Geochemical Characterization of Proposed Excavation Areas and Borrow Sources from the Eagle Gold Project, Yukon

Prepared for

StrataGold Corp.

Prepared by

SRK Consulting (Canada) Inc.
1CV004.000
May 2013

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Table of Contents

List of Tables

List of Figures

Appendices

1 Introduction

StrataGold Corporation (SGC), a directly held wholly owned subsidiary of Victoria Gold Corporation (VGC), proposes to construct, operate, close and reclaim the Eagle Gold Project, a proposed heap leach gold project located near Mayo, Yukon. The project has completed an environmental assessment (EA) pursuant to the Yukon Environmental and Socio-Economic Act, and additional studies have been completed in support of obtaining a Water Use Licence (WUL) and Quartz Mine Licence (QML). SRK Consulting was retained by VGC to characterize the metal leaching and acid rock drainage (ML/ARD) potential of materials that will be used as borrow sources or excavated during construction of site roads and other infrastructure. This report presents the results of the static testing program on these materials.

2 Background Information

2.1 Previous ML/ARD Characterization Studies

Previous ML/ARD studies on this project included a comprehensive geochemical characterization program and water quality predictions completed in support of the EA (SRK 2011, Appendix 8 in Stantec 2011). The program included samples representing waste rock, pit walls, and spent ore from the heap leach facility.

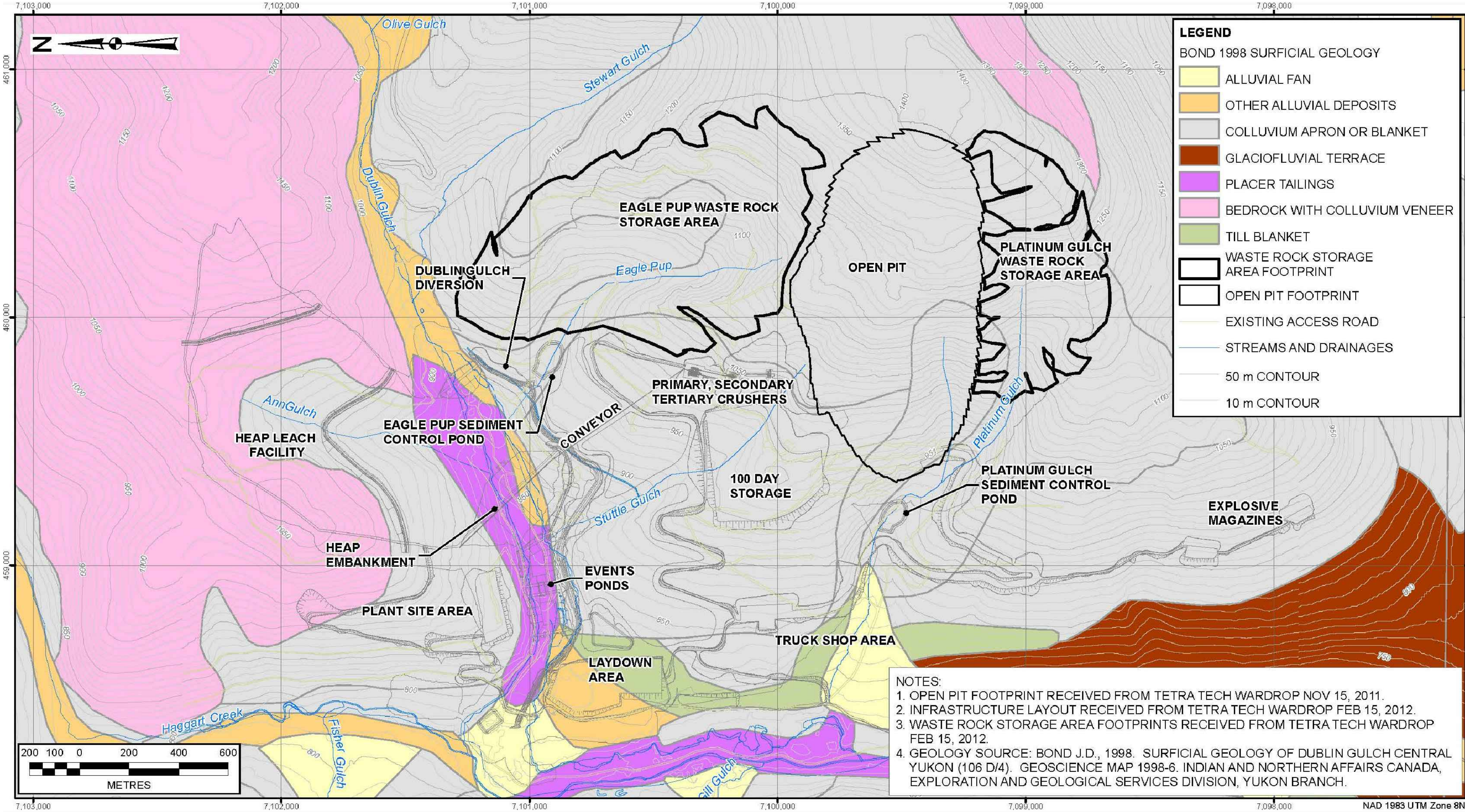
In 2012, additional studies were initiated in support of obtaining a WUL and QML for the project. These included the program described herein, as well as additional static and kinetic testing of waste rock and spent ore. Results of the additional testing will be presented in the WUL application.

2.2 Geological Context

The Eagle Gold deposit is located in a granodiorite intrusion hosted within metasedimentary rocks that consist of intercalated and deformed quartzites and phyllites. To a much lesser extent, schists and carbonates are also present.

Surficial materials within the sampling area include abundant Pleistocene and Holocene colluvial deposits which are typically comprised of diamicton, gravel, shattered bedrock, and lenses of sand and silt derived from bedrock and surficial materials. Glacial till occurs infrequently but, where it is observed, it is typically comprised of either a silty or sandy clay matrix with some proportion of larger clasts. The valley bottom is dominated by alluvium and tailings from placer mining. There is also widespread colluvium covering the bedrock of the region (BGC 2012). A map of the surficial geology is shown in Figure 2.1.

Approximately 8.6 million m^3 of borrow material will be required for construction of the project. Much of this material will be obtained from placer tailings deposits along Haggart Creek and Dublin Gulch (approximately 3.0 million m^3), and the open pit pre-strip areas (approximately 4.0 to 4.5 million m^3). Additional borrow material will be obtained from the Steiner Zone (approximately 0.2 million m^3), and the Ann Gulch Central Knob (approximately 0.9 million m^3). Other cut and fill areas (excavations) within the project area will be mostly within surficial materials (primarily colluvium), but some bedrock may be encountered within some of the larger excavations (BGC 2011, StrataGold 2013).



NOTE

1. Base map obtained from BGC.

srk consulting

Victoria GOLD CORP

Dublin Gulch

Surficial Geology

Eagle Gold - Dublin Gulch Project

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FILE NAME: Sample_plan.dwg

DATE: Dec. 2012

APPROVED: KET

FIGURE: 2.1

3 Methods

Sample selection and sampling plans were completed by SRK in May and June 2012. Where possible, samples representing the excavation and borrow areas were selected for testing from a set of samples collected in 2011 by BGC Engineering Inc. (BGC 2012) as part of the geotechnical studies for the project. The samples were from a combination of test pits and drill holes.

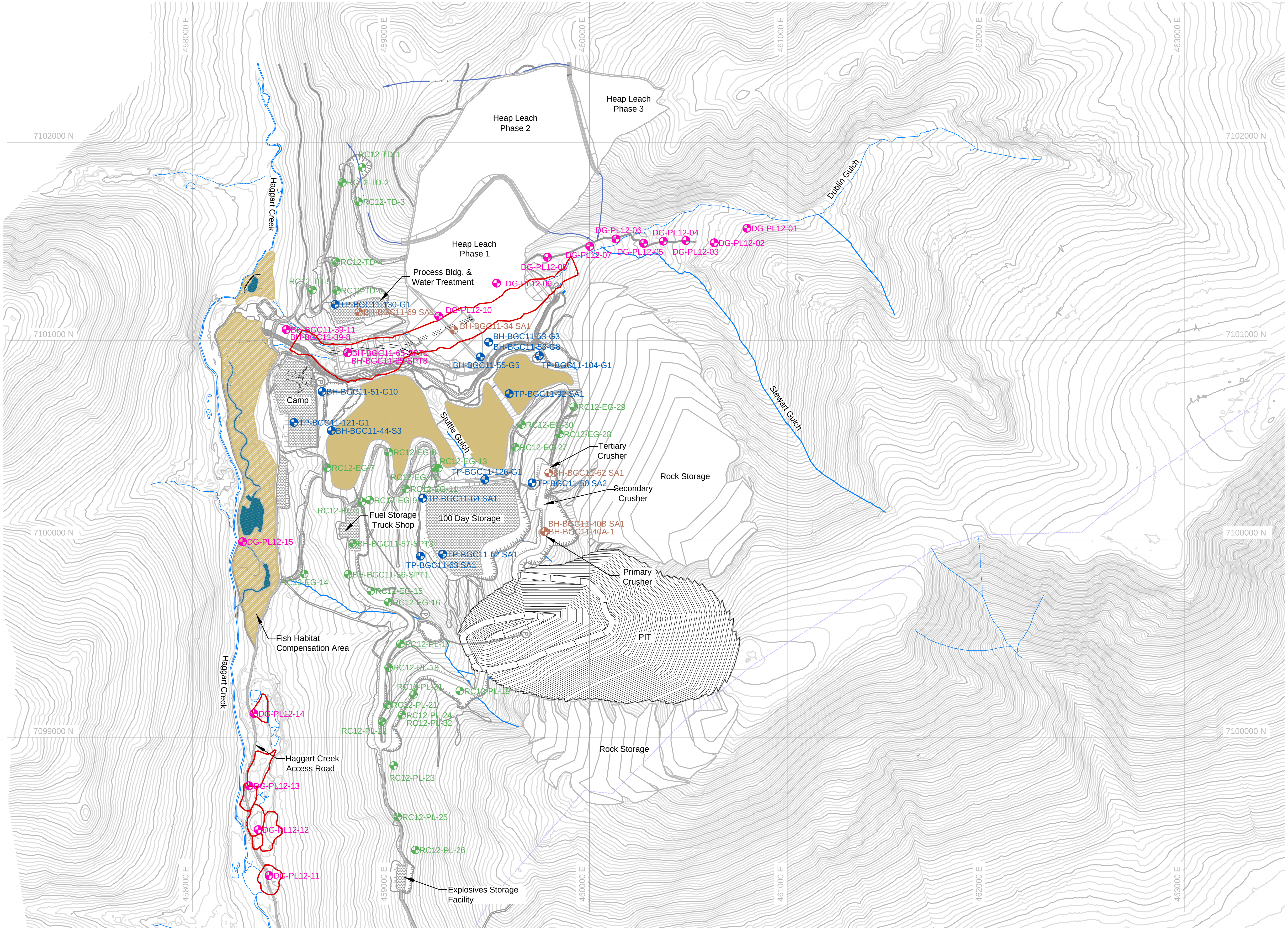
Additional road and borrow samples were collected by VGC site staff in July of 2012. Where possible, road sampling was completed at existing exposures to limit the disturbance of woodland environments. The Dublin Gulch property has approximately 2% bedrock exposure and, given the undeveloped nature of the majority of sampling locations, only one outcrop sample (RC12-PL-19) was collected. All other sampling locations were in undeveloped woodland where the ground was covered in moss to a thickness of approximately 20 cm. To extract a sample, a small pit was dug to a depth of between 30 and 50 cm, and rocks were sampled from within the soils present. Placer tailings from along Dublin Gulch and Haggart Creek were extracted by shovel to fill a 20 litre bucket and were sealed upon collection. In all cases, the sampling objective was to determine the potential for ML/ARD in materials that may be used for construction purposes in the future. A map of the sampling locations is presented in Figure 3.1. A total of 34 samples were collected from the site roads, 19 from excavation areas (five of which were rock), and 19 from the placer tailings borrow sources.

Samples were shipped to SGS Canada, in Burnaby, British Columbia where they underwent a complete suite of acid-base accounting (ABA) test work including paste pH, total inorganic carbon (TIC), total sulphur, sulphate sulphur, modified Sobek neutralization potential (NP) following the method outlined in MEND 1991, fizz test, and low-level metals analysis by aqua regia digestion with ICP-MS (inductively coupled plasma mass spectrometry) finish.

