, and released. Settled tailings will be excavated and trucked to the tailings dam on a periodic basis.

2.6 Pipeline Operation and Control

The tailings systems will be operated from a dedicated control panel installed in the process control room for the plant. The pipeline and the associated pump stations will include sufficient instrumentation to allow for unattended operation.

System flow rate will be controlled using a variable frequency drives (VFDs) on the first (upstream) pump at each pump station. Based on feedback from a level transmitter located in the pumpbox, the first pump will control filling and flow rate using the VFD. The flow rate will be adjusted to maintain a constant level in the pumpbox.

A pump trip will result in a dump valve opening and the line draining to one of the two emergency ponds.

The diesel generator will provide back-up power through a battery system to maintain control of the pump station and allow the dump valve to open.
Communications with the process plant control room will be via a radio link, or a fibre optic cable. The fibre optic cable would be routed adjacent to the power supply cable.

NOTE: The processing plant is being designed (by others) to target an availability of 92%. Without a standby tailings system, it is assumed that the tailings system will match the availability and timing of outages of the processing plant. Further testing,

and evaluation of the tailings system projected availability, must be carried out in future design phases to confirm this assumption. The cost of an outage must be carefully evaluated and compared to the cost of the tailing system being out of service. To provide a dual pump system, KCBL estimate that the additional direct cost to the project will be approximately $12M including pump stations and dual pipelines.

2.7 Hydrocyclone Operation

Six (6) hydrocyclones are required to process the tailings and provide the particle size distribution required for tailings dam construction. Krebs propose using their gMax hydrocyclone with Cyclowash and a sand stacker. The Cyclowash system introduces an additional flow of water into the cyclone to increase the concentration of smaller particles in the overflow stream, leaving a higher concentration of larger particles in the underflow. The sand stacker improves the efficiency of the hydrocyclone by reducing water in the underflow, thus increasing the underflow concentration. This forces additional water through the overflow, together with a higher proportion of finer particles.

The additional water required for the Cyclowash is supplied from the reclaim line. The water is pumped around the top of the tailings dam via two sets of booster pumps and a separate HDPE header pipe around the perimeter of the tailings pond.

Krebs data sheet for the cyclones is provided in Figure 2.2.

KREBS ENGINEERS

SHEET: 1
DATE: 29-Sep-08
BY: BTF

Client: Klohn Crippen Berger - Tailings cyclone
Problem: Recover a minimum 24% of the feed solids to the undeflow while minizimizing the recover -200 mesh material to the underflow
Number, Model Krebs Cyclones: 6 operating gMAX26-SRC

	Inlet Area	Vortex Finder	Apex	Pressure Drop
Orifices:	60.00 sq. in.	8.00 in.		19 PSI

Specific Gravity: Solids: 2.760 Liquid: 1.000 Temperature: Amb. °F Viscosity: 1 Cps

	FEED	OVERFLOW	UNDERFLOW	CYCLOWASH
MTPH Solids	1341	1017	324	0
MTPH Liquids	2612	2677	126	190
MTPH Slurry	3953	3694	450	190
Wt Solids	33.9	27.5	72.0	0.0
S.G. Slurry	1.276	1.213	1.849	1.000
Vol% Solids	15.7	12.1	48.2	0.0
GPM Slurry	13641	13409	1071	838
M3/Hr. Slurry	3098	3045	243	190

~~Ref: 94.9 3.7 32.0*~~

	Micron	FEED			OVERFLOW			UNDERFLOW			ACT.	
		Cum. % +	Ind. % +	MTPH	Cum. % +	Ind. % +	MTPH	Cum. % +	Ind. % +	MTPH	REC.	
	250	0.6	0.6	8.0	0.0	0.0	0.0	2.5	2.5	8.0	99.8	
	149	13.8	13.2	177.0	1.7	1.7	17.6	51.7	49.2	159.4	90.0	
	74	46.9	33.1	443.9	33.2	31.5	320.0	89.9	38.3	123.9	27.9	
	49	64.1	17.2	230.7	53.7	20.5	208.5	96.8	6.8	22.2	9.6	
	35	70.5	6.4	85.8	61.8	8.2	83.0	97.7	0.9	2.9	3.3	
	25	73.9	3.4	45.6	66.2	4.4	44.4	98.0	0.4	1.2	2.6	
	18	77.8	3.9	52.3	71.2	5.0	51.1	98.4	0.4	1.2	2.2	
	13	81.5	3.7	49.6	76.0	4.8	48.6	98.7	0.3	1.0	2.0	
	9	84.9	3.4	45.6	80.4	4.4	44.7	99.0	0.3	0.8	1.9	
	7	88.1	3.2	42.9	84.6	4.1	42.2	99.2	0.2	0.8	1.8	
	-7	100.0	11.9	159.6	100.0	15.4	157.0	100.0	0.8	2.6	1.6	
TOTAL				1341			1017			324	24.2	

KREBS ENGINEERS
5505 WEST GILLETTE ROAD TUCSON, AZ 85743
TEL: (520) 744-8200 FAX: (520) 744-8300
www.krebs.com

Figure 2.2 Krebs Cyclone Data

2.8 Project Development

A number of known and assumed slurry properties were used for this feasibility level of design. The most significant assumption used is that the slurry is a Newtonian fluid. From the assumed and known properties of the slurry, other system variables are calculated. One of these system variables is the minimum deposition velocity, which is the velocity at which the solids will start settling out of the slurry causing a reduction in the pipeline capacity and an increased possibility of blockages. The deposition velocity was estimated by various methods using the assumed particle distribution as shown in Figure 2.1. These methods did not converge on a single result and as such, it will be necessary to carry out testing during the design phase to determine the minimum deposition velocity. The variation in the estimated deposition velocity significantly affects the total dynamic head required. As a result, pump tests to determine the friction losses may show that additional pumps are required. Due to the pressure ratings of the pumps, additional pumps would require adding a pump station. To provide an additional pump station, KCBL estimate that the additional direct cost to the project will be approximately $4.7M.

Required testing will include:

- Slurry rheology;
- Slurry settling characteristics;
- Settled slurry stability, including restart characteristics and slope stability; and
- Pump tests may also be required to measure the actual friction headloss.

The following items require work during a future design phase to develop the detail pipeline and pump station design:

- Pipeline alignment sheets;
- Typical pipeline construction and special designs;
- Air release, vacuum relief and pressure relief;
- Piping and instrument diagrams;
- Electrical diagrams;
- Pump station design;
- Major equipment data sheets;
- Specifications;
- Control system development and integration with plant control system;
- Spigot and cyclone design, and
- Emergency pond and drainage control development.

2.9 Project Risk

Slurry pipeline design, construction, and operation using centrifugal slurry pumps is a proven technology. As such, the risk at this feasibility level of design is related to the design assumptions. The significant risks are:

- The tailings rheology and the consequent assumptions of transport velocity, which directly influences the number of pumps, and hence pump stations, that will be required. See Section 2.8.
- The assumed availability of the tailings system and whether it can match the availability and outage schedule of the processing plant. See Section 2.6.

3. TAILINGS POND RECLAIM SYSTEM

3.1 Design Basis

Design Life:	20 years
Plant Elevation:	822.5 m
Main Dam Crest Elevation:	1015 m
Reclaim Flowrate:	2665 m^3/hr

3.2 Reclaim Pipeline Concept Design

The reclaim system consists of a reclaim barge with pumps, a reclaim line from the tailings pond to the fire water tank, then continuing to the plant site. The Cyclowash supply line tees off the reclaim line at the crest of the Main Dam. Reclaim water will be pumped from the tailings pond to the crest of the dam, where the water will then flow by gravity to the reclaim/fire water tank at El. 906 m. Wardrop requested a residual inlet pressure of 140 kPa to the fire water tank. From the firewater tank to the processing plant the water will flow by gravity.

Cyclowash water will be sourced from a tee off the main reclaim line and pumped around the tailings dam crest via a separate set of pumps.

Gravity lines were sized so that pumping is not required and friction losses are less than the total static head available. Sufficient margin was allowed for variations in friction loss and flow. Throttling will be required by a control valve at the discharge into the firewater tank and processing plant.

The pump discharge line will be sized to minimize the overall cost, including pumping costs. This requires the pipe diameter to be sufficiently large to reduce friction loss, but

not so large as to increase capital cost beyond the present value of energy savings of a larger pipe.

The reclaim pipeline is routed to reduce the amount of clearing required. The pipeline is routed along the seepage pond service road and then onto the reclaim barge via a direct overland route. Salient features of the pipeline route are:

Total Length:	5,170 m
Start Elevation (Tailings Pond):	Varies: 10 m below crest of tailings dam
Final Elevation (Plant Site):	822.5 m

3.3 Pipeline Hydraulic Design

The reclaim pipeline and pump characteristics are:

Item	Unit	Qty.
Target Availability	%	92
Design Flow Rate	m^3/h	2665
Pipeline Diameter	in OD	Varies – 18 to 28
Pipe Material		HDPE
Pressure Rating		Varies
Average Flow Velocity	m/s	2.9
Static Lift	m	10 (to top of dam)
Friction Loss	m	3.2 (to top of dam)
Total Dynamic Head	m	13.2 (to top of dam)
Final Pump Discharge Pressure	kPa	130
Pump Power @ 75% Efficiency	kW	64 kW x 3
Motor Power	kW	82 kW x 3 (110 hp x 3) (2 Duty, 1 Standby)

3.4 Reclaim Pump Barge Design

A preliminary design for the reclaim pump barge was provided by Chamco:

- Naval architect design, fabricated steel hull 12 m L x 8.5 m W x 2.4 m D.
- Operating draft of 2.0 m.
- Free board of 0.5 m.
- Barge will be surface prepped, primed, and coated.
- Barge will be equipped with winch stands, deck fittings, and hand rails.
- Pump system will include:
  - Three Peerless 1 stage 20HH vertical turbine pumps, cast iron, bronze fitted;
  - Three 1200 rpm, 3/60/575v, WP-1, Premium Efficient Vertical motors with space heater, WP-1 enclosure, non-reverse ratchet;
  - Three 16” discharge heads with shafting and column to bowl units, and
  - Complete electrical system with termination at the landside transformer.
- Building will include:
  - 22’ wide x 32’ long x 12’ eave gable style pre-engineered steel building with structural frame;
  - Exterior wall and roof steel cladding, factory prepared, primed, and finished with enamel coat in factory standard colours;
  - Full height partition wall with exit doors, for separate MCC room;
  - White aluminum interior liner;
  - Double man door at shore end;

- Three single man doors to side decks of barge;
- Two 40” double glazed windows in pump room;
- Ventilation louvers and exhaust fans; inlet louvers include 120vac electric actuators;
- 3 Tonne full running electric bridge crane with electric hoist; and
- R20 insulation in walls and roof.

- Accessories shall include:
  - Four 5-ton hand operated, 2 speed winches for anchoring with 70m of cable;
  - 15 m aluminum walkway to shore with rolling dolly cart and tracks;
  - Two 24-inch cast steel ball joints and 15 ft piping to shore;
  - De-icing system with piping, valves, and 20 hp vertical turbine pump;
  - Life rings;
  - Fire extinguishers, and
  - Pressure transmitter on main header, with isolating valve.
- Power supply to the barge will be via an underground cable design by Wardrop. KCBL’s design includes a pad mounted step-down transformer and switchgear. The electrical one line diagram is shown in drawing D-1504.

3.5 Pipeline Design

The pipeline was designed using HDPE. Pipe joints will be fused using standard HDPE fusing processes. The reclaim pipeline will be buried to prevent freezing. The pressure rating of the pipe varies over the length of the pipeline depending on the elevation of the pipe and the static head.

3.6 Pipeline Operation and Control

The reclaim system will be operated from a dedicated control panel installed in the process control room for the plant. Local controls will also be required. The pipeline and the associated pump stations will be designed for unattended operation, and will include sufficient instrumentation for this to be undertaken.

VFDs are not provided and system flow rate will be constant. On/off Control of the pumps will be based on the level in the firewater tank. Two of the three pumps will be required to achieve the design flow rate. The third pump will be for standby. Automatic changeover control will cycle the pumps through the duty cycle.

Communications with the process plant control room will be via a radio link, or a fibre optic cable. The fibre optic cable would be routed adjacent to the power supply cable.

4. CYCLOWASH SYSTEM

4.1 Design Basis

Design Life:	20 years
Flowrate:	190 m^3/hr

4.2 Cyclowash Concept Design

The reclaim system will provide water to the Cyclowash water supply system. Two booster pump stations are required, Pump Station No. 1 located adjacent to the connection to the reclaim system, and Pump Station No. 2 located at the east abutment of the Main Dam. Cyclowash Pump Station No. 1 supplies water to hydrocyclones located on the Main Dam and will supply water to Pump Station No. 2. Pump Station No.1 can also supply water to the West Dam in the event hydrocyclones are used for dam construction.

Pump Station No. 2 will boost the pressure and supply water to the North Dam. Pump Station No. 2 will initially be located at the starter dam elevation, i.e. El. 969 m. The discharge pipe feeding the North Dam will be routed on the east side of the dam up to El. 1015 m. The water will then flow by gravity to the North Dam. As the Main Dam is raised the pump station will also be raised, reducing the static lift. The head developed by the pump will then be used to overcome friction losses.