The acid rock drainage (ARD) potential of the samples was assessed using the following criteria:

- Where the total sulphur content was less than 0.02% (corresponding to an AP of 0.6 kg $CaCO_3$ eq/t), the samples were classified as non-reactive.
- Where the total sulphur content was greater than 0.02%, and the NP/AP ratio or TIC/AP ratio was greater than 3, the samples were classified as non-potentially acid generating (non-PAG).
- Where the total sulphur content was greater than 0.02% and the NP/AP or TIC/AP ratio was between 1 and 3, the samples were classified as having an uncertain potential for ARD.
- Where the total sulphur content was greater than 0.02% and the NP/AP or TIC/AP ratio was less than 1, the samples were classified as potentially acid generating (PAG).

The total sulphur cut-off of 0.02%, used to define non-reactive samples in this classification scheme, is considered highly conservative—particularly given that many of these samples were surficial material (soil or colluvial materials) that have been exposed to air and water throughout their geological history. It is likely that more appreciable concentrations of sulphides, present in some of the surficial samples, are also essentially non-reactive due to specific distribution and forms of sulphur expected to occur in these types of materials.



NOTES

1. Contour Base Map Obtained From Tetratech and Victoria Gold Corp. (Contour data recieved from Underhill (February 2011 UTM Nad 83) 25 metre Contour interval.
2. All Elevations are in metres.
3. Contour data recieved from Underhill (February 2011)

LEGEND

- Excavation Rock Samples
- Excavation Surficial Samples
- Placer/Alluvial Samples
- Road Samples
- Borrow Source Locations

0 200 400 600 800 1000

Scale in Metres

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FILE NAME: Sample_plan.dwg

Eagle Gold - Dublin Gulch Project

Dublin Gulch

Sample Locations

DATE: Dec. 2012 | APPROVED: KET | FIGURE: 3.1

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4 Results and Discussion

4.1 General

Detailed sample descriptions are provided in Appendix A, ABA results are provided in Appendix B, and metal analyses are provided in Appendix C. Figures showing NP versus TIC, NP versus AP, and TIC versus AP are provided in Figure 4.1, Figure 4.2, and Figure 4.3, respectively. Table 4.1 provides a summary of results according to material type and ARD classification.

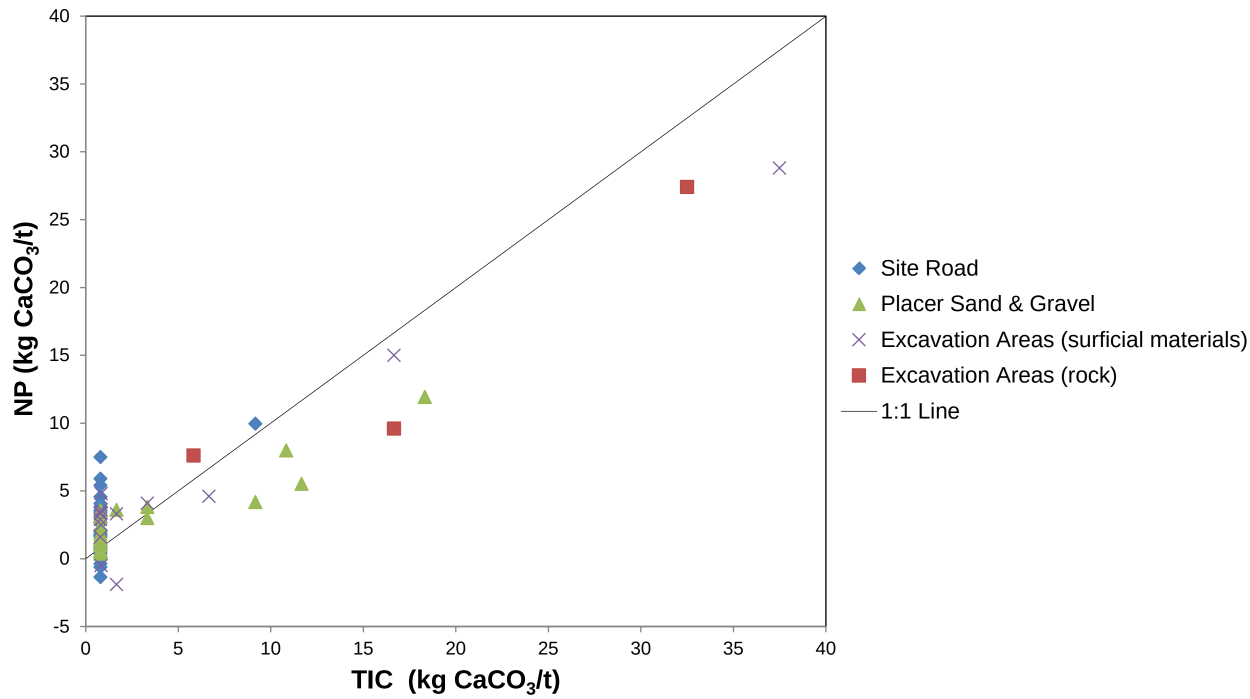

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Figure 4.1: NP versus TIC

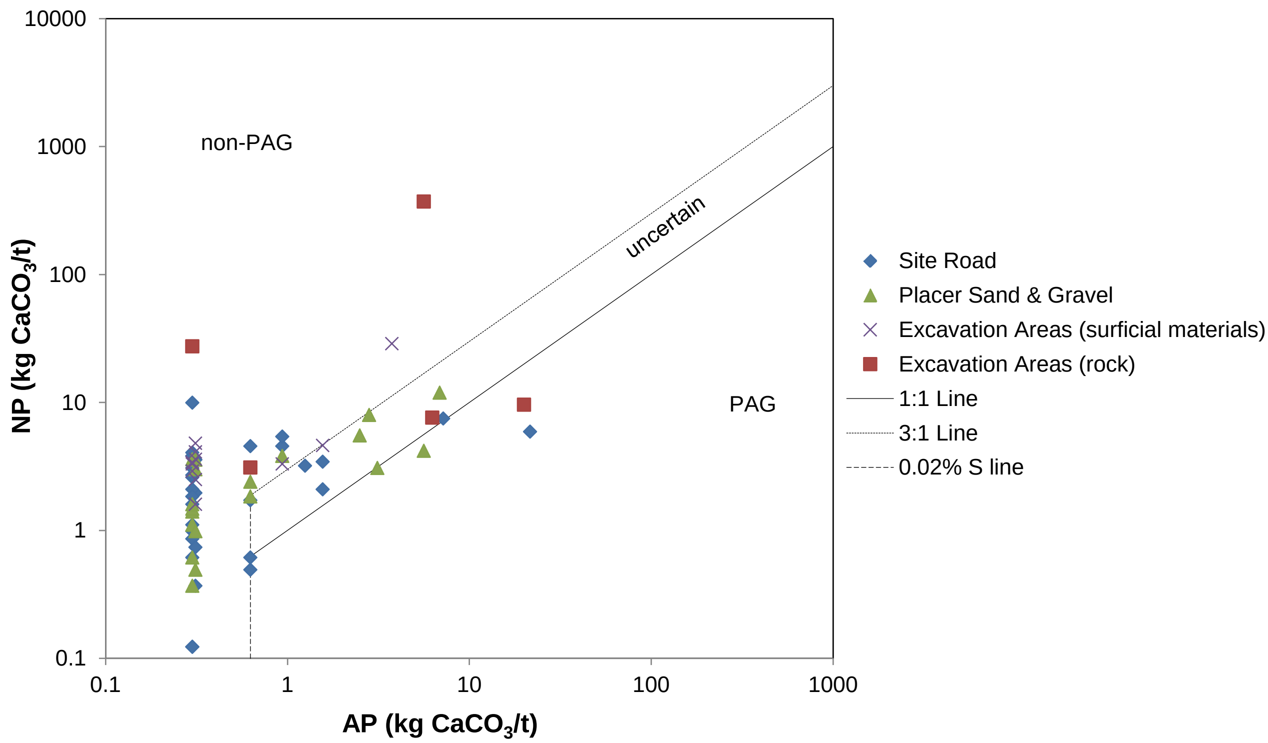

Figure 4.2: NP versus AP

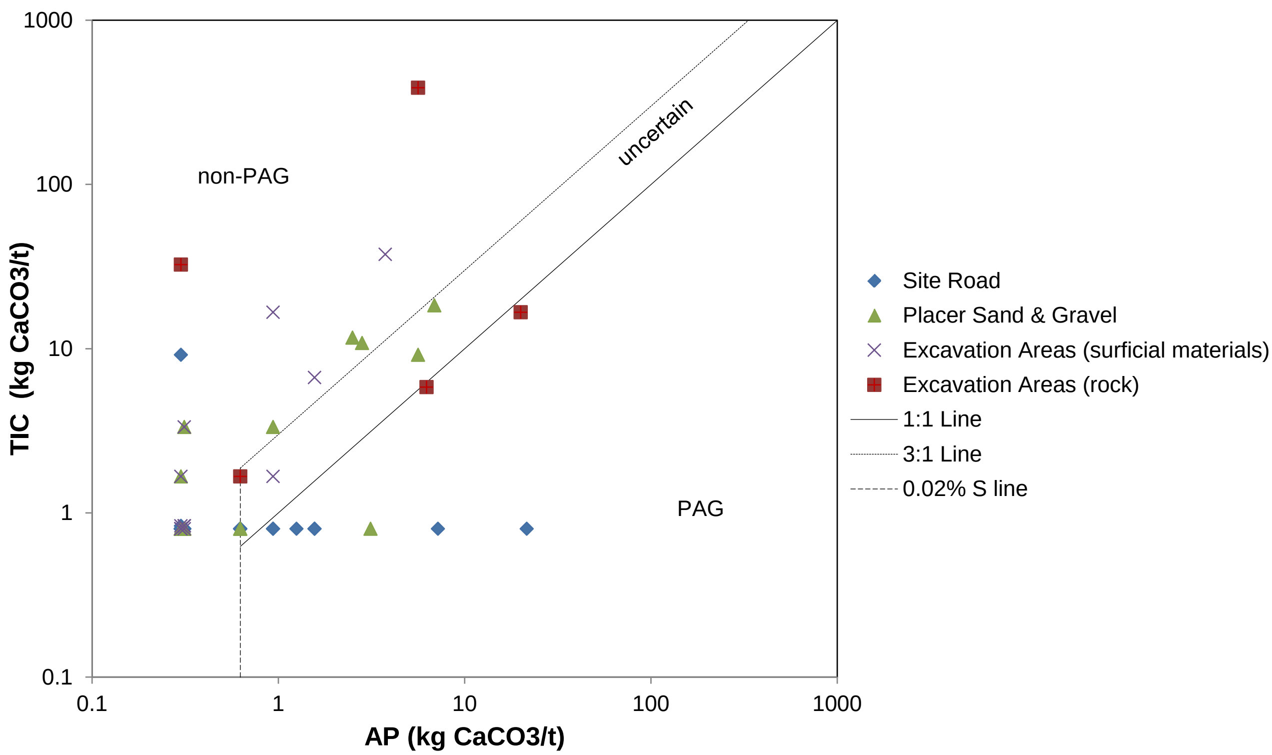

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Figure 4.3: TIC versus AP

Table 4.1: ARD Classification for Each Group of Samples

Group	Number of Samples	ARD Classification (% of Samples)						
		Non-Reactive S < 0.02%	Non-PAG (NP or TIC)/AP >3		Uncertain 1 < (NP or TIC)/AP <3		PAG (NP or TIC)/AP < 1	
			NP/AP	TIC/AP	NP/AP	TIC/AP	NP/AP	TIC/AP
Site Roads	34	76%	9%	0%	12%	3%	3%	21%
Placer Tailings	19	63%	5%	16%	21%	16%	11%	5%
Excavation Areas (surficial materials)	14	57%	29%	21%	7%	21%	7%	0%
Excavation Areas (rock)	5	20%	40%	20%	20%	20%	20%	40%

4.2 Site Roads

4.2.1 Field Observations

A total of 34 site-road samples were collected. Detailed sample descriptions and photographs are provided in Appendix A. All but one of these samples were identified as surficial materials comprised of soil or colluvium. One sample was identified as weathered granodiorite.

4.2.2 Acid-Base Accounting

Paste pH values for these samples range from 4.59 to 7.82. Total sulphur levels are very low (<0.05%), for the most part, with the exception of samples RC12-EG-9, RC12-EG-28, and RC12-PL-18 which have total sulphur contents of 0.73%, 0.23%, and 0.11%, respectively. Sulphate sulphur is only present in an appreciable amount in sample RC-PL-18, while sulphide sulphur is the dominant form of sulphur in RC12-E-G9 and RC12-EG-28.

NP levels ranged from –1.35 to 9.9 kg $CaCO_3$/t (median 2.03 kg $CaCO_3$/t). The median TIC value was 0.8 kg $CaCO_3$/t, and 32 of the 34 samples (68%) had TIC values less than the detection limit, indicating carbonate minerals were absent. The modified NP values, on the other hand, were more variable, which is likely due to the buffering capacity measurement from silicate minerals in the samples. Figure 4.1 provides a comparison of modified NP and TIC and shows no relationship between the TIC and NP for the site road samples.

Based on the very low sulphur content, 26 of the 34 samples (76%) were considered non-reactive. Based on NP/AP ratios (Figure 4.2), one of the eight remaining samples was classified as PAG, four were classified as uncertain, and three were classified as non-PAG. Based on the alternative method using TIC/AP ratios (Figure 4.3), seven of the eight remaining samples were classified as PAG, one was classified as uncertain, and none of the samples were classified as non-PAG. In general, the TIC/AP ratios provide a more conservative classification because they do not account for buffering provided by the silicates present in these samples. Overall, the risk of ARD from these materials is considered very low due to low sulphide content and the likelihood that any sulphides present in these samples are encapsulated within gravel to cobble sized particles that are essentially not exposed to air or water.

4.2.3 Solid-Phase Trace Elements

Solid-phase elemental data for the site road samples are provided in Appendix C-1.

The metal concentrations for the site road samples were compared to 10 times the average crustal abundance for shale (Price 1997). Based on these comparisons, arsenic was enriched in several samples and bismuth was enriched in most samples. Enrichment of lead, silver, gold, cadmium, antimony, potassium, and tungsten was also present in a few of the samples.

4.3 Placer Gravels and Sands

4.3.1 Field Observations

A total of 19 placer samples were collected. Detailed sample descriptions and photographs are provided in Appendix A. All of these samples were identified as surficial materials collected from the placer tailings or alluvial sediments in Haggart Creek or Dublin Gulch. The samples were comprised primarily of sand and gravel with lesser amounts of silt. Some samples also included cobbles. Samples DG-PL-12-01 through DG-PL-12-10 tended to contain higher proportions of finer grained material.

4.3.2 Acid-Base Accounting

ABA data for the placer tailings are presented in Appendix B-2. Paste pH values for these samples range from 4.60 to 8.55. Total sulphur levels were low (<0.1%) with the exception of samples DG-PL12-10, DG-PL12-12, DG-PL12-13, and DG-PL12-15. The maximum total sulphur value was 0.22% in sample DG-PL12-15. Sulphate sulphur was not present in appreciable amounts in any of the samples, indicating, where present, the majority of the sulphur was present as sulphides.

NP levels were low for all samples, ranging from 0.37 to 11.9 kg $CaCO_3$/t (median of 2.4 kg $CaCO_3$/t). TIC values were also low, ranging from 0.8 to 18 kg $CaCO_3$/t (median of 0.8 kg $CaCO_3$/t). Figure 4.1 provides a graphical comparison of modified NP and TIC. While modified NP and TIC levels are comparable for the placer samples, the TIC values are typically higher than the modified NP values, likely indicating the presence of iron or manganese carbonates.

Based on the very low sulphur content, 12 of the 19 samples (63%) were considered non-reactive. Based on NP/AP ratios (Figure 4.2), two of the seven remaining samples were classified as PAG, four were classified as uncertain, and one was classified as non-PAG. Based on the alternative method of using TIC/AP ratios (Figure 4.3), one of the seven remaining samples was classified as PAG, three were classified as uncertain, and three were classified as non-PAG.

For this group of samples, the NP/AP ratios provide a more conservative classification because iron carbonates, which do not contribute to buffering, may be present in these samples. Overall, the risk of ARD from these materials is considered very low due to low sulphide content and the likelihood that any sulphides present in these samples are encapsulated within gravel to cobble sized particles that are essentially not exposed to air and water. It is worth noting that the samples with the highest sulphur content and the highest TIC/NP values were from the Haggart Creek placer area and the lower part of Dublin Gulch, where there was a greater proportion of gravel to cobble sized material present.

4.3.3 Solid-Phase Trace Elements

Solid-phase elemental data for the placer tailings samples are provided in Appendix C-2.

Metal concentrations for the placer samples were compared to 10 times the average crustal abundance for shale (Price 1997). Based on this comparison, concentrations of silver and arsenic were enriched in most samples, and concentrations of bismuth were enriched in all samples. Antimony and tungsten were also enriched in some of the samples. It is worth noting that tungsten is >100 ppm for sample BH-BGC11-65-SPT8.

4.4 Other Excavation Areas

4.4.1 Field Observations

A total of 19 samples were collected from the other excavation areas at the site where cut and fill activities are expected to occur. Detailed sample descriptions and photographs are provided in Appendix A. This set of samples is not as coherent a group as the other two sample types, as it includes metasedimentary rock, colluvium, till, debris flow material, and alluvial sediments.

4.4.2 Acid-Base Accounting

ABA data for the excavation area samples are provided in Appendix B-3. Paste pH values for these samples range from 4.92 to 8.46. Total sulphur levels are very low (<0.07%) with the exception of samples BH-BGC11-40A-1, BH-BGC11-40B-SA1, BH-BGC11-34-SA1, TP-BGC11-50-SA2, and BH-BGC11-51-G10. The maximum total sulphur value was 0.65% in sample BH-BGC11-34-SA1. Sulphate sulphur is only present in any appreciable amount in sample TP-BGC11-50 SA2, and sulphide sulphur is the predominant form of sulphide in the other samples above. Of the five samples with elevated sulphur content, three are metasedimentary rock, and two are surficial materials.

NP values for the metasedimentary rock samples ranged from 3 to 365 kg $CaCO_3$/t (median of 9.6 kg $CaCO_3$/t, and the TIC value ranged from 1.7 to 388 kg $CaCO_3$/t (median of 17 kg $CaCO_3$/t). The sample with the highest NP and TIC was from a fault gouge and likely contained significant carbonate mineralization. In contrast, NP and TIC were generally much lower in the surficial samples, with NP ranging from –1.9 to 29 kg $CaCO_3$/t (median 3.4 kg $CaCO_3$/t), and TIC ranging from 0.8 to 38 kg $CaCO_3$/t (median 0.8 kg $CaCO_3$/t).

Figure 4.1 provides a graphical comparison of modified NP and TIC. For the majority of samples with NP greater than 10 kg $CaCO_3$/t, TIC is greater than NP indicating iron or manganese carbonates may be present.

Based on the very low sulphur content, 8 of the 14 surficial samples (57%) were considered non-reactive. Based on NP/AP ratios (Figure 4.2), one of the six remaining samples was classified as PAG, one was classified as uncertain, and four were classified as non-PAG. Based on the alternative method using TIC/AP ratios (Figure 4.3), none of the six remaining samples was classified as PAG, three were classified as uncertain, and three were classified as non-PAG.

In contrast, based on sulphur content, only one of the five rock samples from this area was classified as non-reactive, and on the basis of NP/AP ratios, one was classified as PAG, one as uncertain, and two as non-PAG. On the basis of TIC/AP ratios, two were considered PAG, one was uncertain, and one was non-PAG. Overall, two of the five metasedimentary rock samples appear to have sufficient sulphur content and low enough NP, which means they may have some potential for ARD. Previous characterization work on metasedimentary rock from the pit area indicated the majority of these samples were non-PAG with a somewhat higher NP content than some of the samples encountered in this program. This likely reflects spatial variability within the metasedimentary unit.

In the interest of understanding the relationships between modified NP versus TIC (Figure 4.1), NP versus AP (Figure 4.2), and TIC versus AP (Figure 4.3) more clearly, sample BH-BGC11-40A-1 from the excavation area was not included in Figure 4.1, Figure 4.2, and Figure 4.3.

. This sample was from a fault gouge within the metasedimentary rock and had an NP of 372 kg $CaCO_3$/t and a TIC of 388 kg $CaCO_3$/t, which are at least an order of magnitude greater than all other samples and two orders of magnitude greater than the majority of samples. AP values were 5.6 kg $CaCO_3$/t; therefore, this sample was non-PAG.

4.4.3 Solid-Phase Trace Elements

All solid-phase elemental data for the 19 excavation area samples are provided in Appendix C-3.

Metal concentrations for the excavation area samples were compared against 10 times the average crustal abundance for shale (Price 1997). Based on this comparison, concentrations of silver, arsenic, and bismuth were enriched in most of the samples. Concentrations of lead, gold, potassium, and tungsten were enriched in at least one sample.

5 Summary, Conclusions and Recommendations

In total, 72 samples were collected and analyzed for this study, including 32 from the proposed site roads, 19 from placer tailings and alluvium borrow sources, and 19 from potential cut and fill (excavation) areas. Most of these samples (n=66) were from surficial materials, five were from metasedimentary bedrock, and one was from a granodiorite outcrop.

The paste pH for the samples ranged from 4.6 to 8.6 (median values of 6.6). The samples typically had low sulphur and low NP and TIC levels. This is in contrast to the characterization work from the deposit area that states NP in the form of carbonate minerals was present in modest amounts throughout the deposit area (SRK 2010). Based on having a sulphur content of <0.02%, 65% of samples were considered non-reactive. For the remaining samples, based on NP/AP or TIC/AP ratios, 7 to 14% were PAG, 11 to 14% had an uncertain potential for ARD, and 10 to 14% were non-PAG.

The majority of these samples represent surficial materials such as soils, weathered bedrock (colluvium), or gravels (alluvium or placer tailings). These differ from blasted rock from rock quarries or mine workings because their particle surfaces have already been exposed to air and water. Therefore, whether these remain *in situ* or are moved to a new location, they will continue to weather and oxidize at rates comparable to current weathering rates, which are likely quite slow. Additionally, it is likely the sulphides present in these materials were largely encapsulated within larger gravel to cobble size particles and would be unavailable for reaction. The result of moving these materials and using them for construction is not expected to result in any change relative to their current locations. In other words, while 7 to 14% of samples are PAG, and an additional 11 to 14% are classified as having an uncertain ARD potential, these materials still pose a relatively low risk for ARD potential and are considered suitable for use as construction material.

There were five metasedimentary rock samples from excavation areas that were beyond the limits of the open pit (shown in Figure 3.1).. Three of these samples were non-reactive or non-PAG, while two were PAG by either or both NP/AP ratios and TIC/AP ratios. These results were in contrast to the much more extensive set of results available for metasedimentary samples from the open pit, which indicated that the majority of samples from this unit were non-PAG (SRK 2011). However, the number of samples from these other areas is relatively small, and may not adequately represent typical characteristics of the metasedimentary unit in these other excavation areas. Additionally, samples selected from the Ann Gulch Knob (a metasedimentary excavation within the footprint of the Heap Leach Facility) were not available for testing and have not been characterized. If significant amounts of excavation of metasedimentary bedrock for construction materials are expected to occur outside of the pit limits, some additional sampling and testing is recommended to evaluate ARD potential prior to using this rock-type as construction material.. If the results indicate that an appreciable proportions of this material are PAG, then it will either be blended with rock that contains excess NP, such as granodiorite or metasedimentary rock from the open pit, or it will be stored in temporary stockpiles adjacent to the proposed waste rock piles until can be blended with non-PAG waste rock produced during operations.

Rock that will be excavated from the pre-strip area within the footprint of the proposed open pit was subjected to extensive geochemical characterization studies completed in support of the EA and subsequent licencing investigations. The results of those programs indicate that the majority of rock from the open pit is non-PAG, and is therefore suitable for construction. Nonetheless, this material should be visually inspected on a regular basis during excavation, and if elevated amounts of sulphide mineralization are observed, this material would be avoided for use in construction and the pre-stripping operations would be relocated to another area of the pit.

Solid-phase metal analyses were also completed on borrow and excavation samples. Metals that showed consistent enrichment across the data set were silver, arsenic, and bismuth. To a lesser extent, enrichment was also seen in lead, gold, cadmium, antimony, potassium, and tungsten. SRK 2011 identified those same metals in the deposit area, but also indicated elevated concentrations of manganese, uranium, copper, fluoride, molybdenum, nickel, and zinc may also be present in seepage from waste rock storage areas and pit walls. However, elevated concentrations of these last eight metals are not observed in the current sample set, likely reflecting differences in the geology (i.e., predominantly granodiorite versus metasedimentary rocks), increased distances from the ore mineralization, and weathering processes that already occurred in the surficial materials.

This document, *Geochemical Characterization of Proposed Excavation Areas and Borrow Sources from the Eagle Gold Project, Yukon*, was prepared by SRK Consulting (Canada) Inc.