To allow for moving the pump stations as the Main Dam is raised, each pump station will be skid mounted. A dozer tractor will be able to move the pump skids as required.

The pump discharge line was sized to minimize the overall cost, including pumping costs. This required the pipe diameter to be sufficiently large to reduce friction loss, but not so large as to increase capital cost beyond the energy savings of a larger pipe.

The discharge header is routed around the perimeter of the tailings pond. Salient features of the pipeline route are:

Total Length:	9,690 m
North Dam Branch Length:	4,860 m
Main Dam Branch Length:	4,830 m
Start Elevation (Starter Dam):	969 m
Final Elevation (Final Dam Crest):	1015 m

4.3 Pipeline Hydraulic Design

The reclaim pipeline and pump characteristics are:

Item	Unit	Qty.
Target Availability	%	92
Design Flow Rate	m^3/h	190
Pipeline Diameter	in OD	10.75 in
Pipe Material		HDPE
Pressure Rating		Varies – min. SDR 17
Average Flow Velocity	m/s	1.5
Static Lift (P/Stn No. 1)	m	0 m
Static Lift (P/Stn No.2)	m	46 m
Friction Loss (P/Stn No. 1)	m	35.7
Friction Loss (P/Stn No. 2)	m	11.4
Total Dynamic Head (P/Stn No. 1)	m	49
Total Dynamic Head (P/Stn No. 2)	m	57
Final Pump Discharge Pressure (P/Stn No. 1)	kPa	481
Final Pump Discharge Pressure (P/Stn No. 2)	kPa	559
Pump Power @ 65% Efficiency (P/Stn No. 1)	kW	39
Pump Power @ 65% Efficiency (P/Stn No. 2)	kW	46

Item	Unit	Qty.
Motor Power (P/Stn No. 1)	kW	48 x 2 (65 hp x 2) (1 Duty, 1 Standby)
Motor Power (P/Stn No. 2)	kW	56 x 2 (75 hp x 2) (1 Duty, 1 Standby)

4.4 Pump Station Design

The feasibility design of the pump skids includes:

- 20 ft long x 8 ft high-cube steel shipping container with R20 wall and ceiling insulation, interior aluminum liner, 2 exterior single man doors, and one fire rated interior wall between electrical room and pump room.
- Wood deck is replaced with a seal-welded steel checker plate floor.
- Container deck underside is insulated with R20 spray foam.
- HVAC system including:
  - One 10 kW 575 V electric heater in pump room;
  - Air make up unit in electrical room with integral 5 kW heater; and
  - Storm hoods over all louvers and doors.
- Complete electrical system.
- Three (3) fire extinguishers.
- All piping welded to ANSI B31.3.
- Package termination points are one 8”, 150# RF suction flange and one 6”, 150# RF discharge flange. An internal bypass from suction to discharge, with isolation valve, is included.
- Pump system will include:
  - Two Peerless 8175, 4 x 6 x 14 end suction centrifugal ANSI pumps, cast iron casing with 316 SS impeller;
  - Motors are 1800rpm, 3/60/575v TEFC;

- Base, coupling, and guard for each pump;
- 6” suction gate valves, cast iron;
- 4” discharge gate valves, cast iron;
- 4” check valve for each pump, and
- Pressure gauges with isolation ball valves.

- Complete package is CSA approved and labeled before shipment.
- Power supply to the pump skids will be via a receptacle on the pump skids. A cable with a mating plug will connect to a pole mounted receptacle. Pump Station No. 1 will get its power supply from the reclaim barge step-down transformer. An underground cable will be laid to the pole mounted receptacle. Pump Station No. 2 will get its power supply from Tailings Pump Station No. 2. A 4.16 KV underground cable will run from Tailings Pump Station No. 2 to a pad mounted transformer adjacent to the Cyclowash Pump Station No. 2. The electrical one line diagram is shown in drawing D-1503 and D-1504.

4.5 Pipeline Design

The pipeline was designed using HDPE. Pipe joints will be fused using standard HDPE fusing processes. As this system will not be used in freezing conditions, the pipe is not buried, but will need to be drained in the winter. The pressure rating of the pipe varies over the length of the pipeline depending on friction losses and static head.

4.6 Pipeline Operation and Control

The Cyclowash pump system will be operated from a local control panel in each skid. Monitoring of the pumps will be in the plant control room.

The pumps will operate on a duty/standby arrangement and automatic changeover control will cycle each pump through a duty cycle.

Communications with the process plant control room will be via a radio link, or a fibre optic cable. The fibre optic cable would be routed adjacent to the power supply cable.

5. SEEPAGE POND RECLAIM SYSTEM

5.1 Design Basis

Design Life:	20 years
Seepage Pond Water Elevation:	894 m
Main Dam Crest Elevation:	969 m to 1015 m
Seepage Pond Reclaim Flowrate:	120 m^3/hr

5.2 Seepage Pond Reclaim Concept Design

There are two seepage ponds, the North Seepage Pond and the South Seepage Pond. Each pond has a dedicated seepage reclaim pump system that will return reclaimed seepage water to the tailings pond. Pumps will be located in a pumphouse adjacent to each seepage pond. Pumps will be vertical turbine pumps, drawing water from a precast concrete well. HDPE pipe will connect the well to the ponds.

The pump discharge line will be sized to minimize the overall cost, including pumping costs. This requires the pipe diameter to be sufficiently large to reduce friction loss, but not so large as to increase capital cost beyond the energy savings of a larger pipe.

The discharge pipeline is routed overland to the top of the tailing dams' abutments. Salient features of the pipeline route are:

Total Length:	1,000 m
Start Elevation (South Seepage Pond):	894 m
Start Elevation (North Seepage Pond);	950 m
Final Elevation:	969 m to 1015 m

5.3 Pipeline Hydraulic Design

The reclaim pipeline and pump characteristics are:

Item	Unit	Qty.
Target Availability	%	92
Design Flow Rate	m^3/h	120
Pipeline Diameter	in OD	7.125 in
Pipe Material		HDPE
Pressure Rating		SDR 9
Average Flow Velocity	m/s	2.1
Static Lift (South Seepage Pond)	m	75 m (start) 121 m (final)
Static Lift (North Seepage Pond)	m	47 m (start) 93 m (final)
Friction Loss	m	27.7
Total Dynamic Head (South)	m	149 (final)
Total Dynamic Head (North)	m	93 (final)
Final Pump Discharge Pressure (South)	kPa	1,462
Final Pump Discharge Pressure (North)	kPa	912
Pump Power @ 75% Efficiency (South)	kW	65
Pump Power @ 75% Efficiency (North)	kW	45
Motor Power (South)	kW	76 x 2 (105 hp x 2 (1 Duty, 1 Standby)
Motor Power (North)	kW	56 x 2 (70 hp x 2 (1 Duty, 1 Standby)

5.4 Pump Station Design

The feasibility design of the pump station includes:

- Pre-cast concrete well, 2.5 m diameter.
- HDPE intake pipe, 24 in diameter.

- Pump system will include:
  - Two Peerless 4 or 5 stage M14LD vertical turbine pumps, cast iron, bronze fitted;
  - Three 1800 rpm, 3/60/575v, WP-1, Premium Efficient Vertical motors with space heater, WP-1 enclosure, non-reverse ratchet;
  - 6” discharge heads with shafting and column-to-bowl units;
  - Complete electrical system, and
  - Pressure transmitter on main header, with isolating valve.
- The pump station building will include:
  - Gable style pre-engineered steel building with structural frame;
  - Exterior wall and roof steel cladding, factory prepared, primed, and finish coated in factory standard colours;
  - Aluminum interior liner;
  - Ventilation louvers and exhaust fans, and
  - R20 insulation in walls and roof.
- Power supply to the pump station will be via an underground cable designed by Wardrop. KCBL’s design includes a pad mounted step-down transformer and switchgear. The electrical one line diagram is shown in drawing D-1504.

5.5 Pipeline Design

The pipeline was designed using HDPE. Pipe joints will be fused using standard HDPE fusing processes. The seepage pond reclaim pipelines will be buried to prevent freezing. The pressure rating of the pipe varies over the length of the pipeline depending on the elevation of the pipe and the static head.

5.6 Pipeline Operation and Control

The seepage pond reclaim system will be operated from a dedicated control panel installed in the process control room for the plant. Local control will also be required. The pipeline and the associated pump stations will be designed for unattended operation, and will include sufficient instrumentation for this to be undertaken.

On/off Control of the pumps will be based on seepage pond level. The pumps will operate on a duty/standby arrangement and automatic changeover control will cycle each pump through a duty cycle.

Communications with the process plant control room will be via a radio link, or a fibre optic cable. The fibre optic cable would be routed adjacent to the power supply cable.

6. FRESH/PROCESS WATER MAKE-UP SYSTEM

6.1 Design Basis

Design Life:	20 years
Flowrate:	190 m^3/hr
Morrison Lake Elevation:	732.8 m
Plant Site Elevation:	822.5 m

6.2 Fresh/Process Water Make-up System Concept Design

The fresh/process water make-up system consists of a pump house located on the shore of Morrison Lake, and a discharge pipeline to the plant site. Two vertical turbine pumps will draw water from a well, connected to the lake by HDPE or steel pipe.

The pump discharge line is sized to reduce the overall lifecycle cost, including pumping costs. This requires the pipe diameter to be sufficiently large to reduce friction loss, but not so large as to increase capital cost beyond the energy savings of a larger pipe.

The discharge pipeline is routed directly to the plant site.

Total Length: 600 m

6.3 Pipeline Hydraulic Design

Item	Unit	Qty.
Target Availability	%	92
Design Flow Rate	m^3/h	190
Pipeline Diameter	in OD	8.625
Pipe Material		HDPE
Pressure Rating		SDR 11
Average Flow Velocity	m/s	2.09

Item	Unit	Qty.
Static Lift	m	106
Friction Loss	m	11.9
Total Dynamic Head	m	118
Final Pump Discharge Pressure	kPa	1,158
Pump Power @ 75% Efficiency	kW	81
Motor Power	kW	101 x 2 (135 hp x2) (1 Duty, 1 Standby)

6.4 Pump Station Design

The feasibility design of the pump station includes:

- Pre-cast concrete well, 2.5 m diameter.
- HDPE intake pipe, 24 in diameter.
- Pump system will include:
  - Two Peerless 5 stage M12LD vertical turbine pumps, cast iron, bronze fitted;
  - Three 1800 rpm, 3/60/575v, WP-1, Premium Efficient Vertical motors with space heater, WP-1 enclosure, non-reverse ratchet;
  - 6” discharge heads with shafting and column-to-bowl units;
  - Complete electrical system, and
  - Pressure transmitter on main header, with isolating valve.
- The pump station building will include:
  - Gable style pre-engineered steel building with structural frame.
  - Exterior wall and roof steel cladding, factory prepared, primed, and finish coated in factory standard colours;
  - Aluminum interior liner;
  - Ventilation louvers and exhaust fans, and

- R20 insulation in walls and roof.

- Power supply to the pump station will be via an underground cable designed by Wardrop. KCBL's design includes a pad mounted step-down transformer and switchgear. The electrical one line diagram is shown in drawing D-1505.

6.5 Pipeline Design

The pipeline was designed using HDPE. Pipe joints will be fused using standard HDPE fusing processes. The discharge pipeline will be buried to prevent freezing.

6.6 Pipeline Operation and Control

On/off Control of the pumps will be based on seepage pond level. The pumps will operate on a duty/standby arrangement and automatic changeover control will cycle each pump through a duty cycle.

Communications with the process plant control room will be via a radio link, or a fibre optic cable. The fibre optic cable would be routed adjacent to the power supply cable.

7. FUTURE PROJECT DEVELOPMENT

The feasibility design is based on a number of assumptions considered reasonable for this level of design. The following items require work during a future work phase to develop the detail pipeline and pump station design for: the tailings pond reclaim, the seepage pond reclaim, and the fresh/process water make-up. The tailings disposal system is covered in Section 2.

- Pipeline alignment sheets;
- Typical pipeline construction and special designs;
- Air release, vacuum relief and pressure relief;
- Piping and instrument diagrams;
- Electrical diagrams;
- Pump barge design;
- Major equipment data sheets;
- Specifications, and
- Control system development and integration with plant control system.

8. COST ESTIMATE

8.1 Basis of Estimate

The estimate is based on a preliminary quantity take-off, an estimated construction schedule, and the construction methods and equipment generally associated with this type of work. However, potential contractors would base their tenders on the equipment and personnel available to them at the time of tender, and on their own construction methods, providing these meet all of the requirements of the contract documents.

Labour

The labour costs are based on the rate provided by PBM.

The costs for camp, travel and small tools are included in the indirect costs.

Equipment

The equipment rates include depreciation, insurance, spare parts and fuel/oil/grease. The equipment operators are included as labour and the mechanics are included in the indirect costs.

The equipment depreciation rates are those calculated from average current capital costs and normal average industry running costs.

Materials

Permanent materials and job supplies are based on November 2008 budget prices.

Direct Costs

These are costs of the hands on labour, equipment and materials required to perform the work.

Indirect Costs

These are the costs of on-going non-direct work items and are normally spread back into the direct unit cost items. The costs include, offices, lay down areas, monthly maintenance and operating expenses, contractors on-site management staff, first aid, travel expenses, warehouse operation, small tools and supplies, mechanics, camp costs, transportation and miscellaneous equipment, other miscellaneous items, performance bonds and insurances, head office administration and contractor's profit. Indirect costs have been estimated as 45% of direct costs. Indirect costs for this portion of work are elsewhere by Wardrop as part of the Morrison Copper/Gold Project Feasibility Study.