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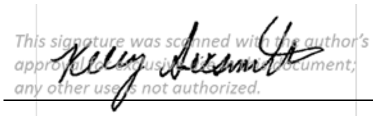
Consultant

Reviewed by



Kelly Sexsmith

Principal Consultant

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

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Appendices

Appendix A: Sampling Notes and Photos

Table A-1: Material Types Identified In Site Road Samples

Sample ID	Sample Description / Material	UTM Coordinates		
		Zone	Easting	Northing
BH-BGC11-56-SPT1	Sand (colluvium), gravelly with some silt, well graded (depth ~1m)	8W	458774.8	7099823
BH-BGC11-57-SPT3	Sand (colluvium), fine, silty with some gravel (metased origin), trace clay (depth ~5.5m)	8W	458798.6	7099978
RC12-EG-7	Pebbles within soil; oxidized granodiorite	8W	458669	7100360
RC12-EG-8	Pebbles within soil; Fe-stained phyllite	8W	458980	7100438
RC12-EG-9	Pebbles within gravel and soil; oxidized granodiorite	8W	458883	7100196
RC12-EG-10	Pebbles within soil; foliated, chloritized, quartz-rich phyllite	8W	458843	7100189
RC12-EG-11	Pebbles within soil; 100% quartz, probably from a vein	8W	459066	7100253
RC12-EG-12	Pebble, roadside gravel; mixture of meta-pelite and foliated phyllite	8W	459213	7100358
RC12-EG-13	Pebble, roadside gravel; foliated phyllite	8W	459229	7100358
RC12-EG-14	Rock float sample that was present at surface; oxidized quartzite and oxidized granodiorite	8W	458553	7099824
RC12-EG-15	Pebbles from soil; Fe-stained quartzite	8W	458889	7099739
RC12-EG-16	Fine grained phyllite taken from broken up gravels	8W	458977	7099682
RC12-EG-27	Pebbles within gravel and regolith; Fe-stained quartzite with mild foliation	8W	459617	7100463
RC12-EG-28	Pebbles from soil; Fe-stained quartzite	8W	459840	7100530
RC12-EG-29	10-500 cm boulders within gravel & soil; phyllite containing quartz, muscovite, and biotite	8W	459912	7100667
RC12-EG-30	Pebbles within soil; Fe-stained quartzite	8W	459649	7100577
RC12-PL-20	Roadside gravel with pebbles; equigranular granodiorite with disseminated arsenopyrite; moderately oxidized	8W	405943	7099289
RC12-PL-17	Pebbles within soil; Fe-stained quartzite	8W	459038	7099472
RC12-PL-18	Mixed pebble lithology within gravel; phyllite	8W	458979	7099353
RC12-PL-19	Outcrop; blocky, oxidized granodiorite	8W	459338	7099235
RC12-PL-21	Pebbles within soil; Fe-stained quartzite	8W	458972	7099166
RC12-PL-22	Pebbles within soil; granodiorite and phyllite pebbles	8W	458947	7099080
RC12-PL-23	Rock float exposure at surface; quartzite; 100% quartz	8W	459004	7098859
RC12-PL-24	Pebbles within soil; Mildly foliated quartzite	8W	459046	7099113
RC12-PL-25	Rock float exposure at surface; quartzite with muscovite and biotite k-feldspar; heavily oxidized	8W	459025	7098600
RC12-PL-26	Rock float boulder of quartzite	8W	459113	7098433
RC12-PL-31	Pebbles within soil; orange, oxidized granodiorite	8W	459104	7099216
RC12-PL-32	Pebbles within soil; oxidized, equigranular granodiorite	8W	459046	7099113
RC12-TD-1	Pebbles within soil; foliated metasediments; quartzite to phyllite; Fe-staining (orange)	8W	458844	7101873
RC12-TD-2	Pebbles within soil and regolith; mixture of Fe-stained phyllite and pelitic phyllite	8W	458746	7101798
RC12-TD-3	Clay-rich regolith; pelitic phyllite; dark, foliated, and sheet-like in appearance	8W	458827	7101700
RC12-TD-4	Gravel and regolith; foliated, dark, fine grained metasediments	8W	458714	7101398
RC12-TD-5	Soil and gravel; Fe-stained quartzite	8W	458594	7101255
RC12-TD-6	Pebbles within gravels; 100% fine grained quartz, probably from a larger vein	8W	458716	7101253

Table A-2:: Material Types Identified In Placer Tailings Samples

Sample ID	Sample Description / Material	UTM Coordinates		
		Zone	Easting	Northing
BH-BGC11-39-11	Sand, some silt, tr. gravel	8W	458462	7101056
BH-BGC11-39-8	Sand, silty, tr. gravel	8W	458462	7101056
BH-BGC11-65-SPT1	sand and gravel (placer tailings), sand, gravel and fines (depth ~1m)	8W	458771	7100939
BH-BGC11-65-SPT8	sand and gravel (placer tailings), sand, gravel and fines (depth ~6m)	8W	458771	7100939
DG-PL12-01	Roadside soil	8W	460785	7101567
DG-PL12-02	Gravel varies from sandy soil to 50mm metasediment fragments	8W	460620	7101493
DG-PL12-03	Roadside gravel; soil with metasediments up to 40mm	8W	460477	7101505
DG-PL12-04	Roadside gravel; soil with metasediments and granodiorite fragments up to 100mm	8W	460364	7101501
DG-PL12-05	Roadside gravel; soil with metasediment (70%) and granodiorite (30%), fragments up to 100mm	8W	460264	7101490
DG-PL12-06	Roadside gravel; soil with mixed metasediments (phyllite and quartzite) up to 50mm	8W	460125	7101512
DG-PL12-07	Road side gravel; soil with mixed phyllite and quartzite metasediments, fragments up to 75mm	8W	459993	7101475
DG-PL12-08	Roadside gravel; organic rich soils with phyllitic metasedmentary fragments up to 60mm	8W	459780	7101420
DG-PL12-09	Roadside gravel; soil with mixed quartzite and phyllite fragments up to 55mm	8W	459523	7101290
DG-PL12-10	Roadside gravel; metasediment and granodiorite fragments; dark brown soil	8W	459231	7101124
DG-PL12-11	Roadside gravel; mixed lithology fragments 20-30mm, poorly sorted	8W	458376	7098305
DG-PL12-12	Tailings pile gravel; mixed lithology fragments 5-10mm; sandy; poorly sorted	8W	458321	7098536
DG-PL12-13	Sandy gravel with metasedimentary fragments up to 75mm	8W	458275	7098757
DG-PL12-14	Sandy gravel; mixed lithology fragments ~5mm	8W	458300	7099121
DG-PL12-15	Sandy gravel; mixed lithology fragments up to 50-100mm; 15% iron-rich clasts	8W	458242	7099987

Table A-3: Material Types Identified In Excavation/Borrow Source Samples

Sample ID	Sample Description / Material	UTM Coordinates		
		Zone	Easting	Northing
BH-BGC11-40A-1	Fault gouge within metasedimentary rock, coarse sand and gravel, some silt (~19 m depth)	8W	459763	7100038
BH-BGC11-40B SA1	Metasedimentary rock (depth 22m)	8W	459767	7100038.8
BH-BGC11-34 SA1	Metasedimentary rock	8W	459308.5	7101053.5
BH-BGC11-69 SA1	Metasedimentary rock, quartzite (depth ~12m)	8W	458829.3	7101144.3
BH-BGC11-62 SA1	Metasedimentary rock ~28 m depth	8W	459785.9	7100334.1
TP-BGC11-126-G1	Gravel and sand (colluvium), fine to cg, silty, tr cobbles (~2m)	8W	459464	7100300
TP-BGC11-62 SA1	Silt (colluvium), cobbly, gravelly, sandy (0.9 to 1 m)	8W	459251	7099924
TP-BGC11-63 SA1	Gravel (colluvium), silty, tr cobbles, tr sand (~0.5m)	8W	459139	7099914
TP-BGC11-64 SA1	Sand (colluvium), tr silt, some gravel, tr cobbles (~1.5m)	8W	459151	7100206
TP-BGC11-92 SA1	Silt (colluvium), some gravel, tr cobbles, tr sand (~0.6 m)	8W	459587	7100733
BH-BGC11-53-G3	Sand (Till), silty with some gravel reddish brown (2.7 to 3.8 m)	8W	459483.6	7100993
BH-BGC11-53-G8	Sand (Till), some gravel, trace to some silt, well graded, dense.	8W	459483.6	7100993
BH-BGC11-55-G5	Sand (debris flow deposit), fine sand trace to some gravel (metased clasts) (depth 6.5m)	8W	459440.6	7100918.4
TP-BGC11-104-G1	Silt (colluvium), gravelly, some sand, tr cobbles (~1m)	8W	459738	7100924
TP-BGC11-130-G1	Silt (colluvium), 35% gravel, 43% sand, 22% fines (~6m)	8W	458709	7101183
TP-BGC11-50 SA2	Gravel (colluvium), metased clasts (~3.3 m)	8W	459702	7100283
BH-BGC11-44-S3	Silt with tr organics and some gravel clasts (depth 1.6-2m)	8W	458690.4	7100547.3
BH-BGC11-51-G10	coarse sand with gravel and silt (alluvium) (13.9-14.1 m)	8W	458643.5	7100743.6
TP-BGC11-121-G1	Silt (alluvium?), tr gravel, tr cobbles, tr boulders (~3m)	8W	458502	7100588

3.0 Sample Descriptions

Tin Dome sampling

RC12-TD-1 – UTM 8W 0458844 7101873

Overgrown woodland, moss covers all of the ground to around 20 cm depth. A mini-pit was dug into soil beneath the moss and sample was collected from pebbles within the soil. The pit was dug to around 50 cm depth. Sample is foliated metasediments intermediate between quartzite and phyllite. Sample has Fe-staining giving it an orange appearance.

Figure 5 – Sample site for RC12-TD-1

RC12-TD-2 – UTM 8W 0458746 7101798

Overgrown woodland, moss covers all of the ground to around 20 cm depth. A mini-pit was dug into soil beneath the moss and sample was collected from pebbles with soil and regolith. The pit was dug to around 50 cm depth. Sample is a mixture of Fe-stained phyllite and pelitic phyllite. Samples are foliated.

Figure 6 – Sample site for RC12-TD-2

RC12-TD-3 – UTM 8W 0458827 7101700

Overgrown woodland, moss covers all of the ground to around 20 cm depth. A mini-pit was dug into soil beneath the moss and sample was collected from clay-rich regolith. The pit was dug to around 50 cm depth. Sample is pelitic phyllite and is dark, foliated and sheet-like in appearance.

Figure 7 – Sample site for RC12-TD-3

RC12-TD-4 – UTM 8W 0458714 7101398

Overgrown woodland, moss covers all of the ground to around 25 cm depth. A mini-pit was dug into soil beneath the moss and sample was collected from gravel and regolith. The pit was dug to around 50 cm depth. Sample is foliated, dark, fine grained metasediments which is intermittently cut by ~5 mm quartz veins.

Figure 8 – Sample site of RC12-TD-4

RC12-TD-5 – UTM 8W 0458594 7101255

Overgrown woodland, moss covers all of the ground to around 20 cm depth. A mini-pit was dug into the soil beneath the moss and sample was collected from soil and gravel. The pit was dug to around 50 cm depth. Sample is Fe-stained quartzite.

Figure 9 – Sample site for RC12-TD-5

RC12-TD-6 – UTM 8W 0458716 7101253

Overgrown woodland, moss covers all of the ground to around 20 cm depth. A mini-pit was into soil beneath the moss and sample was collected from pebbles within gravels. The pit was dug to around 50 cm depth. Sample is 100% fine grained quartz, probably from a larger vein.

Figure 10 – Sample site for RC12-TD-6

Eagle Zone sampling – Group 1

RC12-EG-7 – UTM 8W 0458669 7100360

Thick Alder woodland, ground covered in leaves and moss to between 5 and 10 cm depth. A mini-pit was dug into soil beneath the leaves and moss and a sample was collected from pebbles within the soil. The pit was dug to around 50 cm depth. Sample is heavily covered in soil but appears to be oxidised granodiorite.

Figure 11 – Sample site for RC12-EG-7

RC12-EG-8 – UTM 8W 0458980 7100438

Open Pine woodland, all of the ground covered in moss to around 20 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit dug to around 40 cm depth. Sample is Fe-stained phyllite.

Figure 12 – Sample site for RC12-EG-8

RC12-EG-9 – UTM 8W 0458883 7100196

Sample site is an old drill pad with gravel and soil brought to the surface during drill pad construction. Sample was extracted from pebbles within gravel and soil. Sample is oxidised granodiorite.

Figure 13 – Sample site for RC12-EG-9

RC12-EG-10 – UTM 8W 0458843 7100189

Sample site was covered in felled trees so these had to be cleared partially to expose the ground. A mini pit was dug into the soil and a sample was collected from pebbles within the soil. The pit was dug to around 50 cm depth. Sample is foliated, chloritised, quartz-rich phyllite.

Figure 14– Sample site for RC12-EG-10

RC12-EG-11 – UTM 8W 0459066 7100253

Berry patch with thin (~5 cm) moss coverage. A mini-pit was dug into soil beneath the moss and sample was collected from pebbles within the soil. The pit dug to around 25 cm depth. Sample is 100% quartz, probably from a vein.

Figure 15 – Sample site for RC12-EG-11

RC12-EG-12 – UTM 8W 0459213 7100358

Sample collected from roadside gravel on Platinum Road. Sample is a representative pebble from those present within the gravel. Sample is a mixture of meta-pelite and foliated phyllite.

Figure 16 – Sample site for RC12-EG-12

RC12-EG-13 – UTM 8W 0459229 7100358

Sample collected from roadside gravel on Platinum Road. Sample is a representative pebble from those present within the gravel. Sample is foliated phyllite.

Figure 17 – Sample site for RC12-EG-13

RC12-EG-14 – UTM 8W 0458553 7099824

Rock float sampled. Location moved slightly as rock float was present at the surface. Samples are oxidised quartzite and oxidised granodiorite.

Figure 18 – Sample site for RC12-EG-14

RC12-EG-15 – UTM 8W 0458889 7099739

Pine and Birch woodland interspersed with berry patches; all of the ground is covered in moss to around 15 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 50 cm depth. Sample is Fe-stained quartzite.

Figure 19 – Sample site for RC12-EG-15

RC12-EG-16 – UTM 8W 0458977 7099682

Sample location moved in order to sample roadside gravel as pebbles were present at the surface. Sample is fine grained phyllite taken from broken up gravels.

Figure 20 – Sample site for RC12-EG-16

Platinum Zone sampling Group 1

RC12-PL-17 – UTM 8W 0459038 7099472

Open woodland, all of the ground is covered in moss to around 15 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 30 cm depth. Sample is Fe-stained quartzite.

Figure 21 – Sample site for RC12-PL-17

RC12-PL-18 – UTM 8W 0458979 7099353

Sample is taken from gravel on side of drill pad access road. Mixed pebble lithology within gravel 20% granodiorite, 10% quartzite, 70% phyllite. Sample is phyllite.

Figure 22 – Sample site for RC12-PL-18

RC12-PL-19 – UTM 8W 0459338 7099235

This site is the only example of outcrop in entire sampling program. Outcrop is blocky, oxidised granodiorite. Sheeted veins of quartz and k-feldspar and quartz, carbonate, chlorite with minor pyrrhotite and chalcopyrite cut the granodiorite. Sample is granodiorite;

Quartz – 30% 1-2 mm
Plagioclase – 40% 1-4 mm
K-Feldspar – 15% 2-3 mm
Biotite – 10% 2-5 mm
Hornblende – 5% 2-3 mm

Figure 23 – Sample site for RC12-PL-19

RC12-PL-20 – UTM 8W 04059437 7099289

Sample site moved in order to sample roadside gravels with pebbles. Sample is equigranular granodiorite with disseminated arsenopyrite. Sample is moderately oxidised.

Figure 24 – Sample site for RC12-PL-20

RC12-PL-21 – UTM 8W 0458972 7099166

Thick woodland, all of the ground is covered in moss to around 25 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 50 cm depth. Sample is Fe-stained quartzite.

Figure 25 – Sample site for RC12-PL-21

RC12-PL-22 – UTM 8W 0458947 7099080

Open woodland and shrubs, all of the ground is covered in moss to around 30 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 50 cm depth. Sample contains granodiorite and phyllite pebbles.

Figure 26 – Sample site for RC12-PL-22

RC12-PL-23 – UTM 8W 0459004 7098859

Sample site moved as good float exposure is developed in selected site. Sample is quartzite; 100% quartz.

Figure 27 – Sample site for RC12-PL-23

RC12-PL-24 – UTM 8W 0459046 7099113

Overgrown woodland, all of the ground is covered in moss to around 10 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 40 cm depth. Sample is mildly foliated quartzite.

Figure 28 – Sample site for RC12-PL-24

RC12-PL-25 – UTM 8W 0459025 7098600

Sample is taken from float on the forest floor. Quartzite with muscovite and biotite ± k-feldspar (may even be a heavily altered plutonic rock). Sample is heavily oxidised.

Figure 29 – Sample site for RC12-PL-25

RC12-PL-26 – UTM 8W 0459113 7098433

Site had to be moved significantly as signs of bear activity were very high on the traverse towards the site. A rock float boulder of quartzite was sampled.

Figure 30 – Sample site for RC12-PL-26

Eagle Zone sampling – Group 2

RC12-EG-27 – UTM 8W 0459617 7100463

Overgrown woodland; all of the ground is covered in moss to around 20 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the gravel and regolith. The pit was dug to around 50 cm depth. Sample is Fe-stained quartzite with a mild foliation.

Figure 31 – Sample site for RC12-EG-27

RC12-EG-28 – UTM 8W 0459840 7100530

Overgrown woodland, all of the ground is covered in moss to around 15 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 30 cm depth. Sample is Fe-stained quartzite.

Figure 32 – Sample site for RC12-EG-28

RC12-EG-29 – UTM 8W 0459912 7100667

Sample site is an old excavated pit surrounded by woodland. The pit is filled with 10-500 mm boulders within gravel and soil. Lithology of the boulders in the pit is dominantly (80%) Hyland Group metasediments (phyllite, quartzite and meta-pelite). The remaining 20% of boulders are of granodiorite composition. The sample is phyllite, showing a strong foliation and containing quartz, muscovite and biotite.

Figure 33 – Sample site for RC12-EG-29

RC12-EG-30 – UTM 8W 0459649 7100577

The sample site was characterised by overgrown woodland, all of the ground was covered in moss to around 10 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 30 cm depth. The sample taken is Fe-stained quartzite.

Figure 34 Sample site for RC12-EG-30

Platinum Zone sampling – Group 2

RC12-PL-31 – UTM 8W 0459104 7099216

The sample site was characterised by overgrown woodland, all of the ground was covered in moss to around 30 cm depth. A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 55 cm depth. The sample taken is rotten, orange, oxidised granodiorite.

Figure 35 – Sample site for RC12-PL-31

RC12-PL-32 – UTM 8W 0459046 7099113

The sample site was characterised by overgrown woodland; all of the ground was covered in moss to around 20 cm depth. . A mini-pit was dug into soil beneath the moss and a sample was collected from pebbles within the soil. The pit was dug to around 50 cm depth. The sample taken is oxidised, equigranular granodiorite with a grain size of 2-3 mm.

Figure 36 – Sample site for RC12-PL-32

Quarry and Borrow material evaluation

1.0 Sample collection

Samples were collected by Fraser Kirk and Ryuji Marumo (Victoria Gold Corp.) on July 21st 2012. Samples were collected by using an approximated sample plan map. Samples were extracted by shovel to fill a 20 litre bucket and sealed on collection.

2.1 Sites sampled along Dublin Gulch

DG-PL12-01 – UTM 8W 0460785 7101567
Taken from roadside at road intersection between Dublin Gulch road and Ice Road.

Figure 1 – Sample site for DG-PL12-01

DG-PL12-02 – UTM 8W 0460620 7101493
Taken from roadside gravel. Gravel varies between sandy soil to 50mm metasediments fragments.

Figure 2 – Sample site for DG-PL12-02

DG-PL12-03 – UTM 8W 0460477 7101505
Taken from roadside gravel. Soil with metasediments up to 40mm.

Figure 3 – Sample site for DG-PL12-03

DG-PL12-04 – UTM 8W 0460364 7101501
Taken from roadside gravel. Sandy soil with metasediments and granodiorite fragments up to 100mm.

Figure 4 – Sample site for DG-PL12-04

DG-PL12-05 – UTM 8W 0460264 7101490
Taken from roadside gravel. Soil with mixed metasediment (70%) and granodiorite (30%) fragments up to 100mm.

Figure 5 – Sample site for DG-PL12-05

DG-PL12-06 – UTM 8W 0460125 7101512
Taken from roadside gravel. Soil with mixed metasediments (phyllite and quartzite) up to 50mm.

Figure 6 – Sample site for DG-PL12-06

DG-PL12-07 – UTM 8W 0459993 7101475
Taken from road side gravel. Soil with mixed phyllite and quartzite metasediments fragments up to 75mm.

Figure 7 – Sample site for DG-PL12-07

DG-PL12-08 – UTM 8W 0459780 7101420
Taken from roadside gravel. Organic rich soils with phyllitic metasedmentary fragments up to 60mm.

Figure 8 – Sample site for DG-PL12-08

DG-PL12-09 – UTM 8W 0459523 7101290
Taken from roadside gravel at cabin on Dublin Gulch road. Soil with mixed quartzite and phyllite fragments up to 55mm.

Figure 9 – Sample site for DG-PL12-09

DG-PL12-10 – UTM 8W 0459231 7101124
Taken from roadside gravel by Dublin Gulch stream. 10-20 mm metasedament fragments. Sheeted granodiorite fragments up to 200mm. Dark brown soil.

Figure 10 – Sample site for DG-PL12-10

2.0 Sites sampled along Haggart Creek

N.B. the lithologies contained within the placer gravels at Haggart Creek show higher diversity than those at Dublin Gulch. Rock types which are never seen in drill core are common and may represent that the gravel has been transported over much greater distances than gravels at Dublin Gulch. Rock types which are present within the gravels at Haggart Creek but not at Dublin Gulch include massive sulfides and volcanic tuffs.

DG-PL12-11 – UTM 8W 0458376 7098305
Taken from roadside gravel east of Halloway Lake. Mixed lithology fragments 20-30mm. Poorly sorted.


Figure 11 – Sample site for DG-PL12-11

DG-PL12-12 – UTM 8W 0458321 7098536
Taken from tailings pile gravel. Mixed lithology fragments 5-10 mm. Sandy. Poorly sorted.

Figure 12 – Sample site for DG-PL12-12

DG-PL12-13 – UTM 8W 0458275 7098757
Taken from roadside tailings pile. Sandy gravel with metasedimentary fragments up to 75 mm.

Figure 13 – Sample site for DG-PL12-13

DG-PL12-14 – UTM 8W 0458300 7099121
Taken from roadside tailings pile. Sandy gravel. Mixed lithology fragments ~5mm. Easiest sample to extract.

Figure 14 – Sample site for DG-PL12-14

DG-PL12-15 – UTM 8W 0458242 7099987
Taken from roadside tailings pile. Sandy gravel. Mixed lithology fragments up to 50-100 mm. 15% iron-rich clasts.