Taxes

The goods and services tax (GST) and the Provincial sales tax (PST) are not included but should be applied.

Contingency

In view of the feasibility level of design and layout a contingency of 15% has been estimated for changes due to final design and for the conditions encountered. Contingency for this portion of work is included elsewhere by Wardrop as part of the Morrison Copper/Gold Project Feasibility Study.

Engineering/Project Management

A 6% allowance has been estimated for final design; construction support services to the owner during tendering, construction and environmental monitoring; contract administration; project management; and the production of a construction report and record drawings. Engineering and project management costs for this portion of work are included elsewhere by Wardrop as part of the Morrison Copper/Gold Project Feasibility Study.

Owner's Costs

The estimate does not include Owner's costs and financing costs, including interest during construction. The estimate also does not include any costs associated with federal and provincial environmental review and permitting.

Escalation

The estimate has been prepared using costs as of November 2008. An amount for escalation, depending upon the anticipated date of construction, should be added.

8.2 Estimated Construction Cost

The total estimated construction cost is presented in Appendix III.

The estimated construction cost is KCBL's opinion of the probable cost of implementing the project and is based on recommendations, plans, and/or specifications available to date. KCBL's opinion is based solely upon experience or knowledge of similar work. Given the number and extent of assumptions (e.g. actual site conditions; specific decisions of field personnel; the means, methods, sequences, and operations of construction; related safety programs; the cost and extent of labour, equipment and materials; cost estimator' and contractors' techniques for determining prices and market conditions; and other factors over which KCBL has no control) KCBL must make in order to develop an opinion of probable cost, KCBL's opinion of probable cost will not be as accurate as the estimate furnished by a contractor. PBM shall waive any claim against KCBL relative to the accuracy of KCBL's opinion of probable cost. Reliance on this opinion of probable cost by any party other than PBM is expressly forbidden, except with the express written permission of PBM and KCBL.

KLOHN CRIPPEN BERGER LTD.

Andrea Mack, P.Eng.
Mechanical Engineer

Terence Jibiki, P.Eng.
Project Manager

APPENDIX I

Final Tailings Flow and Pump Summary

Project: Morrison Copper/Gold Project
Project M09382A01
Tailings Pump Calculations
Rev. 1 4-Dec-08

								HSPE Lined Steel - High Pressure Sections					HDPE - Low Pressure Sections					HDPE - Top of Dam														
System	Fluid		Fluid SG	Flow Sheet Flow	Design Flow	Total Line Length	Solids Content	ID	Fluid Velocity/ Vel Limit	Length	Line Loss	H_f Total	ID	Fluid Velocity/V el Limit	Length	Line Loss	H_f Total	ID	Fluid Velocity/V el Limit	Length	Line Loss	H_f Total	H_{lift}	H_{minor} Suction	H_{minor} Discharge	TDH Total/ Per Pump	Head Ratio[1]	TDH Total/ Per Pump	No. of Pumps	Fluid Power Total/ Per Pump	Efficiency [2]	Pump Power Total/ Per Pump [3]	Motor Power Selected
				m3/hr	m3/hr	m	%Cv	mm in.	m/s	m	m/m slurry	m slurry	mm in.	m/s	m	m/m slurry	m slurry	mm in.	m/s	m	m/m slurry	m slurry	m slurry	m slurry	m slurry	m slurry		m water		kW BHP		kW BHP	
Total																																
Tailings	Tailings		1.28	3099	3409	8801	15.7	666.8	2.7	2570	0.025	64.3	648.4	2.9	1370	0.026	35.6	667.0	2.7	4861	0.012	58.3	192.5		11	362	0.93	389	8	4301 kW	0.83	6174 kW	
								26.25	2.2		0.006 x 4.19		25.527	2.2		0.007 x 3.78		26.258	1.9		0.006 x 1.93					45.2		48.6		5767 BHP		8279 BHP	
Pipe																														538 kW		772 kW	820
High Pressure	Low Pressure	Top of Dam																												721 BHP		1035 BHP	1100
28" Steel	32M HDPE	30" HDPE																														
STD	SDR 11	SDR 17																														
27.25" ID	25.527" ID	26.258" ID																														
PUMP STN No. 1																																
Tailings	Tailings		1.28	3099	3409	2315	15.7	666.8	2.7	1375	0.025	34.4	648.4	2.9	940	0.026	24.4	667.0	2.7	0	0.012	0.0	122			181	0.93	194	4	2150 kW	0.83	3086 kW	
								26.25	2.2		0.006 x 4.19		25.527	2.2		0.007 x 3.78		26.258	1.9		0.006 x 1.93					45.2		48.6		2883 BHP		4139 BHP	
Pipe																														537 kW		772 kW	820
High Pressure	Low Pressure	Top of Dam																												721 BHP		1035 BHP	1100
28" Steel	32M HDPE																															
STD	SDR 11																															
27.25" ID	25.527" ID																															
PUMP STN No. 2																																
Tailings	Tailings		1.28	3099	3409	6486	15.7	666.8	2.7	1195	0.025	29.9	648.4	2.9	430	0.026	11.2	667.0	2.7	4861	0.012	58.3	70.5		11	181	0.93	195	4	2151 kW	0.83	3087 kW	
								26.25	2.2		0.006 x 4.19		25.527	2.2		0.007 x 3.78		26.258	1.9		0.006 x 1.93					45.2		48.6		2884 BHP		4140 BHP	
Pipe																														538 kW		772 kW	820
High Pressure	Low Pressure	Top of Dam																												721 BHP		1035 BHP	1100
28" Steel	32M HDPE	30" HDPE																														
STD	SDR 11	SDR 17																														
27.25" ID	25.527" ID	26.258" ID																														

(1) Ref: Warman Slurry Pumping Handbook (2000), pg 13
(2) Efficiency value as requested by PBM
(3) Includes a 5% derating due to wear.

APPENDIX II

Electrical Load List & Equipment List

Klohn Crippen Berger

PACIFIC BOOKER MINERALS INC

Morrison Copper/Gold Project

LOAD LIST

KCBL Project No.: M09382A01
REVISION: Rev F

EQUIPMENT NUMBER	DESCRIPTION	OPERATING	STAND BY	CRITICAL LOAD	SPEED VFD	SPEED FIXED	VOLTAGE	POWER (kW)	POWER (HP)	EST. LOAD FACTOR	EST. POWER FACTOR	EST EFF.	RUNNING KW	RUNNING KVA	EST UTIL. SUMMER	EST UTIL. WINTER	KW.hr SUMMER	KW.hr WINTER	KW.hr ANNUAL
TAILINGS PUMP STATION NO. 1																			
	VFD - PUMP 1 (DUTY)	☑	☐	☐	☑	☐	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
	PUMP 2 (DUTY)	☑	☐	☐	☐	☑	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
	PUMP 3 (DUTY)	☑	☐	☐	☐	☑	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
	VFD - PUMP 4 (DUTY)	☑	☐	☐	☑	☐	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
							TAILINGS PUMP STATION NO. 1 TOTAL kW:	**3281.1**				*TOTAL RUNNING kW:*	**2678.43**	**2976.04**		*TOTAL kW.hr:*	**10,793,011**	**10,793,011**	**21,586,022**
TAILINGS PUMP STATION NO. 2																			
	VFD - PUMP 1 (DUTY)	☑	☐	☐	☑	☐	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
	PUMP 2 (DUTY)	☑	☐	☐	☐	☑	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
	PUMP 3 (DUTY)	☑	☐	☐	☐	☑	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
	VFD - PUMP 4 (DUTY)	☑	☐	☐	☑	☐	4160	820	1100	0.80	0.90	0.98	669.61	744.01	0.92	0.92	2,698,253	2,698,253	5,396,505
	PUMP STATION AUXILIARY LOADS	☑	☐	☐	☐	☐	600	104		0.75	0.90	0.98	79.59	88.44	1.00	1.00	348,612	348,612	697,224
							TAILINGS PUMP STATION NO. 2 TOTAL kW:	**3385.1**				*TOTAL RUNNING kW:*	**2758.02**	**3064.47**		*TOTAL kW.hr:*	**11,141,623**	**11,141,623**	**22,283,246**
RECLAIM BARGE																			
	PUMP 1 (DUTY)	☑	☐	☐	☐	☑	600	82.0	110	0.80	0.95	0.98	66.96	70.49	0.76	0.82	222,899	240,496	463,396
	PUMP 2 (DUTY)	☑	☐	☐	☐	☑	600	82.0	110	0.80	0.95	0.98	66.96	70.49	0.76	0.82	222,899	240,496	463,396
	PUMP 3 (STANDBY)	☐	☑	☐	☐	☑	600	82.0	110	0.80	0.95	0.98	0.00	0.00	0.00	0.00	0	0	0
	PUMP STATION AUXILIARY LOADS	☑	☐	☐	☐	☐	600	40		0.75	0.90	0.98	30.61	34.01	1.00	1.00	134,082	134,082	268,163
							RECLAIM BARGE TOTAL kW:	**286.1**				*TOTAL RUNNING kW:*	**164.53**	**174.98**		*TOTAL kW.hr:*	**579,880**	**615,075**	**1,194,954**
NORTH SEEPAGE POND RECLAIM BARGE																			
	PUMP 1 (DUTY)	☑	☐	☐	☐	☑	600	52.2	70	0.80	0.95	0.97	43.05	45.32	0.75	0.25	141,422	47,141	188,562
	PUMP 2 (STANDBY)	☐	☑	☐	☐	☑	600	52.2	70	0.80	0.95	0.97	0.00	0.00	0.00	0.00	0	0	0
	PUMP STATION AUXILIARY LOADS	☑	☐	☐	☐	☐	600	27		0.75	0.90	0.98	20.66	22.96	1.00	1.00	90,505	90,505	181,010
							NORTH SEEPAGE POND RECLAIM BARGE TOTAL kW:	**131.4**				*TOTAL RUNNING kW:*	**63.71**	**68.28**		*TOTAL kW.hr:*	**231,927**	**137,646**	**369,572**
SOUTH SEEPAGE POND RECLAIM BARGE																			
	PUMP 1 (DUTY)	☑	☐	☐	☐	☑	600	78.3	105	0.80	0.95	0.97	64.58	67.97	0.75	0.25	212,132	70,711	282,843
	PUMP 2 (STANDBY)	☐	☑	☐	☐	☑	600	78.3	105	0.80	0.95	0.97	0.00	0.00	0.00	0.00	0	0	0
	PUMP STATION AUXILIARY LOADS	☑	☐	☐	☐	☐	600	27		0.75	0.90	0.98	20.66	22.96	1.00	1.00	90,505	90,505	181,010
							SOUTH SEEPAGE POND RECLAIM BARGE TOTAL kW:	**183.6**				*TOTAL RUNNING kW:*	**85.24**	**90.93**		*TOTAL kW.hr:*	**302,638**	**161,216**	**463,853**
FRESHWATER MAKE-UP																			
	PUMP 1 (DUTY)	☑	☐	☐	☐	☑	600	100.7	135	0.80	0.95	0.97	83.03	87.40	0.34	0.34	123,643	123,643	247,286
	PUMP 2 (STANDBY)	☐	☑	☐	☐	☑	600	100.7	135	0.80	0.95	0.97	0.00	0.00	0.00	0.00	0	0	0
	PUMP STATION AUXILIARY LOADS	☑	☐	☐	☐	☐	600	27		0.75	0.90	0.98	20.66	22.96	1.00	1.00	90,505	90,505	181,010
							FRESHWATER MAKE-UP TOTAL kW:	**228.3**				*TOTAL RUNNING kW:*	**103.69**	**110.36**		*TOTAL kW.hr:*	**214,148**	**214,148**	**428,296**
CYCLOWASH PUMP STATION NO.1																			
	PUMP 1 (DUTY)	☑	☐	☐	☐	☑	600	48.5	65	0.80	0.95	0.97	39.98	42.08	0.92	0.25	161,086	43,773	204,859
	PUMP 2 (STANDBY)	☐	☑	☐	☐	☑	600	48.5	65	0.80	0.95	0.97	0.00	0.00	0.00	0.00	0	0	0
	PUMP STATION AUXILIARY LOADS	☑	☐	☐	☐	☐	600	27		0.75	0.90	0.98	20.66	22.96	1.00	1.00	90,505	90,505	181,010
							CYCLOWASH PUMP STATION NO.1 TOTAL kW:	**123.9**				*TOTAL RUNNING kW:*	**60.64**	**65.04**		*TOTAL kW.hr:*	**251,591**	**134,278**	**385,869**
CYCLOWASH PUMP STATION NO.2																			
	PUMP 1 (DUTY)	☑	☐	☐	☐	☑	600	55.9	75	0.80	0.95	0.97	46.13	48.55	0.92	0.31	185,868	62,630	248,498
	PUMP 2 (STANDBY)	☐	☑	☐	☐	☑	600	55.9	75	0.80	0.95	0.97	0.00	0.00	0.00	0.00	0	0	0
	PUMP STATION AUXILIARY LOADS	☑	☐	☐	☐	☐	600	27		0.75	0.90	0.98	20.66	22.96	1.00	1.00	90,505	90,505	181,010
							CYCLOWASH PUMP STATION NO.2 TOTAL kW:	**138.9**				*TOTAL RUNNING kW:*	**66.79**	**71.51**		*TOTAL kW.hr:*	**276,373**	**153,135**	**429,508**
							TAILINGS TOTAL kW:	**7574.8**				*TOTAL RUNNING kW:*	**5895.82**	**6530.67**		*TOTAL kW.hr:*	**23,488,553**	**23,350,131**	**47,141,321**