Figure 15 – Sample site for DG-PL12-15

Appendix B: Acid-Base Accounting (ABA) Data

Appendix B-1: Site Road ABA Data

Sample ID	Paste pH Std. Units	TIC % C	TIC kg CaCO3/t	Total S % S	Sulphate % S	Sulphide % S	AP kg CaCO3/t	Modified NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	TIC/AP Ratio	Fizz Test Visual
BH-BGC11-56-SPT1	7.60	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	2.6	2.6	8.67	2.67	None
BH-BGC11-57-SPT3	7.82	0.01	0.8	0.01	0.01	<0.01	<0.3	3.8	3.8	12.67	2.78	None
RC12-EG-7	6.80	<0.01	<0.8	0.04	<0.01	0.04	1.3	3.2	1.9	2.56	0.64	None
RC12-EG-8	6.67	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	0.9	0.9	2.87	2.67	None
RC12-EG-9	5.29	<0.01	<0.8	0.73	0.04	0.69	21.6	5.9	-15.7	0.27	0.04	None
RC12-EG-10	6.00	<0.01	<0.8	0.01	<0.01	0.01	0.3	2.0	1.7	6.29	2.56	None
RC12-EG-11	4.72	<0.01	<0.8	0.02	<0.01	0.02	0.6	-0.4	-1.0	-0.59	1.28	None
RC12-EG-12	5.90	<0.01	<0.8	0.02	<0.01	0.02	0.6	0.6	0.0	0.98	1.28	None
RC12-EG-13	7.20	<0.01	<0.8	0.02	0.02	<0.01	<0.3	2.1	2.1	6.96	2.67	None
RC12-EG-14	6.37	<0.01	<0.8	0.03	<0.01	0.03	0.9	4.5	3.6	4.85	0.85	None
RC12-EG-15	5.80	<0.01	<0.8	0.02	<0.01	0.02	0.6	0.5	-0.1	0.79	1.28	None
RC12-EG-16	7.32	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	2.7	2.7	9.01	2.67	None
RC12-EG-27	5.43	<0.01	<0.8	0.01	<0.01	0.01	0.3	0.7	0.4	2.36	2.56	None
RC12-EG-28	6.80	<0.01	<0.8	0.23	<0.01	0.23	7.2	7.5	0.3	1.04	0.11	None
RC12-EG-29	6.62	<0.01	<0.8	0.05	<0.01	0.05	1.6	2.1	0.5	1.34	0.51	None
RC12-EG-30	4.99	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	1.1	1.1	3.69	2.67	None
RC11-PL-20	6.36	<0.01	<0.8	0.05	<0.01	0.05	1.6	3.4	1.9	2.20	0.51	None
RC12-PL-17	7.74	0.11	9.2	<0.01	<0.01	<0.01	<0.3	10.0	10.0	33.17	30.56	Slight
RC12-PL-18	7.69	<0.01	<0.8	0.11	0.13	<0.01	<0.3	3.1	3.1	10.24	2.67	None
RC12-PL-19	7.10	<0.01	<0.8	0.03	<0.01	0.03	0.9	5.4	4.5	5.77	0.85	None
RC12-PL-21	6.56	<0.01	<0.8	0.01	<0.01	0.01	0.3	3.6	3.3	11.40	2.56	None
RC12-PL-22	6.44	<0.01	<0.8	0.02	<0.01	0.02	0.6	4.5	3.9	7.27	1.28	None
RC12-PL-23	5.88	<0.01	<0.8	0.01	<0.01	0.01	0.3	0.4	0.1	1.18	2.56	None
RC12-PL-24	5.90	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	1.0	1.0	3.28	2.67	None
RC12-PL-25	5.02	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	0.6	0.6	2.05	2.67	None
RC12-PL-26	4.59	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	0.1	0.1	0.41	2.67	None
RC12-PL-31	5.75	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	3.8	3.8	12.69	2.67	None
RC12-PL-32	7.07	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	4.1	4.1	13.51	2.67	None
RC12-TD-1	5.67	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	0.1	0.1	0.41	2.67	None
RC12-TD-2	6.13	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	1.6	1.6	5.32	2.67	None
RC12-TD-3	5.91	<0.01	<0.8	0.02	<0.01	0.02	0.6	1.7	1.1	2.75	1.28	None
RC12-TD-4	5.32	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	1.8	1.8	6.14	2.67	None
RC12-TD-5	5.76	<0.01	<0.8	0.01	<0.01	0.01	0.3	-1.4	-1.7	-4.32	2.56	None
RC12-TD-6	4.72	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	-0.6	-0.6	-2.05	2.67	None

Appendix B-2: Placer Sands & Gravels ABA Data

Sample ID	Paste pH Std. Units	TIC % C	TIC kg CaCO3/t	Total S % S	Sulphate % S	Sulphide % S	AP kg CaCO3/t	Modified NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	TIC/AP Ratio	Fizz Test Visual
BH-BGC11-39-11	7.68	<0.01	<0.8	0.02	<0.01	0.02	0.6	2.4	1.8	3.84	1.28	None
BH-BGC11-39-8	7.57	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	1.4	1.4	4.67	2.67	None
BH-BGC11-65-SPT1	8.55	0.04	3.3	0.01	<0.01	0.01	0.3	3.0	2.7	9.60	10.67	None
BH-BGC11-65-SPT8	8.30	0.02	1.7	<0.01	<0.01	<0.01	<0.3	3.6	3.6	12.00	5.56	None
DG-PL12-01	5.00	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	1.1	1.1	3.69	2.67	None
DG-PL12-02	5.52	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	0.4	0.4	1.23	2.67	None
DG-PL12-03	4.60	<0.01	<0.8	0.01	<0.01	0.01	0.3	1.0	0.7	3.14	2.56	None
DG-PL12-04	5.87	<0.01	<0.8	0.02	<0.01	0.02	0.6	1.8	1.2	2.95	1.28	None
DG-PL12-05	6.93	<0.01	<0.8	0.01	<0.01	0.01	0.3	3.6	3.3	11.40	2.56	None
DG-PL12-06	5.15	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	0.6	0.6	2.05	2.67	None
DG-PL12-07	5.90	<0.01	<0.8	0.04	0.03	0.01	0.3	0.5	0.2	1.57	2.56	None
DG-PL12-08	5.19	<0.01	<0.8	<0.01	0.02	<0.01	<0.3	1.5	1.5	4.91	2.67	None
DG-PL12-09	5.67	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	1.6	1.6	5.32	2.67	None
DG-PL12-10	6.49	<0.01	<0.8	0.11	0.01	0.1	3.1	3.1	-0.1	0.98	0.26	None
DG-PL12-11	6.94	0.04	3.3	0.05	0.02	0.03	0.9	3.8	2.9	4.06	3.56	None
DG-PL12-12	7.15	0.11	9.2	0.18	<0.01	0.18	5.6	4.2	-1.4	0.74	1.63	None
DG-PL12-13	6.53	0.14	11.7	0.11	0.03	0.08	2.5	5.5	3.0	2.21	4.67	None
DG-PL12-14	7.56	0.13	10.8	0.09	<0.01	0.09	2.8	8.0	5.2	2.84	3.85	Slight
DG-PL12-15	7.72	0.22	18.3	0.22	<0.01	0.22	6.9	11.9	5.0	1.73	2.67	Slight

Appendix B-3: Other Excavation Area ABA Data

Sample ID	Paste pH Std. Units	TIC % C	TIC kg CaCO3/t	Total S % S	Sulphate % S	Sulphide % S	AP kg CaCO3/t	Modified NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	TIC/AP Ratio	Fizz Test Visual
BH-BGC11-34 SA1	8.04	0.2	16.7	0.65	0.01	0.64	20.0	9.6	-10.4	0.48	0.83	None
BH-BGC11-40A-1	8.23	4.66	388.3	0.2	0.02	0.18	5.6	371.5	365.9	66.04	69.04	Moderate
BH-BGC11-40B SA1	8.46	0.07	5.8	0.2	<0.01	0.2	6.3	7.6	1.4	1.22	0.93	None
BH-BGC11-62 SA1	7.96	0.02	1.7	0.03	0.01	0.02	0.6	3.1	2.5	4.96	2.67	None
BH-BGC11-69 SA1	8.30	0.39	32.5	<0.01	<0.01	<0.01	<0.3	27.4	27.4	91.33	108.33	Slight
BH-BGC11-44-S3	7.53	0.01	0.8	0.03	0.02	0.01	0.3	4.8	4.5	15.36	2.67	None
BH-BGC11-51-G10	8.19	0.45	37.5	0.12	<0.01	0.12	3.8	28.8	25.1	7.68	10.00	Slight
BH-BGC11-53-G3	7.82	0.02	1.7	0.03	<0.01	0.03	0.9	3.3	2.4	3.52	1.78	None
BH-BGC11-53-G8	8.13	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	3.3	3.3	11.00	2.67	None
BH-BGC11-55-G5	7.58	0.08	6.7	0.07	0.02	0.05	1.6	4.6	3.0	2.94	4.27	None
TP-BGC11-104-G1	7.33	0.01	0.8	0.01	<0.01	0.01	0.3	2.5	2.2	8.00	2.67	None
TP-BGC11-121-G1	8.08	0.2	16.7	0.03	<0.01	0.03	0.9	15.0	14.1	16.00	17.78	None
TP-BGC11-126-G1	7.42	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	2.9	2.9	9.67	2.67	None
TP-BGC11-130-G1	8.38	0.04	3.3	0.01	<0.01	0.01	0.3	4.1	3.8	13.12	10.67	None
TP-BGC11-50 SA2	6.09	0.01	0.8	0.39	0.43	<0.01	<0.3	-0.5	-0.5	-1.67	2.78	None
TP-BGC11-62 SA1	6.86	0.01	0.8	0.01	<0.01	0.01	0.3	3.6	3.3	11.52	2.67	None
TP-BGC11-63 SA1	5.75	<0.01	<0.8	0.02	0.01	0.01	0.3	1.6	1.3	5.12	2.56	None
TP-BGC11-64 SA1	6.53	<0.01	<0.8	0.02	0.02	<0.01	<0.3	3.4	3.4	11.33	2.67	None
TP-BGC11-92 SA1	4.92	0.02	1.7	<0.01	0.01	<0.01	<0.3	-1.9	-1.9	-6.33	5.56	None

Appendix C: Solid-Phase Elemental Data

Appendix C-1: Site Road Metals Data

Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm
BH-BGC11-56-SPT1	1	24.02	34.63	69.2	260	19.3	7.2	273	1.77	242.5	0.7	19.6	6.5	20	0.32	5.64	0.62	15	0.17	0.031	18.3
BH-BGC11-57-SPT3	0.9	44.35	290.21	201.4	1973	26.4	10.1	282	2.49	491.4	1.3	257.7	10.2	21.8	1.4	46.42	1.33	19	0.18	0.031	25.2
RC12-EG-7	0.74	15.56	11.8	153	52	12.8	11.1	373	1.83	1388	3.3	4.3	16.5	46.7	5.17	1.68	3.44	17	0.28	0.042	16.4
RC12-EG-8	0.29	3.62	5.57	29.2	12	8.4	3.2	122	0.85	26.9	0.2	0.7	7.6	3.4	0.09	0.37	0.07	5	0.04	0.007	9.2
RC12-EG-9	0.91	27.59	8.74	45.6	148	13.4	12	266	2.98	261.3	2.2	43.3	18.3	88.6	0.23	0.68	2.65	55	0.92	0.076	38.9
RC12-EG-10	0.39	9.17	19.52	53.3	57	12.2	4.9	142	1.49	98.9	0.4	3.6	9.9	18.9	0.36	1.95	0.31	19	0.32	0.01	11.2
RC12-EG-11	0.5	7.5	1.57	2.4	17	7.2	2.7	26	0.39	55.5	0.1	1.1	0.3	1.6	0.02	0.42	0.07	2	0.02	0.002	0.6
RC12-EG-12	0.39	16.62	1.56	161	15	15.5	6	129	1.16	39.9	0.8	0.7	6.1	1.9	0.19	2.4	0.11	6	0.01	0.015	15.5
RC12-EG-13	0.9	20.22	4.02	31.4	25	31.6	10.8	225	2.38	60.3	1.4	1.4	13.3	14.8	0.06	0.67	0.2	31	0.05	0.014	28.4
RC12-EG-14	0.69	14	6.99	31.1	38	7.7	5	176	1.64	66.2	1.5	12.5	11.5	51.8	0.25	1.86	0.31	27	0.43	0.038	20.8
RC12-EG-15	0.96	26.89	100	217.3	1237	10.8	4.9	150	1.15	359.3	0.5	7.2	6.7	2.5	0.43	3.84	1.01	4	0.02	0.013	11.4
RC12-EG-16	0.29	33.81	3.08	52.3	25	22.7	10.8	141	3.21	219.2	1.8	1.1	14.8	5.8	0.06	0.3	0.61	41	0.04	0.025	37.4
RC12-EG-27	0.44	8.81	3.17	10.2	14	10.3	2.5	105	0.76	49.2	0.2	1	6.3	3	0.05	0.28	0.09	12	0.04	0.007	8
RC12-EG-28	0.61	54.29	10.54	93.9	59	48.3	17.9	204	3.57	20.9	3.6	2.5	13.1	141.1	0.65	0.09	0.28	61	1.89	0.036	27.4
RC12-EG-29	0.9	28.77	2.81	66.3	22	41.1	16.3	228	3.7	38	1.4	17.9	9.8	7.3	0.03	0.14	0.23	36	0.03	0.017	27.6
RC12-EG-30	0.39	11.99	10.49	50.3	53	11.4	6.4	64	0.92	81.1	1.2	1.4	14.2	12.3	0.22	1.05	0.08	10	0.08	0.052	54.8
RC12-PL-20	1.01	32.78	7.22	111.7	42	25.2	8.6	235	2.17	1450.1	2.7	29.1	19.5	40.3	0.21	2.75	6.32	30	0.36	0.055	36.3
RC12-PL-17	0.35	10.07	9.21	26.5	77	13	4.7	425	1.27	135.7	0.5	0.2	9.8	22.3	0.32	1.36	0.14	12	0.59	0.01	12.8
RC12-PL-18	0.58	16.39	4.2	57.3	39	11.8	6.4	129	3.18	268.1	1.8	1.7	15	21.9	0.11	0.34	1.38	34	0.1	0.036	35.4
RC12-PL-19	0.8	13.76	7.56	71.2	17	24	8.2	307	2.55	548.7	2.3	9.7	20.9	54.6	0.08	0.73	1.55	37	0.54	0.064	45.5
RC12-PL-21	0.91	19.22	4.65	30.3	24	24.7	6.6	247	2.16	615.3	2.9	9.2	22.7	56.5	0.12	0.58	0.95	31	0.52	0.061	41.7
RC12-PL-22	1.03	15.83	7.81	31.7	23	13.9	7.3	249	1.78	605.3	2.3	12	20.9	140.2	0.1	0.9	4.09	26	0.63	0.047	32.2
RC12-PL-23	0.68	14.74	5.46	7.2	49	5.5	1	37	0.7	77.2	0.3	0.2	1.7	7.6	0.03	1.41	0.15	5	0.01	0.005	8.3
RC12-PL-24	2.06	9.81	4.08	11.6	25	10	2.5	62	0.71	116.4	0.4	6.6	2.3	7.8	0.03	1.25	0.5	4	0.08	0.022	7.2
RC12-PL-25	0.46	13.7	8.64	27.2	14	11.6	3.8	219	2.23	25.5	0.9	0.4	11.1	6.7	0.02	0.12	0.27	18	0.03	0.021	24.2
RC12-PL-26	0.4	7.33	9.03	42.8	45	6.1	1.3	33	0.8	135.1	0.4	1.4	5.9	6.9	0.11	1.82	0.49	2	0.01	0.009	14.9
RC12-PL-31	0.88	9.69	5.34	31.7	9	25.4	7.4	261	2.37	151	1.5	2.5	17.5	54.5	0.08	0.32	0.49	35	0.59	0.062	32.7
RC12-PL-32	0.76	10.31	5.35	46.4	13	20.9	6.8	248	2.26	417.8	2.7	5.5	18.8	53.4	0.09	0.27	1.02	34	0.44	0.056	28.8
RC12-TD-1	0.33	22.78	5.23	36.3	15	17.2	8.2	418	2.45	9.7	0.5	0.5	7.9	3.5	0.04	0.92	0.11	9	0.01	0.011	12.3
RC12-TD-2	0.41	40.98	8.97	47.9	49	30.9	14.8	512	3.48	11.9	0.7	0.4	9	13.4	0.04	0.79	0.31	13	0.05	0.026	16.6
RC12-TD-3	0.45	33.73	7.72	68.9	45	23.3	10.4	580	3.49	4.7	1.2	0.4	9	21.4	0.03	0.44	0.19	14	0.08	0.034	18.4
RC12-TD-4	0.28	22.68	7.06	45.6	14	20.9	9.7	394	2.99	6.5	0.6	0.3	8.4	8.6	0.02	0.85	0.16	13	0.05	0.023	18
RC12-TD-5	0.23	4.91	10.07	5	99	3.5	1.1	37	0.34	24.7	0.3	0.5	5.1	6.5	0.01	0.48	0.17	3	0.01	0.004	14.4
RC12-TD-6	0.61	5.71	3.48	6.7	10	6.8	1.6	103	0.67	3.6	0.2	0.4	1.6	1.9	0.01	0.62	0.09	2	0.01	0.007	3.4
Average Crustal Abundance for Shale*	2.6	45	20	95	7	68	19	850	4.72	13	3.7	4	12	300	0.3	1.5	0.01	130	2.21	0.11	92

*Price 1997

-- The data for this element is missing or unreliable.

red highlighted cells indicate values are >10 x average crustal abundance

blue font indicates values are below detection limits.

Sample ID	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
BH-BGC11-56-SPT1	85.7	0.25	78.4	0.032	20	0.71	0.029	0.19	1	2	0.15	0.02	32	0.1	0.03	2.4
BH-BGC11-57-SPT3	82.8	0.27	88.5	0.035	20	0.94	0.027	0.32	2.8	2.4	0.25	0.02	44	0.2	0.02	3.2
RC12-EG-7	81.5	0.5	527.7	0.093	20	1.22	0.081	0.38	1	3.3	0.19	0.04	5	0.4	0.02	6.5
RC12-EG-8	99.7	0.15	38.8	0.002	20	0.41	0.013	0.07	0.1	0.6	0.04	0.02	5	0.1	0.02	1.5
RC12-EG-9	100.8	1.16	345.3	0.213	20	2.23	0.187	0.72	0.2	4.7	0.43	0.67	5	0.3	0.02	8.8
RC12-EG-10	93.1	0.22	321.6	0.064	20	0.8	0.067	0.05	0.3	2.7	0.03	0.02	5	0.1	0.03	3.4
RC12-EG-11	143.1	0.01	18.6	0.003	20	0.05	0.002	0.01	0.2	0.1	0.02	0.02	5	0.1	0.02	0.2
RC12-EG-12	88.9	0.02	21.1	0.002	20	0.25	0.003	0.09	0.1	0.9	0.04	0.02	44	0.1	0.02	0.7
RC12-EG-13	117.6	0.59	111.2	0.113	20	1.3	0.027	0.71	0.2	3.8	0.43	0.02	6	0.2	0.03	5.6
RC12-EG-14	101.9	0.5	402	0.142	20	1.13	0.076	0.39	0.5	2.5	0.2	0.03	8	0.1	0.02	4.5
RC12-EG-15	98.7	0.08	31.9	0.002	20	0.26	0.01	0.1	0.5	1	0.05	0.02	44	0.5	0.02	0.7
RC12-EG-16	85.1	1.01	99.3	0.162	20	1.96	0.018	1.48	0.1	4.2	1.2	0.02	5	0.1	0.02	6.5
RC12-EG-27	115.4	0.15	34.3	0.008	20	0.4	0.015	0.07	1.3	1.1	0.05	0.02	5	0.1	0.02	2
RC12-EG-28	93.1	1.04	299.8	0.252	20	4.51	0.127	1.45	0.3	6.4	0.61	0.18	5	0.4	0.02	12.6
RC12-EG-29	76.1	0.96	211.8	0.137	20	2.3	0.02	1.03	0.1	2.7	0.57	0.05	5	0.1	0.02	6.4
RC12-EG-30	73.9	0.07	47.7	0.012	20	0.48	0.005	0.19	0.2	1.4	0.12	0.02	6	0.1	0.02	1.5
RC12-PL-20	111.1	0.74	442	0.187	20	1.54	0.091	0.68	3.2	5.1	0.44	0.05	5	0.6	0.13	7
RC12-PL-17	109.6	0.19	50	0.046	20	0.56	0.048	0.07	0.3	1.8	0.04	0.02	5	0.2	0.03	2.6
RC12-PL-18	90.1	0.95	81.4	0.138	20	1.89	0.016	1.32	0.1	2.5	1.03	0.1	6	0.3	0.09	5.8
RC12-PL-19	105	0.85	561.8	0.266	20	1.7	0.123	0.75	3.1	5.2	0.51	0.03	5	0.1	0.02	7.7
RC12-PL-21	113.9	0.74	496.9	0.206	20	1.59	0.113	0.6	0.7	4.8	0.33	0.02	5	0.1	0.04	6.8
RC12-PL-22	110.8	0.57	383.4	0.147	20	1.67	0.103	0.56	4	3.6	0.29	0.02	17	0.6	0.02	6.3
RC12-PL-23	114.4	0.03	25.1	0.002	20	0.21	0.002	0.14	0.1	0.7	0.18	0.02	41	0.2	0.02	0.3
RC12-PL-24	157.9	0.09	34.4	0.006	20	0.32	0.025	0.08	0.4	0.7	0.04	0.02	5	0.1	0.02	0.8
RC12-PL-25	108.9	0.61	49.3	0.036	20	1.32	0.021	0.24	0.1	2.1	0.13	0.02	5	0.1	0.03	4.8
RC12-PL-26	126.8	0.01	10.3	0.001	20	0.16	0.001	0.09	0.1	0.6	0.07	0.02	6	0.1	0.02	0.2
RC12-PL-31	105.6	0.8	543.3	0.27	20	1.75	0.113	0.7	21.8	5.2	0.37	0.02	5	0.1	0.02	7.8
RC12-PL-32	103.7	0.84	608.1	0.242	20	1.58	0.109	0.94	2	5.4	0.57	0.02	5	0.2	0.02	7.7
RC12-TD-1	114.1	0.04	26	0.002	20	0.29	0.002	0.08	0.1	1	0.04	0.02	5	0.1	0.02	1.5
RC12-TD-2	70.2	0.54	47.3	0.004	20	1.22	0.003	0.22	0.1	1.5	0.1	0.02	5	0.1	0.02	3.6
RC12-TD-3	59.1	0.77	69	0.004	20	1.73	0.002	0.24	0.1	1.5	0.08	0.02	5	0.1	0.02	4.6
RC12-TD-4	85.7	0.58	33.8	0.005	20	1.3	0.002	0.16	0.1	1.3	0.05	0.02	5	0.1	0.02	4.1
RC12-TD-5	73.6	0.04	26	0.001	20	0.3	0.002	0.13	0.1	0.8	0.12	0.02	105	0.1	0.02	1
RC12-TD-6	164.8	0.02	9.2	0.002	20	0.08	0.001	0.03	0.2	0.3	0.02	0.02	5	0.1	0.02	0.3
Average Crustal Abundance for Shale*	90	1.5	580	0.46	100	8	0.96	0.11	1.8	13	1.4	0.24	400	0.6	--	19

*Price 1997

-- The data for this element is missing or unreliable.

red highlighted cells indicate values are >10 x average cru

blue font indicates values are below detection limits.

Appendix C-2: Placer Sands & Gravels Metals Data

Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm
BH-BGC11-39-11	1.6	46.97	19.1	54.7	143	21.4	8.9	232	2.39	150.8	2.1	2.1	7.3	11.4	0.09	3.78	0.8	9	0.07	0.022	22
BH-BGC11-39-8	4.3	49.96	19.37	62.3	141	22.1	8.2	213	2.34	112.3	1.6	2	6.8	11.3	0.14	5.02	0.59	9	0.07	0.02	22.5
BH-BGC11-65-SPT1	0.86	23.45	31.89	64	88	17.2	6.2	154	1.73	140.3	1.1	21.6	7.5	16.8	0.2	5.1	0.65	16	0.18	0.022	20.8
BH-BGC11-65-SPT8	0.94	43.04	45.18	49.4	415	20.3	7.5	212	1.95	120.2	1.4	9.4	11.4	29.5	0.16	2.33	0.23	21	0.28	0.033	26.9
DG-PL12-01	8.3	18.04	9.71	62.1	49	29.2	11.4	328	2.69	159.5	1.8	4.5	11.7	28.4	0.14	1.17	0.2	31	0.1	0.035	31.9
DG-PL12-02	5.51	40.87	10.19	56.4	60	24.3	9.7	316	2.82	474.5	1.6	6.6	11.6	39.4	0.22	0.56	0.21	28	0.11	0.04	30.9
DG-PL12-03	2.5	20.85	6.12	56.2	33	24.6	10.1	296	2.79	198.6	1.5	2.4	11.3	10.6	0.07	0.61	0.13	37	0.05	0.027	34.8
DG-PL12-04	2.6	16.31	11.81	41	38	20.4	7.2	252	2.01	104.8	1	2	8.6	25	0.12	0.57	0.12	27	0.17	0.035	22.9
DG-PL12-05	1.49	19.69	25.98	88.2	102	27.7	8.4	580	2.11	145.6	2	7.2	18.4	31.4	0.38	2.18	0.26	29	0.32	0.057	35.8
DG-PL12-06	2.98	28.57	7.54	50.3	39	26.4	10.5	297	2.46	203.2	1.2	24.6	12	38.3	0.14	2.61	0.17	15	0.06	0.026	28.8
DG-PL12-07	4.31	34.23	7.36	50	55	33	12.3	597	2.71	167.5	1.5	18.4	10.6	38.5	0.2	2.8	0.4	19	0.12	0.039	28.2
DG-PL12-08	2.71	32.5	9.14	59.4	78	28	12.2	264	2.84	112.5	1.5	7.8	12	18.1	0.08	0.8	0.29	27	0.15	0.035	34
DG-PL12-09	0.8	26.02	16	50.6	72	25.9	11.4	336	2.61	95.7	0.9	6	9	15.1	0.09	2.66	0.37	16	0.1	0.028	25.4
DG-PL12-10	3.79	24.23	14.19	69.6	84	25.5	9.8	214	2.53	257.7	1.1	5.6	10.4	18.4	0.15	3.89	0.39	19	0.16	0.027	23.8
DG-PL12-11	3.67	30.46	32.38	104.9	200	26.2	9.7	513	2.54	181.9	1.2	9.9	9.9	29.3	0.43	4.36	1.67	13	0.17	0.028	22.7
DG-PL12-12	3.17	57.38	15.94	41.8	111	20.8	7.9	244	1.94	200.8	0.7	6.3	6.9	12.4	0.19	3.07	0.87	11	0.16	0.022	14.3
DG-PL12-13	3.2	28.97	68.16	66.7	239	18.6	7.2	249	1.89	417.7	0.7	15.2	6.7	11.2	0.37	15.47	0.86	9	0.18	0.018	15.3
DG-PL12-14	3.2	38.47	20.48	61.9	178	22.8	10	376	2.41	160.6	0.9	1.6	8.3	18.2	0.23	3.7	0.74	12	0.32	0.022	19.1
DG-PL12-15	3.52	42.28	25.73	57	221	24.2	10.1	368	2.26	187.6	0.9	16	7.4	26.8	0.21	5.79	1.08	11	0.4	0.025	16.3
Average Crustal Abundance for Shale*	2.6	45	20	95	7	68	19	850	4.72	13	3.7	4	12	300	0.3	1.5	0.01	130	2.21	0.11	92

*Price 1997
-- The data for this element is missing or unreliable.
red highlighted cells indicate values are >10 x average crustal abundance
blue font indicates values are below detection limits.