Klohn Crippen Berger

PACIFIC BOOKER MINERALS INC

Morrison Copper/Gold Project

Equipment List

KCBL Project No.: **M09382A01**
Revision: **Rev C**

EQUIPMENT NUMBER	DESCRIPTION	EQUIPMENT SIZE	POWER (kW)	OPERATING	STAND BY	MATERIAL	CAPACITY	MODEL	REMARKS
TAILINGS PUMP STATION NO. 1									
	VFD - PUMP 1 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal
	PUMP 2 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal
	PUMP 3 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal
	VFD - PUMP 4 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal
	PUMP BOX	7,500 mm x 5,000 mm x 10,000 mm		☐	☐	Rubber lined steel			
		TAILINGS PUMP STATION NO. 1 TOTAL kW:	**3280.0**						
TAILINGS PUMP STATION NO. 2									
	VFD - PUMP 1 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal, Gland sealing
	PUMP 2 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal
	PUMP 3 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal
	VFD - PUMP 4 (DUTY)	400 mm x 350 mm	820.0	☑	☐	Hi Chrome	3099 m3/hr @ 48.6 m	Weir 16/14 AHP	Horizontal, Centrifugal
	PUMP STATION AUXILIARY LOADS		104.0	☑	☐				Includes small power & lighting, controls, HVAC, O/H crane.
	PUMP BOX	7,500 mm x 5,000 mm x 10,000 mm		☐	☐	Rubber lined steel			
		TAILINGS PUMP STATION NO. 2 TOTAL kW:	**3384.0**						
RECLAIM DAM									
	FINAL TAILINGS CYCLOPAC	6 x 650 mm		☑	☐	Rubber lined steel	3099 m3/hr	Krebs gMAX26	c/w Cyclowash and Sandstacking
	FINAL TAILINGS CYCLOPAC	6 x 650 mm		☐	☑	Rubber lined steel	3099 m3/hr	Krebs gMAX26	c/w Cyclowash and Sandstacking
		RECLAIM DAM:	**0.0**						
RECLAIM BARGE									
	PUMP 1 (DUTY)	400 mm	82.0	☑	☐	Cast iron, bronze fitted.	1332 m3/hr @ 13.2 m	Peerless 1 stage 20HH	Vertical turbine
	PUMP 2 (DUTY)	400 mm	82.0	☑	☐	Cast iron, bronze fitted.	1332 m3/hr @ 13.2 m	Peerless 1 stage 20HH	Vertical turbine
	PUMP 3 (STANDBY)	400 mm	82.0	☐	☑	Cast iron, bronze fitted.	1332 m3/hr @ 13.2 m	Peerless 1 stage 20HH	Vertical turbine
	PUMP STATION AUXILIARY LOADS		40.0	☑	☐				Includes small power & lighting, controls, HVAC, O/H crane, de-icing pump
		RECLAIM BARGE TOTAL kW:	**286.0**						
NORTH SEEPAGE POND RECLAIM BARGE									
	PUMP 1 (DUTY)	150 mm	52.0	☑	☐	Cast iron, bronze fitted.	120 m3/hr @ 93 m	Peerless 4 Stage M14LD	Vertical turbine
	PUMP 2 (STANDBY)	150 mm	52.0	☐	☑	Cast iron, bronze fitted.	120 m3/hr @ 93 m	Peerless 4 Stage M14LD	Vertical turbine
	PUMP STATION AUXILIARY LOADS		27.0	☑	☐				Includes small power & lighting, controls, HVAC, O/H crane.
		SEEPAGE POND RECLAIM BARGE TOTAL kW:	**131.0**						
SOUTH SEEPAGE POND RECLAIM BARGE									
	PUMP 1 (DUTY)	150 mm	78.0	☑	☐	Cast iron, bronze fitted.	120 m3/hr @ 149 m	Peerless 5 Stage M14LD	Vertical turbine
	PUMP 2 (STANDBY)	150 mm	78.0	☐	☑	Cast iron, bronze fitted.	120 m3/hr @ 149 m	Peerless 5 Stage M14LD	Vertical turbine
	PUMP STATION AUXILIARY LOADS		27.0	☑	☐				Includes small power & lighting, controls, HVAC, O/H crane.
		SEEPAGE POND RECLAIM BARGE TOTAL kW:	**183.0**						
FRESHWATER MAKE-UP									
	PUMP 1 (DUTY)	150 mm	101.0	☑	☐	Cast iron, bronze fitted.	190 m3/hr @ 118 m	Peerless 5 Stage M12LD	Vertical turbine
	PUMP 2 (STANDBY)	150 mm	101.0	☐	☑	Cast iron, bronze fitted.	190 m3/hr @ 118 m	Peerless 5 Stage M12LD	Vertical turbine
	PUMP STATION AUXILIARY LOADS		27.0	☑	☐				Includes small power & lighting, controls, HVAC.
		FRESHWATER MAKE-UP TOTAL kW:	**229.0**						
CYCLOWASH PUMP STATION NO.1									
	PUMP 1 (DUTY)	100 mm x 150 mm	48.0	☑	☐	Cast iron, SS impellor	190 m3/hr @ 49 m	Peerless 8175, 4 x 6 x 14	Horizontal centrifugal
	PUMP 2 (STANDBY)	100 mm x 150 mm	48.0	☐	☑	Cast iron, SS impellor	191 m3/hr @ 49 m	Peerless 8175, 4 x 6 x 14	Horizontal centrifugal
	PUMP STATION AUXILIARY LOADS		27.0	☑	☐				Includes small power & lighting, controls, HVAC.
		CYCLOWASH PUMP STATION NO.1 TOTAL kW:	**123.0**						
CYCLOWASH PUMP STATION NO.2									
	PUMP 1 (DUTY)	100 mm x 150 mm	56.0	☑	☐	Cast iron, SS impellor	190 m3/hr @ 57 m	Peerless 8175, 4 x 6 x 14	Horizontal centrifugal
	PUMP 2 (STANDBY)	100 mm x 150 mm	56.0	☐	☑	Cast iron, SS impellor	191 m3/hr @ 57 m	Peerless 8175, 4 x 6 x 14	Horizontal centrifugal
	PUMP STATION AUXILIARY LOADS		27.0	☑	☐				Includes small power & lighting, controls, HVAC.
		CYCLOWASH PUMP STATION NO.2 TOTAL kW:	**139.0**						
		TAILINGS TOTAL kW:	**7572.0**						

APPENDIX III

Cost Estimate

PACIFIC BOOKER MINERALS INC

Morrison Copper/Gold Project

KLOHN CRIPPEN BERGER

Dated - December 5, 2008

TAILINGS AND RECLAIM SYSTEM COST ESTIMATE - Rev. B

Capacity - 30,000tpd

Expressed in CAD$

				Labour				Materials		Construction Equipment		Process Equipment					
WBS Code	Area, Item Description & Equipment Number	Measure Qtty	Unit	Unit Mhrs	Total Mhrs	Labour Rate	Total Labour	Unit Matls	Total Materials	Unit C Equipmt	Total Constrctn Equipment	Unit Proc Equipmt	Total Process Equipment	Unit Cost	Total Costs	Initial Capital Costs	Future Capital Costs
DIRECT COSTS																	
	Pump Stn 1 (in plant)																
	Excavation	0	m3	-	-	$ 71	$ -	$ 7.65	$ -	$ 2.70	$ -	$ -	$ -	$ 15	$ -	$ -	$ -
	Concrete	0	m3	-	-	$ 71	$ -	$ 360.00	$ -	$ 100.00	$ -	$ -	$ -	$ 1,000	$ -	$ -	$ -
	Building	0	m2	-	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,900	$ -	$ -	$ -
	Pump Units	4	EA	160	640	$ 71	$ 45,440	$ 405,600	$ 1,622,400	$ 46,500.00	$ 186,000	$ -	$ -	$ 463,460	$ 1,853,840	$ 1,853,840	$ -
	Pump Box (by Wardrop)																
	Pipework	3800	kg	0.038	144	$ 71	$ 10,252	$ 6.00	$ 22,800	$ 1.36	$ 5,168	$ -	$ -	$ 10.06	$ 38,220	$ 38,220	$ -
	Valves and Couplings	1	LS	Inc. in Pipework				$ 19,000.00	$ 19,000	$ -	$ -	$ -	$ -	$ 19,000.00	$ 19,000	$ 19,000	$ -
	MV Switchgear	1	LS	1761	1,761	$ 71	$ 125,000	$ 560,000.00	$ 560,000	$ -	$ -	$ -	$ -	$ 685,000	$ 685,000	$ 685,000	$ -
	Cabling	1	LS	528	528	$ 71	$ 37,500	$ 30,000.00	$ 30,000	$ -	$ -	$ -	$ -	$ 67,500	$ 67,500	$ 67,500	$ -
	Controls	1	LS	634	634	$ 71	$ 45,000	$ 40,000.00	$ 40,000	$ -	$ -	$ -	$ -	$ 85,000	$ 85,000	$ 85,000	$ -
	Misc Steel	10000	kg	0.044	439	$ 71	$ 31,200	$ 3.90	$ 39,000	$ 0.78	$ 7,800	$ -	$ -	$ 7.80	$ 78,000	$ 78,000	$ -
															$ 2,826,560	$ 2,826,560	$ -
	Pump Stn 2																
	Excavation	6800	m3	0.324	2,203	$ 71	$ 156,427	$ 19.03	$ 129,404	$ 6.71	$ 45,628	$ -	$ -	$ 15	$ 102,000	$ 102,000	$ -
	Concrete	480	m3	7.33	3,518	$ 71	$ 249,806	$ 360.00	$ 172,800	$ 100.00	$ 48,000	$ -	$ -	$ 1,000	$ 480,000	$ 480,000	$ -
	Building	283	m2	-	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,900	$ 537,700	$ 537,700	$ -
	Pump Units	4	EA	160	640	$ 71	$ 45,440	$ 405,600	$ 1,622,400	$ 46,500.00	$ 186,000	$ -	$ -	$ 463,460	$ 1,853,840	$ 1,853,840	$ -
	Pump Box	37	t	1.08	40	$ 71	$ 2,837	$ 9,800.00	$ 362,600	$ 80.00	$ 2,960	$ -	$ -	$ 9,957	$ 368,397	$ 368,397	$ -
	Pipework	3800	kg	0.082	312	$ 71	$ 22,124	$ 6.00	$ 22,800	$ 2.50	$ 9,500	$ -	$ -	$ 14.32	$ 54,424	$ 54,424	$ -
	Valves and Couplings	1	LS	Inc. in Pipework				$ 19,000.00	$ 19,000	$ -	$ -	$ -	$ -	$ 19,000.00	$ 19,000	$ 19,000	$ -
	MV Switchgear	1	LS	1761	1,761	$ 71	$ 125,000	$ 560,000.00	$ 560,000	$ -	$ -	$ -	$ -	$ 685,000	$ 685,000	$ 685,000	$ -
	Controls	1	LS	634	634	$ 71	$ 45,000	$ 40,000.00	$ 40,000	$ -	$ -	$ -	$ -	$ 85,000	$ 85,000	$ 85,000	$ -
	Main Transformer	1	LS	1761	1,761	$ 71	$ 125,000	$ 180,000.00	$ 180,000	$ 45,000.00	$ 45,000	$ -	$ -	$ 350,000	$ 350,000	$ 350,000	$ -
	Auxilliary Electrical	1	LS	211	211	$ 71	$ 15,000	$ 15,000.00	$ 15,000	$ -	$ -	$ -	$ -	$ 30,000	$ 30,000	$ 30,000	$ -
	Cabling	1	LS	528	528	$ 71	$ 37,500	$ 30,000.00	$ 30,000	$ -	$ -	$ -	$ -	$ 67,500	$ 67,500	$ 67,500	$ -
	Misc Steel	10000	kg	0.044	439	$ 71	$ 31,200	$ 3.90	$ 39,000	$ 0.78	$ 7,800	$ -	$ -	$ 7.80	$ 78,000	$ 78,000	$ -
															$ 4,710,861	$ 4,710,861	$ -
	Tailings Line - P/Stn 1 to P/Stn 2																
	Steel 28" Std	1375	m	3.60	4,950	$ 71	$ 351,450	$ 703.62	$ 967,480	$ 38.04	$ 52,305	$ -	$ -	$ 997	$ 1,371,235	$ 1,371,235	$ -
	HDPE Liner	1375	m	0	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 300	$ 412,500	$ 412,500	$ -
	HDPE 32M SDR 11 (160psi)	940	m	2.00	1,880	$ 71	$ 133,480	$ 587.45	$ 552,199	$ 35.04	$ 32,938	$ -	$ -	$ 764	$ 718,617	$ 718,617	$ -
															$ 2,502,352	$ 2,502,352	$ -
	Tailings Line - P/Stn 2 to Top of Dam																
	Steel 28" Std	1195	m	3.60	4,302	$ 71	$ 305,442	$ 703.62	$ 840,828	$ 38.04	$ 45,458	$ -	$ -	$ 997	$ 1,191,728	$ 1,191,728	$ -
	HDPE Liner	1195	m	0	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 300	$ 358,500	$ 358,500	$ -
	HDPE 32M SDR 11 (160psi)	430	m	2.00	860	$ 71	$ 61,060	$ 587.45	$ 252,602	$ 35.04	$ 15,067	$ -	$ -	$ 764	$ 328,729	$ 328,729	$ -
															$ 1,878,957	$ 1,878,957	$ -
	Tailings Line - Top of Dam																
	HDPE 30 SDR 17 (100psi)	9724	m	2.00	19,448	$ 71	$ 1,380,808	$ 360.84	$ 3,508,770	$ 30.42	$ 295,804	$ -	$ -	$ 533	$ 5,185,382	$ 2,592,691	$ 2,592,691
	Spigots and Isolation Valves	26	ea	40.30	1,048	$ 71	$ 74,394	$ 11,500.00	$ 299,000	$ 1,295.00	$ 33,670	$ -	$ -	$ 15,656	$ 407,064	$ -	$ 407,064
															$ 5,592,446	$ 2,592,691	$ 2,999,755
	Emergency Dump Valves																
	Spigots and Dump Valves	2	ea	40.30	81	$ 71	$ 5,723	$ 11,500.00	$ 23,000	$ 1,295.00	$ 2,590	$ -	$ -	$ 15,656	$ 31,313	$ 31,313	$ -
															$ 31,313	$ 31,313	$ -

PACIFIC BOOKER MINERALS INC

Morrison Copper/Gold Project

KLOHN CRIPPEN BERGER

Dated - December 5, 2008

TAILINGS AND RECLAIM SYSTEM COST ESTIMATE - Rev. B

Capacity - 30,000tpd

Expressed in CAD$

				Labour				Materials		Construction Equipment		Process Equipment					
WBS Code	Area, Item Description & Equipment Number	Measure Qtty	Unit	Unit Mhrs	Total Mhrs	Labour Rate	Total Labour	Unit Matls	Total Materials	Unit C Equipmt	Total Constrctn Equipment	Unit Proc Equipmt	Total Process Equipment	Unit Cost	Total Costs	Initial Capital Costs	Future Capital Costs
	Reclaim Line																
	Barge to Top of Dam																
	HDPE 28" SDR 32.5 (50psi)	750	m	4.40	**3,297**	$ 71	**$ 234,087**	$ 216.84	**$ 162,631**	$ 48.40	**$ 36,300**	$ -	**$ -**	$ 577	**$ 433,018**	**$ 433,018**	**$ -**
	Top of Dam to Fire Tank																
	HDPE 20" SDR 32.5 (50psi)	1010	m	4.40	**4,440**	$ 71	**$ 315,237**	$ 143.55	**$ 144,981**	$ 48.40	**$ 48,884**	$ -	**$ -**	$ 504	**$ 509,102**	**$ 509,102**	**$ -**
	HDPE 22" SDR 21 (80PSI)	114	m	4.40	**501**	$ 71	**$ 35,581**	$ 211.87	**$ 24,153**	$ 48.40	**$ 5,518**	$ -	**$ -**	$ 572	**$ 65,252**	**$ 65,252**	**$ -**
	HDPE 24" SDR 13.5 (128PSI)	193	m	4.40	**848**	$ 71	**$ 60,238**	$ 331.03	**$ 63,890**	$ 48.40	**$ 9,341**	$ -	**$ -**	$ 692	**$ 133,469**	**$ 133,469**	**$ -**
	HDPE 26" SDR 11 (160psi)	2268	m	4.40	**9,970**	$ 71	**$ 707,879**	$ 441.90	**$ 1,002,221**	$ 48.40	**$ 109,771**	$ -	**$ -**	$ 802	**$ 1,819,872**	**$ 1,819,872**	**$ -**
	Fire Tank to Process Water Tank																
	HDPE 18" SDR 26 (64PSI)	129	m	4.40	**567**	$ 71	**$ 40,263**	$ 143.89	**$ 18,562**	$ 48.40	**$ 6,244**	$ -	**$ -**	$ 504	**$ 65,069**	**$ 65,069**	**$ -**
	HDPE 18" SDR 17 (100PSI)	151	m	4.40	**664**	$ 72	**$ 47,793**	$ 184.39	**$ 27,843**	$ 48.40	**$ 7,308**	$ -	**$ -**	$ 549	**$ 82,945**	**$ 82,945**	**$ -**
	HDPE 24" SDR 13.5 (128PSI)	1305	m	4.40	**5,737**	$ 73	**$ 418,785**	$ 385.74	**$ 503,397**	$ 48.40	**$ 63,162**	$ -	**$ -**	$ 755	**$ 985,344**	**$ 985,344**	**$ -**
															$ 4,094,071	**$ 4,094,071**	**$ -**
	Hydrocyclones																
	Hydrocyclones	2	EA	80	**160**	$ 71	**$ 11,360**	$ 360,000.00	**$ 720,000**	$ 7,000.00	**$ 14,000**	$ -	**$ -**	$ 372,680	**$ 745,360**	**$ 745,360**	**$ -**
															$ 745,360	**$ 745,360**	**$ -**
	Reclaim Pump Barge																
	Reclaim Barge	1	LS	80	**80**	$ 71	**$ 5,680**	$2,222,920.00	**$ 2,222,920**	$ 7,000.00	**$ 7,000**	$ -	**$ -**	$ 2,235,600	**$ 2,235,600**	**$ 2,235,600**	**$ -**
	Shore Electrical Equipment	1	LS	1338	**1,338**	$ 71	**$ 95,000**	$ 120,000.00	**$ 120,000**	$ -	**$ -**	$ -	**$ -**	$ 215,000	**$ 215,000**	**$ 215,000**	**$ -**
															$ 2,450,600	**$ 2,450,600**	**$ -**
	North Seepage Pond Pump House																
	Excavation	500	m3	0.324	**162**	$ 71	**$ 11,502**	$ 19.03	**$ 9,515**	$ 6.71	**$ 3,355**	$ -	**$ -**	$ 15	**$ 7,500**	**$ -**	**$ 7,500**
	Concrete	10	m3	7.33	**73**	$ 71	**$ 5,204**	$ 360.00	**$ 3,600**	$ 100.00	**$ 1,000**	$ -	**$ -**	$ 1,000	**$ 10,000**	**$ -**	**$ 10,000**
	Pre-Cast Concrete Well	1	LS	40.00	**40**	$ 71	**$ 2,840**	$ 20,000.00	**$ 20,000**	$ 1,200.00	**$ 1,200**	$ -	**$ -**	$ 1,000	**$ 1,000**	**$ -**	**$ 1,000**
	Building	15	m2	-	**-**	$ -	**$ -**	$ -	**$ -**	$ -	**$ -**	$ -	**$ -**	$ 1,900	**$ 28,500**	**$ -**	**$ 28,500**
	Pump Units	2	EA	20	**40**	$ 71	**$ 2,840**	$ 60,000	**$ 120,000**	$ 1,200.00	**$ 2,400**	$ -	**$ -**	$ 62,620	**$ 125,240**	**$ -**	**$ 125,240**
	Pipework	200	kg	0.082	**16**	$ 71	**$ 1,164**	$ 6.00	**$ 1,200**	$ 2.50	**$ 500**	$ -	**$ -**	$ 14.32	**$ 2,864**	**$ -**	**$ 2,864**
	Pipework & Valves	1	LS	30	**30**	$ 72	**$ 2,160**	$ 30,000.00	**$ 30,000**	$ 1,800.00	**$ 1,800**	$ -	**$ -**	$ 33,960.00	**$ 33,960**	**$ -**	**$ 33,960**
	MV Switchgear & Transformer	1	LS	1338	**1,338**	$ 71	**$ 95,000**	$ 120,000.00	**$ 120,000**	$ -	**$ -**	$ -	**$ -**	$ 215,000	**$ 215,000**	**$ -**	**$ 215,000**
	Controls	1	LS	282	**282**	$ 71	**$ 20,000**	$ 15,000.00	**$ 15,000**	$ -	**$ -**	$ -	**$ -**	$ 35,000	**$ 35,000**	**$ -**	**$ 35,000**
	Auxilliary Electrical	1	LS	775	**775**	$ 71	**$ 55,000**	$ 95,000.00	**$ 95,000**	$ -	**$ -**	$ -	**$ -**	$ 150,000	**$ 150,000**	**$ -**	**$ 150,000**
	Cabling	1	LS	352	**352**	$ 71	**$ 25,000**	$ 20,000.00	**$ 20,000**	$ -	**$ -**	$ -	**$ -**	$ 45,000	**$ 45,000**	**$ -**	**$ 45,000**
	Misc Steel	2000	kg	0.044	**88**	$ 71	**$ 6,240**	$ 3.90	**$ 7,800**	$ 0.78	**$ 1,560**	$ -	**$ -**	$ 7.80	**$ 15,600**	**$ -**	**$ 15,600**
	HDPE 12" SDR 13.5 (128psi)	100	m	1.15	**115**	$ 71	**$ 8,165**	$ 95.48	**$ 9,548**	$ 18.16	**$ 1,816**	$ -	**$ -**	$ 195	**$ 19,529**	**$ -**	**$ 19,529**
	HDPE 7" SDR 9 (200PSI)	1000	m	1.15	**1,150**	$ 71	**$ 81,650**	$ 36.14	**$ 36,139**	$ 18.16	**$ 18,160**	$ -	**$ -**	$ 136	**$ 135,949**	**$ -**	**$ 135,949**
															$ 825,143	**$ -**	**$ 825,143**
	South Seepage Pond Pump House																
	Excavation	500	m3	0.324	**162**	$ 71	**$ 11,502**	$ 19.03	**$ 9,515**	$ 6.71	**$ 3,355**	$ -	**$ -**	$ 15	**$ 7,500**	**$ 7,500**	**$ -**
	Concrete	10	m3	7.33	**73**	$ 71	**$ 5,204**	$ 360.00	**$ 3,600**	$ 100.00	**$ 1,000**	$ -	**$ -**	$ 1,000	**$ 10,000**	**$ 10,000**	**$ -**
	Pre-Cast Concrete Well	1	LS	40.00	**40**	$ 71	**$ 2,840**	$ 20,000.00	**$ 20,000**	$ 1,200.00	**$ 1,200**	$ -	**$ -**	$ 1,000	**$ 1,000**	**$ 1,000**	**$ -**
	Building	15	m2	-	**-**	$ -	**$ -**	$ -	**$ -**	$ -	**$ -**	$ -	**$ -**	$ 1,900	**$ 28,500**	**$ 28,500**	**$ -**
	Pump Units	2	EA	20	**40**	$ 71	**$ 2,840**	$ 65,000	**$ 130,000**	$ 1,200.00	**$ 2,400**	$ -	**$ -**	$ 67,620	**$ 135,240**	**$ 135,240**	**$ -**
	Pipework	200	kg	0.082	**16**	$ 71	**$ 1,164**	$ 6.00	**$ 1,200**	$ 2.50	**$ 500**	$ -	**$ -**	$ 14.32	**$ 2,864**	**$ 2,864**	**$ -**
	Pipework & Valves	1	LS	30	**30**	$ 72	**$ 2,160**	$ 30,000.00	**$ 30,000**	$ 1,800.00	**$ 1,800**	$ -	**$ -**	$ 33,960.00	**$ 33,960**	**$ 33,960**	**$ -**
	MV Switchgear & Transformer	1	LS	1338	**1,338**	$ 71	**$ 95,000**	$ 120,000.00	**$ 120,000**	$ -	**$ -**	$ -	**$ -**	$ 215,000	**$ 215,000**	**$ 215,000**	**$ -**
	Controls	1	LS	282	**282**	$ 71	**$ 20,000**	$ 15,000.00	**$ 15,000**	$ -	**$ -**	$ -	**$ -**	$ 35,000	**$ 35,000**	**$ 35,000**	**$ -**
	Auxilliary Electrical	1	LS	775	**775**	$ 71	**$ 55,000**	$ 95,000.00	**$ 95,000**	$ -	**$ -**	$ -	**$ -**	$ 150,000	**$ 150,000**	**$ 150,000**	**$ -**
	Cabling	1	LS	352	**352**	$ 71	**$ 25,000**	$ 20,000.00	**$ 20,000**	$ -	**$ -**	$ -	**$ -**	$ 45,000	**$ 45,000**	**$ 45,000**	**$ -**
	Misc Steel	2000	kg	0.044	**88**	$ 71	**$ 6,240**	$ 3.90	**$ 7,800**	$ 0.78	**$ 1,560**	$ -	**$ -**	$ 7.80	**$ 15,600**	**$ 15,600**	**$ -**
	HDPE 12" SDR 13.5 (128psi)	100	m	1.15	**115**	$ 71	**$ 8,165**	$ 95.48	**$ 9,548**	$ 18.16	**$ 1,816**	$ -	**$ -**	$ 195	**$ 19,529**	**$ 19,529**	**$ -**
	HDPE 7" SDR 9 (200PSI)	1000	m	1.15	**1,150**	$ 71	**$ 81,650**	$ 36.14	**$ 36,139**	$ 18.16	**$ 18,160**	$ -	**$ -**	$ 136	**$ 135,949**	**$ 135,949**	**$ -**
															$ 835,143	**$ 835,143**	**$ -**