Sample ID	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
BH-BGC11-39-11	64.9	0.16	58.7	0.005	20	0.52	0.015	0.15	2.1	1.4	0.07	0.02	27	0.1	0.02	1.6
BH-BGC11-39-8	75	0.15	56.3	0.004	20	0.51	0.014	0.15	0.6	1.3	0.07	0.02	19	0.1	0.02	1.6
BH-BGC11-65-SPT1	70.2	0.23	92.6	0.053	20	0.74	0.025	0.38	48.3	2.1	0.2	0.02	5	0.1	0.04	2.8
BH-BGC11-65-SPT8	80.5	0.34	235.3	0.091	20	0.99	0.063	0.42	>100.0	2.8	0.26	0.02	5	0.1	0.03	4.1
DG-PL12-01	147.7	0.44	137.1	0.098	20	1.15	0.012	0.52	15.9	4.5	0.33	0.02	16	0.3	0.02	4.1
DG-PL12-02	121.6	0.21	170.4	0.032	20	0.81	0.008	0.17	5.4	3.7	0.21	0.02	8	0.3	0.03	2.5
DG-PL12-03	131.9	0.48	124.4	0.119	20	1.29	0.014	0.67	3.4	4.6	0.42	0.02	18	0.4	0.03	4.9
DG-PL12-04	140.8	0.36	208.7	0.081	20	0.93	0.028	0.38	13.5	3.2	0.21	0.02	5	0.1	0.03	3.5
DG-PL12-05	114	0.51	399.4	0.109	20	1.24	0.044	0.43	58.7	4.2	0.27	0.02	5	0.2	0.04	5
DG-PL12-06	131.4	0.15	112.1	0.02	20	0.6	0.009	0.21	1.3	2.3	0.24	0.02	9	0.1	0.03	1.8
DG-PL12-07	120.5	0.19	146.1	0.02	20	0.62	0.008	0.21	3.7	2.8	0.3	0.03	39	0.3	0.11	1.9
DG-PL12-08	114.2	0.51	143.8	0.057	20	1.32	0.012	0.4	0.9	3.1	0.29	0.02	16	0.2	0.03	4
DG-PL12-09	123.5	0.29	82.2	0.018	20	0.81	0.01	0.2	0.5	2.3	0.17	0.02	10	0.1	0.03	2.6
DG-PL12-10	142.8	0.48	147.1	0.038	20	1.01	0.023	0.35	31.4	2.4	0.24	0.12	43	0.1	0.03	3.3
DG-PL12-11	160	0.29	863.5	0.015	20	0.7	0.015	0.17	2.8	2	0.11	0.05	24	0.3	0.12	2.3
DG-PL12-12	153.8	0.23	53.9	0.012	20	0.52	0.007	0.15	0.6	1.5	0.12	0.17	36	0.2	0.02	1.4
DG-PL12-13	141.3	0.21	37.4	0.006	20	0.47	0.008	0.16	0.7	1.4	0.12	0.11	17	0.2	0.02	1.6
DG-PL12-14	140.5	0.28	59.9	0.014	20	0.57	0.009	0.16	0.4	1.9	0.11	0.09	31	0.1	0.02	2
DG-PL12-15	151.7	0.35	46.9	0.018	20	0.52	0.008	0.17	0.8	1.7	0.17	0.21	52	0.3	0.07	2
Average Crustal Abundance for Shale*	90	1.5	580	0.46	100	8	0.96	0.11	1.8	13	1.4	0.24	400	0.6	--	19

*Price 1997

-- The data for this element is missing or unreliable.

red highlighted cells indicate values are >10 x average cr

blue font indicates values are below detection limits.

Appendix C-3: Other Excavation Area Metals Data

Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm
BH-BGC11-34 SA1	0.56	29.2	3.57	72.3	38	26.4	12	414	3.96	15.9	0.8	5.6	8.1	12.7	0.05	0.22	0.14	28	0.2	0.019	12.3
BH-BGC11-40A-1	0.5	45.18	11.55	244.7	519	48.2	24	1496	4.01	469.7	2.8	18	5.9	112.3	0.28	2.63	0.44	5	12.86	0.025	14.8
BH-BGC11-40B SA1	0.72	34.45	4	50.7	15	32.1	13.4	163	3.04	113.7	0.8	6.4	6.4	10.8	0.01	0.1	0.11	37	0.35	0.017	11.2
BH-BGC11-62 SA1	0.41	10.47	6.52	138.5	118	7.5	2.4	28	0.74	119.8	0.4	9.7	6	9.9	0.18	0.86	0.09	3	0.04	0.008	13.9
BH-BGC11-69 SA1	0.32	16.85	11.88	31.7	70	14.6	6.4	577	1.89	7.4	0.4	1.9	4.4	16.5	0.03	0.37	0.06	8	0.8	0.009	7.2
BH-BGC11-44-S3	1.37	32.19	11.45	84.6	149	29.8	11.5	467	2.47	21.2	0.7	1.9	5.2	35.8	0.46	1.01	0.25	44	0.47	0.088	18
BH-BGC11-51-G10	0.67	34.61	16.73	53.2	195	23.6	10.2	410	2.29	79	0.9	5.1	6.7	58.2	0.13	2.82	0.86	11	1.12	0.024	15.8
BH-BGC11-53-G3	1.16	33.69	23.4	78.7	136	31.1	13	287	2.83	176.4	1.5	22.7	11.2	23	0.31	2.6	0.68	24	0.19	0.034	27.8
BH-BGC11-53-G8	0.9	17.22	18.49	67.3	88	32.5	9.6	177	2.49	221.6	2.3	34.1	15.5	31.3	0.15	1.42	0.66	29	0.28	0.051	31
BH-BGC11-55-G5	0.69	40.09	13.65	68.5	123	30.2	12.9	370	3.07	118.5	1.1	8.8	9.3	31	0.14	2.48	0.7	22	0.25	0.03	21.3
TP-BGC11-104-G1	0.97	23.69	49.02	111.3	221	26.2	9.8	415	2.37	296.4	1.8	33.3	12.7	15.7	0.63	3.72	0.47	20	0.12	0.035	31.6
TP-BGC11-121-G1	1.08	48.09	39.26	112.7	339	41.7	17.3	550	3.58	148.7	1.4	15.6	15	44.3	0.37	4.31	0.98	29	0.66	0.053	36.7
TP-BGC11-126-G1	1.55	22.97	99.09	236.1	556	23.2	7.4	1553	1.99	420	0.9	28.4	8.7	12.1	1.27	7.6	2.59	19	0.15	0.04	23.5
TP-BGC11-130-G1	0.44	34.55	23.53	64	138	26.9	13.3	538	2.9	25.7	0.8	5.1	10.8	20.3	0.16	2.43	0.49	13	0.21	0.032	31.5
TP-BGC11-50 SA2	1.08	32.78	1665.86	624.7	6791	5.2	1.6	38	3.26	1206.6	1.2	109.5	9.3	28.6	1.25	6.02	1.55	5	0.08	0.029	13.5
TP-BGC11-62 SA1	0.71	26.78	17.86	59.4	138	23.1	8.9	335	2.1	300.6	0.7	16.6	7.9	20.7	0.28	2.46	1	23	0.21	0.042	18.9
TP-BGC11-63 SA1	0.83	24.59	15.32	67.3	81	21.5	9.6	277	2.26	209.6	0.8	11.4	7.5	10.1	0.19	1.86	0.93	23	0.1	0.031	19.1
TP-BGC11-64 SA1	0.73	29.26	36.62	93.8	227	22.3	9.6	238	2.22	316.1	0.9	12.9	6.9	14.5	0.44	5.38	0.87	20	0.16	0.036	17.1
TP-BGC11-92 SA1	0.92	17.25	52.17	95.2	419	16.7	6.9	127	1.9	131.9	0.6	7.9	2.5	12.1	0.44	2.43	0.27	25	0.15	0.05	13.2
Average Crustal Abundance for Shale*	2.6	45	20	95	7	68	19	850	4.72	13	3.7	4	12	300	0.3	1.5	0.01	130	2.21	0.11	92

*Price 1997

-- The data for this element is missing or unreliable.

red highlighted cells indicate values are >10 x average crustal abundance

blue font indicates values are below detection limits.

Sample ID	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm
BH-BGC11-34 SA1	67.4	1.08	70	0.044	20	1.88	0.019	0.64	0.1	3.5	0.35	0.57	8	0.1	0.02	5.7
BH-BGC11-40A-1	16	0.08	26	0.001	20	0.29	0.013	0.18	0.5	3.4	0.15	0.23	15	0.6	0.03	0.9
BH-BGC11-40B SA1	112.4	0.74	115.3	0.163	20	1.89	0.032	1.14	0.4	4.4	0.74	0.18	10	0.1	0.02	6.2
BH-BGC11-62 SA1	81.3	0.02	16.3	0.001	20	0.17	0.001	0.12	0.7	1.2	0.07	0.03	36	0.1	0.02	0.4
BH-BGC11-69 SA1	80.5	0.23	14	0.001	20	0.2	0.001	0.06	0.1	1	0.03	0.02	13	0.1	0.02	1
BH-BGC11-44-S3	63.8	0.46	457.9	0.049	20	1.1	0.032	0.14	0.9	3.7	0.1	0.02	30	0.2	0.02	3.5
BH-BGC11-51-G10	96.2	0.3	63.8	0.009	20	0.57	0.017	0.15	2.4	1.8	0.11	0.13	57	0.1	0.04	1.9
BH-BGC11-53-G3	80.6	0.33	106	0.046	20	1.05	0.027	0.38	2.6	3.3	0.27	0.03	28	0.1	0.06	3.9
BH-BGC11-53-G8	87.4	0.54	277.4	0.136	20	1.27	0.059	0.6	18.5	4.1	0.4	0.02	29	0.1	0.05	5.4
BH-BGC11-55-G5	65.5	0.42	73.4	0.031	20	1.14	0.032	0.37	0.3	2.7	0.26	0.08	22	0.1	0.04	3.8
TP-BGC11-104-G1	62.5	0.22	149.4	0.037	20	0.76	0.021	0.29	12.3	2.7	0.26	0.02	35	0.1	0.04	3
TP-BGC11-121-G1	39.6	0.65	169.6	0.023	20	1.43	0.025	0.32	2.2	3.6	0.22	0.02	66	0.1	0.07	4.5
TP-BGC11-126-G1	61.5	0.17	212.4	0.023	20	0.64	0.018	0.19	1.4	2.2	0.13	0.02	36	0.2	0.1	2.2
TP-BGC11-130-G1	47.8	0.32	69.4	0.006	20	0.97	0.012	0.21	0.1	1.6	0.09	0.02	19	0.1	0.02	2.7
TP-BGC11-50 SA2	28.3	0.03	112.1	0.001	20	0.27	0.005	0.33	0.9	1.2	0.24	0.39	787	0.1	0.09	0.8
TP-BGC11-62 SA1	68.4	0.34	135.3	0.043	20	1	0.022	0.29	9.3	2.9	0.2	0.02	30	0.1	0.06	3.2
TP-BGC11-63 SA1	83.2	0.35	103.2	0.043	20	0.96	0.011	0.3	0.7	2.4	0.24	0.02	15	0.1	0.03	3
TP-BGC11-64 SA1	63.9	0.32	130.2	0.042	20	0.91	0.015	0.26	1	2.6	0.22	0.02	29	0.1	0.02	2.7
TP-BGC11-92 SA1	88.2	0.23	211.2	0.015	20	0.85	0.008	0.08	3.6	2.3	0.09	0.02	56	0.1	0.02	2.6
Average Crustal Abundance for Shale*	90	1.5	580	0.46	100	8	0.96	0.11	1.8	13	1.4	0.24	400	0.6	--	19

*Price 1997
-- The data for this element is missing or unreliable.
red highlighted cells indicate values are >10 x average cru
blue font indicates values are below detection limits.