PACIFIC BOOKER MINERALS INC

Morrison Copper/Gold Project

KLOHN CRIPPEN BERGER

Dated - December 5, 2008

TAILINGS AND RECLAIM SYSTEM COST ESTIMATE - Rev. B

Capacity - 30,000tpd

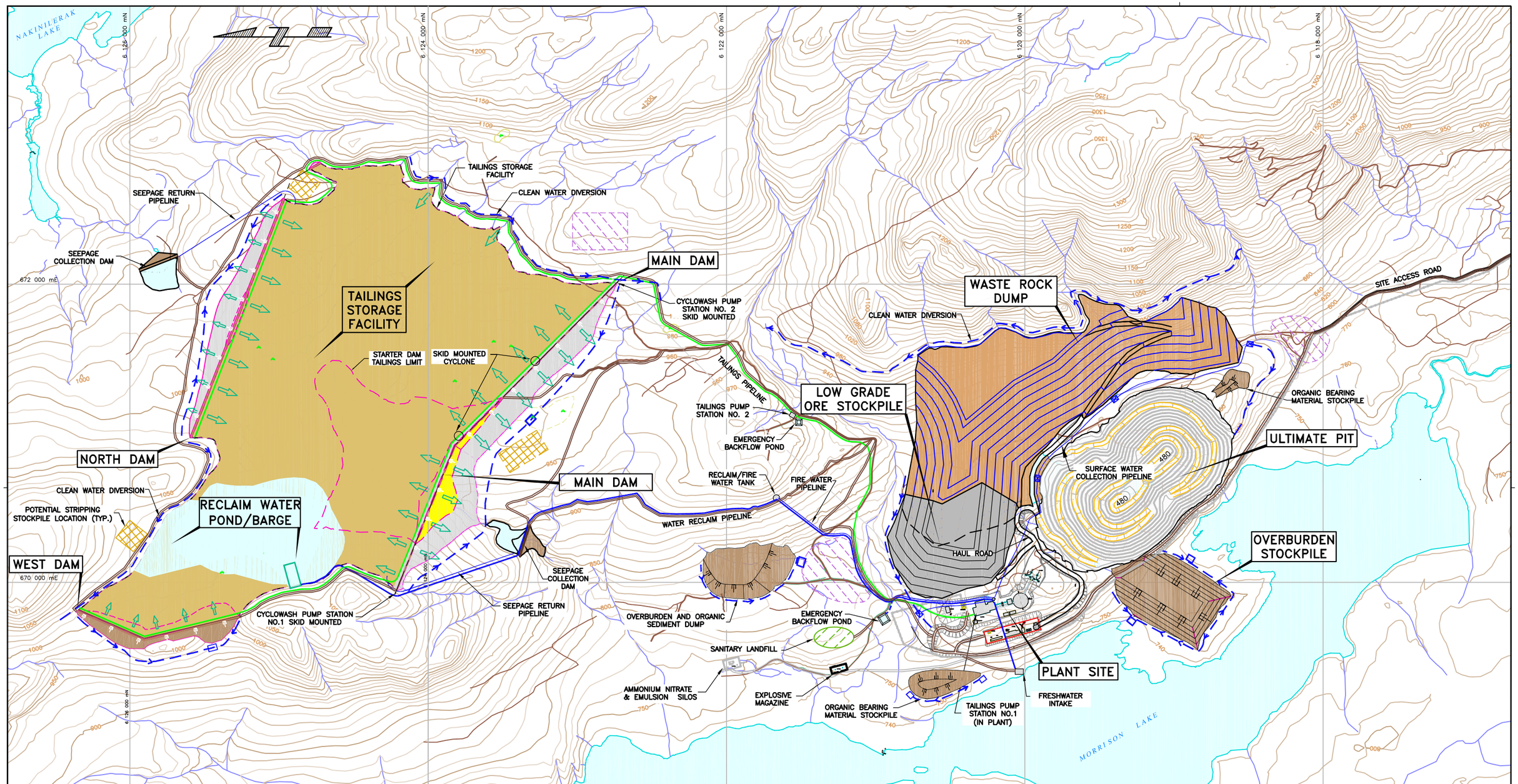
Expressed in CAD$

				Labour				Materials		Construction Equipment		Process Equipment					
WBS Code	**Area, Item Description & Equipment Number**	**Measure Qtty**	**Unit**	**Unit Mhrs**	**Total Mhrs**	**Labour Rate**	**Total Labour**	**Unit Matls**	**Total Materials**	**Unit C Equipmt**	**Total Constrctn Equipment**	**Unit Proc Equipmt**	**Total Process Equipment**	**Unit Cost**	**Total Costs**	**Initial Capital Costs**	**Future Capital Costs**
	Cyclowash Pump Station No. 1																
	Pump Skid	1	LS	20	**20**	$ 71	**$ 1,420**	$ 354,340.00	**$ 354,340**	$ 2,800.00	**$ 2,800**	$ -	**$ -**	$ 358,560	**$ 358,560**	**$ 358,560**	**$ -**
	Electrical Equipment	1	LS	563	**563**	$ 71	**$ 40,000**	$ 80,000.00	**$ 80,000**	$ -	**$ -**	$ -	**$ -**	$ 120,000	**$ 120,000**	**$ 120,000**	**$ -**
															$ 478,560	**$ 478,560**	**$ -**
	Cyclowash Pump Station No. 2																
	Pump Skid	1	LS	20	**20**	$ 71	**$ 1,420**	$ 347,740.00	**$ 347,740**	$ 2,800.00	**$ 2,800**	$ -	**$ -**	$ 351,960	**$ 351,960**	**$ -**	**$ 351,960**
	Electrical Equipment	1	LS	563	**563**	$ 71	**$ 40,000**	$ 80,000.00	**$ 80,000**	$ -	**$ -**	$ -	**$ -**	$ 120,000	**$ 120,000**	**$ -**	**$ 120,000**
															$ 471,960	**$ -**	**$ 471,960**
	Cyclowash Pipeline																
	HDPE 6" SDR 32.5 (50psi)	7200	m	1.15	**8,280**	$ 71	**$ 587,880**	$ 17.21	**$ 123,886**	$ 18.16	**$ 130,752**	$ -	**$ -**	$ 117	**$ 842,518**	**$ 210,629**	**$ 631,888**
	HDPE 6" SDR 17 (100psi)	2500	m	1.15	**2,875**	$ 71	**$ 204,125**	$ 45.63	**$ 114,075**	$ 18.16	**$ 45,400**	$ -	**$ -**	$ 145	**$ 363,600**	**$ -**	**$ 363,600**
															$ 1,206,118	**$ 210,629**	**$ 995,489**
	Fire Water Line																
	HDPE 12" SDR 26 (64psi)	129	m	1.15	**148**	$ 71	**$ 10,533**	$ 45.20	**$ 5,830**	$ 18.16	**$ 2,343**	$ -	**$ -**	$ 145	**$ 18,706**	**$ 18,706**	**$ -**
	HDPE 12" SDR 17 (100psi)	151	m	1.15	**174**	$ 71	**$ 12,329**	$ 80.03	**$ 12,085**	$ 18.16	**$ 2,742**	$ -	**$ -**	$ 180	**$ 27,156**	**$ 27,156**	**$ -**
	HDPE 12" SDR 13.5 (128psi)	1305	m	1.15	**1,501**	$ 71	**$ 106,553**	$ 95.48	**$ 124,607**	$ 18.16	**$ 23,699**	$ -	**$ -**	$ 195	**$ 254,859**	**$ 254,859**	**$ -**
															$ 300,721	**$ 300,721**	**$ -**
	Fresh/Process Water Make-up Pump House																
	Excavation	500	m3	0.324	**162**	$ 71	**$ 11,502**	$ 19.03	**$ 9,515**	$ 6.71	**$ 3,355**	$ -	**$ -**	$ 15	**$ 7,500**	**$ 7,500**	**$ -**
	Concrete	10	m3	7.33	**73**	$ 71	**$ 5,204**	$ 360.00	**$ 3,600**	$ 100.00	**$ 1,000**	$ -	**$ -**	$ 1,000	**$ 10,000**	**$ 10,000**	**$ -**
	Pre-Cast Concrete Well	1	LS	40.00	**40**	$ 71	**$ 2,840**	$ 20,000.00	**$ 20,000**	$ 1,200.00	**$ 1,200**	$ -	**$ -**	$ 1,000	**$ 1,000**	**$ 1,000**	**$ -**
	Building	15	m2	-	**-**	$ -	**$ -**	$ -	**$ -**	$ -	**$ -**	$ -	**$ -**	$ 1,900	**$ 28,500**	**$ 28,500**	**$ -**
	Pump Units	2	EA	20	**40**	$ 71	**$ 2,840**	$ 70,000	**$ 140,000**	$ 1,200.00	**$ 2,400**	$ -	**$ -**	$ 72,620	**$ 145,240**	**$ 145,240**	**$ -**
	Pipework	400	kg	0.082	**33**	$ 71	**$ 2,329**	$ 6.00	**$ 2,400**	$ 2.50	**$ 1,000**	$ -	**$ -**	$ 14.32	**$ 5,729**	**$ 5,729**	**$ -**
	Pipework & Valves	1	LS	35	**35**	$ 72	**$ 2,520**	$ 35,000.00	**$ 35,000**	$ 1,800.00	**$ 1,800**	$ -	**$ -**	$ 39,320.00	**$ 39,320**	**$ 39,320**	**$ -**
	MV Switchgear & Transformer	1	LS	1338	**1,338**	$ 71	**$ 95,000**	$ 120,000.00	**$ 120,000**	$ -	**$ -**	$ -	**$ -**	$ 215,000	**$ 215,000**	**$ 215,000**	**$ -**
	Controls	1	LS	282	**282**	$ 71	**$ 20,000**	$ 15,000.00	**$ 15,000**	$ -	**$ -**	$ -	**$ -**	$ 35,000	**$ 35,000**	**$ 35,000**	**$ -**
	Auxilliary Electrical	1	LS	775	**775**	$ 71	**$ 55,000**	$ 95,000.00	**$ 95,000**	$ -	**$ -**	$ -	**$ -**	$ 150,000	**$ 150,000**	**$ 150,000**	**$ -**
	Cabling	1	LS	352	**352**	$ 71	**$ 25,000**	$ 20,000.00	**$ 20,000**	$ -	**$ -**	$ -	**$ -**	$ 45,000	**$ 45,000**	**$ 45,000**	**$ -**
	Misc Steel	2000	kg	0.044	**88**	$ 71	**$ 6,240**	$ 3.90	**$ 7,800**	$ 0.78	**$ 1,560**	$ -	**$ -**	$ 7.80	**$ 15,600**	**$ 15,600**	**$ -**
	HDPE 12" SDR 13.5 (128psi)	200	m	1.15	**230**	$ 71	**$ 16,330**	$ 95.48	**$ 19,097**	$ 18.16	**$ 3,632**	$ -	**$ -**	$ 195	**$ 39,059**	**$ 39,059**	**$ -**
	HDPE 10" SDR 11 (160psi)	600	m	1.15	**690**	$ 71	**$ 48,990**	$ 69.10	**$ 41,459**	$ 18.16	**$ 10,896**	$ -	**$ -**	$ 169	**$ 101,345**	**$ 101,345**	**$ -**
															$ 838,292	**$ 838,292**	**$ -**
Total Directs					**103,568**		**$ 7,365,574**		**$ 19,737,720**		**$ 1,630,176**		**$ -**		**$ 29,788,456**	**$ 24,496,110**	**$ 5,292,346**
INDIRECT COSTS																	
	Indirects (Included elsewhere by Wardrop)																
	Engineering and Project Management (Included elsewhere by Wardop)																
	Contingency (Included elsewhere by Wardrop)																
Total Indirects															**$ -**	**$ -**	**$ -**
Grand Total															**$ 29,788,456**	**$ 24,496,110**	**$ 5,292,346**

NOTE: All Pipe Costs include clear and grub (as required), bedding, excavation (buried only), haul, handling, erection, fit, welding or fusing, and backfill (as required).

DRAWINGS

D-1002	General Site Arrangement
D-1501	Tailings Handling, Reclaim, & Freshwater Make-Up Process Flow Diagram
D-1502	Tailings Pump Station No. 1 One Line Diagram
D-1503	Tailings Pump Station No. 2 One Line Diagram
D-1504	Reclaim Barge, Cyclowash Skid, Seepage Pond Reclaim One Line Diagram
D-1505	Freshwater Make-Up Pump Station One Line Diagram



LEGEND

- TAILINGS LINE
- WATER PIPELINE
- DITCH
- SITE ACCESS ROAD
- HAUL ROAD
- SEDIMENT POND
- PUMPING SUMP
- EXISTING ROADS
- BORROW AREAS
- STOCKPILE AREAS

NOTES:

1. TOPOGRAPHY IS 10 m CONTOUR INTERVAL, PRODUCED FROM AERIAL PHOTOGRAPHY FLOWN IN SEP, 2006 AND COMPILED BY EAGLE MAPPING LTD
2. DATUM IN UTM NAD83, ZONE 9.
3. PLANT SITE LAYOUT PROVIDED BY WARDROP (NOV. 4, 2008).

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
E	DEC 6, 2008	ISSUED WITH GEOTECHNICAL FEASIBILITY STUDY REPORT				
D	DEC 3, 2008	2008 UPDATE – DRAFT FOR CLIENT REVIEW	TD		TJ	
C	MAY 29, 2008	ISSUED WITH FINAL 2007 S.I. REPORT	PL		TJ	
B	APR 25, 2008	ISSUED FOR CLIENT REVIEW	PL		TJ	
A	APR 15, 2008	ISSUED FOR CLIENT REVIEW	PL		TJ	

DRAWING NO.	REFERENCE DRAWING

NOT FOR CONSTRUCTION

0 500 m

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA,STATEMENTS,CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

CLIENT: pbm

Klohn Crippen Berger

PROJECT: MORRISON COPPER/GOLD PROJECT
GEOTECHICAL FEASIBILITY DESIGN

TITLE: GENERAL SITE ARRANGEMENT

SCALE	PROJECT No.	DWG. No.	REV.
AS SHOWN	M09382 A01	D–1002	E

CANCEL PRINTS BEARING PREVIOUS REVISION

KCB-C-MLD

Time: 10:17:1
Date: 11/6/2008
Scale: 1=13(PS)
Drawing File: M\M09382A01 – Morrison Copper Gold\400 Design\410 Drawings\FEASIBILITY REPORT_Oct 2008\D1002to4+8_D1101+2+5_D1201+2_D1301rD(UPDATE).dwg (tau)
Xrefs: BM-Morrison Copper-Jan08

CYCLOWASH PUMP STATION No. 1

CYCLOWASH PUMP
PUMP No. 1
100 mm x 150 mm
Q=190 m3/hr
H=49 m
48 kW

CYCLOWASH BOOSTER
PUMP No. 2 (STANDBY)
100 mm x 150 mm
Q=190 m3/hr
H=49 m
48 kW

190

1017	2.76	578
2677	27.5	2677
3694	1.21	3045

2575

2665

120

120

WELL

WELL

NORTH SEEPAGE POND
PUMP No. 1
150 mm
Q=120 m3/hr
H=93 m
52 kW

NORTH SEEPAGE POND
PUMP No. 2 (STANDBY)
150 mm
Q=120 m3/hr
H=93 m
52 kW

SOUTH SEEPAGE POND
PUMP No. 1
150 mm
Q=120 m3/hr
H=149 m
78 kW

SOUTH SEEPAGE POND
PUMP No. 2 (STANDBY)
150 mm
Q=120 m3/hr
H=149 m
78 kW

RECLAIM POND

TO DISTRIBUTION
PIPE AROUND
RECLAIM POND

RECLAIM WATER
PUMP No. 1
400 mm
Q=1332 m3/hr
H=13.2 m
82 kW

DE-ICING PUMP
15 kW

RECLAIM WATER
PUMP No. 2
400 mm
Q=1332 m3/hr
H=13.2 m
82 kW

RECLAIM WATER
PUMP No. 3 (STANDBY)
400 mm
Q=1332 m3/hr
H=13.2 m
82 kW

1017	2.76	578
2677	27.5	2677
3694	1.21	3045

FINAL TAILINGS
CYLCONE WITH
CYCLOSWASH &
SANDSTACKER
6 x 650 mm
MOBILE – RELOCATED
AS REQUIRED
(NOTE 1)

324	2.76	117
126	72.0	126
450	1.85	243

TAILINGS SAND FOR
DAM CONSTRUCTION

CYCLOWASH PUMP STATION No. 2

CYCLOWASH BOOSTER
PUMP No. 1
100 mm x 150 mm
Q=190 m3/hr
H=57 m
56 kW

CYCLOWASH BOOSTER
PUMP No. 2 (STANDBY)
100 mm x 150 mm
Q=190 m3/hr
H=57 m
56 kW

190

FINAL TAILINGS
CYLCONE WITH
CYCLOSWASH &
SANDSTACKER
6 x 650 mm
MOBILE – RELOCATED
AS REQUIRED
(NOTE 1)

324	2.76	117
126	72.0	126
450	1.85	243

TAILINGS SAND FOR
DAM CONSTRUCTION

2575

RECLAIM WATER

PLANT FIRE WATER

341

FIRE WATER TANK
(BY WARDROP)

1341	2.76	516
2613	33.92	2613
3955	1.28	3099

FINAL TAILINGS

FINAL TAILINGS
PUMP BOX No. 1

FINAL TAILINGS
FEED PUMP No. 2
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS
FEED PUMP No. 4
VFD
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS
FEED PUMP No. 1
VFD
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS
FEED PUMP No. 3
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS PUMP STATION No. 1 – LOCATED IN PLANT

FINAL TAILINGS
PUMP BOX No. 2

FINAL TAILINGS
FEED PUMP No. 2
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS
FEED PUMP No. 4
VFD
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS
FEED PUMP No. 1
VFD
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS
FEED PUMP No. 3
400 mm x 350 mm
Q=3099 m3/hr
H=48.6 m
820 kW

FINAL TAILINGS PUMP STATION No. 2

FINAL TAILINGS
SPARE FEED PUMP
400 mm x 350 mm

EMERGENCY POND

EMERGENCY POND

PROCESS WATER

FRESH WATER SUPPLY

260

FRESH/PROCES
WATER MAKE-UP
PUMP No. 1 (DUTY)
150 mm
Q=190 m3/hr
H=118 m
101 kW

FRESH/PROCES
WATER MAKE-UP
PUMP No. 2 (STANDBY)
150 mm
Q=190 m3/hr
H=118 m
101 kW

WELL

MORRISON LAKE

WATER FLOW
m3/hr FLUID

SLURRY FLOW LEGEND

t/h SOLIDS	S.G. SOLIDS	m3/h Solids
t/h WATER	% SOLIDS	m3/h WATER
t/h SLURRY	S.G. SLURRY	m3/h SLURRY

NOTES:

1. ONE CYCLONE MANIFOLD (6 CYCLONES) OPERATING AT A TIME. OTHER CYCLONE MANIFOLD BEING RELOCATED.

PRELIMINARY

NOT FOR CONSTRUCTION

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
D	25 NOV 2008	REMOVE HOLD, REVISED FRESH/PROCESS WATER	AM		AM	
C	19 NOV 2008	REVISED EQUIPMENT DATA	AM		AM	
B	10 NOV 2008	ISSUED FOR REPORT	AM		AM	
A	OCT 2008	ISSUED FOR CLIENT REVIEW	AM		AM	

DRAWING NO.	REFERENCE DRAWING

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA,STATEMENTS,CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

CLIENT

pbm

Klohn Crippen Berger

PROJECT
MORRISON COPPER/GOLD PROJECT
GEOTECHNICAL FEASIBILITY DESIGN

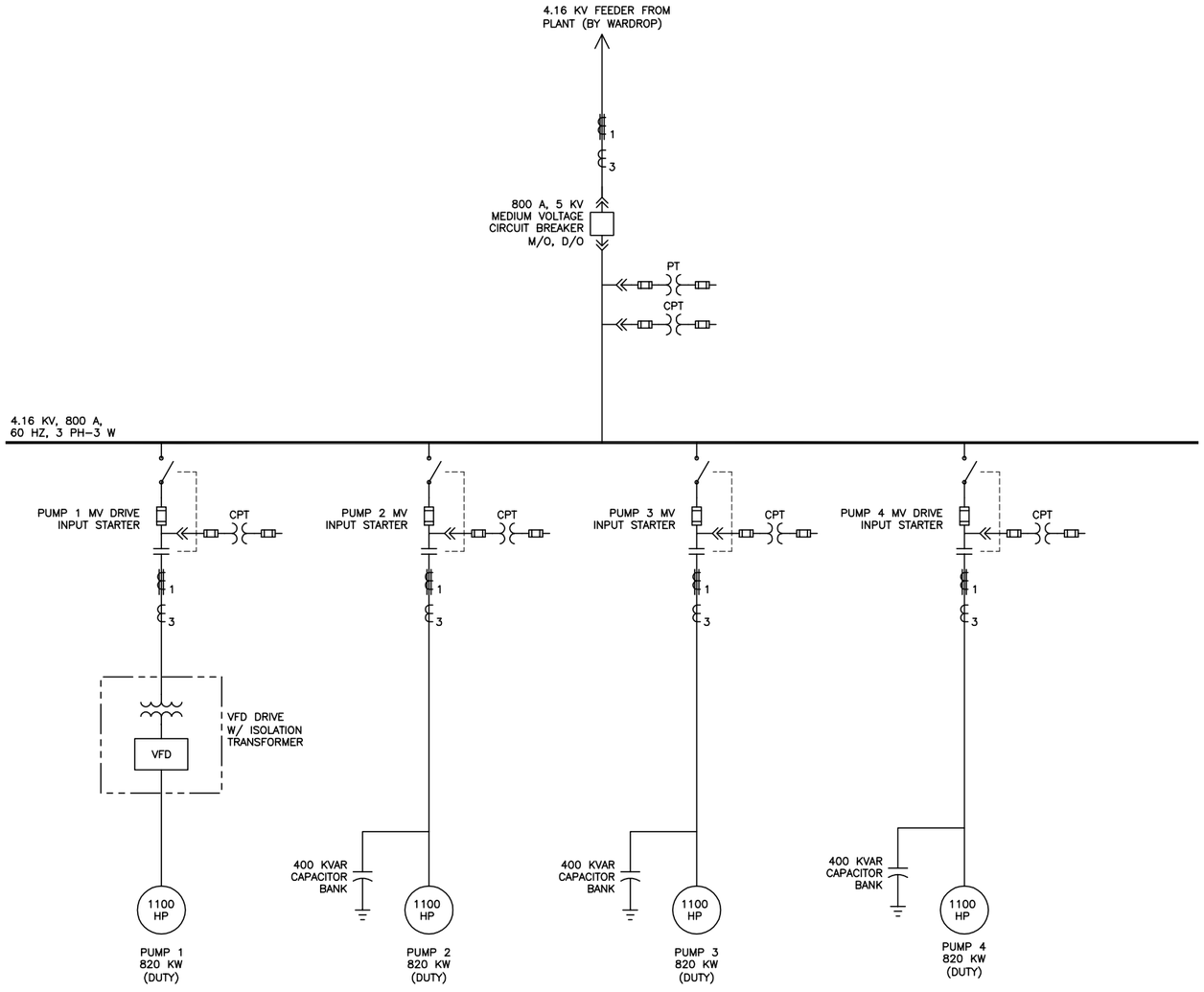
TITLE
TAILINGS HANDLING, RECLAIM,
& FRESHWATER MAKE-UP
PROCESS FLOW DIAGRAM

SCALE	PROJECT No.	DWG. No.	REV.
NTS	M09382A01	D-1501	D

CANCEL PRINTS BEARING PREVIOUS REVISION

KCC-DM

NOTES:
1. AUXILIARY POWER SUPPLY BY WARDROP. INCLUDES: VENTILATION, LIGHTING, CRANE, SMALL POWER, ETC.



PRELIMINARY

NOT FOR CONSTRUCTION

DRAWING NO.	REFERENCE DRAWING	NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
		C	19 NOV 2008	REVISED DATA	TKM		TKM	
		B	10 NOV 2008	ISSUED FOR REPORT	TKM		TKM	
		A	OCT 2008	ISSUED FOR CLIENT REVIEW	TKM		TKM	

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CLIENT: pbm

Klohn Crippen Berger

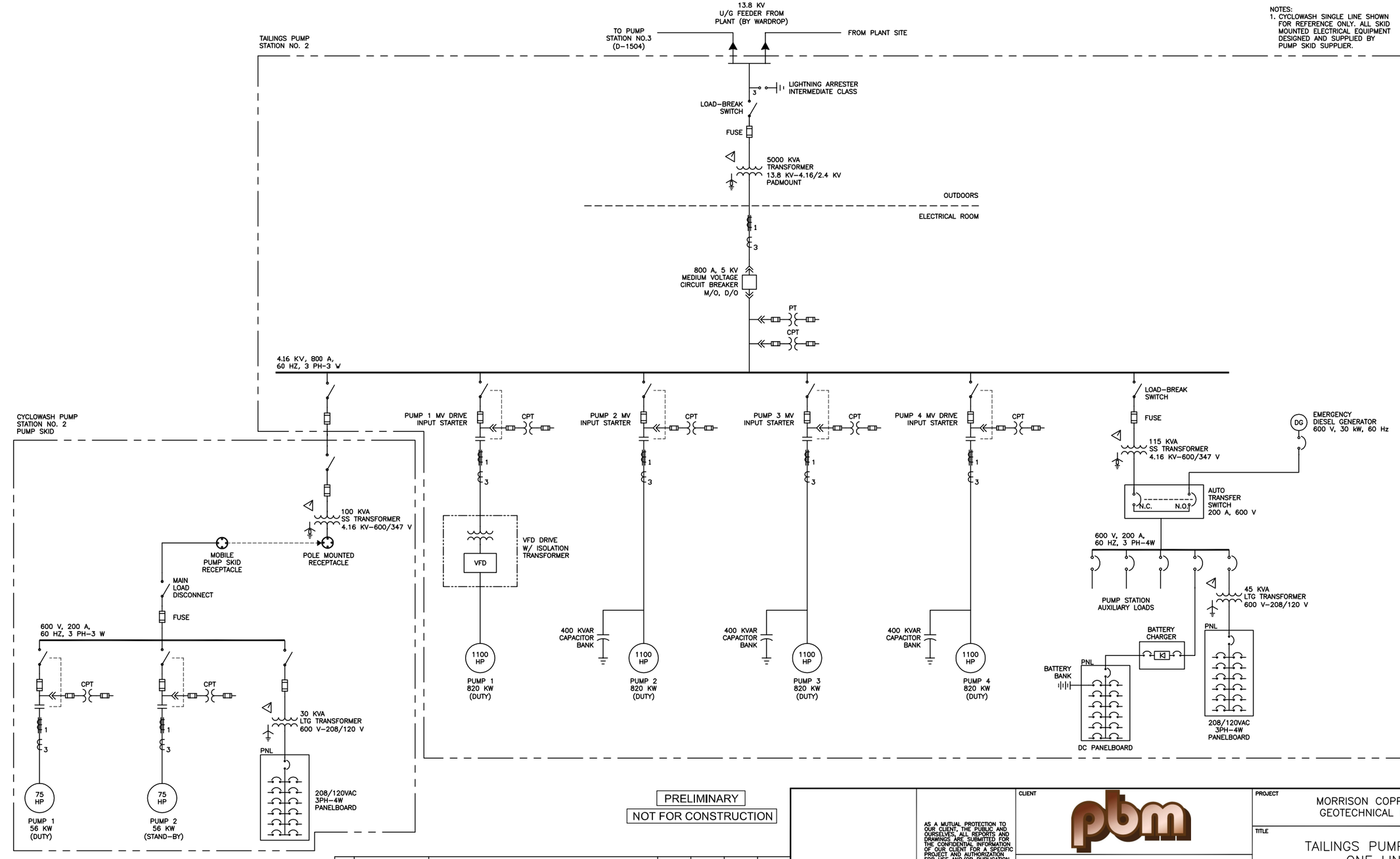
PROJECT: MORRISON COPPER/GOLD PROJECT
GEOTECHNICAL FEASIBILITY DESIGN

TITLE: TAILINGS PUMP STATION NO. 1
ONE LINE DIAGRAM

SCALE	PROJECT No.	DWG. No.	REV.
NTS	M09382A01	D-1502	B

CANCEL PRINTS BEARING PREVIOUS REVISION

KCB-PM



NOTES:
1. CYCLOWASH SINGLE LINE SHOWN FOR REFERENCE ONLY. ALL SKID MOUNTED ELECTRICAL EQUIPMENT DESIGNED AND SUPPLIED BY PUMP SKID SUPPLIER.

PRELIMINARY

NOT FOR CONSTRUCTION

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
C	19 NOV 2008	REVISED DATA	TKM		TKM	
B	10 NOV 2008	ISSUED FOR REPORT	TKM		TKM	
A	OCT 2008	ISSUED FOR CLIENT REVIEW	TKM		TKM	

DRAWING NO. | REFERENCE DRAWING

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CLIENT

ptm

Klohn Crippen Berger

PROJECT
MORRISON COPPER/GOLD PROJECT
GEOTECHNICAL FEASIBILITY DESIGN

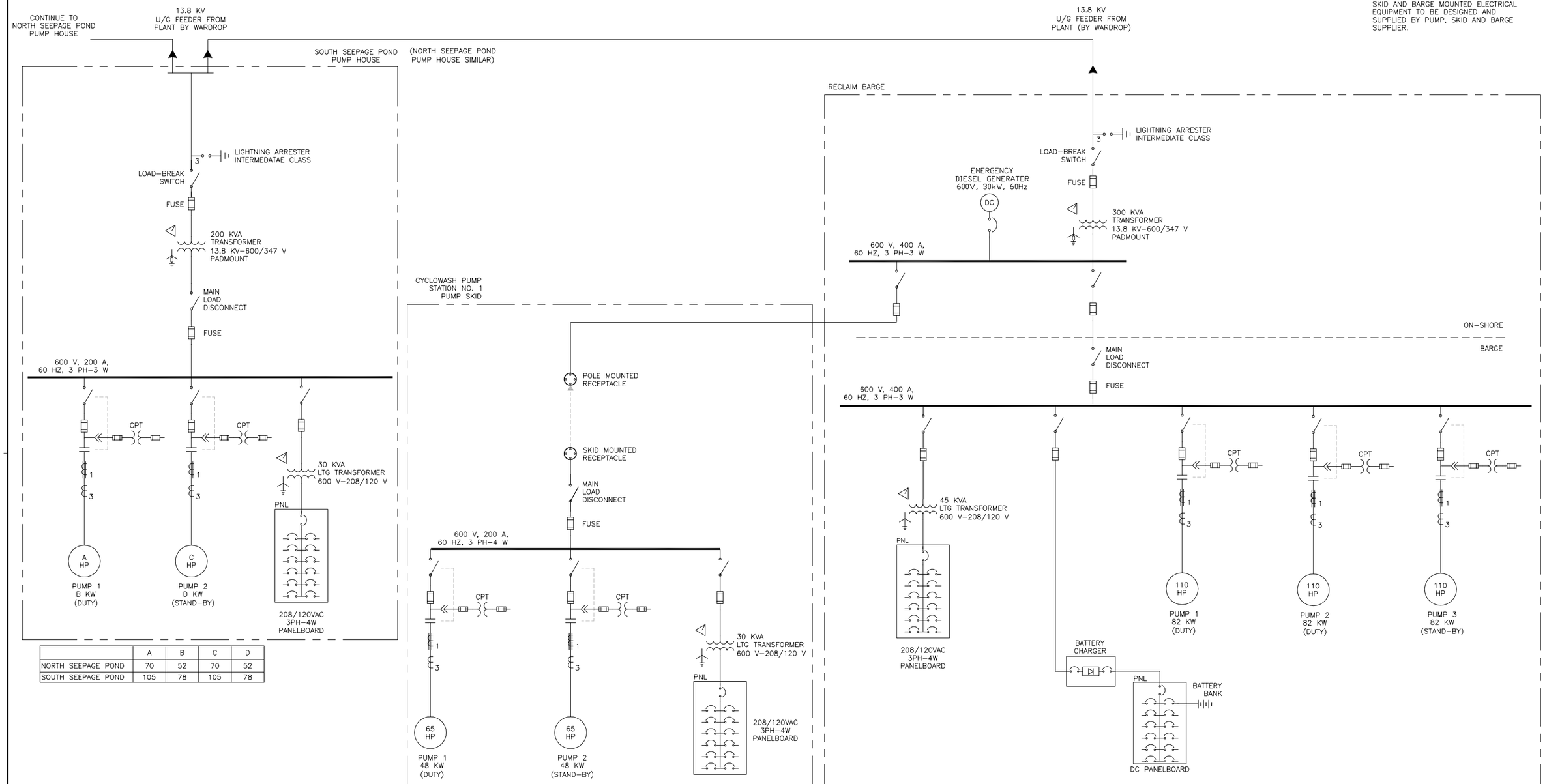
TITLE
TAILINGS PUMP STATION NO. 2
ONE LINE DIAGRAM

SCALE	PROJECT No.	DWG. No.	REV.
NTS	M09382A01	D-1503	B

CANCEL PRINTS BEARING PREVIOUS REVISION

KCC-DM

NOTES:
1. CYCLOWASH AND BARGE SINGLE LINE SHOWN FOR REFERENCE ONLY. ALL SKID AND BARGE MOUNTED ELECTRICAL EQUIPMENT TO BE DESIGNED AND SUPPLIED BY PUMP, SKID AND BARGE SUPPLIER.



	A	B	C	D
NORTH SEEPAGE POND	70	52	70	52
SOUTH SEEPAGE POND	105	78	105	78

PRELIMINARY

NOT FOR CONSTRUCTION

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
D	25 NOV 2008	REMOVE HOLD	TKM		TKM	
C	19 NOV 2008	REVISED DATA	TKM		TKM	
B	06 NOV 2008	ISSUED FOR REPORT	TKM		TKM	
A	OCT 2008	ISSUED FOR CLIENT REVIEW	TKM		TKM	

DRAWING NO. | REFERENCE DRAWING

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CLIENT

pbm

Klohn Crippen Berger

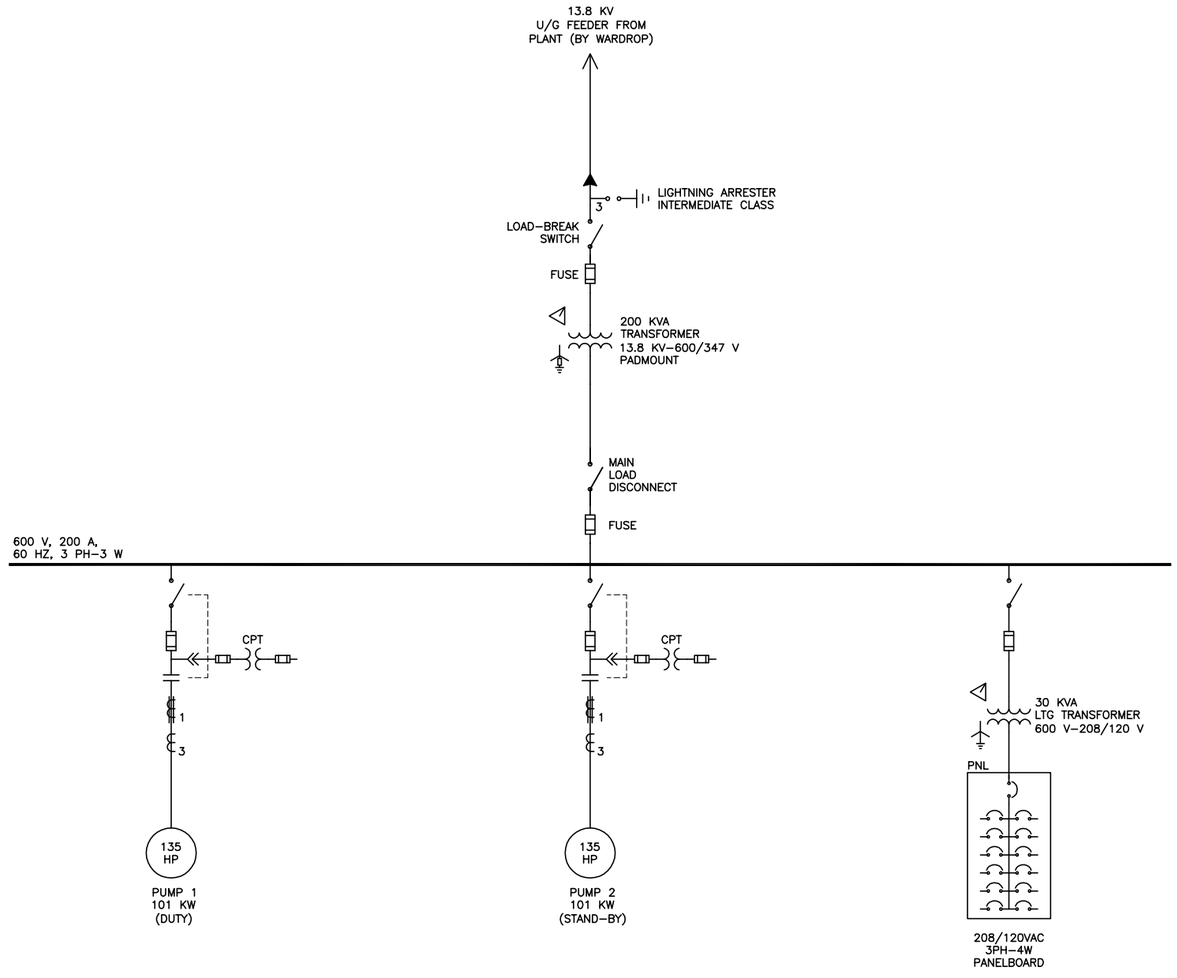
PROJECT
MORRISON COPPER/GOLD PROJECT
GEOTECHNICAL FEASIBILITY DESIGN

TITLE
RECLAIM BARGE, CYCLOWASH SKID, SEEPAGE POND RECLAIM ONE LINE DIAGRAM

SCALE	PROJECT No.	DWG. No.	REV.
NTS	M09382A01	D–1504	D

KGC–DM

CANCEL PRINTS BEARING PREVIOUS REVISION



PRELIMINARY

NOT FOR CONSTRUCTION

DRAWING NO.	REFERENCE DRAWING	NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
		D	28 NOV 2008	REVISED MOTOR NUMBER AND DATA	TKM		TKM	
		C	19 NOV 2008	REVISED DATA	TKM		TKM	
		B	06 NOV 2008	ISSUED FOR REPORT	TKM		TKM	
		A	OCT 2008	ISSUED FOR CLIENT REVIEW	TKM		TKM	

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CLIENT

pbm

Klohn Crippen Berger

PROJECT

MORRISON COPPER/GOLD PROJECT
GEOTECHNICAL FEASIBILITY DESIGN

TITLE

FRESHWATER MAKE–UP PUMP STATION
ONE LINE DIAGRAM

SCALE	PROJECT No.	DWG. No.	REV.
NTS	M09382A01	D–1505	D

CANCEL PRINTS BEARING PREVIOUS REVISION

KCB-PM